Base Load Power Hub (BLPH)

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Document Number: 1724000594-QC-DB-00033

Supplier Document Number: E366772C00-MRB

Document Class: 2

01	13/03/2026	Accepted for Construction (AFC)	AG	AB	SC
00	13/02/2026	Issue for Review (IFR)	AG	AB	SC
Rev.	Date	Description	Prepared	Reviewed	Approved

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	Sheet 2 of 4406 Date: 13/03/2026 Rev: 01

Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Issue for Review (IFR)

HOLDS LIST

No.	Description
-	-

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	Date: 13/03/2026 Rev: 01

Code	Section or SubSection or Document Title	RM Document Code	Size	Pages	Vol. No.
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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

A DESIGN DOSSIER

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1 GENERAL

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-1 Document List

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-1.1 SUPPLIER MASTER INFORMATION REGISTER (SMIR)

724000594-MD-LIS-00001

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SUPPLIER MASTER INFORMATION REGISTER	Sh. 1 of 5 Date: 22/05/2025 Rev. 05

Base Load Power Hub (BLPH)

INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

SUPPLIER MASTER INFORMATION REGISTER

Document Number: 1724000594-MD-LIS-00001

Document Class: 3

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	27/05/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
05	22/05/2025	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
04	03/02/2025	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
03	17/07/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
02	22/04/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
01	19/04/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
00	11/04/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi

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Document Title:	SUPPLIER MASTER INFORMATION REGISTER	Sh. 2 of 5 Date: 22/05/2025 Rev. 05

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		00	01	02	03	04	05		
1	Cover	X	X	X	X	X	X		
2	Table of Contents	X	X	X	X	X	X		
3	Revision / Change Log / Hold List	X	X	X	X	X	X		
4	References	X	X	X	X	X	X		
5	SMIR	X	X	X	X	X	X		

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Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)
02	Issue for Information (IFI)
03	Issue for Information (IFI)
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SMIR - REGISTRO DOCUMENTI / *SMIR - SUPPLIER MASTER INFORMATION REGISTER*

	Ordine n°/*order nr.*	1724000594		Fornitore/*Supplier*:	YOKOGAWA ITALIA SRL					
	data / *dated:*	15/03/2024		Codice F./ *S. Code:*	00936570159					
	Commessa / *Job:*	123A90A		Indirizzo/ *address* :	Via Assunta 61 - 20834 Nova Milanese (MB) - Italy					
	Descrizione / *Description*	ICSS		Persona di riferim./ *contact person:*	Sonia Corradi (PM) sonia.corradi@yokogawa.com - Mobile +39 344 2705851					
	Macrofase / *Phase*									

Pos.	Document nr. Client (1)	Doc Client Rev. (1)	Document nr. Internal	Document nr. Internal Rev. (2)	Document nr. Supplier (3)	Doc Supplier Rev. (3)	Titolo Documento / *Document title* (4)	first issue date (8)	KEY Document Ingegneria	Document Approval (I/A) (5)
					CONTROL DOCUMENTS					
1	1724000594-MD-LIS-00001	00	1724000594-MD-LIS-00001	00	E366772C00-SMIR	00	SUPPLIER MASTER INDEX REGISTER (SMIR)	12/04/2024	Y	I
					QUALITY DOCUMENTS					
2	1724000594-QC-ITP-00002	00	1724000594-QC-ITP-00002	00	E366772C00-ITP	00	INSPECTION AND TEST PLAN	22/04/2024	Y	A
					ENGINEERING DOCUMENTS					
3	1724000594-IN-LIS-00003	00	1724000594-IN-LIS-00003	00	E366772C00-BOM	00	Bill of Material	22/04/2024		I
4	1724000594-IN-LIS-00004	00	1724000594-IN-LIS-00004	00	E366772C00-IO	00	PCS and Safety System IO List (HW and SW)	15/05/2024		A
5	1724000594-IN-LIS-00005	00	1724000594-IN-LIS-00005	00	E366772C00-EMCS_IO	00	EMCS IO List (HW and SW)	15/05/2024		A
6	1724000594-IN-CA-00006	00	1724000594-IN-CA-00006	00	E366772C00-PC	00	Power Consumption and Heat Dissipation	22/04/2024	Y	I
7	1724000594-IN-LIS-00007	00	1724000594-IN-LIS-00007	00	E366772C00-CL	00	Systems Cables List	15/05/2024		A
8	1724000594-IN-RE-00008	00	1724000594-IN-RE-00008	00	E366772C00-SLE	00	Safety Controller loading estimation	22/04/2024		I
9	1724000594-IN-DA-00009	00	1724000594-IN-DA-00009	00	E366772C00-PCS_CLO	00	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	29/04/2024	Y	A
10	1724000594-IN-DA-00010	00	1724000594-IN-DA-00010	00	E366772C00-SIS_CLO	00	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	29/04/2024	Y	A
11	1724000594-IN-DA-00011	00	1724000594-IN-DA-00011	00	E366772C00-ITER_NLO	00	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	29/04/2024	Y	A
12	1724000594-IN-DA-00012	00	1724000594-IN-DA-00012	00	E366772C00-OER_NLO	00	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	29/04/2024	Y	A
13	1724000594-IN-DA-00013	00	1724000594-IN-DA-00013	00	E366772C00-EMCS_CLO	00	EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	29/04/2024	Y	A
14	1724000594-PM-PL-00014	00	1724000594-PM-PL-00014	00	E366772C00-PEP	00	Project Execution Plan (PEP)	22/04/2024		I
15	1724000594-IN-DD-00015	02	1724000594-IN-DD-00015	00	E366772C00-SA	00	System Architecture	22/04/2024		A
16	1724000594-IN-DG-00016	00	1724000594-IN-DG-00016	00	E366772C00-ND	00	Network Connection Diagram	31/05/2024		A
17	1724000594-IN-SP-00017	00	1724000594-IN-SP-00017	00	E366772C00-FDS_HW	00	PAS Hardware Functional Design Specification (FDS-HW)	10/05/2024		A
18	1724000594-IN-SP-00018	00	1724000594-IN-SP-00018	00	E366772C00-FDS_SW	00	PCS and SAFETY SISTEMS Software Functional Design Specification (FDS-SW)	04/06/2024		A
19	1724000594-IN-SP-00019	00	1724000594-IN-SP-00019	00	E366772C00-EMCS_FDS_SW	00	EMCS Software Functional Design Specification (FDS-SW)	04/06/2024		A
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22	1724000594-IN-DG-00022	00	1724000594-IN-DG-00022	00	E366772C00-ITER_NC_WD	00	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS	31/05/2024	Y	A
23	1724000594-IN-DG-00023	00	1724000594-IN-DG-00023	00	E366772C00-OER_NC_WD	00	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS	31/05/2024	Y	A
24	1724000594-IN-DG-00024	00	1724000594-IN-DG-00024	00	E366772C00-EMCS_WD	00	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS	31/05/2024	Y	A
25	1724000594-IN-DG-00025	00	1724000594-IN-DG-00025	00	E366772C00-PCS_LD	00	Logic diagram print out PCS	31/10/2024		I
26	1724000594-IN-DG-00026	00	1724000594-IN-DG-00026	00	E366772C00-SIS_LD	00	Logic diagram print out SIS and FGS	31/10/2024		I
27	1724000594-IN-DG-00027	00	1724000594-IN-DG-00027	00	E366772C00-EMCS_LD	00	Logic diagram print out EMCS	31/10/2024		I
28	1724000594-IN-DD-00028	00	1724000594-IN-DD-00028	00	E366772C00-SPO	00	HMI screens print out	16/07/2024		A
29	1724000594-IN-PL-00029	00	1724000594-IN-PL-00029	00	E366772C00-SVP	00	Safety Validation Plan (SVP)	15/05/2024		I
30	1724000594-QC-PRO-00030	00	1724000594-QC-PRO-00030	00	E366772C00-HW_FAT	00	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	30/06/2024		A
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32	1724000594-QC-PRO-00032	00	1724000594-QC-PRO-00032	00	E366772C00-SAT	00	Site Acceptance Test (SAT) PROCEDURE	11/10/2024		A
41	1724000594-IN-RE-00041	00	1724000594-IN-RE-00041	00	E366772C00-CYB	00	CYBERSECURITY WORKSHOP PREPARATION	11/07/2024		I
42	1724000594-QC-PRO-00042	00	1724000594-QC-PRO-00042	00	E366772C00-3RD	00	THIRD PARTY COMMUNICATION TEST PROCEDURE	11/07/2024		I
43	1724000594-IN-RE-00043	00	1724000594-IN-RE-00043	00	E366772C00-CSS	00	CYBER SECURITY SETTINGS	25/09/2024		A
44	1724000594-QC-PRO-00044	00	1724000594-QC-PRO-00044	00	E366772C00-CSAT	00	CYBER SECURITY SAT PROCEDURE	30/05/2025		A
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34	1724000594-QC-LIS-00034	00	1724000594-QC-LIS-00034	00	E366772C00-MRB_IDX	00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX	30/06/2024		A
35	1724000594-IN-RE-00035	00	1724000594-IN-RE-00035	00	E366772C00-CSRA	00	Cyber Security Risk Assessment REPORT	31/05/2024		A
36	1724000594-IN-LIS-00036	00	1724000594-IN-LIS-00036	00	E366772C00-ATEX	00	ATEX REGISTER	30/06/2024	Y	A
					SPARES & MAINTENANCE DATA					
37	1724000594-IN-MAN-00037	00	1724000594-IN-MAN-00037	00	E366772C00-IOM	00	INSTALLATION, OPERATION AND MAINTENANCE MANUAL (IOM)	29/07/2024		I
38	1724000594-IN-MAN-00038	00	1724000594-IN-MAN-00038	00	E366772C00-SIS_IOM	00	Instructions for Operation and Maintenance for ProSafe-RS	29/07/2024		I
39	1724000594-COM-LIS-00039	00	1724000594-COM-LIS-00039	00	E366772C00-SPIR	00	SPARE PART INDEX REGISTER (COMMISSIONING AND 2-YEARs OPERATION)	30/06/2024		A
40	1724000594-IN-LIS-00040	00	1724000594-IN-LIS-00040	00	E366772C00-DT	00	VENDOR ASSET AND TAG REGISTER	30/09/2024		A

Notes:

(1) Numero documento Cliente
Document number assigned by final Client

(2) Numero documento interno
Document number internal

(3) Numero documento Fornitore (assegnato dal Fornitore)
Document number assigned by Supplier

(4) Assegnare il Titolo del documento (assegnato dal Fornitore)
Fill in the document title (to be assigned by Supplier)

(5) Legenda
(I)= for Information, (A) for Approval

(6) -
-

(7) -
-

(8) Data prevista per l'emissione del documento (compilato dal Fornitore)
Foreseen date for the first issue (Supplier)

Internal

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-2 Equipment List; Auxiliary lists

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-2.1 SPIR

1724000594-COM-LIS-00039

Base Load Power Hub (BLPH)

INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

SPARE PART INDEX REGISTER (COMMISSIONING AND 2-YEARs OPERATION)

Document Number: 1724000594-COM-LIS-00039

Document Class: 2

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	17/09/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
03	22/07/2025	Accepted for Construction (AFC)	A.Giorgetti	A.Berra	S.Corradi
02	12/12/2024	Accepted for Construction (AFC)	A.Giorgetti	A.Berra	S.Corradi
01	30/08/2024	Issue for Review (IFR)	A.Giorgetti	A.Berra	S.Corradi
00	04/07/2024	Issue for Review (IFR)	A.Giorgetti	A.Berra	S.Corradi

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SPARE PARTS LIST

CROSSWIND

Document Title	Commissioning and 2 years spare parts list					
The document relates to	HOLLANDSE KUST NOORD WIND PARK Project - Base Load Power Hub (BLPH)					Contract: CW-I-WP4-2023-05
Project ID	123A90A	Doc. n°	1724000594-COM-LIS-00039	Rev.: Accepted for Construction	Rev. Date: 22-Jul-25	Status: AFC / Class: 2

The equipment consists of the following units/components

1	Tag no.	B400-PCS-001/002	B400-SIS-001	B400-FGS-001/002/003	B400-EMCS-001	B400-NET-001	HKN-WPO1-BLPH-NET-01	
2	Tag description	DCS System	ESD System	FGS System	EMCS System	Networking / HMI	Networking / HMI	
3	Manufacturer model/type no.	Centum VP	ProSAFE	ProSAFE	AXION	Miscellaneous	Miscellaneous	
4	Manufacturer serial no.	Centum VP	ProSAFE	ProSAFE	AXION	-	-	
5	No. of units	1	1	1	1	1	1	

Supplier: YOKOGAWA ITALIA SRL — PO Number: 1724000594 — PO description: ICSS — Contact name: Sonia Corradi (PM)

Address: Via Assunta 61 - 20834 Nova Milanese (MB) - Italy — Supplier telephone no: Mobile +39 344 2705851 — Contact mobile no:

E-mail: sonia.corradi@yokogawa.com — WEBSITE www.yokogawa.com

General Information:

6 — Quantity of parts FITTED / INSTALLED per unit/component

Item Number	Total number of identical spares installed	Description of recommended spare parts	Parts/drawing ref.			Material	Certicate Type (if applicable)	Certicate Reference (if applicable)	Shelf life (years)	Weight (net)	Weight (gross)	Volume	HS Code	ECCN Code	% US Content	Country of origin	Supplier part no.	Manufacturer part no.	Manufacturername	Commissioning spares: Quantity ordered	2 Years spares: Quantity ordered	Remarks
			Project Datasheet no.	Project Detail dwg. no.	Item ref.																	
7		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	4	Vnet/IP Interface Card for HIS	GS 33J50C10-01EN	1724000594-IN-DG-00016													VI702	VI702	YOKOGAWA	1	1	
2	8	Analog Input Module(FIO)	GS 33J60F60-01EN	1724000594-IN-DA-00009													AAI143-H53/A4D00	AAI143-H53/A4D00	YOKOGAWA	1	1	
3	4	Analog Output Module(FIO)	GS 33J60F60-01EN	1724000594-IN-DA-00009													AAI543-H61/K4A00	AAI543-H61/K4A00	YOKOGAWA	1	1	
4	8	Digital Input Module(FIO)	GS 33J60F70-01EN	1724000594-IN-DA-00009													ADV151-P63/D5A00	ADV151-P63/D5A00	YOKOGAWA	1	1	
5	2	Digital Output Module(FIO)	GS 33J60F70-01EN	1724000594-IN-DA-00009													ADV551-P53/D5A00	ADV551-P53/D5A00	YOKOGAWA	1	1	
6	2	ESB Bus Coupler Module	GS 33J60E50-01EN	1724000594-IN-DA-00009													EC401-51	EC401-51	YOKOGAWA	1	1	
7	6	Terminal Board for Analog	GS 33J60H51-01EN	1724000594-IN-DA-00009													A1BA4D-06	A1BA4D-06	YOKOGAWA	1	1	
8	5	Terminal Board for Digital	GS 33J60H51-01EN	1724000594-IN-DA-00009													A1BD5D-06	A1BD5D-06	YOKOGAWA	1	1	
9	2	Processor Module	GS 33J60E30-01EN	1724000594-IN-DA-00009													CP471-01	CP471-01	YOKOGAWA	1	1	
10	10	220-240V AC Input Power Supply Module	GS 33J60E70-01EN	1724000594-IN-DA-00009													PW482-51	PW482-51	YOKOGAWA	1	1	
11	1	Ethernet Communication Module (Modbus TCP/IP)	GS 33J60G11-01EN	1724000594-IN-DA-00009													ALE111-S51	ALE111-S51	YOKOGAWA	1		
12	1	PROFINET Communication Module	GS 33J60G90-01EN	1724000594-IN-DA-00009													A2LP131-S01	A2LP131-S01	YOKOGAWA	1		
13	20	Analog Input Module (4-20mA,16-ch)	GS 32Q06K30-31E	1724000594-IN-DA-00010													SAI143-H63	SAI143-H63	YOKOGAWA	1	1	
14	22	Digital Input Module (16-ch,24V DC)	GS 32Q06K40-31E	1724000594-IN-DA-00010													SDV144-S63	SDV144-S63	YOKOGAWA	1	1	
15	20	Digital Output Module (16-ch,24V DC)	GS 32Q06K40-31E	1724000594-IN-DA-00010													SDV541-S63	SDV541-S63	YOKOGAWA	1	1	
16	4	ESB Bus Coupler Module	GS 32Q06L11-31E	1724000594-IN-DA-00010													SEC401-51	SEC401-51	YOKOGAWA	1	1	
17	7	TB for Analog DIN mount type	GS 32Q06L20-31E	1724000594-IN-DA-00010													SBA4D-06	SBA4D-06	YOKOGAWA	1	1	
18	21	TB for SDV144/541/L1DV144/541 DIN type	GS 32Q06L20-31E	1724000594-IN-DA-00010													SBD4D-06	SBD4D-06	YOKOGAWA	1	1	
19	4	Processor Module	GS 32P06D20-01EN	1724000594-IN-DA-00010													S2CP471-01	S2CP471-01	YOKOGAWA	1	1	
20	18	220-240V AC Input Power Supply Module	GS 32P06D20-01EN	1724000594-IN-DA-00010													SPW482-53	SPW482-53	YOKOGAWA	1	1	
21	13	Wiring Check Adapter (open circuit) - 8 per set	GS 32Q06K40-31E	1724000594-IN-DG-00021													SCB100-50	SCB100-50	YOKOGAWA	1	1	
22	13	Wiring Check Adapter (short-circuited) - 8 per set	GS 32Q06K40-31E	1724000594-IN-DG-00021													SCB110-50	SCB110-50	YOKOGAWA	1	1	
23	2	Dell LCD 24inch, 16:9, resolution: 1920x1080	dell-p2425h-monitor	1724000594-IN-DD-00015													P2425H	P2425H	DELL		1	
24	2	FortiGate Firewall with 12x GE RJ45 ports	fortigate-100f-series	1724000594-IN-DD-00015													FG-100 F	FG-100F	FORTINET		1	
25	2	FortiGate Firewall with 4x GE RJ45 ports - DCS / SIS	fortigate-fortiwifi-40f-series	1724000594-IN-DD-00015													FG-40 F	FG-40F	FORTINET		1	
26	5	FortiGate Firewall with 6x GE RJ45 ports, 2 x GE RJ45/SFP Shared Media Ports	fortigate-fortiwifi-80f-series	1724000594-IN-DD-00015													FG-80 F	FG-180F	FORTINET		1	
27	9	Managed Switch L2, Hirschmann, 8 port Gb, 4x SFP	BRS40_Product	1724000594-IN-DD-00015													BRS40-0012OOOO-EFCY99HHSEAXX.X.XX	BRS40-0012OOOO	HIRSCHMANN		1	
28	8	Managed Switch L2, Hirschmann, 24 port Gb, 4x SFP	BRS40_Product	1724000594-IN-DD-00015													BRS40-0024OOOO-SFCY99HHSEAXX.X.XX	BRS40-0012OOOO	HIRSCHMANN		1	
29	1	Managed Switch L2, Hirschmann, 16 port Gb - For Third Party	BRS40_Product	1724000594-IN-DD-00015													BRS40-00169999-SFCY99HHSPAXX.X.XX	BRS40-0012OOOO	HIRSCHMANN		1	
30	5	L2 Switch 24 Port (Vnet/IP) AC Red.	GS 30A10B10-01EN	1724000594-IN-DG-00016													GRVSW-652FE	GRVSW-652FE	HIRSCHMANN/YOKOGAWA		1	
31	2	RTAC	2241_DS_20221221	1724000594-IN-DA-00013													SEL-2241	SEL-2241	SEL	1		
32	2	Power Coupler	2243_DS_20230712	1724000594-IN-DA-00013													SEL-2243	SEL-2243	SEL	1	1	
33	2	DC Analog Input Module	2245-2_DS_20230119	1724000594-IN-DA-00013													SEL-2245-2	SEL-2245-2	SEL	1	1	
34	2	DC Digital Input Module	2244_DS_20221221	1724000594-IN-DA-00013													SEL-2244-2	SEL-2244-2	SEL	1	1	
35	2	Digital Output Module	2244_DS_20221221	1724000594-IN-DA-00013													SEL-2244-3	SEL-2244-3	SEL	1	1	
36	2	DC Analog Output Module	2245-3_DS_20221221	1724000594-IN-DA-00013													SEL-2245-3	SEL-2245-3	SEL	1	1	
37	2	SFP Fiberoptic Gigabit Ethernet Transceiver SM	MSFPLXLC_techdata-3103387	1724000594-IN-DG-00016													M-SFP-LX/LC	M-SFP-LX/LC	Hirschmann		1	
38	4	SFP, EZX, BIDI, 1490/1550, 1G, 120km, SMF/LC	PRE-SFP-B4554-120I-DS-061224	1724000594-IN-DG-00016													PRE-SFP-B45-120-MSA	PRE-SFP-B45-120-MSA	Elpack		1	
39	4	SFP, EZX, BIDI, 1490/1550, 1G, 120km, SMF/LC	PRE-SFP-B4554-120I-DS-061224	1724000594-IN-DG-00016													PRE-SFP-B54-120-MSA	PRE-SFP-B54-120-MSA	Elpack		1	
40	4	SFP Fiberoptic Gigabit Ethernet Transceiver MM	A700000008840415	1724000594-IN-DG-00016													FAST SFP-MM/LC	FAST SFP-MM/LC	Hirschmann		1	
41																						
42																						
43																						
44																						
45																						

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-3 Other Components lists

- Not Applicable -

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-3 List of SubVendors; List of Suborders

- Not Applicable -

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2 INSTRUMENTATION DATA SHEETS AND DRAWINGS

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-1 Block Diagrams, Architectural Diagrams

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-1.1 System Architecture

1724000594-IN-DD-00015

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	System Architecture	Sheet 1 of 4 Date: 28/07/2025 Rev: 06

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1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	13/11/2025

Load Power Hub (BLPH)

System Architecture

Document Number: 1724000594-IN-DD-00015

Supplier Document Number: E366772C00-SA

Document Class: 2

Rev.	Date	Description	Prepared	Reviewed	Approved
06	28/07/2025	As Built (ASB)	MDO	MGA	MDO
05	16/05/2025	Accepted for Construction (AFC)	SKR	MP/AB	SC
04	14/02/2025	Issue for Review (IFR)	SKR	MP/AB	SC
03	26/08/2024	Issue for Review (IFR)	SKR	MP/AB	SC
02	28/06/2024	Issue for Review (IFR)	SKR	MP/AB	SC
01	24/05/2024	Issue for Review (IFR)	SKR	MP/AB	SC
00	23/04/2024	Issue for Review (IFR)	SKR	AB	SC

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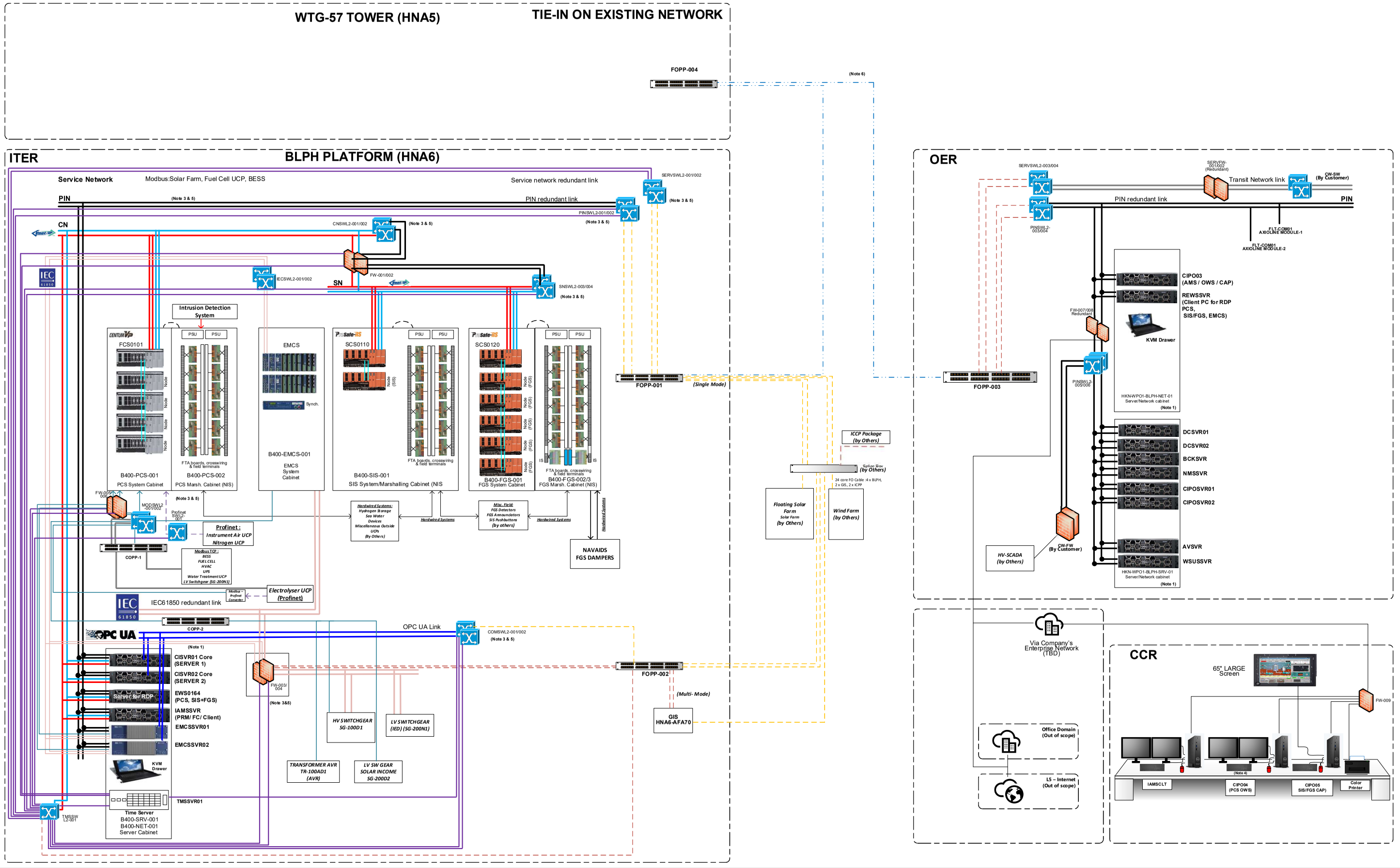
CROSSWIND BLPH PROJECT - SYSTEM ARCHITECTURE



AMS	: Alarm Management System	FCS	: Field Control Station
AV	: Anti-virus	FGS	: Fire & Gas System
BCK	: Backup Server	FO	: Fiber Optic
BESS	: Battery Energy Storage System	FOPP	: Fiber Optic Patch Panel (by others)
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CAP	: Critical Alarm Panel	HIST	: Historian
CCR	: Central Control Room	HKN	: Hollandse Kust Noord
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DMZ	: De-militarized Zone	MCC	: Motor Control Center
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EWS	: Engineering Work Station	MQTT	: Message Queuing Telemetry Transport
FC	: Field Communication (Vnet/IP)	NMS	: Network Management System

OER	: Onshore Equipment Room	PIN	: Plant Information Network
OHVS	: Offshore High Voltage Station	PKG	: Package
OWS	: Operator Work Station	RDP	: Remote Desktop Protocol
PIN	: Plant Information Network	SCS	: Safety Control Station
PKG	: Package	SIS	: Safety Instrumented System
RDP	: Remote Desktop Protocol	SN	: Safety Network
SCS	: Safety Control Station	SW	: Switch
SIS	: Safety Instrumented System	UCP	: Unit Control Panel (3rd party systems)
SN	: Safety Network	VM	: Virtual Machine
SW	: Switch	Vnet/IP	: Yokogawa's Control network
UCP	: Unit Control Panel (3rd party systems)	WSUS	: Windows Security Update Services
VM	: Virtual Machine		
Vnet/IP	: Yokogawa's Control network		
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LEGEND:

- PIN (Plant Information Network)
- Vnet/IP BUS 1 PCS
- Vnet/IP BUS 2 PCS
- Vnet/IP BUS 1 SIS/FGS
- Vnet/IP BUS 2 SIS/FGS
- ESB bus connection
- IEC61850 connection
- OPC UA connection
- Service Network connection
- Modbus TCP connection
- Profinet (non redundant)
- Fiber Optic Single Mode
- Fiber Optic Multi Mode
- Fiber Optic backbone (by Crosswind)
- System Cable connection
- NTP Connection

Note 1 : Exact assignment of Servers per cabinet to be defined in cabinet General Arrangement Drawing.
Note 2 : For IP Addresses refer to 1724000594-IN-RE-00043 Cyber Security Settings
Note 3 : All Network Components will be installed in Network Cabinet.
Note 4 : Supply of Console Desk in CCR is in Customer Scope.
Note 5 : All Network Switches and Firewall is configured in VLAN.
Note 6 : Intermediate FO Connection between HNA5 and OER Intentionally not shown.

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Zone-3 : PCS Zone
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Zone-5 : Security Management Zone-1
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Zone-8 : Croswind Zone
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Zone-11: Third Party System Zone
: Out of Scope

REV	DWG BY	CHK BY	APP BY	DATE
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Doc No : 1724000594-IN-DD-00015
Doc Name : System Architecture

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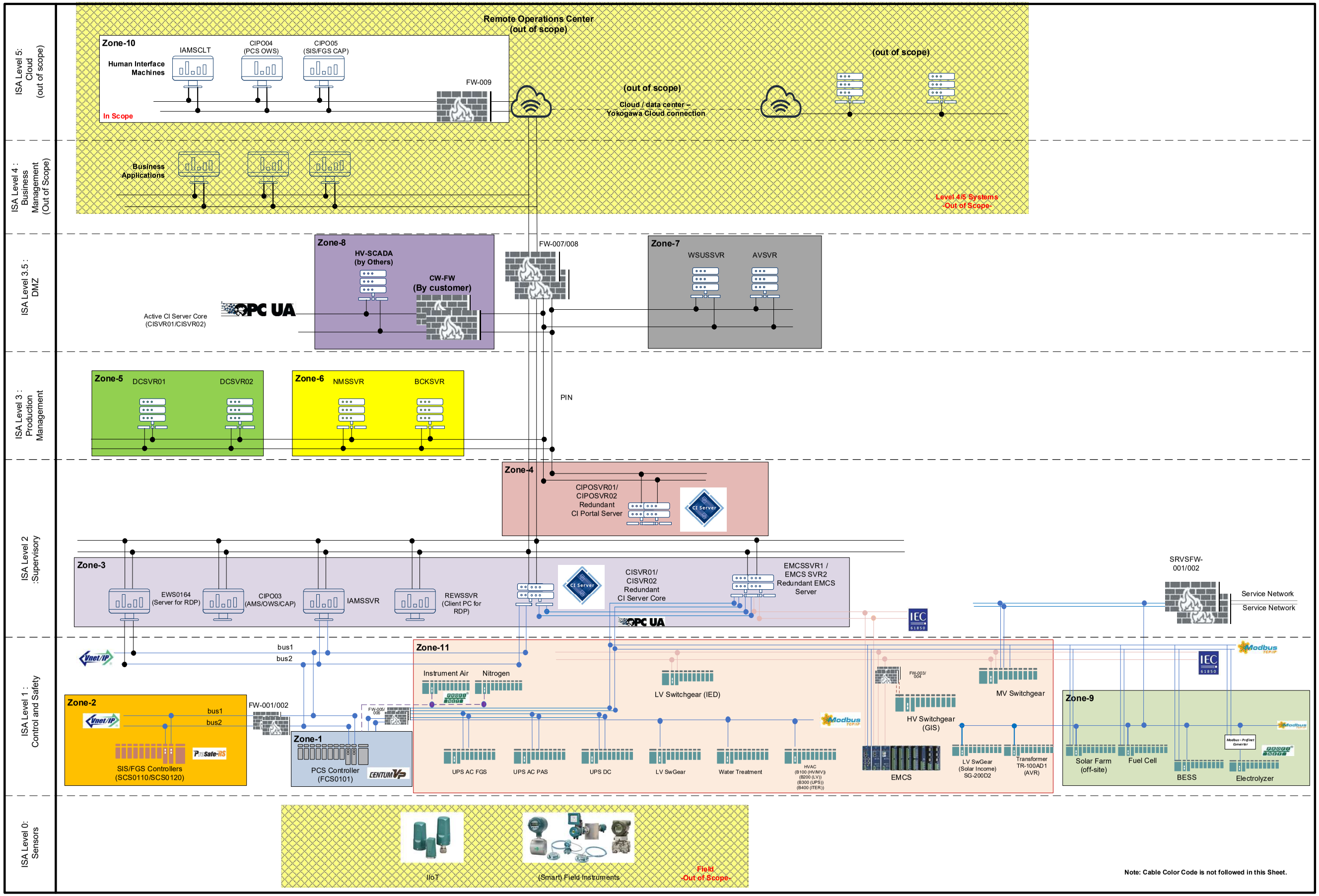
CROSSWIND BLPH PROJECT - CYBER ARCHITECTURE



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CCR	: Central Control Room	HKN	: Hollandse Kust Noord	SCS	: Safety Control Station
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DC	: Domain Controller	LHVS	: Land High Voltage Station	SW	: Switch
DMZ	: De-militarized Zone	MCC	: Motor Control Center	UCP	: Unit Control Panel (3rd party systems)
ESB	: IO communication bus	MODB	: Modbus	VM	: Virtual Machine
EWS	: Engineering Work Station	MQTT	: Message Queuing Telemetry Transport	Vnet/IP	: Yokogawa's Control network
FC	: Field Communication (Vnet/IP)	NMS	: Network Management System	WSUS	: Windows Security Update Services

LEGEND:
- PIN (Plant Information Network)
- Vnet/IP BUS 1 PCS
- Vnet/IP BUS 2 PCS
- Vnet/IP BUS 1 SIS/FGS
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- ESB bus connection
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Doc No : 1724000594-IN-DD-00015
Doc Name : System Architecture

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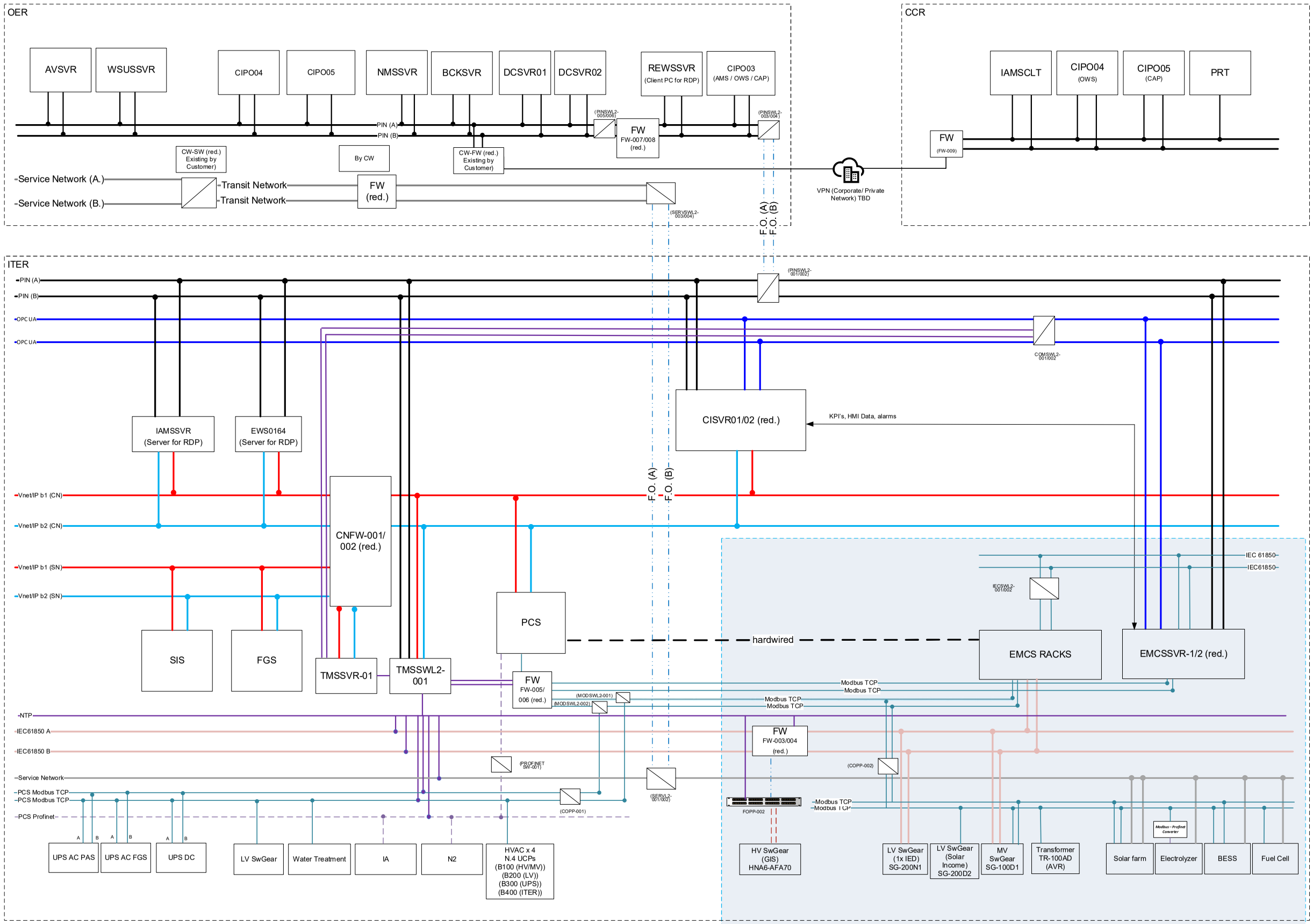
CROSSWIND BLPH PROJECT - SYSTEM BLOCK DIAGRAM



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Doc No : 1724000594-IN-DD-00015
Doc Name : System Architecture

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PAGE 4/4

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-1.2 Network Connection Diagram

1724000594-IN-DD-00016

BASE LOAD POWER HUB (BLPH)

NETWORK CONNECTION DIAGRAM

DOCUMENT NUMBER : 1724000594-IN-DG-00016

SUPPLIER DOCUMENT NUMBER : E366772C00-ND

DOCUMENT CLASS : 2

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
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Sign	Date
	18/09/2025

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CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	30/07/25	AG	MP/AB	SC	ACCEPTED FOR CONSTRUCTION (AFC)
03	07/05/25	SK	MP/AB	SC	ACCEPTED FOR CONSTRUCTION (AFC)
02	02/12/24	SK	MP/AB	SC	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/09/24	SK	MP/AB	SC	ISSUE FOR REVIEW (IFR)
00	31/05/24	SK	MP/AB	SC	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
FRONT PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	1724000594-IN-DG-00016	001	04

F.to UNI A3: 420mmx297mm

SUMMARY AND GENERAL NOTES

REV.	SHEET NUMBER	DESCRIPTION	REF. CODE
04	001	FRONT PAGE	
04	002	SUMMARY AND GENERAL NOTES	
04	003	LEGEND AND ABBREVIATIONS	2
04	004	NETWORK CONNECTION DIAGRAM - ITER AREA (1/2)	2
04	005	NETWORK CONNECTION DIAGRAM - ITER AREA (2/2)	2
04	006	NETWORK CONNECTION DIAGRAM - OER AREA	2
04	007	NETWORK CONNECTION DIAGRAM - CCR AREA	2
04	008	THIRD PARTY SYSTEM INTERFACE	2

GENERAL NOTES

NOTES:

1. REFER EMCS CABINET DRAWING FOR DETAILED CONNECTIONS OF EMCS PROFINET, MODBUS TCP/IP, IEC 61850, AND SERVICE NETWORK.
2. FOR IP ADDRESS DETAILS REFER TO 1724000594-IN-RE-00043 - CYBER SECURITY SETTINGS.
3. MOUNTING OF FIREWALL FW009 WILL BE FINALIZED WITH CROSSWIND.
4. IN CCR, CONSOLE DESK SCOPE AND SIZING BY CROSSWIND.
5. FIREWALLS CAN BE USED FOR BOTH MODBUS PROTOCOL AND TIME SYCHRONIZING.

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CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	30/07/25	AG	MP/AB	SC	ACCEPTED FOR CONSTRUCTION (AFC)
03	07/05/25	SK	MP/AB	SC	ACCEPTED FOR CONSTRUCTION (AFC)
02	02/12/24	SK	MP/AB	SC	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/09/24	SK	MP/AB	SC	ISSUE FOR REVIEW (IFR)
00	31/05/24	SK	MP/AB	SC	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
SUMMARY AND GENERAL NOTES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

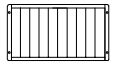
A3 | DRAWING NO. 1724000594-IN-DG-00016 | SHEET 002 | REV. 04

F.to UNI A3: 420mmx297mm

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
File Name : 1724000594-IN-DG-00016

LEGEND AND ABBREVIATIONS

SYMBOL	DESCRIPTION
	PCS/SIS/FGS VNET/IP BUS 1
	PCS/SIS/FGS VNET/IP BUS 2
	PIN NETWORK
	SERVICE NETWORK
	NTP CONNECTION
	OPC UA
	MODBUS TCP/IP – CCS
	IEC 61850 NETWORK
	PROFINET NETWORK FOR CCS & FOR EMCS
	FO PATCH CORDS (MULTI MODE)
	FO PATCH CORDS (SINGLE MODE)
	SERVER
	TIME SERVER
	EMCS SERVER
	FOPP
	MANAGED SWITCH L2, 8 PORT GB, 2X SFP
	MANAGED SWITCH L2, 24 PORT GB, 2X SFP
	FIREWALL WITH 4X GE RJ45 PORTS
	FIREWALL WITH 12X GE RJ45 PORTS
	L2 SWITCH 24 PORT (Vnet/IP)
	FIELD CONTROL STATION (FCS)
	FIELD CONTROL STATION (FCS)
	SAFETY CONTROL STATION (SCS)
	ELECTRICAL MONITORING & CONTROL STATION (EMCS)
	MANAGED SWITCH 16 PORT
	WORKSTATION
	PRINTER

ACRONYMS	DESCRIPTION
AVSVR	ANTI VIRUS SERVER
BCKSVR	BACKUP SERVER
CIP	COLLABORATIVE INFORMATION PORTAL
CIPO	COLLABORATIVE INFORMATION PORTAL
CIPOSVR	COLLABORATIVE INFORMATION PORTAL SERVER
CISVR	COLLABORATIVE INFORMATION SERVER
CNSW	CONTROL NETWORK SWITCH
CRPRT	COLOUR PRINTER
DCSVR	DOMAIN CONTROLLER SERVER
DMZSW	DE–MILITARIZED ZONE SWITCH
EWS	ENGINEERING WORK STATION
FCS	FIELD CONTROL STATION
FOPP	FIBER OPTIC PATCH PANEL
FW	FIREWALL
IAMSCLT	INSTRUMENT ASSET MANAGEMENT SYSTEM CLIENT
IAMSSVR	INSTRUMENT ASSET MANAGEMENT SYSTEM SERVER
L2	LAYER 2
NMSVR	NETWORK MANAGEMENT SERVER
NU	NODE UNIT
PIN	PLANT INFORMATION NETWORK
PINSW	PIN SWITCH
SCS	SAFETY CONTROL STATION
SERVFW	SERVER FIREWALL
SERVSW	SERVER SWITCH
SNSW	SAFETY NETWORK SWITCH
SVR	SERVER
SW	SWITCH
TMSVR	TIME SERVER
WSUSSVR	WINDOWS SECURITY UPDATE SERVICES SERVER
REWSSVR	REMOTE ENGINEERING WORKSTATION

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TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
LEGEND AND ABBREVIATIONS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000594-IN-DG-00016

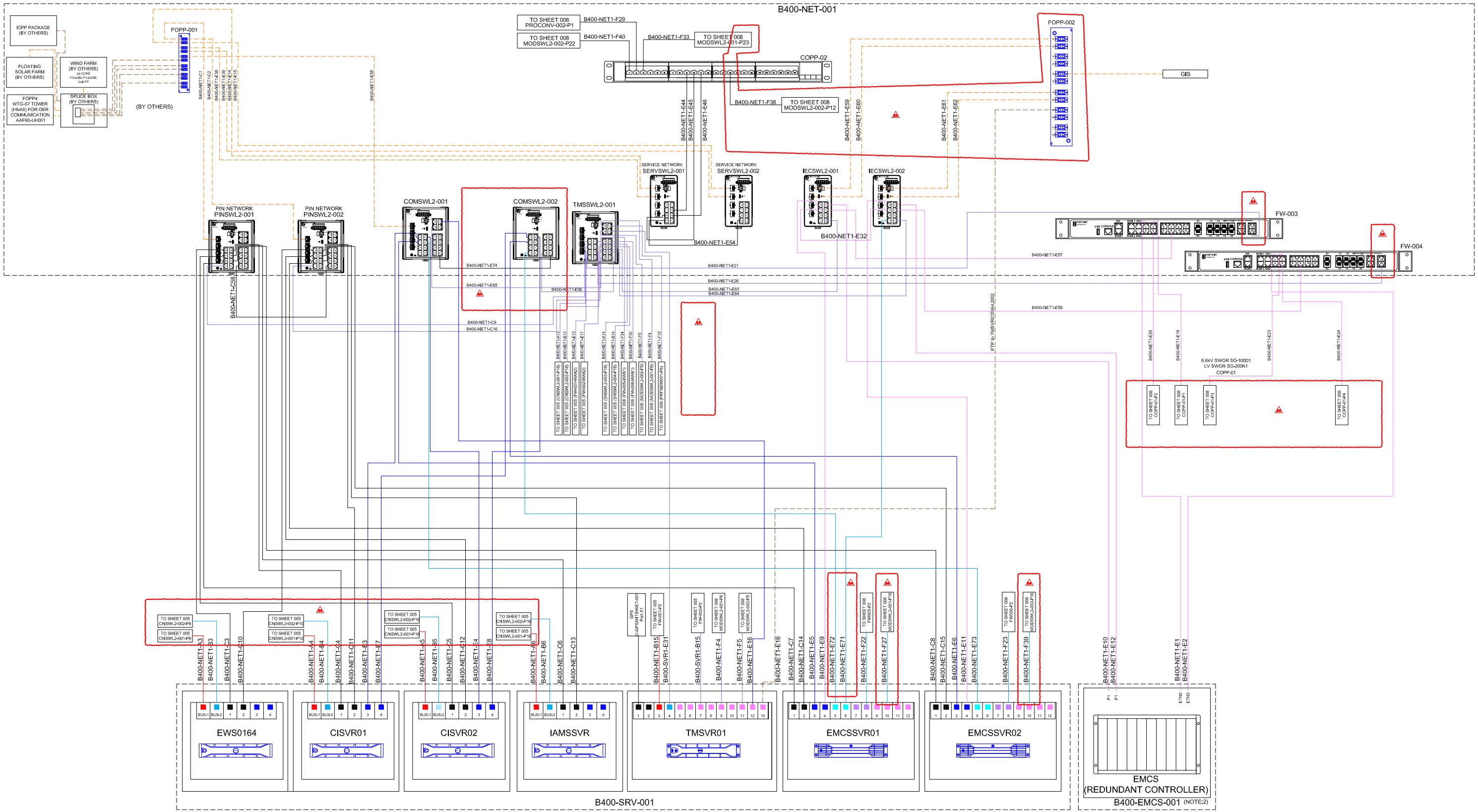
SHEET 003

REV. 04

F.to UNI A3: 420mmx297mm

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
File Name : 1724000594-IN-DG-00016

NETWORK CONNECTION DIAGRAM 1 of 2 - ITER AREA



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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
NETWORK CONNECTION DIAGRAM 1 of 2 – ITER AREA

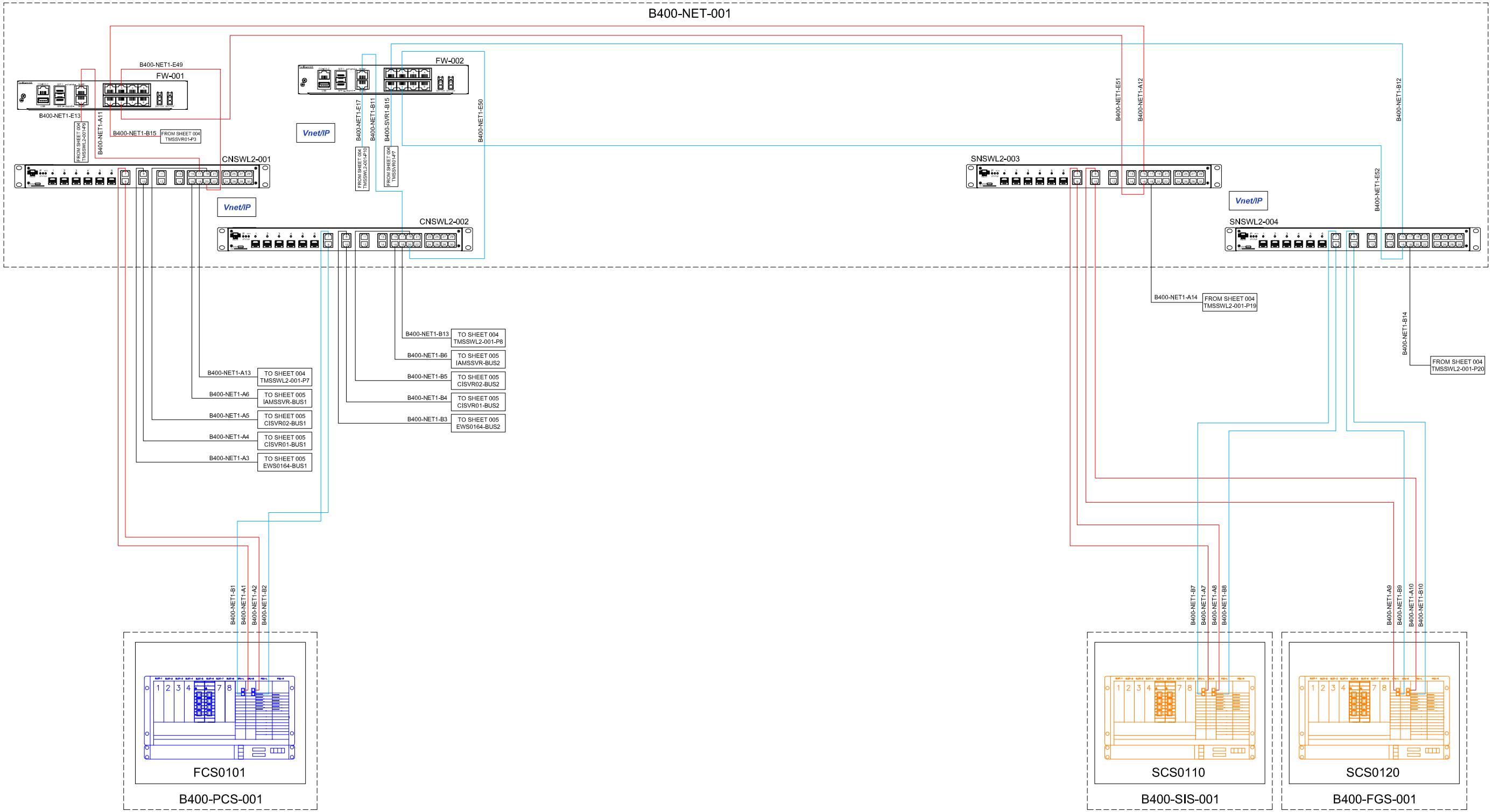
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000594-IN-DG-00016 | SHEET 004 | REV. 04

F.to UNI A3: 420mmx297mm

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
File Name : 1724000594-IN-DG-00016

NETWORK CONNECTION DIAGRAM 2 of 2 - ITER AREA



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01	26/09/24	SK	MP/AB	SC	ISSUE FOR REVIEW (IFR)
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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
NETWORK CONNECTION DIAGRAM 2 of 2 – ITER AREA

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000594-IN-DG-00016 | SHEET 005 | REV. 04

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Document Nr. 1724000594-QC-DB-00033 - Rev.01

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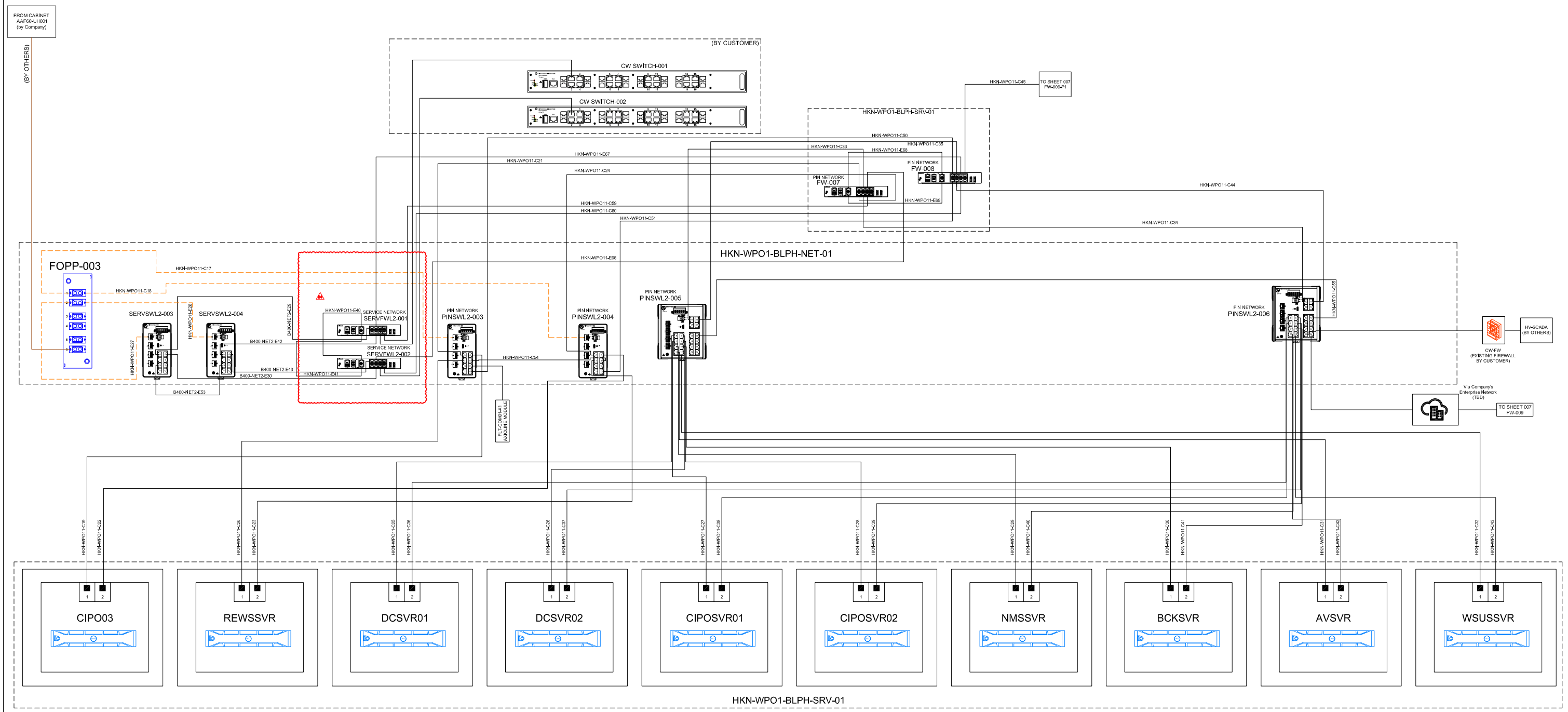
File Name : 1724000594-IN-DG-00016

NETWORK CONNECTION DIAGRAM - OER AREA



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TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
NETWORK CONNECTION DIAGRAM – OER AREA

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000594-IN-DG-00016

SHEET 006

REV. 04

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
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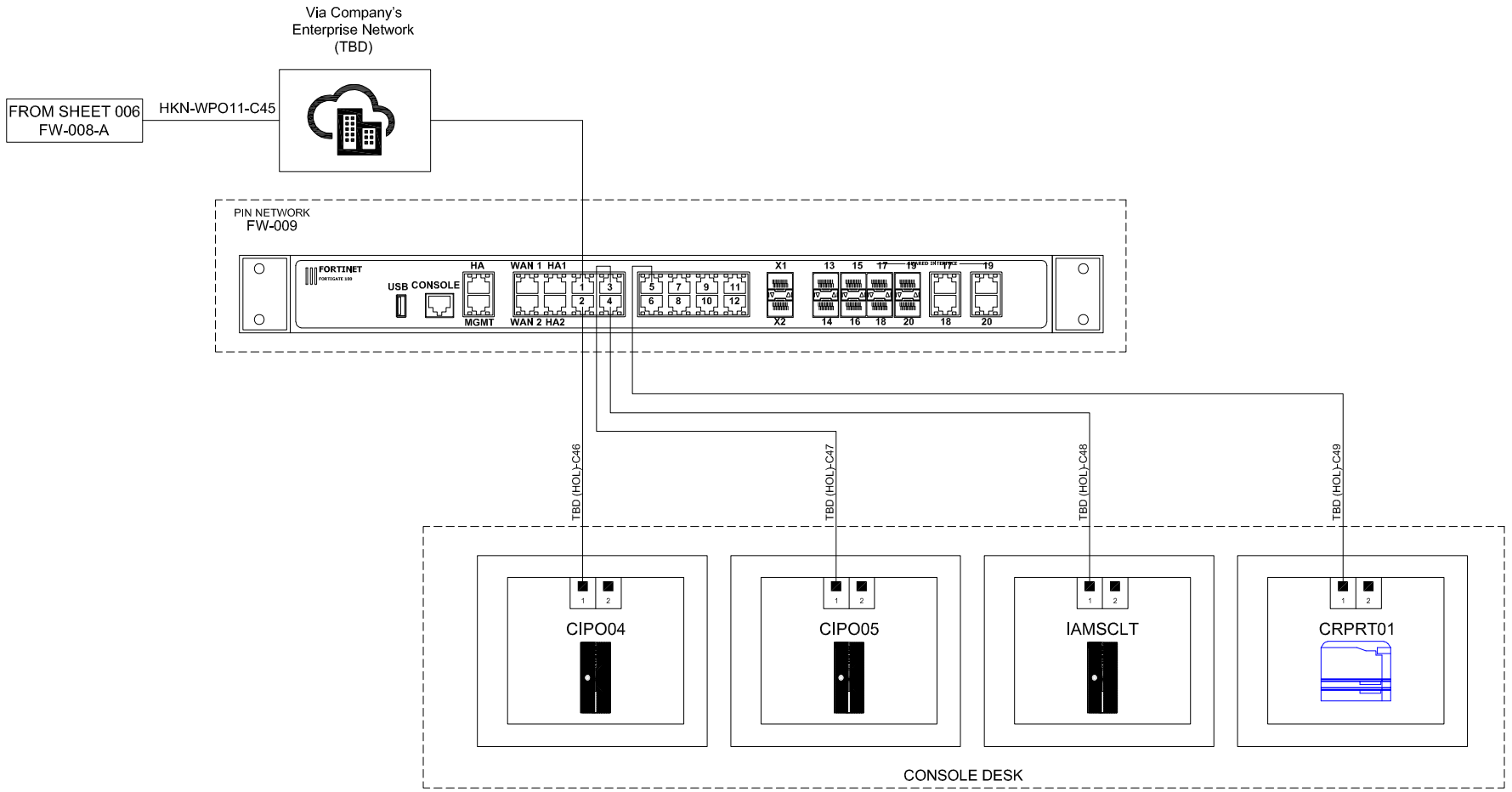
NETWORK CONNECTION DIAGRAM - CCR AREA



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NETWORK CONNECTION DIAGRAM
NETWORK CONNECTION DIAGRAM – CCR AREA

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000594-IN-DG-00016

SHEET 007

REV. 04

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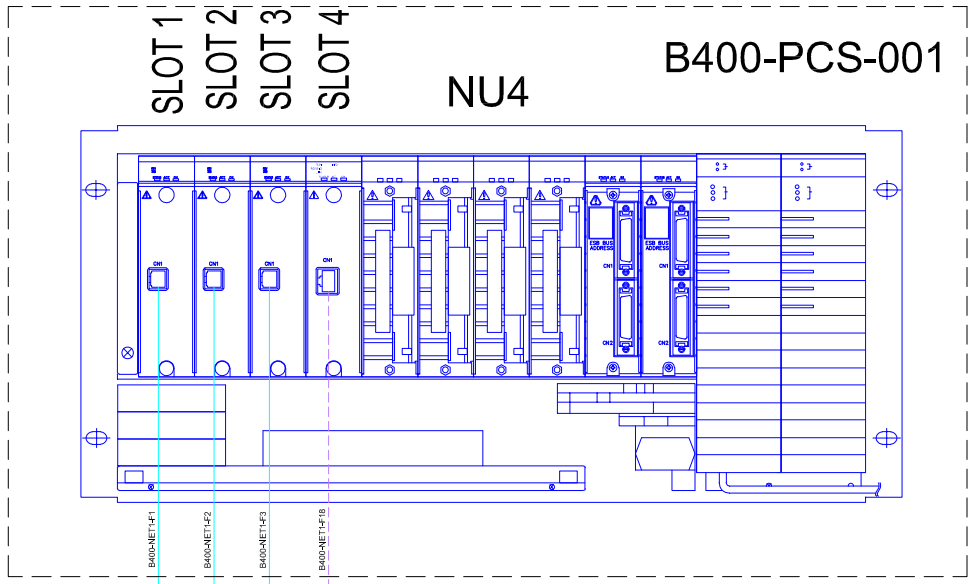
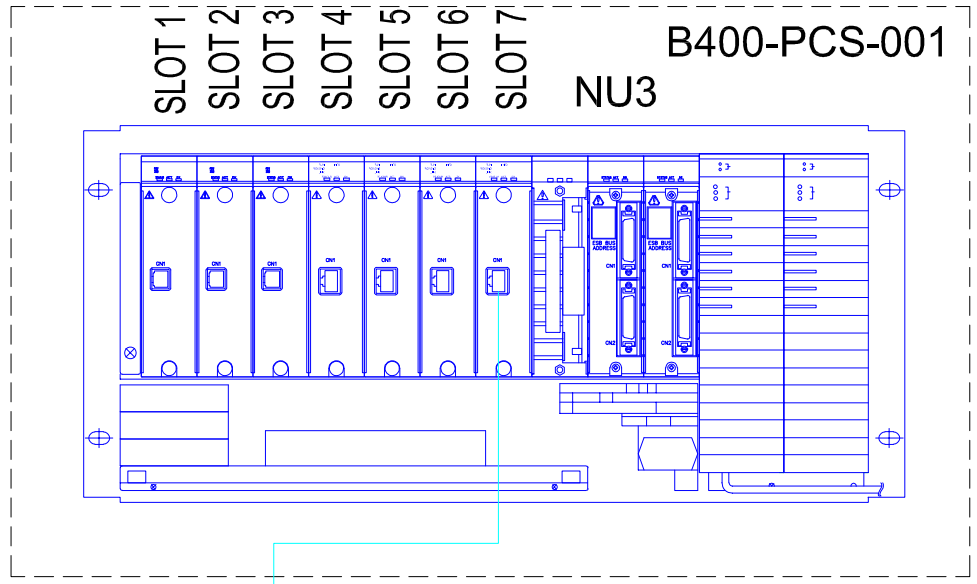
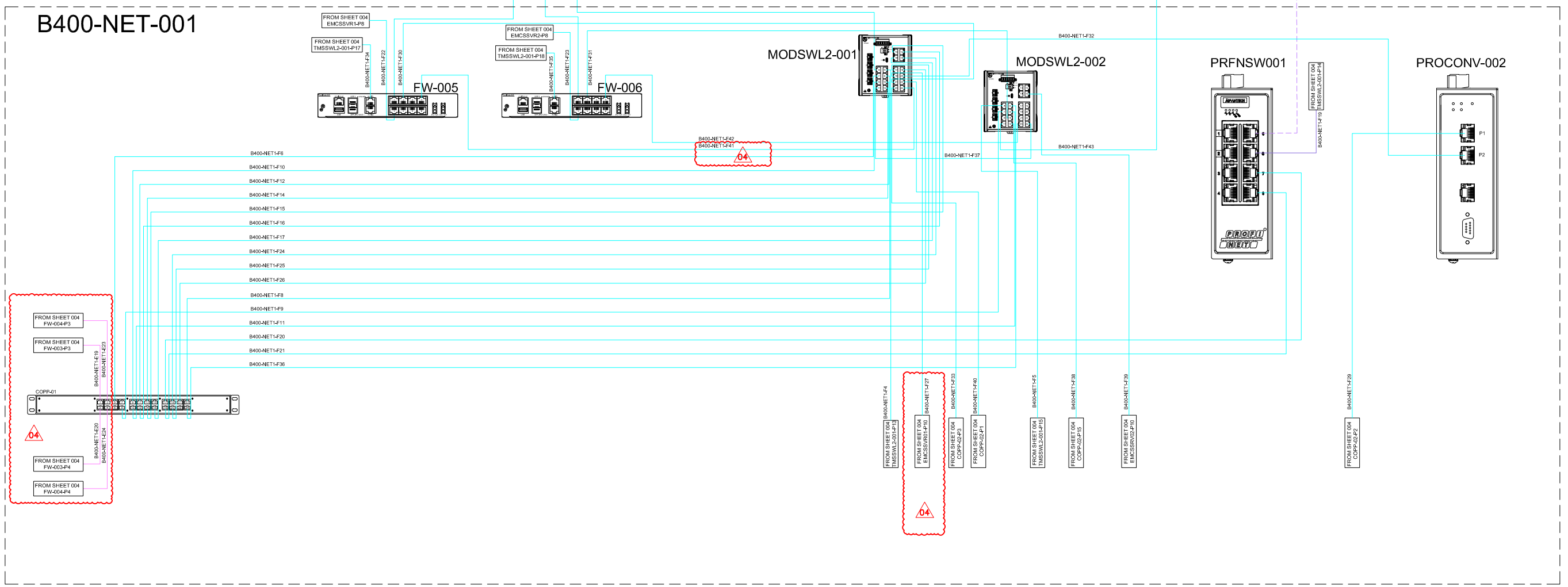
THIRD PARTY SYSTEM INTERFACE







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ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NETWORK CONNECTION DIAGRAM
THIRD PARTY SYSTEM INTERFACE

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SCALE : NTS

A3

DRAWING NO. 1724000594-IN-DG-00016

SHEET 008

REV. 04

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Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
File Name : 1724000594-IN-DG-00016

2-2 Instrument list

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-2.1 Bill of material

1724000594-IN-LIS-00003

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	BILL OF MATERIAL	Sh. 1 of 4 Date: 30/06/2025 Rev. 06

Base Load Power Hub (BLPH)

INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

Bill of Material

Document Number: 1724000594-IN-LIS-00003

Document Class: 3

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	03/07/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
06	30/06/2025	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
05	17/04/2025	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
04	30/01/2025	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
03	13/12/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
02	20/09/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
01	07/08/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
00	23/04/2024	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi

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ITEM	Area	PART NUMBER	DESCRIZIONE	BRAND	SUPPLIER	TOTAL INSTALLED	SPARE PARTS Start-up_Comm.	SPARE PARTS 2Years	TOTAL ITER & OER
1	Cabinets	AGR Series	System Cabinet (800x800x2000+100) FRONT	Auger	PREI	7			7
2	Cabinets	AGR Series	Net Cabinet (800x1000x2000+100)	Auger	PREI	2			2
3	Cabinets	AGR Series	Net/Srv Cabinet (800x1200x2000+100)	Auger	PREI	2			2
4	Cabinets	n.a.	Att. 01_PREI sub-orders list_RM Crosswind	Imat Felco	PREI	0			0
5	Cabinets	n.a.	Att. 01_PREI sub-orders list_RM Crosswind	Sacchi Giuseppe	PREI	0			0
6	Cabinets	n.a.	Att. 01_PREI sub-orders list_RM Crosswind	WEIDMULLER	PREI	0			0
7	Cabinets	n.a.	MCT	Roxtec	PREI	0			0
8	-					0			0
11	NET / CR / SW	PLC-RSC-24DC/21	Relay, 24/48/110 Vdc	Phoenix Contact	Phoenix Contact	0			0
12	NET / CR / SW	FG-100 F/Equivalent	FortiGate Firewall with 12x GE RJ45 ports	FortiNet	Bechtle	2		1	3
13	NET / CR / SW	FG-80 F/Equivalent	FortiGate Firewall with 6x GE RJ45 ports, 2 x GE RJ45/SFP Shared Media Ports	FortiNet	Bechtle	2			2
14	NET / CR / SW	FG-40 F/Equivalent	FortiGate Firewall with 4x GE RJ45 ports - DCS / SIS	FortiNet	Bechtle	2			2
15	NET / CR / SW	FG-80 F/Equivalent	FortiGate Firewall with 6x GE RJ45 ports, 2 x GE RJ45/SFP Shared Media Ports	FortiNet	Bechtle	4		1	5
16	NET / CR / SW			Tecnofiber	Tecnofiber	2			2
17	NET / CR / SW	CRDC6EU05MRO	RED 5m cables - conn. RJ45	STT	STT	10			10
18	NET / CR / SW	FO CA LCdx-LCdx 2E9/125 G657.A1, 10.0m	HARTING FO Patch Cord - SingleMode	Amazon	Amazon	1			1
19	NET / CR / SW	BRS40-0012OOOO-EFCY99HHSEAXX.X.XX	Managed Switch L2, Hirschmann, 8 port Gb, 4x SFP	Hirschmann	BELDEN	8		1	9
20	NET / CR / SW	BRS40-0024OOOO-SFCY99HHSEAXX.X.XX	Managed Switch L2, Hirschmann, 20 port Gb, 4x SFP	Hirschmann	BELDEN	7		1	8
22	NET / CR / SW	BRS40-00169999-SFCY99HHSPAXX.X.XX	Managed Switch L2, Hirschmann, 16 port Gb - For Third Party	Hirschmann	BELDEN	1			1
27	NET / CR / SW	ATEN CL1008M	8-Port Slideaway 17" LCD KVM Switch	DELL	DELL	2			2
28	NET / CR / SW	GRS105-24TX/6SFP-2HV-2A	L2 Switch 24 Port (Vnet/IP) AC Red.	Hirschmann	BELDEN	4		1	5
29	NET / CR / SW	PRE-SFP-B45-120-MSA	SFP Module for PIN and Service Network (1° tipo)	ELPACK	ELPACK	4		2	6
30	NET / CR / SW	PRE-SFP-B54-120-MSA	SFP Module for PIN and Service Network (2° tipo)	ELPACK	ELPACK				
31	NET / CR / SW	CRDC6EU05MBL	BLUE 5m cable- conn. RJ45	STT	STT	10			10
32	NET / CR / SW	CRDC6EU05MVE	GREEN 5m cable - conn. RJ45	STT	STT	40			40
33	NET / CR / SW	LANTIME M1000-IMS	Lantime NTP server incl. **8** (2)x 10/100 Mbit ports + GPS antenna 50m	Meinberg	Sincron Sistemi	1			1
34	-					0			0
35	NET / CR / SW	-	Fiber Optic patch panel - Nr.12 ports LC	LAN	Yokogawa	0			0
36	NET / CR / SW	-	Ethernet RJ45 patch panel	1aTTack.de	Yokogawa	3			3
37	NET / CR / SW	Mgate 5103	Profinet Converter	MOXA	Yokogawa	1			1
38	NET / CR / SW	GP4SY-04XX250S1900E/GR1/RAIL/ARM	CI-Core (Server) - ITER	Yokogawa	Yokogawa	2			2
39	NET / CR / SW	GP4SY-04XX240S1900E/GR1/RAIL/ARM	CI-Portal server	Yokogawa	Yokogawa	2			2
40	NET / CR / SW	GP4SY-04XX240S1900E/GR1/RAIL/ARM	CI-Portal / View (AMS, OWS, CAP)	Yokogawa	Yokogawa	1			1
41	NET / CR / SW	GP2SY-02BB210W1019E/DPW1/RAIL/ARM	EWS Client PC for RDP	Yokogawa	Yokogawa	1			1
42	NET / CR / SW	GP4SY-04XX240S1900E/GR1/RAIL/ARM	EWS (PCS , SAFETY)	Yokogawa	Yokogawa	1			1
43	NET / CR / SW	GP4SY-04XX240S1900E/RAIL/ARM	IAMS Server	Yokogawa	Yokogawa	1			1
44	NET / CR / SW	Optiplex XE3	CI-View (OWS) - (devices to be installed in CCR but not confirmed)	DELL	DELL	1			1
45	NET / CR / SW	Optiplex XE3	CI-View (CAP) - (devices to be installed in CCR but not confirmed)	DELL	DELL	1			1
46	NET / CR / SW	Optiplex XE3	IAMS Client - (devices to be installed in CCR but not confirmed)	DELL	DELL	1			1
47	NET / CR / SW	Dell PowerEdge R450	AV Server	DELL	DELL	1			1
48	NET / CR / SW	Dell PowerEdge R450	WSUS Server	DELL	DELL	1			1
49	NET / CR / SW	Dell PowerEdge R450	Domain Controller	DELL	DELL	2			2
50	NET / CR / SW	Dell PowerEdge R450 RAID 5	B&R Server	DELL	DELL	1			1
51	NET / CR / SW	Dell PowerEdge R450	NMS Server (Domain Controller)	DELL	DELL	1			1
52	NET / CR / SW	24" Monitor P2422H	Dell LCD 24inch, 16:9, resolution: 1920x1080 - (devices to be installed in CCR but not confirmed)	DELL	DELL	4		1	5
53	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - RED - 5m	STT	STT	2			2
54	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - RED - 10m	STT	STT	5			5
55	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - RED - 15m	STT	STT	4			4
56	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - RED - 20m	STT	STT	2			2
57	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - BLUE - 5m	STT	STT	2			2
58	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - BLUE - 10m	STT	STT	5			5
59	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - BLUE - 15m	STT	STT	8			8
60	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - BLUE - 20m	STT	STT	15			15
61	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREEN - 3m	STT	STT	1			1
62	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREEN - 5m	STT	STT	30			30
63	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREEN - 10m	STT	STT	13			13
64	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREEN - 15m	STT	STT	4			4
65	NET / CR / SW	Veeam Backup Essentials - 5 Univ. Lic. / 1 yr. subscr.	Backup & Recovery software - 1 yr. subscr.	PIPELINE	PIPELINE	1			1

ITEM	Area	PART NUMBER	DESCRIZIONE	BRAND	SUPPLIER	TOTAL INSTALLED	SPARE PARTS Start-up_Comm.	SPARE PARTS 2Years	TOTAL ITER & OER
66	NET / CR / SW	Whatsup Gold Premium 100	NMS Software for 100 devices with 1y service	Progress	BECHTLE	1			1
67	NET / CR / SW	NEC MultiSync, resolution:3840x2160	65" Screen M651 - (devices to be installed in CCR but not confirmed)	NEC/Equivalent	BECHTLE	1			1
68	NET / CR / SW	HP M255dw	A4 size Color Laserjet Network Printer - (devices to be installed in CCR but not confirmed)	HP/Equivalent		1			1
69	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREY - 3m	STT	STT	2			2
70	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREY - 5m	STT	STT	12			12
71	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - GREY - 10m	STT	STT	19			19
72	NET / CR / SW	-	Cat6 Ethernet cable RJ45 - WHITE - 2m	STT	STT	4			4
73	-					0			0
74	License	VP6F3100-V11	Project I/O License	Yokogawa	Yokogawa	8			8
75	License	VP6CPJT-V11N01	Project ID License	Yokogawa	Yokogawa	2			2
76	License	SV2CPML-V1107-S1112	Product Maintenance License	Yokogawa	Yokogawa	2			2
77	License	VP6CKM-V11	Software Media for CENTUM VP R6	Yokogawa	Yokogawa	2			2
78	License	SS2CPMLM-V1107-S1112	Certificate of PML	Yokogawa	Yokogawa	2			2
79	License	VP6H1100-V11N01	Standard Operation / Monitoring Function	Yokogawa	Yokogawa	2			2
80	License	VP6H4410-V11N01	Control Drawing Status Display Package	Yokogawa	Yokogawa	2			2
81	License	VP6H4420-V11N01	Logic Chart Status Display Package	Yokogawa	Yokogawa	2			2
82	License	MS Excel - DG7GMGF0D7FT-0002	MIC CSP Microsoft Excel LTSC 2021	Microsoft	Yokogawa	3			3
83	License	VP6F1700-V11C01	Control Function for FCS(A2FV30x)	Yokogawa	Yokogawa	2			2
84	License	VP6E51AD-V11N01	AD Suite Standard Engineering Function & Engineering Server function	Yokogawa	Yokogawa	2			2
85	License	VP6E5150-V11	Graphic Builder	Yokogawa	Yokogawa	2			2
86	License	VP6E5490-V11N01	Self-documentation Package	Yokogawa	Yokogawa	2			2
87	License	VP6C5495-V11	Electronic Instruction Manual	Yokogawa	Yokogawa	2			2
88	License	PM4SSET-V11N1000	PRM Set	Yokogawa	Yokogawa	2			2
89	License	PM4CPJT-V11	Project ID License for PRM R4	Yokogawa	Yokogawa	2			2
90	License	CS2CKM-D11	CI Server Software Media	Yokogawa	Yokogawa	2			2
91	License	CS2CKM2-C11	CI Server User's Manual Media	Yokogawa	Yokogawa	2			2
92	License	CS2CLC-L11/FCA02/SCA02/CB02/CD02/PTL03/VER01/DEP02/ADH02	CI Server Software License	Yokogawa	Yokogawa	2			2
93	License	SV2CPMLC-V1100-S1112/C01	Product Maintenance License - CI Server	Yokogawa	Yokogawa	2			2
94	License	LS1SN001-E01/AV	End Point Security License (Intial) - For applicable products	Yokogawa	Yokogawa	14			14
95	License	LS1SN001-E01/AVX	End Point Security License (Intial) - For other products	Yokogawa	Yokogawa	7			7
96	-					0			0
102	DCS HW	AFV30D-A41262	Field Control Station (Redundant)	Yokogawa	Yokogawa	1			1
103	DCS HW	EC401-51	ESB Bus Coupler Master Module	Yokogawa	Yokogawa	2	1	1	4
104	Common HW	YCB301-C020	ESB Cable	Yokogawa	Yokogawa	20			20
105	Common HW	YCB301-C100	ESB Cable	Yokogawa	Yokogawa	6			6
106	DCS HW	ANB10D-426/CU2N	Node Interface Unit	Yokogawa	Yokogawa	3			3
107	DCS HW	ANB10D-426/CU2T	Node Interface Unit	Yokogawa	Yokogawa	1			1
108	DCS HW	AAI143-H53/K4A00	Analog Input Module, 16 Channel	Yokogawa	Yokogawa	8	1	1	10
109	DCS HW	AAI543-H61/K4A00	Analog Output Module, 16 Channel	Yokogawa	Yokogawa	4	1	1	6
110	DCS HW	ADV151-P63/D5A00	Digital Input Module, 32 Channel	Yokogawa	Yokogawa	8	1	1	10
111	DCS HW	ADV551-P63/D5A00	Digital Output Module, 32 Channel	Yokogawa	Yokogawa	2	1	1	4
112	DCS HW	ALE111-S51	Modbus TCP/IP Communication Module	Yokogawa	Yokogawa	3	1		4
113	DCS HW	A2LP131-S01	ProfiNet Communication Module	Yokogawa	Yokogawa	1	1		2
114	DCS HW	ADCV01	Dummy Cover	Yokogawa	Yokogawa	4			4
115	DCS HW	A1BA4D-06	TB for Analog DIN mount type	Yokogawa	Yokogawa	6	1	1	8
116	DCS HW	A1BD5D-06	TB for Digital DIN mount type	Yokogawa	Yokogawa	5	1	1	7
117	DCS HW	KS1-07/HF	Dedicated Signal Cable for Analog Modules	Yokogawa	Yokogawa	12			12
118	DCS HW	AKB331-M007/HF	Dedicated Signal Cable for Digital Modules	Yokogawa	Yokogawa	10			10
119	DCS HW	VI-702	Netwok Interface Card	Yokogawa	Yokogawa	4	1	1	6
120	DCS HW	SCP471-01	Processor Module	Yokogawa	Yokogawa	0	1	1	2
121	DCS HW	SPW482-51	220-240V AC Input Power Supply Module	Yokogawa	Yokogawa	0	1	1	2
122	-					0			0
126	ProSAFE HW	S2SC70D-FA12010	Duplex Safety Control Unit	Yokogawa	Yokogawa	2			2
127	ProSAFE HW	SNB10D-425/CU2N	Safety Node Unit	Yokogawa	Yokogawa	5			5
128	ProSAFE HW	SNB10D-425/CU2T	Safety Node Unit	Yokogawa	Yokogawa	2			2
129	ProSAFE HW	SAI143-H63	Analog Input Module (4-20mA,16-ch), HART	Yokogawa	Yokogawa	22	1	1	24
130	ProSAFE HW	SDV144-S63	Digital Input Module (16-ch, 24V DC)	Yokogawa	Yokogawa	22	1	1	24
131	ProSAFE HW	SDV541-S63	Digital Output Module (16-ch, 24V DC)	Yokogawa	Yokogawa	20	1	1	22

ITEM	Area	PART NUMBER	DESCRIZIONE	BRAND	SUPPLIER	TOTAL INSTALLED	SPARE PARTS Start-up_Comm.	SPARE PARTS 2Years	TOTAL ITER & OER
132	ProSAFE HW	SDCV01	Dummy cover	Yokogawa	Yokogawa	4			4
133	ProSAFE HW	SEC401-S1	ESB Bus Coupler Module	Yokogawa	Yokogawa	4	1	1	6
134	ProSAFE HW	KS1-10/HF	Dedicated Signal Cable for Analog Modules (10m)	Yokogawa	Yokogawa	20			20
135	ProSAFE HW	KS1-5/HF	Dedicated Signal Cable for Analog Modules (5m)	Yokogawa	Yokogawa	2			2
136	ProSAFE HW	AKB331-M010/HF	Dedicated Signal Cable for Digital Modules (10m)	Yokogawa	Yokogawa	24			24
137	ProSAFE HW	AKB331-M005/HF	Dedicated Signal Cable for Digital Modules (5m)	Yokogawa	Yokogawa	18			18
138	ProSAFE HW	SBA4D-06	TB for Analog DIN mount type	Yokogawa	Yokogawa	8	1	1	10
139	ProSAFE HW	SBD4D-06	TB for Digital DIN mount type	Yokogawa	Yokogawa	21	1	1	23
140	ProSAFE HW	SCB-100-S0	Wiring Check Adapter (open circuit) - 8 per set	Yokogawa	Yokogawa	13	1	1	15
141	ProSAFE HW	SCB-110-S0	Wiring Check Adapter (short-circuited) - 8 per set	Yokogawa	Yokogawa	13	1	1	15
142	ProSAFE HW	S2CP471-01	Processor Module	Yokogawa	Yokogawa	0	1	1	2
143	ProSAFE HW	SPW482-53	220-240V AC Input Power Supply Module	Yokogawa	Yokogawa	0	1	1	2
144	-					0			0
147	SIS HW 3rd	P+F - KFD0-RSH-1.4S.PS2	Safety Relay 24 Vdc, 5A (SIL 3)	P+F	P+F	42			42
148	SIS HW 3rd	HiC2025	AI 1ch. Barrier (SIL2)	P+F	P+F	30			30
149	SIS HW 3rd	HiCTB16-YRS-RRB-KS-CC-AI16	IS Term. Board for SAI143, 1ch isolator (HiC2025 x 16)	P+F	P+F	3			3
150	-					0			0
155	SIS License	RS4F1500-V11	Safety Control Function (for S2SC70x)	Yokogawa	Yokogawa	2			2
156	SIS License	RS4E5600-V11	Centum VP integration package	Yokogawa	Yokogawa	1			1
157	SIS License	RS4CPJT-V11	Project ID License	Yokogawa	Yokogawa	1			1
158	SIS License	RS4F3100-V11	Project I/O License for ProSafe-RS	Yokogawa	Yokogawa	5			5
159	SIS License	RS4E5100-V11	Safety System Engineering and Maintenance Function (for Engineering & Server Function)	Yokogawa	Yokogawa	1			1
160	SIS License	RS4C5400-V11	Electronic Instruction Manual	Yokogawa	Yokogawa	1			1
161	SIS License	RS4CKM-V11	Software and Electronic Instruction Media	Yokogawa	Yokogawa	1			1
162	-					0			0
167	EMCS	MOXA 5103	Modbus to Profinet Converter	MOXA	BaxEnergy	1	1		2
168	EMCS	SEL-3555	RTAC	SEL	BaxEnergy	2			2
170	EMCS	SEL-2242	Backplane	SEL	BaxEnergy	2			2
171	EMCS	SEL-2241	RTAC	SEL	BaxEnergy	2	1		3
172	EMCS	SEL-2243	Power Coupler	SEL	BaxEnergy	2	1	1	4
173	EMCS	SEL-2245-2	DC Analog Input Module	SEL	BaxEnergy	2	1	1	4
174	EMCS	SEL-2244-2	DC Digital Input Module	SEL	BaxEnergy	2	1	1	4
175	EMCS	SEL-2244-3	Digital Output Module	SEL	BaxEnergy	2	1	1	4
176	EMCS	SEL-2245-3	DC Analog Output Module	SEL	BaxEnergy	2	1	1	4
178	EMCS	KFD2-STC5-1.2O	Analog signal duplicator/splitter	P+F	Yokogawa	16			16
179	EMCS	SEL-9331-A	Power Supply unit	SEL	BaxEnergy	4			4
180	EMCS License	-	No license supplied, SW is freeware	SEL	BaxEnergy	0			0
183	EMCS	202290240000	Pulse relay	FINDER	Yokogawa	9			9

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3 Main materials Certificates

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.1 ProSafe RS, R4.10 TUV

TUV_Cert_968_EZ_196_53_23

TÜVRheinland®

Functional Safety
FS-PRODUCTS.COM

Certificate Details

Certificate/Reg.-No.	968/EZ 196.58/24
Type of Certificate	**A-FS&CS Certificate**
Certificate Holder	Yokogawa Electric Corporation
Manufacturer	Yokogawa Electric Corporation
Product Category	Logic Units > Safety PLCs
Subject	Safety Control System ProSafe-RS
Type Designation	ProSafe-RS, R4.10 The actual revision and official list of the product documentation, hardware components and software modules have to be considered. Please refer to the "Revision Release List" published on https://fs-products.tuvasi.com/.
Codes and Standards	• IEC 61508 Parts 1-7:2010 • IEC 61131-2:2017 • IEC 61326-3-1:2017 (non accred.) • EN IEC 61000-6-2:2019
Scope and Result	Safety related and high availability applications such as: Emergency Shutdown System (ESD), Process Shutdown System (PSD), Burner Management System (BMS), where the safe state is the de-energized state. Fire and Gas System (F&G) applications, where the demand state is the de-energized or the energized state. The safety control system complies with the requirements of the relevant standards (SIL 3 / Systematic Capability SC 3 acc. to IEC 61508) and can be used in applications up to SIL 3. The product was also reviewed in reference to the applicable requirements of EN IEC 62061:2021, IEC 61511-1:2016 + Corr.1:2016 + AMD1:2017 and EN 50156-1:2015 up to SIL 3. The product meets also the applicable requirements of EN 298:2022, NFPA 72:2022, NFPA 85:2023, NFPA 86:2023 and EN 54-2:1997 + AC:1999 + A1:2006.
Specific Provisions	The instructions of the associated Installation and Operating Manuals shall be considered.
Valid Until	no expiry date
Appendixes	EZ_196_58_24_RL_2024_02_15.pdf
Download Certificate	Publication is performed following EA Rule EA-3/01 M: 2021

Remark: In case of missing entries this is due to restrictions by the certificate holder

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.2 ProSafe RS, R4.10 revision list

No.: 968_EZ 196.56_23

SIL3 compliant HW Components:

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
SSC10S	Safety Control Unit (Single CPU, Vnet)	S1	N/A	968/EZ 196.00/05	Valid
SSC10D	Safety Control Unit (Dual red. CPU, Vnet)	S1	N/A	968/EZ 196.00/05	Valid
SSC50S	Safety Control Unit (Single CPU, Vnet/IP)	S2	N/A	968/EZ 196.36/14	Valid
SSC50D	Safety Control Unit (Dual red. CPU, Vnet/IP)	S2	N/A	968/EZ 196.36/14	Valid
SSC57S	Safety Control Unit (Single CPU, Vnet/IP-Upstream)	S1	N/A	968/EZ 196.35/14	Valid
SSC57D	Safety Control Unit (Dual red. CPU, Vnet/IP-Upstream)	S1	N/A	968/EZ 196.35/14	Valid
SSC60S	Safety Control Unit (Single CPU, Vnet/IP)	S2	N/A	968/EZ 196.36/14	Valid
SSC60D	Safety Control Unit (Dual red. CPU, Vnet/IP)	S2	N/A	968/EZ 196.36/14	Valid
S2SC70S	Safety Control Unit (Single CPU, for N-IO/FIO)	S1	N/A	968/EZ 196.39/16	Valid
S2SC70D	Safety Control Unit (Dual red. CPU, for N-IO/FIO)	S1	N/A	968/EZ 196.39/16	Valid
SNB10D	Safety Node Unit	S2	N/A	968/EZ 196.08/06	Valid
SCP401-11	Processor Module for SSC10S/D, Vnet	S1	U:8, H1:1, H2:2, F1:1, F2:2, F3:0, F4:5	968/EZ 196.40/16	Valid
SCP401-51	Processor Module for SSC10S/D, Vnet with no explosion protection	S1	U:8, H1:1, H2:2, F1:1, F2:2, F3:0, F4:5	968/EZ 196.40/16	Valid
SCP401-E1	Processor Module for SSC10S/D, Vnet with explosion protection	S1	U:8, H1:1, H2:2, F1:1, F2:2, F3:0, F4:5	968/EZ 196.40/16	Valid
SCP451-11	Processor Module for SSC50S/D, SSC57S/D, Vnet/IP	S1	U:10, H1:1, H2:6, F1:27, F2:3, F3:0, F4:6	968/EZ 196.43/17	Valid
SCP451-51	Processor Module for SSC50S/D, SSC57S/D, Vnet/IP with no explosion protection	S1	U:10, H1:2, H2:7, F1:33, F2:3, F3:0, F4:6	968/EZ 196.52/22	Valid
SCP451-E1	Processor Module for SSC50S/D, SSC57S/D, Vnet/IP with explosion protection	S1	U:10, H1:2, H2:7, F1:33, F2:3, F3:0, F4:6	968/EZ 196.52/22	Valid

Manufacturer:
Yokogawa Electric Corporation
2-9-32 Nakacho
Musashino-shi
Tokyo - 180-8750
Japan

Certification Body:
TÜV Rheinland Industrie Service GmbH
Automation, Funktionale Sicherheit & Cyber Security (A-FS & CS)
Am Grauen Stein
51105 Köln
Germany

Revision Release List:
Certificate – No.: 968/EZ 196.58/24
Safety Control System ProSafe-RS, R4.10

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
SCP451-53	Processor Module for SSC50S/D, SSC57S/D, Vnet/IP with no explosion protection, RoHS Directive	S1	U:10, H1:1, H2:7, F1:33, F2:3, F3:0, F4:6	968/EZ 196.52/22	Valid
SCP451-E3	Processor Module for SSC50S/D, SSC57S/D, Vnet/IP with explosion protection, RoHS Directive	S1	U:10, H1:1, H2:7, F1:33, F2:3, F3:0, F4:6	968/EZ 196.52/22	Valid
SCP461-11	Processor Module for SSC60S/D, S2SC70S/D, Vnet/IP	S2	U:1, H1:2, H2:6, F1:27, F2:3, F3:6, F4:2	968/EZ 196.44/18	Valid
SCP461-51	Processor Module for SSC60S/D, S2SC70S/D, Vnet/IP with no explosion protection	S2	U:3, H1:1, H2:7, F1:32, F2:3, F3:11, F4:2	968/EZ 196.56/23	Valid
SCP461-E1	Processor Module for SSC60S/D, S2SC70S/D, Vnet/IP with explosion protection	S2	U:3, H1:1, H2:7, F1:32, F2:3, F3:11, F4:2	968/EZ 196.56/23	Valid
S2CP471-01	Processor Module for SSC60S/D, S2SC70S/D, Vnet/IP with no explosion protection	S1	U:1, H1:1, H2:7, F1:32, F2:0, F3:11, F4:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2CP471-11	Processor Module for SSC60S/D, S2SC70S/D, Vnet/IP with explosion protection	S1	U:1, H1:1, H2:7, F1:32, F2:0, F3:11, F4:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SAI143-S03	Analog Input Module (4 to 20mA)	S3	U:3, H1:1, H2:1, F1:0, F2:0	968/EZ 196.43/17	Valid
SAI143-S53	Analog Input Module (4 to 20mA) with no explosion protection	S4	U:3, H1:3, H2:2, F1:1, F2:1	968/EZ 196.52/22	Valid
SAI143-SE3	Analog Input Module (4 to 20mA) with explosion protection	S4	U:3, H1:3, H2:2, F1:1, F2:1	968/EZ 196.52/22	Valid
SAI143-S33	Analog Input Module (4 to 20mA) with signal cable adapter	S3	U:3, H1:1, H2:1, F1:0, F2:0	968/EZ 196.43/17	Valid
SAI143-S63	Analog Input Module (4 to 20mA) with signal cable adapter, with no explosion protection	S4	U:3, H1:3, H2:2, F1:1, F2:1	968/EZ 196.52/22	Valid
SAI143-SF3	Analog Input Module (4 to 20mA) with signal cable adapter, with explosion protection	S4	U:3, H1:3, H2:2, F1:1, F2:1	968/EZ 196.52/22	Valid
SAI143-H03	Analog Input Module (4 to 20mA, HART)	S3	U:2, H1:4, H2:4, F1:2, F2:2	968/EZ 196.43/17	Valid

Revision Release List:
Certificate – No.: 968/EZ 196.58/24
Safety Control System ProSafe-RS, R4.10

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
SAI143-H53	Analog Input Module (4 to 20mA, HART) with no explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-HE3	Analog Input Module (4 to 20mA, HART) with explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-H33	Analog Input Module (4 to 20mA, HART) with signal cable adapter	S3	U:2, H1:4, H2:4, F1:2, F2:2	968/EZ 196.43/17	Valid
SAI143-H63	Analog Input Module (4 to 20mA, HART) with signal cable adapter, with no explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-HF3	Analog Input Module (4 to 20mA, HART) with signal cable adapter, with explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-H0C	Analog Input Module (4 to 20mA, HART) high-density installation	S3	U:2, H1:4, H2:4, F1:2, F2:2	968/EZ 196.43/17	Valid
SAI143-H5C	Analog Input Module (4 to 20mA, HART) high-density installation, with no explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-HEC	Analog Input Module (4 to 20mA, HART) high-density installation, with explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-H3C	Analog Input Module (4 to 20mA, HART) with signal cable adapter, high-density installation	S3	U:2, H1:4, H2:4, F1:2, F2:2	968/EZ 196.43/17	Valid
SAI143-H6C	Analog Input Module (4 to 20mA, HART) with signal cable adapter, high-density installation, with no explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI143-HFC	Analog Input Module (4 to 20mA, HART) with signal cable adapter, high-density installation, with explosion protection	S4	U:3, H1:3, H2:2, F1:3, F2:3	968/EZ 196.52/22	Valid
SAV144-S03	Analog Input Module (1 to 5V / 1 to 10V)	S2	U:2, H1:1 H2:1, F1:3, F2:3	968/EZ 196.40/16	Valid
SAV144-S53	Analog Input Module (1 to 5V / 1 to 10V) with no explosion protection	S2	U:2, H1:2 H2:2, F1:3, F2:3	968/EZ 196.48/19	Valid

Manufacturer:
Yokogawa Electric Corporation
2-9-32 Nakacho
Musashino-shi
Tokyo - 180-8750
Japan

Certification Body:
TÜV Rheinland Industrie Service GmbH
Automation, Funktionale Sicherheit & Cyber Security (A-FS & CS)
Am Grauen Stein
51105 Köln
Germany

Revision Release List:
Certificate – No.: 968/EZ 196.58/24
Safety Control System ProSafe-RS, R4.10

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
SAV144-SE3	Analog Input Module (1 to 5V / 1 to 10V) with explosion protection	S2	U:2, H1:2 H2:2, F1:3, F2:3	968/EZ 196.48/19	Valid
SAV144-S33	Analog Input Module (1 to 5V / 1 to 10V) with signal cable adapter	S2	U:2, H1:1 H2:1, F1:3, F2:3	968/EZ 196.40/16	Valid
SAV144-S63	Analog Input Module (1 to 5V / 1 to 10V) with signal cable adapter, with no explosion protection	S2	U:2, H1:2 H2:2, F1:3, F2:3	968/EZ 196.48/19	Valid
SAV144-SF3	Analog Input Module (1 to 5V / 1 to 10V) with signal cable adapter, with explosion protection	S2	U:2, H1:2 H2:2, F1:3, F2:3	968/EZ 196.48/19	Valid
SAT145-S33	Analog Input Module (TC/mV) with signal cable adapter	S1	U:1, H1:0, H2:2, F1:2, F2:2	968/EZ 196.42/17	Valid
SAT145-S63	Analog Input Module (TC/mV) with signal cable adapter, with no explosion protection	S1	U:2, H1:1, H2:4, F1:2, F2:2	968/EZ 196.50/21	Valid
SAT145-SF3	Analog Input Module (TC/mV) with signal cable adapter, with explosion protection	S1	U:2, H1:1, H2:4, F1:2, F2:2	968/EZ 196.50/21	Valid
SAR145-S33	Analog Input Module (RTD) with signal cable adapter	S1	U:1, H1:0, H2:3, F1:2, F2:2	968/EZ 196.42/17	Valid
SAR145-S63	Analog Input Module (RTD) with signal cable adapter, with no explosion protection	S1	U:2, H1:1, H2:4, F1:2, F2:2	968/EZ 196.50/21	Valid
SAR145-SF3	Analog Input Module (RTD) with signal cable adapter, with explosion protection	S1	U:2, H1:1, H2:4, F1:2, F2:2	968/EZ 196.50/21	Valid
SAI533-H03	Analog Output Module (4 to 20mA, HART)	S1	U:2, H1:4, H2:6, F1:3, F2:3	968/EZ 196.44/18	Valid
SAI533-H53	Analog Output Module (4 to 20mA, HART) with no explosion protection	S1	U:3, H1:5, H2:7, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI533-HE3	Analog Output Module (4 to 20mA, HART) with explosion protection	S1	U:3, H1:5, H2:7, F1:3, F2:3	968/EZ 196.52/22	Valid

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Revision Release List:
Certificate – No.: 968/EZ 196.58/24
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SAI533-H33	Analog Output Module (4 to 20mA, HART) with signal cable adapter	S1	U:2, H1:4, H2:6, F1:3, F2:3	968/EZ 196.44/18	Valid
SAI533-H63	Analog Output Module (4 to 20mA, HART) with signal cable adapter, with no explosion protection	S1	U:3, H1:5, H2:7, F1:3, F2:3	968/EZ 196.52/22	Valid
SAI533-HF3	Analog Output Module (4 to 20mA, HART) with signal cable adapter, with explosion protection	S1	U:3, H1:5, H2:7, F1:3, F2:3	968/EZ 196.52/22	Valid
SDV144-S13	Digital Input Module (contact input)	S4	U:2, H1:4, H2:4, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid
SDV144-S53	Digital Input Module (contact input) with no explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-SE3	Digital Input Module (contact input) with explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-S33	Digital Input Module (contact input) with signal cable adapter	S4	U:2, H1:4, H2:4, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid
SDV144-S63	Digital Input Module (contact input) with signal cable adapter, with no explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-SF3	Digital Input Module (contact input) with signal cable adapter, with explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-S1C	Digital Input Module (contact input) high-density installation	S4	U:2, H1:3, H2:4, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid
SDV144-S5C	Digital Input Module (contact input) high-density installation, with no explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-SEC	Digital Input Module (contact input) high-density installation, with explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-S3C	Digital Input Module (contact input) with signal cable adapter, high-density installation	S4	U:2, H1:3, H2:4, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid

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SDV144-S6C	Digital Input Module (contact input) with signal cable adapter, high-density installation, with no explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV144-SFC	Digital Input Module (contact input) with signal cable adapter, high-density installation, with explosion protection	S4	U:5, H1:1, H2:1 H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV531-S13	Digital Output Module (24V DC)	S1	U:0, H1:2, H2:1, H3:1, F1:3, F2:3	968/EZ 196.00/05	Valid
SDV531-S23	Digital Output Module (24V DC)	S4	U:3, H1:5, H2:2, H3:1, F1:2, F2:2	968/EZ 196.44/18	Valid
SDV531-S53	Digital Output Module (24V DC) with no explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-SE3	Digital Output Module (24V DC) with explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-S33	Digital Output Module (24V DC) with signal cable adapter	S4	U:3, H1:5, H2:2, H3:1, F1:2, F2:2	968/EZ 196.44/18	Valid
SDV531-S63	Digital Output Module (24V DC) with signal cable adapter, with no explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-SF3	Digital Output Module (24V DC) with signal cable adapter, with explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-L23	Digital Output Module (24V DC)	S4	U:3, H1:5, H2:2, H3:1, F1:2, F2:2	968/EZ 196.44/18	Valid
SDV531-L53	Digital Output Module (24V DC) with no explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-LE3	Digital Output Module (24V DC) with explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-L33	Digital Output Module (24V DC) with signal cable adapter	S4	U:3, H1:5, H2:2, H3:1, F1:2, F2:2	968/EZ 196.44/18	Valid

Model Name	Description	Revision Information		Report – No.	Status
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SDV531-L63	Digital Output Module (24V DC) with signal cable adapter, with no explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-LF3	Digital Output Module (24V DC) with signal cable adapter, with explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-L2C	Digital Output Module (24V DC) high-density installation	S4	U:3, H1:4, H2:2, H3:1, F1:2, F2:2	968/EZ 196.44/18	Valid
SDV531-L5C	Digital Output Module (24V DC) high-density installation, with no explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-LEC	Digital Output Module (24V DC) high-density installation, with explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-L3C	Digital Output Module (24V DC) with signal cable adapter, high-density installation	S4	U:3, H1:4, H2:2, H3:1, F1:2, F2:2	968/EZ 196.44/18	Valid
SDV531-L6C	Digital Output Module (24V DC) with signal cable adapter, high-density installation, with no explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV531-LFC	Digital Output Module (24V DC) with signal cable adapter, high-density installation, with explosion protection	S4	U:5, H1:0, H2:0, H3:1, F1:3, F2:3	968/EZ 196.50/21	Valid
SDV541-S23	Digital Output Module (24V DC – 16 channels)	S3	U:3, H1:6, H2:2, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid
SDV541-S53	Digital Output Module (24V DC – 16 channels) with no explosion protection	S3	U:6, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-SE3	Digital Output Module (24V DC – 16 channels) with explosion protection	S3	U:6, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-S33	Digital Output Module (24V DC – 16 channels) with signal cable adapter	S3	U:3, H1:6, H2:2, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid

Model Name	Description	Revision Information		Report – No.	Status
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SDV541-S63	Digital Output Module (24V DC – 16 channels) with signal cable adapter, with no explosion protection	S3	U:6, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-SF3	Digital Output Module (24V DC – 16 channels) with signal cable adapter, with explosion protection	S3	U:6, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-S2C	Digital Output Module (24V DC – 16 channels) high-density installation	S3	U:2, H1:4, H2:2, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid
SDV541-S5C	Digital Output Module (24V DC – 16 channels) high-density installation, with no explosion protection	S3	U:5, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-SEC	Digital Output Module (24V DC – 16 channels) high-density installation, with explosion protection	S3	U:5, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-S3C	Digital Output Module (24V DC – 16 channels) with signal cable adapter, high-density installation	S3	U:2, H1:4, H2:2, H3:1, F1:1, F2:1	968/EZ 196.44/18	Valid
SDV541-S6C	Digital Output Module (24V DC – 16 channels) with signal cable adapter, high-density installation, with no explosion protection	S3	U:5, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV541-SFC	Digital Output Module (24V DC – 16 channels) with signal cable adapter, high-density installation, with explosion protection	S3	U:5, H1:1, H2:1, H3:1, F1:2, F2:2	968/EZ 196.50/21	Valid
SDV53A-S33	Digital Output Module (48V DC – 8 channels) with signal cable adapter	S2	U:1, H1:0, H2:2, H3:0, F1:1, F2:1	968/EZ 196.38/15	Valid
SDV53A-S63	Digital Output Module (48V DC – 8 channels) with signal cable adapter, with no explosion protection	S2	U:2, H1:1, H2:2, H3:0, F1:1, F2:1	968/EZ 196.50/21	Valid
SDV53A-SF3	Digital Output Module (48V DC – 8 channels) with signal cable adapter, with explosion protection	S2	U:2, H1:1, H2:2, H3:0, F1:1, F2:1	968/EZ 196.50/21	Valid
S2MMM843-SS1030	Analog Digital I/O Module (16 channels)	S2	U:2, H1:0, H2:0, F1:3, F2:7, F3:7	968/EZ 196.57/23 968/EZ 196.58/24	Valid

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S2MMM843-SS1130	Analog Digital I/O Module (16 channels), with explosion protection	S2	U:2, H1:0, H2:0, F1:3, F2:7, F3:7	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2MDV843-0S1030	Digital I/O Module (16 channels)	S2	U:3, H1:0, H2:0, F1:3, F2:7, F3:7	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2MDV843-0S1130	Digital I/O Module (16 channels) with explosion protection	S2	U:3, H1:0, H2:0, F1:3, F2:7, F3:7	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SCB100-S0	Wiring Check Adapter	S2	N/A	968/EZ 196.11/07	Valid
SCB110-S0	Wiring Check Adapter	S2	N/A	968/EZ 196.11/07	Valid
SEA4D-01	Analog Terminal Board (16-channels x 2) without surge absorber	S1	N/A	968/EZ 196.30/11	Valid
SEA4D-06	Analog Terminal Board (16-channels x 2) without surge absorber, with no explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SEA4D-0F	Analog Terminal Board (16-channels x 2) without surge absorber, with explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SEA4D-11	Analog Terminal Board (16-channels x 2) with surge absorber	S1	N/A	968/EZ 196.30/11	Valid
SEA4D-16	Analog Terminal Board (16-channels x 2) with surge absorber, with no explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SEA4D-1F	Analog Terminal Board (16-channels x 2) with surge absorber, with explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SED2D-01	Digital Terminal Board (4-channels x 4) without surge absorber	S2	N/A	968/EZ 196.30/11	Valid
SED2D-06	Digital Terminal Board (4-channels x 4) without surge absorber, with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid

Model Name	Description	Revision Information		Report – No.	Status
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SED2D-0F	Digital Terminal Board (4-channels x 4) without surge absorber, with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SED2D-11	Digital Terminal Board (4-channels x 4) with surge absorber	S2	N/A	968/EZ 196.30/11	Valid
SED2D-16	Digital Terminal Board (4-channels x 4) with surge absorber, with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SED2D-1F	Digital Terminal Board (4-channels x 4) with surge absorber, with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SED3D-A1	Digital Terminal Board (48VDC, 8-channels x 4)	S1	N/A	968/EZ 196.30/11	Valid
SED3D-A6	Digital Terminal Board (48VDC, 8-channels x 4), with no explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SED3D-AF	Digital Terminal Board (48VDC, 8-channels x 4), with explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SED4D-01	Digital Terminal Board (16-channels x 2) without surge absorber	S2	N/A	968/EZ 196.30/11	Valid
SED4D-06	Digital Terminal Board (16-channels x 2) without surge absorber, with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SED4D-0F	Digital Terminal Board (16-channels x 2) without surge absorber, with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SED4D-11	Digital Terminal Board (16-channels x 2) with surge absorber	S2	N/A	968/EZ 196.30/11	Valid
SED4D-16	Digital Terminal Board (16-channels x 2) with surge absorber, with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SED4D-1F	Digital Terminal Board (16-channels x 2) with surge absorber, with explosion protection	S2	N/A	968/EZ 196.36/14	Valid

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Model Name	Description	Revision Information		Report – No.	Status
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SWD2D-21	Digital Terminal Board (100-120VAC, 4-channels x 4)	S1	N/A	968/EZ 196.30/11	Valid
SBA4D-01	Analog Terminal board (16-channels x 1)	S1	N/A	968/EZ 196.31/11	Valid
SBA4D-06	Analog Terminal board (16-channels x 1), with no explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SBA4D-0F	Analog Terminal board (16-channels x 1), with explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SBT4D-01	Analog Terminal board (TC/mV, 16-channels x 1)	S1	N/A	968/EZ 196.31/11	Valid
SBT4D-06	Analog Terminal board (TC/mV, 16-channels x 1), with no explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SBT4D-0F	Analog Terminal board (TC/mV, 16-channels x 1), with explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SBR4D-01	Analog Terminal board (RTD, 16-channels x 1)	S1	N/A	968/EZ 196.31/11	Valid
SBR4D-06	Analog Terminal board (RTD, 16-channels x 1), with no explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SBR4D-0F	Analog Terminal board (RTD, 16-channels x 1), with explosion protection	S1	N/A	968/EZ 196.36/14	Valid
SBD2D-01	Digital Terminal Board (4-channels x 1)	S2	N/A	968/EZ 196.36/14	Valid
SBD2D-06	Digital Terminal Board (4-channels x 1), with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD2D-0F	Digital Terminal Board (4-channels x 1), with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD3D-01	Digital Terminal Board (8-channels x 1)	S2	N/A	968/EZ 196.36/14	Valid

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Model Name	Description	Revision Information		Report – No.	Status
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SBD3D-06	Digital Terminal Board (8-channels x 1), with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD3D-0F	Digital Terminal Board (8-channels x 1), with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD3D-A1	Digital Terminal Board (48VDC, 8-channels x 1)	S2	N/A	968/EZ 196.36/14	Valid
SBD3D-A6	Digital Terminal Board (48VDC, 8-channels x 1), with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD3D-AF	Digital Terminal Board (48VDC, 8-channels x 1), with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD4D-01	Digital Terminal Board (16-channels x 1)	S2	N/A	968/EZ 196.36/14	Valid
SBD4D-06	Digital Terminal Board (16-channels x 1), with no explosion protection	S2	N/A	968/EZ 196.36/14	Valid
SBD4D-0F	Digital Terminal Board (16-channels x 1), with explosion protection	S2	N/A	968/EZ 196.36/14	Valid
S1BB4D-06	Analog Terminal Board (3-wire, 16-channels x 1)	S1	N/A	968/EZ 196.39/16	Valid
S1BB4D-0F	Analog Terminal Board (3-wire, 16-channels x 1), with explosion protection	S1	N/A	968/EZ 196.42/17	Valid
A2BM4-030	Analog Digital Terminal Board (16-channels x 1)	S1	N/A	968/EZ 196.46/19	Valid
A2BM4-130	Analog Digital Terminal Board (16-channels x 1) with explosion protection	S1	N/A	968/EZ 196.50/21	Valid
S1XEU4D-06L	Universal Conversion Board (Left)	S1	N/A	968/EZ 196.46/19	Valid
S1XEU4D-06R	Universal Conversion Board (Right)	S1	N/A	968/EZ 196.46/19	Valid
S2BN1D-00030	Base Plate with disconnecting terminal (for N-IO, 16-channel), with no terminal block, Din rail mount	S2	N/A	968/EZ 196.44/18	Valid

Model Name	Description	Revision Information		Report – No.	Status
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S2BN1D-00130	Base Plate with disconnecting terminal (for N-IO, 16-channel), with no terminal block, with explosion protection, Din rail mount	S2	N/A	968/EZ 196.44/18	Valid
S2BN1D-01030	Base Plate with disconnecting terminal (for N-IO, 16-channel), Pressure clamp terminal, Din rail mount	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-01130	Base Plate with disconnecting terminal (for N-IO, 16-channel), Pressure clamp terminal, with explosion protection, Din rail mount	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-02030	Base Plate with disconnecting terminal (for N-IO, 16-channel), Spring clamp terminal, Din rail mount	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-02130	Base Plate with disconnecting terminal (for N-IO, 16-channel), Spring clamp terminal, with explosion protection, Din rail mount	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-09030	Base Plate with disconnecting terminal (for N-IO, 16-channel), Cable connector interface, Din rail mount	S2	N/A	968/EZ 196.46/19	Valid
S2BN1D-09130	Base Plate with disconnecting terminal (for N-IO, 16-channel), Cable connector interface, with explosion protection, Din rail mount	S2	N/A	968/EZ 196.50/21	Valid
S2BN1D-10030	Base Plate with disconnecting terminal (for N-IO, 16-channel), with no terminal block	S2	N/A	968/EZ 196.44/18	Valid
S2BN1D-10130	Base Plate with disconnecting terminal (for N-IO, 16-channel), with no terminal block, with explosion protection	S2	N/A	968/EZ 196.44/18	Valid
S2BN1D-11030	Base Plate with disconnecting terminal (for N-IO, 16-channel), Pressure clamp terminal	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-11130	Base Plate with disconnecting terminal (for N-IO, 16-channel), Pressure clamp terminal, with explosion protection	S2	N/A	968/EZ 196.42/17	Valid

Model Name	Description	Revision Information		Report – No.	Status
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S2BN1D-12030	Base Plate with disconnecting terminal (for N-IO, 16-channel), Spring clamp terminal	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-12130	Base Plate with disconnecting terminal (for N-IO, 16-channel), Spring clamp terminal, with explosion protection	S2	N/A	968/EZ 196.42/17	Valid
S2BN1D-19030	Base Plate with disconnecting terminal (for N-IO, 16-channel), Cable connector interface	S2	N/A	968/EZ 196.46/19	Valid
S2BN1D-19130	Base Plate with disconnecting terminal (for N-IO, 16-channel), Cable connector interface, with explosion protection	S2	N/A	968/EZ 196.50/21	Valid
S2BN4D-100C0	Base Plate for Barrier (for N-IO, MTL Barrier), Intrinsic Safety wiring (Left)	S1	N/A	968/EZ 196.39/16	Valid
S2BN4D-100D0	Base Plate for Barrier (for N-IO, MTL Barrier), Intrinsic Safety wiring (Right)	S1	N/A	968/EZ 196.39/16	Valid
S2BN4D-101C0	Base Plate for Barrier (for N-IO, MTL Barrier), Intrinsic Safety wiring (Left), with explosion protection	S1	N/A	968/EZ 196.42/17	Valid
S2BN4D-101D0	Base Plate for Barrier (for N-IO, MTL Barrier), Intrinsic Safety wiring (Right), with explosion protection	S1	N/A	968/EZ 196.42/17	Valid
S2BN5D-121C0	Base Plate for Barrier (for N-IO, P+F Barrier), Intrinsic Safety wiring (Left)	S3	N/A	968/EZ 196.54/22	Valid
S2BN5D-121D0	Base Plate for Barrier (for N-IO, P+F Barrier), Intrinsic Safety wiring (Right)	S3	N/A	968/EZ 196.54/22	Valid

SIL2 compliant HW Components:

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
SRM53D-000	Relay Board (8 × 2 Dry Contact Output)	S1	N/A	968/EZ 196.44/18	Valid
SRM54D-000	Relay Board (16 × 1 Dry Contact Output)	S1	N/A	968/EZ 196.44/18	Valid
SBM54D-000	Relay Board for Digital Output: DIN rail mount type (Single and Dual-redundant, 16 channels x 1, for SDV541)	S3	N/A	968/EZ 196.44/18	Valid

Further HW Components suitable for use to build up safety loops up to SIL3 with ProSafe-RS:

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
S2NN30D	Node Interface Unit (for N-IO)	S1	N/A	968/EZ 196.39/16	Valid
AIP602	FAN Unit for SSC10S/D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D	S2	N/A	968/EZ 196.36/14	Valid
AIP504-13	Vnet Coupler Unit	S1	U:1, H:0	968/EZ 196.32/12	Valid
AIP504-53	Vnet Coupler Unit, with no explosion protection	S1	U:1, H:0	968/EZ 196.36/14	Valid
AIP504-E3	Vnet Coupler Unit, with explosion protection	S1	U:1, H:0	968/EZ 196.36/14	Valid
SPW481-13	100-120V AC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D	S1	U:2, H:4	968/EZ 196.40/16	Valid
SPW481-53	100-120V AC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with no explosion protection	S1	U:3, H:0	968/EZ 196.48/19	Valid

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Model Name	Description	Revision Information		Report – No.	Status
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SPW481-E3	100-120V AC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with explosion protection	S1	U:3, H:0	968/EZ 196.48/19	Valid
SPW482-13	220-240V AC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D	S1	U:2, H:4	968/EZ 196.40/16	Valid
SPW482-53	220-240V AC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with no explosion protection	S1	U:3, H:0	968/EZ 196.48/19	Valid
SPW482-E3	220-240V AC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with explosion protection	S1	U:3, H:0	968/EZ 196.48/19	Valid
SPW484-13	24VDC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D	S1	U:2, H:0	968/EZ 196.38/15	Valid
SPW484-53	24VDC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with no explosion protection	S1	U:3, H:0	968/EZ 196.56/23	Valid
SPW484-E3	24VDC Input Power Supply Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with explosion protection	S1	U:3, H:0	968/EZ 196.56/23	Valid
S2PW503-S0030	100-240V AC Input Power Supply Module for N-IO	S1	U:1, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2PW503-S0130	100-240V AC Input Power Supply Module for N-IO, with explosion protection	S1	U:1, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid

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Model Name	Description	Revision Information		Report – No.	Status
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S2PW504-S0030	24V DC Input Power Supply Module for N-IO	S1	U:0, H:2	968/EZ 196.56/23	Valid
S2PW504-S0130	24V DC Input Power Supply Module for N-IO, with explosion protection	S1	U:0, H:2	968/EZ 196.56/23	Valid
SNT10D	Note Unit for Optical Bus Repeater Module	S1	N/A	968/EZ 196.08/06	Valid
SNT401-13	Optical ESB Bus Repeater Master Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D	S1	U:1, H:2, F:1	968/EZ 196.43/17	Valid
SNT401-53	Optical ESB Bus Repeater Master Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with no explosion protection	S2	U:2, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT401-E3	Optical ESB Bus Repeater Master Module for SSC10S/D, SNB10D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, SNT10D, with explosion protection	S2	U:2, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT401-5F	Optical ESB Bus Repeater Master Module for S2EN501, with no explosion protection	S2	U:2, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT401-EF	Optical ESB Bus Repeater Master Module for S2EN501, with explosion protection	S2	U:2, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT411-13	Optical ESB Bus Repeater Master Module for long distance	S2	U:0, H:2, F:1	968/EZ 196.52/22	Valid
SNT411-53	Optical ESB Bus Repeater Master Module for long distance, with no explosion protection	S3	U:1, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT411-E3	Optical ESB Bus Repeater Master Module for long distance, with explosion protection	S3	U:1, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT411-5F	Optical ESB Bus Repeater Master Module for long distance for S2EN501, with no explosion protection	S3	U:1, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid

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SNT411-EF	Optical ESB Bus Repeater Master Module for long distance for S2EN501, with explosion protection	S3	U:1, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT421-53	Optical ESB Bus Repeater Master Module for Multimode Fiber, with no explosion protection	S2	U:1, H:2, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT421-E3	Optical ESB Bus Repeater Master Module for Multimode Fiber, with explosion protection	S2	U:1, H:2, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT501-13	Optical ESB Bus Repeater Slave Module for SNB10D and SNT10D	S1	U:1, H:2, F:1	968/EZ 196.43/17	Valid
SNT501-53	Optical ESB Bus Repeater Slave Module for SNB10D and SNT10D, with no explosion protection	S2	U:2, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT501-E3	Optical ESB Bus Repeater Slave Module for SNB10D and SNT10D, with explosion protection	S2	U:2, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT501-5F	Optical ESB Bus Repeater Slave Module for S2EN501, with no explosion protection	S2	U:2, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT501-EF	Optical ESB Bus Repeater Slave Module for S2EN501, with explosion protection	S2	U:2, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT511-13	Optical ESB Bus Repeater Slave Module for long distance	S2	U:0, H:2, F:1	968/EZ 196.43/17	Valid
SNT511-53	Optical ESB Bus Repeater Slave Module for long distance, with no explosion protection	S3	U:1, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT511-E3	Optical ESB Bus Repeater Slave Module for long distance, with explosion protection	S3	U:1, H:4, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT511-5F	Optical ESB Bus Repeater Slave Module for long distance for S2EN501, with no explosion protection	S3	U:1, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT511-EF	Optical ESB Bus Repeater Slave Module for long distance for S2EN501, with explosion protection	S3	U:1, H:3, F:1	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SNT521-53	Optical ESB Bus Repeater Slave Module for Multimode Fiber, with no explosion protection	S2	U:1, H:2, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid

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SNT521-E3	Optical ESB Bus Repeater Slave Module for Multimode Fiber, with explosion protection	S2	U:1, H:2, F:2	968/EZ 196.57/23 968/EZ 196.58/24	Valid
SEC401-11	ESB Bus Coupler Module for SSC10S/D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D	S3	U:0, H:2	968/EZ 196.43/17	Valid
SEC401-51	ESB Bus Coupler Module for SSC10S/D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, with no explosion protection	S3	U:0, H:3	968/EZ 196.50/21	Valid
SEC401-E1	ESB Bus Coupler Module for SSC10S/D, SSC50S/D, SSC57S/D, SSC60S/D, S2SC70S/D, with explosion protection	S3	U:0, H:3	968/EZ 196.50/21	Valid
SEC402-21	ESB Bus Coupler Module for SSC60S/D, S2SC70S/D	S1	U:0, H:3	968/EZ 196.43/17	Valid
SEC402-51	ESB Bus Coupler Module for SSC60S/D, S2SC70S/D, with no explosion protection	S1	U:0, H:4	968/EZ 196.50/21	Valid
SEC402-E1	ESB Bus Coupler Module for SSC60S/D, S2SC70S/D, with explosion protection	S1	U:0, H:4	968/EZ 196.50/21	Valid
SSB401-13	ESB Bus Interface Module for SNB10D	S1	U:0, H:5	968/EZ 196.43/17	Valid
SSB401-53	ESB Bus Interface Module for SNB10D, with no explosion protection	S1	U:1, H:0	968/EZ 196.52/22	Valid
SSB401-E3	ESB Bus Interface Module for SNB10D, with explosion protection	S1	U:1, H:0	968/EZ 196.54/22	Valid
S2EN402-S0001	N-ESB Bus Coupler Module (for N-IO, 2-Port)	S1	U:0, H:1	968/EZ 196.52/22	Valid
S2EN402-S0011	N-ESB Bus Coupler Module (for N-IO, 2-Port), with explosion protection	S1	U:0, H:1	968/EZ 196.52/22	Valid
S2EN404-S0001	N-ESB Bus Coupler Module (for N-IO, 4-Port)	S1	U:0, H:1	968/EZ 196.52/22	Valid
S2EN404-S0011	N-ESB Bus Coupler Module (for N-IO, 4-Port), with explosion protection	S1	U:0, H:1	968/EZ 196.52/22	Valid

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S2EN501-S00030	N-ESB Bus Module (Uplink: N-ESB bus, Downlink: N-ESB Bus)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S00130	N-ESB Bus Module (Uplink: N-ESB bus, Downlink: N-ESB Bus), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S01030	N-ESB Bus Module (Uplink: N-ESB bus, Downlink: Optical ESB Bus 5km)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S01130	N-ESB Bus Module (Uplink: N-ESB bus, Downlink: Optical ESB Bus 5km), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S02030	N-ESB Bus Module (Uplink: N-ESB bus, Downlink: Optical ESB Bus 50km)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S02130	N-ESB Bus Module (Uplink: N-ESB bus, Downlink: Optical ESB Bus 50km), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S10030	N-ESB Bus Module (Uplink: Optical ESB Bus 5km, Downlink: N-ESB bus)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S10130	N-ESB Bus Module (Uplink: Optical ESB Bus 5km, Downlink: N-ESB bus), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S11030	N-ESB Bus Module (Uplink: Optical ESB Bus 5km, Downlink: Optical ESB Bus 5km)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S11130	N-ESB Bus Module (Uplink: Optical ESB Bus 5km, Downlink: Optical ESB Bus 5km), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S12030	N-ESB Bus Module (Uplink: Optical ESB Bus 5km, Downlink: Optical ESB Bus 50km)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid

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S2EN501-S12130	N-ESB Bus Module (Uplink: Optical ESB Bus 5km, Downlink: Optical ESB Bus 50km), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S20030	N-ESB Bus Module (Uplink: Optical ESB Bus 50km , Downlink: N-ESB bus)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S20130	N-ESB Bus Module (Uplink: Optical ESB Bus 50km , Downlink: N-ESB bus), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S21030	N-ESB Bus Module (Uplink: Optical ESB Bus 50km, Downlink: Optical ESB Bus 5km)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S21130	N-ESB Bus Module (Uplink: Optical ESB Bus 50km, Downlink: Optical ESB Bus 5km), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S22030	N-ESB Bus Module (Uplink: Optical ESB Bus 50km, Downlink: Optical ESB Bus 50km)	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
S2EN501-S22130	N-ESB Bus Module (Uplink: Optical ESB Bus 50km, Downlink: Optical ESB Bus 50km), with explosion protection	S2	U:2, H:0	968/EZ 196.57/23 968/EZ 196.58/24	Valid
GRVSW-660FA	RS40-0009CCCCEDBPYY Network Switch for Vnet/IP, L2SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-663FA	MACH104-20TX-F Network Switch for Vnet/IP, L2SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-664FA	MACH104-20TX-FR Network Switch for Vnet/IP, L2SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-665FA	MAR1040-4C4C4C4C9999EM9HPYY Network Switch for Vnet/IP, L2SW	N/A	N/A	968/EZ 196.36/14	Valid

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GRVSW-666FA	MAR1040-4C4C4C4C9999EMMHPYY Network Switch for Vnet/IP, L2SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-667FA	MAR1040-4C4C4C4C9999ELLHPYY Network Switch for Vnet/IP, L2SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-668FA	MAR1040-4C4C4C4C9999EM9HRY1 Network Switch for Vnet/IP, L3SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-669FA	MAR1040-4C4C4C4C9999EMMHRY1 Network Switch for Vnet/IP, L3SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-670FA	MAR1040-4C4C4C4C9999ELLHRY1 Network Switch for Vnet/IP, L3SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-671FA	MAR1040-4C4C4C4C9999EM9HRY2 Network Switch for Vnet/IP, L3SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-672FA	MAR1040-4C4C4C4C9999EMMHRY2 Network Switch for Vnet/IP, L3SW	N/A	N/A	968/EZ 196.36/14	Valid
GRVSW-673FA	MAR1040-4C4C4C4C9999ELLHRY2 Network Switch for Vnet/IP, L3SW	N/A	N/A	968/EZ 196.36/14	Valid
S2LP131-S01	Fire and Gas Communication Module, with no explosion protection	S1	U:0, H1:2, H2:1, F:0	968/EZ 196.52/22	Valid
S2LP131-S11	Fire and Gas Communication Module, with explosion protection	S1	U:0, H1:2, H2:1, F:0	968/EZ 196.52/22	Valid

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Further interference free HW Components suitable for use with ProSafe-RS:

Model Name	Description	Revision Information		Report – No.	Status
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ALR111-S01	RS-232C Communication Module	S1	U:1, H1:7, H2:4, F:3	968/EZ 196.43/17	Valid
ALR111-S51	RS-232C Communication Module, with no explosion protection	S1	U:1, H1:9, H2:4, F:3	968/EZ 196.52/22	Valid
ALR111-SE1	RS-232C Communication Module, with explosion protection	S1	U:1, H1:9, H2:4, F:3	968/EZ 196.52/22	Valid
ALR121-S01	RS-422/RS485 Communication Module	S1	U:1, H1:0, F:3	968/EZ 196.38/15	Valid
ALR121-S51	RS-422/RS485 Communication Module, with no explosion protection	S1	U:1, H1:2, F:3	968/EZ 196.52/22	Valid
ALR121-SE1	RS-422/RS485 Communication Module, with explosion protection	S1	U:1, H1:2, F:3	968/EZ 196.52/22	Valid
ALR121-S0B	RS-422/RS485 Communication Module with temperature	S1	U:1, H1:0, F:3	968/EZ 196.38/15	Valid
ALR121-S5B	RS-422/RS485 Communication Module with temperature, with no explosion protection	S1	U:1, H1:2, F:3	968/EZ 196.52/22	Valid
ALR121-SEB	RS-422/RS485 Communication Module with temperature, with explosion protection	S1	U:1, H1:2, F:3	968/EZ 196.52/22	Valid
ALR121-S53	RS-422/RS485 Communication Module with temperature, with no explosion protection	S1	U:1, H1:2, F:3	968/EZ 196.52/22	Valid
ALR121-SE3	RS-422/RS485 Communication Module with temperature, with explosion protection	S1	U:1, H1:2, F:3	968/EZ 196.52/22	Valid
ALE111-S01	Ethernet Communication Module	S1	U:3 H1:0, F:3	968/EZ 196.38/15	Valid
ALE111-S51	Ethernet Communication Module, with no explosion protection	S1	U:3, H1:2, F:3	968/EZ 196.52/22	Valid
ALE111-SE1	Ethernet Communication Module, with explosion protection	S1	U:3, H1:2, F:3	968/EZ 196.52/22	Valid

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
ALE111-S53	Ethernet Communication Module, with temperature, with no explosion protection	S1	U:3, H1:2, F:3	968/EZ 196.52/22	Valid
ALE111-SE3	Ethernet Communication Module, with temperature, with explosion protection	S1	U:3, H1:2, F:3	968/EZ 196.52/22	Valid

SIL3 compliant SW Components:

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
RS4F1100	Safety Control Function for SCS (SSC50)	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4F1105	Safety Control Function for SCS Simulator (SSC50)	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4F1170	Safety Control Function for SCS (SSC57)	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4F1300	Safety Control Function for SCS (SSC60)	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4F1305	Safety Control Function for SCS Simulator (SSC60)	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4F1500	Safety Control Function for SCS (S2SC70)	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid

Manufacturer:
Yokogawa Electric Corporation
2-9-32 Nakacho
Musashino-shi
Tokyo - 180-8750
Japan

Certification Body:
TÜV Rheinland Industrie Service GmbH
Automation, Funktionale Sicherheit & Cyber Security (A-FS & CS)
Am Grauen Stein
51105 Köln
Germany

RS4F1505	Safety Control Function for SCS Simulator (S2SC70)	N/A	4.10.00	968/EZ 196.57/23	Valid

Further SW Components suitable for use to build up safety loops up to SIL3 with ProSafe-RS:

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
RS4E5100	Safety System Engineering and Maintenance Function	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4C5400	Document Map and Safety Manual as part of the Software and Electronic Instruction Manual Media - RS4CKM	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid

Manufacturer:
Yokogawa Electric Corporation
2-9-32 Nakacho
Musashino-shi
Tokyo - 180-8750
Japan

Certification Body:
TÜV Rheinland Industrie Service GmbH
Automation, Funktionale Sicherheit & Cyber Security (A-FS & CS)
Am Grauen Stein
51105 Köln
Germany

Further interference free SW Components suitable for use with ProSafe-RS:

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
RS4CKM	Software and Electronic Instruction Manual Media	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4F3100	Project I/O License	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4H2100	SOE Viewer	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4H2200	SOE OPC Interface	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4H2300	Forced I/O Viewer	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5000	Engineering Server Function	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5170	Access Control and Operation History Management	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5210	I/O List Engineering	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5250	Change Management	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5600	CENTUM VP Integration	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5700	CI Server Integration	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4E5810	iDefine Interface	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid
RS4C3300	Vnet/IP Interface	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid

Manufacturer:
Yokogawa Electric Corporation
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Musashino-shi
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Japan

Certification Body:
TÜV Rheinland Industrie Service GmbH
Automation, Funktionale Sicherheit & Cyber Security (A-FS & CS)
Am Grauen Stein
51105 Köln
Germany

Revision Release List:
Certificate – No.: 968/EZ 196.58/24
Safety Control System ProSafe-RS, R4.10

Model Name	Description	Revision Information		Report – No.	Status
		Style	Revision No.		
RS4C5400	Electronic Instruction Manual	N/A	4.10.00	968/EZ 196.57/23 968/EZ 196.58/24	Valid

Document-Revision

Date	Version	Revisions / Changes	Author
2022-12-05	1.0	R4.08.00: Extension of Modbus Address Range, Enhanced security and Vulnerability countermeasures, Improvement of SENG warning message, Improvement for some HW components	He/969
2023-06-27	1.1	R4.09.00: Online Change Improvement, Upgrading development environment of ISaGRAF, Improvement for some HW components	He/969
2023-12-12	1.2	R4.10.00: Update Environment, Licence Manager, IEC Application Execution Function, Improvement for some HW components (see report 968/EZ 196.57/23)	He/962
2024-02-15	1.3	R4.10.00 – Formal change to issue updated certificate, see report 968/EZ 196.58/24	He/962

Manufacturer:
Yokogawa Electric Corporation
2-9-32 Nakacho
Musashino-shi
Tokyo - 180-8750
Japan

Certification Body:
TÜV Rheinland Industrie Service GmbH
Automation, Funktionale Sicherheit & Cyber Security (A-FS & CS)
Am Grauen Stein
51105 Köln
Germany

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.3 ProSafe RS, FSP

968_FSP_2189_00_21

Certificate

Product Safety
Functional
Safety

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No.: 968/FSP 2189.00/21

Product tested	Safety Control System ProSafe-RS Lite	**Certificate holder**	Yokogawa Electric Corporation 2-9-32 Nakacho Musashino-shi Tokyo 180-8750 Japan
Type designation	ProSafe-RS Lite, R4.06 The actual revision and official list of the product documentation, hardware components and software modules have to be considered. Please refer to the "Revision Release List" published on http://www.fs-products.com/		
Codes and standards	IEC 61508 Parts 1-7:2010 IEC 62061:2015 IEC 61131-2:2017		IEC 61326-3-1:2017 IEC 61000-6-2:2019
Intended application	Safety related and high availability applications such as: Emergency Shutdown System (ESD), Process Shutdown System (PSD), Burner Management System (BMS), where the safe state is the de-energized state. Fire and Gas System (F&G) applications, where the demand state is the de-energized or the energized state. The safety control system complies with the requirements of the relevant standards (SIL 2 acc. to IEC 61508 and SILCL 2 acc. to IEC 62061) and can be used in applications up to SIL 2. The product was also reviewed in reference to the applicable requirements of IEC 61511-1:2016 + Corr.1:2016 + AMD1:2017 and EN 50156-1:2015 up to SIL 2. The product meets also the applicable requirements of EN 298:2012, NFPA 72:2019, NFPA 85:2019, NFPA 86:2019 and EN 54-2:1997 + AC:1999 + A1:2006.		
Specific requirements	The instructions of the associated Installation and Operating Manuals shall be considered.		

Valid until 2026-03-08

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/FSP 2189.00/21 dated 2021-02-24.
This certificate is valid only for products which are identical with the product tested.

Köln, 2021-03-08

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln
Certification Body Safety & Security for Automation & Grid

Dipl.-Ing. Thomas Steffens

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.4 SAFETY MANUAL SIL - RELAY MODULE KFD0-RSH-1.4S.PS2

tdoct2052c

PROCESS AUTOMATION



SAFETY MANUAL SIL

RELAY MODULE

KFD0-RSH-1.4S.PS2

SIL

IEC 61508/61511

ISO9001

CE

SIL3

PEPPERL+FUCHS

PROTECTING YOUR PROCESS

With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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1 Introduction

1.1 General Information

This manual contains information for application of the device in functional safety related loops.

The corresponding data sheets, the operating instructions, the system description, the Declaration of Conformity, the EC-Type-Examination Certificate, the Functional Safety Assessment and applicable Certificates (see data sheet) are integral parts of this document.

The documents mentioned are available from **www.pepperl-fuchs.com** or by contacting your local Pepperl+Fuchs representative.

Mounting, commissioning, operation, maintenance and dismounting of any devices may only be carried out by trained, qualified personnel. The instruction manual must be read and understood.

When it is not possible to correct faults, the devices must be taken out of service and action taken to protect against accidental use. Devices should only be repaired directly by the manufacturer. De-activating or bypassing safety functions or failure to follow the advice given in this manual (causing disturbances or impairment of safety functions) may cause damage to property, environment or persons for which Pepperl+Fuchs GmbH will not be liable.

The devices are developed, manufactured and tested according to the relevant safety standards. They must only be used for the applications described in the instructions and with specified environmental conditions, and only in connection with approved external devices.

1.2 Intended Use

This signal conditioner is a loop powered safety relay module with a logic input and two different relay outputs:

It can be used as an interface in output loops for fire and gas systems classified as SIL3. The safe state in this application is **e**nergized **t**o **s**afe (ETS). Output I with two relays in parallel must be used, no fuse available.

It can also be used as an interface in output loops for ESD (**E**mergency **S**hut **D**own) systems classified as SIL3. The safe state in this application is **d**e-energized **t**o **s**afe (DTS). Output II with two relays in series must be used. An additional fuse in series to the relay contacts is available (see chapter 3).

With both outputs in combination a non safety application for dual pole switching (DPS) is possible.

Additionally a test input for proof tests is available. The proof test checks if each single relay is working correctly.

The device is usually mounted on a DIN rail in cabinets with access for qualified personnel only.

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1.3 Manufacturer Information

PepperI+Fuchs GmbH

Lilienthalstrasse 200
68307 Mannheim/Germany

KFD0-RSH-1.4S.PS2

Up to SIL3 (for DTS), up to SIL3 (for ETS)

1.4 Relevant Standards and Directives

Device specific standards and directives

- Functional safety IEC 61508 part 1 – 7, edition 2000:
  Standard of functional safety of electrical/electronic/programmable electronic safety-related systems (product manufacturer)
- Electromagnetic compatibility:
  - EN 61326-1:2006
  - NE 21:2006

System specific standards and directives

- Functional safety IEC 61511 part 1 – 3, edition 2003:
  Standard of functional safety: safety instrumented systems for the process industry sector (user)

2 Planning

2.1 System Structure

2.1.1 Low Demand Mode

If there are two loops, one for the standard operation and another one for the functional safety, then usually the demand rate for the safety loop is assumed to be less than once per year.

The relevant safety parameters to be verified are:

- the PFD_{avg} value (average **P**robability of **F**ailure on **D**emand) and T_{proof} (proof test interval that has a direct impact on the PFD_{avg})
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance architecture)

2.1.2 High Demand Mode

If there is only one loop, which combines the standard operation and safety related operation, then usually the demand rate for this loop is assumed to be higher than once per year.

The relevant safety parameters to be verified are:

- PFH (**P**robability of dangerous **F**ailure per **H**our)
- Fault reaction time of the safety system
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance architecture)

2.2 Assumptions

The following assumptions have been made during the FMEDA analysis:

- Failure rates are constant, wear out mechanisms are not included.
- The stress levels are average for an industrial environment and can be compared to the Ground Fixed Classification of MIL-HNBK-217F. Alternatively, the assumed environment is similar to:
  - IEC 60654-1 Class C (sheltered location) with temperature limits within the manufacturer's rating and an average temperature over a long period of time of 40 °C. Humidity levels are assumed within manufacturer's rating. For a higher average temperature of 60 °C, the failure rates should be multiplied with an experience based factor of 2.5. A similar multiplier should be used if frequent temperature fluctuation must be assumed.
- Failure rate based on the Siemens SN29500 data base.
- It was assumed that the appearance of a safe error (e. g. output in safe state) would be repaired within 8 hours.
- During the absence of the device for repairing, measures have to be taken to ensure the safety function (for example: substitution by an equivalent device).
- For high currents and high ambient temperature the de-rating given in the data sheet needs to be considered.
- The input of the device must be connected to a safety PLC which has minimum the SIL needed in the loop.
- The device shall claim less than 10 % of the total failure budget for a SIL3 safety loop.
- For a SIL3 application operating in Low Demand Mode the total PFD_{avg} value of the SIF (**S**afety **I**nstrumented **F**unction) should be smaller than 10^{-3}, hence the maximum allowable PFD_{avg} value would then be 10^{-4}.
- For a SIL3 application operating in High Demand Mode of operation the total PFH value of the SIF should be smaller than 10^{-7} per hour, hence the maximum allowable PFH value would then be 10^{-8} per hour.
- Since the circuit has a Hardware Fault Tolerance of **0** and it is a type **A** component, the SFF must be > 90 % according to table 2 of IEC 61508-2 for SIL3 (sub)system.

2.3 Safety Function and Safe State

DTS

Safety Function

The safety function of the device is defined: Whenever the input of the device is de-energized, the DTS output is not conducting.

Safe State

For the DTS safety function the safe state is defined as the DTS output being open (not conducting).

Reaction Time

The reaction time is < 20 ms.

ETS

Safety Function

The safety function of the device is defined: Whenever the input of the device is energized, the ETS output is conducting.

Safe State

For the ETS safety function the safe state is defined as the ETS output being closed (conducting).

Reaction Time

The reaction time is < 20 ms.

DPS

The dual pole switching application is no safety application.

General

For all applications the maximum switching frequency is limited to 10 Hz.

2.4 Characteristic Safety Values

Parameters acc. to IEC 61508	Variables	
Assessment type and documentation	Full assessment	
Pepperl+Fuchs FMEDA report [1]	FS-0042EA-20A	
Device type	A	
Demand mode	Low Demand Mode or High Demand Mode	
Safety function [2]	ETS [4]	DTS
HFT	0	0
SIL	3	3
$\lambda_{sd} + \lambda_{su}$	139.7 FIT	144.77 FIT
λ_{dd}	0 FIT	0 FIT
λ_{du}	7.1 FIT	1.83 FIT
$\lambda_{total\ (safety\ function)}$	146.6 FIT	146.6 FIT
SFF	95.2 %	98.7 %
MTBF [3]	639 years	560 years
PFH	7.1×10^{-9} 1/h	1.83×10^{-9} 1/h
PFD_{avg} for T_1 = 1 year	3.1×10^{-5}	8.01×10^{-6}
T_{proof} max.	3 years	12 years
Reaction time	< 20 ms	

[1] Pepperl+Fuchs documentation number

[2] The device can be used in two safety functions, ETS (energized to safe) and DTS (de-energized to safe).

[3] acc. to SN29500. This value includes failures which are not part of the safety function/MTTR = 8 h.

[4] For ETS in SIL2 applications no proof test has to be carried out, the calculated proof time is higher than the useful time (T_{proof} max. for ETS SIL2 is 32 years).

The characteristic safety values like PFD/PFH, SFF, HFT and T_{proof} are taken from the SIL report/FMEDA report. Please note, PFD and T_{proof} are related to each other.

The function of the devices has to be checked within the proof test interval (T_{proof}).

3 Safety Recommendation

3.1 Interfaces

The device has the following interfaces. For corresponding terminals see data sheet.

- Safety relevant interfaces: input, output I (ETS), output II (DTS)
- To avoid contact welding in DTS application we recommend to use a serial fuse in the load circuit. This can be the internal fuse F1 or any external fuse of max. 5 A nominal value.
- Test input interface may not be used during normal operation (only for proof test)

3.2 Configuration

A configuration of the device is not necessary and not possible.

ETS, DTS and DPS can be selected by using the referring terminals. See data sheet. The fuse in delivery status (2.5 A) can be changed to max 5 A. Please note the temperature derating according to the data sheet.

3.3 Useful Life Time

Although a constant failure rate is assumed by the probabilistic estimation this only applies provided that the useful life time of components is not exceeded. Beyond this useful life time, the result of the probabilistic calculation is meaningless as the probability of failure significantly increases with time. The useful life time is highly dependent on the component itself and its operating conditions – temperature in particular (for example, the electrolytic capacitors can be very sensitive to the working temperature).

This assumption of a constant failure rate is based on the bathtub curve, which shows the typical behavior for electronic components.

Therefore it is obvious that failure calculation is only valid for components that have this constant domain and that the validity of the calculation is limited to the useful life time of each component.

It is assumed that early failures are detected to a huge percentage during the installation period and therefore the assumption of a constant failure rate during the useful life time is valid.

However, according to IEC 61508-2, a useful life time, based on experience, should be assumed. Experience has shown that the useful life time often lies within a range period of about 8 ... 12 years.

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Our experience has shown that the useful life time of a Pepperl+Fuchs product can be higher

- if there are no components with reduced life time in the safety path (like electrolytic capacitors, relays, flash memory, opto coupler) which can produce dangerous undetected failures and
- if the ambient temperature is significantly below 60 °C.

Please note that the useful life time refers to the (constant) failure rate of the device. The effective life time can be higher.

Maximum Switching Power of Output Contacts

The useful life time is limited by the maximum switching cycles under load conditions. You can see the relationship between the maximum switching power and the load conditions in the diagram below.

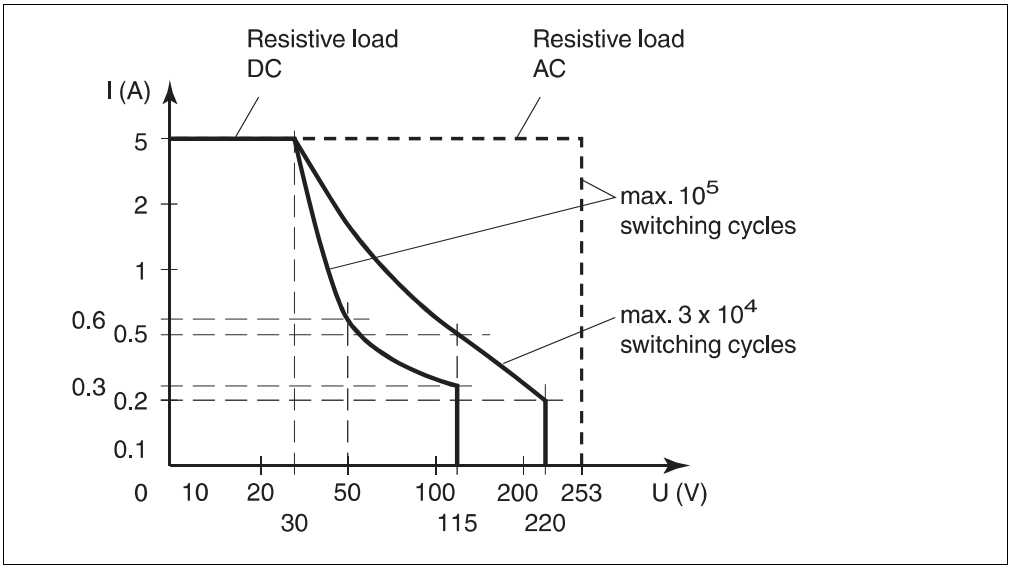

Figure 3.1

3.4 Installation and Commissioning

Installation has to consider all aspects regarding the SIL level of the loop. During installation or replacement of the device the loop has to shut down. Devices have to be replaced by the same type of devices.

4 Proof Test

4.1 Proof Test Procedure

According to IEC 61508-2 a recurring proof test shall be undertaken to reveal potential dangerous fails that are otherwise not detected by diagnostic test.

The functionality of the subsystem must be verified at periodic intervals depending on the applied PFD_{avg} in accordance with the data provided in see chapter 2.4.

It is under the responsibility of the operator to define the type of proof test and the interval time period.

The ancillary equipment required:

- A digital multimeter (without special accuracy) will be used as ohmmeter (mid range recommended) to check the relay outputs. Closed contacts are shown with 0 Ω (low impedance), open contacts are shown with OL (overload/high impedance).
- Power supply set at nominal voltage of 24 V DC

Procedure:

For the proof test five tests have to be done as shown in the following table and pictures:

Test No.	Input or Test Input	Output (mA)
1	$V_{test\ input}$ = 24 V DC between terminals 10+, 11-	■ DTS output (terminals 5, 6): OL (overload) ■ ETS output (terminals 2, 3): shows 0 Ω ■ Red LED TST1 is flashing.
2	$V_{test\ input}$ = 24 V DC between terminals 11-, 12+	■ DTS output (terminals 5, 6): OL (overload) ■ ETS output (terminals 2, 3): shows 0 Ω ■ Red LED TST2 is flashing.
3	$V_{test\ input}$ = 24 V DC between terminals 10+, 11- and between terminals 11-, 12+	■ DTS output (terminals 5, 6): shows 0 Ω ■ ETS output (terminals 2, 3): shows 0 Ω ■ Both red LEDs are flashing.
4	$V_{test\ input}$ = 0 V DC between terminals 10+, 11- and between terminals 11-, 12+	■ DTS output (terminals 5, 6): OL (overload) ■ ETS output (terminals 2, 3): OL (overload) ■ Both red LEDs are off.
5	V_{input} = 24 V DC between terminals 7+ and 8- and with changed input polarity between terminals 7-, 8+	■ DTS output (terminals 5, 6): shows 0 Ω ■ ETS output (terminals 2, 3): shows 0 Ω ■ Yellow LED is on.

Table 4.1 Expected test results for a successful proof test

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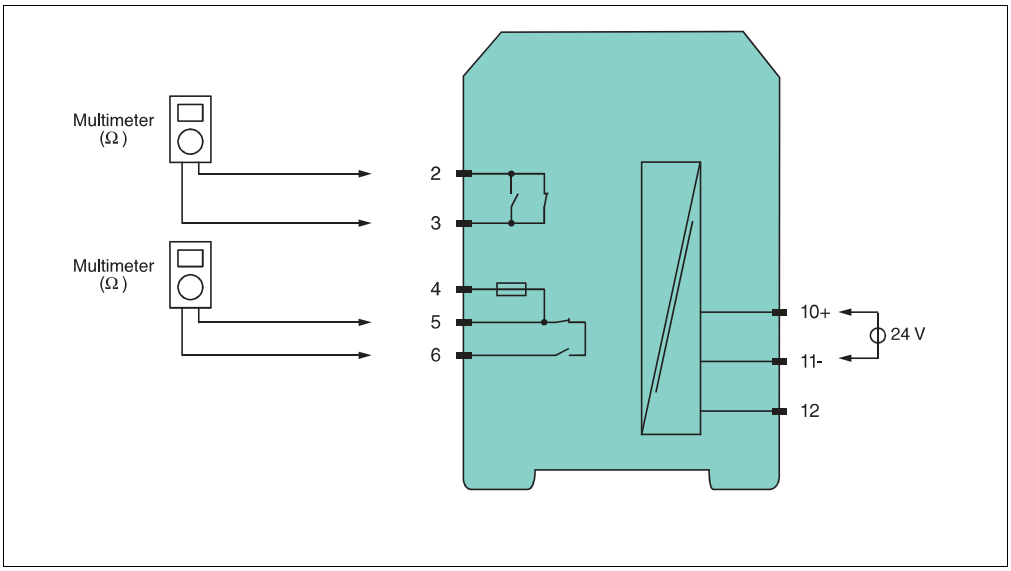

Figure 4.1 Proof test set-up for KFD0-RSH-1.4S.PS2, test 1

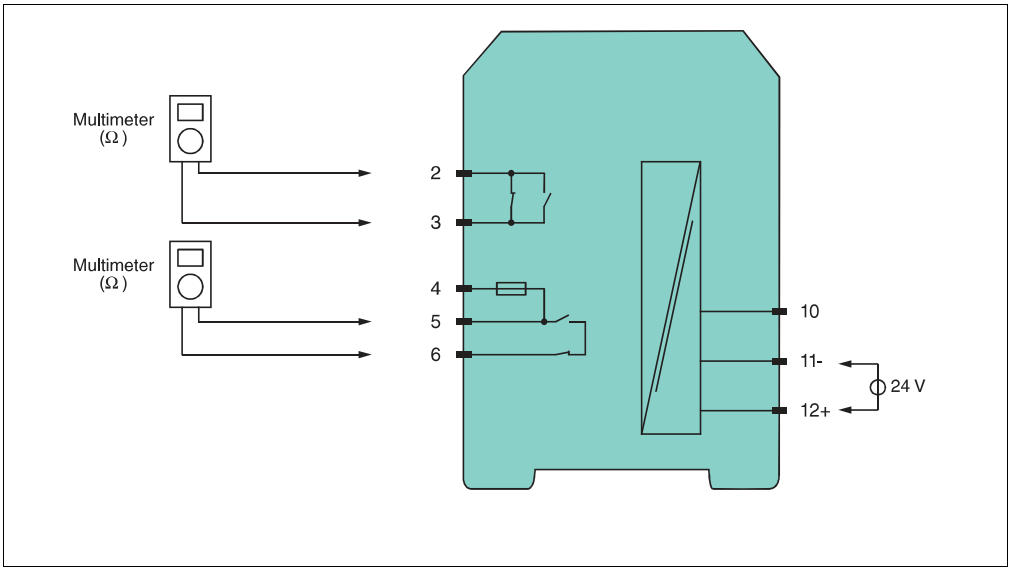

Figure 4.2 Proof test set-up for KFD0-RSH-1.4S.PS2, test 2

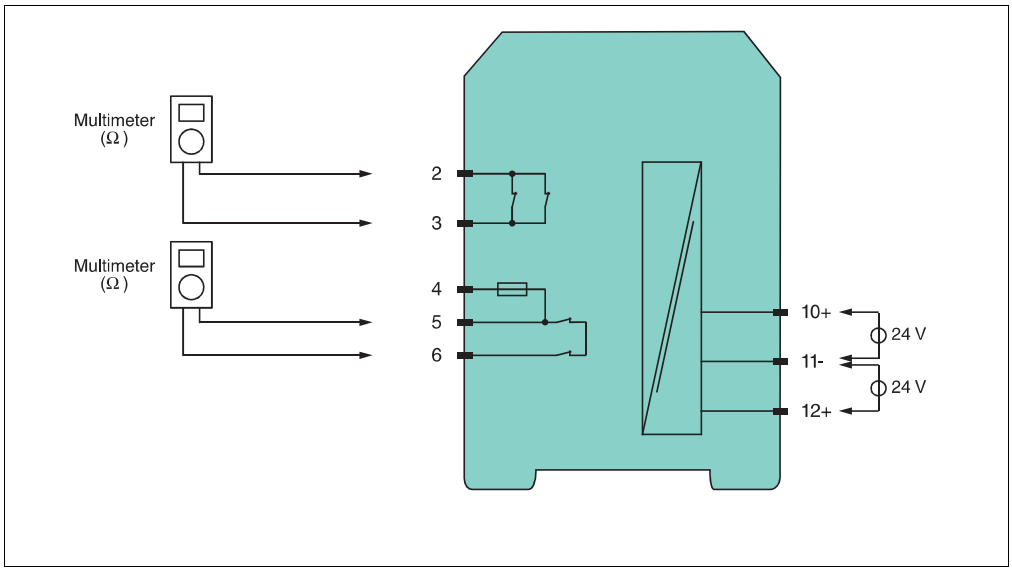

Figure 4.3 Proof test set-up for KFD0-RSH-1.4S.PS2, test 3

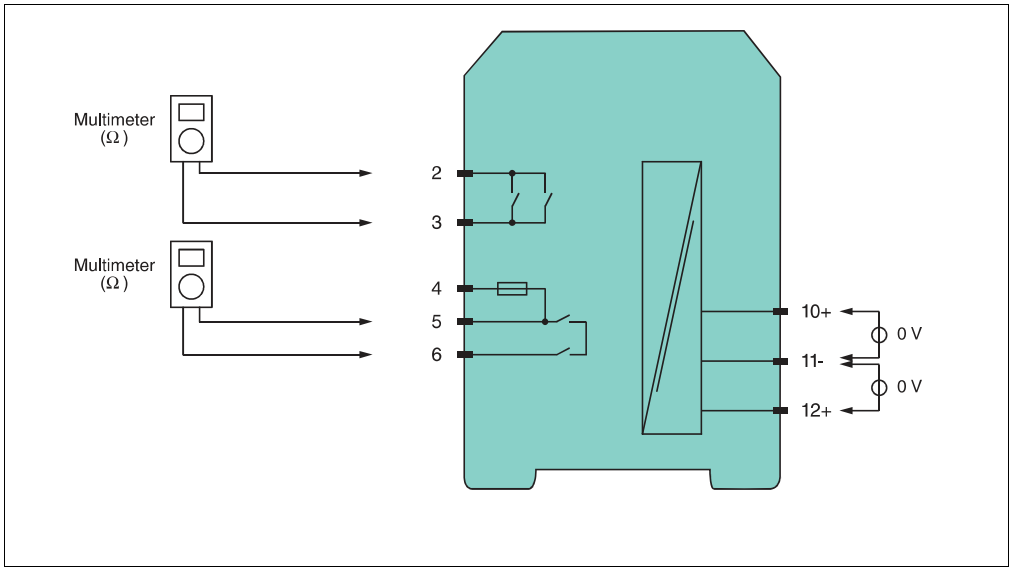

Figure 4.4 Proof test set-up for KFD0-RSH-1.4S.PS2, test 4

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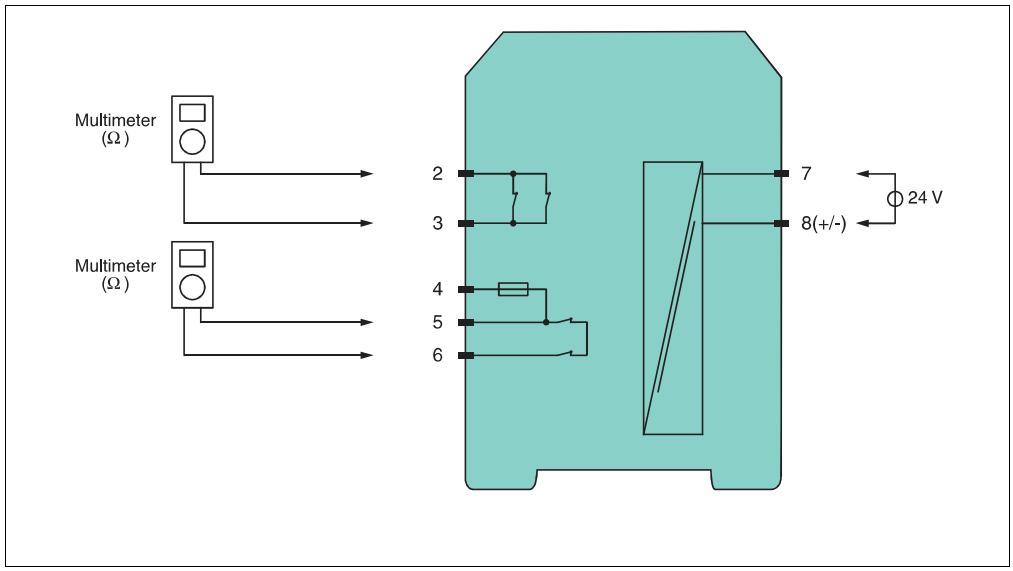

Figure 4.5 Proof test set-up for KFD0-RSH-1.4S.PS2, test 5

Only if all tests are successfully done, the proof test is successfull.

5 Abbreviations

FMEDA	**F**ailure **M**ode, **E**ffects and **D**iagnostics **A**nalysis
HFT	**H**ardware **F**ault **T**olerance
PFD_{avg}	Average **P**robability of **F**ailure on **D**emand
PFH	**P**robability of dangerous **F**ailure per **H**our
PTC	**P**roof **T**est **C**overage
SFF	**S**afe **F**ailure **F**raction
SIF	**S**afety **I**nstrumented **F**unction
SIL	**S**afety **I**ntegrity **L**evel
SIS	**S**afety **I**nstrumented **S**ystem
T_{proof}	Proof Test Interval
DPS	**D**ual **P**ole **S**witching
DTS	**D**e-energized **T**o **S**afe State
ESD	**E**mergency **S**hut **D**own
ETS	**E**nergized **T**o **S**afe State

PROCESS AUTOMATION – PROTECTING YOUR PROCESS





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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.5 EU-Declaration of conformity KFD0-RSH-1.4S.PS2

doc5027

EU-Declaration of conformity

en/de

EU-Konformitätserklärung

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No. / *Nr.*: DOC-5027
Date / *Datum*: 2021-03-25

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Declaration of conformity / *Konformitätserklärung*

We, Pepperl+Fuchs SE declare under our sole responsibility that the **products** listed below are in conformity with the listed **European Directives** and **standards**.

*Die Pepperl+Fuchs SE erklärt hiermit in alleiniger Verantwortung, dass die unten gelisteten **Produkte** den genannten **Europäischen Richtlinien** und **Normen** entsprechen.*

Products / *Produkte*

Product / *Produkt*	**Item number**	**Description** / *Beschreibung*
KFD0-RSH-1.4S.PS2	70132178	Relay module

Directives and Standards / *Richtlinien und Normen*

EU-Directive *EU-Richtlinie*	**Standards** *Normen*
EMC 2014/30/EU (L96/79-106)	EN 61326-1:2013-01
LVD 2014/35/EU (L96/357-374)	EN 61010-1:2010-10
RoHS 2011/65/EU (L174/88-110)	EN IEC 63000:2018-12

Affixed CE Marking / *Angebrachte CE-Kennzeichnung*

CE

Signatures / *Unterschriften*

Mannheim, 2021-03-25

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.6 Functional Safety - SMART Transmitter Power Supply HiC2025

tdoct6393b

Functional Safety

SMART Transmitter Power Supply KCD2-STC-(Ex)1(.SP)(-Y1), HiC2025(A)(Y1)

Manual

SIL

IEC 61508/61511

ISO9001

CE SIL 2

Your automation, our passion.

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1 Introduction

1.1 Content of this Document

This document contains information for usage of the device in functional safety-related applications. You need this information to use your product throughout the applicable stages of the product life cycle. These can include the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal

Note

This document does not substitute the instruction manual.

Note

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.

The documentation consists of the following parts:

- Present document
- Instruction manual
- Manual
- Datasheet

Additionally, the following parts may belong to the documentation, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- FMEDA report
- Assessment report
- Additional documents

For more information about Pepperl+Fuchs products with functional safety, see www.pepperl-fuchs.com/sil.

1.2 Safety Information

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

The device is developed, manufactured and tested according to the relevant safety standards.

Use the device only

- for the application described
- with specified environmental conditions
- with devices that are suitable for this safety application

Improper Use

Protection of the personnel and the plant is not ensured if the device is not used according to its intended use.

1.3 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:



Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.



Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.



Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols



Note

This symbol brings important information to your attention.



Action

This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

2 Product Description

2.1 Validity

This manual is only valid for devices with a part number

- **greater than #310000** for device versions without Y1 or
- **greater than #70000000** for Y1 device versions.

Contact your Pepperl+Fuchs representative for information about older devices.

2.2 Function

KCD2-STC-1(.SP)

This signal conditioner provides the galvanic isolation between field circuits and control circuits.

The device supplies 2-wire transmitters in the field, and can also be used with current sources.

The device transfers the analog input signal to the control side as an isolated current value.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.

If the HART communication resistance in the loop is too low, the internal resistance can be used.

Test sockets for the connection of HART communicators are integrated into the terminals of the device.

The output is selected as a current source, current sink, or voltage source via DIP switches.

The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

SP version

The devices are available with screw terminals or spring terminals.
The type code of the versions of the devices with spring terminals has the extension **.SP**.

KCD2-STC-Ex1(.SP)(-Y1)

This isolated barrier is used for intrinsic safety applications.

The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources.

The device transfers the analog input signal to the non-hazardous area as an isolated current value.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.

If the HART communication resistance in the loop is too low, the internal resistance can be used.

Test sockets for the connection of HART communicators are integrated into the terminals of the device.

The output is selected as a current source, current sink, or voltage source via DIP switches.

The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

SP version

The devices are available with screw terminals or spring terminals.
The type code of the versions of the devices with spring terminals has the extension **.SP**.

Y1 version

The device supplies 2-wire transmitters in the hazardous area.

The device cannot be used with current sources.

HiC2025(A)(Y1)

This isolated barrier is used for intrinsic safety applications.

The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources.

The device transfers the analog input signal to the non-hazardous area as an isolated current value.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.

The output is selected as a current source, current sink, or voltage source via DIP switches.

This device mounts on a HiC termination board.

A version

Device version A has reduced intrinsically safe parameters.

Y1 version

The device supplies 2-wire transmitters in the hazardous area.

The device cannot be used with current sources.

2.3 Interfaces

The device has the following interfaces.

- Safety relevant interfaces: input I, output I
- Non-safety relevant interfaces: none
  The HART communication is not relevant for functional safety.

Note

For corresponding connections see datasheet.

2.4 Marking

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Internet: www.pepperl-fuchs.com

KCD2-STC-1(.SP)	Up to SIL 2
KCD2-STC-Ex1(.SP)(-Y1)	
HiC2025(A)(Y1)	

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2.5 Standards and Directives for Functional Safety

Device specific standards and directives

Functional safety	IEC/EN 61508, part 1 – 7, edition 2010: Functional safety of electrical/electronic/programmable electronic safety-related systems (manufacturer)

System-specific standards and directives

Functional safety	IEC 61511-1:2016+COR1:2016+A1:2017 EN 61511-1:2017+A1:2017 Functional safety – Safety instrumented systems for the process industry sector (user)

3 Planning

3.1 System Structure

3.1.1 Low Demand Mode of Operation

If there are two control loops, one for the standard operation and another one for the functional safety, then usually the demand rate for the safety loop is assumed to be less than once per year.

The relevant safety parameters to be verified are:

- the PFD_{avg} value (average **P**robability of dangerous **F**ailure on **D**emand) and the T_1 value (proof test interval that has a direct impact on the PFD_{avg} value)
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance)

3.1.2 High Demand or Continuous Mode of Operation

If there is only one safety loop, which combines the standard operation and safety-related operation, then usually the demand rate for this safety loop is assumed to be higher than once per year.

The relevant safety parameters to be verified are:

- the PFH value (**P**robability of dangerous **F**ailure per **H**our)
- Fault reaction time of the safety system
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance)

3.1.3 Safe Failure Fraction

The safe failure fraction describes the ratio of all safe failures and dangerous detected failures to the total failure rate.

$SFF = (\lambda_s + \lambda_{dd}) / (\lambda_s + \lambda_{dd} + \lambda_{du})$

A safe failure fraction as defined in IEC/EN 61508 is only relevant for elements or (sub)systems in a complete safety loop. The device under consideration is always part of a safety loop but is not regarded as a complete element or subsystem.

For calculating the SIL of a safety loop it is necessary to evaluate the safe failure fraction of elements, subsystems and the complete system, but not of a single device.

Nevertheless the SFF of the device is given in this document for reference.

3.2 Assumptions

The following assumptions have been made during the FMEDA:

- Failure rate based on the Siemens standard SN 29500.
- Failure rates are constant, wear is not considered.
- External power supply failure rates are not included.
- The safety-related device is considered to be of type **A** device with a hardware fault tolerance of **0**.
- The device will be used under average industrial ambient conditions comparable to the classification **stationary mounted** according to MIL-HDBK-217F.

  Alternatively, operating stress conditions typical of an industrial field environment similar to IEC/EN 60654-1 Class C with an average temperature over a long period of time of 40 °C may be assumed. For a higher average temperature of 60 °C, the failure rates must be multiplied by a factor of 2.5 based on experience. A similar factor must be used if frequent temperature fluctuations are expected.
- The application program in the programmable logic controller (PLC) is configured to detect underrange and overrange failures.
- The device do not has a fault bus.

SIL 2 Application

- To build a SIL safety loop for the defined SIL, it is assumed as an example that this device uses 10 % of the available budget for PFD_{avg}/PFH.
- For a SIL 2 application operating in low demand mode the total PFD_{avg} value of the SIF (**S**afety **I**nstrumented **F**unction) should be smaller than 10^{-2}, hence the maximum allowable PFD_{avg} value would then be 10^{-3}.
- For a SIL 2 application operating in high demand mode the total PFH value of the SIF should be smaller than 10^{-6} per hour, hence the maximum allowable PFH value would then be 10^{-7} per hour.
- Since the safety loop has a hardware fault tolerance of **0** and it is a type **A** device, the SFF must be > 60 % according to table 2 of IEC/EN 61508-2 for a SIL 2 (sub) system.

3.3 Safety Function and Safe State

Safety Function

The device transfers analog signals from the input to the output with a tolerance of 2 % related to the full signal range.

Use the following DIP switch settings for safety-relevant applications:

DIP Switch Settings KCD2-STC-(Ex)1(.SP)(-Y1)

Function	S1	S2	S3	S4
Current source 4 mA to 20 mA	II	II	I	II
Voltage source 1 V to 5 V	II	II	I	I
Current sink 4 mA to 20 mA	II	I	II	II

Table 3.1

DIP Switch Settings HiC2025(A)(Y1)

Function	S1	S2	S3	S4
Current source 4 mA to 20 mA	OFF	OFF	ON	OFF
Voltage source 1 V to 5 V	OFF	OFF	ON	ON
Current sink 4 mA to 20 mA	OFF	ON	OFF	OFF

Table 3.2

Safe State

In the safe state, the following values must be reached at the output:

- < 3.6 mA or > 21.5 mA,
- < 0.9 V or > 5.375 V,

Reaction Times

The safety reaction time is the maximum time required from the occurrence of the fault to the reaction of the outputs in normal operation without faults.

The combined fault detection and fault reaction time is the time in which the device outputs react to an occurred fault. See chapter 3.4.

Note

See corresponding datasheets for further information.

3.4 Characteristic Safety Values

Parameters	Characteristic values
Assessment type	Full assessment
Device type	A
Mode of operation	Low demand mode or high demand mode
HFT	0
SIL	2
SC	3
Safety function	Transfer of the analog signals
λ_s [1]	0 FIT
λ_{dd}	163 FIT
λ_{du}	40.9 FIT
$\lambda_{total\ (safety\ function)}$ [1]	204 FIT
$\lambda_{not\ part}$	18.6 FIT
SFF [1]	79 %
MTBF [2]	276 years
PFH	4.09×10^{-8} 1/h
PFD_{avg} for T_{proof} = 1 year	1.79×10^{-4}
PFD_{avg} for T_{proof} = 2 years	3.58×10^{-4}
PFD_{avg} for T_{proof} = 5 years	8.96×10^{-4}
PTC	100 %
Safety reaction time Fault reaction time [3]	< 20 ms < 100 ms

Table 3.3

1 "No effect failures" are not influencing the safety function and are therefore not included in SFF and in the failure rates of the safety function.

2 acc. to SN29500. This value includes failures which are not part of the safety function/MTTR = 24 h.

3 Time between fault occurence and fault reaction

The characteristic safety values like PFD, SFF, HFT and T_1 are taken from the SIL report/FMEDA report. Observe that PFD and T_1 are related to each other.

The function of the devices has to be checked within the proof test interval (T_1).

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3.5 Useful Lifetime

Although a constant failure rate is assumed by the probabilistic estimation this only applies provided that the useful lifetime of components is not exceeded. Beyond this useful lifetime, the result of the probabilistic estimation is meaningless as the probability of failure significantly increases with time. The useful lifetime is highly dependent on the component itself and its operating conditions – temperature in particular. For example, electrolytic capacitors can be very sensitive to the operating temperature.

This assumption of a constant failure rate is based on the bathtub curve, which shows the typical behavior for electronic components.

Therefore it is obvious that failure calculation is only valid for components that have this constant domain and that the validity of the calculation is limited to the useful lifetime of each component.

It is assumed that early failures are detected to a huge percentage during the installation and therefore the assumption of a constant failure rate during the useful lifetime is valid.

However, according to IEC/EN 61508-2, a useful lifetime, based on general experience, should be assumed. Experience has shown that the useful lifetime often lies within a range period of about 8 to 12 years.

As noted in DIN EN 61508-2:2011 note N3, appropriate measures taken by the manufacturer and plant operator can extend the useful lifetime.

Our experience has shown that the useful lifetime of a Pepperl+Fuchs product can be higher if the ambient conditions support a long life time, for example if the ambient temperature is significantly below the maximum ambient temperature.

Please note that the useful lifetime refers to the (constant) failure rate of the device. The effective life time can be higher.

The estimated useful lifetime is greater than the warranty period prescribed by law or the manufacturer's guarantee period. However, this does not result in an extension of the warranty or guarantee services. Failure to reach the estimated useful lifetime is not a material defect.

4 Mounting and Installation

Mounting and Installing the Device

1. Observe the safety instructions in the instruction manual.
2. Observe the information in the manual.
3. Observe the requirements for the safety loop.
4. Connect the device only to devices that are suitable for this safety application.
5. Check the safety function to ensure the expected output behavior.

4.1 Configuration

Configuring the Devices with DIP Switches on the Device Side

The device is configured via DIP switches. The DIP switches for setting the safety functions are on the side of the device.

1. De-energize the device before configuring the device.
2. Remove the device.
3. Configure the device for the required safety function via the DIP switches, see chapter 3.3.
4. Secure the DIP switches to prevent unintentional adjustments.
5. Mount the device.
6. Connect the device again.

Configuring the Devices with DIP Switches on the Front Side

The device is configured via DIP switches. The DIP switches for setting the safety functions are on the front of the device.

1. De-energize the device before configuring the device.
2. Open the cover.
3. Configure the device for the required safety function via the DIP switches, see chapter 3.3.
4. Secure the DIP switches to prevent unintentional adjustments.
5. Close the cover.
6. Connect the device again.

Note

See corresponding datasheets for further information.

5 Operation



Danger!

Danger to life from missing safety function

If the safety loop is put out of service, the safety function is no longer guaranteed.

- Do not deactivate the device.
- Do not bypass the safety function.
- Do not repair, modify, or manipulate the device.



Operating the device

1. Observe the safety instruction in the instruction manual.
2. Observe the information in the manual.
3. Use the device only with devices that are suitable for this safety application.
4. Correct any occurring safe failures within 24 hours. Take measures to maintain the safety function while the device is being repaired.

5.1 Proof Test Procedure

This section describes a possible proof test procedure. The user is not obliged to use this proposal. The user may consider different concepts with an individual determination of the respective effectiveness, e. g. concepts according to NA106:2018.

According to IEC/EN 61508-2 a recurring proof test shall be undertaken to reveal potential dangerous failures that are not detected otherwise.

Check the function of the subsystem at periodic intervals depending on the applied PFD_{avg} in accordance with the characteristic safety values. See chapter 3.4.

It is under the responsibility of the plant operator to define the type of proof test and the interval time period.

Equipment required:

- Digital multimeter with an accuracy better than 0.1 %

  Use for the proof test of the intrinsic safety side of the device a special digital multimeter for intrinsically safe circuits.

  If intrinsically safe circuits are operated with non-intrinsically safe circuits, they must no longer be used as intrinsically safe circuits.
- Power supply set to nominal voltage of 24 V DC
- Process calibrator with current source and current sink function with an accuracy better than 20 µA

Proof Test Procedure

1. Put out of service the entire safety loop. Protect the application by means of other measures.
2. Prepare a test set-up, see figures below.
3. Test the devices. Verify the current values as given in table below.
4. After the test, reset the device to the original settings.

Step No.	Input			Output
	Input value (mA)	Input value for 2-wire Tx (V)	Input value for 4-wire Tx (V) [1]	Output value (mA)
1	20.00	15.3 ± 0.6	4.1 ± 1.5	20.00 ± 0.4
2	12.00	17.3 ± 0.6	4.1 ± 1.5	12.00 ± 0.4
3	4.00	19.3 ± 0.6	4.1 ± 1.5	4.00 ± 0.4
4 [2]	23.00	14.4 ± 0.6	4.1 ± 1.5	23.00 ± 0.4
5 [2]	0	22.0 ± 2.0	n. a.	< 0.2
6 [3]	12.00			

Table 5.1 Steps to be performed for the proof test

1 Not applicable for Y1 device versions.

2 The output shall detect a fail high or fail low condition.

3 There is no longer a fault.

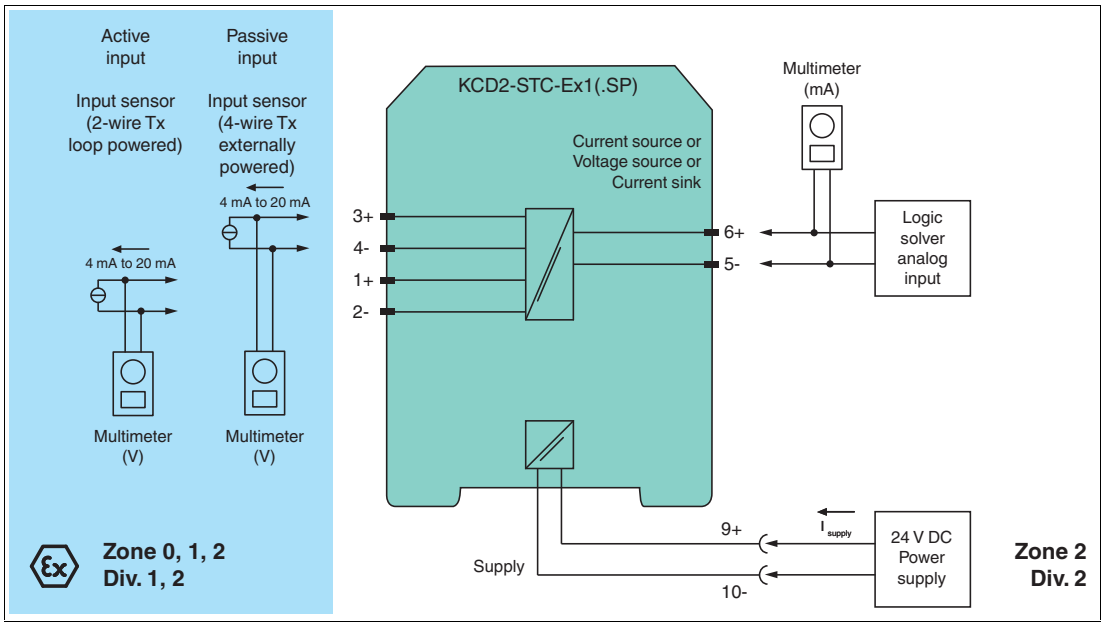

Figure 5.1 Proof test set-up for KCD2-STC-(Ex)1(.SP)

Usage in Zone 0, 1, 2/Div. 1, 2 only for KCD2-STC-Ex1(.SP)

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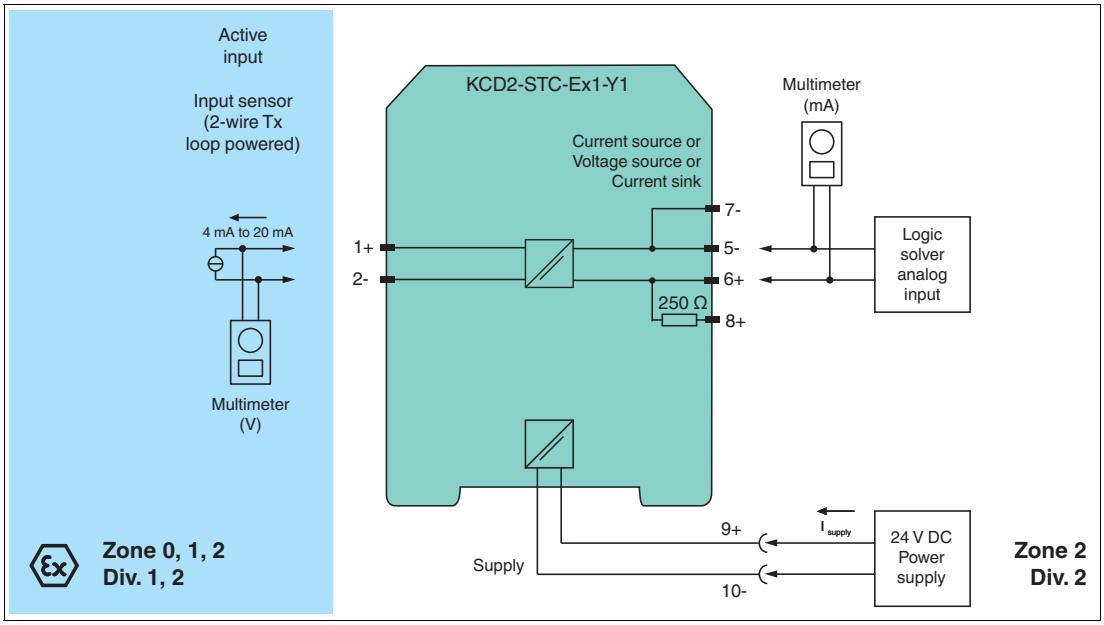

Figure 5.2 Proof test set-up for KCD2-STC-Ex1-Y1

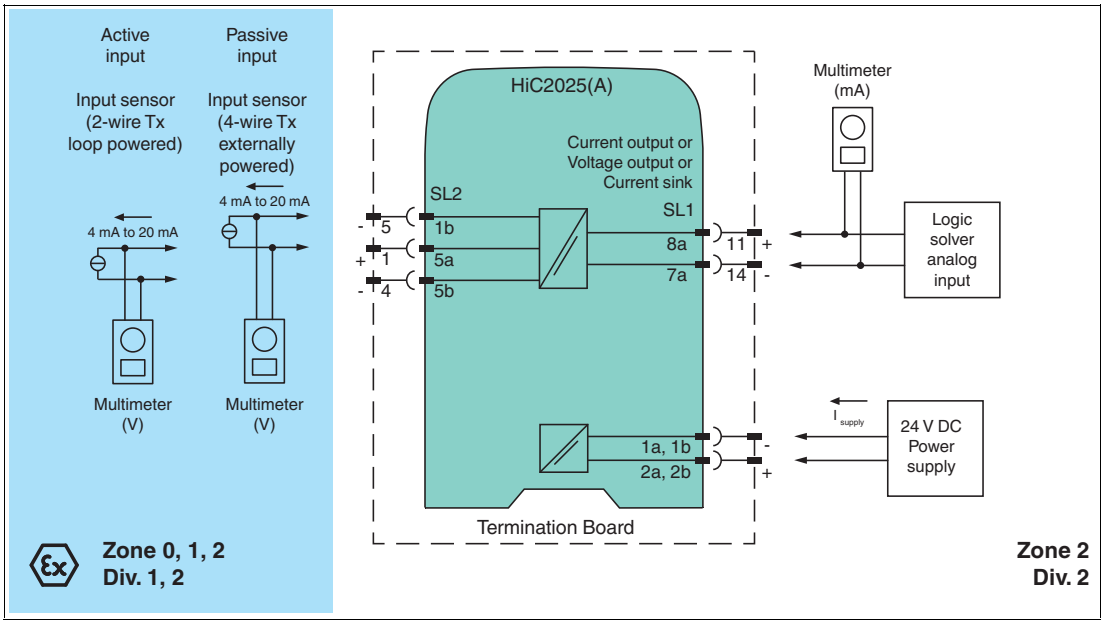

Figure 5.3 Proof test set-up for HiC2025(A)

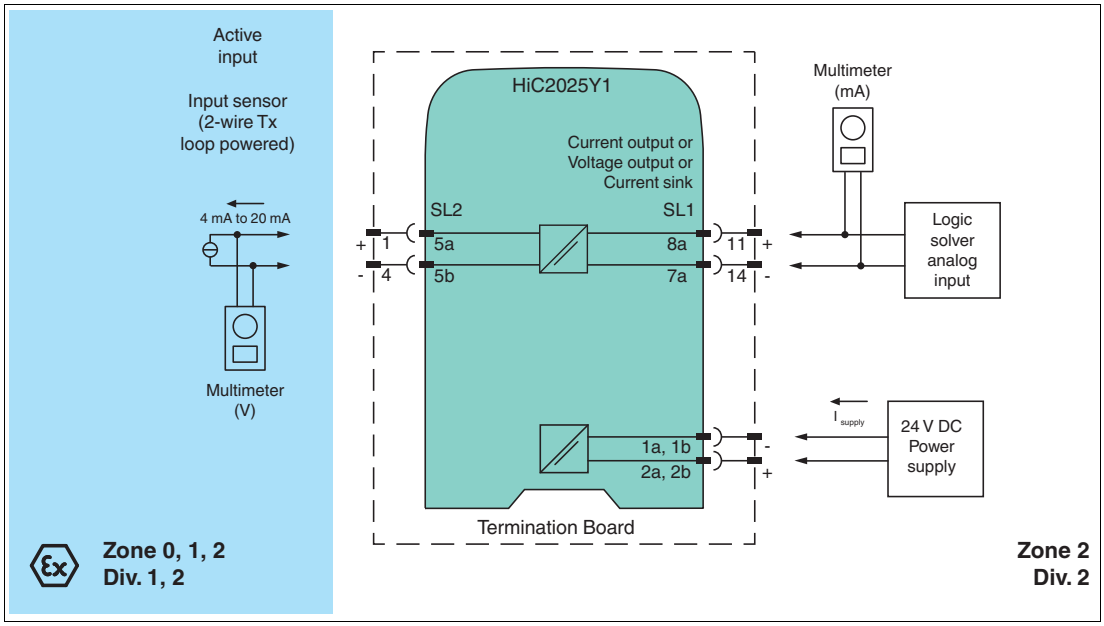

Figure 5.4 Proof test set-up for HiC2025Y1

Tip

The easiest way to test HiC devices is by using a stand-alone HiCTB**-SCT-***-**-** termination board. In this test, it is not necessary to disconnect the wiring of the existing application. Faults in a subsequent wiring can be avoided.

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6 Maintenance and Repair



Danger!

Danger to life from missing safety function

Changes to the device or a defect of the device can lead to device malfunction.
The function of the device and the safety function is no longer guaranteed.

Do not repair, modify, or manipulate the device.



Maintaining, Repairing or Replacing the Device

In case of maintenance, repair or replacement of the device, proceed as follows:

1. Implement appropriate maintenance procedures for regular maintenance of the safety loop.
2. While the device is maintained, repaired or replaced, the safety function does not work.
   Take appropriate measures to protect personnel and equipment while the safety function is not available.
   Secure the application against accidental restart.
3. Do not repair a defective device. A defective device must only be repaired by the manufacturer.
4. If there is a defect, always replace the device with an original device.



Reporting Device Failure

If you use the device in a safety loop according to IEC/EN 61508, it is required to inform the device manufacturer about possible systematic failures.

1. Report all failures in the safety function that are due to functional limitations or a loss of device function – especially in the case of possible dangerous failures.
2. In these cases, contact your local sales partner or the Pepperl+Fuchs technical sales support (service line).
3. It is not necessary to report failures in the safety function that are due to external influences or damage.

7 List of Abbreviations

ESD	**E**mergency **S**hut**d**own
FIT	**F**ailure **I**n **T**ime in 10^{-9} 1/h
FMEDA	**F**ailure **M**ode, **E**ffects, and **D**iagnostics **A**nalysis
λ_{s}	Probability of safe failure
λ_{dd}	Probability of dangerous detected failure
λ_{du}	Probability of dangerous undetected failure
$\lambda_{no\ effect}$	Probability of failures of components in the safety loop that have no effect on the safety function.
$\lambda_{not\ part}$	Probability of failure of components that are not in the safety loop
$\lambda_{total\ (safety\ function)}$	Probability of failure of components that are in the safety loop
HFT	**H**ardware **F**ault **T**olerance
MTBF	**M**ean **T**ime **B**etween **F**ailures
MTTR	**M**ean **T**ime **T**o **R**estoration
PCS	**P**rocess **C**ontrol **S**ystem
PFD_{avg}	Average **P**robability of dangerous **F**ailure on **D**emand
PFH	Average frequency of dangerous failure per hour
PLC	**P**rogrammable **L**ogic **C**ontroller
PTC	**P**roof **T**est **C**overage
SC	**S**ystematic **C**apability
SFF	**S**afe **F**ailure **F**raction
SIF	**S**afety **I**nstrumented **F**unction
SIL	**S**afety **I**ntegrity **L**evel
SIS	**S**afety **I**nstrumented **S**ystem
T_1	Proof Test Interval

Notes

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

Pepperl+Fuchs Quality
Download our latest policy here:

www.pepperl-fuchs.com/quality

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www.pepperl-fuchs.com

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Printed in Germany / DOCT-6393B

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.7 EU-Declaration of Conformity HiC2025

Doc5363b

EU-Declaration of conformity

EU-Konformitätserklärung

en/de

Pepperl+Fuchs SE
Lilienthalstraße 200
68307 Mannheim
Germany
Phone +49 621 776-0
Fax +49 621 776-1000

No. / *Nr.*: DOC-4563B
Date / *Datum*: 2022-01-20

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www.pepperl-fuchs.com

PEPPERL+FUCHS

Declaration of conformity / *Konformitätserklärung*

We, Pepperl+Fuchs SE declare under our sole responsibility that the **products** listed below are in conformity with the listed **European Directives** and **standards**.

*Die Pepperl+Fuchs SE erklärt hiermit in alleiniger Verantwortung, dass die unten gelisteten **Produkte** den genannten **Europäischen Richtlinien** und **Normen** entsprechen.*

Products / *Produkte*

Product / *Produkt*	**Item number**	**Description** / *Beschreibung*
HIC2025	321423	Smart Transmitter
HIC2025A	321425	Smart Transmitter
HIC2025Y1	70147235	Transmitter power supply
HIC2031	321426	Smart Valve Isolator

Directives and Standards / *Richtlinien und Normen*

EU-Directive *EU-Richtlinie*	**Standards** *Normen*
ATEX 2014/34/EU (L96/309-356)	EN 60079-11:2012-01 EN 60079-7:2015-12 EN IEC 60079-0/AC:2020-02 EN IEC 60079-0:2018-07 EN IEC 60079-7/A1:2018-01
EMC 2014/30/EU (L96/79-106)	EN 61326-1:2013-01
RoHS 2011/65/EU (L174/88-110)	EN IEC 63000:2018-12

Affixed CE Marking / *Angebrachte CE-Kennzeichnung*

CE 0102

Signatures / *Unterschriften*

Mannheim, 2022-01-20

ppa. Michael Kessler
Executive Vice President
Components & Technology

i.V. Udo Körner
Continuation Manager
Value Engineering

ANNEX EMC

The products listed above fulfill the immunity test requirements for equipment intended for use in industrial locations.

Die oben gelisteten Produkte erfüllen die Störfestigkeits-Prüfanforderungen an Betriebsmittel, die zum Gebrauch in industriellen Bereichen vorgesehen sind.

ANNEX ATEX

Notified Body QM-System / Notifizierte Stelle des QM-Systems
Physikalisch Technische Bundesanstalt (0102)
Bundesallee 100
38116 Braunschweig
Germany

Marking and Certificates / ***Kennzeichnung und Zertifikate***

Marking *Kennzeichnung*	Certificate *Zertifikat*	Issuer ID *Aussteller* ID
Ex I (M1) Ex II (1) D Ex II (1) G	CESI 06 ATEX 017	0722
Ex II 3 G	CESI 19 ATEX 027X	CES

Key for Issuer ID / ***Schlüssel zur Aussteller ID***

ID	**Issuer** / *Aussteller*
0722	CESI Via Rubattino 54 20134 Milan Italy
CES	CESI Via Rubattino 54 20134 Milan Italy

Pepperl+Fuchs SE declares that the products are only affected by minor or formal changes with respect to the new edition of the standards. These changes are not relevant for compliance with the essential health and safety requirements. The products still comply with the ATEX Directive. This declaration is also valid if the marking and the certificates of the listed devices correspond to previous editions of standards.

Die Pepperl+Fuchs SE erklärt hiermit, dass die Produkte nur von kleineren oder formalen Änderungen in Bezug auf die neue Ausgabe der Normen betroffen sind. Diese Änderungen sind nicht relevant für die Konformität mit den wesentlichen Gesundheits- und Sicherheitsanforderungen. Die Produkte erfüllen nach wie vor die ATEX-Richtlinie. Diese Erklärung gilt auch, wenn die Kennzeichnung und die Zertifikate der aufgeführten Geräte vorangegangenen Normenständen entsprechen.

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2-3.8 Hirschmann Switches Product Bulletin

12809

HIRSCHMANN
A BELDEN BRAND

Product Bulletin

BOBCAT Switches

Next-Generation Compact Managed Switches

With up to 24 ports and various configuration options – including fast Ethernet speeds up to 2.5 Gigabit – the Hirschmann BOBCAT Managed Switches offer a compact, yet powerful solution for the IIoT.

- **High port density** for connection of an increased number of network devices over copper or fiber cabling
- **Simultaneously support multiple services** on one network through TSN technology
- **Prepare for future network growth** with increased bandwidth and speed capabilities

Key Features

- Up to 24 ports for high port density in a compact housing
- Supports up to 240 W across 8 PoE/PoE+ ports without load sharing to ensure maximum power output
- Robust industrial design for extreme environmental conditions, including wide temperature ranges and power needs (12, 24 or 48 V)
- Real-time TSN Ethernet support for precise data transmission
- Advanced security features, including wire-speed access control lists (ACL) and automatic denial-of-service (DoS) prevention
- Increased bandwidth capabilities, supporting copper and tri-speed fiber SFP slots with 100Mbit/s, 1 Gbit/s and 2.5 Gbit/s speeds (SFP only)



The Hirschmann BOBCAT Switches offer enhanced flexibility and interoperability for simple maintenance and future-proof operation due to full copper or tri-speed fiber SFP ports and downwards compatibility for existing infrastructure.

Be certain.
Belden.

HIRSCHMANN
A BELDEN BRAND



Your Benefits

The Hirschmann BOBCAT Switches, including high port count variants, are designed to meet rising bandwidth needs, enabling more connected devices on the network through a compact, yet powerful solution. With real-time communication using TSN, the switches maximize performance and security, even under demanding conditions.

These managed switches also allow for expanded bandwidth capabilities with the option to adjust the SFPs from 1 to 2.5 Gigabit – requiring no change to the appliance.

Enhanced network security is another critical component of any future-facing network. The Hirschmann BOBCAT Switches support HiOS software and feature several compelling security elements, including IEEE 802.1x port-based access control, varying privilege levels, configurable password policies, security status monitor and audit trails.



Applications

The Hirschmann BOBCAT Switches are an ideal solution for classic automation applications that require real-time communication, advanced security, low latency, and the simultaneous synchronization of data and information to control operations.

In addition, the high port density options support a growing number of network devices, while the PoE option can power the growing demand of energy-hungry devices, such as pan-tilt-zoom cameras or wireless access points. The appliance is best for engineers, system integrators and machine builders looking for a powerful and future-proof device.



Markets

With advanced security and real-time communication features, the compact managed switches are an essential appliance relevant to many industrial markets, including automotive, manufacturing, machine building, water management, and oil and gas. The full copper option with speeds up to 1 Gbit/s are particularly suited for short cable runs in discrete automation applications.

The Hirschmann BOBCAT Switches are also applicable in transportation and power management applications, helping to deliver critical real-time information, like deterministic signaling and energy flow. With trackside approval according to EN50121 and fulfillment of NEMA TS2 requirements, the switches can also be deployed in mass transit and traffic control systems and railway and train stations.

The high bandwidth and port count, combined with a ruggedized design, are ideal for airports and seaports as well.



The Hirschmann BOBCAT Switches are a cost-effective and high-performance solution that enables increased bandwidth and improved network reliability.

Technical Information

Product Description Switch				
Type	BRS2	BRS3	BRS4	BRS5
Description	Managed, Industrial Ethernet Switch DIN Rail, fanless design, up to 24 ports and up to 4 fiber ports			
Port Type and Quantity	Fast Ethernet with up to 3 SC/ST fiber ports or 4 SFP ports	Fast Ethernet with up to 4 dual-speed 100/1000 Mbit/s SFP ports	All Gigabit with up to 4 dual-speed 100/1000 Mbit/s SFP ports	All Gigabit with up to 4 tri-speed 100/1000/2500 Mbit/s SFP ports
Additional Interfaces				
Local Management and Device Replacement	USB-C			
Digital Input	1 x plug-in terminal block, 2-pin			
Power over Ethernet				
Port Type and Quantity*	8 ports*; PoE/PoE+ (IEEE 802.3af/at) 90 W/24 V or 240 W/54 V			
Power Requirements				
Operating Voltage*	12 - 48 V DC or 24-48 V DC and 24 V AC (redundant); 24 V DC or 48/54 V DC (redundant) for PoE variants			
Power Consumption	5 up to 20 W (plus PoE power consumption)			
Mechanical Construction				
Dimensions (W x H x D) mm	71/87/123 mm* x 140 mm x 110 mm metal housing 57/73/109 mm* x 138 mm x 109 mm PC-ABS housing			
Housing	PC-ABS or metal			
Weight	380 g up to 1050 g (PC-ABS); 870 g up to 1620 g (metal)			
Protection class	IP30 (PC-ABS), IP30 (metal housing), IP40 (metal housing)			
Software				
Supported HiOS Software Levels	Layer 2 Standard (L2S) or Layer 2 Advanced (L2A)			
Software Layer 2				
Management	Dual Software Image Support, TFTP, SFTP, SCP, LLDP (802.1AB), LLDP-MED, SSHv2, HTTP, HTTPS, Traps, SNMP v1/v2/v3, Telnet, IPv6 Management			
Diagnostics	Management Address Conflict Detection, MAC Notification, Signal Contact, Device Status Indication, TCPDump, LEDs, Syslog, Persistent Logging on ACA, Port Monitoring with Auto-Disable, Link Flap Detection, Overload Detection, Duplex Mismatch Detection, Link Speed and Duplex Monitoring, RMON (1,2,3,9), Port Mirroring 1:1, Port Mirroring 8:1, Port Mirroring N:1, Port Mirroring N:2, System Information, Self-Tests on Cold Start, Copper Cable Test, SFP Management, Configuration Check Dialog, Switch Dump			
Configuration	Automatic Configuration Undo (roll-back), Configuration Fingerprint, Text-based Configuration File (XML), Backup config on a remote server when saving, Clear config but keep IP settings, BOOTP/DHCP Client with Auto-Configuration, DHCP Server: per Port, DHCP Server: Pools per VLAN, AutoConfiguration Adapter ACA21/22 (USB), HiDiscovery, USB-C Management support, Command Line Interface (CLI), CLI Scripting, CLI script handling over ENVM at boot, Full-featured MIB Support, Context-sensitive Help, HTML5 based Management			
Security	MAC-based Port Security, Port-based Access Control with 802.1X, Guest/unauthenticated VLAN, Integrated Authentication Server (IAS), RADIUS VLAN Assignment, Denial-of-Service Prevention, DoS Prevention Drop Counter, VLAN-based ACL, Ingress VLAN-based ACL, Basic ACL, Access to Management restricted by VLAN, Device Security Indication, Audit Trail, CLI Logging, HTTPS Certificate Management, Restricted Management Access, Appropriate Use Banner, Configurable Password Policy, Configurable Number of Login Attempts, SNMP Logging, Multiple Privilege Levels, Local User Management, Remote Authentication via RADIUS, User Account Locking, Password change on first login			
Redundancy Functions	HIPER-Ring (Ring Switch), Link Aggregation with LACP, Link Backup, Media Redundancy Protocol (MRP) (IEC62439-2), Redundant Network Coupling, RSTP 802.1D-2004 (IEC62439-1), RSTP Guards			
Switching	Independent VLAN Learning, Fast Aging, Static Unicast/Multicast Address Entries, QoS / Port Prioritization (802.1D/p), TOS/DSCP Prioritization, Interface Trust Mode, CoS Queue Management, Queue-Shaping / Max. Queue Bandwidth, Flow Control (802.3X), Egress Interface Shaping, Ingress Storm Protection, Jumbo Frames, VLAN (802.1Q), GARP VLAN Registration Protocol (GVRP), Voice VLAN, GARP Multicast Registration Protocol (GMRP), IGMP Snooping/Querier per VLAN (v1/v2/v3), Unknown Multicast Filtering, Multiple VLAN Registration Protocol (MVRP), Multiple MAC Registration Protocol (MMRP), Multiple Registration Protocol (MRP)			
Standardized Real-Time Ethernet	TSN, Time Sensitive Network (802.1Qbv)			
Time Synchronization	PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, BC with Up to 8 Sync / s , 802.1AS, Buffered Real Time Clock, SNTP Client, SNTP Server			
Industrial Profiles	EtherNet/IP Protocol, IEC61850 Protocol (MMS Server, Switch Model), Modbus TCP, PROFINET Protocol			
Miscellaneous	Digital IO Management, Manual Cable Crossing, Port Power Down PoE (802.3af), PoE+ (802.3at), PoE+ Manual Power Management, PoE Fast Startup			
Information	Please note that the feature set available at product launch can be different.			
Ambient Conditions				
Operating Temperature	0 °C to 60 °C, or -40 °C to +70 °C, optional conformal coating and glued components			
Relative Humidity (non-condensing)	1% to 95%			
Approvals Configurable				
Safety of Industrial Control Equipment*	EN 62368-1, UL 61010-2-201 & CSA C22.2 NO. 61010-2-201:18*			
Ship*	DNVGL*, Bureau Veritas*, Lloyd's Register*			
Hazardous Locations*	UL 121201 & CSA C22.2 NO. 213-17 *, ATEX Ex ec **, IECEx Ex ec **			
Substation	IEC 61850-3*			
Transportation*	NEMA TS2, EN50121-4***			
Accessories				
Device Replacement and Logging	ACA22-USB-C (EEC)			

* Depending on the selected variant
**Approvals pending
*** Variants with temperature range T, E or G

NOTE: These are the prominent technical specifications. For complete technical specifications visit: catalog.belden.com

BOBCAT Rail Switch Configurations

B	R	S	5	2	-	0	0	1	2	2	Q	2	Q	-	S	P	C	Z	9	9	H	H	S	E	S	X	X	.	X	.

Design

BRS2 = 100 Mbit/s Ports
BRS3 = 100/1000 Mbit/s Ports
BRS4 = 1000 Mbit/s Ports
BRS5 = 1000/2500 Mbit/s Ports

Hardware Type

0 = Standard
2 = PoE/PoE+ support

Number of Fast Ethernet Ports

00 = 0 x 100 Mbit/s Ports
05 = 5 x 100 Mbit/s Ports
08 = 8 x 100 Mbit/s Ports
10 = 10 x 100 Mbit/s Ports
12 = 12 x 100 Mbit/s Ports
20 = 20 x 100 Mbit/s Ports
04 = 4 x 100 Mbit/s Ports
06 = 6 x 100 Mbit/s Ports
09 = 9 x 100 Mbit/s Ports
11 = 11 x 100 Mbit/s Ports
16 = 16 x 100 Mbit/s Ports
24 = 24 x 100 Mbit/s Ports

Number of Gigabit Ethernet Ports

00 = 0 x 1000 Mbit/s Ports
08 = 8 x 1000 Mbit/s Ports
16 = 16 x 1000 Mbit/s Ports
24 = 24 x 1000 Mbit/s Ports
12 = 8 x 1000 Mbit/s Ports + 4 x 2500 Mbit/s Ports
20 = 16 x 1000 Mbit/s Ports + 4 x 2500 Mbit/s Ports
24 = 20 x 1000 Mbit/s Ports + 4 x 2500 Mbit/s Ports
04 = 4 x 1000 Mbit/s Ports
12 = 12 x 1000 Mbit/s Ports
20 = 20 x 1000 Mbit/s Ports

Type 1 Uplink Ports

99 = None / Identical to other ports
2T = 2 x TX (1000 Mbit/s)
M2 = 1 x Multimode SC (100 Mbit/s)
S2 = 1 x Singlemode SC (100 Mbit/s)
E2 = 1 x Singlemode + SC (100 Mbit/s)
G2 = 1 x Singlemode LH + SC (100 Mbit/s)
NN = 2 x Multimode ST (100 Mbit/s)
UU = 2 x Singlemode ST (100 Mbit/s)
LL = 2 x Singlemode LH SC (100 Mbit/s)
ZZ = 2 x SFP Slot (100 Mbit/s)
Z6 = 1 x SFP Slot (100 Mbit/s)
QT = 2 x TX (2500 Mbit/s)
M4 = 1 x Multimode ST (100 Mbit/s)
S4 = 1 x Singlemode ST (100 Mbit/s)
L2 = 1 x Singlemode LH/SC (100 Mbit/s)
MM = 2 x Multimode SC (100 Mbit/s)
VV = 2 x Singlemode SC (100 Mbit/s)
EE = 2 x Singlemode + SC (100 Mbit/s)
GG = 2 x Singlemode LH + SC (100 Mbit/s)
OO = 2 x SFP Slot (100/1000 Mbit/s)
2Q = 2 x SFP Slot (100/1000/2500 Mbit/s)

Type 2 Uplink Ports

99 = None / Identical to other ports
QT = 2 x TX (2500 Mbit/s)
M4 = 1 x Multimode ST (100 Mbit/s)
S4 = 1 x Singlemode ST (100 Mbit/s)
L2 = 1 x Singlemode LH SC (100 Mbit/s)
ZZ = 2 x SFP Slot (100 Mbit/s)
Z6 = 1 x SFP Slot (100 Mbit/s)
2T = 2 x TX (1000 Mbit/s)
M2 = 1 x Multimode SC (100 Mbit/s)
S2 = 1 x Singlemode SC (100 Mbit/s)
E2 = 1 x Singlemode + SC (100 Mbit/s)
G2 = 1 x Singlemode LH + SC (100 Mbit/s)
OO = 2 x SFP Slot (100/1000 Mbit/s)
2Q = 2 x SFP Slot (100/1000/2500 Mbit/s)

Temperature Range

S = 0 °C to +60 °C
T = -40 °C to +70 °C
G = -40 °C to +70 °C, conformal coating , glued
C = 0 °C to +60 °C, conformal coating
E = -40 °C to +70 °C, conformal coating

Voltage Range

T = 2 x 12 - 24 V DC
U = 2 x 24 V DC (PoE variants)
F = 2 x 24 - 48 V DC + 24 V AC
P = 2 x 48 V DC (PoE variants) / 54 V DC (PoE+ variants)

Housing

C = IP30
D = IP30 metal
E = IP40 metal

Approvals Part 1

Z = CE, FCC, EN 61131-2, EN 62368-1
Y = CE, FCC, EN 61131-2, EN 62368-1, cUL 61010-2-201
X = CE, FCC, EN 61131-2, EN 62368-1, cUL 61010-2-201, cUL 121201
V = CE, FCC, EN 61131-2, EN 62368-1, IEC 61850-3
U = CE, FCC, EN 61131-2, EN 62368-1, DNVGL
S = CE, FCC, EN 61131-2, EN 62368-1, DNVGL + extended ship approval
W = CE, FCC, EN 61131-2, EN 62368-1, ATEX, IECEx
T = CE, FCC, EN 61131-2, EN 62368-1, EN 50121-4

Approvals Part 2

9 = None
Y = cUL 61010-2-201
W = ATEX, IECEx
X = cUL 61010-2-201, cUL 121201
S = DNVGL + extended ship approval
V = IEC 61850-3
U = DNVGL
T = EN 50121-4

Software Packages

9 = No software packages

OEM Type

HH = Standard

Technology

S = Standard

Software Configuration

E = Hirschmann Standard Configuration

Software Version

S = HiOS Layer 2 Standard
A = HiOS Layer 2 Advanced

Software Release

XX.X. = Current Software Release

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2-3.9 PLC-RSC- 24DC/21 - Relay module – Approval & Declaration

phoenix-contact-2966171

PLC-RSC- 24DC/21 - Relay module

2966171

https://www.phoenixcontact.com/it/prodotti/2966171

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PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V DC

Your advantages

- Slim design
- Efficient connection to system cabling using V8 adapter
- RT III sealed relay
- Safe isolation between coil and contact side
- Functional plug-in bridges
- Integrated input circuit and interference suppression circuit

PLC-RSC- 24DC/21 - Relay module

2966171

https://www.phoenixcontact.com/it/prodotti/2966171

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/it/prodotti/2966171

EAC
Approval ID: RU*C-DE.*08.B.00010

DNV GL
Approval ID: TAE0000196

cULus Listed
Approval ID: E140324

PLC-RSC- 24DC/21 - Relay module

2966171

https://www.phoenixcontact.com/it/prodotti/2966171

Classifications

ECLASS

ECLASS-13.0	27371601

ETIM

ETIM 9.0	EC001437

UNSPSC

UNSPSC 21.0	39122300

PLC-RSC- 24DC/21 - Relay module

2966171

https://www.phoenixcontact.com/it/prodotti/2966171

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Hexahydromethylphthalic anhydride(CAS: n/a)
	Lead(CAS: 7439-92-1)
SCIP	20094ffa-eb95-4291-a21b-4463d52fab42

EF3.0 Climate Change

CO2e kg	0.335 kg CO2e

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2-3.10 Fortigate Firewall 40F Series – Datasheet

fortigate-fortiwifi-40f-series

Data Sheet

FortiGate FortiWiFi 40F Series



Highlights

Gartner® Magic Quadrant™ Leaders for both Network Firewalls and SD-WAN

Unparalleled performance enabled by Fortinet's patented ASIC and the FortiOS operating system

Enterprise-grade protection with FortiGuard AI-Powered Security Services

Simplified operations with centralized management for networking and security, automated workflows, deep analytics, and self-healing

Inclusive SD-WAN and wireless controller in every FortiGate appliance at no extra cost

Rich portfolio for any business budget and need

Converged Next-Generation Firewall and SD-WAN

The FortiGate and FortiWiFi 40F series integrate firewalling, SD-WAN, and security in one appliance, making them perfect for building secure networks at distributed enterprise sites and transforming WAN architecture at any scale.

The 40F series runs on FortiOS, the industry's first converged networking and security operating system. This single OS approach enables businesses to gain benefits of operational efficiency and unified protection from the seamless integration of Fortinet Solutions within a Hybrid Mesh Firewall architecture.

As a cornerstone of the Fortinet Security Fabric platform, the FortiGate NGFW works seamlessly with FortiGuard AI-Powered Security Services to deliver coordinated, automated, end-to-end threat protection in real time.

The 40F family is built on the patented SD-WAN-based ASIC, which delivers unmatched performance over traditional CPUs with lower cost and reduced power consumption. This application-specific design and embedded multi-core processor further accelerate the convergence of networking and security functions in the 40F family to optimize secure connections and deliver a robust user experience at branch locations.

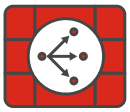
IPS	NGFW	Threat Protection	Interfaces
1 Gbps	800 Mbps	600 Mbps	Multiple GE RJ45 | WiFi variants

Use Cases



Perimeter Protection

- Protect networks from malicious traffic, guard against file-based threats, block web-based attacks, and secure applications and data with natively integrated FortiGuard AI-Powered Security Services
- Inspect and control incoming and outgoing traffic based on defined security policies
- Perform real-time SSL inspection (including TLS 1.3) with full visibility into users, devices, and applications across the attack surface
- Accelerate performance, protection, and energy efficiency with Fortinet's patented SPU with converged security and networking technologies



Secure SD-WAN

- FortiGate enables best-of-breed WAN edge with integrated SD-WAN, WAN optimization, security, and unified management from a single FortiOS operating system
- FortiGate, built on a patented SD-WAN-based ASIC, delivers faster application identification to avoid delays in accessing applications and accelerates overlay performance regardless of location
- Enhances hybrid working with a comprehensive SASE solution by integrating cloud-delivered SD-WAN with security service edge (SSE)
- Achieves operational efficiencies at any scale through automation, deep analytics, and self-healing



Secure Branch

- The Fortinet Security Fabric platform enables FortiGate NGFWs to automatically discover and secure IoT devices for faster branch onboarding
- Fully integrated with FortiSwitch secure Ethernet switches and FortiAP access points, FortiGate easily extends security to WAN, LAN, and WLAN at branch offices for unified protection and reliable connectivity
- FortiGate and Fortinet products work seamlessly with FortiManager to centralize visibility and simplify management across locations for IT teams
- FortiGate HA support ensures continuous network protection and minimizes downtime in the event of hardware failures or network disruptions



FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Infused with the latest threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero-day and sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. With over 18,000 signatures, our industry-leading intrusion prevention system (IPS) uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, and applying virtual patches for newly discovered vulnerabilities. Anti-malware protection defends against both known and unknown file-based threats, combining antivirus and sandboxing for multi-layered security. Application control improves security compliance and provides real-time visibility into applications and usage.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of over 300 million URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks. FortiGuard Labs blocks over 500 million malicious/phishing/ spam URLs weekly, and blocks 32,000 botnet command-and-control attempts every minute, demonstrating the robust protection offered through Fortinet.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This includes data loss prevention to ensure visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. Our inline cloud access security broker service protects data in motion, at rest, and in the cloud, enforcing compliance standards and managing account, user, and cloud app usage. Services also assess infrastructure, validate configurations, and highlight risks and vulnerabilities, including IoT device detection and vulnerability correlation.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown malware in real time, delivering sub-second protection across all NGFWs. The service also integrates the MITRE ATT&CK matrix to speed up investigations. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

OT security

With over 1000 virtual patches, 1100+ OT applications, and 3300+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.

Available in

Appliance

Virtual

Hosted

Cloud

Container

FortiOS Everywhere

FortiOS, Fortinet's Real-Time Network Security Operating System

FortiOS is the operating system that powers Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. FortiOS provides a unified framework for managing and securing networks, cloud-based, hybrid, or a convergence of IT, OT, and IoT. FortiOS enables seamless and efficient interoperation across Fortinet products with consistent and consolidated AI-powered protection across today's hybrid environments.

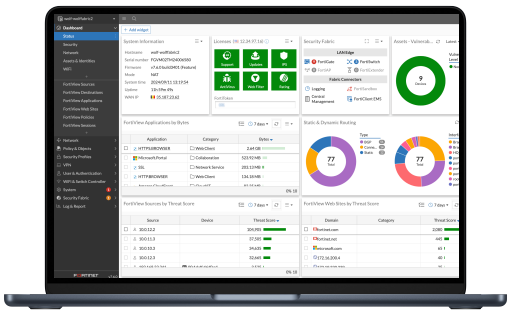
Unlike traditional point solutions, Fortinet adopts a holistic approach to cybersecurity, aiming to reduce complexities, eliminate security silos, and improve operational efficiencies. By consolidating security functions into a single platform, FortiOS simplifies management, reduces costs, and enhances overall security posture. Together, FortiGate and FortiOS create intelligent, adaptive protection to help organizations reduce complexity, eliminate security silos, and optimize user experience.

By integrating generative AI (GenAI), FortiOS further enhances the ability to analyze network traffic and threat intelligence, detects deviations or anomalies more effectively, and provides more precise remediation recommendations, ensuring minimum performance impact without compromising security.

Learn more about what's new in FortiOS. https://www.fortinet.com/products/fortigate/fortios

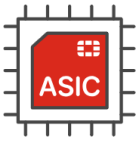


Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

Fortinet ASICs: Unrivaled Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

Secure SD-WAN ASIC SP4

- Combines a RISC-based CPU with Fortinet's proprietary SPU content and network processors for unmatched performance
- Delivers the industry's fastest application identification and steering for efficient business operations
- Accelerates IPsec VPN performance for the best user experience on direct internet access
- Enables best-of-breed NGFW security and deep SSL inspection with high performance
- Extends security to the access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

Unified Management for Optimal Security and Efficiency

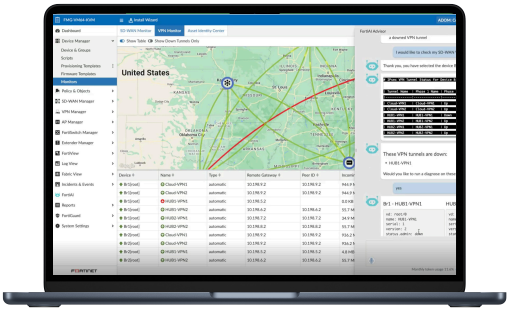
Whether you are a small business or a large enterprise, Fortinet provides centralized control, visibility, and automation for your security infrastructure.

FortiManager: Centralized management at scale for distributed enterprises

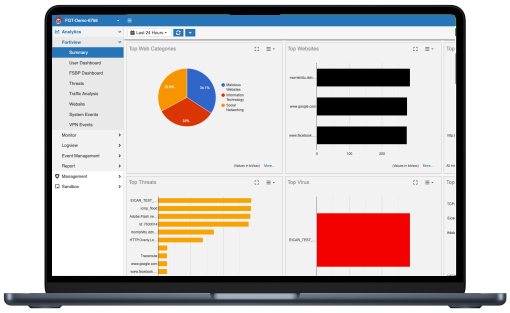
FortiManager, powered by FortiAI, is a centralized management solution for the Fortinet Security Fabric. It streamlines mass provisioning and policy management for FortiGate, FortiGate VM, cloud security, SD-WAN, SD-Branch, FortiSASE, and ZTNA in hybrid environments. Additionally, FortiManager provides real-time monitoring of the entire managed infrastructure and automates network operation workflows. Leveraging GenAI in FortiAI, it further enhances Day 0–1 configurations and provisioning, and Day N troubleshooting and maintenance, unlocking the full potential of the Fortinet Security Fabric and significantly boosting operational efficiency.

FortiGate Cloud: Simplified management for small and mid-size businesses

FortiGate Cloud is a SaaS service offering simplified management, security analytics, and reporting for Fortinet FortiGate NGFWs to help you more efficiently manage your devices and reduce cyber risk. It simplifies the initial deployment, setup, and ongoing management of FortiGates and downstream connected devices such as FortiAP, FortiSwitch, and FortiExtender, with zero-touch provisioning. It provides real-time and historical visibility into traffic analytics and security threats to reduce risks and improve security posture. View various threats, web traffic, and system events stored in the cloud for up to a year, with predefined reports to meet compliance and deliver actionable insights.



GenAI in FortiManager helps manage networks effortlessly—generate configuration and policy scripts, troubleshoot issues, and execute recommended actions.



FortiGate Cloud provides intuitive management and analytics solution with end-to-end visibility, logging and reporting for SMB.

FortiConverter Service

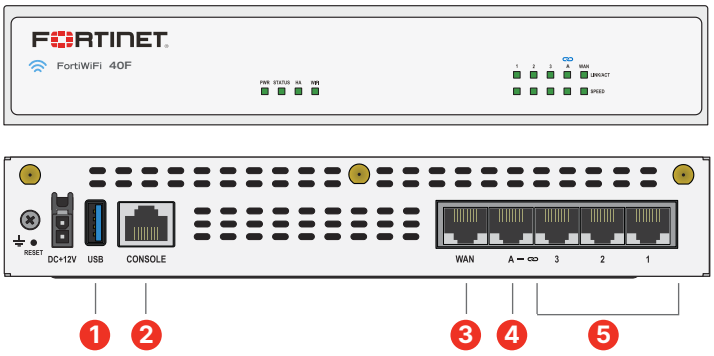
Migration to FortiGate NGFW made easy

The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

Hardware

FortiGate FortiWifi 40F Series

SoC4 | DESKTOP | a/b/g/n/ac-W2

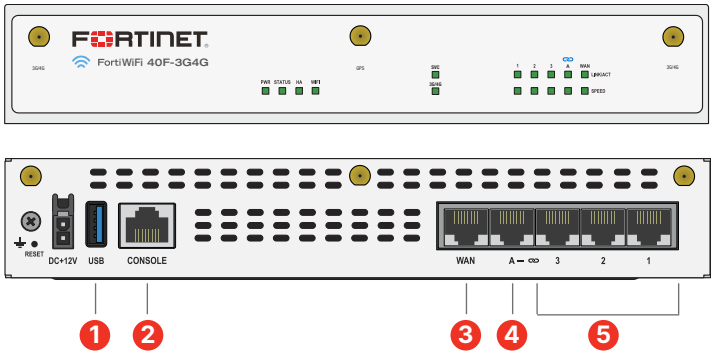


Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 1 x GE RJ45 WAN Port
4. 1 x GE RJ45 FortiLink Port
5. 3 x GE RJ45 Ethernet Ports

FortiGate FortiWifi 40F-3G4G

SoC4 | DESKTOP | 3G4G/LTE | a/b/g/n/ac-W2



Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 1 x GE RJ45 WAN Port
4. 1 x GE RJ45 FortiLink Port
5. 3 x GE RJ45 Ethernet Ports

Hardware Features

Access layer security

FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.

Compact and reliable form factor

Designed for small environments, the FortiGate can be on a desktop or wall-mounted. It is small, lightweight, yet highly reliable with superior meantime between failures, minimizing the chance of network disruption.

Specifications

	FORTIGATE 40F	FORTIWIFI 40F	FORTIGATE 40F-3G4G	FORTIWIFI 40F-3G4G
Interfaces and Modules				
Hardware Accelerated GE RJ45 WAN / DMZ Ports	1	1	1	1
Hardware Accelerated GE RJ45 Internal Ports	3	3	3	3
Hardware Accelerated GE RJ45 FortiLink Ports (Default)	1	1	1	1
Hardware Accelerated GE RJ45 PoE/+ Ports	0	0	0	0
Cellular Modem	-	-	3G4G LTE	3G4G LTE
Wireless Interface	0	Single Radio (2.4GHz/5GHz) 802.11 /a/b/g/n/ac-W2	0	Single Radio (2.4GHz/5GHz), 802.11 a/b/g/n/ac-W2
Antenna Ports (SMA)	0	3	3	6
USB Ports	1	1	1	1
Console Port (RJ45)	1	1	1	1
SIM Slots (Nano SIM)	0	0	2	2
Onboard Storage	0	0	0	0
Included Transceivers	0	0	0	0
Trusted Platform Module (TPM)	—	—	—	—
Bluetooth Low Energy (BLE)	—	—	—	—
Signed Firmware Hardware Switch	—	—	—	—
System Performance — Enterprise Traffic Mix				
IPS Throughput [2]	1 Gbps			
NGFW Throughput [2, 4]	800 Mbps			
Threat Protection Throughput [2, 5]	600 Mbps			
System Performance and Capacity				
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)	5 / 5 / 5 Gbps			
Firewall Latency (64 byte, UDP)	2.97 µs			
Firewall Throughput (Packet per Second)	7.5 Mpps			
Concurrent Sessions (TCP)	700 000			
New Sessions/Second (TCP)	35 000			
Firewall Policies	2000			
IPsec VPN Throughput (512 byte) [1]	4.4 Gbps			
Gateway-to-Gateway IPsec VPN Tunnels	200			
Client-to-Gateway IPsec VPN Tunnels	250			
SSL-VPN Throughput[6]	490 Mbps			
Concurrent SSL-VPN Users[6] (Recommended Maximum, Tunnel Mode)	200			
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	310 Mbps			
SSL Inspection CPS (IPS, avg. HTTPS) [3]	320			
SSL Inspection Concurrent Session (IPS, avg. HTTPS) [3]	55 000			
Application Control Throughput (HTTP 64K) [2]	990 Mbps			
CAPWAP Throughput (HTTP 64K)	3.5 Gbps			
Virtual Domains (Default / Maximum)	10 / 10			
Maximum Number of FortiSwitches Supported	8			
Maximum Number of FortiAPs (Total / Tunnel)	16 / 8			
Maximum Number of FortiTokens	500			
High Availability Configurations	Active-Active, Active-Passive, Clustering			

Note: All performance values are "up to" and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

[6] SSL VPN not supported on FortiOS 7.6.0 and above.

Specifications

	FORTIGATE 40F	FORTIWIFI 40F	FORTIGATE 40F-3G4G	FORTIWIFI 40F-3G4G
Dimensions and Power				
Height x Width x Length (inches)	1.5 × 8.5 × 6.3		1.6 × 8.5 × 6.3	
Height x Width x Length (mm)	38.5 × 216 × 160		40.5 × 216 × 160	
Weight	2.2 lbs (1 kg)		2.2 lbs (1 kg)	
Form Factor (supports EIA/non-EIA standards)	Desktop		Desktop	
Input Rating	12Vdc, 3A		12Vdc, 3A	
Power Required	Powered by External DC Power Adapter, 100–240V AC, 50/60 Hz		Powered by external DC power adapter 100-240V AC, 50/60 Hz	
Current (Maximum)	100V AC / 0.2A, 240V AC / 0.1A		100V AC / 0.3A, 240V AC / 0.2A	
Power Consumption (Average / Maximum)	7.74 W / 9.46 W	14.6 W / 16.6 W	15.8 W / 18.6 W	18.6 W / 19.8 W
Heat Dissipation	52.55 BTU/h	56.64 BTU/h	63.5 BTU/h	67.6 BTU/h
Operating Environment and Certifications				
Operating Temperature	32°F to 104°F (0°C to 40°C)			
Storage Temperature	-31°F to 158°F (-35°C to 70°C)			
Humidity	10% to 90% non-condensing			
Noise Level	Fanless 0 dBA			
Operating Altitude	Up to 7400 ft (2250 m)			
Compliance	FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB			
Certifications	USGv6/IPv6			
Radio Specifications				
Multiple (MU) MIMO	N/A	3 × 3	N/A	3 × 3
Maximum Wi-Fi Speeds	N/A	1300 Mbps @ 5 GHz, 450 Mbps @ 2.4 GHz	N/A	1300 Mbps @ 5 GHz, 450 Mbps @ 2.4 GHz
Maximum Tx Power	N/A	20 dBm	N/A	20 dBm
Antenna Gain	N/A	3.5 dBi @ 5GHz, 5 dBi @ 2.4 GHz	N/A	3.5 dBi @ 5GHz, 5 dBi @ 2.4 GHz
3G4G Modem				
Maximum Tx Power	N/A		20 dBm	
Regions	N/A		All Regions	
Modem Model	N/A		Sierra Wireless EM7565 (2 SIM Slots, Active/Passive)	
LTE Category	N/A		CAT-12	
LTE Bands	N/A		B1, B2, B3, B4, B5, B7, B8, B9, B12, B13, B18, B19, B20, B26, B28, B29, B30, B32, B41, B42, B43, B46, B48, B66	
UMTS/HSPA+	N/A		B1, B2, B4, B5, B6, B8, B9, B19	
WCDMA	N/A		-	
CDMA 1xRTT/EV-DO Rev A	N/A		-	
GSM/GPRS/EDGE	N/A		-	
Module Certifications	N/A		FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB	
Diversity	N/A		Yes	
MIMO	N/A		Yes	
GNSS Bias	N/A		Yes	

Subscriptions

Service Category	Service Offering	A-la-carte	Bundles		
			Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	•	•	•	•
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct [3], AI-based Heurestic AV, FortiGate Cloud Sandbox	•	•	•	•
	URL, DNS and Video Filtering — URL, DNS and Video [3] Filtering, Malicious Certificate	•	•	•	
	Anti-Spam		•	•	
	AI-based Inline Malware Prevention [3]	•	•		
	Data Loss Prevention (DLP) [1]	•	•		
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check	•	•		
	OT Security—OT Device Detection, OT vulnerability correlation and Virtual Patching, OT Application Control and IPS [1]	•			
	Application Control		----------included with FortiCare Subscription----------		
	Inline CASB [3]		----------included with FortiCare Subscription----------		
SD-WAN and SASE Services	SD-WAN Underlay Bandwidth and Quality Monitoring	Models up to FG/FWF-60F series			
	SD-WAN Underlay and Application Monitoring Service	FG-70F series and above			
	SD-WAN Overlay-as-a-Service	•			
	SD-WAN Connector for FortiSASE Secure Private Access	•			
	SASE expansion for SD-WAN (SD-WAN SPA Connector license plus FortiSASE starter kit for n* users) [2]	Selected models only[2]			
	SASE connector for FortiSASE Secure Edge Management (with 10Mbps Bandwidth)	Desktop models only			
NOC and SOC Services	FortiConverter Service for one time configuration conversion	•	•		
	Managed FortiGate Service—available 24×7, with Fortinet NOC experts performing device setup, network, and policy change management	•			
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	•			
	FortiManager Cloud	•			
	FortiAnalyzer Cloud	•			
	FortiGuard SOCaaS—24×7 cloud-based managed log monitoring, incident triage, and SOC escalation service	•			
Hardware and Software Support	FortiCare Essentials	Desktop models only			
	FortiCare Premium	•	•	•	•
	FortiCare Elite	•			
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing		----------included with FortiCare Subscription----------		

1. Full features available when running FortiOS 7.4.1.

2. See the FortiSASE Ordering Guide for supported models and their associated number of user licenses.

3. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.

FortiGuard AI-Powered Security Bundles for FortiGate



FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24×7×365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.

FortiCare Services



Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.



Ordering Information

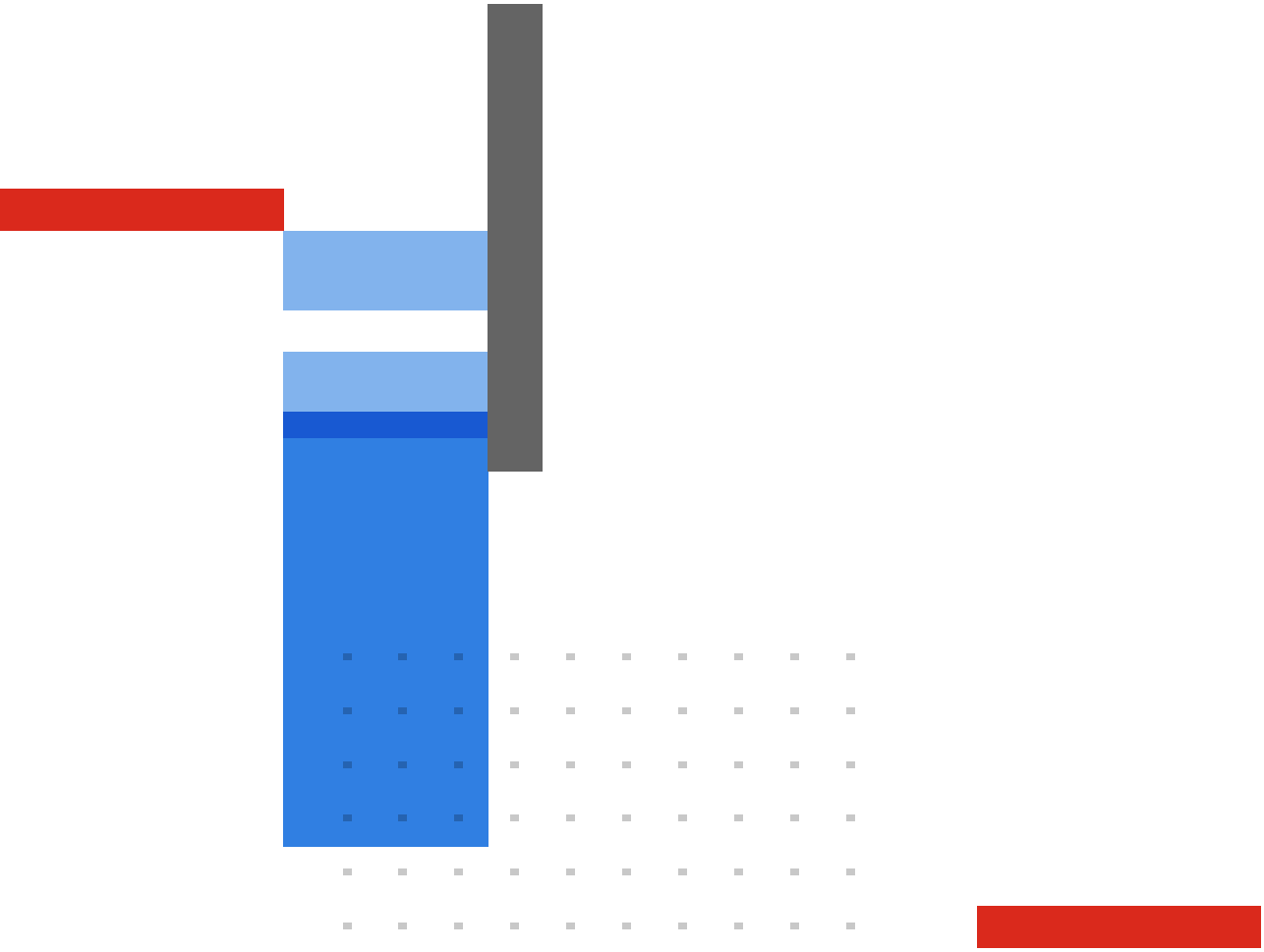
Product	SKU	Description
FortiGate 40F	FG-40F	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports).
FortiGate 40F	FG-40F-HA	5 x GE RJ45 ports (including, 1 x WAN Port, 4 x Internal Ports). FG-XX-HA SKUs must to be bought in pairs and entitle HA pair to leverage single service contracts.
FortiWiFi 40F	FWF-40F-[RC]	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), Wireless (802.11a/b/g/n/ac-W2).
FortiGate 40F-3G4G	FG-40F-3G4G	5x GE RJ45 ports (Including 1x WAN port, 4x Switch ports) with Embedded 3G/4G/LTE wireless wan module, external SMA WWAN antennas included.
FortiGate 40F-3G4G	FG-40F-3G4G-HA	5 x GE RJ45 ports (including 1 x WAN Port, 4 x Internal Ports) with Embedded 3G/4G/LTE wireless wan module, 3 external SMA WWAN antennas included. FG-XX-HA SKUs must to be bought in pairs and entitle HA pair to leverage single service contracts.
FortiWiFi 40F-3G4G	FWF-40F-3G4G-[RC]	5x GE RJ45 ports (Including 1x WAN port, 4x Switch ports) with Embedded 3G/4G/LTE wireless wan module, Wireless (802.11a/b/g/n/ac-W2), external SMA WWAN and wireless antennas included.
Optional Accessories		
Rack Mount Tray	SP-RACKTRAY-02	Rack mount tray for all FortiGate E series and F series desktop models are backwards compatible with SP-RackTray-01. For list of compatible FortiGate products, visit our Documentation website, docs.fortinet.com
AC Power Adaptor	SP-FG-40F-PA-10(-XX)	Pack of 10 AC power adaptors for FG/FWF-40F, come with interchangeable power plugs. (XX=various countries code).
Wall Mount Kits	SP-FG60F-MOUNT-20	Pack of 20 wall mount kits for FG/FWF-40F series, FG/FWF-60F series, FG-80F, FG-81F and FG-80F-Bypass.

[RC] = regional code: A, B, D, E, F, I, J, N, P, S, V, and Y

Visit https://www.fortinet.com/resources/ordering-guides for related ordering guides.

Fortinet Corporate Social Responsibility Policy

Fortinet is committed to driving progress and sustainability for all through cybersecurity, with respect for human rights and ethical business practices, making possible a digital world you can always trust. You represent and warrant to Fortinet that you will not use Fortinet's products and services to engage in, or support in any way, violations or abuses of human rights, including those involving illegal censorship, surveillance, detention, or excessive use of force. Users of Fortinet products are required to comply with the Fortinet EULA and report any suspected violations of the EULA via the procedures outlined in the Fortinet Whistleblower Policy.



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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.11 Fortigate Firewall 80F Series – Datasheet

fortigate-fortiwifi-80f-series

Data Sheet

FortiGate FortiWiFi 80F Series



Highlights

Gartner® Magic Quadrant™ Leaders for both Network Firewalls and SD-WAN

Unparalleled performance enabled by Fortinet's patented ASIC and the FortiOS operating system

Enterprise-grade protection with FortiGuard AI-Powered Security Services

Simplified operations with centralized management for networking and security, automated workflows, deep analytics, and self-healing

Inclusive SD-WAN and wireless controller in every FortiGate appliance at no extra cost

Rich portfolio for any business budget and need

Converged Next-Generation Firewall and SD-WAN

The FortiGate and FortiWiFi 80F series integrate firewalling, SD-WAN, and security in one appliance, making them perfect for building secure networks at distributed enterprise sites and transforming WAN architecture at any scale.

The 80F series runs on FortiOS, the industry's first converged networking and security operating system. This single OS approach enables businesses to gain benefits of operational efficiency and unified protection from the seamless integration of Fortinet Solutions within a Hybrid Mesh Firewall architecture.

As a cornerstone of the Fortinet Security Fabric platform, the FortiGate NGFW works seamlessly with FortiGuard AI-Powered Security Services to deliver coordinated, automated, end-to-end threat protection in real time.

The 80F family is built on the patented SD-WAN-based ASIC, which delivers unmatched performance over traditional CPUs with lower cost and reduced power consumption. This application-specific design and embedded multi-core processor further accelerate the convergence of networking and security functions in the 80F family to optimize secure connections and deliver a robust user experience at branch locations.

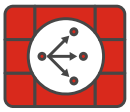
IPS	NGFW	Threat Protection	Interfaces
1.4 Gbps	1 Gbps	900 Mbps	Multiple GE RJ45 | Variants with PoE, DSL, 3G4G, WiFi and/or storage

Use Cases



Perimeter Protection

- Protect networks from malicious traffic, guard against file-based threats, block web-based attacks, and secure applications and data with natively integrated FortiGuard AI-Powered Security Services
- Inspect and control incoming and outgoing traffic based on defined security policies
- Perform real-time SSL inspection (including TLS 1.3) with full visibility into users, devices, and applications across the attack surface
- Accelerate performance, protection, and energy efficiency with Fortinet's patented SPU with converged security and networking technologies



Secure SD-WAN

- FortiGate enables best-of-breed WAN edge with integrated SD-WAN, WAN optimization, security, and unified management from a single FortiOS operating system
- FortiGate, built on a patented SD-WAN-based ASIC, delivers faster application identification to avoid delays in accessing applications and accelerates overlay performance regardless of location
- Enhances hybrid working with a comprehensive SASE solution by integrating cloud-delivered SD-WAN with security service edge (SSE)
- Achieves operational efficiencies at any scale through automation, deep analytics, and self-healing



Secure Branch

- The Fortinet Security Fabric platform enables FortiGate NGFWs to automatically discover and secure IoT devices for faster branch onboarding
- Fully integrated with FortiSwitch secure Ethernet switches and FortiAP access points, FortiGate easily extends security to WAN, LAN, and WLAN at branch offices for unified protection and reliable connectivity
- FortiGate and Fortinet products work seamlessly with FortiManager to centralize visibility and simplify management across locations for IT teams
- FortiGate HA support ensures continuous network protection and minimizes downtime in the event of hardware failures or network disruptions



Universal ZTNA

Control access to applications no matter where the user is and no matter where the application is hosted for universal application of access policies.

- Provide extensive authentications, checks, and enforce policy prior to granting application access every time
- Agent-based access with FortiClient or agentless access via proxy portal for guest or BYOD



FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Infused with the latest threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero-day and sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. With over 18,000 signatures, our industry-leading intrusion prevention system (IPS) uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, and applying virtual patches for newly discovered vulnerabilities. Anti-malware protection defends against both known and unknown file-based threats, combining antivirus and sandboxing for multi-layered security. Application control improves security compliance and provides real-time visibility into applications and usage.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of over 300 million URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks. FortiGuard Labs blocks over 500 million malicious/phishing/ spam URLs weekly, and blocks 32,000 botnet command-and-control attempts every minute, demonstrating the robust protection offered through Fortinet.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This includes data loss prevention to ensure visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. Our inline cloud access security broker service protects data in motion, at rest, and in the cloud, enforcing compliance standards and managing account, user, and cloud app usage. Services also assess infrastructure, validate configurations, and highlight risks and vulnerabilities, including IoT device detection and vulnerability correlation.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown malware in real time, delivering sub-second protection across all NGFWs. The service also integrates the MITRE ATT&CK matrix to speed up investigations. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

OT security

With over 1000 virtual patches, 1100+ OT applications, and 3300+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.

Available in

Appliance

Virtual

Hosted

Cloud

Container

FortiOS Everywhere

FortiOS, Fortinet's Real-Time Network Security Operating System

FortiOS is the operating system that powers Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. FortiOS provides a unified framework for managing and securing networks, cloud-based, hybrid, or a convergence of IT, OT, and IoT. FortiOS enables seamless and efficient interoperation across Fortinet products with consistent and consolidated AI-powered protection across today's hybrid environments.

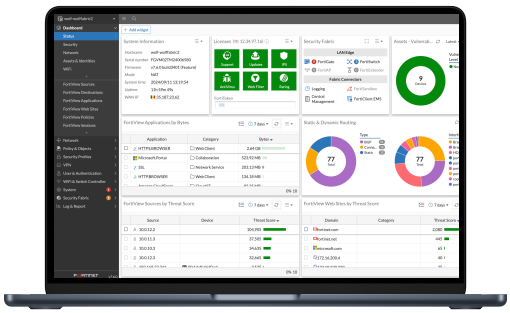
Unlike traditional point solutions, Fortinet adopts a holistic approach to cybersecurity, aiming to reduce complexities, eliminate security silos, and improve operational efficiencies. By consolidating security functions into a single platform, FortiOS simplifies management, reduces costs, and enhances overall security posture. Together, FortiGate and FortiOS create intelligent, adaptive protection to help organizations reduce complexity, eliminate security silos, and optimize user experience.

By integrating generative AI (GenAI), FortiOS further enhances the ability to analyze network traffic and threat intelligence, detects deviations or anomalies more effectively, and provides more precise remediation recommendations, ensuring minimum performance impact without compromising security.

Learn more about what's new in FortiOS. https://www.fortinet.com/products/fortigate/fortios

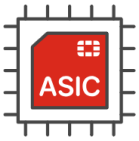


Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

Fortinet ASICs: Unrivaled Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

Secure SD-WAN ASIC SP4

- Combines a RISC-based CPU with Fortinet's proprietary SPU content and network processors for unmatched performance
- Delivers the industry's fastest application identification and steering for efficient business operations
- Accelerates IPsec VPN performance for the best user experience on direct internet access
- Enables best-of-breed NGFW security and deep SSL inspection with high performance
- Extends security to the access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

Unified Management for Optimal Security and Efficiency

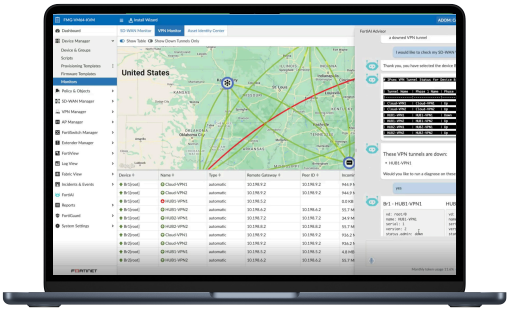
Whether you are a small business or a large enterprise, Fortinet provides centralized control, visibility, and automation for your security infrastructure.

FortiManager: Centralized management at scale for distributed enterprises

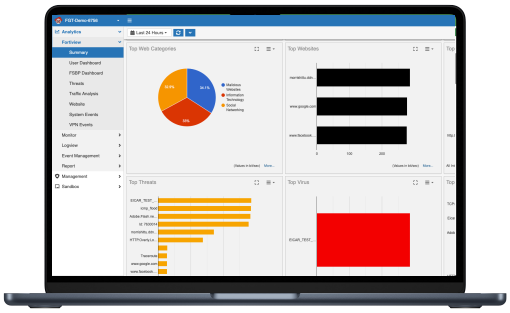
FortiManager, powered by FortiAI, is a centralized management solution for the Fortinet Security Fabric. It streamlines mass provisioning and policy management for FortiGate, FortiGate VM, cloud security, SD-WAN, SD-Branch, FortiSASE, and ZTNA in hybrid environments. Additionally, FortiManager provides real-time monitoring of the entire managed infrastructure and automates network operation workflows. Leveraging GenAI in FortiAI, it further enhances Day 0–1 configurations and provisioning, and Day N troubleshooting and maintenance, unlocking the full potential of the Fortinet Security Fabric and significantly boosting operational efficiency.

FortiGate Cloud: Simplified management for small and mid-size businesses

FortiGate Cloud is a SaaS service offering simplified management, security analytics, and reporting for Fortinet FortiGate NGFWs to help you more efficiently manage your devices and reduce cyber risk. It simplifies the initial deployment, setup, and ongoing management of FortiGates and downstream connected devices such as FortiAP, FortiSwitch, and FortiExtender, with zero-touch provisioning. It provides real-time and historical visibility into traffic analytics and security threats to reduce risks and improve security posture. View various threats, web traffic, and system events stored in the cloud for up to a year, with predefined reports to meet compliance and deliver actionable insights.



GenAI in FortiManager helps manage networks effortlessly—generate configuration and policy scripts, troubleshoot issues, and execute recommended actions.



FortiGate Cloud provides intuitive management and analytics solution with end-to-end visibility, logging and reporting for SMB.

FortiConverter Service

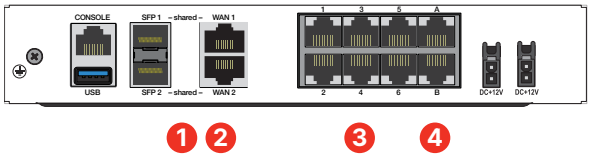
Migration to FortiGate NGFW made easy

The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

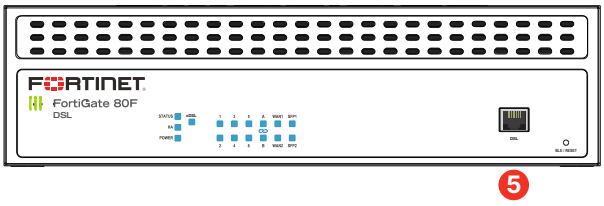
Hardware

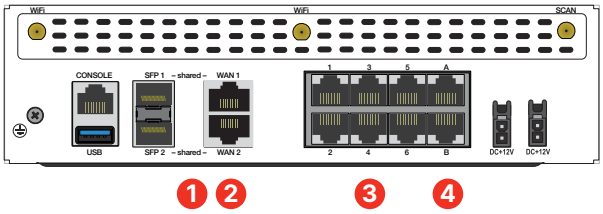
FortiGate 80F/81F
FortiGate 80F-Bypass





FortiGate 80F-DSL
FortiGate 80F/81F-POE
FortiWiFi 80F/81F-2R
FortiWiFi 81F-2R-POE



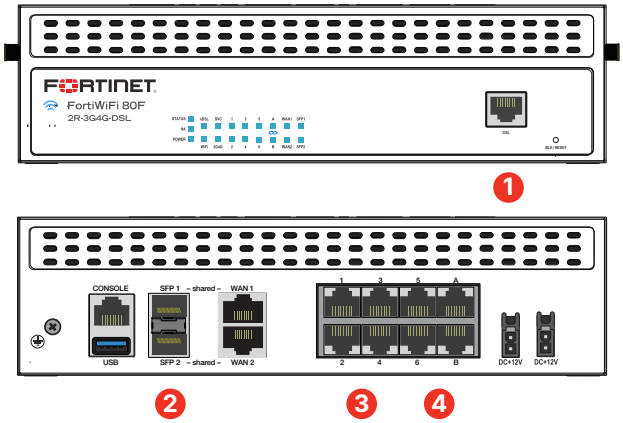


Interfaces

1. 2 x GE RJ45/SFP Shared Media Ports
2. 2 x WAN GE RJ45 Ports, FG-80F-Bypass model only: 1x Bypass GE RJ45 Port Pair (WAN1 and Port1, default configuration)
3. 6 x GE RJ45* Ports
4. 2 x GE RJ45* FortiLink Ports
5. 1 x DSL RJ11 Port (for 80F-DSL only)

* POE/+ ports for POE Variants

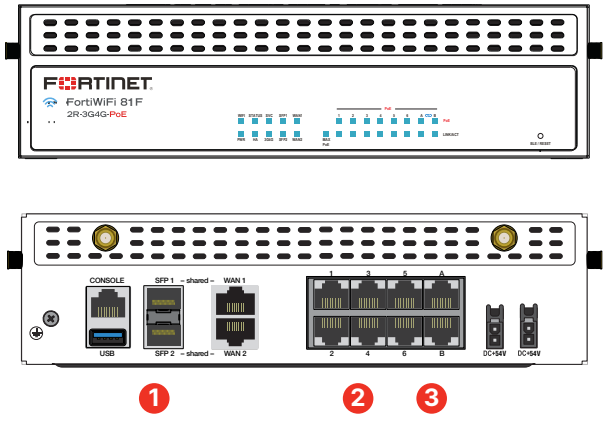
FortiWiFi 80F/81F-2R-3G4G-DSL



Interfaces

1. 1 x DSL Port (RJ11)
2. 2 x GE RJ45/SFP Shared Media Ports
3. 6 x GE RJ45 Ports
4. 2 x GE RJ45 FortiLink Ports

FortiWiFi 81F-2R-3G4G-POE



Interfaces

1. 2 x GE RJ45/SFP Shared Media Ports
2. 6 x GE RJ45 POE/+ Ports
3. 2 x GE RJ45 POE/+ FortiLink Ports

Hardware Features



Superior wireless coverage

A built-in dual-band, dual-stream access point is integrated on the FortiWiFi 80F series, which provides the industry's high-speed WiFi-6 (802.11ax) wireless access.



Trusted Platform Module (TPM)

The FortiGate 80F series features a dedicated module that hardens physical networking appliances by generating, storing, and authenticating cryptographic keys. Hardware-based security mechanisms protect against malicious software and phishing attacks.



Access layer security

FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.



Compact and reliable form factor

Designed for small environments, the FortiGate can be on a desktop or wall-mounted. It is small, lightweight, yet highly reliable with superior meantime between failures, minimizing the chance of network disruption.

Specifications

	FG-80F	FG-81F	FG-80F-BYPASS	FG-80F-POE	FG-81F-POE
Interfaces and Modules					
GE RJ45/SFP Shared Media Pairs	2	2	2	2	2
GE RJ45 Internal Ports	6	6	6	—	—
GE RJ45 FortiLink Ports (Default)	2	2	2	—	—
GE RJ45 PoE/+ Ports	—	—	—	6	6
GE RJ45 PoE/+ FortiLink Ports (Default)	—	—	—	2	2
Bypass GE RJ45 Port Pair (WAN1 & Port1, default configuration)	—	—	Yes	—	—
Wireless Interface	—	—	—	—	—
USB Ports 3.0	1	1	1	1	1
Console (RJ45)	1	1	1	1	1
Internal Storage	—	1× 128 GB SSD	—	—	1× 128 GB SSD
Trusted Platform Module (TPM)	Yes	Yes	Yes	Yes	Yes
Bluetooth Low Energy (BLE)	Yes	Yes	Yes	Yes	Yes
Signed Firmware Hardware Switch	—	—	—	—	—
System Performance — Enterprise Traffic Mix					
IPS Throughput [2]	1.4 Gbps				
NGFW Throughput [2, 4]	1 Gbps				
Threat Protection Throughput [2, 5]	900 Mbps				
System Performance and Capacity					
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)	10 / 10 / 7 Gbps				
Firewall Latency (64 byte, UDP)	3.23 µs				
Firewall Throughput (Packet per Second)	10.5 Mpps				
Concurrent Sessions (TCP)	1.5 Million				
New Sessions/Second (TCP)	45 000				
Firewall Policies	5000				
IPsec VPN Throughput (512 byte)[1]	6.5 Gbps				
Gateway-to-Gateway IPsec VPN Tunnels	200				
Client-to-Gateway IPsec VPN Tunnels	2500				
SSL-VPN Throughput	950 Mbps				
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	200				
SSL Inspection Throughput (IPS, avg HTTPS)[3]	715 Mbps				
SSL Inspection CPS (IPS, avg. HTTPS)[3]	700				
SSL Inspection Concurrent Session (IPS, avg HTTPS)[3]	100 000				
Application Control Throughput (HTTP 64K)[2]	1.8 Gbps				
CAPWAP Throughput (HTTP 64K)	9 Gbps				
Virtual Domains (Default / Maximum)	10 / 10				
Maximum Number of FortiSwitches Supported	24				
Maximum Number of FortiAPs (Total /Tunnel)	96 / 48				
Maximum Number of FortiTokens	500				
High Availability Configurations	Active-Active, Active-Passive, Clustering				

Note: All performance values are “up to” and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

Specifications

	FG-80F	FG-81F	FG-80F-BYPASS	FG-80F-POE	FG-81F-POE
Dimensions and Power					
Height x Width x Length (inches)	1.6 × 8.5 × 7.0	1.6 × 8.5 × 7.0	1.6 × 8.5 × 7.0	2.4 × 8.5 × 7.0	2.4 × 8.5 × 7.0
Height x Width x Length (mm)	40 × 216 × 178	40 × 216 × 178	40 × 216 × 178	60 × 216 × 178	60 × 216 × 178
Weight	2.4 lbs (1.1 kg)	2.4 lbs (1.1 kg)	2.6 lbs (1.2 kg)	3.1 lbs (1.4 kg)	3.1 lbs (1.4 kg)
Form Factor (supports EIA/non-EIA standards)	Desktop/ Wall Mount/ Rack Tray				
Operating Environment and Certifications					
Input Rating	12V DC, 3A (dual redundancy optional)	12V DC, 3A (dual redundancy optional)	12V DC, 3A (dual redundancy optional)	+54V DC, 3A (dual redundancy optional)	+54V DC, 3A (dual redundancy optional)
Power Required (Redundancy Optional)	Powered by up to 2 External DC Power Adapters (1 adapter included), 100–240V AC, 50/60 Hz				
Maximum Current	115VAC/0.4A, 230VAC/0.2A	115VAC/0.4A, 230VAC/0.2A	115VAC/0.4A, 230VAC/0.2A	115VAC/2.2A, 230VAC/1.1A	115VAC/1.2A, 230VAC/0.6A
Total Available PoE Power Budget*	—	—	—	96W	96W
Power Consumption (Average / Maximum)	12.69 W / 15.51 W	13.5 W / 16.5 W	12.6 W / 15.4 W	96 W / 118 W	98 W / 137 W
Heat Dissipation	52.55 BTU/h	56.30 BTU/h	52.55 BTU/h	402.26 BTU/h	467.5 BTU/h
Operating Temperature	32°F to 104°F (0°C to 40°C)				
Storage Temperature	-31°F to 158°F (-35°C to 70°C)				
Humidity	10% to 90% non-condensing				
Noise Level	Fanless 0 dBA	Fanless 0 dBA	Fanless 0 dBA	31.56 dBA	31.56 dBA
Operating Altitude	Up to 7400 ft (2250 m)				
Compliance	FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB				
Certifications	USGv6/IPv6				

* Maximum loading on each PoE/+ port is 30 W (802.3at).

Specifications

	FORTIWIFI 80F-2R	FORTIWIFI 81F-2R	FORTIWIFI 81F-2R-POE
Hardware Specifications			
GE RJ45/SFP Shared Media Pairs	2	2	2
GE RJ45 Internal Ports	6	6	—
GE RJ45 FortiLink Ports (Default)	2	2	—
GE RJ45 PoE/+ Ports	—	—	6
GE RJ45 PoE/+ FortiLink Ports (Default)	—	—	2
Bypass GE RJ45 Port Pair (WAN1 and Port1, default configuration)	—	—	—
Wireless Interface	Dual WiFi Radio (5 GHz, 2.4 GHz) 802.11a/b/g/n/ac/ax + 1 Scanning Radio		
Antenna Ports (SMA)	3	3	3
USB Ports 3.0	1	1	1
Console (RJ45)	1	1	1
Internal Storage	—	1× 128 GB SSD	1× 128 GB SSD
Trusted Platform Module (TPM)	Yes	Yes	Yes
Bluetooth Low Energy (BLE)	Yes	Yes	Yes
Signed Firmware Hardware Switch	—	—	—
Radio Specifications			
Multiple User (MU) MIMO	2×2		
Maximum Wi-Fi Speeds	574 Mbps @ 2.4 GHz, 1201 Mbps @ 5 GHz		
Maximum Tx Power	23 dBm @ 2.4 GHz, 22 dBm @ 5 GHz		
Antenna Gain	4.5dBi @ 2.4Ghz, 5.5dBi @ 5GHz		
System Performance — Enterprise Traffic Mix			
IPS Throughput [2]	1.4 Gbps		
NGFW Throughput [2, 4]	1 Gbps		
Threat Protection Throughput [2, 5]	900 Mbps		
System Performance			
Firewall Throughput (1518 / 512 / 64 byte UDP packets)	10/10/7 Gbps		
Firewall Latency (64 byte UDP packets)	3.23 µs		
Firewall Throughput (Packets Per Second)	10.5 Mpps		
Concurrent Sessions (TCP)	1.5 Million		
New Sessions/Second (TCP)	45 000		
Firewall Policies	5000		
IPsec VPN Throughput (512 byte) [1]	6.5 Gbps		
Gateway-to-Gateway IPsec VPN Tunnels	200		
Client-to-Gateway IPsec VPN Tunnels	2500		
SSL-VPN Throughput	950 Mbps		
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	200		
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	715 Mbps		
SSL Inspection CPS (IPS, avg. HTTPS) [3]	700		
SSL Inspection Concurrent Session (IPS, avg. HTTPS) [3]	100 000		
Application Control Throughput (HTTP 64K) [2]	1.8 Gbps		
CAPWAP Throughput (HTTP 64K)	9 Gbps		
Virtual Domains (Default / Maximum)	10 / 10		
Maximum Number of FortiSwitches Supported	24		
Maximum Number of FortiAPs (Total / Tunnel Mode)	96 / 48		
Maximum Number of FortiTokens	500		
High Availability Configurations	Active-Active, Active-Passive, Clustering		

Note: All performance values are "up to" and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

Specifications

	FORTIWIFI 80F-2R	FORTIWIFI 81F-2R	FORTIWIFI 81F-2R-POE
Dimensions			
Height x Width x Length (inches)	2.4 × 8.5 × 7.0	2.4 × 8.5 × 7.0	2.4 × 8.5 × 7.0
Height x Width x Length (mm)	60 × 216 × 178	60 × 216 × 178	60 × 216 × 178
Weight	3.3 lbs (1.5 kg)	3.3 lbs (1.5 kg)	3.3 lbs (1.5 kg)
Form Factor	Desktop/ Wall Mount/ Rack Tray		
Operating Environment and Certifications			
Input Rating	12V DC, 5A (dual redundancy optional)	12V DC, 5A (dual redundancy optional)	+54V DC, 5A (dual redundancy optional)
Power Required (Redundancy Optional)	Powered by up to 2 External DC Power Adapters (1 adapter included), 100–240V AC, 50/60 Hz		
Maximum Current	115VAC/0.42A, 230VAC/0.21A	115VAC/0.42A, 230VAC/0.28A	115VAC/0.9A, 230VAC/0.6A
Total Available PoE Power Budget*	—	—	96W
Power Consumption (Average / Maximum)	22.9 W / 27.9 W	24.79 W / 30.29 W	107.4 W / 131.3 W
Heat Dissipation	95.26 BTU/h	103.29 BTU/h	441.4 BTU/h
Operating Temperature	32°F to 104°F (0°C to 40°C)		
Storage Temperature	-31°F to 158°F (-35°C to 70°C)		
Humidity	10% to 90% non-condensing		
Noise Level	24.14 dBA	24.14 dBA	31.56 dBA
Operating Altitude	Up to 7400 ft (2250 m)		
Compliance	FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB		
Certifications	USGv6/IPv6		

* Maximum loading on each PoE/+ port is 30 W (802.3at).

Specifications

	FG-80F-DSL	FWF-80F-2R-3G4G-DSL	FWF-81F-2R-3G4G-DSL	FWF-81F-2R-3G4G-POE
Interfaces and Modules				
GE RJ45/SFP Shared Media Pairs	2	2	2	2
GE RJ45 Internal Ports	6	6	6	—
GE RJ45 FortiLink Ports (Default)	2	2	2	—
GE RJ45 POE/+ Ports	—	—	—	6
GE RJ45 POE/+ FortiLink Ports (Default)	—	—	—	2
DSL RJ11 Port	1	1	1	—
Cellular Modem	—	3G4G / LTE	3G4G / LTE	3G4G / LTE
Wireless Interface	—	Single Radio (2.4GHz/5GHz), 802.11a/b/g/n/ac-W2 Dual WiFi Radio (5 GHz, 2.4 GHz) 802.11a/b/g/n/ac/ax + 1 Scanning Radio	Dual WiFi Radio (5 GHz, 2.4 GHz) 802.11a/b/g/n/ac/ax + 1 Scanning Radio	Dual WiFi Radio (5 GHz, 2.4 GHz) 802.11a/b/g/n/ac/ax + 1 Scanning Radio
Antenna Ports (SMA)	—	6	6	6
USB Ports	1	1	1	1
Console Port (RJ45)	1	1	1	1
SIM Slots (Nano SIM)	—	2	2	2
Internal Storage	—	—	128 GB	128 GB
Trusted Platform Module (TPM)	—	Yes	Yes	Yes
Bluetooth Low Energy (BLE)	—	Yes	Yes	Yes
Signed Firmware Hardware Switch	—	—	—	—
System Performance — Enterprise Traffic Mix				
IPS Throughput [2]	1.4 Gbps			
NGFW Throughput [2, 4]	1 Gbps			
Threat Protection Throughput [2, 5]	900 Mbps			
System Performance and Capacity				
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)	10 / 10 / 7 Gbps			
Firewall Latency (64 byte, UDP)	3.23 µs			
Firewall Throughput (Packet per Second)	10.5 Mpps			
Concurrent Sessions (TCP)	1.5 Million			
New Sessions/Second (TCP)	45 000			
Firewall Policies	5 000			
IPsec VPN Throughput (512 byte) [1]	6.5 Gbps			
Gateway-to-Gateway IPsec VPN Tunnels	200			
Client-to-Gateway IPsec VPN Tunnels	2500			
SSL-VPN Throughput	950 Mbps			
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	200			
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	715 Mbps			
SSL Inspection CPS (IPS, avg. HTTPS) [3]	700			
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Application Control Throughput (HTTP 64K) [2]	1.8 Gbps			
CAPWAP Throughput (HTTP 64K)	9 Gbps			
Virtual Domains (Default / Maximum)	10 / 10			
Maximum Number of FortiSwitches Supported	24			
Maximum Number of FortiAPs (Total / Tunnel)	96 / 48			
Maximum Number of FortiTokens	500			
High Availability Configurations	Active-Active, Active-Passive, Clustering			

Note: All performance values are “up to” and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

Specifications

	FG-80F-DSL	FWF-80F-2R-3G4G-DSL	FWF-81F-2R-3G4G-DSL	FWF-81F-2R-3G4G-POE
Dimensions and Power				
Height x Width x Length (inches)	2.4 × 8.5 × 7.0	2.4 × 8.5 × 7.0	2.4 × 8.5 × 7.0	2.4 × 8.5 × 7.0
Height x Width x Length (mm)	60 × 216 × 178	60 × 216 × 178	60 × 216 × 178	60 × 216 × 178
Weight	3.07 lbs (1.39 kg)	3.5 lbs (1.6 kg)	3.5 lbs (1.6 kg)	3.5 lbs (1.6 kg)
Form Factor (supports EIA/non-EIA standards)	Desktop / Wallmount (optional)			
Input Rating	12V DC, 5A	12V DC, 5A	12V DC, 5A	54V DC, 2.78A
Power Required (Redundancy Optional)	Powered by up to two external DC power adapters (one adapter included), 100-240V AC, 50/60 Hz			
Current (Maximum)	115Vac/0.9A, 230Vac/0.6A			
Total Available PoE Power Budget*	—	—	—	96W
Power Consumption (Average / Maximum)	28.0 W / 31.6 W	28.07 W / 34.31 W	29.2 W / 35.6 W	109.3 W / 133.6 W
Heat Dissipation	108 BTU/h	117.0 BTU/h	121.5 BTU/h	455.6 BTU/h
Operating Environment and Certifications				
Operating Temperature	32°F to 104°F (0°C to 40°C)			
Storage Temperature	-31°F to 158°F (-35°C to 70°C)			
Humidity	10% to 90% non-condensing	20% to 90% non-condensing	20% to 90% non-condensing	20% to 90% non-condensing
Noise Level	24.14 dBA	24.14 dBA	24.14 dBA	31.56 dBA
Operating Altitude	Up to 7400 ft (2250 m)			
Compliance	FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB			
Certifications	USGv6/IPv6			
Radio Specifications				
Multiple (MU) MIMO	N/A	3×3		
Maximum Wi-Fi Speeds	N/A	1300 Mbps @ 5 GHz, 450 Mbps @ 2.4 GHz		
Maximum Tx Power	N/A	20 dBm		
Antenna Gain	N/A	3.5 dBi @ 5 GHz, 5 dBi @ 2.4 GHz		
3G4G Modem				
Maximum Tx Power	N/A	20 dBm		
Regions Supported	N/A	All Regions		
Modem Model	N/A	Sierra Wireless EM7565 (2 SIM Slots, Active/Passive)		
LTE Category	N/A	CAT-12		
LTE Bands	N/A	B1, B2, B3, B4, B5, B7, B8, B9, B12, B13, B18, B19, B20, B26, B28, B29, B30, B32, B41, B42, B43, B46, B48, B66		
UMTS/HSPA+	N/A	B1, B2, B4, B5, B6, B8, B9, B19		
WCDMA	N/A	—		
CDMA 1xRTT/EV-DO Rev A	N/A	—		
GSM/GPRS/EDGE	N/A	—		
Module Certifications	N/A	FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB		
Diversity	N/A	Yes		
MIMO	N/A	Yes		
GNSS Bias	N/A	Yes		
xDSL Modem - Supported Mode				
VDSL2	✓	✓	✓	N/A
ADSL2	✓	✓	✓	N/A
ADSL2+	✓	✓	✓	N/A
G.DMT	✓	✓	✓	N/A
T1.413	✓	✓	✓	N/A
G.Lite	✓	✓	✓	N/A
xDSL Modem - Supported Type				
Annex A, B, I,J, M & L	✓	✓	✓	N/A

* Maximum loading on each PoE/+ port is 30 W (802.3at).

Subscriptions

Service Category	Service Offering	A-la-carte	Bundles: Enterprise Protection	Bundles: Unified Threat Protection	Bundles: Advanced Threat Protection
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	•	•	•	•
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct [3], AI-based Heurestic AV, FortiGate Cloud Sandbox	•	•	•	•
	URL, DNS and Video Filtering — URL, DNS and Video [3] Filtering, Malicious Certificate	•	•	•	
	Anti-Spam		•	•	
	AI-based Inline Malware Prevention [3]	•	•		
	Data Loss Prevention (DLP) [1]	•	•		
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check	•	•		
	OT Security—OT Device Detection, OT vulnerability correlation and Virtual Patching, OT Application Control and IPS [1]	•			
	Application Control		----------included with FortiCare Subscription----------		
	Inline CASB [3]		----------included with FortiCare Subscription----------		
SD-WAN and SASE Services	SD-WAN Underlay Bandwidth and Quality Monitoring	Models up to FG/FWF-60F series			
	SD-WAN Underlay and Application Monitoring Service	FG-70F series and above			
	SD-WAN Overlay-as-a-Service	•			
	SD-WAN Connector for FortiSASE Secure Private Access	•			
	SASE expansion for SD-WAN (SD-WAN SPA Connector license plus FortiSASE starter kit for n* users) [2]	Selected models only[2]			
	SASE connector for FortiSASE Secure Edge Management (with 10Mbps Bandwidth)	Desktop models only			
NOC and SOC Services	FortiConverter Service for one time configuration conversion	•	•		
	Managed FortiGate Service—available 24×7, with Fortinet NOC experts performing device setup, network, and policy change management	•			
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	•			
	FortiManager Cloud	•			
	FortiAnalyzer Cloud	•			
	FortiGuard SOCaaS—24×7 cloud-based managed log monitoring, incident triage, and SOC escalation service	•			
Hardware and Software Support	FortiCare Essentials	Desktop models only			
	FortiCare Premium	•	•	•	•
	FortiCare Elite	•			
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing		----------included with FortiCare Subscription----------		

1. Full features available when running FortiOS 7.4.1.

2. See the FortiSASE Ordering Guide for supported models and their associated number of user licenses.

3. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.

FortiGuard AI-Powered Security Bundles for FortiGate

FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24×7×365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.

FortiCare Services

Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.

Ordering Information

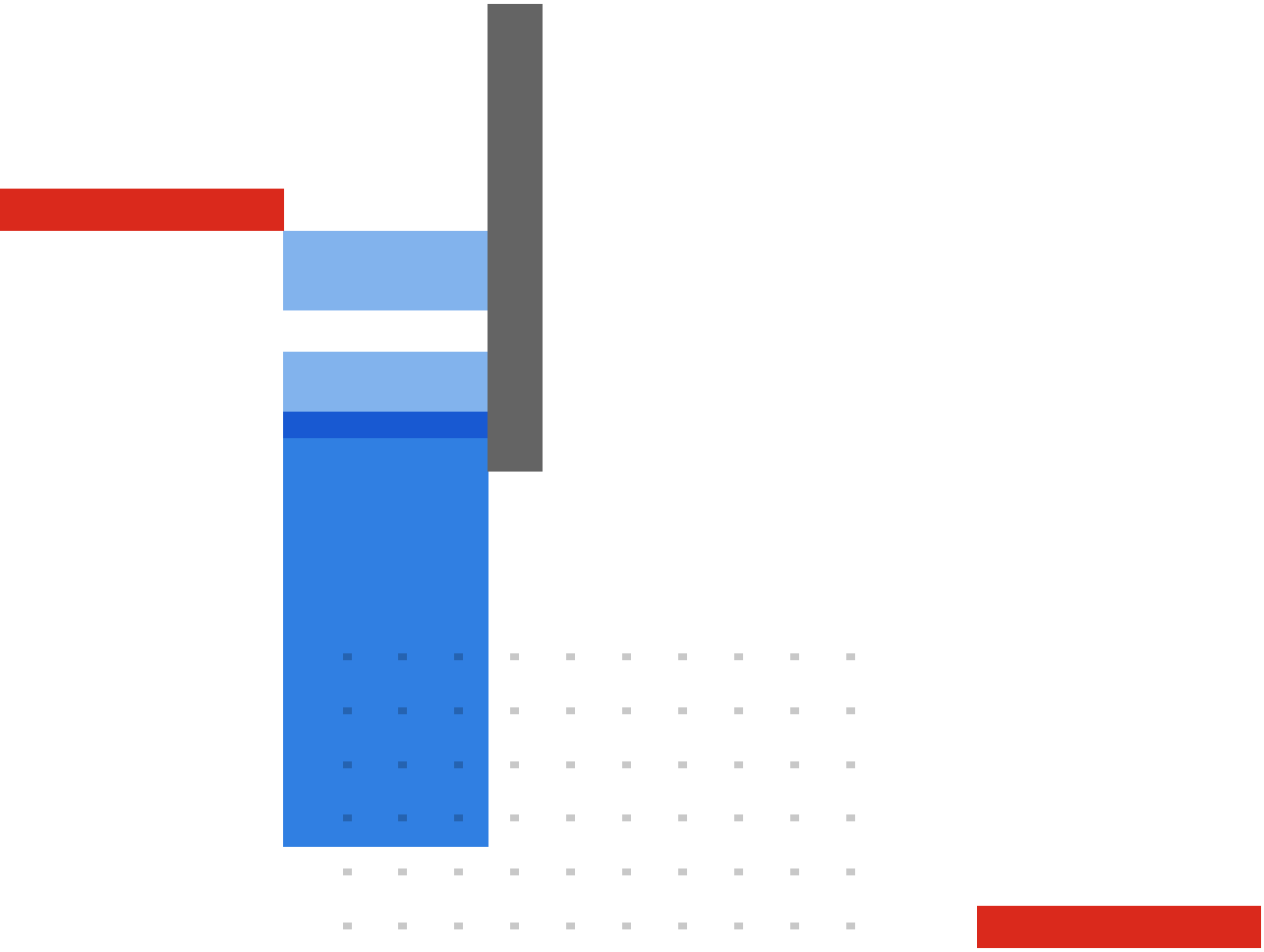
Product	SKU	Description
FortiGate 80F	FG-80F	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports.
FortiGate 80F	FG-80F-HA	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiGate 81F	FG-81F	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports, 128GB onboard storage.
FortiGate 81F	FG-81F-HA	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports, 128GB SSD. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiGate 80F-Bypass	FG-80F-Bypass	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports, may be configured with 1 pair of LAN bypass.
FortiGate 80F-Bypass	FG-80F-BYPASS-HA	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports, may be configured with 1 pair of LAN bypass. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiGate 80F-POE	FG-80F-POE	8 x GE PoE ports, 2 x RJ45/SFP shared media WAN ports.
FortiGate 80F-POE	FG-80F-POE-HA	8 x GE PoE ports, 2 x RJ45/SFP shared media WAN ports. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiGate 81F-POE	FG-81F-POE	8 x GE RJ45 PoE ports, 2 x RJ45/SFP shared media WAN ports, 128GB SSD.
FortiGate 81F-POE	FG-81F-POE-HA	8 x GE RJ45 PoE ports, 2 x RJ45/SFP shared media WAN ports, 128GB SSD. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiGate 80F-DSL	FG-80F-DSL	8 x GE RJ45 Ports, 2 x RJ45/SFP shared media WAN ports, with embedded DSL module.
FortiGate 80F-DSL	FG-80F-DSL-HA	8 x GE RJ45 Ports, 2 x RJ45/SFP shared media WAN ports, with embedded DSL module. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiWiFi 80F-2R	FWF-80F-2R-[RC]	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports, dual WiFi radio.
FortiWiFi 81F-2R	FWF-81F-2R-[RC]	8 x GE RJ45 ports, 2 x RJ45/SFP shared media WAN ports, dual WiFi radio, 128GB SSD.
FortiWiFi 81F-2R-POE	FWF-81F-2R-POE-[RC]	8 x GE RJ45 RJ45 PoE ports, 2 x RJ45/SFP shared media WAN ports, dual WiFi radio, 128GB SSD.
FortiWiFi-80F-2R-3G4G-DSL	FWF-80F-2R-3G4G-DSL-[RC]	8 x GE RJ45 Ports, 2 x GE RJ45 WAN Ports, dual WiFi radio, with embedded DSL and 3G/4G/LTE modules.
FortiWiFi-81F-2R-3G4G-DSL	FWF-81F-2R-3G4G-DSL-[RC]	8 x GE RJ45 Ports, 2 x GE RJ45 WAN Ports, dual WiFi radio, with embedded DSL and 3G/4G/LTE modules, 128GB SSD onboard storage.
FortiWiFi-81F-2R-3G4G-PoE	FWF-81F-2R-3G4G-PoE-[RC]	8 x GE RJ45 PoE/+ Ports, 2 x RJ45/SFP shared media WAN ports, dual WiFi radio, with embedded 3G/4G/LTE modules, 128GB SSD onboard storage.
Accessories	**SKU**	**Description**
AC Power Adaptor	SP-FG60E-PDC-5	Pack of 5 AC power adaptors for FG/FWF 60E/61E, 60F/61F, 70/71F, 70/71G, 80E/81E, 80/81F, 90/91G and FDC-100G. Power cable SP-FG60CPCOR-XX sold separately.
AC Power Adaptor	SP-FWF80F-PDC-5	Pack of 5 AC power adaptors for FWF-80/81F-2R, power cable SP-FG60CPCOR-XX sold separately.
AC Power Adaptor	SP-FG80E-POE-PDC	AC power adaptor for FG-60E-POE, FG-80E-POE, FG-81E-POE, FG-80/81F-POE, FWF-81F-2R-POE power cable SP-FG60CPCOR-XX sold separately.
Rack Mount Tray	SP-RACKTRAY-02	Rack mount tray for all FortiGate E series and F series desktop models.
Wall Mount Kit	SP-FG60F-MOUNT-20	Pack of 20 wall mount kits for FG/FWF-40F series, FG/FWF-60F series, FG-80F, FG-81F and FG-80F-Bypass.
Transceivers	**SKU**	**Description**
1 GE SFP RJ45 Transceiver Module	FN-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+slots.
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1GE SFP Transceiver, 90km Range, -40°/85°C Operation	FR-TRAN-ZX	1G SFP transceivers, -40°/85°C operation, 90km range for all systems with SFP Slots.

RC (regional code): A, B, D, E, F, I, J, N, P , S, V, and Y

Visit https://www.fortinet.com/resources/ordering-guides for related ordering guides.

Fortinet Corporate Social Responsibility Policy

Fortinet is committed to driving progress and sustainability for all through cybersecurity, with respect for human rights and ethical business practices, making possible a digital world you can always trust. You represent and warrant to Fortinet that you will not use Fortinet's products and services to engage in, or support in any way, violations or abuses of human rights, including those involving illegal censorship, surveillance, detention, or excessive use of force. Users of Fortinet products are required to comply with the Fortinet EULA and report any suspected violations of the EULA via the procedures outlined in the Fortinet Whistleblower Policy.



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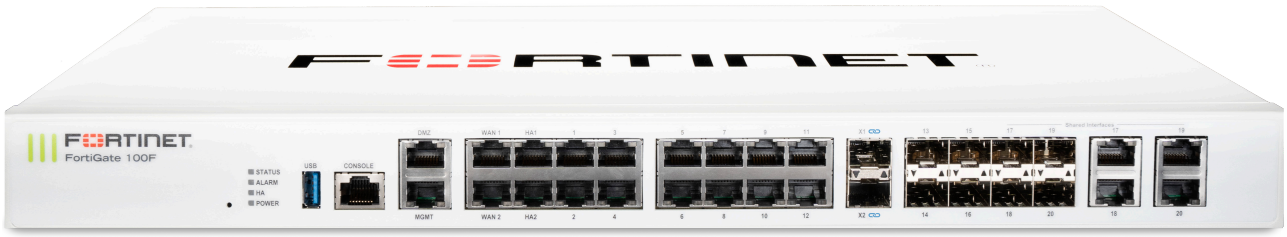
CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.12 Fortigate Firewall 100F Series – Datasheet

fortigate-100f-series

Data Sheet

FortiGate 100F Series



Highlights

Gartner® Magic Quadrant™ Leaders for both Network Firewalls and WAN Edge Infrastructure

Secure Networking with FortiOS for converged networking and security

State-of-the-art unparalleled performance with Fortinet's patented SPU and vSPU processors

Enterprise security with consolidated AI/ML-powered FortiGuard services

Deep visibility into applications, users, and devices beyond traditional firewall techniques

Artificial Intelligence, Machine Learning Security with Deep Visibility

The FortiGate 100F series next-generation firewall (NGFW) combines artificial intelligence (AI)-powered security and machine learning (ML) to deliver threat protection at any scale. Get deeper visibility into your network and see applications, users, and devices before they become threats.

Powered by a rich set of AI/ML security capabilities that extend into an integrated security fabric platform, the FortiGate 100F Series delivers secure networking that is broad, deep, and automated. Secure your network end to end with advanced edge protection that includes web, content, and device security, while network segmentation and secure SD-WAN reduce complexity and risk in hybrid IT networks. This security fabric seamlessly extends across your entire environment, including a Hybrid Mesh Firewall architecture, ensuring consistent policy enforcement and threat protection across all network segments.

Universal zero-trust network access (ZTNA) automatically controls, verifies, and facilitates user access to applications, reducing lateral threats by providing access only to validated users. Ultra-fast threat protection and SSL inspection provides security at the edge you can see without impacting performance.

IPS	NGFW	Threat Protection	Interfaces
2.6 Gbps	1.6 Gbps	1 Gbps	Multiple GE RJ45, GE SFP and 10 GE SFP+ slots

Use Cases

Next Generation Firewall (NGFW)



- FortiGuard Labs' suite of AI-Powered Security Services, natively integrated with your NGFW, secures web, content, and devices and protects networks from ransomware, malware, zero days, and sophisticated AI-powered cyberattacks
- Real-time SSL inspection (including TLS 1.3) provides full visibility into users, devices, and applications across the attack surface
- Fortinet's patented SPU technology provides industry-leading high-performance protection

Secure SD-WAN



- FortiGate WAN Edge powered by one OS and unified security and management framework and systems transforms and secures WANs
- Delivers superior quality of experience and effective security posture for hybrid working models, SD-Branch, and cloud-first WAN use cases
- Achieve operational efficiencies at any scale through automation, deep analytics, and self-healing

Universal ZTNA



- Control access to applications no matter where the user is and no matter where the application is hosted for universal application of access policies
- Provide extensive authentications, checks, and enforce policy prior to granting application access every time
- Agent-based access with FortiClient or agentless access via proxy portal for guest or BYOD

Segmentation



- Dynamic segmentation adapts to any network topology to deliver true end-to-end security from the branch to the data center and across multi-cloud environments
- Ultra-scalable, low latency, VXLAN segmentation bridges physical and virtual domains with Layer 4 firewall rules
- Prevents lateral movement across the network with advanced, coordinated protection from FortiGuard Security Services, detects and prevents known, zero-day, and unknown attacks



FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Infused with the latest threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero-day and sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. With over 18,000 signatures, our industry-leading intrusion prevention system (IPS) uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, and applying virtual patches for newly discovered vulnerabilities. Anti-malware protection defends against both known and unknown file-based threats, combining antivirus and sandboxing for multi-layered security. Application control improves security compliance and provides real-time visibility into applications and usage.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of over 300 million URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks. FortiGuard Labs blocks over 500 million malicious/phishing/ spam URLs weekly, and blocks 32,000 botnet command-and-control attempts every minute, demonstrating the robust protection offered through Fortinet.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This includes data loss prevention to ensure visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. Our inline cloud access security broker service protects data in motion, at rest, and in the cloud, enforcing compliance standards and managing account, user, and cloud app usage. Services also assess infrastructure, validate configurations, and highlight risks and vulnerabilities, including IoT device detection and vulnerability correlation.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown malware in real time, delivering sub-second protection across all NGFWs. The service also integrates the MITRE ATT&CK matrix to speed up investigations. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

OT security

With over 1000 virtual patches, 1100+ OT applications, and 3300+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.

Available in

Appliance

Virtual

Hosted

Cloud

Container

FortiOS Everywhere

FortiOS, Fortinet's Real-Time Network Security Operating System

FortiOS is the operating system that powers Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. FortiOS provides a unified framework for managing and securing networks, cloud-based, hybrid, or a convergence of IT, OT, and IoT. FortiOS enables seamless and efficient interoperation across Fortinet products with consistent and consolidated AI-powered protection across today's hybrid environments.

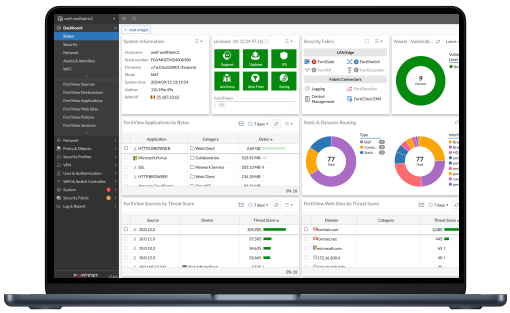
Unlike traditional point solutions, Fortinet adopts a holistic approach to cybersecurity, aiming to reduce complexities, eliminate security silos, and improve operational efficiencies. By consolidating security functions into a single platform, FortiOS simplifies management, reduces costs, and enhances overall security posture. Together, FortiGate and FortiOS create intelligent, adaptive protection to help organizations reduce complexity, eliminate security silos, and optimize user experience.

By integrating generative AI (GenAI), FortiOS further enhances the ability to analyze network traffic and threat intelligence, detects deviations or anomalies more effectively, and provides more precise remediation recommendations, ensuring minimum performance impact without compromising security.

Learn more about what's new in FortiOS. https://www.fortinet.com/products/fortigate/fortios

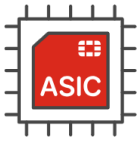


Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

Fortinet ASICs: Unrivaled Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

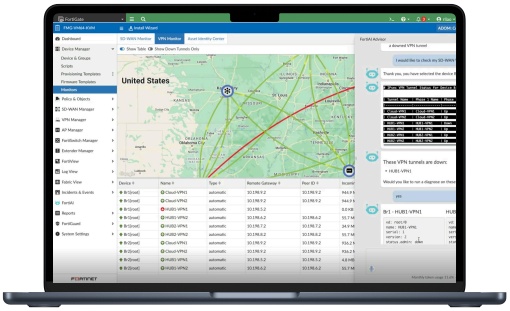
Secure SD-WAN ASIC SP4

- Combines a RISC-based CPU with Fortinet's proprietary SPU content and network processors for unmatched performance
- Delivers the industry's fastest application identification and steering for efficient business operations
- Accelerates IPsec VPN performance for the best user experience on direct internet access
- Enables best-of-breed NGFW security and deep SSL inspection with high performance
- Extends security to the access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

FortiManager

Centralized management at scale for distributed enterprises

FortiManager, powered by FortiAI, is a centralized management solution for the Fortinet Security Fabric. It streamlines mass provisioning and policy management for FortiGate, FortiGate VM, cloud security, SD-WAN, SD-Branch, FortiSASE, and ZTNA in hybrid environments. Additionally, FortiManager provides real-time monitoring of the entire managed infrastructure and automates network operation workflows. Leveraging GenAI in FortiAI, it further enhances Day 0–1 configurations and provisioning, and Day N troubleshooting and maintenance, unlocking the full potential of the Fortinet Security Fabric and significantly boosting operational efficiency.



GenAI in FortiManager helps manage networks effortlessly—generates configuration and policy scripts, troubleshoots issues, and executes recommended actions.

FortiConverter Service

Migration to FortiGate NGFW made easy

The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

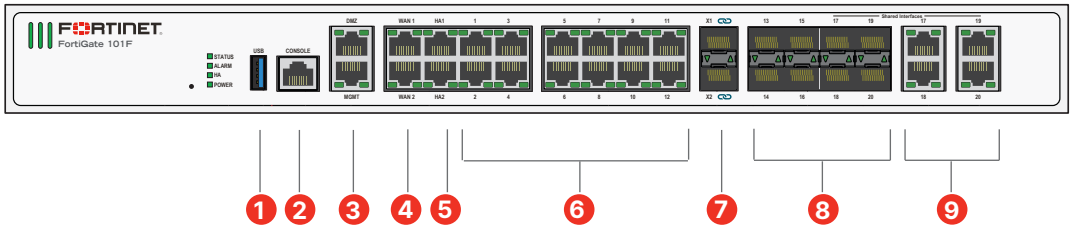
FortiCare Services

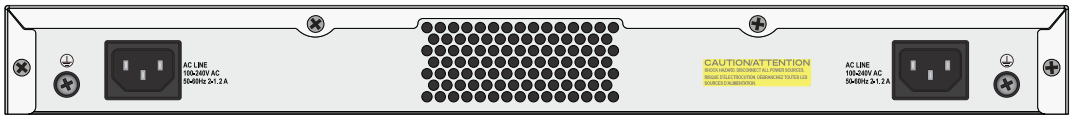
Expertise at your service

Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.

Hardware

FortiGate 100F Series





Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 2 x GE RJ45 MGMT/DMZ Ports
4. 2 x GE RJ45 WAN Ports
5. 2 x GE RJ45 HA Ports
6. 12 x GE RJ45 Ports
7. 2 × 10 GE SFP+ FortiLink Slots
8. 4 x GE SFP Slots
9. 4 x GE RJ45/ SFP Shared Media Pairs

Hardware Features

SP4 | 1RU | DUAL AC | 480GB



Dual power supply

Power supply redundancy is essential in the operation of mission-critical networks. The FortiGate 100F series offers dual built-in non-hot swappable power supplies.



Access layer security

FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.

Specifications

	FORTIGATE 100F	FORTIGATE 101F
Interfaces and Modules		
Hardware Accelerated GE RJ45 Ports	12	
Hardware Accelerated GE RJ45 Management/ HA/ DMZ Ports	1 / 2 / 1	
Hardware Accelerated GE SFP Slots	4	
Hardware Accelerated 10 GE SFP+ FortiLink Slots (default)	2	
GE RJ45 WAN Ports	2	
GE RJ45 or SFP Shared Ports *	4	
USB Port	1	
Console Port	1	
Onboard Storage	0	1× 480 GB SSD
Trusted Platform Module (TPM)	—	
Bluetooth Low Energy (BLE)	—	
Signed Firmware Hardware Switch	—	
Included Transceivers	0	
System Performance — Enterprise Traffic Mix		
IPS Throughput [2]	2.6 Gbps	
NGFW Throughput [2, 4]	1.6 Gbps	
Threat Protection Throughput [2, 5]	1 Gbps	
System Performance and Capacity		
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)	20 / 18 / 10 Gbps	
Firewall Latency (64 byte, UDP)	4.97 µs	
Firewall Throughput (Packet per Second)	15 Mpps	
Concurrent Sessions (TCP)	1.5 Million	
New Sessions/Second (TCP)	56 000	
Firewall Policies	10 000	
IPsec VPN Throughput (512 byte) [1]	11.5 Gbps	
Gateway-to-Gateway IPsec VPN Tunnels	2000	
Client-to-Gateway IPsec VPN Tunnels	16 000	
SSL-VPN Throughput	1 Gbps	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	500	
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	1 Gbps	
SSL Inspection CPS (IPS, avg. HTTPS) [3]	1800	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) [3]	135 000	
Application Control Throughput (HTTP 64K) [2]	2.2 Gbps	
CAPWAP Throughput (HTTP 64K)	15 Gbps	
Virtual Domains (Default / Maximum)	10 / 10	
Maximum Number of FortiSwitches Supported	32	
Maximum Number of FortiAPs (Total / Tunnel)	128 / 64	
Maximum Number of FortiTokens	5000	
High Availability Configurations	Active-Active, Active-Passive, Clustering	

	FORTIGATE 100F	FORTIGATE 101F
Dimensions and Power		
Height x Width x Length (inches)	1.73 × 17 × 10	
Height x Width x Length (mm)	44 × 432 × 254	
Weight	7.25 lbs (3.29 kg)	7.56 lbs (3.43 kg)
Form Factor (supports EIA/non-EIA standards)	Rack Mount, 1 RU	
AC Power Supply	100–240V AC, 50/60 Hz	
Power Consumption (Average / Maximum)	26.5 W / 29.5 W	35.3 W / 39.1 W
Current (Maximum)	100V / 1A, 240V / 0.5A	
Heat Dissipation	100.6 BTU/h	121.13 BTU/h
Redundant Power Supplies	Yes (Default dual non-swappable AC PSU for 1+1 Redundancy)	
Power Supply Efficiency Rating	80Plus Compliant	
Operating Environment and Certifications		
Operating Temperature	32°F to 104°F (0°C to 40°C)	
Storage Temperature	-31°F to 158°F (-35°C to 70°C)	
Humidity	10% to 90% non-condensing	
Noise Level	40.4 dBA	
Forced Airflow	Side to Back	
Operating Altitude	Up to 10 000 ft (3048 m)	
Compliance	FCC Part 15B, Class A, CE, RCM, VCCI, UL/cUL, CB, BSMI	
Certifications	USGv6/IPv6	

* Latency based on Ultra Low Latency (ULL ports)

Note: All performance values are "up to" and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

[6] Uses RSA-2048 certificate.

Subscriptions

			Bundles		
Service Category	Service Offering	A-la-carte	Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	•	•	•	•
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct [3], AI-based Heurestic AV, FortiGate Cloud Sandbox	•	•	•	•
	URL, DNS and Video Filtering — URL, DNS and Video [3] Filtering, Malicious Certificate	•	•	•	
	Anti-Spam		•	•	
	AI-based Inline Malware Prevention [3]	•	•		
	Data Loss Prevention (DLP) [1]	•	•		
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check	•	•		
	OT Security—OT Device Detection, OT vulnerability correlation and Virtual Patching, OT Application Control and IPS [1]	•			
	Application Control		----------included with FortiCare Subscription----------		
	Inline CASB [3]		----------included with FortiCare Subscription----------		
SD-WAN and SASE Services	SD-WAN Underlay Bandwidth and Quality Monitoring	Models up to FG/FWF-60F series			
	SD-WAN Underlay and Application Monitoring Service	FG-70F series and above			
	SD-WAN Overlay-as-a-Service	•			
	SD-WAN Connector for FortiSASE Secure Private Access	•			
	SASE expansion for SD-WAN (SD-WAN SPA Connector license plus FortiSASE starter kit for n* users) [2]	Selected models only[2]			
	SASE connector for FortiSASE Secure Edge Management (with 10Mbps Bandwidth)	Desktop models only			
NOC and SOC Services	FortiConverter Service for one time configuration conversion	•	•		
	Managed FortiGate Service—available 24×7, with Fortinet NOC experts performing device setup, network, and policy change management	•			
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	•			
	FortiManager Cloud	•			
	FortiAnalyzer Cloud	•			
	FortiGuard SOCaaS—24×7 cloud-based managed log monitoring, incident triage, and SOC escalation service	•			
Hardware and Software Support	FortiCare Essentials	Desktop models only			
	FortiCare Premium	•	•	•	•
	FortiCare Elite	•			
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing		----------included with FortiCare Subscription----------		

1. Full features available when running FortiOS 7.4.1.

2. See the FortiSASE Ordering Guide for supported models and their associated number of user licenses.

3. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.

FortiGuard Bundles

FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24×7×365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.

Ordering Information

Product	SKU	Description
FortiGate 100F	FG-100F	22x GE RJ45 ports (including 2x WAN ports, 1x DMZ port, 1x Mgmt port, 2x HA ports, 16x switch ports with 4 SFP port shared media), 4 SFP ports, 2× 10 GE SFP+ FortiLinks, dual power supplies redundancy.
FortiGate 100F	FG-100F-HA	22 x GE RJ45 ports (including 2 x WAN ports, 1 x DMZ port, 1 x Mgmt port, 2 x HA ports, 16 x switch ports with 4 SFP port shared media), 4 SFP ports, 2× 10G SFP+ FortiLinks, dual power supplies redundancy. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
FortiGate 101F	FG-101F	22x GE RJ45 ports (including 2x WAN ports, 1x DMZ port, 1x Mgmt port, 2x HA ports, 16x switch ports with 4 SFP port shared media), 4 SFP ports, 2× 10 GE SFP+ FortiLinks, 480 GB onboard storage, dual power supplies redundancy.
FortiGate 101F	FG-101F-HA	22 x GE RJ45 ports (including 2 x WAN ports, 1 x DMZ port, 1 x Mgmt port, 2 x HA ports, 16 x switch ports with 4 SFP port shared media), 4 SFP ports, 2× 10G SFP+ FortiLinks, 480GB onboard storage, dual power supplies redundancy. FG-XX-HA SKUs must be bought in pairs and entitle HA pair to leverage single service contracts.
Transceivers		
1 GE SFP RJ45 Transceiver Module	FN-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+slots.
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE SFP+ RJ45 Transceiver Module	FN-TRAN-SFP+GC	10 GE SFP+ RJ45 transceiver module for systems with SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FN-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Long Range	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, extended range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 80km Extreme Long Range	FN-TRAN-SFP+ZR	10 GE SFP+ transceiver module, 80km extreme long range, for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 30 km Long Range	FN-TRAN-SFP+BD27	10 GE SFP+ transceiver module, 30KM long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD33, ordered separately).
10 GE SFP+ Transceiver Module, 30 km Long Range	FN-TRAN-SFP+BD33	10 GE SFP+ transceiver module, 30KM long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD27, ordered separately).
Cables		
10 GE SFP+ Passive Direct Attach Cable 1m	FN-CABLE-SFP+1	10 GE SFP+ passive direct attach cable, 1m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable 3m	FN-CABLE-SFP+3	10 GE SFP+ passive direct attach cable, 3m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable 5m	FN-CABLE-SFP+5	10 GE SFP+ passive direct attach cable, 5m for systems with SFP+ and SFP/SFP+ slots.

Visit https://www.fortinet.com/resources/ordering-guides for related ordering guides.

Fortinet Corporate Social Responsibility Policy

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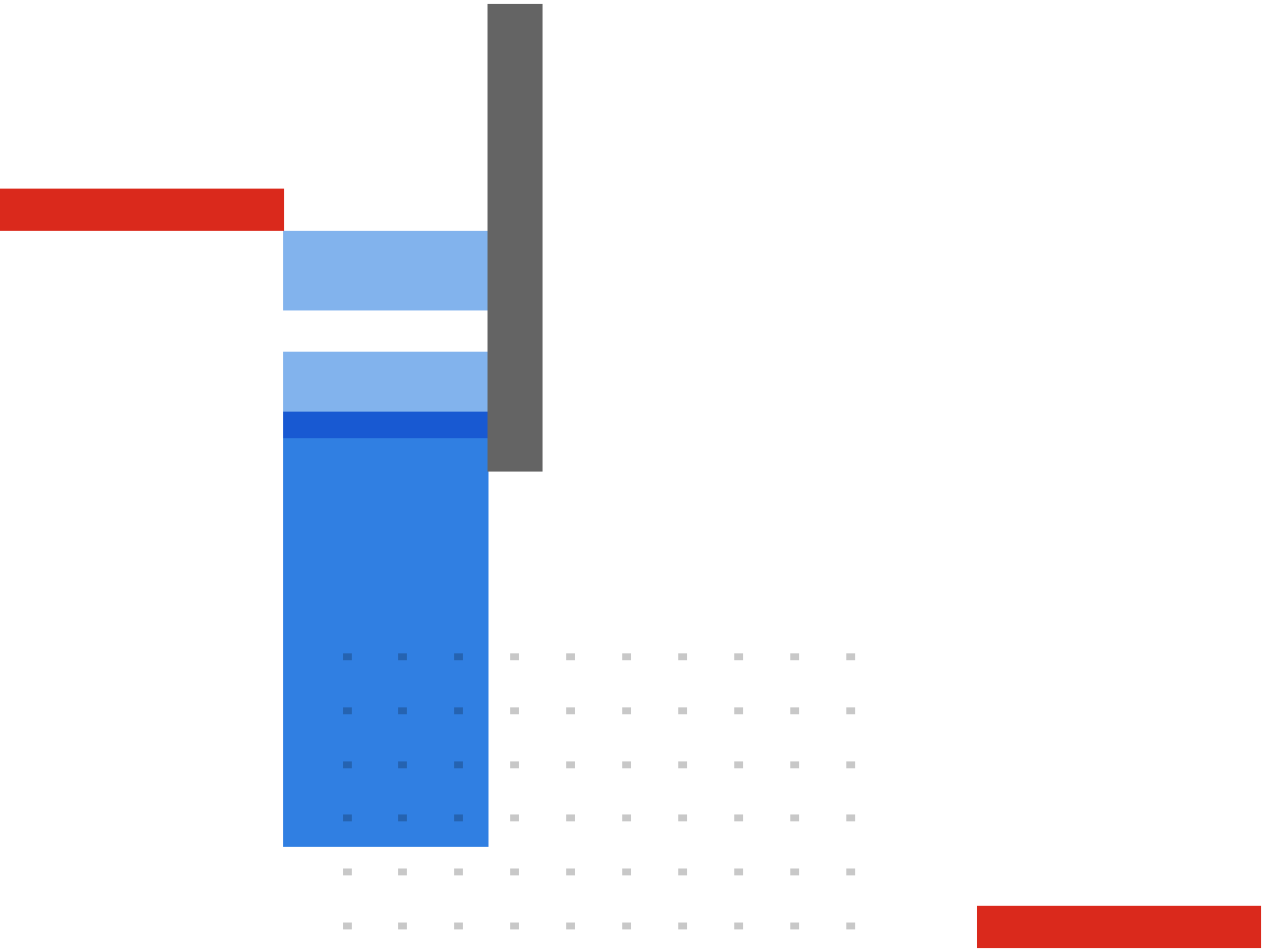

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.13 MOXA MGate 5103 Series – Datasheet

moxa-mgate-5103-series

MGate 5103 Series

1-port Modbus RTU/ASCII/TCP/EtherNet/IP-to-PROFINET gateways



Features and Benefits

- Converts Modbus, or EtherNet/IP to PROFINET
- Supports PROFINET IO device
- Supports Modbus RTU/ASCII/TCP master/client and slave/server
- Supports EtherNet/IP Adapter
- Effortless configuration via web-based wizard
- Built-in Ethernet cascading for easy wiring
- Embedded traffic monitoring/diagnostic information for easy troubleshooting
- microSD card for configuration backup/duplication and event logs
- Status monitoring and fault protection for easy maintenance
- Serial port with 2 kV isolation protection
- -40 to 75°C wide operating temperature models available
- Supports redundant dual DC power inputs and 1 relay output
- Security features based on IEC 62443

Certifications

Introduction

The MGate 5103 is an industrial Ethernet gateway for converting Modbus RTU/ASCII/TCP or EtherNet/IP to PROFINET-based network communications. To integrate existing Modbus devices onto a PROFINET network, use the MGate 5103 as a Modbus master/slave or EtherNet/IP adapter to collect data and exchange data with PROFINET devices. The latest exchange data will be stored in the gateway. The gateway will convert stored Modbus or EtherNet/IP data into PROFINET packets so the PROFINET IO Controller can control or monitor field devices.

Easy Configuration via Web Console

The MGate 5103 Series comes with an illustrated Quick Setup guide designed to make configuration easy. With Quick Setup, you can easily access protocol conversion modes and finish the configuration in a few steps. The MGate 5103 Series also supports a GSDML export function. GSDML files can be imported into PROFINET PLCs to save time on PLC configuration.

Modbus RTU/ASCII/TCP Protocol Traffic Monitor

MGate 5103 gateways support Modbus RTU/ASCII/TCP Protocol Traffic Monitor for easy troubleshooting, especially during the installation stage. Communication issues could be caused by incorrect software parameters, such as slave IDs and register addresses, that were entered incorrectly, or an incorrect command configuration. With Modbus RTU/ASCII/TCP Protocol Traffic Monitor, you can check the captured data and easily identify the root cause.

Maintenance Functions

MGate 5103 gateways support a system log function that records events in the MGate; users can easily review log data remotely through the web console. The gateways also support status monitoring and fault protection functions. The status monitoring function notifies a PLC/DCS/SCADA system when a Modbus device gets disconnected or does not respond, in which case the process PLC/DCS gets the status of each end device and then issues alarms to notify operators.

Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2 Auto MDI/MDI-X connection
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Industrial Protocols	PROFINET IO Device Modbus TCP Client (Master) Modbus TCP Server (Slave) EtherNet/IP Adapter
Configuration Options	Web Console (HTTP/HTTPS) Device Search Utility (DSU) Telnet Console
Management	ARP DHCP Client DNS HTTP HTTPS SMTP SNMP Trap SNMPv1/v2c/v3 TCP/IP Telnet SSH UDP NTP Client
MIB	RFC1213, RFC1317
Time Management	NTP Client

Security Functions

Authentication	Local database
Encryption	HTTPS AES-128 AES-256 SHA-256
Security Protocols	SNMPv3 SNMPv2c Trap HTTPS (TLS 1.3)

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)
No. of Ports	1
Connector	DB9 male
Serial Standards	RS-232/422/485
Baudrate	50 bps to 921.6 kbps
Data Bits	7, 8
Parity	None Even Odd Space Mark
Stop Bits	1, 2
Flow Control	RTS Toggle (RS-232 only) RTS/CTS
RS-485 Data Direction Control	Automatic Data Direction Control (ADDC)
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms

Terminator for RS-485	120 ohms
Isolation	2 kV (built-in)

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Serial Software Features

Configuration Options	Serial Console
Industrial Protocols	Modbus RTU/ASCII Master Modbus RTU/ASCII Slave

Modbus RTU/ASCII

Mode	Master, Slave
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Commands	128
Input Data Size	512 bytes
Output Data Size	512 bytes

Modbus TCP

Mode	Client (Master), Server (Slave) Client (Master), Server (Slave)
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Client Connections	16
Max. No. of Server Connections	32
Max. No. of Commands	128
Input Data Size	512 bytes
Output Data Size	512 bytes

PROFINET

Mode	IO Device IO Device
Max. No. of IO Controller Connections	1 (for read/write)
Input Data Size	512 bytes
Output Data Size	512 bytes

EtherNet/IP

Mode	Adapter
CIP Objects Supported	Identity Message Router Assembly Connection Manager TCP/IP interface

	Ethernet link Port
Max. No. of Scanner Connections	1 (for read-only), 1 (for read/write)
Input Data Size	496 bytes
Output Data Size	496 bytes

Memory

microSD Slot	Up to 32 GB (SD 2.0 compatible)

Power Parameters

Input Voltage	12 to 48 VDC
Input Current	455 mA @ 12 VDC
Power Connector	Screw-fastened Euroblock terminal

Relays

Contact Current Rating	Resistive load: 2 A @ 30 VDC

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in)
Weight	507 g (1.12 lb)

Environmental Limits

Operating Temperature	MGate 5103: 0 to 60°C (32 to 140°F) MGate 5103-T: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class B
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF
Safety	EN 62368-1 UL 508
Hazardous Locations	ATEX Class I Division 2 IECEx
Freefall	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6 IEC 60068-2-64

MTBF

Time	859,422 hrs
Standards	Telcordia SR332

Warranty

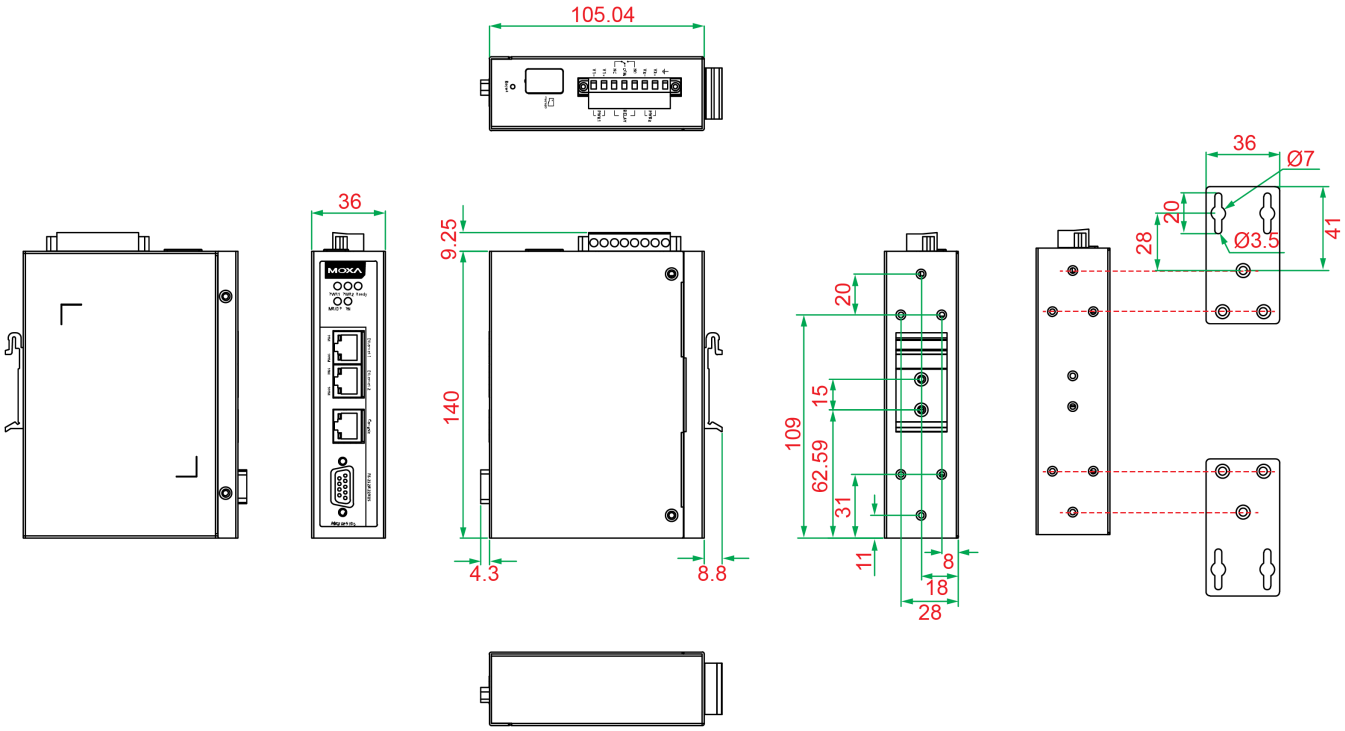
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x MGate 5103 Series gateway
Cable	1 x RJ45-to-DB9 console cable
Installation Kit	1 x DIN-rail kit
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm



Ordering Information

Model Name	Operating Temp.
MGate 5103	0 to 60°C
MGate 5103-T	-40 to 75°C

Accessories (sold separately)

Cables

CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m

CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
CBL-RJ45F9-150	8-pin RJ45 to DB9 female serial cable, 1.5m
CBL-RJ45SF9-150	8-pin RJ45 to DB9 female serial cable with shielding, 1.5m

Connectors

Mini DB9F-to-TB	DB9 female to terminal block connector

DIN-Rail Mounting Kits

DK-25-01	DIN-rail mounting kit, 2 screws

Wall-Mounting Kits

WK-36-02	DIN-rail/wall-mounting kit, 2 plates, 6 screws

Power Cords

CBL-PJTB-10	Non-locking barrel plug to bare-wire cable

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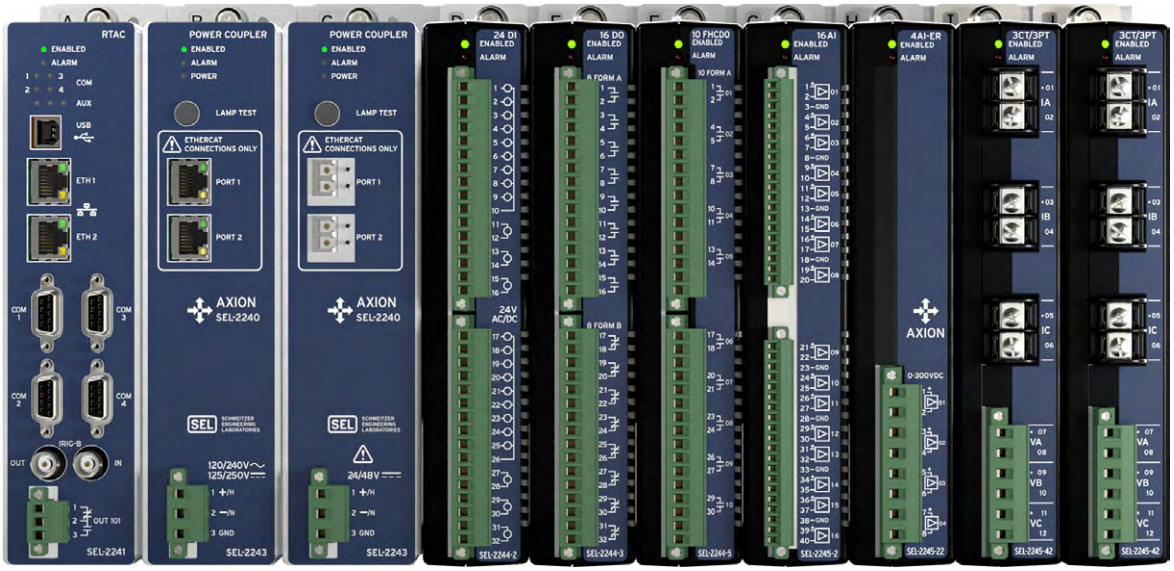
CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3.14 SEL-2240 Axion – Product Overview

SEL 2240- Axion

SEL-2240 Axion

Rugged Digital I/O, Analog I/O, Current and Voltage Measurements, and Control for Your Toughest Applications



The SEL Axion® is a fully integrated modular digital I/O, analog I/O, current and voltage measurement, and control solution suitable for many utility and industrial applications. It combines the communications, built-in security, and IEC 61131 logic engine of the SEL Real-Time Automation Controller (RTAC) family with a durable suite of I/O modules that provide high-speed, deterministic, control performance over an EtherCAT® backplane.

Major Features and Benefits

- **High-Speed and High-Accuracy DC Analog Control.** The Axion DC Analog Output module provides high-accuracy current and voltage control signals for low-level self-wetted (sourcing) control applications.
- **Proportional Integral Derivative (PID) Control.** The PID function block provides advanced closed-loop control for analog set points commonly used in generator and process control.
- **Synchronized Current and Voltage Measurements.** Retrieve high-accuracy current and voltage measurements with the advantage of synchronized measurements. Multiple CT/PT modules in an Axion system sample all measurements at the same time to ensure a common reference for all voltages and currents. This enables many time-deterministic control applications without performing additional processing to align the measurements to a reference. Use this capability to accomplish complex control schemes including load shedding, microgrid control, and autosynchronization.
- **Top of Second Synchronized Measurements.** When connected to IRIG, synchronize the measurement of all CT/PT modules to the top of the second. This enables Axions in geographically dispersed locations to run algorithms on voltage and current measurements and provide time-aligned data from all the Axion modules. This expands time-deterministic control capability to wide-area applications because the CT/PT measurements from multiple Axion systems are all synchronized.

- **Protection Against Malware and Other Cybersecurity Threats.** Protect your RTAC system with exe-GUARD®, which uses advanced cryptographic algorithms to authorize the execution of any program or service on the system. Any tasks not approved by the whitelist are blocked from operation.
- **RTU and PLC in a Single System.** Employ the Axion's I/O, SCADA communications, and control logic support in many industrial and utility applications.
- **Simple Setup With ACSELERATOR RTAC® SEL-5033 Software.** Use standard device templates to build a system, including I/O modules, quickly.
- **Flexible I/O Selections.** Choose a custom mix of digital and analog I/O modules that suit the application. Include hundreds of points in a single panel, all connected to a deterministic EtherCAT backplane.
- **Advanced User Authentication and System Security.** Enforce LDAP user accounts to maintain security perimeter integrity. Apply corporate logging and port control policies to comply with NERC/CIP requirements.
- **Integrated Web-Based Human-Machine Interface (HMI).** Integrate the SEL-2241 RTAC module directly into the Axion system. The RTAC, via the embedded web server, includes a flexible graphical HMI system.
- **Deterministic I/O Performance.** Update connected I/O at a deterministic frequency; all inputs provide 1 ms Sequential Events Recorder (SER) time stamps.
- **More than SCADA.** Go beyond SCADA by using the Axion industry-standard communications protocols to enable multiple SCADA connections, as well as distributed control networks, among many stations.
- **Networking Options.** Implement I/O networks that use optional fiber-optic cables to provide outstanding signal isolation and flexibility in module placement.
- **Standard IEC 61131-3 Logic Design.** Create innovative logic solutions directly in ACSELERATOR RTAC by using editor tools such as Ladder Diagram, Tag Processor, Structured Text, or Continuous Function Chart.
- **Redundant Power Supplies.** Install optional dual SEL-2243 power couplers for applications needing redundant power sources.

Product Overview

Functional Diagram

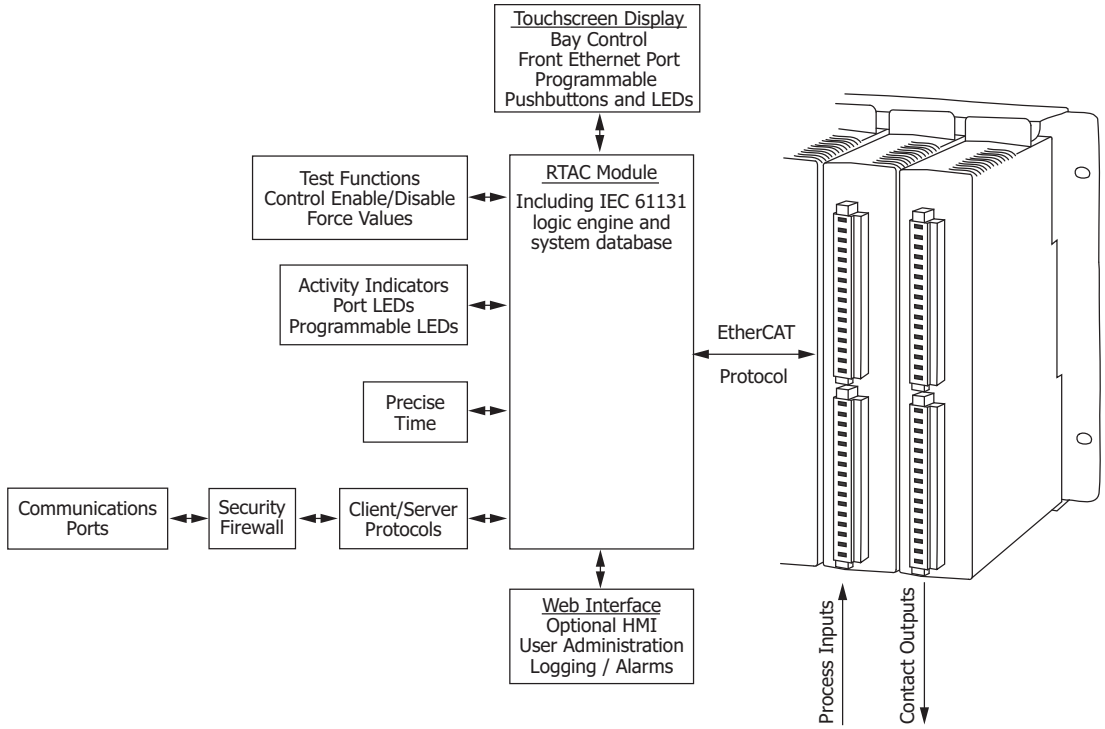


Figure 1 Functional Diagram

Flexible System Architecture

Today's monitoring and control applications need flexible system architectures and integrated security. The Axion meets these needs by using SEL RTAC as the system CPU. Two configurations are possible. There can be an SEL-2241 RTAC module installed directly in the Axion node, or the node can be connected to a standalone RTAC. A standalone SEL RTAC (e.g., SEL-3350) connects via Ethernet to an SEL-2240 node.

NOTE: The SEL-2242 backplane with 7-inch touchscreen display is only compatible with the SEL-2241 RTAC module in Slot A. See the SEL-2240 Axion Bay Controller data sheet for more details.

SEL designs all Axion hardware to published standards (see *Specifications*) and performs tests to verify that each component exceeds standards by adequate margins. The Power Coupler module (model SEL-2243) is a highly reliable device that uses the same power supply technology presently in use in SEL protective relays. Configure the SEL Axion to include single or redundant power couplers for critical applications. In redundant configurations, the pair of SEL-2243 modules actively share loads to supply power for the entire node. If one module should become unavailable, the remaining power coupler can accommodate the entire node with no loss of system capability. Employ dual power couplers for installations where you have dual power sources, one that is ac and one that is dc.



Figure 2 Modules Installed in Chassis/Backplane

Each Axion node is mounted in a chassis/backplane (model SEL-2242) that provides a means for each node to include a custom arrangement of modules. A single node can contain as many as nine modules. Use any combination, quantity, and sequence of modules that suits the application.

The node does not need to be entirely full to function properly. Leave empty slots for future expansion as necessary. Many RTU and control systems need more I/O points than will fit in a single Axion node. In those cases, use the EtherCAT protocol to connect multiple nodes together via a real-time Ethernet network. Through use of an Axion system EtherCAT network, you can use as many as 60 modules in a single network with no loss of

speed or determinism. The *Applications* section explores several possible network configurations. In each implementation, a single RTAC module provides logic functions and data concentration for the entire network.

RTU and PLC Functionality

The Axion is both a remote terminal unit (RTU) and ultra-rugged programmable logic controller (PLC). All the modules are rated from –40°C to +85°C and can optionally include conformal coating. The system is designed to be flexible; use the right combination of modules and nodes, in almost any arrangement, to suit the job. The SEL-2244 Digital Output Module has trip-rated contacts (30 A make, 6 A carry) to limit the need for interposing relays.

The SEL-2241, SEL-3530, and SEL-3530-4 RTACs all interface seamlessly with the I/O modules and provide easy integration with other serial and Ethernet devices via preinstalled communications protocols. The RTACs also support multiple SCADA/HMI channels. For high-speed communication, use EtherCAT fieldbus connections to I/O modules or optional IEC 61850 GOOSE messaging with station IEDs. Poll data sets and reports from other IEDs with optional IEC 61850 MMS client.

With the Axion, you need no optional hardware or software to have the programmable logic engine required for many applications. Each RTAC includes an IEC 61131 logic engine that ships preconfigured to provide access for all system tags, intelligent electronic device (IED) and I/O data, diagnostics, alarms, security events, and communications statistics. The RTAC provides unified tag mapping between protocols and programmable logic that simplifies developing applications. You simply use any necessary IED and I/O data, calculated values, and system tags in deterministic logic for the control of critical applications.

Management of the task processing sequence and solve rate in the RTAC is similar to that for traditional PACs. Optimize processor use by setting the processing rate no faster than necessary for your application.

Task processing in the logic engine includes protocols, I/O, system management, and any custom logic programs you create using Structured Text (ST), Ladder Logic Diagrams (LD), or Continuous Function Charts (CFC). CFC programs are type of IEC 61131-3 Function Block Diagram (FBD) that provide more programming flexibility than standard FBDs. The ACSELERATOR RTAC software, free of charge with purchase of an SEL RTAC, includes the IEC 61131-3 and Tag Processor editors you will use to manage any protocol information and custom logic necessary for your system.

Secure Operation

You can use the built-in web interface to manage user accounts and system alarms remotely. Each user account has a unique username, password, and assigned role that defines system permissions. You can also configure the system to use LDAP central authentication for user account management. There are webpages for monitoring user logs and maintaining network policies.

By enabling Ethernet and serial ports independently, you can minimize any security threat from unused but enabled ports. Employ SSH encryption for remote engineering access to further protect the system. Combine the Axion with other SEL security solutions to simply deploy a solution that meets your needs for maintaining a secure electronic perimeter for the control system.

Seamless System Configuration

ACSELERATOR RTAC is a Microsoft® Windows®-compatible configuration software for offline and online use with the SEL-2241, SEL-3530, and SEL-3530-4 RTACs. A project in ACSELERATOR RTAC contains the complete configuration, settings, and logic for an individual RTAC device. Preconfigured device and I/O module templates are available for you to quickly create all device and master connections for the project.

Once you create the settings for a specific device connection, improve engineering efficiency by saving a custom device template for later use with similar projects. Share custom templates via email or network for even greater savings. The application also includes complete project templates for some common project types.

Use the intuitive ribbon interface to configure all the I/O modules and device connections for the project. The Project View in the left pane lets you organize and quickly see everything in the project. The Tag Processor view facilitates the mapping of operational data between IEDs and SCADA. ACSELERATOR RTAC is compatible with Microsoft Excel and other programs, so you can save time and increase accuracy by copying SCADA maps from the source document.

There is no need to install or learn more than one software interface. Use the included Structured Text, Ladder Diagram, or Continuous Function Chart editors to develop custom IEC 61131 logic.

Enable remote monitoring and control functions by using the optional web-based HMI for any of the RTAC devices. *Figure 3* shows an example of a screen displaying operational data and secure controls from connected I/O and other devices. Every tag in the database is available for use in HMI screens.

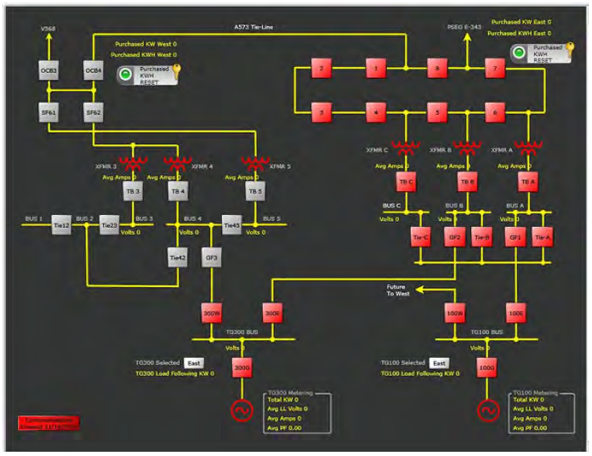


Figure 3 Powerful Monitoring Functions Using the Web-Based HMI

Deterministic System Performance

If your application includes distributed control strategies, sequential logic, or SER reports, the deterministic performance of EtherCAT will meet your needs. The software updates all I/O and time-stamps inputs with 1 ms accuracy. Log any tag values and system events to provide a system-wide SOE report that you can view online. You can also use an ODBC connection to transfer the logs to a central database.

Applications

Load Shedding for Industrial Applications

The Axion system eliminates the need for separate input, output, and control devices for industrial and microgrid load-shedding schemes. Combining system frequency and power measurements with the ability to add hundreds of binary inputs and outputs, the Axion combines the measurement, logic engine, and mitigation equipment into a single unit. Employing the CT/PT module's frequency and power elements, the powerful logic engine in the Axion incorporates system variables into fast-acting control logic for underfrequency or demand control load shedding. Complete with the HMI, the Axion is a standalone control system for many remedial action schemes.

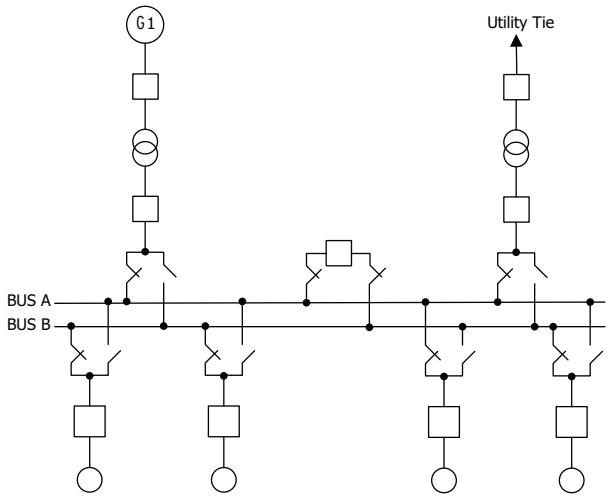


Figure 4 Load-Shedding Topology

Microgrid Control Applications

The SEL-2245-4 adds dozens of voltage and current channels to the hundreds of input, output, and analog channels already available in a single Axion system. With the capability of linking Axion backplanes as far as five kilometers away, the Axion is well suited to monitor and control across distances consistent with many microgrid applications. In an Axion system, all CT/PT modules sample at precisely the same time, ensuring a common reference for all voltages and currents entering the RTAC logic engine. This synchronized sampling enables many unique microgrid applications, including islanding detection, generation restoration, and dispatch algorithms.



Figure 5 Offshore Microgrid

Autosynchronization Systems

Use multiple CT/PT and I/O modules to create advanced and highly scalable autosynchronization systems. Automatically adjust the governor exciter controls as neces-

sary to provide safe, secure, and unattended synchronization of generation onto the power system. With synchronized sampling from multiple CT/PT modules, the control algorithm for multiple governor exciters all have access to all necessary PT measurements in the same Axion system. Additionally, the measurements are already time-aligned, eliminating the need to adjust to a common reference. An added bonus is that the CT/PT modules can be located remotely across the system and provide the synchronized measurements through the Axion's deterministic EtherCAT network.

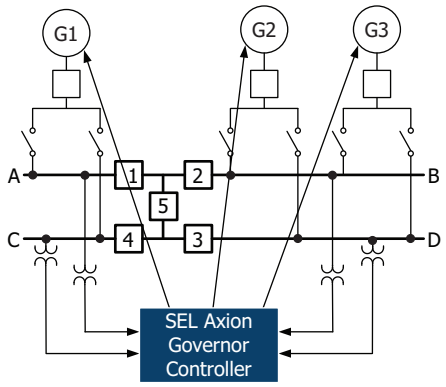


Figure 6 SEL Axion Autosynchronization System

Remote Terminal Unit (RTU)

Remote terminal units gather digital and analog signals at remote sites and supply these data over a variety of industry-standard protocols (DNP3, Modbus®, LG 8979, or IEC 61850) to a central supervisory control and data acquisition (SCADA) center or HMI. A master controller in the SCADA center can perform all logic or distribute logic to the RTU. The SEL-2244 I/O modules are available in a variety of types to gather many types of I/O at RTU locations. The SEL-2241 RTAC module has a variety of industry-standard protocols by which it can integrate seamlessly with any SCADA system. Additionally, the versatile IEC 61131 logic engine in the RTAC can meet the majority of logic requirements for small to large automation projects. The modular design of the Axion provides it the ability to perform as an RTU in two ways: as a centralized master RTU or as distributed logic in each substation.

Systems using distributed logic at the RTU use an SEL-2241 RTAC in each Axion node, thus providing all automation capabilities of the RTAC in each RTU. This architecture allows each RTU to function autonomously even if the central SCADA system is offline. Each RTAC can communicate with the SCADA master over DNP3, Modbus, LG 8979, IEC 61850, or SEL Fast Message.

The following diagram illustrates use of the Axion as a distributed RTU communicating over DNP3 to a SCADA master.

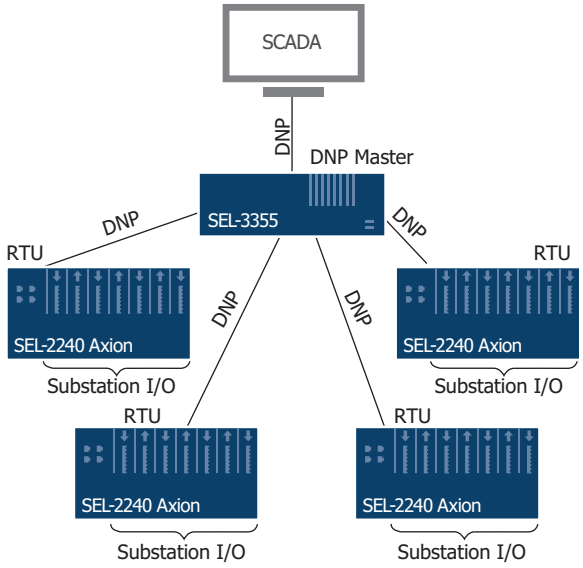


Figure 7 RTACs Distributed With RTUs

Systems that do not need autonomous operation at each RTU can use a central SEL-2241 and communicate to the remote nodes through the SEL-2243 Power Couplers. This architecture offers an economical solution to distributed I/O over EtherCAT at an extremely fast acquisition rate. The master SEL-2241 can host all data from remote nodes over DNP3 and interface directly with the SCADA system. The master Axion in *Figure* illustrates this functionality.

EtherCAT Network Topologies

The SEL-2243 Power Couplers provide not only hot-pluggable power supplies, but also fast EtherCAT connections to remote SEL-2240 nodes. The power couplers create EtherCAT links in star network topology, sequential network topology, or a combination of both. Star-configured topologies still use the sequential message format inherent to EtherCAT design and offer greater flexibility than wired sequential network topologies in creating a network to match your physical system. Refer to *Appendix C* in the *ACSELERATOR RTAC SEL-5033 Software Instruction Manual* for detailed information on EtherCAT.

Apply single or dual power couplers in each Axion node based on connection or redundancy requirements. *Figure* illustrates a star topology for four remote SEL-2240 nodes with single power couplers in the remote nodes and dual couplers in the RTAC master.

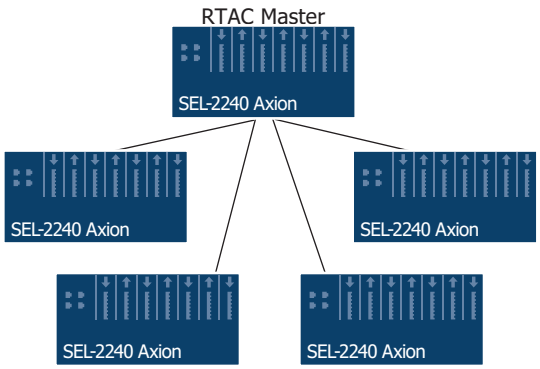


Figure 8 EtherCAT Star Network Topology

Figure illustrates connections for an EtherCAT sequential topology with six Axion nodes. Each node uses a single SEL-2243 Power Coupler to provide connections to the previous and next node in the EtherCAT network.

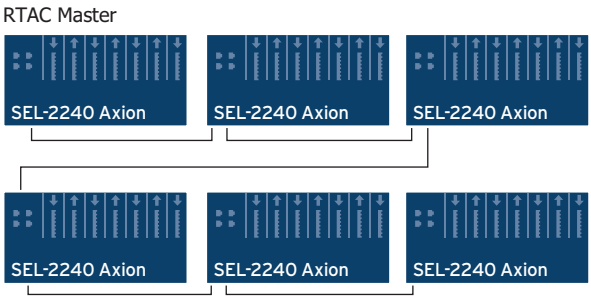


Figure 9 EtherCAT Sequential Network Topology

Figure illustrates a combination of star and sequential connections with six Axion nodes.

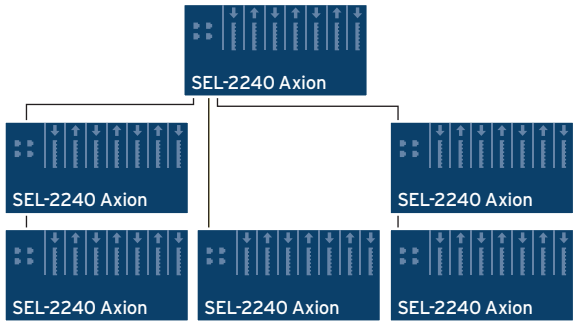


Figure 10 EtherCAT Hybrid Network Topology

Remote I/O

When you use single or dual power couplers, the Axion serves as a low-cost remote I/O module. As many as 60 modules or six nodes can connect to one resident SEL-2241 RTAC or to a separate SEL-3530 RTAC. The Axion is an excellent teleprotection device that provides through EtherCAT a simple means for expanding the number of I/O points available in an automation system at rapid data acquisition rates.

IEC 61850 GOOSE Concentrator

Gather a variety of substation I/O with the SEL-2244 modules and share the data with IEC 61850 Generic Object-Oriented Substation Event (GOOSE) messages. Use the protocol flexibility of the RTAC to concentrate data from non-IEC 61850 relays and convert these data to GOOSE messages.

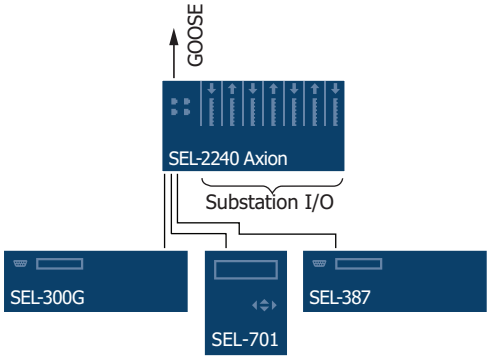


Figure 11 IEC 61850 GOOSE Concentrator

Synchrophasor Concentrator

Use standard protocols, such as DNP3, to move synchrophasor data to SCADA operation centers. Include time stamps and time quality in the SCADA message to allow for system-wide usage of synchrophasor data. Within the RTAC logic engine, you can perform complex math and logic calculations on synchrophasor data you collect from SEL relays and other IEEE C37.118-compliant devices.

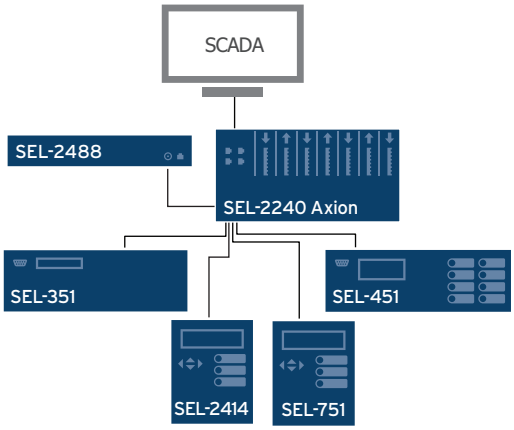


Figure 12 Synchrophasor Concentrator

SCADA Data Concentrator

Use the RTAC with your protective relays and other IEDs as the substation SCADA data concentrator. You can configure the RTAC to collect and view station-wide SER and event reports. Use MIRRORED BITS® protocol to ensure compatibility with any SEL device. Retrieve asset optimization data from SEL or other IEDs to maintain

the best possible system reliability. Take advantage of multiprotocol support to collect SCADA information, process control commands, and obtain SNTP/NTP time synchronization through a single communications link to each Ethernet device. Scale values and calculate logic in a familiar IEC 61131 configuration environment. Enjoy secure, encrypted communications to any device on the substation network or serial channel.

Remotely access the RTAC through the Ethernet connection, and use any web browser to manage users, view diagnostics, and access logs. Establish a remote connection with any IED connected to the RTAC through engineering access communications channels. Use the SEL Fast Message protocol to maintain SCADA control and metering updates throughout the engineering access connection. Use ACSELERATOR QuickSet® SEL-5030 Software to remotely manage protection and control settings in attached relays.

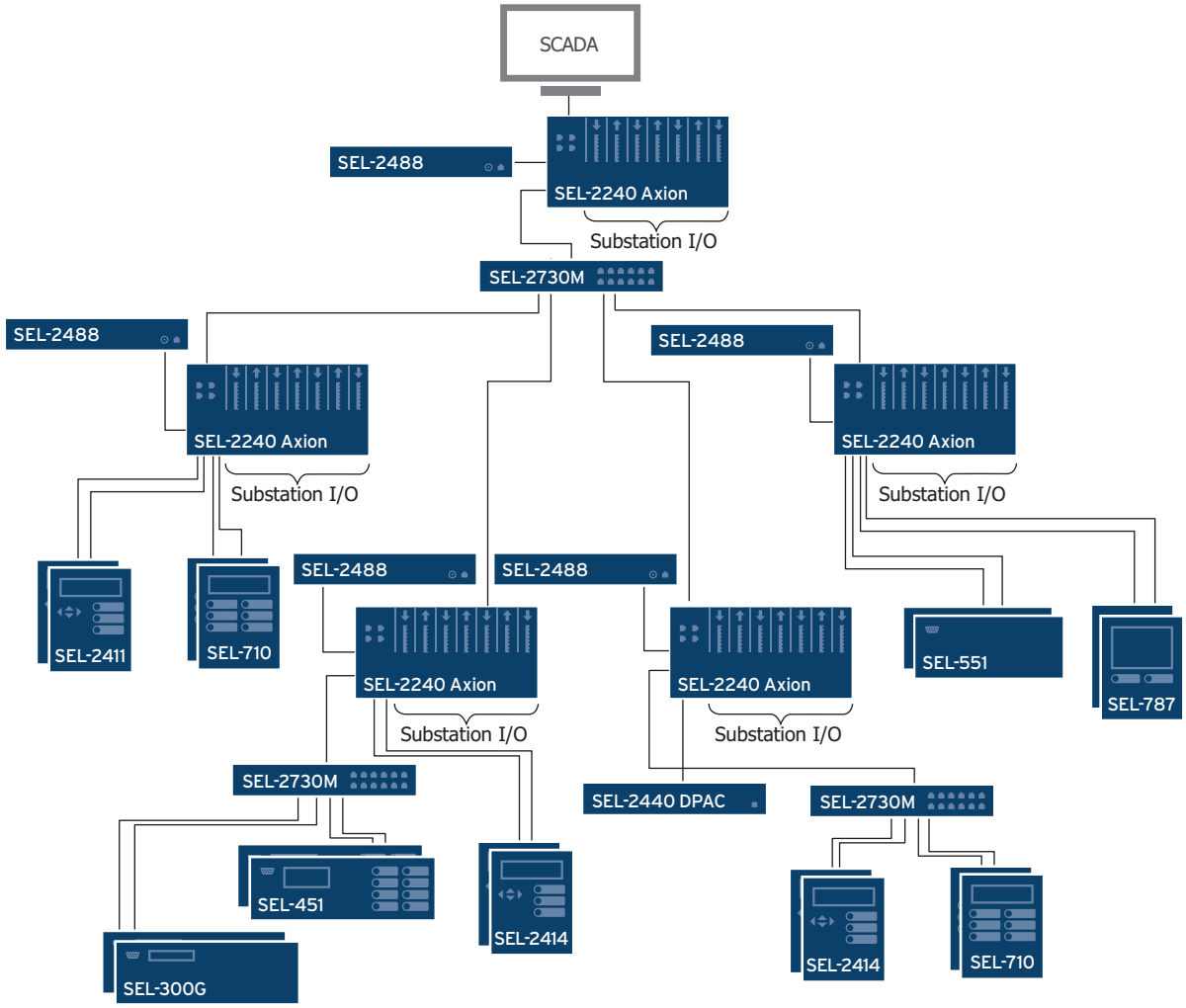


Figure 13 SCADA Data Concentrator and HMI

Human-Machine Interface

Use the built-in web human-machine interface (HMI) in the RTAC for viewing and controlling any tags you configured in the RTAC. Use ACSELERATOR Diagram Builder to develop custom HMI screens and load them into the RTAC. You can include one-line diagrams, annunciators, and graphical representations that contain control buttons, and you can then display any data in the RTAC. Once you have loaded the screens into the RTAC, you can view the screens in the RTAC web interface. Because the HMI application is web-based, multiple users can view the HMI screens simultaneously.

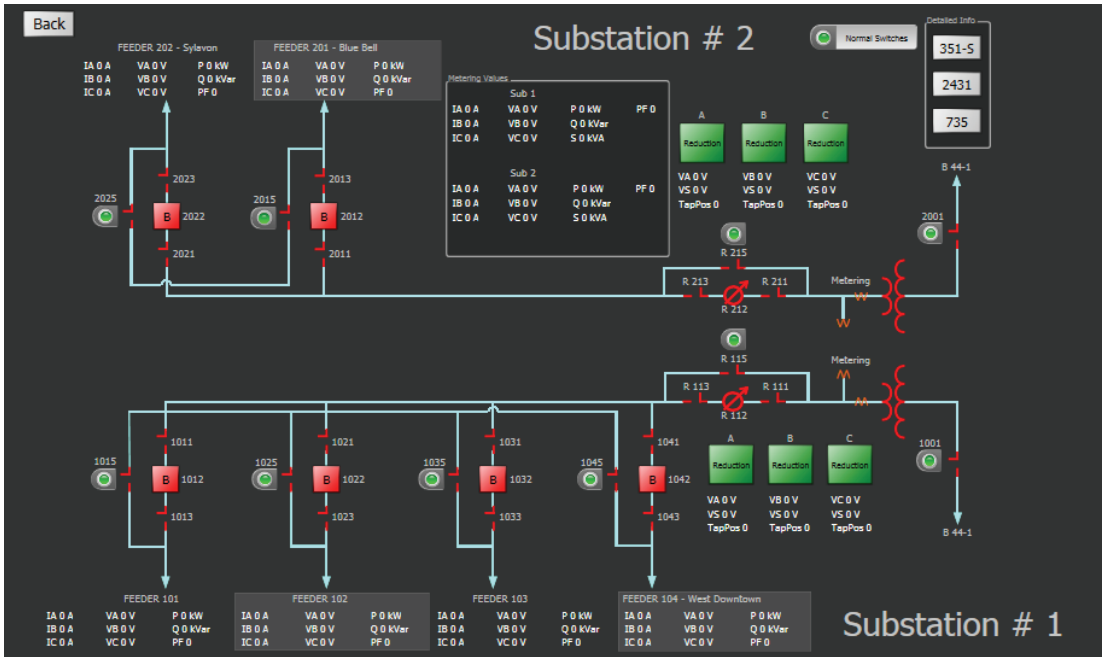


Figure 14 HMI One-line Diagram

The logging system in the RTAC provides comprehensive logging for all variables in the RTAC, including those that connected IEDs provide. The logging system compensates for time-stamp differential among data from different IEDS, so all data are in sequence and on the same time-stamp reference. The RTAC can log data for changes in the state of Boolean values, changes in string values, and changes in Boolean, analog, or string time stamps. The RTAC can also alarm for analog values that cross defined thresholds. Assign variables for logging in the Tag Processor, or use one of the logger function blocks in IEC 61131 custom programs.

There are two user interfaces for viewing logged data. These include a secure HTML interface and an open database connectivity (ODBC) connection. Access the HTML interface through a web browser connection. Use the ODBC connection for standard data transfer between the logged data and database or spreadsheet software.

Programmable Logic/Automation Controller

Use the Axion as a programmable logic/automation controller (PLC/PAC) to automate your real-time tasks based on a variety of input conditions and diagnostic information. Use the powerful IEC 61131 logic engine to write programs in Structured Text, Function Block, or Ladder Logic. Schedule periodic tasks, or drive event-driven tasks with multiple preconditions. Create function blocks of complex tasks for simple configuration. Easily replace aging PLCs implemented in Ladder Logic by replicating the same logic or by using a conversion tool to translate logic to Structured Text.

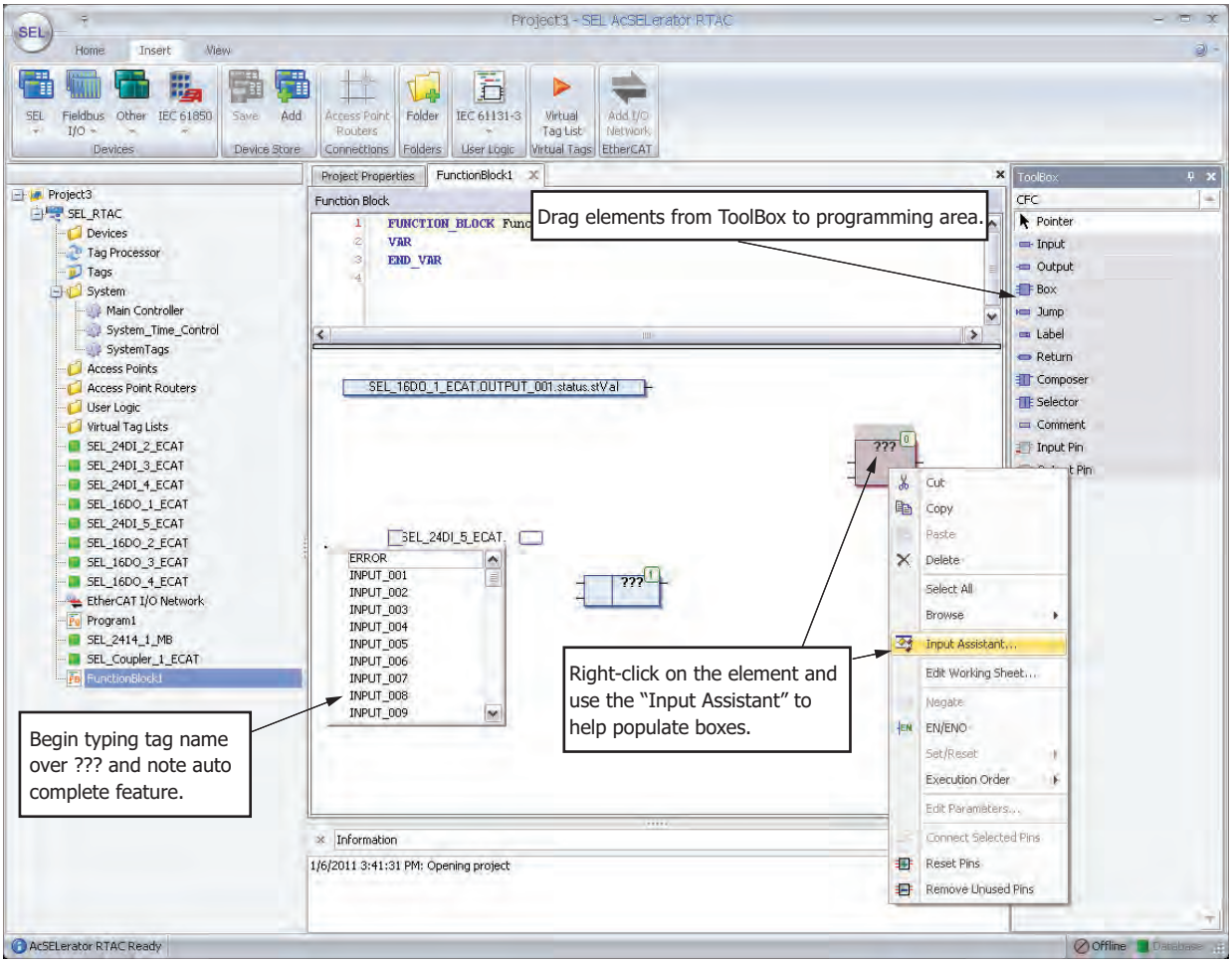


Figure 15 IEC 61131 Logic Example

Intelligent Port Switch

Flexible communications parameters make the RTAC a great choice for almost any port-switching application. Although RTAC multitasking/multiuser and data handling capabilities make it a very powerful remote automation platform, it is still an economical choice for port-switching applications. The time-synchronization capabilities of the RTAC add to its value in this application.

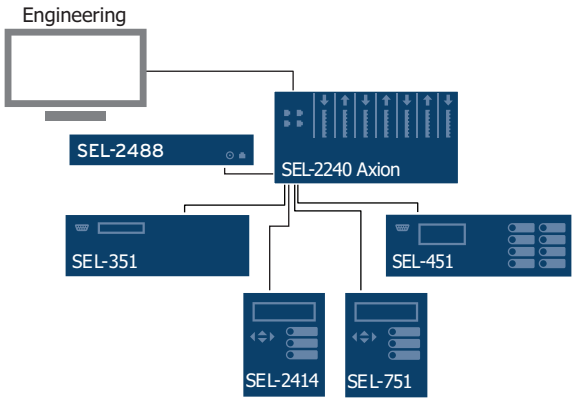


Figure 16 Intelligent Port Switch

Network Gateway

The SEL-2241 RTAC has two Ethernet ports through which it can make serially connected devices available to high-speed networks. The RTAC supports virtual terminal connections through the Ethernet ports. For example, Ethernet users can establish secure Telnet sessions and communicate with an IED connected to the RTAC.

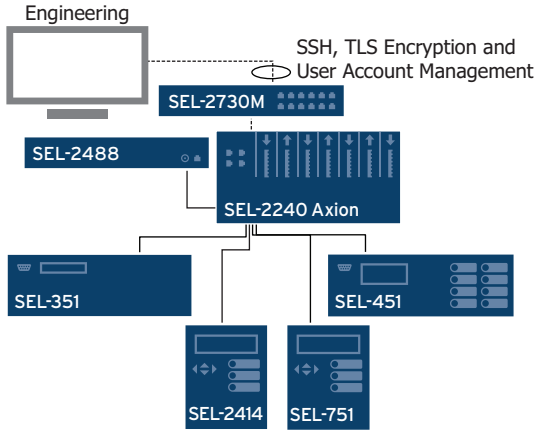


Figure 17 Network Gateway

Protocol Gateway

Collect downstream data with client protocols. Then send these data to your upstream HMI, RTU, or SCADA master with server protocols, converting the data from one protocol to another in the process. RTAC multitasking/multiuser and data handling capabilities make it a great choice for data concentration.

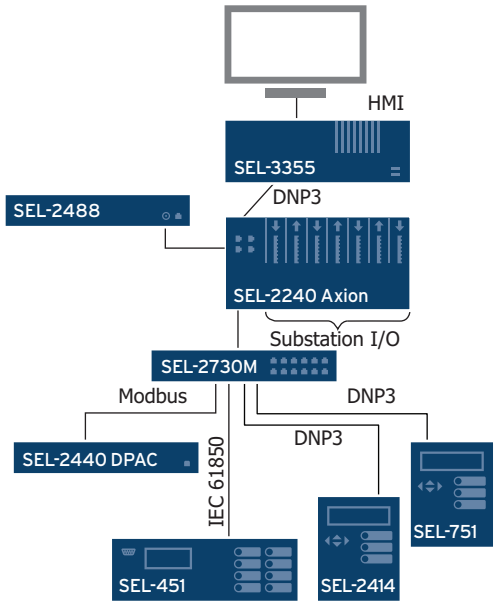


Figure 18 Protocol Converter

Time-Synchronization Source

Synchronize the time clocks in attached devices that accept a demodulated IRIG-B time signal. The SEL-2241 RTAC regenerates the demodulated IRIG-B signal from an external modulated or demodulated source, such as a GPS satellite clock receiver, SNTP/NTP source, or serial or Ethernet protocol such as DNP3. If an external clock source is unavailable, the RTAC generates an IRIG-B signal from its internal clock, providing device synchronization to a common clock for improved SER data analysis.

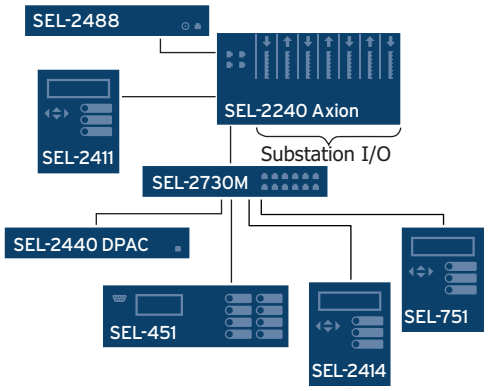


Figure 19 Time Synchronization

Security Gateway

Secure the automation network with the Axion. Enable encryption for any engineering access channel or SCADA link. Implement system security auditing, logging, and password restrictions to enforce NERC standards. Comply with role-based requirements by implementing per-user security profiles. Optionally, incorporate serial and wireless encrypting devices to further secure communications to any device.

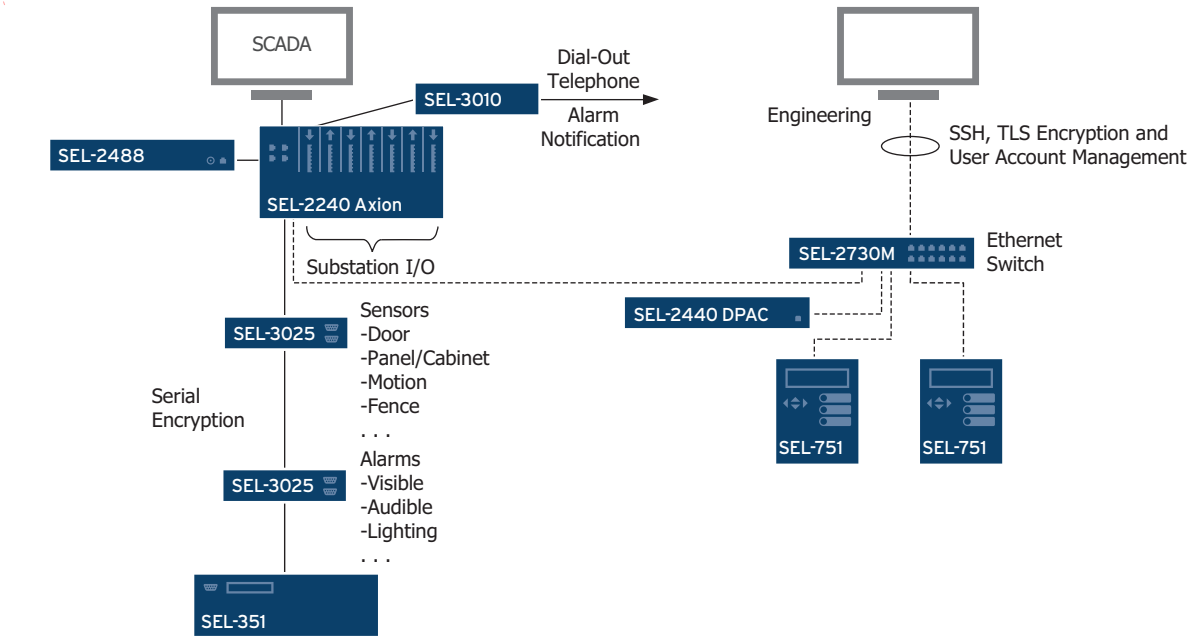


Figure 20 Security Gateway

Ordering Options

Table 1 SEL-2241 RTAC Module

Ethernet Communication	Two Ethernet ports: 10/100BASE-T copper (standard) 100BASE-FX fiber-optic (optional) 100BASE-LX single-mode fiber-optic (optional)
Web-Based HMI	Basic runtime license and Diagram Builder software
Peer-to-Peer Protocols	IEC 61850 GOOSE
Client Protocols	IEC 61850 MMS
Server Protocols	IEC 61850 MMS
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 2 SEL-2242 Chassis/Backplane

Slot Configuration	10-Slot, 4-Slot, or Dual 4-Slot
Mounting	Horizontal Surface Mount, 5U[a] Horizontal Rack Mount, 5U Horizontal Panel Mount, 5U (10-Slot or Dual 4-Slot)
Environment	Conformal coating for chemically harsh and high-moisture environments

[a] For applications compliant with IEC 60255-27, surface-mount units must be installed in IP4X enclosures.

Table 3 SEL-2243 Power Coupler

Voltage Range	24/48 Vdc or 120/250 Vac/Vdc
EtherCAT Communication	Two ports: RJ45 Ethernet (standard) LC fiber-optic multimode or single-mode (optional)
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 4 SEL-2244-2 Digital Input Module

Input Ratings	24 Vac/Vdc	125 Vac/Vdc
	48 Vac/Vdc	220 Vac/Vdc
	110 Vac/Vdc	250 Vac/Vdc
Environment	Conformal coating for chemically harsh and high-moisture environments	

Table 5 SEL-2244-3 Standard Current Digital Output Module

Output Types	16 Form A Control Outputs 8 Form A, 8 Form B Control Outputs 16 Form B Control Outputs
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 6 SEL-2244-5 Fast High-Current Digital Output Module

Output Types	10 Form A Control Outputs 5 Form A, 5 Form B Control Outputs 10 Form B Control Outputs
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 7 SEL-2245-2 DC Analog Input Module

Input Types	±20 mA, ±2 mA, ±10 V
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 8 SEL-2245-22 DC Analog Input Extended Range Module

Input Types	0–300 V
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 9 SEL-2245-221 Low-Voltage (LEA) Monitoring Module

Input Types	0–30 V peak
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 10 SEL-2245-3 DC Analog Output Module

Output Types	±20 mA, ±10 V
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 11 SEL-2245-4 AC Metering Module

Input Types	0–22 A, 5–400 V
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 12 SEL-2245-42 AC Protection Module

Input Types	0–20 A, 6–300 V
Environment	Conformal coating for chemically harsh and high-moisture environments

Table 13 SEL-2245-411 Standard Current and Low-Voltage (LEA) Monitoring Module

Input Types	0–22 A, 0–30 V peak
Environment	Conformal coating for chemically harsh and high-moisture environments

Module Features

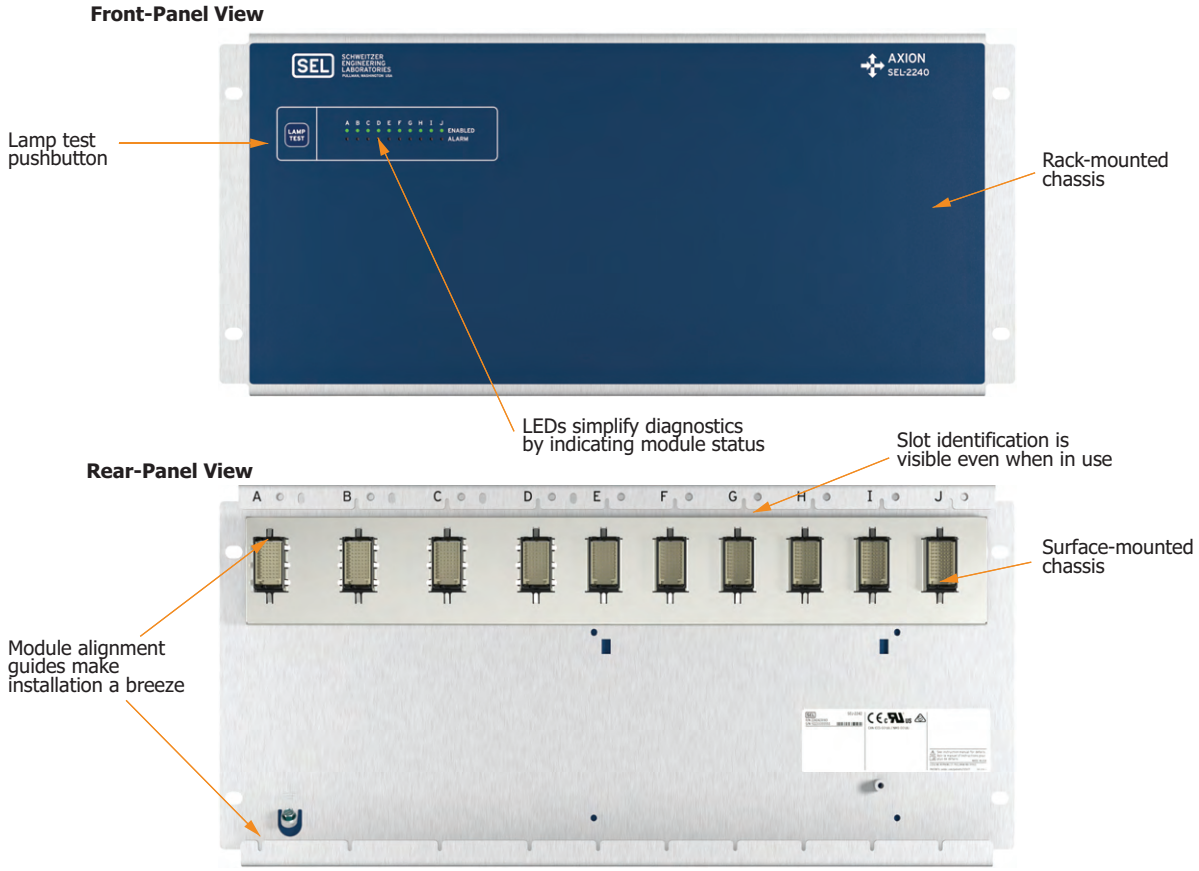


Figure 21 SEL-2242 10-Slot Chassis/Backplane

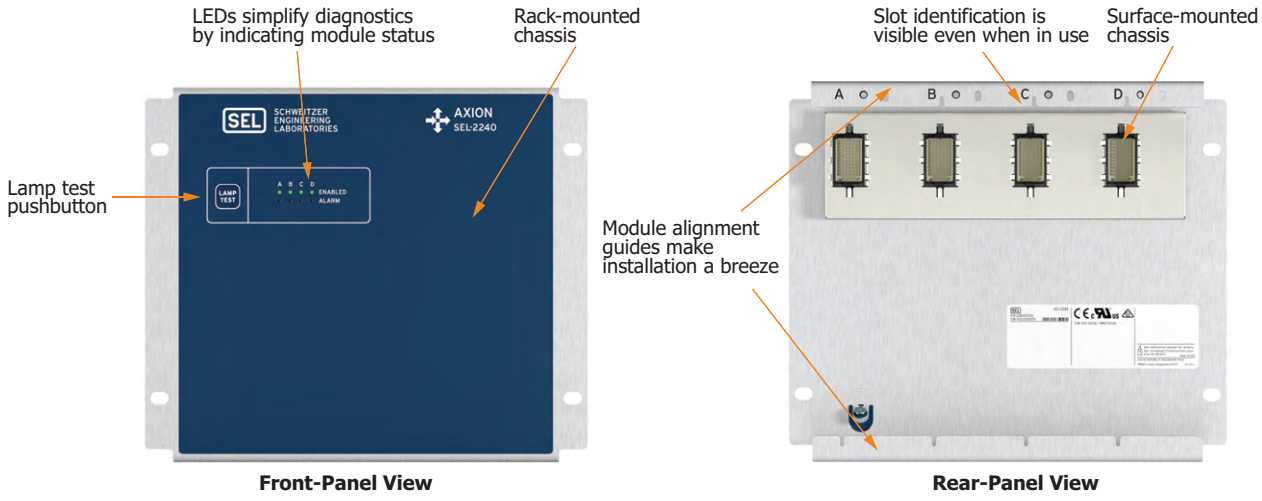


Figure 22 SEL-2242 4-Slot Chassis/Backplane

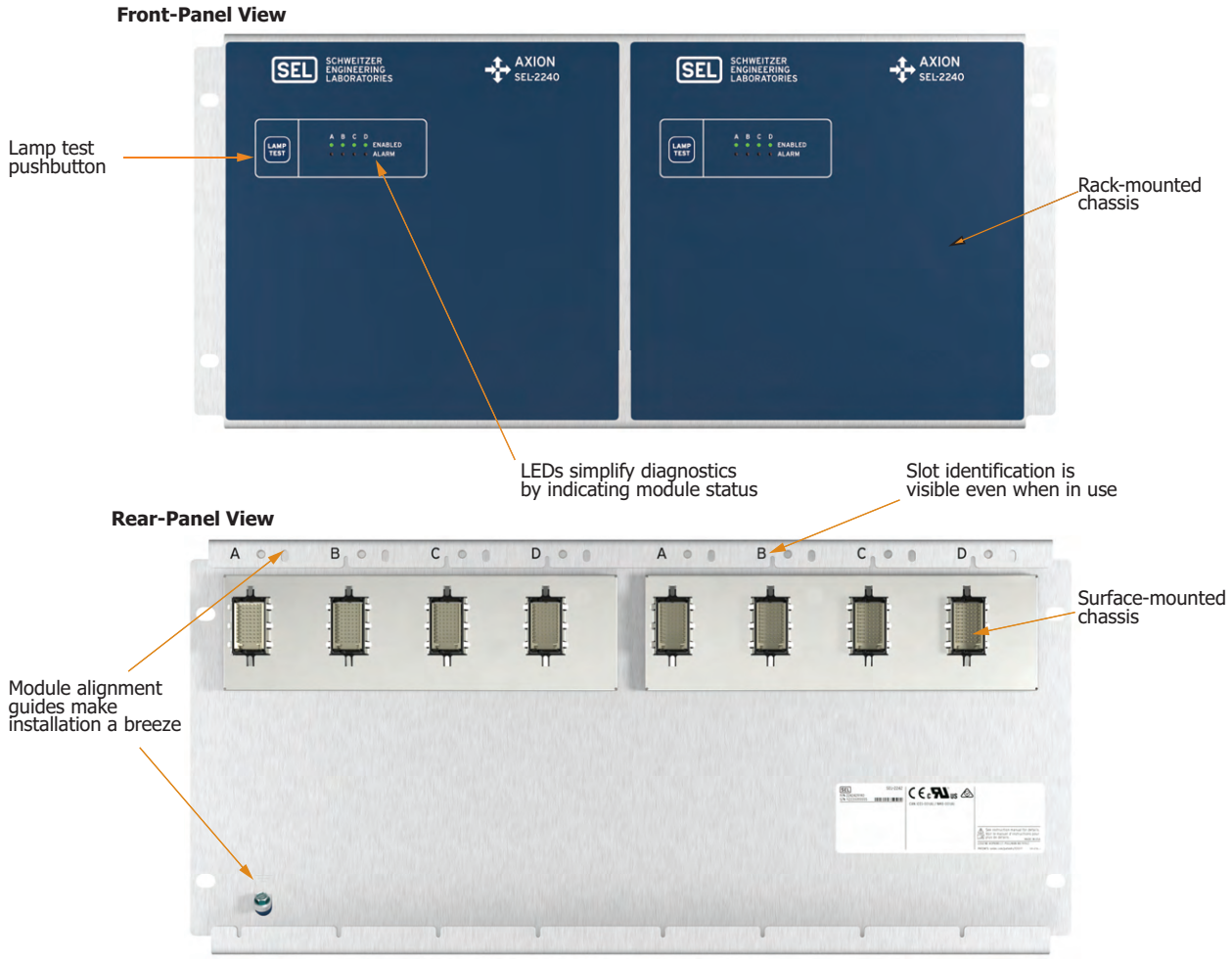


Figure 23 SEL-2242 Dual 4-Slot Chassis/Backplane

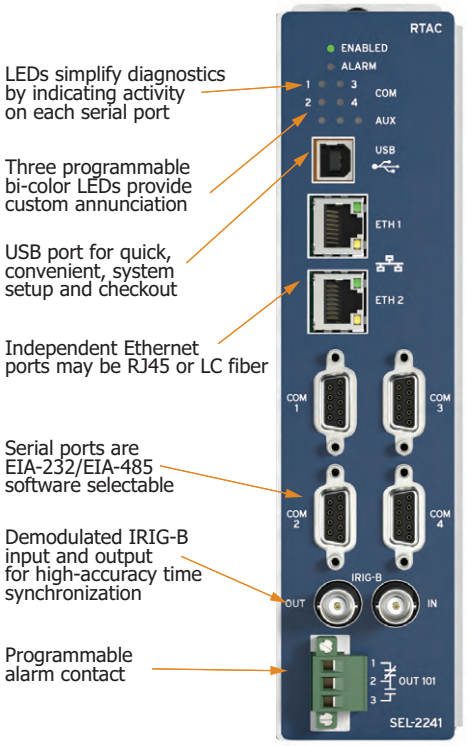


Figure 24 SEL-2241 RTAC Terminal-Side View

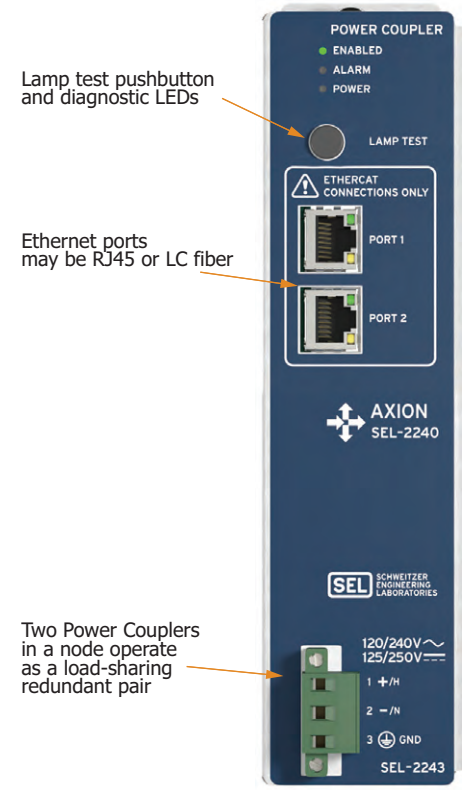


Figure 25 SEL-2243 Power Coupler Terminal-Side View

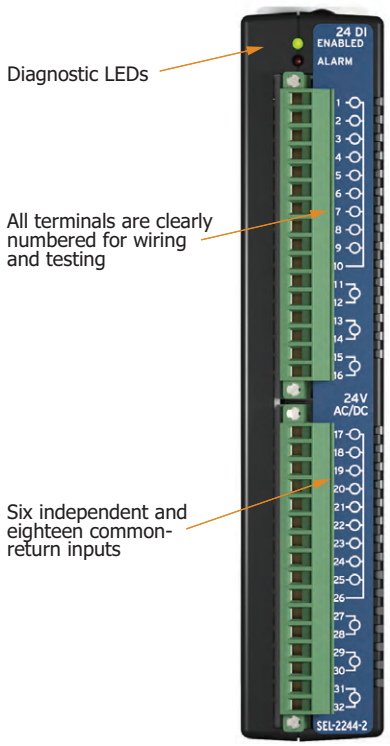


Figure 26 SEL-2244-2 Digital Input Module Terminal-Side View

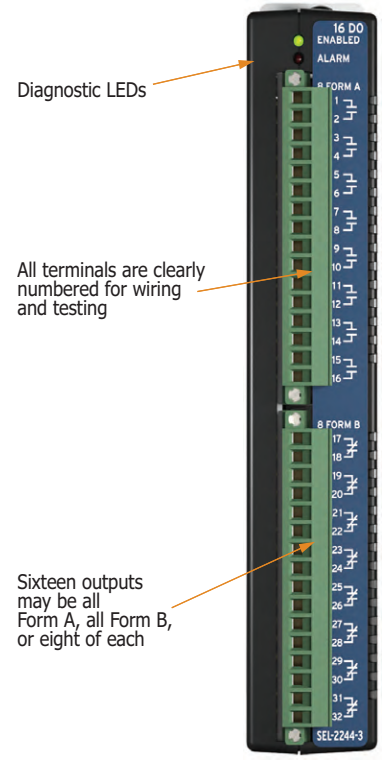


Figure 27 SEL-2244-3 Standard Current Digital Output Module Terminal-Side View

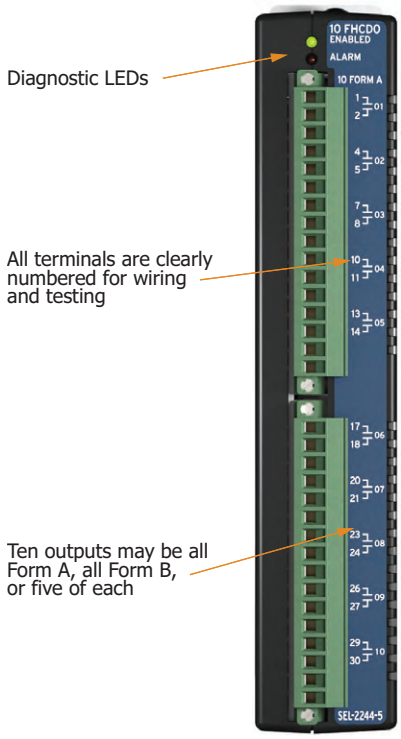


Figure 28 SEL-2244-5 Fast High-Current Digital Output Module Terminal-Side View



Figure 30 SEL-2245-22 Analog Input Extended Range Module Terminal-Side View

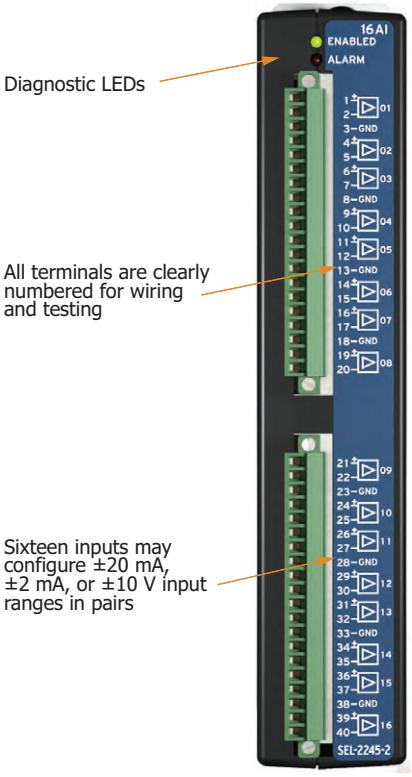


Figure 29 SEL-2245-2 DC Analog Input Module Terminal-Side View

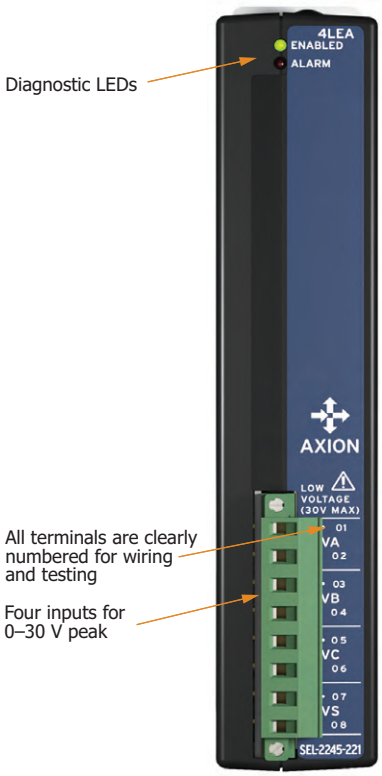


Figure 31 SEL-2245-221 Low-Voltage (LEA) Monitoring Module

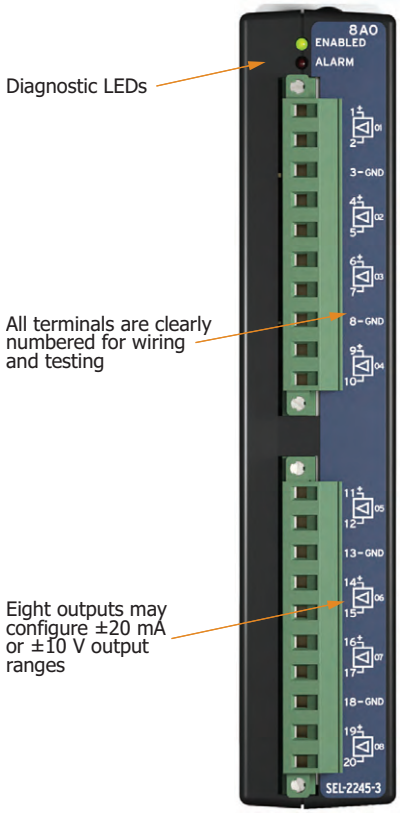


Figure 32 SEL-2245-3 DC Analog Output Module Terminal-Side View

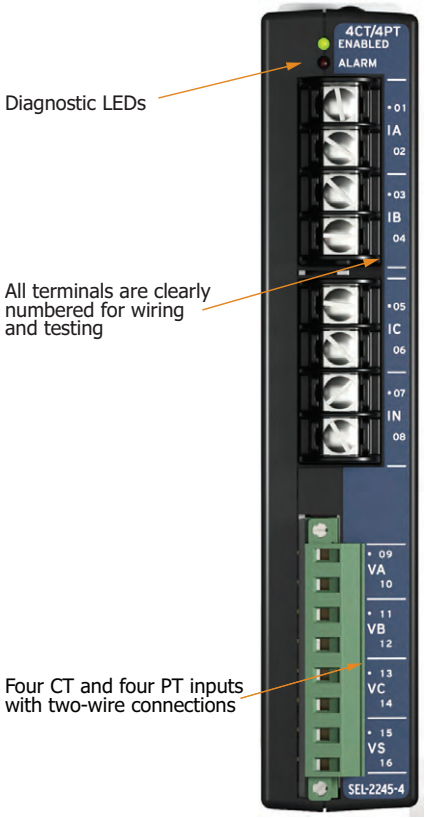


Figure 33 SEL-2245-4 AC Metering Module Terminal-Side View

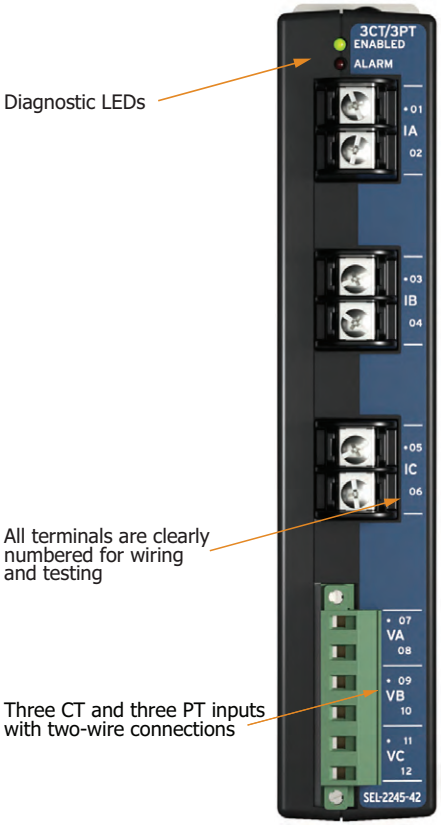


Figure 34 SEL-2245-42 AC Protection Module Terminal-Side View

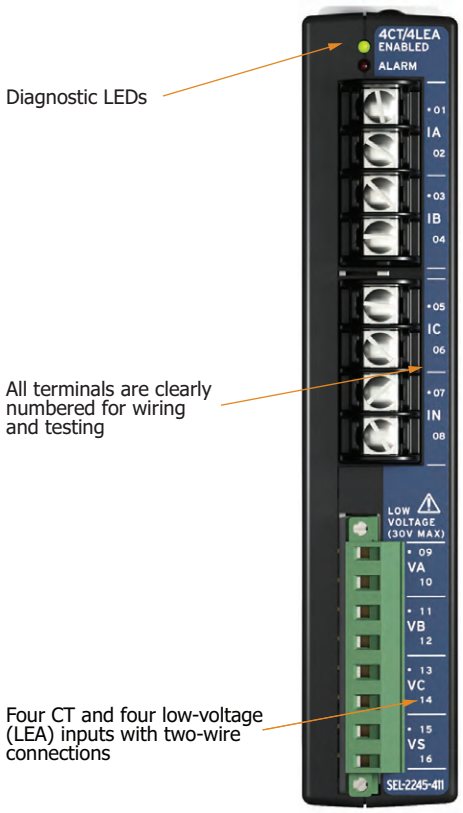


Figure 35 SEL-2245-411 Standard Current and Low-Voltage (LEA) Monitoring Module

Diagrams and Dimensions

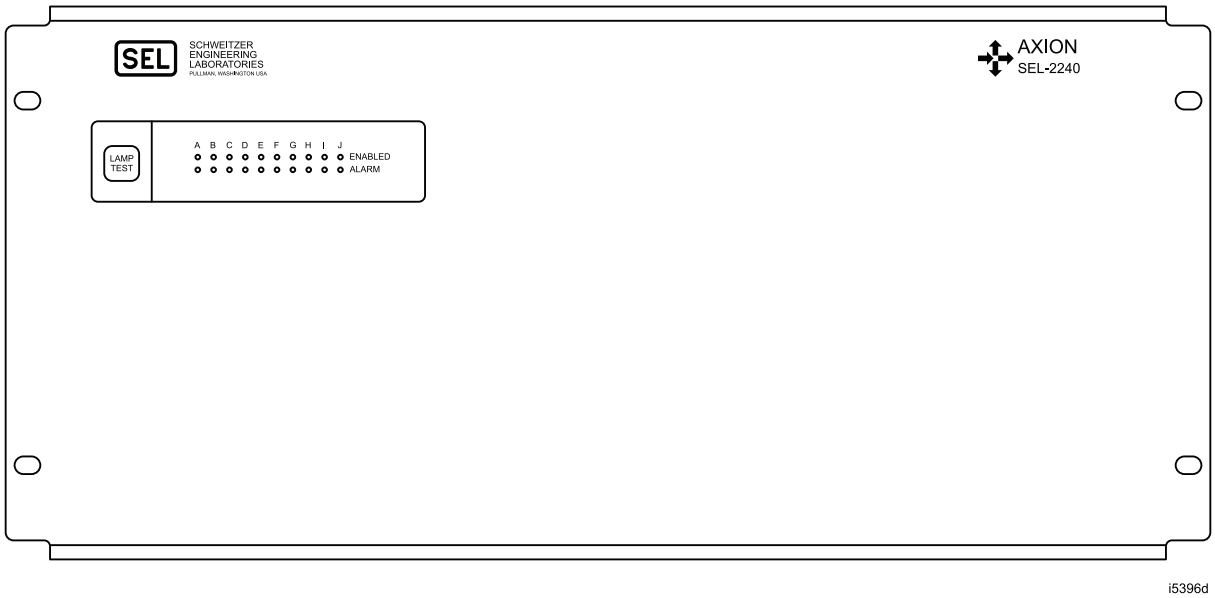


Figure 36 SEL-2240 10-Slot Front Panel (Rack Mount)



Figure 37 SEL-2240 10-Slot Front Panel (Panel Mount)

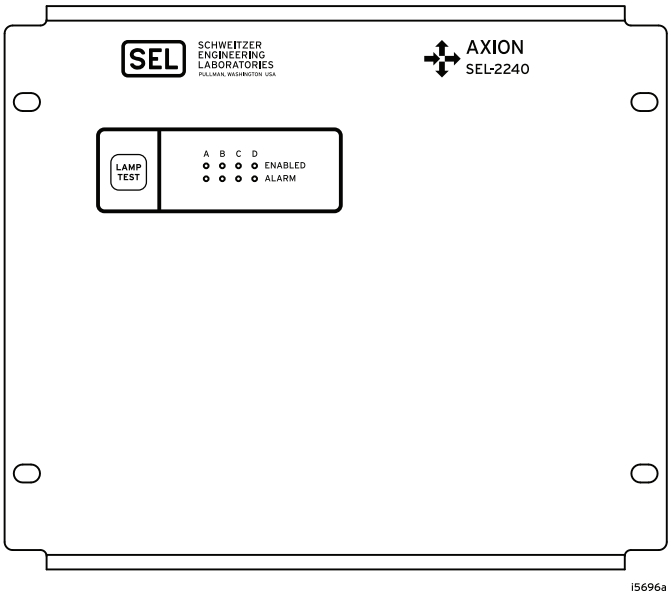


Figure 38 SEL-2240 4-Slot Front Panel

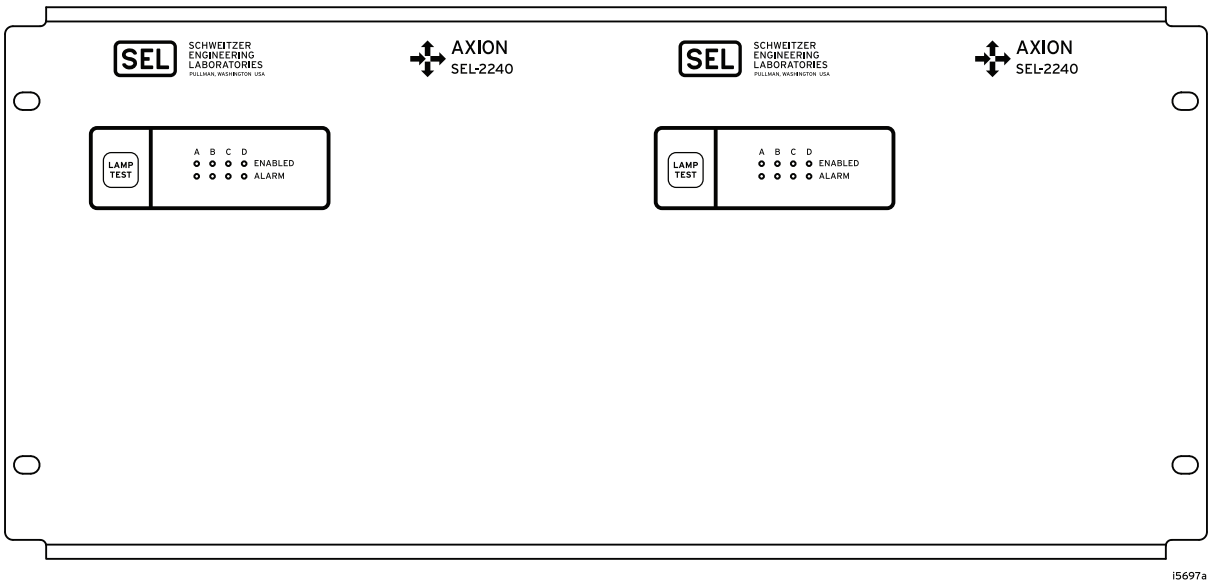


Figure 39 SEL-2240 Dual 4-Slot Front Panel (Rack Mount)

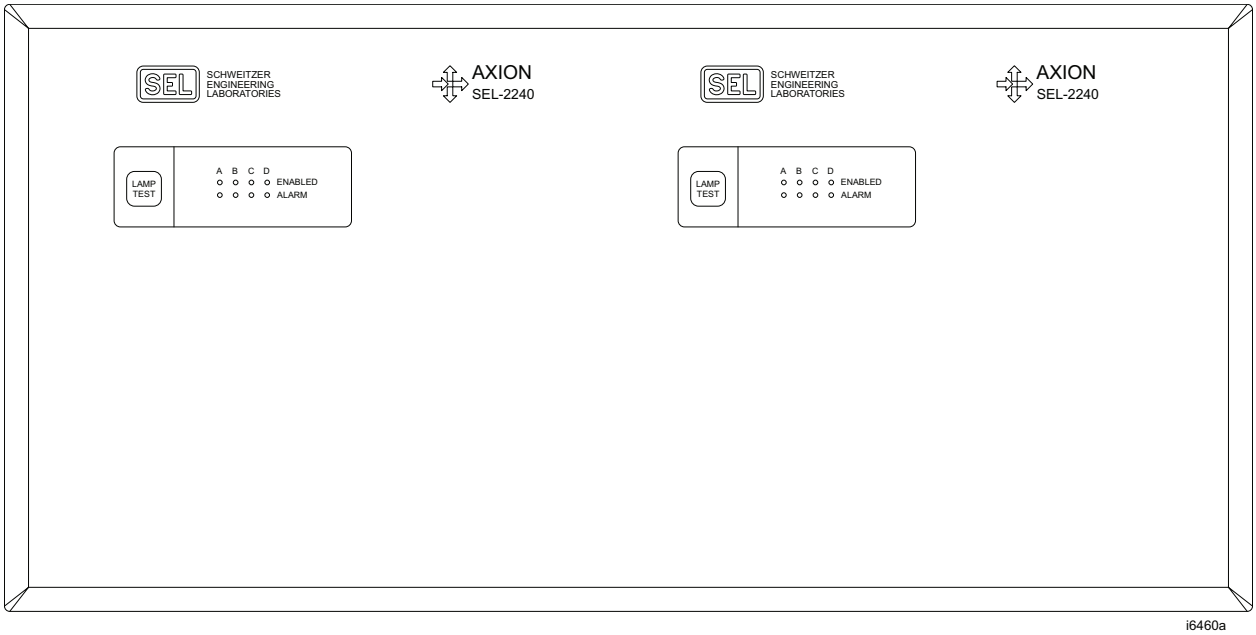


Figure 40 SEL-2240 Dual 4-Slot Front Panel (Panel Mount)

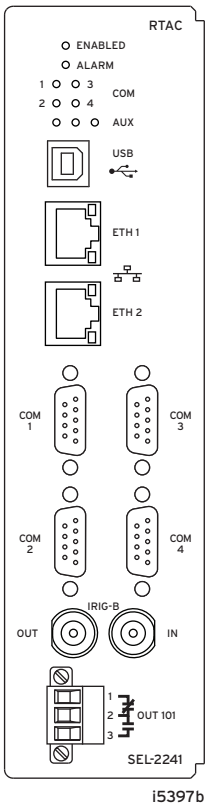


Figure 41 SEL-2241 Connections Diagram

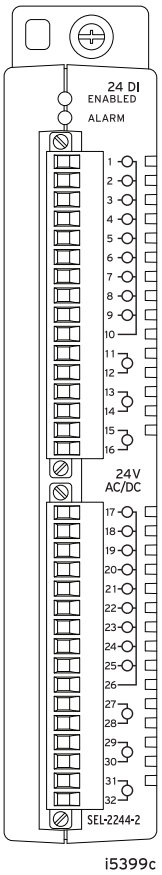


Figure 43 SEL-2244-2 Connections Diagram

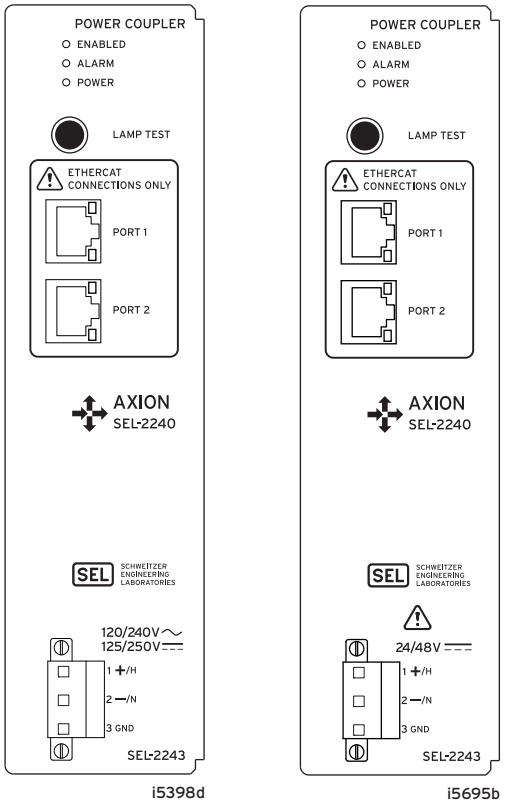


Figure 42 SEL-2243 Connections Diagrams

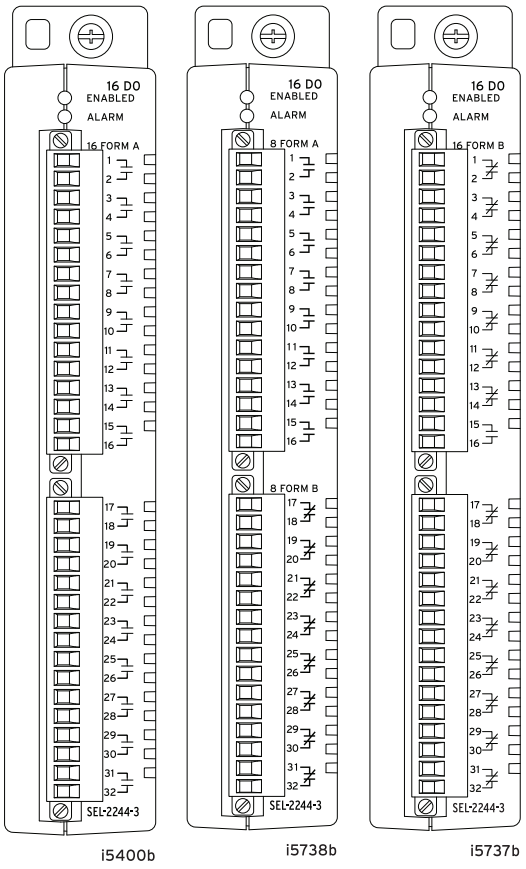


Figure 44 SEL-2244-3 Connections Diagrams

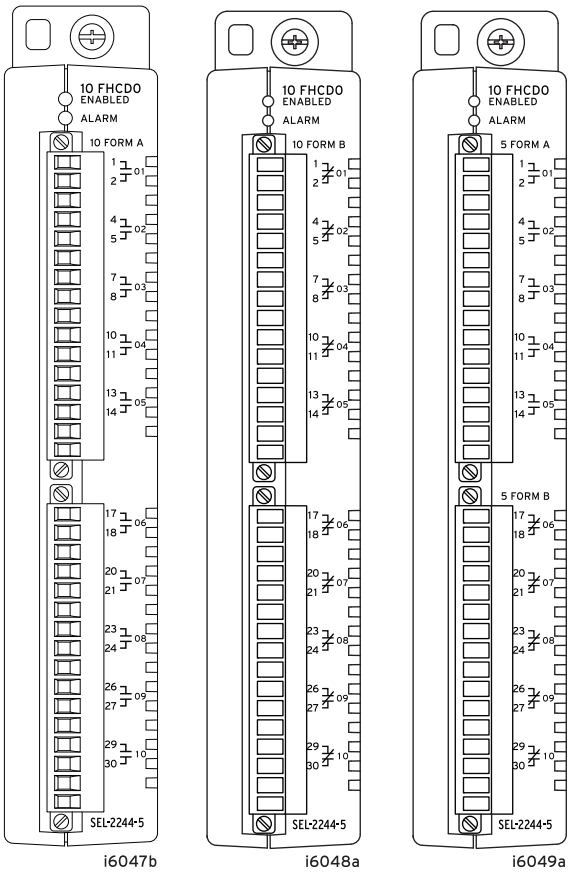


Figure 45 SEL-2244-5 Connections Diagrams

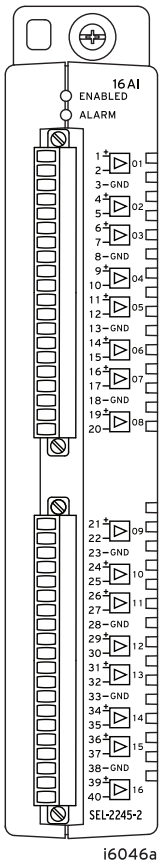


Figure 46 SEL-2245-2 Connections Diagram

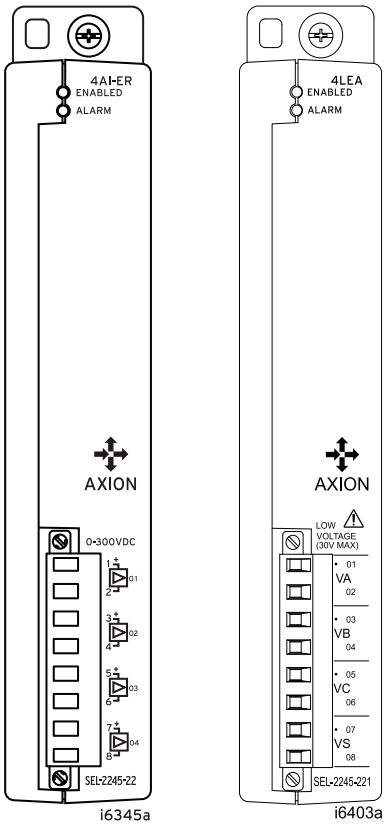


Figure 47 SEL-2245-22 and SEL-2245-221 Connections Diagrams

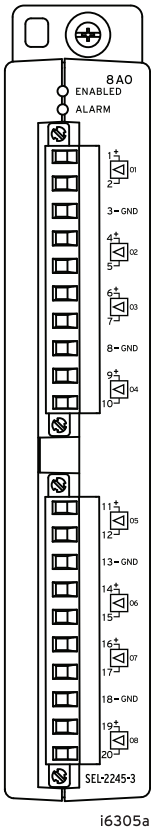


Figure 48 SEL-2245-3 Connections Diagram

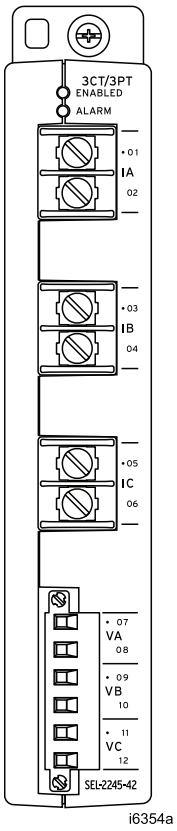


Figure 49 SEL-2245-42 Connections Diagram

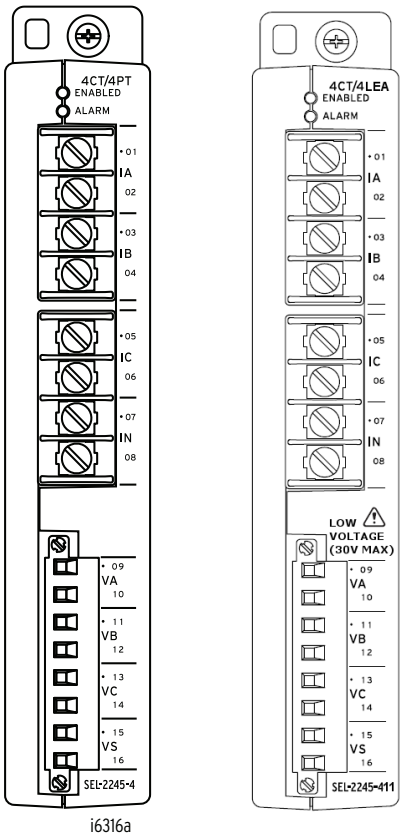


Figure 50 SEL-2245-4 and SEL-2245-411 Connections Diagrams

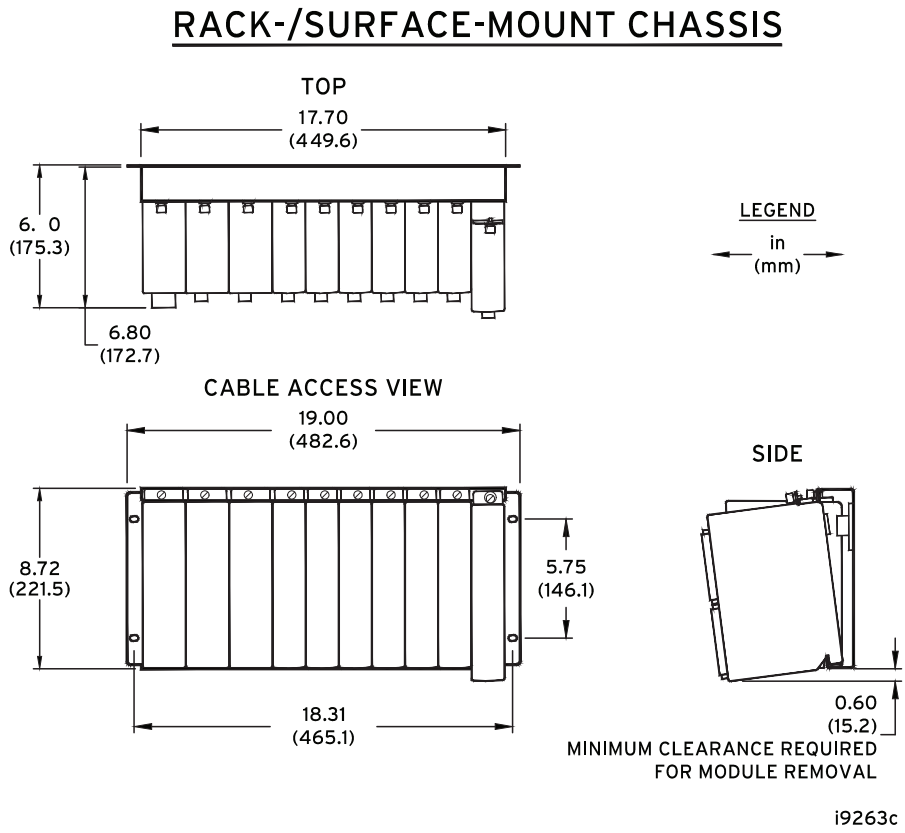


Figure 51 SEL-2240 Dimensions for 10-Slot Rack- and Surface-Mount Chassis

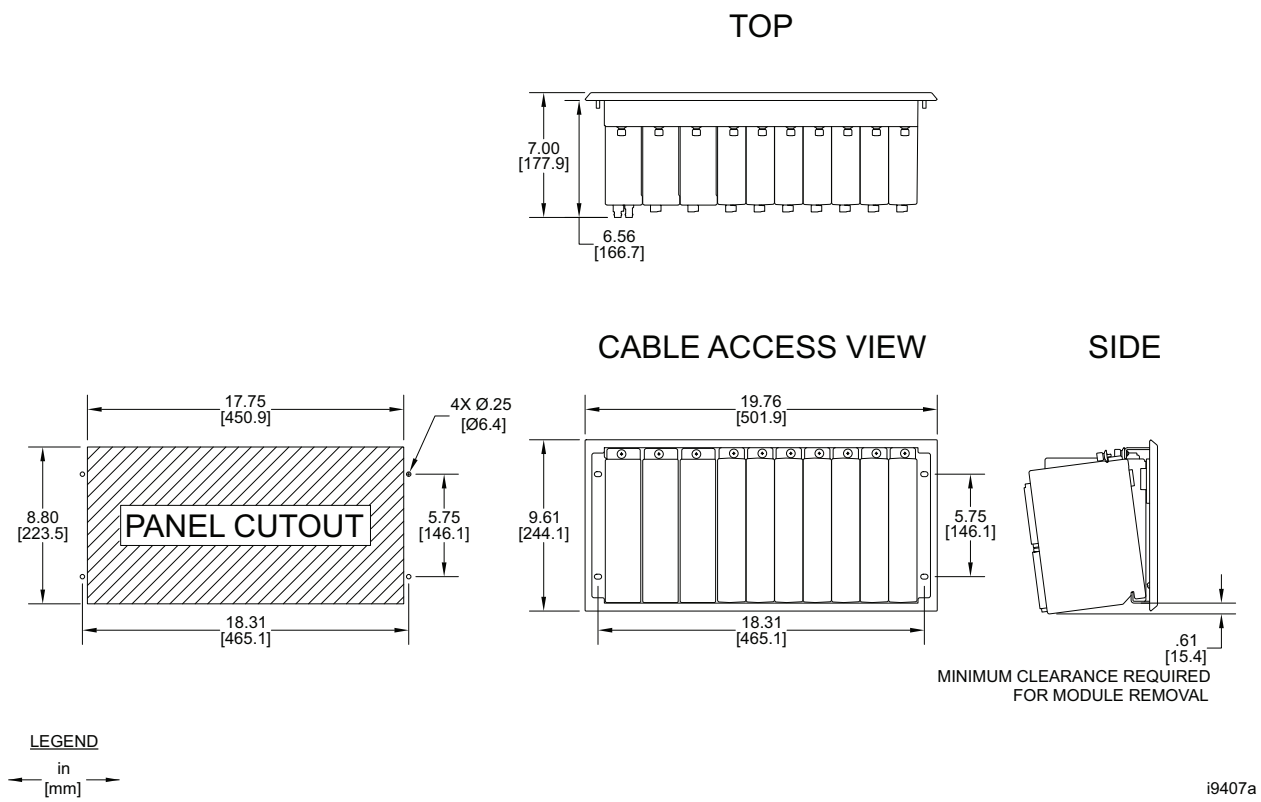


Figure 52 SEL-2240 Dimensions for 10-Slot Panel-Mount Chassis

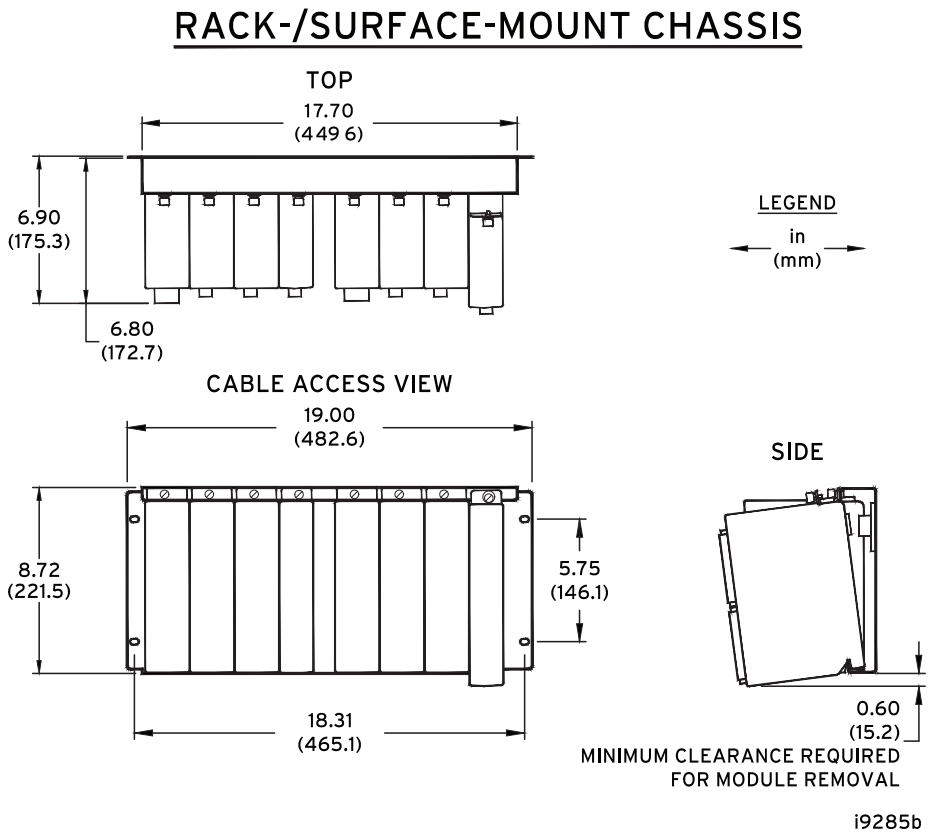


Figure 53 SEL-2240 Dimensions for Dual 4-Slot Rack- and Surface-Mount Chassis

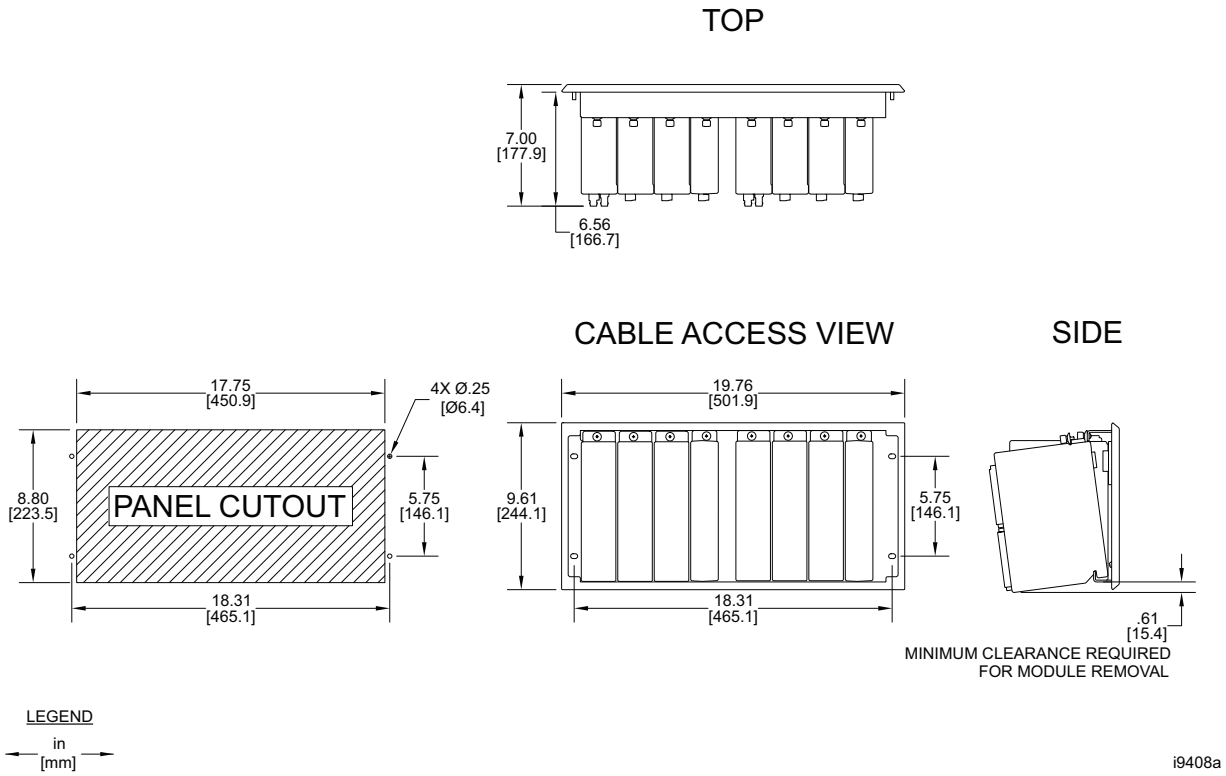


Figure 54 SEL-2240 Dimensions for Dual 4-Slot Panel-Mount Chassis

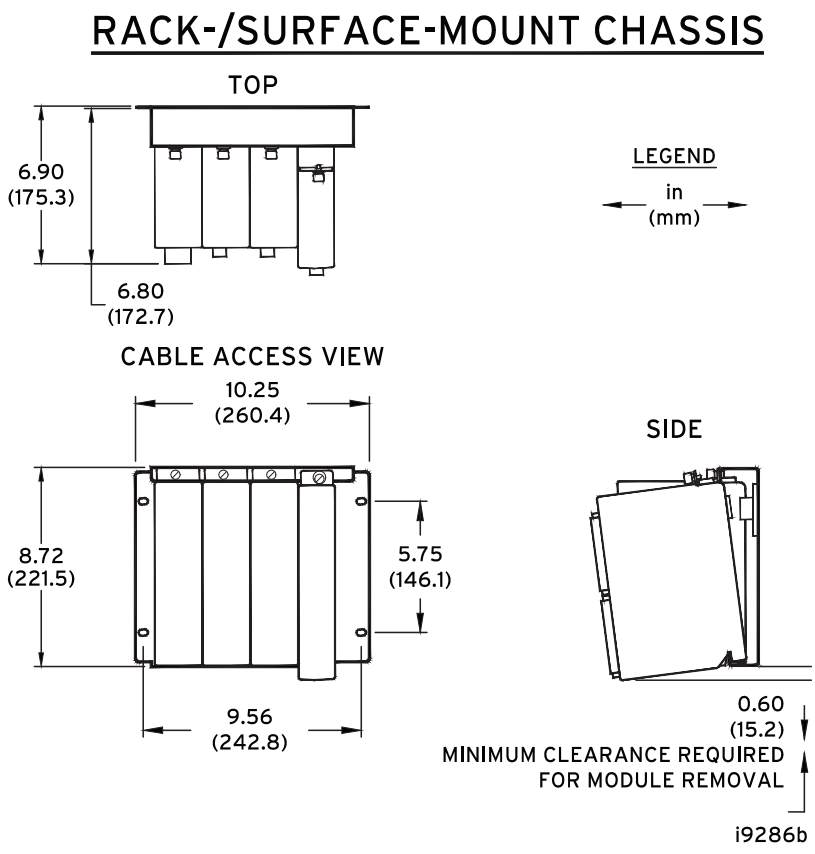


Figure 55 SEL-2240 Dimensions for 4-Slot Rack- and Surface-Mount Chassis

Specifications

Compliance

Designed and manufactured under an ISO 9001 certified quality management system

SEL Axion operates at the specified limits on power up as soon as the device enables. Refer to the individual SEL Axion module datasheets for compliance and type test specifications.

UKCA Mark

Enclosure Protection

IP4X Front
IP2X Product Without SEL-2245-4, SEL-2245-411, and SEL-2245-42
IP1X Product With SEL-2245-4, SEL-2245-411, or SEL-2245-42
Note: If rear terminals are accessible during normal use, the product must be mounted in a locked enclosure or restricted area accessible by trained maintenance or operation personnel only.

Product Standards

IEC 60255-26:2013 - Relays and Protection Equipment: EMC
IEC 60255-27:2014 - Relays and Protection Equipment: Safety
IEC 60825-2:2004 +A1:2007 +A2:2010 for fiber-optic communications
IEC 61850-3:2013 - Comm Systems for Power Utility Automation

General

Operating System

SEL Linux® Yellowstone running Linux kernel 3.x with real-time preemption patches

Operating and Storage Temperature Range

–40° to +85°C (–40° to +185°F)
Units should be stored and transported in their original packaging.

Note: Operating temperature evaluated for UL ambient 0° to 40°C.
Note: The optional front-panel LCD is impaired for temperatures below –20°C and above +70°C.

Operating Environment

Pollution Degree:	2
Overvoltage Category:	II
Insulation Class:	1
Relative Humidity:	5%–95%, noncondensing
Maximum Altitude:	2000 m
Vibration, Earth Tremors:	Class 1

Dimensions

Refer to for dimensions.

Weight

SEL-2241 RTAC:	0.670 kg (1.47 lb)
SEL-2242 19 in Backplane:	3.24 kg (7.13 lb)
Panel Mount Bezel:	0.283 kg (0.625 lb)
SEL-2242 10-Slot (19 in Rack Width) With 7 in Touchscreen Display:	3.999 kg (8.80 lb)
SEL-2243-1 HV Coupler:	0.85 kg (1.87 lb)
SEL-2243-2 LV Coupler:	0.89 kg (1.97 lb)
SEL-2244-2 24 DI:	0.45 kg (1.00 lb)
SEL-2244-3 16 DO:	0.59 kg (1.30 lb)
SEL-2244-5 10 FHCDO:	0.57 kg (1.26 lb)
SEL-2245-2 16 AI:	0.51 kg (1.12 lb)
SEL-2245-22 4 AI-ER:	0.42 kg (0.92 lb)
SEL-2245-221 4 LEA:	0.42 kg (0.92 lb)
SEL-2245-3 8 AO:	0.46 kg (1.01 lb)
SEL-2245-4 4 CT/4 PT:	0.54 kg (1.18 lb)
SEL-2245-411 4 CT/4 LEA:	0.54 kg (1.18 lb)
SEL-2245-42 3 CT/3 PT:	0.73 kg (1.60 lb)

Module Burden

Table 14 Maximum Burden Per Module for Each Node

Module	Maximum Added Burden (W)[a]
SEL-2241 RTAC (Copper Ethernet)	12.5
SEL-2241 RTAC (Fiber Ethernet)	15
SEL-2242R Standard Rack-Mount Backplanes	1
SEL-2242 With Touchscreen Display	4
SEL-2243 Power Coupler (Fiber Ethernet)	5[b]
SEL-2243 Power Coupler (Copper Ethernet)	2.5[b]
SEL-2244-2 24 DI	2
SEL-2244-3 16 DO	8[c]
SEL-2244-5 10 FHCDO	6[c]
SEL-2245-2 16 AI	3
SEL-2245-22 4 AI-ER	2
SEL-2245-221 4 LEA	2
SEL-2245-3 8 AO	13
SEL-2245-4 4 CT/4 PT	3
SEL-2245-411 4 CT/4 LEA	3
SEL-2245-42 3 CT/3 PT	6
Feature Selections	**Typical Burden (W)**
No use of SEL-2241 Serial Port +5 Vdc	–3
Each DO port not energized (SEL-2241, SEL-2244-3, or SEL-2244-5 relay coil)	–0.3
Each AO port not energized (SEL-2245-2)	–0.7

[a] Values include worst-case real power consumption and do not include worst-case ac power factor correction (0.4). If the unit will not be used in wide temperature extremes, reduce power by up to 6%.
[b] Each SEL-2243 will draw a minimum of 11 W (quiescent) when the total burden of all other modules in the node is less than 11 W.
[c] All DO relay coils may be energized simultaneously and still meet specifications.

CPU Processing and Memory

Processor Speed:	533 MHz
Memory:	1024 MB DDR2 ECC RAM
Storage:	4 GB (2 GB reserved)

Security Features

Account Management:	User Accounts User Roles LDAP Central Authentication RADIUS Central Authentication Strong Passwords Inactive Account Logouts
Intrusion Detection:	Access/Audit Logs Alarm LED Alarm Contact
Encrypted Communication:	SSL/TLS, SSH, HTTPS

Automation Features (Protocols)

Client:	DNP3 Serial, DNP3 LAN/WAN, Modbus RTU, Modbus TCP, SEL ASCII, SEL Fast Messaging, LG 8979, IEEE C37.118, IEC 61850 MMS, CP2179, IEC 60870-5-101/104, SNMP, SES-92, CDC Type II, Courier, IEC 60870-5-103, Ethernet/IP Explicit Message Client
Server:	DNP3 Serial, DNP3 LAN/WAN, Modbus RTU, Modbus TCP, SEL Fast Messaging, LG 8979, SES-92, IEEE C37.118, IEC 61850 MMS, IEC 60870-5-101/104, FTP, SFTP, CDC Type II, Ethernet/IP Implicit Message Adapter
Peer-to-Peer:	SEL MIRRORED BITS Communications, IEC 61850 GOOSE, Network Global Variables (NGVL), Parallel Redundancy Protocol
Fieldbus:	EtherCAT Client (in RTAC), EtherCAT Server (I/O modules)
Engineering Access	
Modes:	SEL Interleaved, Direct
Port Server:	Map Serial Ports to IP Ports
Secure Web Server:	Diagnostic and Communications Data

Time-Code Input (Modulated IRIG-B)

Input Impedance:	2 kΩ
Accuracy:	500 µs

Time-Code Input (Demodulated IRIG-B)

On (1) State:	$V_{ih} > 2.2$ V
Off (0) State:	$V_{il} < 0.8$ V
Input Impedance:	2 kΩ
Accuracy:	500 ns

Time-Code Output (IRIG-B)

On (1) State:	$V_{oh} > 2.4$ V
Off (0) State:	$V_{ol} < 0.8$ V
Load:	50 Ω

Network Time Protocol (NTP) Modes

NTP Client:	As many as three configurable servers
NTP Server	

Simple Network Time Protocol (SNTP) Accuracy

±1 ms:	This does not take into account external factors such as network switches and topologies

Precise Time Protocol (PTP)

PTP Client:	Peer delay request and end-to-end path delay supported

Communications Ports (SEL-2241 RTAC)

Ethernet Ports (To Backplane)

Ports:	1
Data Rate:	Automatic
Protocols:	Dedicated EtherCAT port

Ethernet Ports (Terminal Side)

Ports:	2
Data Rate:	10 or 100 Mbps
Connector:	RJ45 Female or LC Fiber (Multimode or Single-Mode 100 Mbps only)

Fiber-Optic Ports (Class 1 LASER/LED)

Wavelength

1300 nm

Optical Connector Type

LC

Multimode Option

Link Budget:	11 dB
Min. TX Power:	–20 dBm
Min. RX Sensitivity:	–31 dBm
Fiber Size:	50–200 µm
Approximate Range:	2 km
Data Rate:	100 Mbps
Typical Fiber Attenuation:	–2 dB/km

Single-Mode Option

Link Budget:	10 dB
Min. TX Power:	–15 dBm
Min. RX Sensitivity:	–25 dBm
Fiber Size:	9 µm
Approximate Range:	15 km
Data Rate:	100 Mbps
Typical Fiber Attenuation:	–0.4 dB/km

Serial Ports

Ports:	4
Types:	EIA-232/EIA-485 (software selectable)
Data Rate:	300 to 115,200 bps
Connector:	DB-9 Female
Time Synchronization:	IRIG-B
Power:	+5 Vdc power on Pin 1 (500 mA maximum per SEL-2241)

USB Device Ports

1 Type B

Output (SEL-2241 RTAC)

Mechanical Durability

10 M no-load operations

DC Output Ratings

Rated Operational Voltage:	250 Vdc
Rated Voltage Range:	19.2–275 Vdc
Rated Insulation Voltage:	300 Vdc
Make:	30 A @ 250 Vdc per IEEE C37.90

Continuous Carry:	6 A @ 70°C; 4 A @ 85°C		
Thermal:	50 A for 1 s		
Contact Protection:	360 Vdc, 40 J MOV		
Operating Time (Coil Energization to Contact Closure, Resistive Load):	Pickup/Dropout time ≤8 ms typical		
Breaking Capacity (10,000 Operations) Per IEC 60255-0-20:1974:	24 Vdc	0.75 A	L/R = 40 ms
	48 Vdc	0.50 A	L/R = 40 ms
	125 Vdc	0.30 A	L/R = 40 ms
	250 Vdc	0.20 A	L/R = 40 ms
Cyclic Capacity (2.5 Cycles/Second) Per IEC 60255-0-20:1974:	24 Vdc	0.75 A	L/R = 40 ms
	48 Vdc	0.50 A	L/R = 40 ms
	125 Vdc	0.30 A	L/R = 40 ms
	250 Vdc	0.20 A	L/R = 40 ms

AC Output Ratings

Rated Operational Voltage:	240 Vac
Rated Insulation Voltage:	300 Vac
Utilization Category:	AC-15 (control of electromagnetic loads > 72 VA)
Contact Rating Designation:	B300 (B = 5 A, 300 = rated insulation voltage)
Contact Protection:	270 Vac, 40 J
Continuous Carry:	3 A @ 120 Vac 1.5 A @ 240 Vac
Conventional Enclosed Thermal Current (I_{the}) Rating:	5 A
Rated Frequency:	50/60 ± 5 Hz
Operating Time (Coil Energization to Contact Closure, Resistive Load):	Pickup/Dropout time <8 ms typical
Electrical Durability Make VA Rating:	3600 VA, cosø = 0.3
Electrical Durability Break VA Rating:	360 VA, cosø = 0.3

Backplane (SEL-2242)

Ethernet Port

Port:	1
Data Rate:	10/100 Mbps
Connector:	RJ45 Female
Protocol:	Engineering Access

Note: SEL-2242 Ethernet port is included with the optional touchscreen, 10-slot model only.

Fuse Rating

Non-Serviceable:	2.5 A, 125 V, time lag T

Power Coupler (SEL-2243)

EtherCAT Ports

Ports:	2
Data Rate:	Automatic
Connector:	RJ45 Female or LC Fiber
Protocols:	Dedicated EtherCAT

RJ45 Ports

Cable Length:	<3 m

Fiber-Optic Ports (Class 1 LASER/LED)

Wavelength

1300 nm

Optical Connector Type

LC

Multimode Option

Link Budget:	11 dB
Min. TX Power:	–20 dBm
Min. RX Sensitivity:	–31 dBm
Fiber Size:	50–200 µm
Approximate Range:	2 km
Data Rate:	100 Mbps
Typical Fiber Attenuation:	–2 dB/km

Single-Mode Option

Link Budget:	10 dB
Min. TX Power:	–15 dBm
Min. RX Sensitivity:	–25 dBm
Fiber Size:	9 µm
Approximate Range:	15 km
Data Rate:	100 Mbps
Typical Fiber Attenuation:	–0.4 dB/km

Power Supply

AC Input Voltage (High-Voltage Model)

Note: Single phase.

Nominal Supply Voltage:	120–240 Vac, 50–60 Hz
Operational Voltage Range:	85–264 Vac, 40–70 Hz

DC Input Voltage (High-Voltage Model)

Nominal Supply Voltage:	125–250 Vdc
Operational Voltage Range:	85–300 Vdc

DC Input Voltage (Low-Voltage Model)

Nominal Supply Voltage:	24–48 Vdc
Operational Voltage Range:	19.1–57.6 Vdc polarity-dependent

Note: UL operational voltage range is equal to the nominal voltage range ±10 percent.

Fuse Rating

High-Voltage Model, F1:	3.15 A, high breaking capacity, time lag T, 250 V (5x20 mm, T3.15AH 250 V)
High-Voltage Model, F2 (Non-Serviceable):	8 A, high breaking capacity, time lag T, 60 Vdc (2.7x6.1 mm, T8A 60 Vdc)
Low-Voltage Model:	6.30 A, high breaking capacity, time lag T, 250 V (5x20 mm, T6.3AH 250 V)

Power Consumption: See *Table 14* for power per module.

Maximum AC Burden:	160 VA
Maximum DC Burden:	75 W
Interruptions:	30 ms @ 24 Vdc 130 ms @ 48 Vdc 50 ms @ 125 Vac/Vdc 100 ms @ 250 Vac/Vdc

The following exceptions for the IEC 61850-3 acceptance criteria for normal equipment functioning regarding ac power dips and interruptions and dc voltage dips are applicable (refer to IEC 61850-3 subclause 7.5.5, Equipment functioning, and 7.5.6, Exceptions).

Power Supply	Requirement	Exception[a]
125 Vac	5 cycles (83,33 ms @ 60 Hz, 100 ms @ 50 Hz)	50 ms
	50 cycles	Not applicable[b]

[a] Voltage interruptions that are longer than the specified interruption duration result in a device restart.

[b] Equipment is not intended to be connected to power supply ports that are directly connected to a public low-voltage power supply network.

Max Inrush: 17 A

Isolation: 3100 Vdc

Redundant Installation: Each node may have one or two SEL-2243 modules installed. When two are used, they operate in load-sharing mode.

Recommended External Overcurrent Protection

Breaker Type: Standard

Breaker Rating: 15 A or 20 A at 250 Vdc

Current Breaking Capacity: 10 kA

Grounded Neutral System: Device in series with the HOT or energized conductor

DC and Isolated Systems: Device in series with both conductors

Optoisolated Control Inputs (SEL-2244-2)

When Used With DC Control Signals:

250 Vdc	ON for 200–275 Vdc	OFF below 150 Vdc
220 Vdc	ON for 176–242 Vdc	OFF below 132 Vdc
125 Vdc	ON for 100–135.5 Vdc	OFF below 75 Vdc
110 Vdc	ON for 88–121 Vdc	OFF below 66 Vdc
48 Vdc	ON for 38.4–52.8 Vdc	OFF below 28.8 Vdc
24 Vdc	ON for 15–30 Vdc	OFF for < 10 Vdc

When Used With AC Control Signals:

250 Vdc	ON for 170.6–300 Vac	OFF below 106 Vac
220 Vdc	ON for 150.3–264 Vac	OFF below 93.2 Vac
125 Vdc	ON for 85–150 Vac	OFF below 53 Vac
110 Vdc	ON for 75.1–132 Vac	OFF below 46.6 Vac
48 Vdc	ON for 32.8–60 Vac	OFF below 20.3 Vac
24 Vdc	ON for 14–27 Vac	OFF for < 5 Vac

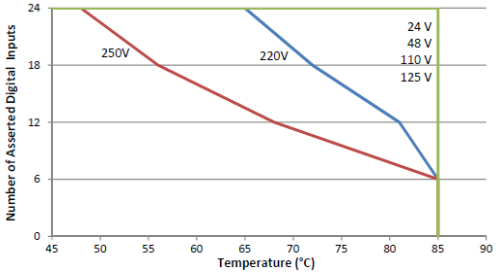
Burden/Current Draw at Nominal DC Voltage: 2–6 mA (Except for 24 V, 8 mA)

Rated Insulation Voltage: 300 Vac

Rated Impulse Withstand Voltage (U_{imp}): 4000 V

Input Thermal Derating

SEL-2244-2 Digital Input Derating Curve



Control Outputs (SEL-2244-3 Standard Contacts)

Mechanical Durability

10 M no-load operations

DC Output Ratings

Rated Operational Voltage: 250 Vdc

Rated Voltage Range: 19.2–275 Vdc

Rated Insulation Voltage: 300 Vdc

Make: 30 A @ 250 Vdc per IEEE C37.90

Continuous Carry: 6 A @ 70°C; 4 A @ 85°C

Continuous Carry (UL/CSA Derating With All Outputs Asserted): 5 A @ < 60°C; 2.5 A 60 to 70°C

Thermal: 50 A for 1 s

Contact Protection: 350 Vdc, 145 J MOV protection across open contacts

Operating Time (Coil Energization to Contact Closure, Resistive Load): Pickup/Dropout time ≤ 8 ms typical

Breaking Capacity (10,000 Operations) Per IEC 60255-0-20:1974:	24 Vdc	0.75 A	L/R = 40 ms
	48 Vdc	0.50 A	L/R = 40 ms
	125 Vdc	0.30 A	L/R = 40 ms
	250 Vdc	0.20 A	L/R = 40 ms
Cyclic Capacity (2.5 Cycles/Second) Per IEC 60255-0-20:1974:	24 Vdc	0.75 A	L/R = 40 ms
	48 Vdc	0.50 A	L/R = 40 ms
	125 Vdc	0.30 A	L/R = 40 ms
	250 Vdc	0.20 A	L/R = 40 ms

AC Output Ratings

Rated Operational Voltage: 240 Vac

Rated Insulation Voltage (Excluding EN 61010-1): 300 Vac

Utilization Category: AC-15 (control of electromagnetic loads > 72 VA)

Contact Rating Designation: B300 (B = 5 A, 300 = rated insulation voltage)

Contact Protection: 250 Vac, 145 J

Continuous Carry: 3 A @ 120 Vac
1.5 A @ 240 Vac

Conventional Enclosed Thermal Current (I_{the}) Rating: 5 A

Rated Frequency: 50/60 ±5 Hz

Operating Time (Coil Energization to Contact Closure, Resistive Load): Pickup/Dropout time <8 ms typical

Electrical Durability Make VA Rating:	3600 VA, cosø = 0.3
Electrical Durability Break VA Rating:	360 VA, cosø = 0.3

Control Outputs (SEL-2244-5 Fast High-Current Contacts)

Mechanical Durability

10 M no-load operations

DC Output Ratings

Rated Operational Voltage:	250 Vdc		
Rated Voltage Range:	19.2–275 Vdc		
Rated Insulation Voltage:	300 Vdc		
Make:	30 A @ 250 Vdc per IEEE C37.90		
Continuous Carry:	6 A @ 70°C; 4 A @ 85°C		
Continuous Carry (UL/CSA Derating With All Outputs Asserted):	5 A @ < 60°C; 2.5 A 60 to 70°C		
Thermal:	50 A for 1 s		
Contact Protection:	330 Vdc, 145 J MOV protection across open contacts		

Operating Time (Coil Energization to Contact Closure, Resistive Load)

Pickup Time:	≤12 µs at 250 Vdc, 16 µs at 125 Vdc, 65 µs at 19.2 Vdc typical (results with 100 kΩ resistive load)		
Dropout Time:	≤8 ms typical		
Inductive Breaking Capacity (10,000 Operations) Per IEC 60255-0-20:1974:	24 Vdc	10 A	L/R = 40 ms
	48 Vdc	10 A	L/R = 40 ms
	125 Vdc	10 A	L/R = 40 ms
	250 Vdc	10 A	L/R = 20 ms
Cyclic Capacity (4 Cycles/Second Followed by 2 Min Idle Thermal Dissipation) Per IEC 60255-0-20:1974:	24 Vdc	10 A	L/R = 40 ms
	48 Vdc	10 A	L/R = 40 ms
	125 Vdc	10 A	L/R = 40 ms
	250 Vdc	10 A	L/R = 20 ms

AC Output Ratings

Rated Operational Voltage:	110/120/220/240 Vac
Voltage Range:	19.2–250 Vac
Rated Insulation Voltage:	250 Vac
Make:	30 A @ 240 Vac
Continuous Carry:	6 A @ 70°C; 4 A @ 85°C
Continuous Carry (UL/CSA Derating With All Outputs Asserted):	5 A @ < 60°C; 2.5 A @ 60° to 70°C
Thermal:	50 A for 1 s
Contact Protection:	250 Vac, 145 J MOV protection across open contacts

Operating Time (Coil Energization to Contact Closure, Resistive Load)

Pickup Time:	≤12 µs at 250 Vac, 16 µs at 125 Vac, 65 µs at 19.2 Vac typical (results with 100 kΩ resistive load)
Dropout Time:	≤8 ms typical

Note: Per IEC 60255-23:1994, using the simplified method of assessment.
Note: Make rating per IEEE C37.90-1989.

Fuse Rating	
Non-Serviceable:	4 A, 450 V, medium time lag M

DC Transducer (Analog) Inputs (SEL-2245-2)

Input Impedance

Current Mode:	200 Ω for ±20 mA 5000 Ω for ±2 mA
Voltage Mode:	10 MΩ

Input Range (Maximum)

±20 mA (transducers: 4–20 mA or 0–20 mA typical)
±2 mA (transducers: 0–1 mA or 0–2 mA typical)
±10 V (transducers: 0–5 V or 0–10 V typical)

Sampling Rate

1 ksps

Anti-Alias Filter

Corner Frequency:	330 Hz
Rolloff:	20 dBV per decade

Digital Filter

Corner Frequency:	Filter A: 16 Hz Filter B: 10 Hz Filter C: 0.2 Hz
50 Hz Rejection:	Filter A: > 30 dB Filter B: > 50 dB Filter C: > 70 dB
60 Hz Rejection:	Filter A: > 60 dB Filter B: > 70 dB Filter C: > 70 dB

Step Response

No Filter:	3 ms (10%–90% response)
Filter A:	23 ms (10%–90% response)
Filter B:	35 ms (10%–90% response)
Filter C:	700 ms (10%–90% response)

Common Mode Range

±35 Vdc between separate inputs
±250 Vdc all inputs to chassis

Isolation

500 Vac between inputs
2000 Vac all inputs to chassis

Accuracy at 25°C

ADC:	16 bit
Voltage Inputs (±10 V):	0.25% of full scale typical 0.05% with field calibration 2% of full-scale maximum
High Current Inputs (±20 mA):	0.5% of full scale typical 0.1% with field calibration 2% of full-scale maximum
Low Current Inputs (±2 mA):	0.5% of full scale typical 0.1% with field calibration 4% of full-scale maximum

Accuracy Variation With Temperature

Inputs:	±0.015% per °C of full scale (±20 mA, ±2 mA, or ±10 V)
ADC:	±0.004% per °C

Triggered Waveform Recording

Sampling Rate:	1 kHz
Record Duration:	0.1 second increments from 0.5 s to 144 s

Record Pre-Trigger:	0.05 s minimum to a maximum of (record length minus 0.05 s)
Waveform File Format:	COMTRADE (IEEE C37.111-1999 compliant)

DC Analog Inputs Extended Range (SEL-2245-22 in DC Mode)

Input Impedance

>7 MΩ

Input Range (Maximum)

0–300 V

Sampling Rate

24 ksps

Anti-Alias Filter

Corner Frequency:	5 kHz
Rolloff:	20 dB per decade

Digital Filter

Corner Frequency:	Filter A: 16 Hz Filter B: 10 Hz Filter C: 0.2 Hz
50 Hz Rejection:	Filter A: > 30 dB Filter B: > 50 dB Filter C: > 70 dB
60 Hz Rejection:	Filter A: > 60 dB Filter B: > 70 dB Filter C: > 70 dB

Step Response

Group Delay (Pre-Filter):	5.3 ms
No Filter:	3 ms (10%–90% response)
Filter A:	23 ms (10%–90% response)
Filter B:	35 ms (10%–90% response)
Filter C:	700 ms (10%–90% response)

Common Mode Range

±250 Vdc between separate inputs
±250 Vac all inputs to chassis

Isolation

2500 Vrms between separate inputs
2500 Vrms all inputs to chassis

Accuracy at 25°C

ADC:	16 bit
Inputs:	0.25% of full scale typical 3% of full scale worst case

Accuracy Variation With Temperature (Inputs)

±0.015% per °C of full scale

Triggered Waveform Recording

Sampling Rate:	1, 2, 4, 8, 24 kHz
Record Duration:	0.1 second increments from 0.5 s to 144 s
Record Pre-Trigger:	0.05 s minimum to a maximum of (record length minus 0.05 s)
Waveform File Format:	COMTRADE (IEEE C37.111-1999 compliant)

DC Analog Outputs (SEL-2245-3)

Current Mode

Output Range:	–20.48 to +20.48 mA
Load Impedance:	0–750 Ω @ 20 mA, 100 µH

Voltage Mode

Output Range:	–10.24 to +10.24 volts
Load Impedance:	>2000 Ω, 1 µF

Step Response

1 ms (10%–90% response typical)

Isolation

2000 Vdc between outputs or ground

Accuracy at 25°C (Outputs)

Current Mode:	±0.3% of full scale typical ±3% of full-scale worst case (average during an EMI event over a 1-second period)
Voltage Mode:	±0.2% of full scale typical ±2% of full-scale worst case (average during an EMI event over a 1-second period)

Accuracy Variation With Temperature (Outputs)

±0.01% of full-scale/°K (current or voltage mode)

AC Metering Inputs (SEL-2245-4, SEL-2245-411, SEL-2245-221, and SEL-2245-22 Voltage Inputs in AC Mode)

Frequency:	50/60 Hz
Range:	45–65 Hz
Typical Accuracy	
SEL-2245-4 and SEL-2245-22:	±0.005 Hz above 20 V
SEL-2245-411 and SEL-2245-221:	±0.005 Hz above 500 mV
Worst-Case Accuracy	
SEL-2245-4 and SEL-2245-22:	±0.01 Hz above 20 V
SEL-2245-411 and SEL-2245-221:	±0.01 Hz above 500 mV
Phase Rotation:	ABC, ACB
Input Configuration:	3-Wire Delta, 4-Wire Wye
Update Interval	
Fundamental Metering:	200 Hz
RMS Metering:	5 Hz

Current Inputs Phase and Neutral

I_{NOM}:	1 A or 5 A (no setting required)
Measurement Range:	0.050–22 A Continuous 22–100 A Symmetrical for 25 s
Thermal Withstand Limit:	500 A for 1 s
Typical Accuracy:	±0.1% Fundamental @ f_{NOM} and > 0.6 A ±0.1% RMS @ f_{NOM} and > 0.6 A
Worst-Case Accuracy:	±2% ± 0.005 A Fundamental ±1% ± 0.005 A RMS

Angle

Range:	±180°
Typical Accuracy:	±0.1° Fundamental @ f_{NOM} and > 0.6 A
Worst-Case Accuracy:	±2° @ f_{NOM}
Burden:	<0.1 VA @ I_{NOM}

Voltage Inputs (SEL-2245-4 and SEL-2245-22 in AC Mode)

V_{NOM}:	300 V
Measurement Range:	5–400 L-N, 9–693 L-L Vac Fundamental/RMS 5–300 L-N, 9–520 L-L Vac Fundamental/RMS (UL)
Maximum:	600 L-N, 1039 L-L Vac Fundamental/RMS for 10 s
Typical Accuracy:	±0.1% Fundamental @ f_{NOM} and > 20 V ±0.1% RMS@ f_{NOM}
Worst-Case Accuracy:	±2% Fundamental @ f_{NOM} ±1% RMS plus ±0.05 V

Angle

Range:	±180°
Typical Accuracy:	±0.1° @ f_{NOM} and >20 V
Worst-Case Accuracy:	±2° @ f_{NOM}
Burden:	<0.1 VA

LEA Voltage Inputs (SEL-2245-411 and SEL-2245-221)

V_{NOM}:	1.5 V
Measurement Range:	30 Vac peak 0.05–22 Vac RMS
Maximum:	300 V_{L-N} RMS for 10 s (surge)
Typical Accuracy:	±0.1% RMS@ f_{NOM} and >50 mV ±0.1% Fundamental @ f_{NOM} and >50 mV
Worst-Case Accuracy:	±3% ±1 mV @ f_{NOM} Fundamental/RMS

Angle

Range:	±180°
Typical Accuracy:	±0.1° @ f_{NOM} and > 50 mV
Worst-Case Accuracy:	±2° @ f_{NOM}
Burden:	<0.1 VA

Sequence Components (SEL-2245-4)

Values:	I0, I1, I2, V0, V1, V2

Typical Accuracy

Magnitude:	±0.2% @ f_{NOM} and V > 6.7 V, I > 0.6 A
Angle:	±0.2° @ f_{NOM} and V > 6.7 V, I > 0.6 A

Worst-Case Accuracy

Magnitude:	±3% @ f_{NOM} and V > 6.7 V, I > 0.6 A
Angle:	±0.2° @ f_{NOM} and V > 6.7 V, I > 0.6 A

Power and Power Factor Per Phase and Three-Phase (SEL-2245-4)

PA, PB, PC, 3P

Typical Accuracy:	0.1% @ PF > 0.1
Worst-Case Accuracy:	2%

QA, QB, QC, 3Q

Typical Accuracy:	0.1% @ PF < 0.9
Worst-Case Accuracy:	2%

SA, SB, SC, 3S

Typical Accuracy:	0.1%
Worst-Case Accuracy:	2%

PFA, PFB, PFC, 3PF

Typical Accuracy:	0.1% @ PF > 0.1
Worst-Case Accuracy:	2%

Power and Power Factor Per Phase and Three-Phase (SEL-2245-411)

PA, PB, PC, 3P

Typical Accuracy:	0.1% @ PF ≥ 0.5
Worst-Case Accuracy:	2%

QA, QB, QC, 3Q

Typical Accuracy:	0.1% @ PF ≤ 0.98
Worst-Case Accuracy:	2%

SA, SB, SC, 3S

Typical Accuracy:	0.1%
Worst-Case Accuracy:	2%

PFA, PFB, PFC, 3PF

Typical Accuracy:	0.1% @ Unity PF
Worst-Case Accuracy:	2%

Synchrophasor

Conformance:	IEEE C37.118.1-2011 as amended by IEEE C37.118.1a-2014 IEEE C37.118.2-2011
Accuracy:	Level 1 as specified by IEEE C37.118
Measurements:	Software selectable (P or M class)
Voltage:	VA, VB, VC, VS
Current:	IA, IB, IC, IN
Positive-Sequence:	V1, I1
Periodic:	Frequency and df/dt
Processing Rate:	120 Hz
Message Rates (60 Hz nominal):	1, 2, 4, 5, 10, 12, 15, 20, 30, and 60 (messages/second)
Message Rates (50 Hz nominal):	1, 2, 5, 10, 25, and 50 (messages/second)

Triggered Waveform Recording (SEL-2245-4, SEL-2245-411, SEL-2245-22, and SEL-2245-221)

Sampling Rates:	1, 2, 4, 8, 24 kHz software selectable
Record Duration:	0.1 second increments from 0.5 s to specified maximum for each sample rate.
Maximum Record Duration:	6 s @ 24 kHz 18 s @ 8 kHz 36 s @ 4 kHz 72 s @ 2 kHz 144 s @ 1 kHz
Record Pre-Trigger:	0.05 s minimum to a maximum of (record length minus 0.05 s)
Waveform File Format:	COMTRADE (IEEE C37.111-1999 compliant)

AC Protection Inputs (SEL-2245-42)

Frequency

Rated:	50/60 Hz
Range:	40–90 Hz

Typical Accuracy:	±0.005 Hz above 20 V
Worst-Case Accuracy:	±0.01 Hz above 20 V (±0.1 Hz for < 2.5 cycles during transients)

Phase Rotation

ABC, ACB

Input Configuration

3-Wire Delta, 4-Wire Wye

Update Interval

Fundamental Metering:	250 Hz
RMS Metering:	250 Hz
RMS Window Size:	1 cycle

AC Current Channels

Nominal Current:	1 A_{RMS} or 5 A_{RMS} (no setting required)
Current Range Rating (With DC Offset at X/R = 10, 1.5 Cycles):	0.1–91 A
Operational Range:	0.1–300 A_{RMS}
Measurement Range:	0.1–20 A_{RMS}
Thermal Withstand Limit:	15 A_{RMS} continuous 500 A_{RMS} for one second

Fundamental Measurement Accuracy

Magnitude:	±0.1%, typical, ±0.001 A ±2%, worst case, ±0.001 A
Phase:	±0.1°, typical at f_{NOM} and current > 0.4 A ±1°, over full rated temperature range ±2°, worst case

RMS Measurement Accuracy

Magnitude:	±0.1%, typical, ±0.001 A ±2%, worst case, ±0.001 A
Burden:	<0.1 VA

AC Voltage Channels

Rated Range:	67–240 V_{L-N}

Note: Rated Range refers to the IEEE C37.118 rating system.

Operational Range:	0–300 V_{L-N}
Accuracy Range:	6.7–300 V_{L-N}
Rated Insulation Voltage:	300 V_{L-N} continuous 600 V_{L-N} for ten seconds

Isolation (Galvanic Isolated Channels)

Channel-to-Ground:	2.5 kV_{RMS} for one minute
Channel-to-Channel:	2.5 kV_{RMS} for one minute

Fundamental Measurement Accuracy

Magnitude:	±0.1%, typical, plus ±0.05 V ±3%, worst case, plus ±0.05 V
Phase:	±0.1° @ f_{NOM}, typical ±1° @ f_{NOM}, over full rated temperature range ±2° @ f_{NOM}, worst case

RMS Measurement Accuracy

Magnitude:	±0.1%, typical, plus ±0.05 V ±3%, worst case, plus ±0.05 V
Burden:	<0.01 VA @ 67 V Impedance >500 kΩ

Sequence Components

Values: I0, I1, I2, V0, V1, V2

Note: Sequence components are of the fundamental frequency.

Accuracy

Magnitude:	±1%, typical
Angle:	±0.5°, typical

Power and Power Factor (Per-Phase and Three-Phase)

Values:	PA, PB, PC, PAB, PBC, PCA QA, QB, QC, QAB, QAC, QCA SA, SB, SC, SAB, SBC, SCA PFA, PFB, PFC, P3, Q3, S3, PF3
Accuracy:	±1%, typical

THD and Noise (Accuracy)

±5% of measurement plus ±0.25%

Synchrophasors

Conformance:	IEEE C37.118.1-2011 as amended by IEEE C37.118.1a-2014 IEEE C37.118.2-2011
Accuracy:	Level 1 as specified by IEEE C37.118
Measurements:	Software selectable (P or M Class)
Voltage:	VA, VB, VC
Current:	IA, IB, IC
Positive-Sequence:	V1, I1
Periodic:	Frequency and df/dt
Processing Rate:	120 Hz
Message Rates (60 Hz nominal):	1, 2, 4, 5, 10, 12, 15, 20, 30, and 60 (messages/second)
Message Rates (50 Hz nominal):	1, 2, 5, 10, 25, 50 (messages/second)

Triggered Waveform Recording

Sampling Rates:	1, 2, 4, 8, 24 kHz software selectable

Transient Fault Record Length

Individual Records as Long as:	24 s for 24 kHz 72 s for 8 kHz 144 s for 4 kHz 288 s for 2 kHz 576 s for 1 kHz
Pre-Fault Time:	0.05 s to (max. event length – 0.05 s)
Data Format:	IEEE C37.111-2013 COMTRADE
File Naming:	IEEE C37.232 COMNAME

Fuse Rating

Non-Serviceable:	2.5 A, 125 V, time lag T

Technical Support

We appreciate your interest in SEL products and services. If you have questions or comments, please contact us at:

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-4 I/O lists; Alarm and trip lists; Memory Maps for Serial Communications; Point Configuration Database

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-4.1 PCS and Safety System IO List (HW and SW)

1724000594-IN-LIS-00004

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PCS and Safety System IO List (HW and SW)	Sh. 1 of 79
		Date: 10/10/2025
		Rev. 05

Base Load Power Hub (BLPH)

PCS and Safety System IO List (HW and SW)

Document Number: 1724000594-IN-LIS-00004

Supplier Document Number: E366772C00-IO

Document Class: 2

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1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

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Sign	Date
	19/11/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
05	10/10/2025	As Built (ASB)	AG	AB	SC
04	04/02/2025	Accepted for Construction (AFC)	SKR	MP/VA/AB	SC
03	05/09/2024	Accepted for Construction (AFC)	SKR	MP/VA/AB	SC
02	03/09/2024	Issue for Review (IFR)	SKR	MP/VA/AB	SC
01	24/06/2024	Issue for Review (IFR)	SKR	MP/VA/AB	SC
00	16/05/2024	Issue for Review (IFR)	SKR	MP/VA/AB	SC

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PCS and Safety System IO List (HW and SW)	Sh. 2 of 79 Date: 10/10/2025 Rev. 05

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3	Revision / Change Log	X	X	X	X	X	X		
4	Notes	X	X	X	X	X	X		
5	FRONT LOADING FOR PCS			X	X	X	X		
6	FRONT LOADING FOR SIS			X	X	X	X		
7	FRONT LOADING FOR FGS			X	X	X	X		
8	PCS and Safety System IO List (HW and SW) - PCS	X	X	X	X	X	X		
12	PCS and Safety System IO List (HW and SW) - SIS	X	X	X	X	X	X		
15	PCS and Safety System IO List (HW and SW) - FGS	X	X	X	X	X	X		
21	MAPPING LIST FOR INSTRUMENT AIR			X	X	X	X		
26	MAPPING LIST FOR NITROGEN GENERATION PACKAGE			X	X	X	X		
32	MAPPING LIST LV SWITCHGEAR (MODBUS)				X	X	X		
42	MAPPING LIST HVAC CONTROL PANEL				X	X	X		
48	MAPPING LIST UPS AC PAS (MODBUS)				X	X	X		
50	MAPPING LIST UPS AC FGS (MODBUS)				X	X	X		
52	MAPPLING LIST UPS DC (MODBUS)				X	X	X		
59	MAPPING LIST CI SERVER					X	X		
60	MAPPING LIST WATER TREATMENT PACKAGE					X	X		
63	MAPPING LIST EMCS					X	X		

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Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ISSUE FOR REVIEW (IFR)
02	ISSUE FOR REVIEW (IFR)
03	ACCEPTED FOR CONSTRUCTION (AFC)
04	ACCEPTED FOR CONSTRUCTION (AFC)
05	AS BUILT (ASB)

HOLDS LIST

No.	Description
1	-
2	-
3	-
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5	-
6	-
7	-
8	-
9	-

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Project Reference Documents

Doc. No.	Description
K559-2254-IC-SPE-001	System specification for Main Automation Contractor
K559-2254-IC-PHI-001	Control System Philosophy
123A90-DDL-IN-LIS-40089	123A90-DDL-IN-LIS-40089_Rev02
1724000594-IN-LIS-00005	EMCS IO List (HW and SW)

NOTES:

The following are the design basis and IO configuration philosophy for this project.

1. This "IO liST- PCS/SIS/FGS" document is prepared based on the design inputs
   any change in design input documents will be reflected and updated
   in next revision accordingly.
2. All IO signals are assigned to redundant IO Modules
3. 20% installed wired spare is considered for each IO types.
4. For all Analog Input Signals, 2W/4W Configuration will be done in software
5. All Analog inputs are considered as 2-wire HART compatible signals.
6. All IS Analog signals related to F&G shall be interfaced through IS barrier to the system
7. Digital inputs from field / other systems shall be dry contacts. The ProSafe-RS digital
   input module will supply the voltage (24V DC) for contact interrogation.
8. All field Digital output signals are driven directly from IO modules without any relays,
   considering load current is less than 0.6A (Prosafe RS) and 100mA (Centum VP).
9. All FVC-24Vdc DO signals will be hardwired via SIL3 capable safety interposing relays.
10. I/O's of Voting/Parallel equipment are assigned in different module.
11. Yokogawa has considered 1 no. of DI signal in Prosafe RS for configuring Programmable Enable key
    switch to control SCS Security Level. Programming Enable Key (SCS Hardware Key) for
    each Controller will be internally wired to its FIO Cabinet.
12. PCS/SIS/FGS Cabinet alarm shall be wired to PCS Marshalling cabinet as Digital Input and
    Wired spares are not provided for cabinet alarm signals.
13. Yokogawa has considered DI signals to generate cabinet alarms as per below details.
    i). 3 No's of Cabinet Alarm's (TEMPERATURE /FAN FAIL ALARM, PSU FAIL ALARM, and Digital TB Alarm)
    are considered for each System/Marshalling cabinets.
    ii). 1 No's of Network Cabinet cumulative alarm from switches
    are considered for each ITER Network cabinet.
14. Cabinet Alarm signals are wired internally to the PCS Marshalling Cabinet through interconnection Cable.
15. Wired Spare tag naming philosophy is followed as- WS<Controller domain & station
16. Third Party communication mapped tag list shall be updated based on updated by Package Vendor.

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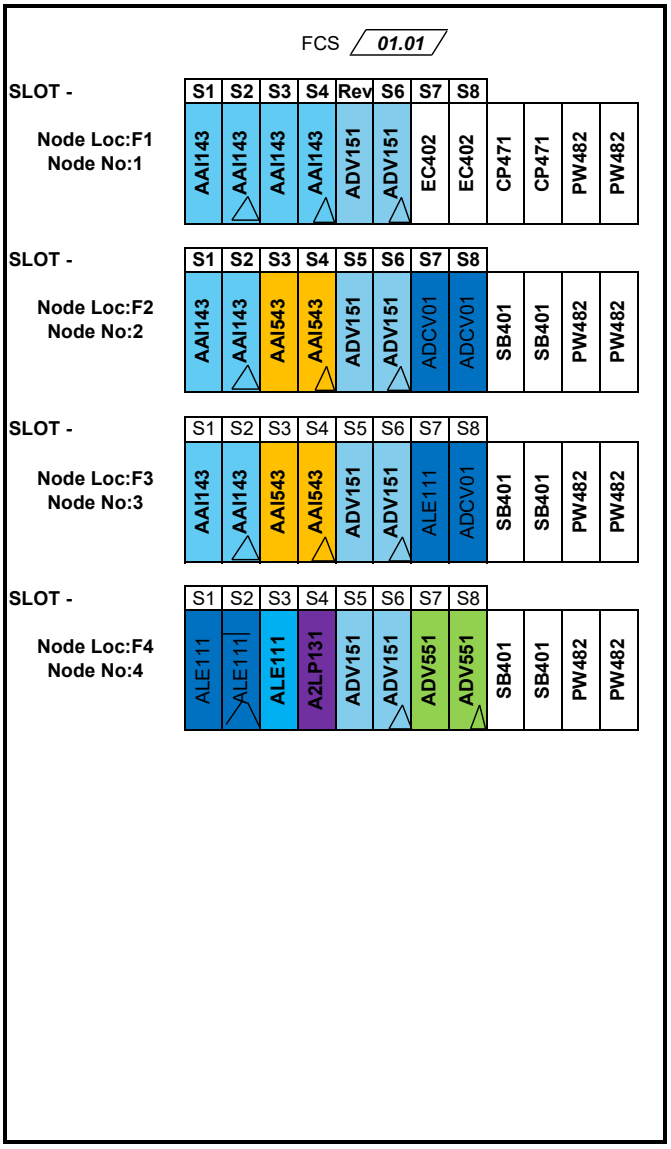
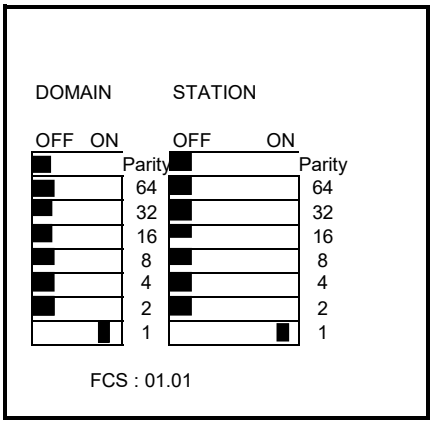
CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title: PCS and Safety System IO List (HW and SW)	Issued for Construction	Sh. 5 Of 79 Date: 10/10/2025 Rev. 05

PCS FRONT LOADING





Color code for modules

- AAI143
- AAI543
- ADV151
- ADV551
- ADCV01

LEGENDS

XX.XX	:	DOMAIN & STATION NUMBER
XXXX	:	COMPONENT NUMBER
FCU	:	FIELD CONTROL UNIT
NIU	:	NODE INTERFACE UNIT
△	:	REDUNDANCY
XX	:	REVISION
FCS	:	FIELD CONTROL STATION
I/O	:	INPUT/OUTPUT
DCS	:	DISTRIBUTED CONTROL SYSTEM
HART	:	HIGHWAY ADDRESSABLE REMOTE TRANSDUCER

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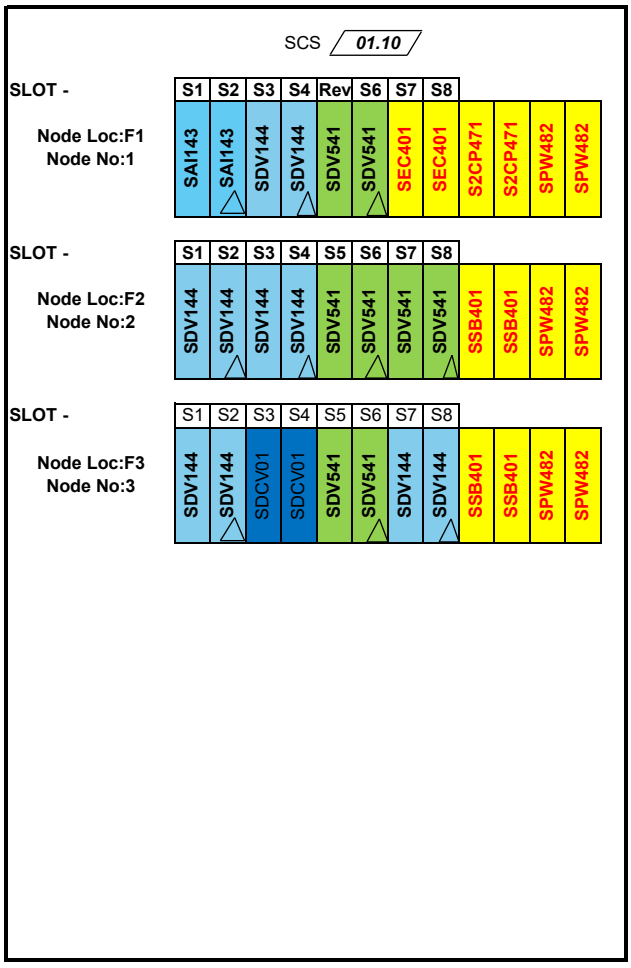
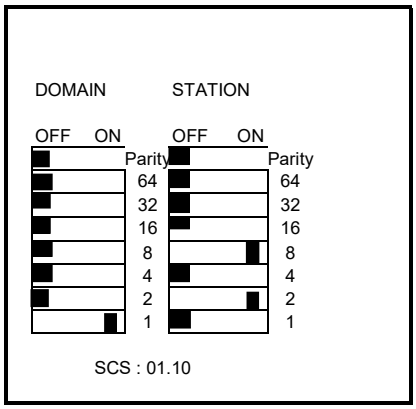
Document Title: PCS and Safety System IO List (HW and SW)	Issued for Construction	Sh. 6 Of 79 Date: 10/10/2025 Rev. 05

SIS FRONT LOADING





COLOR CODE FOR MODULES

- SAI143
- SDV144
- SDV541
- SDCV01

LEGENDS

XX.XX	:	DOMAIN & STATION NUMBER
XXXX	:	COMPONENT NUMBER
FCU	:	FIELD CONTROL UNIT
NIU	:	NODE INTERFACE UNIT
△	:	REDUNDANCY
△ XX	:	REVISION
SCS	:	SAFETY CONTROL STATION
I/O	:	INPUT/OUTPUT
SIS	:	Safety Instrumented System
HART	:	HIGHWAY ADDRESSABLE REMOTE TRANSDUCER

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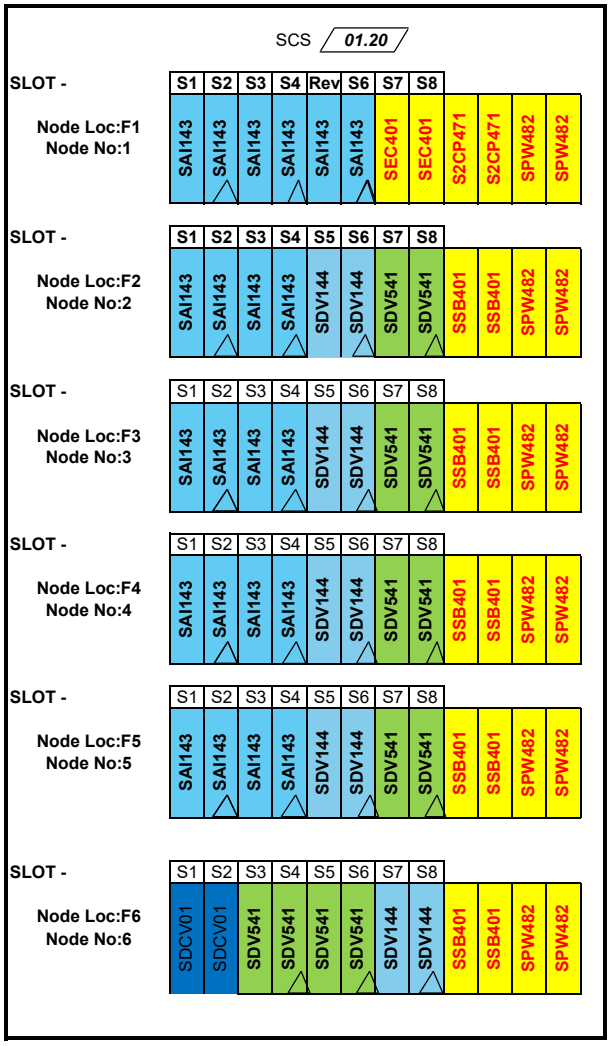
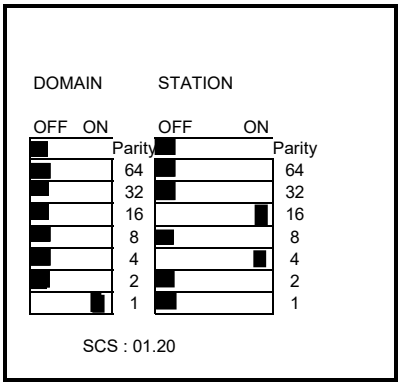
CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title: PCS and Safety System IO List (HW and SW)	Issued for Construction	Sh. 7 Of 79 Date: 10/10/2025 Rev. 05

FGS FRONT LOADING





COLOR CODE FOR MODULES

SAI143	
SDV144	
SDV541	
SDCV01	

LEGENDS

XX.XX	:	DOMAIN & STATION NUMBER
XXXX	:	COMPONENT NUMBER
FCU	:	FIELD CONTROL UNIT
NIU	:	NODE INTERFACE UNIT
△	:	REDUNDANCY
XX	:	REVISION
SCS	:	SAFETY CONTROL STATION
I/O	:	INPUT/OUTPUT
FGS	:	FIRE AND GAS SYSTEM
HART	:	HIGHWAY ADDRESSABLE REMOTE TRANSDUCER

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CROSSWIND

Instruction Book (This sheet tells Users how to use this book)

HOLLANDSE KUST NOORD WIND FARM Fugro
Contract No. C241-HKN-223346

Issued for Construction

Date: 10/10/2025

REV: 05

Siemens Gamesa

PCS

| S. No | TAG_NAME | INSTRUMENT TYPE_DESCRIPTION | LOOP_DESCRIPTION | P_ID | PACKAGE | LOCATION | SIGNAL_TYPE | SYSTEM | ID_TYPE | P&ID | PCS | AD | ESIGNAL_TYPE | LOOP_DESCRIPTION | LOOP_DESCRIPTION_2 | LOOP_DESCRIPTION_3 | LOOP_DESCRIPTION_4 | LOOP_DESCRIPTION_5 | LOOP_DESCRIPTION_6 | LOOP_DESCRIPTION_7 | LOOP_DESCRIPTION_8 | LOOP_DESCRIPTION_9 | LOOP_DESCRIPTION_10 | LOOP_DESCRIPTION_11 | LOOP_DESCRIPTION_12 | LOOP_DESCRIPTION_13 | LOOP_DESCRIPTION_14 | LOOP_DESCRIPTION_15 | LOOP_DESCRIPTION_16 | LOOP_DESCRIPTION_17 | LOOP_DESCRIPTION_18 | LOOP_DESCRIPTION_19 | LOOP_DESCRIPTION_20 | LOOP_DESCRIPTION_21 |

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CROSSWIND

HOLLANDSE KUST NOORD WIND FARM Fugro
Contract No. C/NR.HKN.22236

Issued for Construction

Date: 10/10/2025

Rev: 00

BAM

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| S.No | TAG_NAME | LOOP_NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_TYPE_DESCRIPTION | P&ID | PACKAGE | LOCA TION | RISK_LVL_TYPE | SYSTEM | PSO Lv-4 | SUB_SA_TE | LOOP_TYPE_DESCRIPTION | P&ID | LOOP_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION

PCS

| S.No. | TAG_NAME | LOOP_NAME | HMI TAG_NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | P&ID Level | SYSSTM | IO_TYPE | SIGNAL_TYPE | 2-/4-WIRE | Ex-i | LINE MONITORING | UOM (ESI) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP-NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | PCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_A | TBA_NO_B | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIERS_MODEL | BARRIER_RELAY_NO. | NJEST LOADING REV NO. | REMARKS |
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| S.No | TAG_NAME | LOOP_NAME | HMI TAG_NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | PSD Level | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex i | LINE MONITORING | UOM (ESU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | PCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_A | TBA_NO_B | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIER/RELAY_MODEL | BARRIER/RELAY_NO. | VLIST LOADING REV NO. | REMARKS |
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| S.No | TAG_NAME | LOOP_NAME | SIS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LO OP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGANL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | O/P_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_A | TBA_NO_B | MARSH_TB_SHF | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIER/RELAY_MODEL | BARRIER/RELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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SIS

| S.No | TAG_NAME | LOOP_NAME | SIS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LO OP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | O/P_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_A | TBA_NO_B | MARSH_TB_G.SP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIERELAY_MODEL | BARRIERELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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SIS

| S.No | TAG_NAME | LOOP_NAME | SIS_TAG_NAME | IO TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LO OP_DESCRIPTION_1 | LOOP_DESCRIPTD N_2 | P_ID | PACKAGE | LOCATION | SIGANL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | O/P_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_A | TBA_NO_B | MARSH_TB_SIP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIERELAY_MODEL | BARRIERELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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FGS

| S.No | TAG_NAME | LOOP_NAME | FGS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | P AIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | ID_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_BYLD PWR 24 V | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIERELAY_MODEL | BARRIERELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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FGS

| S.No | TAG_NAME | LOOP_NAME | FGS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_BYLD PWR 24 V | TBA_NO_BYLD PWR 24 V | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIERELAY_MODEL | BARRIERELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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FGS

| S.No | TAG_NAME | LOOP_NAME | FGS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | PAIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_BYFLD PWR 24 V | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARRIERELAY_MODEL | BARRIERELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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FGS

| S.No | TAG_NAME | LOOP_NAME | FGS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | P.AIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_BYLD PWR 24 V | TBA_NO_BYLD PWR 24 (-) | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARR/RELAY_MODEL | BARR/RELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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FGS

| S.No | TAG_NAME | LOOP_NAME | FGS_TAG_NAME | ID TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | P AIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_BYFLD PWR 24 V | TBA_NO_BYFLD PWR 24 (-) | MARSH_TB_GRP | MARSH_TB_A | MARSH_TB_B | MARSH_TB_C | BARR/RELAY_MODEL | BARR/RELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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FGS

| S.No | TAG_NAME | LOOP_NAME | FGS_TAG_NAME | IO TAG NAME | INSTRUMENT_TYPE_DESCRIPTION | LOOP_DESCRIPTION | LOOP_DESCRIPTION_1 | LOOP_DESCRIPTION_2 | P_ID | PACKAGE | LOCATION | SIGNAL_SOURCE | SYSTEM | IO_TYPE | SIGNAL_TYPE | 2/4 WIRE | Ex-i | LINE MONITORING | UOM (EU) | MINIMUM | MAXIMUM | LL | L | H | HH | ALARM PRIORITY LL | ALARM PRIORITY L | ALARM PRIORITY H | ALARM PRIORITY HH | VOTING GROUP | PARALLEL EQUIPMENT | JUNCTION_BOX_NO | MULTI PAIR CABLE DETAILS | P.AIR QTY | PAIR/CORE NO. | FIRE_ZONE | HW TYPICAL LOOP NO. | OFF_STATE_DESCRIPTION | ON_STATE_DESCRIPTION | FCS No | NODE | SLOT | CHANNEL | SYS_CAB_NAME | TBA_NAME | TBA_MODEL | IO_CARD_MODEL | MARSH_CAB_NAME | TBA_NO_BYLD PWR 24 V | TBA_NO_BYLD PWR 24 V | MARSH_TB_GRP | MARSH_TB_RIA | MARSH_TB_IB | MARSH_TB_IC | BARRIER/RELAY_MODEL | BARRIER/RELAY_NO. | NEST LOADING REV NO. | HW_TYPICAL | REMARKS |
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INSTRUMENT AIR

No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	VendorTag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Alarm	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1000.00	B	41000	01	Spare		Spare			1 Bit	BOOL	BOOL	
2	4	1000.01	B	41000	02	Spare		Spare			1 Bit	BOOL	BOOL	
3	4	1000.02	B	41000	03	Spare		Spare			1 Bit	BOOL	BOOL	
4	4	1000.03	B	41000	04	Spare		Spare			1 Bit	BOOL	BOOL	
5	4	1000.04	B	41000	05	Spare		Spare			1 Bit	BOOL	BOOL	
6	4	1000.05	B	41000	06	Spare		Spare			1 Bit	BOOL	BOOL	
7	4	1000.06	B	41000	07	Spare		Spare			1 Bit	BOOL	BOOL	
8	4	1000.07	B	41000	08	Spare		Spare			1 Bit	BOOL	BOOL	
9	4	1001.00	B	41001	01	Spare		Spare			1 Bit	BOOL	BOOL	
10	4	1001.01	B	41001	02	Spare		Spare			1 Bit	BOOL	BOOL	
11	4	1001.02	B	41001	03	Spare		Spare			1 Bit	BOOL	BOOL	
12	4	1001.03	B	41001	04	Spare		Spare			1 Bit	BOOL	BOOL	
13	4	1001.04	B	41001	05	Spare		Spare			1 Bit	BOOL	BOOL	
14	4	1001.05	B	41001	06	Spare		Spare			1 Bit	BOOL	BOOL	
15	4	1001.06	B	41001	07	Spare		Spare			1 Bit	BOOL	BOOL	
16	4	1001.07	B	41001	08	Spare		Spare			1 Bit	BOOL	BOOL	
17	4	1002.00	B	41002	01	63-PS-054-H	63PS054-H	ALARM (DRYER 1) TOWER A PRESSURE SWITCH	DRYER 1 TOWER A PR HI	YES	1 Bit	BOOL	BOOL	
18	4	1002.01	B	41002	02	63-PS-056-H	63PS056-H	ALARM (DRYER 1) TOWER B PRESSURE SWITCH	DRYER 1 TOWER B PR HI	YES	1 Bit	BOOL	BOOL	
19	4	1002.02	B	41002	03	63-PS-058-H	63PS058-H	ALARM (DRYER 2) TOWER A PRESSURE SWITCH	DRYER 2 TOWER A PR HI	YES	1 Bit	BOOL	BOOL	
20	4	1002.03	B	41002	04	63-PS-060-H	63PS060-H	ALARM (DRYER 2) TOWER B PRESSURE SWITCH	DRYER 2 TOWER B PR HI	YES	1 Bit	BOOL	BOOL	
21	4	1002.04	B	41002	05	Spare		Spare			1 Bit	BOOL	BOOL	
22	4	1002.05	B	41002	06	Spare		Spare			1 Bit	BOOL	BOOL	
23	4	1002.06	B	41002	07	Spare		Spare			1 Bit	BOOL	BOOL	
24	4	1002.07	B	41002	08	Spare		Spare			1 Bit	BOOL	BOOL	
25	4	1003.00	B	41003	01	63-CMPR-ALARM-FDBCK-001-H	63COMP001-H	COMPRESSOR 1 - GENERAL ALARM	COMP-1 GENERAL ALM	YES	1 Bit	BOOL	BOOL	
26	4	1003.01	B	41003	02	63-CMPR-ALARM-FDBCK-002-H	63COMP002-H	COMPRESSOR 2 - GENERAL ALARM	COMP-12 GENERAL ALM	YES	1 Bit	BOOL	BOOL	
27	4	1003.02	B	41003	03	63-20FS-12-H	6320FS12-H	SOURGE ARRESTER 230VAC_SERVICES - ALARM	SURG ARR 230VAC_SERV ALM	YES	1 Bit	BOOL	BOOL	
28	4	1003.03	B	41003	04	63-21FS-12-H	6321FS12-H	SOURGE ARRESTER 230VAC_UPS - ALARM	SURG ARR 230VAC_UPS ALM	YES	1 Bit	BOOL	BOOL	
29	4	1003.04	B	41003	05	63-TH-001-H	63TH001-H	INTERNAL CABINET THERMOSTAT - ALARM	INT CAB HRMOSTAT ALM	YES	1 Bit	BOOL	BOOL	
30	4	1003.05	B	41003	06	Spare		Spare			1 Bit	BOOL	BOOL	
31	4	1003.06	B	41003	07	Spare		Spare			1 Bit	BOOL	BOOL	
32	4	1003.07	B	41003	08	Spare		Spare			1 Bit	BOOL	BOOL	
33	4	1004.00	B	41004	01	63-XY-051-H	63XY051-H	ALARM 5-WAY VALVE SOV (DRYER 1)	ALM 5WAY SOV DRYER 1	YES	1 Bit	BOOL	BOOL	
34	4	1004.01	B	41004	02	63-XY-052-H	63XY052-H	ALARM DEPRESSURIZATION VALVE SOV (DRYER 1)	ALM DEPR SOV DRYER 1	YES	1 Bit	BOOL	BOOL	
35	4	1004.02	B	41004	03	Spare		Spare			1 Bit	BOOL	BOOL	
36	4	1004.03	B	41004	04	Spare		Spare			1 Bit	BOOL	BOOL	
37	4	1004.04	B	41004	05	Spare		Spare			1 Bit	BOOL	BOOL	
38	4	1004.05	B	41004	06	Spare		Spare			1 Bit	BOOL	BOOL	
39	4	1004.06	B	41004	07	Spare		Spare			1 Bit	BOOL	BOOL	
40	4	1004.07	B	41004	08	Spare		Spare			1 Bit	BOOL	BOOL	
41	4	1005.00	B	41005	01	63-XY-053-H	63XY053-H	ALARM 5-WAY VALVE SOV (DRYER 2)	ALM 5WAY SOV DRYER 2	YES	1 Bit	BOOL	BOOL	
42	4	1005.01	B	41005	02	63-XY-054-H	63XY054-H	ALARM DEPRESSURIZATION VALVE SOV (DRYER 2)	ALM DEPR SOV DRYER 2	YES	1 Bit	BOOL	BOOL	
43	4	1005.02	B	41005	03	Spare		Spare			1 Bit	BOOL	BOOL	
44	4	1005.03	B	41005	04	Spare		Spare			1 Bit	BOOL	BOOL	
45	4	1005.04	B	41005	05	Spare		Spare			1 Bit	BOOL	BOOL	
46	4	1005.05	B	41005	06	Spare		Spare			1 Bit	BOOL	BOOL	
47	4	1005.06	B	41005	07	Spare		Spare			1 Bit	BOOL	BOOL	
48	4	1005.07	B	41005	08	Spare		Spare			1 Bit	BOOL	BOOL	
49	4	1006.00	B	41006	01	Spare		Spare			1 Bit	BOOL	BOOL	
50	4	1006.01	B	41006	02	Spare		Spare			1 Bit	BOOL	BOOL	
51	4	1006.02	B	41006	03	Spare		Spare			1 Bit	BOOL	BOOL	
52	4	1006.03	B	41006	04	Spare		Spare			1 Bit	BOOL	BOOL	
53	4	1006.04	B	41006	05	Spare		Spare			1 Bit	BOOL	BOOL	
54	4	1006.05	B	41006	06	Spare		Spare			1 Bit	BOOL	BOOL	
55	4	1006.06	B	41006	07	Spare		Spare			1 Bit	BOOL	BOOL	
56	4	1006.07	B	41006	08	Spare		Spare			1 Bit	BOOL	BOOL	
57	4	1007.00	B	41007	01	63-AIT-051-LL	63AIT051-LL	DEW POINT TRANSMITTER - LOW LOW ALARM (LL)	DEW POINT Tx LO LO ALM	YES	1 Bit	BOOL	BOOL	
58	4	1007.01	B	41007	02	63-AIT-051-L	63AIT051-L	DEW POINT TRANSMITTER - LOW ALARM (L)	DEW POINT Tx LO ALM	YES	1 Bit	BOOL	BOOL	
59	4	1007.02	B	41007	03	63-AIT-051-H	63AIT051-H	DEW POINT TRANSMITTER - HIGH ALARM (H)	DEW POINT Tx HI ALM	YES	1 Bit	BOOL	BOOL	
60	4	1007.03	B	41007	04	63-AIT-051-HH	63AIT051-HH	DEW POINT TRANSMITTER - HIGH HIGH ALARM (HH)	DEW POINT Tx HI HI ALM	YES	1 Bit	BOOL	BOOL	
61	4	1007.04	B	41007	05	63-PT-064-LL	63PT064-LL	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW LOW ALARM (LL)	PT IA REC LO LO ALM	YES	1 Bit	BOOL	BOOL	

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62	4	1007.05	B	41007	06	63-PT-064-L	63PT064-L	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW ALARM (L)	PT IA REC LO ALM	YES	1 Bit	BOOL	BOOL	
63	4	1007.06	B	41007	07	63-PT-064-H	63PT064-H	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH ALARM (H)	PT IA REC HI ALM	YES	1 Bit	BOOL	BOOL	
64	4	1007.07	B	41007	08	63-PT-064-HH	63PT064-HH	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH HIGH ALARM (HH)	PT IA REC HI HI ALM	YES	1 Bit	BOOL	BOOL	
65	4	1008.00	B	41008	01	63-TIT-051-LL	63TIT051-LL	TEMPERATURE TRANSMITTER INLET AIR - LOW LOW ALARM (LL)	TT IN AIR LO LO ALM	YES	1 Bit	BOOL	BOOL	
66	4	1008.01	B	41008	02	63-TIT-051-L	63TIT051-L	TEMPERATURE TRANSMITTER INLET AIR - LOW ALARM (L)	TT IN AIR LO ALM	YES	1 Bit	BOOL	BOOL	
67	4	1008.02	B	41008	03	63-TIT-051-H	63TIT051-H	TEMPERATURE TRANSMITTER INLET AIR - HIGH ALARM (H)	TT IN AIR HI ALM	YES	1 Bit	BOOL	BOOL	
68	4	1008.03	B	41008	04	63-TIT-051-HH	63TIT051-HH	TEMPERATURE TRANSMITTER INLET AIR - HIGH HIGH ALARM (HH)	TT IN AIR HI HI ALM	YES	1 Bit	BOOL	BOOL	
69	4	1008.04	B	41008	05	63-TIT-052-LL	63TIT052-LL	TEMPERATURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW LOW ALARM (LL)	TT IA REC LO LO ALM	YES	1 Bit	BOOL	BOOL	
70	4	1008.05	B	41008	06	63-TIT-052-L	63TIT052-L	TEMPERATURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW ALARM (L)	TT IA REC LO ALM	YES	1 Bit	BOOL	BOOL	
71	4	1008.06	B	41008	07	63-TIT-052-H	63TIT052-H	TEMPERATURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH ALARM (H)	TT IA REC HI ALM	YES	1 Bit	BOOL	BOOL	
72	4	1008.07	B	41009	08	63-TIT-052-HH	63TIT052-HH	TEMPERATURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH HIGH ALARM (HH)	TT IA REC HI HI ALM	YES	1 Bit	BOOL	BOOL	
73	4	1009.00	B	41009	01	63-FIT-051-LL	63FIT051-LL	FLOW TRANSMITTER OUTLET AIR - LOW LOW ALARM (LL)	FT OL AIR LO LO ALM	YES	1 Bit	BOOL	BOOL	
74	4	1009.01	B	41009	02	63-FIT-051-L	63FIT051-L	FLOW TRANSMITTER OUTLET AIR - LOW ALARM (L)	FT OL AIR LO ALM	YES	1 Bit	BOOL	BOOL	
75	4	1009.02	B	41009	03	63-FIT-051-H	63FIT051-H	FLOW TRANSMITTER OUTLET AIR - HIGH ALARM (H)	FT OL AIR HI ALM	YES	1 Bit	BOOL	BOOL	
76	4	1009.03	B	41009	04	63-FIT-051-HH	63FIT051-HH	FLOW TRANSMITTER OUTLET AIR - HIGH HIGH ALARM (HH)	FT OL AIR HI HI ALM	YES	1 Bit	BOOL	BOOL	
77	4	1009.04	B	41009	05	63-PDIT-051-LL	63PDIT051-LL	DIFFERENTIAL PRESSURE TRANSMITTER INLET FILTERS - LOW LOW ALARM (LL)	DPT IN FLTRS LO LO ALM	YES	1 Bit	BOOL	BOOL	
78	4	1009.05	B	41009	06	63-PDIT-051-L	63PDIT051-L	DIFFERENTIAL PRESSURE TRANSMITTER INLET FILTERS - LOW ALARM (L)	DPT IN FLTRS LO ALM	YES	1 Bit	BOOL	BOOL	
79	4	1009.06	B	41009	07	63-PDIT-051-H	63PDIT051-H	DIFFERENTIAL PRESSURE TRANSMITTER INLET FILTERS - HIGH ALARM (H)	DPT IN FLTRS HI ALM	YES	1 Bit	BOOL	BOOL	
80	4	1009.07	B	41009	08	63-PDIT-051-HH	63PDIT051-HH	DIFFERENTIAL PRESSURE TRANSMITTER INLET FILTERS - HIGH HIGH ALARM (HH)	DPT IN FLTRS HI HI ALM	YES	1 Bit	BOOL	BOOL	
81	4	1010.00	B	41010	01	63-PDIT-052-LL	63PDIT052-LL	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - LOW LOW ALARM (LL)	DPT OL FLTRS LO LO ALM	YES	1 Bit	BOOL	BOOL	
82	4	1010.01	B	41010	02	63-PDIT-052-L	63PDIT052-L	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - LOW ALARM (L)	DPT OL FLTRS LO ALM	YES	1 Bit	BOOL	BOOL	
83	4	1010.02	B	41010	03	63-PDIT-052-H	63PDIT052-H	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - HIGH ALARM (H)	DPT OL FLTRS HI ALM	YES	1 Bit	BOOL	BOOL	
84	4	1010.03	B	41010	04	63-PDIT-052-HH	63PDIT052-HH	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - HIGH HIGH ALARM (HH)	DPT OL FLTRS HI HI ALM	YES	1 Bit	BOOL	BOOL	
85	4	1010.04	B	41010	05	spare		Spare			1 Bit	BOOL	BOOL	
86	4	1010.05	B	41010	06	spare		Spare			1 Bit	BOOL	BOOL	
87	4	1010.06	B	41010	07	spare		Spare			1 Bit	BOOL	BOOL	
88	4	1010.07	B	41010	08	spare		Spare			1 Bit	BOOL	BOOL	
89	4	1011.00	B	41011	01	63-AIT-051-BADPV	63AIT051-BADPV	DEW POINT TRANSMITTER - BAD PROCESS VALUE	DEW POINT Tx BAD PV	YES	1 Bit	BOOL	BOOL	
90	4	1011.01	B	41011	02	63-PT-064-BADPV	63PT064-BADPV	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - BAD PROCESS VALUE	PT IA REC BAD PV	YES	1 Bit	BOOL	BOOL	
91	4	1011.02	B	41011	03	63-TIT-051-BADPV	63TIT051-BADPV	TEMPERATURE TRANSMITTER INLET AIR - BAD PROCESS VALUE	TT IN AIR BAD PV	YES	1 Bit	BOOL	BOOL	
92	4	1011.03	B	41011	04	63-TIT-052-BADPV	63TIT052-BADPV	TEMPERATURE TRANSMITTER INSTRUMENT AIR RECIEVER - BAD PROCESS VALUE	TT IA REC BAD PV	YES	1 Bit	BOOL	BOOL	
93	4	1011.04	B	41011	05	63-FIT-051-BADPV	63FIT051-BADPV	FLOW TRANSMITTER OUTLET AIR - BAD PROCESS VALUE	FT OL AIR BAD PV	YES	1 Bit	BOOL	BOOL	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	VendorTag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Alarm	Data Size	PCS Data Type	Vendor Data Type	Remarks
94	4	1011.05	B	41011	06	63-PDIT-051-BAD PV	63PDI051-BPV	DIFFERENTIAL PRESSURE TRANSMITTER IN LET FILTERS - BAD PROCESS VALUE	DPT IN FLTRS BAD PV	YES	1 Bit	BOOL	BOOL	
95	4	1011.06	B	41011	07	63-PDIT-052-BAD PV	63PDI052-BPV	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - BAD PROCESS VALUE	DPT OL FLTRS BAD PV	YES	1 Bit	BOOL	BOOL	
96	4	1011.07	B	41011	08	Spare		SPARE	SPARE		1 Bit	BOOL	BOOL	
97	4	1012.00	B	41012	01	63-ESD-SIS-001-H	63ESDSIS001-H	0=SHUTDOWN ALARM, 1=OK	PLANT SD ALM SIS	YES	1 Bit	BOOL	BOOL	
98	4	1012.01	B	41012	02	63-ALARM-PLANT	63ALARM-PLANT	0=CUMULATIVE STANDARD ALARM, 1=OK	PLANT GENERAL ALM	YES	1 Bit	BOOL	BOOL	
99	4	1012.02	B	41012	03	63-PLANT-READY	63PLANT-READY	0=NOT READY, 1=READY TO START	PLANT READY		1 Bit	BOOL	BOOL	
100	4	1012.03	B	41012	04	63-PLANT-RUNNING	63PLANT-RUNNING	0=STOPPED, 1=RUNNING	PLANT RUNN		1 Bit	BOOL	BOOL	
101	4	1012.04	B	41012	05	63-PLANT-LOCA-REM	63PL-LR	0=LOCAL (PLC), 1=REMOTE (PCS)	PLANT IN REMOTE MODE		1 Bit	BOOL	BOOL	
102	4	1012.05	B	41012	06	63-ALARM-DRY-001	63ALARMDRY-001	0=ALARM, 1=OK	DRYER 1 ALM	YES	1 Bit	BOOL	BOOL	
103	4	1012.06	B	41012	07	63-ALARM-DRY-002	63ALARMDRY-002	0=ALARM, 1=OK	DRYER 2 ALM	YES	1 Bit	BOOL	BOOL	
104	4	1012.07	B	41012	08	Spare		Spare	SPARE		1 Bit	BOOL	BOOL	
105	4	1013.00	B	41013	01	63-CMPR-START-001	63CMP01-ST	COMPRESSOR 1 RUNNING	COMPRESSOR 1 CMD		1 Bit	BOOL	BOOL	
106	4	1013.01	B	41013	02	63-CMPR-START-002	63CMP02-ST	COMPRESSOR 2 RUNNING	COMPRESSOR 2 CMD		1 Bit	BOOL	BOOL	
107	4	1013.02	B	41013	03	Spare		Spare	SPARE		1 Bit	BOOL	BOOL	
108	4	1013.03	B	41013	04	Spare		Spare	SPARE		1 Bit	BOOL	BOOL	
109	4	1013.04	B	41013	05	63-CMPR-RUN-FDBCK-001	63CMP01-RUN	COMPRESSOR 1 RUNNING	COMPRESSOR 1 RUNN		1 Bit	BOOL	BOOL	
110	4	1013.05	B	41013	06	63-CMPR-RUN-FDBCK-002	63CMP02-RUN	COMPRESSOR 2 RUNNING	COMPRESSOR 2 RUNN		1 Bit	BOOL	BOOL	
111	4	1013.06	B	41013	07	Spare		Spare	SPARE		1 Bit	BOOL	BOOL	
112	4	1013.07	B	41013	08	Spare		Spare	SPARE		1 Bit	BOOL	BOOL	
113	4	1014.00	B	41014	01	63-XY-051	63XY051	(DRYER 1) 5-WAY VALVE SOV OPEN COMMAND	DRYER-1 5WAY SOV OPN		1 Bit	BOOL	BOOL	
114	4	1014.01	B	41014	02	63-XY-052	63XY052	(DRYER 1) DEPRESSURIZATION VALVE SOV OPEN COMMAND	DRYER-1 DEPR SOV OPN		1 Bit	BOOL	BOOL	
115	4	1014.02	B	41014	03	63-XY-053	63XY053	(DRYER 2) 5-WAY VALVE SOV OPEN COMMAND	DRYER-2 5WAY SOV OPN		1 Bit	BOOL	BOOL	
116	4	1014.03	B	41014	04	63-XY-054	63XY054	(DRYER 2) DEPRESSURIZATION VALVE SOV OPEN COMMAND	DRYER-2 DEPR SOV OPN		1 Bit	BOOL	BOOL	
117	4	1014.04	B	41014	05	Spare		Spare			1 Bit	BOOL	BOOL	
118	4	1014.05	B	41014	06	Spare		Spare			1 Bit	BOOL	BOOL	
119	4	1014.06	B	41014	07	Spare		Spare			1 Bit	BOOL	BOOL	
120	4	1014.07	B	41014	08	Spare		Spare			1 Bit	BOOL	BOOL	
121	4	1015.00	B	41015	01	Spare		Spare			1 Bit	BOOL	BOOL	
122	4	1015.01	B	41015	02	Spare		Spare			1 Bit	BOOL	BOOL	
123	4	1015.02	B	41015	03	spare		Spare			1 Bit	BOOL	BOOL	
124	4	1015.03	B	41015	04	spare		Spare			1 Bit	BOOL	BOOL	
125	4	1015.04	B	41015	05	Spare		Spare			1 Bit	BOOL	BOOL	
126	4	1015.05	B	41015	06	Spare		Spare			1 Bit	BOOL	BOOL	
127	4	1015.06	B	41015	07	Spare		Spare			1 Bit	BOOL	BOOL	
128	4	1015.07	B	41015	08	Spare		Spare			1 Bit	BOOL	BOOL	
129	4	1016.00	B	41016	01	Spare		Spare			1 Bit	BOOL	BOOL	
130	4	1016.01	B	41016	02	Spare		Spare			1 Bit	BOOL	BOOL	
131	4	1016.02	B	41016	03	spare		Spare			1 Bit	BOOL	BOOL	
132	4	1016.03	B	41016	04	spare		Spare			1 Bit	BOOL	BOOL	
133	4	1016.04	B	41016	05	Spare		Spare			1 Bit	BOOL	BOOL	
134	4	1016.05	B	41016	06	Spare		Spare			1 Bit	BOOL	BOOL	
135	4	1016.06	B	41016	07	Spare		Spare			1 Bit	BOOL	BOOL	
136	4	1016.07	B	41016	08	Spare		Spare			1 Bit	BOOL	BOOL	
137	4	1017.00	B	41017	01	Spare		Spare			1 Bit	BOOL	BOOL	
138	4	1017.01	B	41017	02	Spare		Spare			1 Bit	BOOL	BOOL	
139	4	1017.02	B	41017	03	spare		Spare			1 Bit	BOOL	BOOL	
140	4	1017.03	B	41017	04	spare		Spare			1 Bit	BOOL	BOOL	
141	4	1017.04	B	41017	05	Spare		Spare			1 Bit	BOOL	BOOL	
142	4	1017.05	B	41017	06	Spare		Spare			1 Bit	BOOL	BOOL	
143	4	1017.06	B	41017	07	spare		spare			1 Bit	BOOL	BOOL	
144	4	1017.07	B	41017	08	spare		spare			1 Bit	BOOL	BOOL	
145	4	1017.07	B	41017	08	spare		spare			1 Bit	BOOL	BOOL	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1152	B	41152	Spare		SPARE - REAL PARAMETER 001				NA					0	65535	32 Bit	UINT	REAL	
2	4	1156	B	41154	Spare		SPARE - REAL PARAMETER 002				NA					0	65535	32 Bit	UINT	REAL	
3	4	1160	B	41156	Spare		SPARE - REAL PARAMETER 003				NA					0	65535	32 Bit	UINT	REAL	
4	4	1164	B	41158	Spare		SPARE - REAL PARAMETER 004				NA					0	65535	32 Bit	UINT	REAL	
5	4	1168	B	41160	Spare		SPARE - REAL PARAMETER 005				NA					0	65535	32 Bit	UINT	REAL	
6	4	1172	B	41162	Spare		SPARE - REAL PARAMETER 006				NA					0	65535	32 Bit	UINT	REAL	
7	4	1176	B	41164	Spare		SPARE - REAL PARAMETER 007				NA					0	65535	32 Bit	UINT	REAL	
8	4	1180	B	41166	Spare		SPARE - REAL PARAMETER 008				NA					0	65535	32 Bit	UINT	REAL	
9	4	1184	B	41168	Spare		SPARE - REAL PARAMETER 009				NA					0	65535	32 Bit	UINT	REAL	
10	4	1188	B	41170	Spare		SPARE - REAL PARAMETER 010				NA					0	65535	32 Bit	UINT	REAL	
11	4	1192	B	41172	Spare		SPARE - INTEGER PARAMETER 001				NA					0	65535	16 Bit	UINT	INT	
12	4	1194	B	41174	Spare		SPARE - INTEGER PARAMETER 002				NA					0	65535	16 Bit	UINT	INT	
13	4	1196	B	41175	Spare		SPARE - INTEGER PARAMETER 003				NA					0	65535	16 Bit	UINT	INT	
14	4	1198	B	41176	Spare		SPARE - INTEGER PARAMETER 004				NA					0	65535	16 Bit	UINT	INT	
15	4	1200	B	41177	Spare		SPARE - INTEGER PARAMETER 005				NA					0	65535	16 Bit	UINT	INT	
16	4	1202	B	41178	Spare		SPARE - INTEGER PARAMETER 006				NA					0	65535	16 Bit	UINT	INT	
17	4	1204	B	41179	Spare		SPARE - INTEGER PARAMETER 007				NA					0	65535	16 Bit	UINT	INT	
18	4	1206	B	41180	Spare		SPARE - INTEGER PARAMETER 008				NA					0	65535	16 Bit	UINT	INT	
19	4	1208	B	41181	Spare		SPARE - INTEGER PARAMETER 009				NA					0	65535	16 Bit	UINT	INT	
20	4	1210	B	41182	Spare		SPARE - INTEGER PARAMETER 010				NA					0	65535	16 Bit	UINT	INT	
21	4	1212	B	41183	Spare		SPARE - TIME PARAMETER 001				NA					0	65535	16 Bit	UINT	TIME	
22	4	1216	B	41185	Spare		SPARE - TIME PARAMETER 002				NA					0	65535	16 Bit	UINT	TIME	
23	4	1220	B	41187	Spare		SPARE - TIME PARAMETER 003				NA					0	65535	16 Bit	UINT	TIME	
24	4	1224	B	41189	Spare		SPARE - TIME PARAMETER 004				NA					0	65535	16 Bit	UINT	TIME	
25	4	1228	B	41191	Spare		SPARE - TIME PARAMETER 005				NA					0	65535	16 Bit	UINT	TIME	
26	4	1232	B	41193	Spare		SPARE - TIME PARAMETER 006				NA					0	65535	16 Bit	UINT	TIME	
27	4	1236	B	41195	Spare		SPARE - TIME PARAMETER 007				NA					0	65535	16 Bit	UINT	TIME	
28	4	1240	B	41197	Spare		SPARE - TIME PARAMETER 008				NA					0	65535	16 Bit	UINT	TIME	
29	4	1244	B	41199	Spare		SPARE - TIME PARAMETER 010				NA					0	65535	16 Bit	UINT	TIME	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1150.00	B	41150	01	64-START-PLANT-CMD	64STARTPLANT-CMD	REMOTE START COMMAND	REMOTE START COMMAND	1 Bit	BOOL	BOOL	
2	4	1150.01	B	41150	02	64-STOP-PLANT-CMD	64STOPPLANT-CMD	REMOTE STOP COMMAND	REMOTE STOP COMMAND	1 Bit	BOOL	BOOL	
3	4	1150.02	B	41150	03	Spare		SPARE	Spare	1 Bit	BOOL	BOOL	
4	4	1150.03	B	41150	04	64-ACK-ALARM	64ACK-ALARM	REMOTE ALARMS ACKNOWLEDGE	REMOTE ALARMS ACKNOWLEDG	1 Bit	BOOL	BOOL	
5	4	1150.04	B	41150	05	SPARE		SPARE		1 Bit	BOOL	BOOL	
6	4	1150.05	B	41150	06	SPARE		SPARE		1 Bit	BOOL	BOOL	
7	4	1150.06	B	41150	07	SPARE		SPARE		1 Bit	BOOL	BOOL	
8	4	1150.07	B	41150	08	SPARE		SPARE		1 Bit	BOOL	BOOL	
9	4	1151.00	B	41151	01	SPARE		SPARE		1 Bit	BOOL	BOOL	
10	4	1151.01	B	41151	02	SPARE		SPARE		1 Bit	BOOL	BOOL	
11	4	1151.02	B	41151	03	SPARE		SPARE		1 Bit	BOOL	BOOL	
12	4	1151.03	B	41151	04	SPARE		SPARE		1 Bit	BOOL	BOOL	
13	4	1151.04	B	41151	05	SPARE		SPARE		1 Bit	BOOL	BOOL	
14	4	1151.05	B	41151	06	SPARE		SPARE		1 Bit	BOOL	BOOL	
15	4	1151.06	B	41151	07	SPARE		SPARE		1 Bit	BOOL	BOOL	
16	4	1151.07	B	41151	08	SPARE		SPARE		1 Bit	BOOL	BOOL	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1018	B	41018	64-PT-051-PV	64PT-051	INLET PRESSURE TRANSMITTER - PROCESS VALUE	INLET PT	0	16	barg					0	65535	32 Bit	UINT	REAL	
2	4	1022	B	41020	64-PT-052-PV	64PT-052	TOWER 1 PRESSURE TRANSMITTER - PROCESS VALUE	TOWER1 PRESS	0	16	barg					0	65535	32 Bit	UINT	REAL	
3	4	1026	B	41022	64-PT-053-PV	64PT-053	TOWER 2 PRESSURE TRANSMITTER - PROCESS VALUE	TOWER2 PRESS	0	16	barg					0	65535	32 Bit	UINT	REAL	
4	4	1030	B	41024	64-PT-057-PV	64PT-057	OUTLET B PRESSURE TRANSMITTER - PROCESS VALUE	OUTLET B PRESS	0	16	barg					0	65535	32 Bit	UINT	REAL	
5	4	1034	B	41026	64-PT-059-PV	64PT-059	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - PROCESS VALUE	AIR RECEIVER	0	16	barg					0	65535	32 Bit	UINT	REAL	
6	4	1038	B	41028	64-PDIT-056-PV	64PDIT-056	OXYGEN TRANSMITTER - PROCESS VALUE	OXYGEN %	0	100	%					0	65535	32 Bit	UINT	REAL	
7	4	1042	B	41030	64-AT-051-PV	64AT-051	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - PROCESS VALUE	OUTLET DPT	0	1	barg					0	65535	32 Bit	UINT	REAL	
8	4	1046	B	41032	Spare		SPARE									0	65535	32 Bit	UINT	REAL	
9	4	1050	B	41034	Spare		SPARE - REAL PARAMETER 001									0	65535	32 Bit	UINT	REAL	
10	4	1054	B	41036	Spare		SPARE - REAL PARAMETER 002									0	65535	32 Bit	UINT	REAL	
11	4	1058	B	41038	Spare		SPARE - REAL PARAMETER 003									0	65535	32 Bit	UINT	REAL	
12	4	1062	B	41040	Spare		SPARE - REAL PARAMETER 004									0	65535	32 Bit	UINT	REAL	
13	4	1066	B	41042	Spare		SPARE - REAL PARAMETER 005									0	65535	32 Bit	UINT	REAL	
14	4	1070	B	41044	Spare		SPARE - REAL PARAMETER 006									0	65535	32 Bit	UINT	REAL	
15	4	1074	B	41046	Spare		SPARE - REAL PARAMETER 007									0	65535	32 Bit	UINT	REAL	
16	4	1078	B	41048	Spare		SPARE - REAL PARAMETER 008									0	65535	32 Bit	UINT	REAL	
17	4	1082	B	41050	Spare		SPARE - REAL PARAMETER 009									0	65535	32 Bit	UINT	REAL	
18	4	1086	B	41052	Spare		SPARE - REAL PARAMETER 010									0	65535	32 Bit	UINT	REAL	
19	4	1090	B	41054	Spare		SPARE - INTEGER PARAMETER 001									0	65535	16 Bit	UINT	INT	
20	4	1092	B	41055	Spare		SPARE - INTEGER PARAMETER 002									0	65535	16 Bit	UINT	INT	
21	4	1094	B	41056	Spare		SPARE - INTEGER PARAMETER 003									0	65535	16 Bit	UINT	INT	
22	4	1096	B	41057	Spare		SPARE - INTEGER PARAMETER 004									0	65535	16 Bit	UINT	INT	
23	4	1098	B	41058	Spare		SPARE - INTEGER PARAMETER 005									0	65535	16 Bit	UINT	INT	
24	4	1100	B	41059	Spare		SPARE - INTEGER PARAMETER 006									0	65535	16 Bit	UINT	INT	
25	4	1102	B	41060	Spare		SPARE - INTEGER PARAMETER 007									0	65535	16 Bit	UINT	INT	
26	4	1104	B	41061	Spare		SPARE - INTEGER PARAMETER 008									0	65535	16 Bit	UINT	INT	
27	4	1106	B	41062	Spare		SPARE - INTEGER PARAMETER 009									0	65535	16 Bit	UINT	INT	
28	4	1108	B	41063	Spare		SPARE - INTEGER PARAMETER 010									0	65535	16 Bit	UINT	INT	
29	4	1110	B	41064	Spare		SPARE - TIME PARAMETER 001									0	65535	16 Bit	UINT	TIME	
30	4	1114	B	41066	Spare		SPARE - TIME PARAMETER 002									0	65535	16 Bit	UINT	TIME	
31	4	1118	B	41068	Spare		SPARE - TIME PARAMETER 003									0	65535	16 Bit	UINT	TIME	
32	4	1122	B	41070	Spare		SPARE - TIME PARAMETER 004									0	65535	16 Bit	UINT	TIME	
33	4	1126	B	41072	Spare		SPARE - TIME PARAMETER 005									0	65535	16 Bit	UINT	TIME	
34	4	1130	B	41074	Spare		SPARE - TIME PARAMETER 006									0	65535	16 Bit	UINT	TIME	
35	4	1134	B	41076	Spare		SPARE - TIME PARAMETER 007									0	65535	16 Bit	UINT	TIME	
36	4	1138	B	41078	Spare		SPARE - TIME PARAMETER 008									0	65535	16 Bit	UINT	TIME	
37	4	1142	B	41080	Spare		SPARE - TIME PARAMETER 009									0	65535	16 Bit	UINT	TIME	
38	4	1146	B	41082	Spare		SPARE - TIME PARAMETER 010									0	65535	16 Bit	UINT	TIME	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	VendorTag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Alarm	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1000.00	B	41000	01	Spare		Spare			1 Bit	BOOL	BOOL	
2	4	1000.01	B	41000	02	Spare		Spare			1 Bit	BOOL	BOOL	
3	4	1000.02	B	41000	03	Spare		Spare			1 Bit	BOOL	BOOL	
4	4	1000.03	B	41000	04	Spare		Spare			1 Bit	BOOL	BOOL	
5	4	1000.04	B	41000	05	Spare		Spare			1 Bit	BOOL	BOOL	
6	4	1000.05	B	41000	06	Spare		Spare			1 Bit	BOOL	BOOL	
7	4	1000.06	B	41000	07	Spare		Spare			1 Bit	BOOL	BOOL	
8	4	1000.07	B	41000	08	Spare		Spare			1 Bit	BOOL	BOOL	
9	4	1001.00	B	41001	01	Spare		Spare			1 Bit	BOOL	BOOL	
10	4	1001.01	B	41001	02	Spare		Spare			1 Bit	BOOL	BOOL	
11	4	1001.02	B	41001	03	Spare		Spare			1 Bit	BOOL	BOOL	
12	4	1001.03	B	41001	04	Spare		Spare			1 Bit	BOOL	BOOL	
13	4	1001.04	B	41001	05	Spare		Spare			1 Bit	BOOL	BOOL	
14	4	1001.05	B	41001	06	Spare		Spare			1 Bit	BOOL	BOOL	
15	4	1001.06	B	41001	07	Spare		Spare			1 Bit	BOOL	BOOL	
16	4	1001.07	B	41001	08	Spare		Spare			1 Bit	BOOL	BOOL	
17	4	1002.00	B	41002	01	Spare		Spare			1 Bit	BOOL	BOOL	
18	4	1002.01	B	41002	02	Spare		Spare			1 Bit	BOOL	BOOL	
19	4	1002.02	B	41002	03	Spare		Spare			1 Bit	BOOL	BOOL	
20	4	1002.03	B	41002	04	Spare		Spare			1 Bit	BOOL	BOOL	
21	4	1002.04	B	41002	05	Spare		Spare			1 Bit	BOOL	BOOL	
22	4	1002.05	B	41002	06	Spare		Spare			1 Bit	BOOL	BOOL	
23	4	1002.06	B	41002	07	Spare		Spare			1 Bit	BOOL	BOOL	
24	4	1002.07	B	41002	08	Spare		Spare			1 Bit	BOOL	BOOL	
25	4	1003.00	B	41003	01	Spare		Spare			1 Bit	BOOL	BOOL	
26	4	1003.01	B	41003	02	64-TH-001-H	64TH001-H	INTERNAL CABINET THERMOSTAT - ALARM	INTERNAL CABINET THERMOS	YES	1 Bit	BOOL	BOOL	
27	4	1003.02	B	41003	03	Spare		Spare			1 Bit	BOOL	BOOL	
28	4	1003.03	B	41003	04	Spare		Spare			1 Bit	BOOL	BOOL	
29	4	1003.04	B	41003	05	Spare		Spare			1 Bit	BOOL	BOOL	
30	4	1003.05	B	41003	06	Spare		Spare			1 Bit	BOOL	BOOL	
31	4	1003.06	B	41003	07	Spare		Spare			1 Bit	BOOL	BOOL	
32	4	1003.07	B	41003	08	Spare		Spare			1 Bit	BOOL	BOOL	
33	4	1004.00	B	41004	01	64-XY-001-H	64XY001-H	VALVE XY-001 ALARM	VALVE XY001 ALARM	YES	1 Bit	BOOL	BOOL	
34	4	1004.01	B	41004	02	64-XY-002-H	64XY002-H	VALVE XY-002 ALARM	VALVE XY002 ALARM	YES	1 Bit	BOOL	BOOL	
35	4	1004.02	B	41004	03	64-XY-003-H	64XY003-H	VALVE XY-003 ALARM	VALVE XY003 ALARM	YES	1 Bit	BOOL	BOOL	
36	4	1004.03	B	41004	04	64-XY-001-H	64XY004-H	VALVE XY-004 ALARM	VALVE XY004 ALARM	YES	1 Bit	BOOL	BOOL	
37	4	1004.04	B	41004	05	64-XY-002-H	64XY005-H	VALVE XY-005 ALARM	VALVE XY005 ALARM	YES	1 Bit	BOOL	BOOL	
38	4	1004.05	B	41004	06	64-XY-003-H	64XY006-H	VALVE XY-006 ALARM	VALVE XY006 ALARM	YES	1 Bit	BOOL	BOOL	
39	4	1004.06	B	41004	07	64-XY-001-H	64XY007-H	VALVE XY-007 ALARM	VALVE XY007 ALARM	YES	1 Bit	BOOL	BOOL	
40	4	1004.07	B	41004	08	64-XY-002-H	64XY008-H	VALVE XY-008 ALARM	VALVE XY008 ALARM	YES	1 Bit	BOOL	BOOL	
41	4	1005.00	B	41005	01	64-XY-003-H	64XY009-H	VALVE XY-009 ALARM	VALVE XY009 ALARM	YES	1 Bit	BOOL	BOOL	
42	4	1005.01	B	41005	02	Spare		Spare			1 Bit	BOOL	BOOL	
43	4	1005.02	B	41005	03	Spare		Spare			1 Bit	BOOL	BOOL	
44	4	1005.03	B	41005	04	Spare		Spare			1 Bit	BOOL	BOOL	
45	4	1005.04	B	41005	05	Spare		Spare			1 Bit	BOOL	BOOL	
46	4	1005.05	B	41005	06	Spare		Spare			1 Bit	BOOL	BOOL	
47	4	1005.06	B	41005	07	Spare		Spare			1 Bit	BOOL	BOOL	
48	4	1005.07	B	41005	08	Spare		Spare			1 Bit	BOOL	BOOL	
49	4	1006.00	B	41006	01	Spare		Spare			1 Bit	BOOL	BOOL	
50	4	1006.01	B	41006	02	Spare		Spare			1 Bit	BOOL	BOOL	
51	4	1006.02	B	41006	03	Spare		Spare			1 Bit	BOOL	BOOL	
52	4	1006.03	B	41006	04	Spare		Spare			1 Bit	BOOL	BOOL	
53	4	1006.04	B	41006	05	Spare		Spare			1 Bit	BOOL	BOOL	
54	4	1006.05	B	41006	06	Spare		Spare			1 Bit	BOOL	BOOL	
55	4	1006.06	B	41006	07	Spare		Spare			1 Bit	BOOL	BOOL	
56	4	1006.07	B	41006	08	Spare		Spare			1 Bit	BOOL	BOOL	
57	4	1007.00	B	41007	01	64-PT-051-LL	64PT051-LL	INLET PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	IL PRES TRANS - L L ALAR	YES	1 Bit	BOOL	BOOL	
58	4	1007.01	B	41007	02	64-PT-051-L	64PT051-L	INLET PRESSURE TRANSMITTER - LOW ALARM (L)	IL PRES TRANS- LO ALM	YES	1 Bit	BOOL	BOOL	
59	4	1007.02	B	41007	03	64-PT-051-H	64PT051-H	INLET PRESSURE TRANSMITTER - HIGH ALARM (H)	IL PRES TRANS - HI ALARM	YES	1 Bit	BOOL	BOOL	
60	4	1007.03	B	41007	04	64-PT-051-HH	64PT051-HH	INLET PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	IL PRES TRANS- HI HI ALM	YES	1 Bit	BOOL	BOOL	
61	4	1007.04	B	41007	05	64-PT-052-LL	64PT052-LL	TOWER 1 PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	T1 PRES TRANS -LO LO ALM	YES	1 Bit	BOOL	BOOL	
62	4	1007.05	B	41007	06	64-PT-052-L	64PT052-L	TOWER 1 PRESSURE TRANSMITTER - LOW ALARM (L)	T1 PRES TRANS -LO ALM	YES	1 Bit	BOOL	BOOL	
63	4	1007.06	B	41007	07	64-PT-052-H	64PT052-H	TOWER 1 PRESSURE TRANSMITTER - HIGH ALARM (H)	T1 PRES TRANS -HI HI ALM	YES	1 Bit	BOOL	BOOL	
64	4	1007.07	B	41007	08	64-PT-052-HH	64PT052-HH	TOWER 1 PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	T1 PRES TRANS -HI ALM	YES	1 Bit	BOOL	BOOL	
65	4	1008.00	B	41008	01	64-PT-053-LL	64PT053-LL	TOWER 2 PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	T2 PRES TRANS -LO LO ALM	YES	1 Bit	BOOL	BOOL	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	VendorTag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Alarm	Data Size	PCS Data Type	Vendor Data Type	Remarks
66	4	1008.01	B	41008	02	64-PT-053-L	64PT053-L	TOWER 2 PRESSURE TRANSMITTER - LOW ALARM (L)	T2 PRES TRANS -LO ALM	YES	1 Bit	BOOL	BOOL	
67	4	1008.02	B	41008	03	64-PT-053-H	64PT053-H	TOWER 2 PRESSURE TRANSMITTER - HIGH ALARM (H)	T2 PRES TRANS -HI HI ALM	YES	1 Bit	BOOL	BOOL	
68	4	1008.03	B	41008	04	64-PT-053-HH	64PT053-HH	TOWER 2 PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	T2 PRES TRANS -HI ALM	YES	1 Bit	BOOL	BOOL	
69	4	1008.04	B	41008	05	64-PT-057-LL	64PT057-LL	OUTLET B PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	OL B PRES TRANS LOLO ALM	YES	1 Bit	BOOL	BOOL	
70	4	1008.05	B	41008	06	64-PT-057-L	64PT057-L	OUTLET B PRESSURE TRANSMITTER - LOW ALARM (L)	OL B PRES TRANS LO ALM	YES	1 Bit	BOOL	BOOL	
71	4	1008.06	B	41008	07	64-PT-057-H	64PT057-H	OUTLET B PRESSURE TRANSMITTER - HIGH ALARM (H)	OL B PRES TRANS HIHI ALM	YES	1 Bit	BOOL	BOOL	
72	4	1008.07	B	41009	08	64-PT-057-HH	64PT057-HH	OUTLET B PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	OL B PRES TRANS HI ALM	YES	1 Bit	BOOL	BOOL	
73	4	1009.00	B	41009	01	64-PT-059-LL	64PT059-LL	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW LOW ALARM (LL)	PRES TRANS INS AR LOLO A	YES	1 Bit	BOOL	BOOL	
74	4	1009.01	B	41009	02	64-PT-059-L	64PT059-L	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW ALARM (L)	PRES TRANS INS AR LO ALM	YES	1 Bit	BOOL	BOOL	
75	4	1009.02	B	41009	03	64-PT-059-H	64PT059-H	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH ALARM (H)	PRES TRANS INS AR HI ALM	YES	1 Bit	BOOL	BOOL	
76	4	1009.03	B	41009	04	64-PT-059-HH	64PT059-HH	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH HIGH ALARM (HH)	PRES TRANS INS AR HIHI A	YES	1 Bit	BOOL	BOOL	
77	4	1009.04	B	41009	05	64-PDIT-056-LL	64PDIT056-LL	OXYGEN TRANSMITTER - LOW LOW ALARM (LL)	OXYGEN TRANS LO LO ALM	YES	1 Bit	BOOL	BOOL	
78	4	1009.05	B	41009	06	64-PDIT-056-L	64PDIT056-L	OXYGEN TRANSMITTER - LOW ALARM (L)	OXYGEN TRANS LO ALM	YES	1 Bit	BOOL	BOOL	
79	4	1009.06	B	41009	07	64-PDIT-056-H	64PDIT056-H	OXYGEN TRANSMITTER - HIGH ALARM (H)	OXYGEN TRANS HI ALM	YES	1 Bit	BOOL	BOOL	
80	4	1009.07	B	41009	08	64-PDIT-056-HH	64PDIT056-HH	OXYGEN TRANSMITTER - HIGH HIGH ALARM (HH)	OXYGEN TRANS HI HI ALM	YES	1 Bit	BOOL	BOOL	
81	4	1010.00	B	41010	01	64-AT-051-LL	64AT051-LL	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - LOW LOW ALARM (LL)	DIF PRES TRANS OL LO LO	YES	1 Bit	BOOL	BOOL	
82	4	1010.01	B	41010	02	64-AT-051-L	64AT051-L	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - LOW ALARM (L)	DIF PRES TRANS OL LO ALM	YES	1 Bit	BOOL	BOOL	
83	4	1010.02	B	41010	03	64-AT-051-H	64AT051-H	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - HIGH ALARM (H)	DIF PRES TRANS OL LO ALM	YES	1 Bit	BOOL	BOOL	
84	4	1010.03	B	41010	04	64-AT-051-HH	64AT051-HH	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - HIGH HIGH ALARM (HH)	DIF PRES TRANS HI HI ALM	YES	1 Bit	BOOL	BOOL	
85	4	1010.04	B	41010	05	spare		Spare			1 Bit	BOOL	BOOL	
86	4	1010.05	B	41010	06	spare		Spare			1 Bit	BOOL	BOOL	
87	4	1010.06	B	41010	07	spare		Spare			1 Bit	BOOL	BOOL	
88	4	1010.07	B	41010	08	spare		Spare			1 Bit	BOOL	BOOL	
89	4	1011.00	B	41011	01	64-PT-051-BADPV	64PT051-BADPV	INLET PRESSURE TRANSMITTER - BAD PROCESS VALUE	IL PRES TRANS- BAD PV	YES	1 Bit	BOOL	BOOL	
90	4	1011.01	B	41011	02	64-PT-052-BADPV	64PT052-BADPV	TOWER 1 PRESSURE TRANSMITTER - BAD PROCESS VALUE	T1 PRES TRANS- BAD PV	YES	1 Bit	BOOL	BOOL	
91	4	1011.02	B	41011	03	64-PT-053-BADPV	64PT053-BADPV	TOWER 2 PRESSURE TRANSMITTER - BAD PROCESS VALUE	T2 PRES TRANS- BAD PV	YES	1 Bit	BOOL	BOOL	
92	4	1011.03	B	41011	04	64-PT-057-BADPV	64PT057-BADPV	OUTLET B PRESSURE TRANSMITTER - BAD PROCESS VALUE	OL B PRES TRANS- BAD PV	YES	1 Bit	BOOL	BOOL	
93	4	1011.04	B	41011	05	64-PT-059-BADPV	64PT059-BADPV	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - BAD PROCESS VALUE	PRES TRANS OL FIL-BAD PV	YES	1 Bit	BOOL	BOOL	
94	4	1011.05	B	41011	06	64-PDIT-056-BADPV	64PDIT056-BADPV	OXYGEN TRANSMITTER - BAD PROCESS VALUE	OXYGEN TRANS- BAD PV	YES	1 Bit	BOOL	BOOL	
95	4	1011.06	B	41011	07	64-AT-051-BADPV	64AT051-BADPV	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - BAD PROCESS VALUE	DIF PRES TRANS OL FIL-PV	YES	1 Bit	BOOL	BOOL	
96	4	1011.07	B	41011	08	Spare		Spare			1 Bit	BOOL	BOOL	
97	4	1012.00	B	41012	01	64-ESD-SIS-001-H	64ESD-SIS-001-H	PLANT SHUTDOWN ALARM (SIS)	PLANT SHITDOWN ALM	YES	1 Bit	BOOL	BOOL	
98	4	1012.01	B	41012	02	64-ALARM-PLANT	64ALARM-PLANT	PLANT GENERAL ALARM	PLANT GEN ALARM	YES	1 Bit	BOOL	BOOL	
99	4	1012.02	B	41012	03	64-PLANT-READY	64PLANT-READY	PLANT READY	PLANT READY		1 Bit	BOOL	BOOL	
100	4	1012.03	B	41012	04	64-PLANT-RUNNING	64PLANT-RUNNING	PLANT RUNNING	PLANT RUNNING		1 Bit	BOOL	BOOL	
101	4	1012.04	B	41012	05	64-PLANT-LOCA-REM	64PLANT-LOCA-REM	PLANT IN REMOTE MODE	PLANT IN REM MODE		1 Bit	BOOL	BOOL	
102	4	1012.05	B	41012	06	Spare		Spare			1 Bit	BOOL	BOOL	
103	4	1012.06	B	41012	07	Spare		Spare			1 Bit	BOOL	BOOL	
104	4	1012.07	B	41012	08	Spare		Spare			1 Bit	BOOL	BOOL	

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No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	VendorTag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Alarm	Data Size	PCS Data Type	Vendor Data Type	Remarks
105	4	1013.00	B	41013	01	Spare		Spare			1 Bit	BOOL	BOOL	
106	4	1013.01	B	41013	02	Spare		Spare			1 Bit	BOOL	BOOL	
107	4	1013.02	B	41013	03	Spare		Spare			1 Bit	BOOL	BOOL	
108	4	1013.03	B	41013	04	Spare		Spare			1 Bit	BOOL	BOOL	
109	4	1013.04	B	41013	05	Spare		Spare			1 Bit	BOOL	BOOL	
110	4	1013.05	B	41013	06	Spare		Spare			1 Bit	BOOL	BOOL	
111	4	1013.06	B	41013	07	Spare		Spare			1 Bit	BOOL	BOOL	
112	4	1013.07	B	41013	08	Spare		Spare			1 Bit	BOOL	BOOL	
113	4	1014.00	B	41014	01	64-XV-051	64-XV-051	VALVE XY-001 OPEN COMMAND	VALVE XY-001 OPN CMD		1 Bit	BOOL	BOOL	
114	4	1014.01	B	41014	02	64-XV-052	64-XV-052	VALVE XY-002 OPEN COMMAND	VALVE XY-002 OPN CMD		1 Bit	BOOL	BOOL	
115	4	1014.02	B	41014	03	64-XV-053	64-XV-053	VALVE XY-003 OPEN COMMAND	VALVE XY-003 OPN CMD		1 Bit	BOOL	BOOL	
116	4	1014.03	B	41014	04	64-XV-054	64-XV-054	VALVE XY-004 OPEN COMMAND	VALVE XY-004 OPN CMD		1 Bit	BOOL	BOOL	
117	4	1014.04	B	41014	05	64-XV-055	64-XV-055	VALVE XY-005 OPEN COMMAND	VALVE XY-005 OPN CMD		1 Bit	BOOL	BOOL	
118	4	1014.05	B	41014	06	64-XV-056	64-XV-056	VALVE XY-006 OPEN COMMAND	VALVE XY-006 OPN CMD		1 Bit	BOOL	BOOL	
119	4	1014.06	B	41014	07	64-XV-057	64-XV-057	VALVE XY-007 OPEN COMMAND	VALVE XY-007 OPN CMD		1 Bit	BOOL	BOOL	
120	4	1014.07	B	41014	08	64-XV-058	64-XV-058	VALVE XY-008 OPEN COMMAND	VALVE XY-008 OPN CMD		1 Bit	BOOL	BOOL	
121	4	1015.00	B	41015	01	64-XV-059	64-XV-059	VALVE XY-009 OPEN COMMAND	VALVE XY-009 OPN CMD		1 Bit	BOOL	BOOL	
122	4	1015.01	B	41015	02	spare		spare			1 Bit	BOOL	BOOL	
123	4	1015.02	B	41015	03	spare		spare			1 Bit	BOOL	BOOL	
124	4	1015.03	B	41015	04	spare		spare			1 Bit	BOOL	BOOL	
125	4	1015.04	B	41015	05	64-ZSH-051	64ZSH-051	VALVE XY-001 OPEN	VALVE XY-001 OPN		1 Bit	BOOL	BOOL	
126	4	1015.05	B	41015	06	64-ZSL-051	64ZSL-051	VALVE XY-001 CLOSED	VALVE XY-001 CLS		1 Bit	BOOL	BOOL	
127	4	1015.06	B	41015	07	64-ZSH-052	64ZSH-052	VALVE XY-002 OPEN	VALVE XY-002 OPN		1 Bit	BOOL	BOOL	
128	4	1015.07	B	41015	08	64-ZSL-052	64ZSL-052	VALVE XY-002 CLOSED	VALVE XY-002 CLS		1 Bit	BOOL	BOOL	
129	4	1016.00	B	41016	01	64-ZSH-053	64ZSH-053	VALVE XY-003 OPEN	VALVE XY-003 OPN		1 Bit	BOOL	BOOL	
130	4	1016.01	B	41016	02	64-ZSL-053	64ZSL-053	VALVE XY-003 CLOSED	VALVE XY-003 CLS		1 Bit	BOOL	BOOL	
131	4	1016.02	B	41016	03	64-ZSH-054	64ZSH-054	VALVE XY-004 OPEN	VALVE XY-004 OPN		1 Bit	BOOL	BOOL	
132	4	1016.03	B	41016	04	64-ZSL-054	64ZSL-054	VALVE XY-004 CLOSED	VALVE XY-004 CLS		1 Bit	BOOL	BOOL	
133	4	1016.04	B	41016	05	64-ZSH-055	64ZSH-055	VALVE XY-005 OPEN	VALVE XY-005 OPN		1 Bit	BOOL	BOOL	
134	4	1016.05	B	41016	06	64-ZSL-055	64ZSL-055	VALVE XY-005 CLOSED	VALVE XY-005 CLS		1 Bit	BOOL	BOOL	
135	4	1016.06	B	41016	07	64-ZSH-056	64ZSH-056	VALVE XY-006 OPEN	VALVE XY-006 OPN		1 Bit	BOOL	BOOL	
136	4	1016.07	B	41016	08	64-ZSL-056	64ZSL-056	VALVE XY-006 CLOSED	VALVE XY-006 CLS		1 Bit	BOOL	BOOL	
137	4	1017.00	B	41017	01	64-ZSH-057	64ZSH-057	VALVE XY-007 OPEN	VALVE XY-007 OPN		1 Bit	BOOL	BOOL	
138	4	1017.01	B	41017	02	64-ZSL-057	64ZSL-057	VALVE XY-007 CLOSED	VALVE XY-007 CLS		1 Bit	BOOL	BOOL	
139	4	1017.02	B	41017	03	64-ZSH-058	64ZSH-058	VALVE XY-008 OPEN	VALVE XY-008 OPN		1 Bit	BOOL	BOOL	
140	4	1017.03	B	41017	04	64-ZSL-058	64ZSL-058	VALVE XY-008 CLOSED	VALVE XY-008 CLS		1 Bit	BOOL	BOOL	
141	4	1017.04	B	41017	05	64-ZSH-059	64ZSH-059	VALVE XY-009 OPEN	VALVE XY-009 OPN		1 Bit	BOOL	BOOL	
142	4	1017.05	B	41017	06	64-ZSL-059	64ZSL-059	VALVE XY-009 CLOSED	VALVE XY-009 CLS		1 Bit	BOOL	BOOL	
143	4	1017.06	B	41017	07	spare		spare			1 Bit	BOOL	BOOL	
144	4	1017.07	B	41017	08	spare		spare			1 Bit	BOOL	BOOL	

NITROGEN GENERATION PACKAGE

No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1152	B	41152	Spare		SPARE - REAL PARAMETER 001				NA					0	65535	32 Bit	UINT	REAL	
2	4	1156	B	41154	Spare		SPARE - REAL PARAMETER 002				NA					0	65535	32 Bit	UINT	REAL	
3	4	1160	B	41156	Spare		SPARE - REAL PARAMETER 003				NA					0	65535	32 Bit	UINT	REAL	
4	4	1164	B	41158	Spare		SPARE - REAL PARAMETER 004				NA					0	65535	32 Bit	UINT	REAL	
5	4	1168	B	41160	Spare		SPARE - REAL PARAMETER 005				NA					0	65535	32 Bit	UINT	REAL	
6	4	1172	B	41162	Spare		SPARE - REAL PARAMETER 006				NA					0	65535	32 Bit	UINT	REAL	
7	4	1176	B	41164	Spare		SPARE - REAL PARAMETER 007				NA					0	65535	32 Bit	UINT	REAL	
8	4	1180	B	41166	Spare		SPARE - REAL PARAMETER 008				NA					0	65535	32 Bit	UINT	REAL	
9	4	1184	B	41168	Spare		SPARE - REAL PARAMETER 009				NA					0	65535	32 Bit	UINT	REAL	
10	4	1188	B	41170	Spare		SPARE - REAL PARAMETER 010				NA					0	65535	32 Bit	UINT	REAL	
11	4	1192	B	41172	Spare		SPARE - INTEGER PARAMETER 001				NA					0	65535	16 Bit	UINT	INT	
12	4	1194	B	41173	Spare		SPARE - INTEGER PARAMETER 002				NA					0	65535	16 Bit	UINT	INT	
13	4	1196	B	41174	Spare		SPARE - INTEGER PARAMETER 003				NA					0	65535	16 Bit	UINT	INT	
14	4	1198	B	41175	Spare		SPARE - INTEGER PARAMETER 004				NA					0	65535	16 Bit	UINT	INT	
15	4	1200	B	41176	Spare		SPARE - INTEGER PARAMETER 005				NA					0	65535	16 Bit	UINT	INT	
16	4	1202	B	41177	Spare		SPARE - INTEGER PARAMETER 006				NA					0	65535	16 Bit	UINT	INT	
17	4	1204	B	41178	Spare		SPARE - INTEGER PARAMETER 007				NA					0	65535	16 Bit	UINT	INT	
18	4	1206	B	41179	Spare		SPARE - INTEGER PARAMETER 008				NA					0	65535	16 Bit	UINT	INT	
19	4	1208	B	41180	Spare		SPARE - INTEGER PARAMETER 009				NA					0	65535	16 Bit	UINT	INT	
20	4	1210	B	41181	Spare		SPARE - INTEGER PARAMETER 010				NA					0	65535	16 Bit	UINT	INT	
21	4	1212	B	41182	Spare		SPARE - TIME PARAMETER 001				NA					0	65535	16 Bit	UINT	TIME	
22	4	1216	B	41184	Spare		SPARE - TIME PARAMETER 002				NA					0	65535	16 Bit	UINT	TIME	
23	4	1220	B	41186	Spare		SPARE - TIME PARAMETER 003				NA					0	65535	16 Bit	UINT	TIME	
24	4	1224	B	41188	Spare		SPARE - TIME PARAMETER 004				NA					0	65535	16 Bit	UINT	TIME	
25	4	1228	B	41190	Spare		SPARE - TIME PARAMETER 005				NA					0	65535	16 Bit	UINT	TIME	
26	4	1232	B	41192	Spare		SPARE - TIME PARAMETER 006				NA					0	65535	16 Bit	UINT	TIME	
27	4	1236	B	41194	Spare		SPARE - TIME PARAMETER 007				NA					0	65535	16 Bit	UINT	TIME	
28	4	1240	B	41196	Spare		SPARE - TIME PARAMETER 008				NA					0	65535	16 Bit	UINT	TIME	
29	4	1244	B	41198	Spare		SPARE - TIME PARAMETER 010				NA					0	65535	16 Bit	UINT	TIME	

NITROGEN GENERATION PACKAGE

No.	PROFINET Device Type	Vendor PROFINET Address	PCS Function Code	PCS PROFINET Address	PCS PROFINET Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	4	1150.00	B	41150	01	64-START-PLANT-CMD	64STARTPLANT-CMD	REMOTE START COMMAND	REMOTE START COMMAND	1 Bit	BOOL	BOOL	
2	4	1150.01	B	41150	02	64-STOP-PLANT-CMD	64STOPPLANT-CMD	REMOTE STOP COMMAND	REMOTE STOP COMMAND	1 Bit	BOOL	BOOL	
3	4	1150.02	B	41150	03	Spare		SPARE	Spare	1 Bit	BOOL	BOOL	
4	4	1150.03	B	41150	04	64-ACK-ALARM	64ACK-ALARM	REMOTE ALARMS ACKNOWLEDGE	REMOTE ALARMS ACKNOWLEDG	1 Bit	BOOL	BOOL	
5	4	1150.04	B	41150	05	SPARE		SPARE		1 Bit	BOOL	BOOL	
6	4	1150.05	B	41150	06	SPARE		SPARE		1 Bit	BOOL	BOOL	
7	4	1150.06	B	41150	07	SPARE		SPARE		1 Bit	BOOL	BOOL	
8	4	1150.07	B	41150	08	SPARE		SPARE		1 Bit	BOOL	BOOL	
9	4	1151.00	B	41151	01	SPARE		SPARE		1 Bit	BOOL	BOOL	
10	4	1151.01	B	41151	02	SPARE		SPARE		1 Bit	BOOL	BOOL	
11	4	1151.02	B	41151	03	SPARE		SPARE		1 Bit	BOOL	BOOL	
12	4	1151.03	B	41151	04	SPARE		SPARE		1 Bit	BOOL	BOOL	
13	4	1151.04	B	41151	05	SPARE		SPARE		1 Bit	BOOL	BOOL	
14	4	1151.05	B	41151	06	SPARE		SPARE		1 Bit	BOOL	BOOL	
15	4	1151.06	B	41151	07	SPARE		SPARE		1 Bit	BOOL	BOOL	
16	4	1151.07	B	41151	08	SPARE		SPARE		1 Bit	BOOL	BOOL	

LOW VOLTAGE SWITCH GEAR

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	3	1.0	A	40000	01	COMMON	87XA-7101	SG200N1 SA FAULT	SG200N1 SA FAULT	1 Bit	BOOL	1 Bit	LVSWGR
2	3	2.0	A	40000	02	COMMON	87XA-7102	LOSS 230VAC AUX VOLT	LOSS 230VAC AUX VOLT	1 Bit	BOOL	1 Bit	LVSWGR
3	3	3.0	A	40000	03	COMMON	87XS-7116	FP1 WATCH DOG PROT	FP1 WATCHDOG PROT	1 Bit	BOOL	1 Bit	LVSWGR
4	3	4.0	A	40000	04	COMMON	87XA-7103	MTR FDR FLT	MTR FDR FLT	1 Bit	BOOL	1 Bit	LVSWGR
5	3	7.0	A	40000	07	COMMON	87XA7105	MCB'S HEALTHY	MCB'S HEALTHY	1 Bit	BOOL	1 Bit	LVSWGR
6	3	9.0	A	40000	09	COMMON	87XA-7104	DP-200N1 SA FAULT	DP-200N1 SA FAULT	1 Bit	BOOL	1 Bit	LVSWGR
7	3	10.0	A	40000	10	COMMON	87US-7107	DP-200N1 EMER LITE ON	DP-200N1 EMG LITE ON	1 Bit	BOOL	1 Bit	LVSWGR
8	3	11.0	A	40000	11	COMMON	87XA-7108	DP-200N1 EMER LITE ACT	DP-200N1 EMG LITE ACT	1 Bit	BOOL	1 Bit	LVSWGR
9	3	12.0	A	40000	12	COMMON	87ZSL-7108	DP-200N1 EMER CB CLS	DP-200N1 EMG CB CLS	1 Bit	BOOL	1 Bit	LVSWGR
10	3	13.0	A	40000	13	COMMON	87US-7109	DP-200N1 TRACE HEAT ACT	DP-200N1 TRC HEAT ACT	1 Bit	BOOL	1 Bit	LVSWGR
11	3	14.0	A	40000	14	COMMON	87ZSL-7105	DP-200N1 TRACE HEAT CB	DP-200N1 TRC HEAT CB	1 Bit	BOOL	1 Bit	LVSWGR
12	3	15.0	A	40000	15	COMMON	87ZSL-7106	DP-200N1 MAIN AND UTIL CB	DP-200N1 TRC HEAT CB	1 Bit	BOOL	1 Bit	LVSWGR
13	3	40015.0	A	40015	01	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20ZSL-7201	CB CLS	CB CLS	1 Bit	BOOL	BOOL	LVSWGR
14	3	40015.1	A	40015	02	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20ZSH-7201	CB OPN	CB OPN	1 Bit	BOOL	BOOL	LVSWGR
15	3	40015.2	A	40015	03	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XA-7201	CB TRIP	CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
16	3	40015.2	A	40015	08	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20LOC-7203	SA1 LOC	SA1 LOCAL	1 Bit	BOOL	BOOL	LVSWGR
17	3	40050.0	A	40050	01	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XS-7117	CIRCUIT-BRAKER - PROTECTION TRIPPED L	QF1 PROT TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
18	3	40050.1	A	40050	02	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XS-7118	CIRCUIT-BRAKER - PROTECTION TRIPPED S	QF1 PROT TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
19	3	40050.2	A	40050	03	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XS-7119	CIRCUIT-BRAKER - PROTECTION TRIPPED I	QF1 PROT TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
20	3	40050.3	A	40050	04	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XS-7120	CIRCUIT-BRAKER - PROTECTION TRIPPED G	QF1 PROT TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
21	3	40050.4	A	40050	05	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20ZSH-7103	CIRCUIT-BRAKER - OPEN	QF1 - OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
22	3	40050.5	A	40050	06	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20ZSL-7103	CIRCUIT-BRAKER - CLOSED	QF1 - CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
23	3	40050.6	A	40050	07	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20US-7101	CIRCUIT-BRAKER - CONNECTED	QF1 - CONNECTED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
24	3	40050.7	A	40050	08	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20TST-7101	CIRCUIT-BRAKER - TEST	QF1 - TEST	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
25	3	40050.8	A	40050	09	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XS-7121	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	QF1 - TRIP UNIT DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
26	3	40015.0	A	40015	01	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20ZSL-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	CB CLS	1 Bit	BOOL	BOOL	LVSWGR
27	3	40015.1	A	40015	02	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20ZSH-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	CB OPN	1 Bit	BOOL	BOOL	LVSWGR
28	3	40015.2	A	40015	03	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20XS-7202	CIRCUIT-BRAKER - TRIPPED	CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
29	3	40015.3	A	40015	04	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)		available		1 Bit	BOOL	BOOL	LVSWGR
30	3	40015.4	A	40015	05	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)		available		1 Bit	BOOL	BOOL	LVSWGR
31	3	40015.0	A	40015	01	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)		available		1 Bit	BOOL	BOOL	LVSWGR
32	3	40015.1	A	40015	02	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)		available		1 Bit	BOOL	BOOL	LVSWGR
33	3	40015.2	A	40015	03	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20LOC-7302	SA1 ON LOCAL POSITION	SA1 LOCAL	1 Bit	BOOL	BOOL	LVSWGR
34	3	40015.3	A	40015	04	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)		available		1 Bit	BOOL	BOOL	LVSWGR
35	3	40015.4	A	40015	05	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)		available		1 Bit	BOOL	BOOL	LVSWGR
36	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	70ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	AC UPS F&G BYP CB CLS	1 Bit	BOOL	BOOL	LVSWGR
37	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	70ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	AC UPS F&G BYP CB OP	1 Bit	BOOL	BOOL	LVSWGR
38	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	70XS-7201	CIRCUIT-BRAKER - TRIPPED	AC UPS F&G BYP CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
39	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	70XA-7201	INTERNAL FAULT	AC UPS F&G BYP CB FLT	1 Bit	BOOL	BOOL	LVSWGR
40	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSL-7209	CIRCUIT-BRAKER - CLOSED AND INSERTED	AC UPS PAS LN A CB CLS	1 Bit	BOOL	BOOL	LVSWGR
41	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSH-7209	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	AC UPS PAS LN A CB OP	1 Bit	BOOL	BOOL	LVSWGR
42	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	87XS-7209	CIRCUIT-BRAKER - TRIPPED	AC UPS PAS LN A CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
43	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	87XA-7209	INTERNAL FAULT	AC UPS PAS LN A CB FLT	1 Bit	BOOL	BOOL	LVSWGR
44	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSL-7205	CIRCUIT-BRAKER - CLOSED AND INSERTED	AC UPS PAS LN B CB CLS	1 Bit	BOOL	BOOL	LVSWGR
45	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSH-7205	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	AC UPS PAS LN B CB OP	1 Bit	BOOL	BOOL	LVSWGR
46	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	87XS-7205	CIRCUIT-BRAKER - TRIPPED	AC UPS PAS LN B CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
47	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	87XA-7205	INTERNAL FAULT	AC UPS PAS LN B CB FLT	1 Bit	BOOL	BOOL	LVSWGR
48	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	70ZSL-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	AC UPS F&G LN A CB CLS	1 Bit	BOOL	BOOL	LVSWGR
49	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	70ZSH-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	AC UPS F&G LN A CB OP	1 Bit	BOOL	BOOL	LVSWGR
50	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	70XS-7202	CIRCUIT-BRAKER - TRIPPED	AC UPS F&G LN A CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
51	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	70XA-7202	INTERNAL FAULT	AC UPS F&G LN A CB FLT	1 Bit	BOOL	BOOL	LVSWGR
52	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	70ZSL-7203	CIRCUIT-BRAKER - CLOSED AND INSERTED	AC UPS F&G LN B CB CLS	1 Bit	BOOL	BOOL	LVSWGR
53	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	70ZSH-7203	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	AC UPS F&G LN B CB OP	1 Bit	BOOL	BOOL	LVSWGR
54	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	70XS-7203	CIRCUIT-BRAKER - TRIPPED	AC UPS F&G LN B CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
55	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	70XA-7203	INTERNAL FAULT	AC UPS F&G LN B CB FLT	1 Bit	BOOL	BOOL	LVSWGR
56	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSL-7206	CIRCUIT-BRAKER - CLOSED AND INSERTED	WELD TOP DECK CB CLS	1 Bit	BOOL	BOOL	LVSWGR
57	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSH-7206	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	WELD TOP DECK CB OP	1 Bit	BOOL	BOOL	LVSWGR
58	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	85XS-7206	CIRCUIT-BRAKER - TRIPPED	WELD TOP DECK CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
59	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	85XA-7206	INTERNAL FAULT	WELD TOP DECK CB FLT	1 Bit	BOOL	BOOL	LVSWGR
60	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSL-7207	CIRCUIT-BRAKER - CLOSED AND INSERTED	AC UPS PAS BYP CB CLS	1 Bit	BOOL	BOOL	LVSWGR
61	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSH-7207	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	AC UPS PAS BYP CB OP	1 Bit	BOOL	BOOL	LVSWGR
62	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	85XS-7207	CIRCUIT-BRAKER - TRIPPED	AC UPS PAS BYP CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
63	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	85XA-7207	INTERNAL FAULT	AC UPS PAS BYP CB FLT	1 Bit	BOOL	BOOL	LVSWGR
64	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	85ZSL-7204	CIRCUIT-BRAKER - CLOSED AND INSERTED	DC BAT FDR A CB CLS	1 Bit	BOOL	BOOL	LVSWGR
65	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	85ZSH-7204	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	DC BAT FDR A CB OP	1 Bit	BOOL	BOOL	LVSWGR
66	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	85XS-7204	CIRCUIT-BRAKER - TRIPPED	DC BAT FDR A CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
67	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	85XA-7204	INTERNAL FAULT	DC BAT FDR A CB FLT	1 Bit	BOOL	BOOL	LVSWGR
68	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	85ZSL-7205	CIRCUIT-BRAKER - CLOSED AND INSERTED	DC BAT FDR B CB CLS	1 Bit	BOOL	BOOL	LVSWGR
69	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	85ZSH-7205	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	DC BAT FDR B CB OP	1 Bit	BOOL	BOOL	LVSWGR
70	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	85XS-7205	CIRCUIT-BRAKER - TRIPPED	DC BAT FDR B CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
71	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	85XA-7205	INTERNAL FAULT	DC BAT FDR B CB FLT	1 Bit	BOOL	BOOL	LVSWGR
72	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	72ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	NAVAID FDR A CB CLS	1 Bit	BOOL	BOOL	LVSWGR
73	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	72ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	NAVAID FDR A CB OP	1 Bit	BOOL	BOOL	LVSWGR
74	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	72XS-7201	CIRCUIT-BRAKER - TRIPPED	NAVAID FDR A CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
75	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	72XA-7201	INTERNAL FAULT	NAVAID FDR A CB FLT	1 Bit	BOOL	BOOL	LVSWGR
76	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	72ZSL-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	NAVAID FDR B CB CLS	1 Bit	BOOL	BOOL	LVSWGR
77	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	72ZSH-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	NAVAID FDR B CB OP	1 Bit	BOOL	BOOL	LVSWGR
78	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	72XS-7202	CIRCUIT-BRAKER - TRIPPED	NAVAID FDR B CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
79	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	72XA-7202	INTERNAL FAULT	NAVAID FDR B CB FLT	1 Bit	BOOL	BOOL	LVSWGR
80	3	40015.0	A	40015	01	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSL-7208	CIRCUIT-BRAKER - CLOSED AND INSERTED	WELD LOW DECK CB CLS	1 Bit	BOOL	BOOL	LVSWGR
81	3	40015.1	A	40015	02	miscellaneous USERS (typ L1-n ÷ L2-n)	87ZSH-7208	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	WELD LOW DECK CB OP	1 Bit	BOOL	BOOL	LVSWGR
82	3	40015.2	A	40015	03	miscellaneous USERS (typ L1-n ÷ L2-n)	85XS-7208	CIRCUIT-BRAKER - TRIPPED	WELD LOW DECK CB TRIP	1 Bit	BOOL	BOOL	LVSWGR
83	3	40015.3	A	40015	04	miscellaneous USERS (typ L1-n ÷ L2-n)	85XA-7208	INTERNAL FAULT	WELD LOW DECK CB FLT	1 Bit	BOOL	BOOL	LVSWGR
84		40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7101	CB PROT TRIP L	DB BOP TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
85		40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7102	CIRCUIT-BRAKER - PROTECTION TRIPPED S	DB BOP TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
86		40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7103	CIRCUIT-BRAKER - PROTECTION TRIPPED I	DB BOP TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
87		40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7104	CIRCUIT-BRAKER - PROTECTION TRIPPED G	DB BOP TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
88		40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSH-7101	CIRCUIT-BRAKER - OPEN	DB BOP OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
89		40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSL-7101	CIRCUIT-BRAKER - CLOSED	DB BOP CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
90		40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7105	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	DB BOP TRIP_DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
91	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	DB BOP CB CLS	1 Bit	BOOL	BOOL	LVSWGR
92	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	DB BOP CB OPN	1 Bit	BOOL	BOOL	LVSWGR
93	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7201	CIRCUIT-BRAKER - TRIPPED	DB BOP TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
94	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87AVL-7201	FEEDER AVAILABLE	DB BOP FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
95	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XA-7201	INTERNAL FAULT	DB BOP INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
96	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87LOC-7301	SA1 ON "LOCAL" POSITION	DB BOP SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
97	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7106	CB PROT TRIP L	CRANE TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
98	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7107	CIRCUIT-BRAKER - PROTECTION TRIPPED S	CRANE TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
99	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7108	CIRCUIT-BRAKER - PROTECTION TRIPPED I	CRANE TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
100	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7109	CIRCUIT-BRAKER - PROTECTION TRIPPED G	CRANE TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
101	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSH-7102	CIRCUIT-BRAKER - OPEN	CRANE OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
102	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSL-7102	CIRCUIT-BRAKER - CLOSED	CRANE CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
103	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7110	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	CRANE TRIP_DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
104	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSL-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	CRANE CB CLS	1 Bit	BOOL	BOOL	LVSWGR
105	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSH-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	CRANE CB OPN	1 Bit	BOOL	BOOL	LVSWGR
106	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7202	CIRCUIT-BRAKER - TRIPPED	CRANE TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
107	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87AVL-7202	FEEDER AVAILABLE	CRANE FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
108	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XA-7202	INTERNAL FAULT	NORMAL,,FAULT,NORMAL	1 Bit	BOOL	BOOL	LVSWGR
109	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87LOC-7302	SA1 ON "LOCAL" POSITION	CRANE SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
110		40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XS-7101	CB PROT TRIP L	WTP TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
111		40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XS-7102	CIRCUIT-BRAKER - PROTECTION TRIPPED S	WTP TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
112		40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XS-7103	CIRCUIT-BRAKER - PROTECTION TRIPPED I	WTP TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
113		40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XS-7104	CIRCUIT-BRAKER - PROTECTION TRIPPED G	WTP TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
114		40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50ZSH-7101	CIRCUIT-BRAKER - OPEN	WTP OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
115		40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50ZSL-7101	CIRCUIT-BRAKER - CLOSED	WTP CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
116		40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XS-7105	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	WTP TRIP_DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
117	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	WTP CB CLS	1 Bit	BOOL	BOOL	LVSWGR
118	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	WTP CB OPN	1 Bit	BOOL	BOOL	LVSWGR
119	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XS-7201	CIRCUIT-BRAKER - TRIPPED	WTP TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
120	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50AVL-7201	FEEDER AVAILABLE	WTP FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
121	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50XA-7201	INTERNAL FAULT	WTP INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
122	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50LOC-7301	SA1 ON "LOCAL" POSITION	WTP SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
123	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7101	CB PROT TRIP L	HVAC PNL RM TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
124	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7102	CIRCUIT-BRAKER - PROTECTION TRIPPED S	HVAC PNL RM TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
125	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7103	CIRCUIT-BRAKER - PROTECTION TRIPPED I	HVAC PNL RM TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
126	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7104	CIRCUIT-BRAKER - PROTECTION TRIPPED G	HVAC PNL RM TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
127	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7101	CIRCUIT-BRAKER - OPEN	HVAC PNL HV OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
128	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7101	CIRCUIT-BRAKER - CLOSED	HVAC PNL HV CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
129	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7105	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	HVAC PNL HV TRIP_DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
130	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	HVAC PNL HV CB CLS	1 Bit	BOOL	BOOL	LVSWGR
131	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	HVAC PNL HV CB OPN	1 Bit	BOOL	BOOL	LVSWGR
132	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7201	CIRCUIT-BRAKER - TRIPPED	HVAC PNL HV TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
133	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77AVL-7201	FEEDER AVAILABLE	HVAC PNL HV FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
134	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XA-7201	INTERNAL FAULT	HVAC PNL HV INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
135	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77LOC-7201	SA1 ON "LOCAL" POSITION	HVAC PNL HV SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
136	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XS-7101	CB PROT TRIP L	FC AUX LD TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
137	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XS-7102	CIRCUIT-BRAKER - PROTECTION TRIPPED S	FC AUX LD TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
138	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XS-7103	CIRCUIT-BRAKER - PROTECTION TRIPPED I	FC AUX LD TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
139	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XS-7104	CIRCUIT-BRAKER - PROTECTION TRIPPED G	FC AUX LD TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
140	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80ZSH-7101	CIRCUIT-BRAKER - OPEN	FC AUX LD OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
141	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80ZSL-7101	CIRCUIT-BRAKER - CLOSED	FC AUX LD CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
142	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XS-7105	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	FC AUX LD TRIP_DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
143	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	FC AUX LDCB CLS	1 Bit	BOOL	BOOL	LVSWGR
144	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	FC AUX LDCB OPN	1 Bit	BOOL	BOOL	LVSWGR
145	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XS-7206	CIRCUIT-BRAKER - TRIPPED	FC AUX LDTRIPPED	1 Bit	BOOL	BOOL	LVSWGR
146	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80AVL-7201	FEEDER AVAILABLE	FC AUX LDFDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
147	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80XA-7201	INTERNAL FAULT	FC AUX LDINTER FLT	1 Bit	BOOL	BOOL	LVSWGR
148	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80LOC-7301	SA1 ON "LOCAL" POSITION	FC AUX LD SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
149	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7101	CB PROT TRIP L	BESS PCS TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
150	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7102	CIRCUIT-BRAKER - PROTECTION TRIPPED S	BESS PCS TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
151	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7103	CIRCUIT-BRAKER - PROTECTION TRIPPED I	BESS PCS TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
152	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7104	CIRCUIT-BRAKER - PROTECTION TRIPPED G	BESS PCS TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
153	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSH-7101	CIRCUIT-BRAKER - OPEN	BESS PCS HV OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
154	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSL-7101	CIRCUIT-BRAKER - CLOSED	BESS PCS HV CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
155	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7105	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	BESS PCS HV TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
156	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	BESS PCS CAB CB CLS	1 Bit	BOOL	BOOL	LVSWGR
157	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	BESS PCS CAB CB OPN	1 Bit	BOOL	BOOL	LVSWGR
158	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7201	CIRCUIT-BRAKER - TRIPPED	BESS PCS CAB TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
159	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85AVL-7201	FEEDER AVAILABLE	BESS PCS CAB FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
160	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XA-7201	INTERNAL FAULT	BESS PCS CAB INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
161	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85LOC-7301	SA1 ON "LOCAL" POSITION	BESS PCS CAB SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
162	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7101	CB PROT TRIP L	IA 01A TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
163	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7102	CIRCUIT-BRAKER - PROTECTION TRIPPED S	IA 01A TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
164	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7103	CIRCUIT-BRAKER - PROTECTION TRIPPED I	IA 01A TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
165	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7104	CIRCUIT-BRAKER - PROTECTION TRIPPED G	IA 01A TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
166	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSH-7101	CIRCUIT-BRAKER - OPEN	IA 01A OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
167	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSL-7101	CIRCUIT-BRAKER - CLOSED	IA 01A CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
168	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7105	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	IA 01A TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
169	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSL-7201	CIRCUIT-BRAKER - CLOSED AND INSERTED	IA 01A CB CLS	1 Bit	BOOL	BOOL	LVSWGR
170	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSH-7201	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	IA 01A CB OPN	1 Bit	BOOL	BOOL	LVSWGR
171	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7201	CIRCUIT-BRAKER - TRIPPED	IA 01A TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
172	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63AVL-7201	FEEDER AVAILABLE	IA 01A FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
173	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XA-7201	INTERNAL FAULT	IA 01A INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
174	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63LOC-7301	SA1 ON "LOCAL" POSITION	IA 01A SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
175	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7106	CB PROT TRIP L	HVAC LV RM TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
176	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7107	CIRCUIT-BRAKER - PROTECTION TRIPPED S	HVAC LV RM TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
177	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7108	CIRCUIT-BRAKER - PROTECTION TRIPPED I	HVAC LV RM TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
178	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7109	CIRCUIT-BRAKER - PROTECTION TRIPPED G	HVAC LV RM TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
179	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7102	CIRCUIT-BRAKER - OPEN	HVAC LV RM OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
180	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7102	CIRCUIT-BRAKER - CLOSED	HVAC LV RM CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
181	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7110	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	HVAC LV RM TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
182	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	HVAC LV RM CB CLS	1 Bit	BOOL	BOOL	LVSWGR
183	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	HVAC LV RM CB OPN	1 Bit	BOOL	BOOL	LVSWGR
184	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7202	CIRCUIT-BRAKER - TRIPPED	HVAC LV RM TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
185	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77AVL-7202	FEEDER AVAILABLE	HVAC LV RM FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
186	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XA-7202	INTERNAL FAULT	HVAC LV RM INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
187	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77LOC-7302	SA1 ON "LOCAL" POSITION	HVAC LV RM SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
188	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7111	CB PROT TRIP L	HVAC UPS RM TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
189	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7112	CIRCUIT-BRAKER - PROTECTION TRIPPED S	HVAC UPS RM TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
190	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7113	CIRCUIT-BRAKER - PROTECTION TRIPPED I	HVAC UPS RM TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
191	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7114	CIRCUIT-BRAKER - PROTECTION TRIPPED G	HVAC UPS RM TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
192	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7103	CIRCUIT-BRAKER - OPEN	HVAC UPS RM OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
193	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7103	CIRCUIT-BRAKER - CLOSED	HVAC UPS RM CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
194	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7115	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	HVAC UPS RM TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
195	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7203	CIRCUIT-BRAKER - CLOSED AND INSERTED	HVAC UPS RM CB CLS	1 Bit	BOOL	BOOL	LVSWGR
196	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7203	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	HVAC UPS RM CB OPN	1 Bit	BOOL	BOOL	LVSWGR
197	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7203	CIRCUIT-BRAKER - TRIPPED	HVAC UPS RM TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
198	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77AVL-7203	FEEDER AVAILABLE	HVAC UPS RM FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
199	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XA-7203	INTERNAL FAULT	HVAC UPS RM INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
200	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77LOC-7303	SA1 ON "LOCAL" POSITION	HVAC UPS RM SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
201	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7116	CB PROT TRIP L	HVAC ITER TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
202	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7117	CIRCUIT-BRAKER - PROTECTION TRIPPED S	HVAC ITER TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
203	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7118	CIRCUIT-BRAKER - PROTECTION TRIPPED I	HVAC ITER TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
204	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7119	CIRCUIT-BRAKER - PROTECTION TRIPPED G	HVAC ITER TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
205	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7104	CIRCUIT-BRAKER - OPEN	HVAC ITER OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
206	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7104	CIRCUIT-BRAKER - CLOSED	HVAC ITER CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
207	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7120	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	HVAC ITER TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
208	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSL-7204	CIRCUIT-BRAKER - CLOSED AND INSERTED	HVAC ITER CB CLS	1 Bit	BOOL	BOOL	LVSWGR
209	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77ZSH-7204	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	HVAC ITER CB OPN	1 Bit	BOOL	BOOL	LVSWGR
210	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XS-7204	CIRCUIT-BRAKER - TRIPPED	HVAC ITER TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
211	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77AVL-7204	FEEDER AVAILABLE	HVAC ITER FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
212	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77XA-7204	INTERNAL FAULT	HVAC ITER INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
213	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77LOC-7304	SA1 ON "LOCAL" POSITION	HVAC ITER SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
214	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7111	CB PROT TRIP L	ICCP TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
215	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7112	CIRCUIT-BRAKER - PROTECTION TRIPPED S	ICCP TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
216	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7113	CIRCUIT-BRAKER - PROTECTION TRIPPED I	ICCP TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)

LOW VOLTAGE SWITCH GEAR

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
217	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7114	CIRCUIT-BRAKER - PROTECTION TRIPPED G	ICCP TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
218	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSH-7103	CIRCUIT-BRAKER - OPEN	ICCP OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
219	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSL-7103	CIRCUIT-BRAKER - CLOSED	ICCP CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
220	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7115	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	ICCP TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
221	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSL-7203	CIRCUIT-BRAKER - CLOSED AND INSERTED	ICCP CB CLS	1 Bit	BOOL	BOOL	LVSWGR
222	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87ZSH-7203	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	ICCP CB OPN	1 Bit	BOOL	BOOL	LVSWGR
223	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XS-7203	CIRCUIT-BRAKER - TRIPPED	ICCP TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
224	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87AVL-7203	FEEDER AVAILABLE	ICCP FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
225	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87XA-7203	INTERNAL FAULT	ICCP INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
226	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87LOC-7303	SA1 ON "LOCAL" POSITION	ICCP SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
227	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7106	CB PROT TRIP L	IA 01B TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
228	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7107	CIRCUIT-BRAKER - PROTECTION TRIPPED S	IA 01B TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
229	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7108	CIRCUIT-BRAKER - PROTECTION TRIPPED I	IA 01B TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
230	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7109	CIRCUIT-BRAKER - PROTECTION TRIPPED G	IA 01B TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
231	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSH-7102	CIRCUIT-BRAKER - OPEN	IA 01B OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
232	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSL-7102	CIRCUIT-BRAKER - CLOSED	IA 01B CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
233	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7110	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	IA 01B TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
234	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSL-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	IA 01B CB CLS	1 Bit	BOOL	BOOL	LVSWGR
235	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63ZSH-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	IA 01B CB OPN	1 Bit	BOOL	BOOL	LVSWGR
236	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XS-7202	CIRCUIT-BRAKER - TRIPPED	IA 01B TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
237	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63AVL-7202	FEEDER AVAILABLE	IA 01B FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
238	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63XA-7202	INTERNAL FAULT	IA 01B INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
239	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63LOC-7302	SA1 ON "LOCAL" POSITION	IA 01B SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
240	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7106	CB PROT TRIP L	BESS LV1 TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
241	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7107	CIRCUIT-BRAKER - PROTECTION TRIPPED S	BESS LV1 TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
242	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7108	CIRCUIT-BRAKER - PROTECTION TRIPPED I	BESS LV1 TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
243	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7109	CIRCUIT-BRAKER - PROTECTION TRIPPED G	BESS LV1 TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
244	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSH-7102	CIRCUIT-BRAKER - OPEN	BESS LV1 HV OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
245	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSL-7102	CIRCUIT-BRAKER - CLOSED	BESS LV1 HV CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
246	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7110	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	BESS LV1 HV TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
247	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSH-7202	CIRCUIT-BRAKER - CLOSED AND INSERTED	BESS LV1 CB CLS	1 Bit	BOOL	BOOL	LVSWGR
248	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSL-7202	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	BESS LV1 CB OPN	1 Bit	BOOL	BOOL	LVSWGR
249	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7202	CIRCUIT-BRAKER - TRIPPED	BESS LV1 TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
250	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85AVL-7202	FEEDER AVAILABLE	BESS LV1 FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
251	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XA-7202	INTERNAL FAULT	BESS LV1 INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
252	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85LOC-7302	SA1 ON "LOCAL" POSITION	BESS LV1 SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
253	3	40050.0	A	40050	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7111	CB PROT TRIP L	BESS LV2 TRIP L	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
254	3	40050.1	A	40050	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7112	CIRCUIT-BRAKER - PROTECTION TRIPPED S	BESS LV2 TRIP S	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
255	3	40050.2	A	40050	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7113	CIRCUIT-BRAKER - PROTECTION TRIPPED I	BESS LV2 TRIP I	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
256	3	40050.3	A	40050	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7114	CIRCUIT-BRAKER - PROTECTION TRIPPED G	BESS LV2 TRIP G	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
257	3	40040.6	A	40040	07	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSH-7103	CIRCUIT-BRAKER - OPEN	BESS LV2 HV OPEN	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
258	3	40040.0	A	40040	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSL-7103	CIRCUIT-BRAKER - CLOSED	BESS LV2 HV CLOSED	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
259	3	40040.15	A	40040	15	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7115	CIRCUIT-BRAKER - TRIP UNIT DISCONNECTED	BESS LV2 HV TRIP DISCON	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
260	3	40015.0	A	40015	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSL-7203		BESS LV2 CB CLS	1 Bit	BOOL	BOOL	LVSWGR
261	3	40015.1	A	40015	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85ZSH-7203		BESS LV2 CB OPN	1 Bit	BOOL	BOOL	LVSWGR
262	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XS-7203		BESS LV2 TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
263	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85AVL-7203		BESS LV2 FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
264	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85XA-7203		BESS LV2 INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
265	3	40015.2	A	40015	03	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85LOC-7303		BESS LV2 SA1 LOC	1 Bit	BOOL	BOOL	LVSWGR
266	3	40015.3	A	40015	04	miscellaneous USERS (typ LK1-n ÷ LK2-n)	852CXL-018		BESS LV2 AVAIL	1 Bit	BOOL	BOOL	LVSWGR
267	3	40015.4	A	40015	05	miscellaneous USERS (typ LK1-n ÷ LK2-n)	852CXL-019		BESS LV2 AVAIL	1 Bit	BOOL	BOOL	LVSWGR
268	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	852CXL-020		BESS LV2 AVAIL	1 Bit	BOOL	BOOL	LVSWGR
269	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	852CXL-021		BESS LV2 AVAIL	1 Bit	BOOL	BOOL	LVSWGR
270	3	40015.0	A	40015	01	miscellaneous USERS (typ LE2-320)	87ZSH-7204	CIRCUIT-BRAKER - CLOSED AND INSERTED	TEMP GEN/BAT CB CLS	1 Bit	BOOL	BOOL	LVSWGR
271	3	40015.1	A	40015	02	miscellaneous USERS (typ LE2-320)	87ZSL-7204	CIRCUIT-BRAKER - OPEN OR DISCONNECTED	TEMP GEN/BAT CB OPN	1 Bit	BOOL	BOOL	LVSWGR
272	3	40015.2	A	40015	03	miscellaneous USERS (typ LE2-320)	87XS-7204	CIRCUIT-BRAKER - TRIPPED	TEMP GEN/BAT CB TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
273	3	40015.3	A	40015	04	miscellaneous USERS (typ LE2-320)	87AVL-7204	FEEDER AVAILABLE	TEMP GEN/BAT FDR AVAIL	1 Bit	BOOL	BOOL	LVSWGR
274	3	40015.4	A	40015	05	miscellaneous USERS (typ LE2-320)	87XA-7204	INTERNAL FAULT	TEMP GEN/BAT INTER FLT	1 Bit	BOOL	BOOL	LVSWGR
275	Hold	Hold	A	40015	01	miscellaneous USERS (typ M1-6)	50XI-001A	MEASURE - CURRENT (average)	SW PMP A CURRENT	16 Bit	INT16		LVSWGR
276	Hold	Hold	A	40015	01	miscellaneous USERS (typ M1-6)	50XL-002A	SA1 ON "LOCAL" POSITION	SW PMP A LOC	1 Bit	BOOL	BOOL	LVSWGR
277	Hold	Hold	A	40015	02	miscellaneous USERS (typ M1-6)	50XL-001A	MOTOR RUNNING	SW PMP A RUNNING	1 Bit	BOOL	BOOL	LVSWGR
278	Hold	Hold	A	40015	03	miscellaneous USERS (typ M1-6)	50XA-004A	MOTOR TRIPPED	SW PMP A TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
279	Hold	Hold	A	40015	04	miscellaneous USERS (typ M1-6)	50XL-003A	USER AVAILABLE	SW PMP A AVAIL	1 Bit	BOOL	BOOL	LVSWGR
280	Hold	Hold	A	40015	05	miscellaneous USERS (typ M1-6)	50XS-001A	ESD ACTIVETED	SW PMP A ESD ACT	1 Bit	BOOL	BOOL	LVSWGR
281	Hold	Hold	A	40015	06	miscellaneous USERS (typ M1-6)	50PA1-001A	MOTOR STOPPED BY PA1 (PUSH BUTTON ACTIVETED)	SW PMP A PA1 LOC STOP	1 Bit	BOOL	BOOL	LVSWGR
282	Hold	Hold	A	40015	01	miscellaneous USERS (typ M1-6)	50XI-001B	MEASURE - CURRENT (average)	SW PMP B CURRENT	16 Bit	INT16		LVSWGR
283	Hold	Hold	A	40015	01	miscellaneous USERS (typ M1-6)	50XL-002B	SA1 ON "LOCAL" POSITION	SW PMP B LOC	1 Bit	BOOL	BOOL	LVSWGR
284	Hold	Hold	A	40015	02	miscellaneous USERS (typ M1-6)	50XL-001B	MOTOR RUNNING	SW PMP B RUNNING	1 Bit	BOOL	BOOL	LVSWGR
285	Hold	Hold	A	40015	03	miscellaneous USERS (typ M1-6)	50XA-004B	MOTOR TRIPPED	SW PMP B TRIPPED	1 Bit	BOOL	BOOL	LVSWGR
286	Hold	Hold	A	40015	04	miscellaneous USERS (typ M1-6)	50XL-003B	USER AVAILABLE	SW PMP B AVAIL	1 Bit	BOOL	BOOL	LVSWGR
287	Hold	Hold	A	40015	05	miscellaneous USERS (typ M1-6)	50XS-001B	ESD ACTIVETED	SW PMP B ESD ACT	1 Bit	BOOL	BOOL	LVSWGR

LOW VOLTAGE SWITCH GEAR

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
288	Hold	Hold	A	40015	06	miscellaneous USERS (typ M1-6)	50PA1-001B	MOTOR STOPPED BY PA1 (PUSH BUTTON ACTIVETED)	SW PMP B PA1 LOC STOP	1 Bit	BOOL	BOOL	LVSWGR
289	Hold	Hold	A	40000	08	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20HSH-7152	CIRCUIT-BRAKER - CLOSE COMMAND	QF1 - CLOSE COMMAND	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)
290	Hold	Hold	A	40000	07	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20HSL-7152	CIRCUIT-BRAKER - OPEN COMMAND	QF1 - OPEN COMMAND	1 Bit	BOOL	BOOL	LVSWGR(Ekip-HMI)

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No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	Hold	Hold	A	400015	-	50XI-001A	SEA WATER PUMP A MEASURE - CURRENT (average)	SW PMP A CURRENT	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	LVSWGR
2	Hold	Hold	A	400015	-	50XI-001B	SEA WATER PUMP B MEASURE - CURRENT (average)	SW PMP B CURRENT	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	LVSWGR
3	4	100-101	A	30100	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20CI-4105	MEASURE - CURRENT L1	QF1 CURRENT L1	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
4	4	102-103	A	30102	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20CI-4205	MEASURE - CURRENT L2	QF1 CURRENT L2	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
5	4	104-105	A	30104	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20CI-4305	MEASURE - CURRENT L3	QF1 CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
6	4	00154	A	30154	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20VI-1204	MEASURE - VOLTAGE L1-L2	QF1 VOLTAGE L1-L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
7	4	00155	A	30155	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20VI-2304	MEASURE - VOLTAGE L2-L3	QF1 VOLTAGE L2-L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
8	4	00156	A	30155	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20VI-3104	MEASURE - VOLTAGE L3-L1	QF1 VOLTAGE L3-L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
9	4	00254	A	30254	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20FRQ-0001	MEASURE - FREQUENCY	QF1 FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
10	4	222-223	A	30223	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20JI-1604	MEASURE - APPARENT POWER	QF1 APPARENT POWER	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
11	4	206-207	A	30206	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20JI-1804	MEASURE - REAL POWER	QF1 REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
12	4	214-215	A	30214	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20JI-1704	MEASURE - REACTIVE POWER	QF1 REACTIVE POWER	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
13	4	00253	A	30253	A-20000 ELECTROLYSER AUXILIARY LOAD (typ L3-630)	20UI-1904	MEASURE - POWER FACTOR	QF1 POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
14	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4106	MEASURE - CURRENT L1	HVAC PNL RM CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
15	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4206	MEASURE - CURRENT L2	HVAC PNL RM CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
16	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4306	MEASURE - CURRENT L3	HVAC PNL RM CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
17	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1206	MEASURE - VOLTAGE L1-L2	HVAC PNL RM VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
18	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-2306	MEASURE - VOLTAGE L2-L3	HVAC PNL RM VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
19	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-3106	MEASURE - VOLTAGE L3-L1	HVAC PNL RM VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
20	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77FRQ-0006	MEASURE - FREQUENCY	HVAC PNL RM FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
21	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1606	MEASURE - APPARENT POWER	HVAC PNL RM APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
22	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1806	MEASURE - REAL POWER	HVAC PNL RM REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
23	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1706	MEASURE - REACTIVE POWER	HVAC PNL RM REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
24	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77UI-1906	MEASURE - POWER FACTOR	HVAC PNL RM POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
25	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4107	MEASURE - CURRENT L1	TEMP GEN/BAT CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
26	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4207	MEASURE - CURRENT L2	TEMP GEN/BAT CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
27	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4307	MEASURE - CURRENT L3	TEMP GEN/BAT CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
28	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1207	MEASURE - VOLTAGE L1-L2	TEMP GEN/BAT VOL L1-L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
29	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-2307	MEASURE - VOLTAGE L2-L3	TEMP GEN/BAT VOL L2-L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
30	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-3107	MEASURE - VOLTAGE L3-L1	TEMP GEN/BAT VOL L3-L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
31	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77FRQ-0007	MEASURE - FREQUENCY	TEMP GEN/BAT FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
32	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1607	MEASURE - APPARENT POWER	TEMP GEN/BAT APPARNT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
33	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1807	MEASURE - REAL POWER	TEMP GEN/BAT REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
34	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1707	MEASURE - REACTIVE POWER	TEMP GEN/BAT REACT POWER	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
35	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77UI-1907	MEASURE - POWER FACTOR	TEMP GEN/BAT PWRFACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
36	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4101	MEASURE - CURRENT L1	DB BOP CURRENT L1	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
37	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4201	MEASURE - CURRENT L2	DB BOP CURRENT L2	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
38	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4301	MEASURE - CURRENT L3	DB BOP CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
39	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-1201	MEASURE - VOLTAGE L1-L2	DB BOP VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
40	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-2301	MEASURE - VOLTAGE L2-L3	DB BOP VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
41	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-3101	MEASURE - VOLTAGE L3-L1	DB BOP VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
42	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87FRQ-0001	MEASURE - FREQUENCY	DB BOP FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
43	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1601	MEASURE - APPARENT POWER	DB BOP APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
44	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1801	MEASURE - REAL POWER	DB BOP REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
45	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1701	MEASURE - REACTIVE POWER	DB BOP REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
46	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87UI-1901	MEASURE - POWER FACTOR	DB BOP POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
47	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4102	MEASURE - CURRENT L1	CRANE CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
48	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4202	MEASURE - CURRENT L2	CRANE CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
49	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4302	MEASURE - CURRENT L3	CRANE CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
50	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-1202	MEASURE - VOLTAGE L1-L2	CRANE VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
51	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-2302	MEASURE - VOLTAGE L2-L3	CRANE VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
52	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-3102	MEASURE - VOLTAGE L3-L1	CRANE VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
53	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87FRQ-0002	MEASURE - FREQUENCY	CRANE FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
54	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1602	MEASURE - APPARENT POWER	CRANE APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
55	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1802	MEASURE - REAL POWER	CRANE REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
56	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1702	MEASURE - REACTIVE POWER	CRANE REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
57	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87UI-1902	MEASURE - POWER FACTOR	CRANE POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
58	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50CI-4101	MEASURE - CURRENT L1	WTP CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
59	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50CI-4201	MEASURE - CURRENT L2	WTP CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
60	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50CI-4301	MEASURE - CURRENT L3	WTP CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
61	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50VI-1201	MEASURE - VOLTAGE L1-L2	WTP VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
62	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50VI-2301	MEASURE - VOLTAGE L2-L3	WTP VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
63	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50VI-3101	MEASURE - VOLTAGE L3-L1	WTP VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
64	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50FRQ-0001	MEASURE - FREQUENCY	WTP FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
65	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50JI-1601	MEASURE - APPARENT POWER	WTP APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
66	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50JI-1801	MEASURE - REAL POWER	WTP REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	

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No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
67	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50JI-1701	MEASURE - REACTIVE POWER	WTP REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
68	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50UI-1901	MEASURE - POWER FACTOR	WTP POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
69	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4101	MEASURE - CURRENT L1	HVAC PNL HV CURRENT L1	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
70	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4201	MEASURE - CURRENT L2	HVAC PNL HV CURRENT L2	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
71	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4301	MEASURE - CURRENT L3	HVAC PNL HV CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
72	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1201	MEASURE - VOLTAGE L1-L2	HVAC PNL HV VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
73	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-2301	MEASURE - VOLTAGE L2-L3	HVAC PNL HV VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
74	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-3101	MEASURE - VOLTAGE L3-L1	HVAC PNL HV VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
75	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77FRQ-0001	MEASURE - FREQUENCY	HVAC PNL HV FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
76	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1601	MEASURE - APPARENT POWER	HVAC PNL HV APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
77	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1801	MEASURE - REAL POWER	HVAC PNL HV REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
78	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1701	MEASURE - REACTIVE POWER	HVAC PNL HV REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
79	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77UI-1901	MEASURE - POWER FACTOR	HVAC PNL HV POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
80	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80CI-4101	MEASURE - CURRENT L1	FC AUX LD CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
81	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80CI-4201	MEASURE - CURRENT L2	FC AUX LD CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
82	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80CI-4301	MEASURE - CURRENT L3	FC AUX LD CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
83	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80VI-1201	MEASURE - VOLTAGE L1-L2	FC AUX LD VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
84	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80VI-2301	MEASURE - VOLTAGE L2-L3	FC AUX LD VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
85	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80VI-3101	MEASURE - VOLTAGE L3-L1	FC AUX LD VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
86	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80FRQ-0001	MEASURE - FREQUENCY	FC AUX LD FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
87	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80JI-1601	MEASURE - APPARENT POWER	FC AUX LD APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
88	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80JI-1801	MEASURE - REAL POWER	FC AUX LD REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
89	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80JI-1701	MEASURE - REACTIVE POWER	FC AUX LD REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
90	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80UI-1901	MEASURE - POWER FACTOR	FC AUX LD POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
91	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4101	MEASURE - CURRENT L1	BESS PCS HV CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
92	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4201	MEASURE - CURRENT L2	BESS PCS HV CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
93	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4301	MEASURE - CURRENT L3	BESS PCS HV CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
94	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-1201	MEASURE - VOLTAGE L1-L2	BESS PCS HV VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
95	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-2301	MEASURE - VOLTAGE L2-L3	BESS PCS HV VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
96	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-3101	MEASURE - VOLTAGE L3-L1	BESS PCS HV VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
97	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85FRQ-0001	MEASURE - FREQUENCY	BESS PCS HV FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
98	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1601	MEASURE - APPARENT POWER	BESS PCS HV APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
99	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1801	MEASURE - REAL POWER	BESS PCS HV REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
100	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1701	MEASURE - REACTIVE POWER	BESS PCS HV REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
101	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85UI-1901	MEASURE - POWER FACTOR	BESS PCS HV POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
102	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CI-4101	MEASURE - CURRENT L1	IA 01A CURRENT L1	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
103	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CI-4201	MEASURE - CURRENT L2	IA 01A CURRENT L2	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
104	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CI-4301	MEASURE - CURRENT L3	IA 01A CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
105	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63VI-1201	MEASURE - VOLTAGE L1-L2	IA 01A VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
106	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63VI-2301	MEASURE - VOLTAGE L2-L3	IA 01A VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
107	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63VI-3101	MEASURE - VOLTAGE L3-L1	IA 01A VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
108	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63FRQ-0001	MEASURE - FREQUENCY	IA 01A FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
109	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63JI-1601	MEASURE - APPARENT POWER	IA 01A APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
110	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63JI-1801	MEASURE - REAL POWER	IA 01A REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
111	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63JI-1701	MEASURE - REACTIVE POWER	IA 01A REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
112	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63UI-1901	MEASURE - POWER FACTOR	IA 01A POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
113	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4102	MEASURE - CURRENT L1	HVAC LV RM CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
114	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4202	MEASURE - CURRENT L2	HVAC LV RM CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
115	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4302	MEASURE - CURRENT L3	HVAC LV RM CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
116	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1202	MEASURE - VOLTAGE L1-L2	HVAC LV RM VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
117	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-2302	MEASURE - VOLTAGE L2-L3	HVAC LV RM VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
118	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-3102	MEASURE - VOLTAGE L3-L1	HVAC LV RM VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	

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No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
119	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77FRQ-0002	MEASURE - FREQUENCY	HVAC LV RM FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
120	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1602	MEASURE - APPARENT POWER	HVAC LV RM APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
121	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1802	MEASURE - REAL POWER	HVAC LV RM REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
122	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1702	MEASURE - REACTIVE POWER	HVAC LV RM REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
123	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77UI-1902	MEASURE - POWER FACTOR	HVAC LV RM POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
124	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4103	MEASURE - CURRENT L1	HVAC UPS RM CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
125	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4203	MEASURE - CURRENT L2	HVAC UPS RM CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
126	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4303	MEASURE - CURRENT L3	HVAC UPS RM CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
127	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1203	MEASURE - VOLTAGE L1-L2	HVAC UPS RM VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
128	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-2303	MEASURE - VOLTAGE L2-L3	HVAC UPS RM VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
129	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-3103	MEASURE - VOLTAGE L3-L1	HVAC UPS RM VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
130	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77FRQ-0003	MEASURE - FREQUENCY	HVAC UPS RM FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
131	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1603	MEASURE - APPARENT POWER	HVAC UPS RM APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
132	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1803	MEASURE - REAL POWER	HVAC UPS RM REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
133	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1703	MEASURE - REACTIVE POWER	HVAC UPS RM REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
134	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77UI-1903	MEASURE - POWER FACTOR	HVAC UPS RM POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
135	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4104	MEASURE - CURRENT L1	HVAC ITER CURRENT L1	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
136	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4204	MEASURE - CURRENT L2	HVAC ITER CURRENT L2	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
137	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CI-4304	MEASURE - CURRENT L3	HVAC ITER CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
138	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-1204	MEASURE - VOLTAGE L1-L2	HVAC ITER VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
139	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-2304	MEASURE - VOLTAGE L2-L3	HVAC ITER VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
140	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77VI-3104	MEASURE - VOLTAGE L3-L1	HVAC ITER VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
141	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77FRQ-0004	MEASURE - FREQUENCY	HVAC ITER FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
142	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1604	MEASURE - APPARENT POWER	HVAC ITER APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
143	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1804	MEASURE - REAL POWER	HVAC ITER REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
144	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77JI-1704	MEASURE - REACTIVE POWER	HVAC ITER REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
145	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77UI-1904	MEASURE - POWER FACTOR	HVAC ITER POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
146	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4103	MEASURE - CURRENT L1	ICCP CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
147	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4203	MEASURE - CURRENT L2	ICCP CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
148	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4303	MEASURE - CURRENT L3	ICCP CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
149	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-1203	MEASURE - VOLTAGE L1-L2	ICCP VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
150	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-2303	MEASURE - VOLTAGE L2-L3	ICCP VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
151	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-3103	MEASURE - VOLTAGE L3-L1	ICCP VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
152	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87FRQ-0003	MEASURE - FREQUENCY	ICCP FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
153	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1603	MEASURE - APPARENT POWER	ICCP APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
154	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1803	MEASURE - REAL POWER	ICCP REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
155	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1703	MEASURE - REACTIVE POWER	ICCP REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
156	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87UI-1903	MEASURE - POWER FACTOR	ICCP POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
157	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CI-4102	MEASURE - CURRENT L1	IA 01B CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
158	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CI-4202	MEASURE - CURRENT L2	IA 01B CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
159	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CI-4302	MEASURE - CURRENT L3	IA 01B CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
160	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63VI-1202	MEASURE - VOLTAGE L1-L2	IA 01B VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
161	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63VI-2302	MEASURE - VOLTAGE L2-L3	IA 01B VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
162	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63VI-3102	MEASURE - VOLTAGE L3-L1	IA 01B VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
163	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63FRQ-0002	MEASURE - FREQUENCY	IA 01B FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
164	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63JI-1602	MEASURE - APPARENT POWER	IA 01B APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
165	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63JI-1802	MEASURE - REAL POWER	IA 01B REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
166	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63JI-1702	MEASURE - REACTIVE POWER	IA 01B REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
167	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63UI-1902	MEASURE - POWER FACTOR	IA 01B POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
168	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4102	MEASURE - CURRENT L1	BESS LV1 HV CURRENT L1	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
169	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4202	MEASURE - CURRENT L2	BESS LV1 HV CURRENT L2	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
170	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4302	MEASURE - CURRENT L3	BESS LV1 HV CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
171	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-1202	MEASURE - VOLTAGE L1-L2	BESS LV1 HV VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
172	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-2302	MEASURE - VOLTAGE L2-L3	BESS LV1 HV VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
173	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-3102	MEASURE - VOLTAGE L3-L1	BESS LV1 HV VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
174	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85FRQ-0002	MEASURE - FREQUENCY	BESS LV1 HV FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
175	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1602	MEASURE - APPARENT POWER	BESS LV1 HV APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
176	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1802	MEASURE - REAL POWER	BESS LV1 HV REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
177	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1702	MEASURE - REACTIVE POWER	BESS LV1 HV REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
178	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85UI-1902	MEASURE - POWER FACTOR	BESS LV1 HV POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
179	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4103	MEASURE - CURRENT L1	BESS LV2 HV CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
180	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4203	MEASURE - CURRENT L2	BESS LV2 HV CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
181	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CI-4303	MEASURE - CURRENT L3	BESS LV2 HV CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
182	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-1203	MEASURE - VOLTAGE L1-L2	BESS LV2 HV VOL L1L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
183	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-2303	MEASURE - VOLTAGE L2-L3	BESS LV2 HV VOL L2L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
184	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85VI-3103	MEASURE - VOLTAGE L3-L1	BESS LV2 HV VOL L3L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
185	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85FRQ-0003	MEASURE - FREQUENCY	BESS LV2 HV FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
186	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1603	MEASURE - APPARENT POWER	BESS LV2 HV APPARENT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
187	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1803	MEASURE - REAL POWER	BESS LV2 HV REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
188	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85JI-1703	MEASURE - REACTIVE POWER	BESS LV2 HV REACTIVE PWR	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
189	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85UI-1903	MEASURE - POWER FACTOR	BESS LV2 HV POWER FACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	
190	4	100-101	A	30100	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4104	MEASURE - CURRENT L1	TEMP GEN/BAT CURRENT L1	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
191	4	102-103	A	30102	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4204	MEASURE - CURRENT L2	TEMP GEN/BAT CURRENT L2	0	100	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
192	4	104-105	A	30104	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CI-4304	MEASURE - CURRENT L3	TEMP GEN/BAT CURRENT L3	0	100.0	A	-	-	-	-	0	65535	32 Bit	UINT	REAL	
193	4	00154	A	30154	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-1204	MEASURE - VOLTAGE L1-L2	TEMP GEN/BAT VOL L1-L2	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
194	4	00155	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-2304	MEASURE - VOLTAGE L2-L3	TEMP GEN/BAT VOL L2-L3	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
195	4	00156	A	30155	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87VI-3104	MEASURE - VOLTAGE L3-L1	TEMP GEN/BAT VOL L3-L1	0	600.0	V	-	-	-	-	0	32767	16 Bit	UINT	REAL	
196	4	00254	A	30254	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87FRQ-0004	MEASURE - FREQUENCY	TEMP GEN/BAT FREQUENCY	0	60.0	Hz	-	-	-	-	0	32767	16 Bit	UINT	REAL	
197	4	222-223	A	30223	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1604	MEASURE - APPARENT POWER	TEMP GEN/BAT APPARNT PWR	0	999.0	kVA	-	-	-	-	0	65535	32 Bit	SINT	REAL	
198	4	206-207	A	30206	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1804	MEASURE - REAL POWER	TEMP GEN/BAT REAL POWER	0	999.0	kW	-	-	-	-	0	65535	32 Bit	SINT	REAL	
199	4	214-215	A	30214	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87JI-1704	MEASURE - REACTIVE POWER	TEMP GEN/BAT REACT POWER	0	999.0	kVAR	-	-	-	-	0	65535	32 Bit	SINT	REAL	
200	4	00253	A	30253	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87UI-1904	MEASURE - POWER FACTOR	TEMP GEN/BAT PWRFACTOR	0	1.000	COSfi	-	-	-	-	0	32767	16 Bit	UINT	REAL	

LOW VOLTAGE SWITCH GEAR

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks

LOW VOLTAGE SWITCH GEAR

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CLC-7201	DB BOP CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
2	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87OPC-7201	DB BOP CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
3	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CLC-7202	CRANE CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
4	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87OPC-7202	CRANE CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
5	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50CLC-7201	WTP CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
6	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	50OPC-7201	WTP CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
7	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CLC-7201	HVAC PNL HV CN CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
8	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77OPC-7201	HVAC PNL HV CN OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
9	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80CLC-7201	FC AUX LD CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
10	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	80OPC-7201	FC AUX LD CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
11	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CLC-7201	BESS PCS CAB CN CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
12	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85OPC-7201	BESS PCS CAB CN OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
13	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CLC-7201	IA 01A CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
14	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63OPC-7201	IA 01A CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
15	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CLC-7202	HVAC LV RM CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
16	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77OPC-7202	HVAC LV RM CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
17	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CLC-7203	HVAC UPS RM CN CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
18	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77OPC-7203	HVAC UPS RM CN OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
19	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77CLC-7204	HVAC ITER CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
20	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	77OPC-7204	HVAC ITER CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
21	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87CLC-7203	ICCP CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
22	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	87OPC-7203	ICCP CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
23	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63CLC-7202	IA 01B CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
24	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	63OPC-7202	IA 01B CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
25	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CLC-7202	BESS LV1 CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
26	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85OPC-7202	BESS LV1 CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
27	3	40016.0	A	40016	01	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85CLC-7203	BESS LV2 CONT CLS CMD		1 Bit	BOOL	BOOL	LVSWGR
28	3	40016.1	A	40016	02	miscellaneous USERS (typ LK1-n ÷ LK2-n)	85OPC-7203	BESS LV2 CONT OPN CMD		1 Bit	BOOL	BOOL	LVSWGR
29	4	40256.0	A	40016	01	miscellaneous USERS (typ M1-6)	50HS-001A	SW PMP A STRT CMD		1 Bit	BOOL	BOOL	LVSWGR
30	4	40257.0	A	40016	01	miscellaneous USERS (typ M1-6)	50HS-005A	SW PMP A STOP CMD		1 Bit	BOOL	BOOL	LVSWGR
31	4	40256.0	A	40016	01	miscellaneous USERS (typ M1-6)	50HS-001B	SW PMP B STRT CMD		1 Bit	BOOL	BOOL	LVSWGR
32	4	40257.0	A	40016	01	miscellaneous USERS (typ M1-6)	50HS-005B	SW PMP B STOP CMD		1 Bit	BOOL	BOOL	LVSWGR

HVAC

No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1																					
2	B100															0	65535	16 Bit	UINT		
3	FC3	40004	A	40004	HHU-77001-S	77HHUUS-001	HHU-77001 Status	HHU-77001 STATUS	0	100	%					0	65535	16 Bit	UINT		
4	FC3	40005	A	40005	HHU-77002-S	77HHUUS-002	HHU-77002 Status	HHU-77002 STATUS	0	100	%					0	65535	16 Bit	UINT		
5	FC3	40006	A	40006	HSS-77001/2/3-S	77HHUUS-123	HSS-77001/2/3 Status	HHU-1/2/3 STATUS	0	100	%					0	65535	16 Bit	UINT		
6	FC3	40007	A	40007	B100-HSB-001-IT	77TI-001	B 100 Internal Temperature	B100 INTERNAL TEMP	0	100	degC					0	65535	16 Bit	UINT		
7	FC3	40008	A	40008	B100-HSB-001-IP	77PI-001	B100 internal pressure	B100 INTERNAL PRESS	0	100	PA					0	65535	16 Bit	UINT		
	B200															0	65535	16 Bit	UINT		
8	FC3	40004	A	40004	HHU-77003-S	77HHUUS-003	HHU-77003 Status	HHU-77003 STATUS	0	100	%					0	65535	16 Bit	UINT		
9	FC3	40005	A	40005	HHU-77004-S	77HHUUS-004	HHU-77004 Status	HHU-77004 STATUS	0	100	%					0	65535	16 Bit	UINT		
10	FC3	40006	A	40006	HSS-77005/6/7-S	77HHUUS-567	HSS-77005/6/7 Status	HHU-5/6/7 STATUS	0	100	%					0	65535	16 Bit	UINT		
11	FC3	40007	A	40007	B200-HSB-001-IT	77TIB200-001	B 200 Internal Temperature Media	B200 INTERNAL TEMP	0	100	degC					0	65535	16 Bit	UINT		
12	FC3	40008	A	40008	B200-HSB-001-IP	77PIB200-001	B200 internal pressure	B200 INTERNAL PRESS	0	100	PA					0	65535	16 Bit	UINT		
	B300															0	65535	16 Bit	UINT		
13	FC3	40006	A	40006	HHU-77005-S	77HHUUS-005	HHU-77005 STATUS	HHU-77005 STATUS	0	100	%					0	65535	16 Bit	UINT		
14	FC3	40007	A	40007	HHU-77006-S	77HHUUS-006	HHU-77006 STATUS	HHU-77006 STATUS	0	100	%					0	65535	16 Bit	UINT		
15	FC3	40008	A	40008	HSS-77-007/8/9-S	77HHUUS-789	HSS-77-007/8/9 STATUS	HHU-7/8/9 STATUS	0	100	%					0	65535	16 Bit	UINT		
16	FC3	40009	A	40009	B300-HSB-001-MT	77TIB300-001	B300 Internal Temperture Media	B300 INTERNAL TEMP	0	100	degC					0	65535	16 Bit	UINT		
17	FC3	40012	A	40012	B300-HSB-001-MP	77PIB300-001	B300 Internal Pressure	B300 INTERNAL PRESS	0	100	PA					0	65535	16 Bit	UINT		
18	FC3	40013	A	40013	B300-HSB-001-HFM1P	77PI1B300-301	HFM-77-301 Percentual	B300 HF77-301 PERCENTUAL	0	100	barg					0	65535	16 Bit	UINT		
19	FC3	40014	A	40014	B300-HSB-001-HFM2P	77PI2B300-303	HFM-77-303 Percentual	B300 HF77-303 PERCENTUAL	0	100	PA					0	65535	16 Bit	UINT		
	B400															0	65535	16 Bit	UINT		
20	FC3	40006	A	40006	HHU-77007-S	77HHUUS-007	HHU-77007 STATUS	HHU-77007 STATUS	0	100	%					0	65535	16 Bit	UINT		
21	FC3	40007	A	40007	HHU-77008-S	77HHUUS-008	HHU-77008 STATUS	HHU-77008 STATUS	0	100	%					0	65535	16 Bit	UINT		
22	FC3	40008	A	40008	HSS-77-0010/11/12-S	77HHUUS-101112	HSS-77-0010/11/12 STATUS	HHU-10/11/12 STATUS	0	100	%					0	65535	16 Bit	UINT		
23	FC3	40009	A	40009	B400-HSB-001-MT	77TIB400-001	B400 Internal Temperature Media	B400 INTERNAL TEMP	0	100	degC					0	65535	16 Bit	UINT		
24	FC3	40012	A	40012	B400-HSB-001-MP	77PIB400-001	B400 Internal Pressure	B400 INTERNAL PRESS	0	100	PA					0	65535	16 Bit	UINT		
25	FC3	40013	A	40013	B400-HSB-001-HFM1P	77PI1B400-401	HFM-77-401 Percentual	B400 HF77-401 PERCENTUAL	0	100	DEGC					0	65535	16 Bit	UINT		
26	FC3	40014	A	40014	B400-HSB-001-HFM2P	77PI2B400-403	HFM-77-403 Percentual	B400 HF77-403 PERCENTUAL	0	100	PA					0	65535	16 Bit	UINT		

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
	B100												
1	FC3	40001	A	40001	0	HFD-77001-ZSH	77HFDZSH-001	HFD-77001 NOT OPEN	HFD-77001 NOT OPN	16 Bit	Bit	Bit	
2	FC3	40001		40001	1	HFD-77001-ZSL	77HFDZSL-001	HFD-77001 NOT CLOSE	HFD-77001 NOT CLS	16 Bit	Bit	Bit	
3	FC3	40001		40001	2	HFD-77002-ZSH	77HFDZSH-002	HFD-77002 NOT OPEN	HFD-77002 NOT OPN	16 Bit	Bit	Bit	
4	FC3	40001		40001	3	HFD-77002-ZSL	77HFDZSL-002	HFD-77002 NOT CLOSE	HFD-77002 NOT CLS	16 Bit	Bit	Bit	
5	FC3	40001		40001	4	HFD-77003-ZSH	77HFDZSH-003	HFD-77003 NOT OPEN	HFD-77003 NOT OPN	16 Bit	Bit	Bit	
6	FC3	40001		40001	5	HFD-77003-ZSL	77HFDZSL-003	HFD-77003 NOT CLOSE	HFD-77003 NOT CLS	16 Bit	Bit	Bit	
7	FC3	40001		40001	6	HDZ-77-101-ZSH	77HFZZSH-101	HDZ-77-101 NOT OPEN	HDZ-77-101 NOT OPN	16 Bit	Bit	Bit	
8	FC3	40001		40001	7	HDZ-77-101-ZSL	77HDZZSL-101	HDZ-77-101 NOT CLOSE	HDZ-77-101 NOT CLS	16 Bit	Bit	Bit	
9	FC3	40001		40001	8	HDZ-77-102-ZSH	77HFZZSH-102	HDZ-77-102 NOT OPEN	HDZ-77-102 NOT OPN	16 Bit	Bit	Bit	
10	FC3	40001		40001	9	HDZ-77-102-ZSL	77HDZZSL-102	HDZ-77-102 NOT CLOSE	HDZ-77-102 NOT CLS	16 Bit	Bit	Bit	
11	FC3	40001		40001	10	HFM-77-101-PTCP	77HFMPXS-101	HFM-77-101 PTC Protection	HFM-77-101 PTC PROT	16 Bit	Bit	Bit	
12	FC3	40001		40001	11	HSS-77-101-TSPH	77HFM-TSH-101	TSH/HH-77-101 Electrical heater protection thermostate	TSH/HH-77-101 HTR PROT	16 Bit	Bit	Bit	
13	FC3	40001		40001	12	HFM-77-101-TRIP	77HFMXS-101	HFM-77-101 TRIP SIGNAL	HFM-77-101 TRIP	16 Bit	Bit	Bit	
14	FC3	40001		40001	13	HFM-77-101-VSDF	77HFMXA-101	HFM-77-101 VSD MALFUNCTION	HFM-77-101 VSD MALFCTN	16 Bit	Bit	Bit	
15	FC3	40001		40001	14	HSS-77-101-TRP	77HSSXS-101	HSS-77-101 TRIP	HSS-77-101 TRIP	16 Bit	Bit	Bit	
16	FC3	40001		40001	15	HSS-77-101-MF	77HSSXA-101	HSS-77-101 MODULATION FAULT	HSS-77-101 MODULATN FLT	16 Bit	Bit	Bit	
17	FC3	40002		40002	0	HHU-77001-ATRP	77HHUAXS-001	HHU-77001 AUX TRIP	HHU-77001 AUX TRIP	16 Bit	Bit	Bit	
18	FC3	40002		40002	1	HHU-77001-MBTRP	77HHUXS-001	HHU-77001 MAIN BRAKER TRIP	HHU-77001 MN BRK TRIP	16 Bit	Bit	Bit	
19	FC3	40002		40002	2	HHU-77001-NF	77HHUXA-101	HHU-77001 NO FLOW	HHU-77001 NO FLOW	16 Bit	Bit	Bit	
20	FC3	40002		40002	3	HFM-77-102-PTCP	77HFMPXS-102	HFM-77-102 Ptc Protection	HFM-77-102 PTC PROT	16 Bit	Bit	Bit	
21	FC3	40002		40002	4	TSH/HH-77-102-TSPH	77-TSH-102	TSH/HH-77-102	TSH/HH-77-102	16 Bit	Bit	Bit	
22	FC3	40002		40002	5	HFM-77-102-TRP	77HFMXS-102	HFM-77-102 trip	HFM-77-102 TRIP	16 Bit	Bit	Bit	
23	FC3	40002		40002	6	HFM-77-102-VSDF	77HFMXA-102	HFM-77-102 VSD Malfunction	HFM-77-102 VSD MALFCTN	16 Bit	Bit	Bit	
24	FC3	40002		40002	7	HSS-77-102-TRP	77HSSXS-102	HSS-77-102 trip	HSS-77-102 TRIP	16 Bit	Bit	Bit	
25	FC3	40002		40002	8	HSS-77-102-MF	77HSSXA-102	HSS-77-102 Modulation Fault	HSS-77-102 MODULATN FLT	16 Bit	Bit	Bit	
26	FC3	40002		40002	9	HHU-77002-ATRP	77HHUAXS-002	HHU-77002 aux Trip	HHU-77002 AUX TRIP	16 Bit	Bit	Bit	
27	FC3	40002		40002	10	HHU-77002-MBTRP	77HHUXS-002	HHU-77002 Main Braker Trip	HHU-77002 MN BRK TRIP	16 Bit	Bit	Bit	
28	FC3	40002		40002	11	B100-HSB-001-MBTRP	77HSBXS-001	B100-HSB-001 Main Braker Trip	B100-HSB-001 MN BRK TRIP	16 Bit	Bit	Bit	
29	FC3	40002		40002	12	B100-HSB-001-MLTRP	77HSBXS-011	B100-HSB-001 Module LIght Trip	B100HSB001 MOD LITE TRIP	16 Bit	Bit	Bit	
30	FC3	40002		40002	13	B100-HSB-001-MSTRP	77HSBXS-111	B100-HSB-001 Module Socket Trip	B100HSB001 MOD SOKT TRIP	16 Bit	Bit	Bit	
31	FC3	40002		40002	14	B100-HSB-001-ATRP	77HSBAXS-001	B100-HSB-001 AuX Trip	B100-HSB-001 AUX TRIP	16 Bit	Bit	Bit	
32	FC3	40002		40002	15	HSS-77-001/2/3-SHTRP	77HSSXS-123	HSS-77-001/2/3 Space Heater trip	HSS77001/2/3 SPCHTR TRIP	16 Bit	Bit	Bit	
33	FC3	40003		40003	0	HSS-77-001/2/3-SHF	77HSSXA-123	HSS-77-001/2/3 Fault	HSS-77-001/2/3 FLT	16 Bit	Bit	Bit	
34	FC3	40003		40003	1	77-TT-101-F	77TTXA-101	77-TT-101 Fault	77-TT-101 FLT	16 Bit	Bit	Bit	
35	FC3	40003		40003	2	77-TT-102-F	77TTXA-02	77-TT-102 Fault	77-TT-102 FLT	16 Bit	Bit	Bit	
36	FC3	40003		40003	3	77-TT-103-F	77TTXA-103	77-TT-103 Fault	77-TT-103 FLT	16 Bit	Bit	Bit	
37	FC3	40003		40003	4	77-TT-104-F	77TTXA-104	77-TT-104 Fault	77-TT-104 FLT	16 Bit	Bit	Bit	
38	FC3	40003		40003	5	77-PT-101-F	77PTXA-101	77-PT-101 Fault	77-PT-101 FLT	16 Bit	Bit	Bit	
39	FC3	40003		40003	6	B100-HSB-001-MJF	77HSBXA-001	Major Fault	MAJOR FLT	16 Bit	Bit	Bit	
40	FC3	40003		40003	7	B100-HSB-001-LP	77HSB-LP-001	Module Low Pressure	MODULE LOW PRESS	16 Bit	Bit	Bit	
41	FC3	40003		40003	8	B100-HSB-001-MODBUSF	77HSBXA-011	ModBUS Fault	MODBUS FLT	16 Bit	Bit	Bit	
42	FC3	40003		40003	14	B100-HSB-001-MSE	77HSBXA-111	ModBus Server Error	MODBUS SERVER ERROR	16 Bit	Bit	Bit	
	B200						xx			16 Bit	Bit	Bit	
43	FC3	40001		40001	0	HFD-77004-ZSH	77HFDZSH-004	HFD-77004 NOT OPEN	HFD-77004 NOT OPN	16 Bit	Bit	Bit	
44	FC3	40001		40001	1	HFD-77004-ZSL	77HFDZSL-004	HFD-77004 NOT CLOSE	HFD-77004 NOT CLS	16 Bit	Bit	Bit	
45	FC3	40001		40001	2	HFD-77-005-ZSH	77HFDZSH-005	HFD-77005 NOT OPEN	HFD-77005 NOT OPN	16 Bit	Bit	Bit	
46	FC3	40001		40001	3	HFD-77-005-ZSL	77HFDZSL-005	HFD-77005 NOT CLOSE	HFD-77005 NOT CLS	16 Bit	Bit	Bit	
47	FC3	40001		40001	4	HFD-77-006-ZSH	77HFDZSH-006	HFD-77006 NOT OPEN	HFD-77006 NOT OPN	16 Bit	Bit	Bit	
48	FC3	40001		40001	5	HFD-77-006-ZSL	77HFDZSL-006	HFD-77006 NOT CLOSE	HFD-77006 NOT CLS	16 Bit	Bit	Bit	
49	FC3	40001		40001	6	HDZ-77-201-ZSH	77HFZZSH-201	HDZ-77-201 NOT OPEN	HDZ-77-201 NOT OPN	16 Bit	Bit	Bit	
50	FC3	40001		40001	7	HDZ-77-201-ZSL	77HDZZSL-201	HDZ-77-201 NOT CLOSE	HDZ-77-201 NOT CLS	16 Bit	Bit	Bit	
51	FC3	40001		40001	8	HDZ-77-202-ZSH	77HFZZSH-202	HDZ-77-202 NOT OPEN	HDZ-77-202 NOT OPN	16 Bit	Bit	Bit	
52	FC3	40001		40001	9	HDZ-77-202-ZSL	77HDZZSL-202	HDZ-77-202 NOT CLOSE	HDZ-77-202 NOT CLS	16 Bit	Bit	Bit	
53	FC3	40001		40001	10	HFM-77-201-PTCP	77HFMPXS-201	HFM-77-201 PTC Protection	HFM-77-201 PTC PROT	16 Bit	Bit	Bit	
54	FC3	40001		40001	11	TSH/HH-77-201-TSPH	77HFM-TSH-201	TSH/HH-77-201 Electrical heater Protection thermostate	TSH/HH-77-201 HTR PROT	16 Bit	Bit	Bit	
55	FC3	40001		40001	12	HFM-77-201-TRIP	77HFMXS-201	HFM-77-201 TRIP SIGNAL	HFM-77-201 TRIP	16 Bit	Bit	Bit	
56	FC3	40001		40001	13	HFM-77-201-VSDF	77HFMXA-201	HFM-77-201 VSD MALFUNCTION	HFM-77-201 VSD MALFCTN	16 Bit	Bit	Bit	

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
57	FC3	40001		40001	14	HSS-77-201-TRP	77HSSXS-201	HSS-77-201 TRIP	HSS-77-201 TRIP	16 Bit	Bit	Bit	
58	FC3	40001		40001	15	HSS-77-201-MF	77HSSXA-201	HSS-77-201 MODULATION FAULT	HSS-77-201 MODULATN FLT	16 Bit	Bit	Bit	
59	FC3	40002		40002	0	HHU-77003-ATRP	77HHUAXS-003	HHU-77003 AUX TRIP	HHU-77001 AUX TRIP	16 Bit	Bit	Bit	
60	FC3	40002		40002	1	HHU-77003-MBTRP	77HHUXS-003	HHU-77003 MAIN BRAKER TRIP	HHU-77001 MN BRK TRIP	16 Bit	Bit	Bit	
61	FC3	40002		40002	2	HHU-77003-NF	77HHUXA-201	HHU-77003 NO FLOW	HHU-77001 NO FLOW	16 Bit	Bit	Bit	
62	FC3	40002		40002	3	HFM-77-202-PTCP	77HFMPXS-202	HFM-77-202 Ptc Protection	HFM-77-102 PTC PROT	16 Bit	Bit	Bit	
63	FC3	40002		40002	4	TSH/HH-77-202-TSPH	77-TSH-202	TSH/HH-77-202	TSH/HH-77-102	16 Bit	Bit	Bit	
64	FC3	40002		40002	5	HFM-77-202-TRP	77HFMXS-202	HFM-77-202 trip	HFM-77-102 TRIP	16 Bit	Bit	Bit	
65	FC3	40002		40002	6	HFM-77-202-VSDF	77HFMXA-202	HFM-77-202 VSD Malfunction	HFM-77-102 VSD MALFCTN	16 Bit	Bit	Bit	
66	FC3	40002		40002	7	HSS-77-202-TRP	77HSSXS-202	HSS-77-202 trip	HSS-77-102 TRIP	16 Bit	Bit	Bit	
67	FC3	40002		40002	8	HSS-77-202-MF	77HSSXA-202	HSS-77-202 Modulation Fault	HSS-77-102 MODULATN FLT	16 Bit	Bit	Bit	
68	FC3	40002		40002	9	HHU-77004-ATRP	77HHUAXS-004	HHU-77004 aux Trip	HHU-77002 AUX TRIP	16 Bit	Bit	Bit	
69	FC3	40002		40002	10	HHU-77004-MBTRP	77HHUXS-004	HHU-77004 Main Braker Trip	HHU-77002 MN BRK TRIP	16 Bit	Bit	Bit	
70	FC3	40002		40002	11	B200-HSB-001-MBTRP	77HSBXS-002	B200-HSB-001 Main Braker Trip	B200-HSB-001 MN BRK TRIP	16 Bit	Bit	Bit	
71	FC3	40002		40002	12	B200-HSB-001-MLTRP	77HSBXS-022	B200-HSB-001 Module LIght Trip	B200HSB001 MOD LITE TRIP	16 Bit	Bit	Bit	
72	FC3	40002		40002	13	B200-HSB-001-MSTRP	77HSBXS-222	B200-HSB-001 Module Socket Trip	B200HSB001 MOD SOKT TRIP	16 Bit	Bit	Bit	
73	FC3	40002		40002	14	B200-HSB-001-ATRP	77B2HSBAXS-001	B200-HSB-001 Aux Trip	B200-HSB-001 AUX TRIP	16 Bit	Bit	Bit	
74	FC3	40002		40002	15	B200-HSB-001-SHTRP	77B2HSSXS-456	B200-HSB-001 Space Heater trip	HSS77004/5/6 SPCHTR TRIP	16 Bit	Bit	Bit	
76	FC3	40003		40003	0	HSS-77-004/5/6-SHF	77HSSXA-456	HSS-77-004/5/6 Fault	HSS-77-004/5/6 FLT	16 Bit	Bit	Bit	
77	FC3	40003		40003	1	77-TT-201-F	77TTXA-201	77-TT-201 Fault	77-TT-101 FLT	16 Bit	Bit	Bit	
78	FC3	40003		40003	2	77-TT-202-F	77TTXA-202	77-TT-202 Fault	77-TT-102 FLT	16 Bit	Bit	Bit	
79	FC3	40003		40003	3	77-TT-203-F	77TTXA-203	77-TT-203 Fault	77-TT-103 FLT	16 Bit	Bit	Bit	
80	FC3	40003		40003	4	77-TT-201-F	77TTXA-204	77-TT-204 Fault	77-TT-104 FLT	16 Bit	Bit	Bit	
81	FC3	40003		40003	5	77-PT-201-F	77PTXA-201	77-PT-201 Fault	77-PT-101 FLT	16 Bit	Bit	Bit	
82	FC3	40003		40003	6	B200-HSB-001-MJF	77B2HSBXA-001	MajorFault	MAJOR FLT	16 Bit	Bit	Bit	
83	FC3	40003		40003	7	B200-HSB-001-MLP	77HSB-LP-002	Module Low Pressure	MODULE LOW PRESS	16 Bit	Bit	Bit	
84	FC3	40003		40003	8	B200-HSB-001-MODBUSF	77HSBXA-022	ModBUS Fault	MODBUS FLT	16 Bit	Bit	Bit	
85	FC3	40003		40003	14	B200-HSB-001-MSE	77HSBXA-222	ModBus Server Error	MODBUS SERVER ERROR	16 Bit	Bit	Bit	
	B300						xx			16 Bit	Bit	Bit	
86	FC3	40001		40001	0	SPARE	SPARE	SPARE		16 Bit	Bit	Bit	
87	FC3	40001		40001	1	B300-HSB-001-MBTRP	77B3HSBXS-001	B300-HSB-100 Main Braker Trip	B300-HSB-001 MN BKR TRP	16 Bit	Bit	Bit	
88	FC3	40001		40001	2	B300-HSB-001-PEB	77B3PEB-001	B300-HSB-100 Panel emergency Button	B300-HSB-001 PL EM BTN	16 Bit	Bit	Bit	
89	FC3	40001		40001	3	B300-HSB-001-MLTRP	77HSBXS-033	B300-HSB-100 Module Light Trip	B300-HSB-001 MOD LTE TRP	16 Bit	Bit	Bit	
90	FC3	40001		40001	4	B300-HSB-001-MSTRP	77HSBXS-333	B300-HSB-100 Module Socket Trip	B300-HSB-001 MOD SKT TRP	16 Bit	Bit	Bit	
91	FC3	40001		40001	5	HSS-77-007/8/9-TRP	77HSSXS-789	HSS-77-007/8/9 Space Heater Trip	HSS-77-007/8/9 HTR TRP	16 Bit	Bit	Bit	
92	FC3	40001		40001	6	B300-HSB-001-ATRP	77B3HSBAXS-001	B300-HSB-100 Main Panel Aux Section Trip	B300-HSB-001 AUX SEC TRP	16 Bit	Bit	Bit	
93	FC3	40001		40001	7	HSS-77-007/8/9-F	77B3UXA-789	HSS-77-007/8/9 Space Heater Fault	HSS-77-007/8/9 HTR FLT	16 Bit	Bit	Bit	
94	FC3	40001		40001	8	HHU-77005-PFFC	77PFFC-005	HHU-77005 Press Fan Filter Clogged	HHU-77005 FLTR CLOGGED	16 Bit	Bit	Bit	
95	FC3	40001		40001	9	HHU-77005-MDF	77MDF-005	HHU-77005 motorised dampers Fault	HHU-77005 MOT DMP FLT	16 Bit	Bit	Bit	
96	FC3	40001		40001	10	HFM-77-301-PTCP	77PTCP-301	HHU-77005 press fan PTC protection	HFM-77-301 PTC PRTN	16 Bit	Bit	Bit	
97	FC3	40001		40001	11	HFM-77-301-VSDF	77VSDF-301	HHU-77005 press fan VSD fault	HFM-77-301 VSD FLT	16 Bit	Bit	Bit	
98	FC3	40001		40001	12	HFM-77-301-TRP	77PFTRP-301	HHU-77005 press fan trip	HFM-77-301 PRS FN TRP	16 Bit	Bit	Bit	
99	FC3	40001		40001	13	HFM-77-302-BBA	77BBA-302	HHU-77005 broken belt alarm	HFM-77-302 BRK BELT ALM	16 Bit	Bit	Bit	
100	FC3	40001		40001	14	HFM-77-302-TRP	77SFTRP-302	HHU-77005 supply fan trip	HFM-77-302 FN TRP	16 Bit	Bit	Bit	
101	FC3	40001		40001	15	HCO-77-301-TRP	77CTRP-301	HHU-77005 compressor trip	HCO-77-301 CMP TRP	16 Bit	Bit	Bit	
102	FC3	40002		40002	0	HCO-77-301-HPA	77HPA-301	HHU-77005 high pressure alarm	HCO-77-301 HP ALM	16 Bit	Bit	Bit	
103	FC3	40002		40002	1	HCO-77-301-LPA	77LPA-301	HHU-77005 low pressure alarm	HCO-77-301 LP ALM	16 Bit	Bit	Bit	
104	FC3	40002		40002	2	HFM-77-305306-TRP	77CFTRP-305306	HHU-77005 condenser fan trip	HFM77-305/306 CND FN TRP	16 Bit	Bit	Bit	
105	FC3	40002		40002	3	HFM-77-305306-VSDF	77VSDF-305306	HHU-77005 condenser fan VSD fault	HFM77-305/306 FN VSD FLT	16 Bit	Bit	Bit	
106	FC3	40002		40002	4	HSS-77-301-TSPH	77TSPH-301	HHU-77005 electrical heater Protection thermostate	HSS-77-301 THR PTR	16 Bit	Bit	Bit	
107	FC3	40002		40002	5	HSS-77-301-TRP	77EHTRP-301	HHU-77005 electrical heater trip	HSS-77-301 HTR TRP	16 Bit	Bit	Bit	
108	FC3	40002		40002	6	HSS-77-301-MF	77EHMF-301	HHU-77005 electrical heater modulation fault	HSS-77-301 HTR MDLTN FLT	16 Bit	Bit	Bit	
109	FC3	40002		40002	7	SPARE	SPARE	Spare		16 Bit	Bit	Bit	
110	FC3	40002		40002	8	HHU-77005-MBTRP	77MBTRP-005	HHU-77005 main braker trip	HHU-77005 MN BKR TRP	16 Bit	Bit	Bit	
111	FC3	40002		40002	9	HHU-77005-PFFC	77FC-005	HHU-77005 filter clogged	HHU-77005 FLTR CLOGGED	16 Bit	Bit	Bit	
112	FC3	40002		40002	10	HHU-77006-MDF	77MDF-006	HHU-77006 motorise dampers fault	HHU-77006 MOT DMP FLT	16 Bit	Bit	Bit	
113	FC3	40002		40002	11	HFM-77-303-PTCP	77PTCP-303	HHU-77006 press fan PTC protection	HFM-77-303 PTC PRTN	16 Bit	Bit	Bit	
114	FC3	40002		40002	12	HFM-77-303-VSDF	77VSDF-303	HHU-77006 press fan VSD fault	HFM-77-303 VSD FLT	16 Bit	Bit	Bit	
115	FC3	40002		40002	13	HFM-77-303-TRP	77PFTRP-303	HHU-77006 press fan trip	HFM-77-303 PRS FN TRP	16 Bit	Bit	Bit	
116	FC3	40002		40002	14	HFM-77-304-BBA	77BBA-304	HHU-77006 broken belt alarm	HFM-77-304 BRK BELT ALM	16 Bit	Bit	Bit	
117	FC3	40002		40002	15	HFM-77-304-TRP	77SFTRP-304	HHU-77006 supply fan trip	HFM-77-304 FN TRP	16 Bit	Bit	Bit	
118	FC3	40003		40003	0	HCO-77-302-TRP	77CTRP-302	HHU-77006 compressor trip	HCO-77-302 CMP TRP	16 Bit	Bit	Bit	

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
119	FC3	40003		40003	1	HCO-77-302-HPA	77HPA-302	HHU-77006 high pressure alarm	HCO-77-302 HP ALM	16 Bit	Bit	Bit	
120	FC3	40003		40003	2	HCO-77-302-LPA	77LPA-302	HHU-77006 low pressure alarm	HCO-77-302 LP ALM	16 Bit	Bit	Bit	
121	FC3	40003		40003	3	HFM-77-307/308-TRP	77CFTRP-307308	HHU-77006 condenser fan trip	HFM77-307/308 CND FN TRP	16 Bit	Bit	Bit	
122	FC3	40003		40003	4	HFM-77-307/308-VSDF	77VSDF-307308	HHU-77006 condenser fan VSD fault	HFM77-307/308 FN VSD FLT	16 Bit	Bit	Bit	
123	FC3	40003		40003	5	HHU-77006-FC	77FC-006	HHU-77006 filter clogged	HHU-77006 FLTR CLOGGED	16 Bit	Bit	Bit	
124	FC3	40003		40003	6	HSS-77-305-TSPH	77TSPH-305	HHU-77006 electrical heater Protection termostate	HSS-77-305 THR PTR	16 Bit	Bit	Bit	
125	FC3	40003		40003	7	HSS-77-305-TRP	77EHTRP-305	HHU-77006 electrical heater trip	HSS-77-305 HTR TRP	16 Bit	Bit	Bit	
126	FC3	40003		40003	8	HSS-77-305-MF	77EHMF-305	HHU-77006 electrical heater modulation fault	HSS77-305 HTR MODLTN FLT	16 Bit	Bit	Bit	
127	FC3	40003		40003	9	SPARE	SPARE	Spare		16 Bit	Bit	Bit	
128	FC3	40003		40003	10	HHU-77006-MBTRP	77MBTRP-006	HHU-77006 main braker open	HHU-77006 MN BRK TRP	16 Bit	Bit	Bit	
129	FC3	40003		40003	11	HFD-77007-ZSL	77HFDZSL-007	HFD-77007 Not Close	HFD-77007 NOT CLS	16 Bit	Bit	Bit	
130	FC3	40003		40003	12	HFD-77007-ZSH	77HFDZSH-007	HFD-77007 Not Open	HFD-77007 NOT OPN	16 Bit	Bit	Bit	
131	FC3	40003		40003	13	HFD-77008-ZSL	77HFDZSL-008	HFD-77008 Not Close	HFD-77008 NOT CLS	16 Bit	Bit	Bit	
132	FC3	40003		40003	14	HFD-77008-ZSH	77HFDZSH-008	HFD-77008 Not Open	HFD-77008 NOT OPN	16 Bit	Bit	Bit	
133	FC3	40003		40003	15	HFD-77009-ZSL	77HFDZSL-009	HFD-77009 Not Close	HFD-77009 NOT CLS	16 Bit	Bit	Bit	
134	FC3	40004		40004	0	HFD-77009-ZSH	77HFDZSH-009	HFD-77009 Not Open	HFD-77009 NOT OPN	16 Bit	Bit	Bit	
135	FC3	40004		40004	1	B300-HSB-001-MSE	77HSBXA-333	Modbus Server Error	B300 - MOD SERVER ERROR	16 Bit	Bit	Bit	
136	FC3	40004		40004	2	B300-HSB-001-MODBUSF	77HSBXA-033	ModbusFault	B300-MODBUS FLT	16 Bit	Bit	Bit	
137	FC3	40004		40004	3	HHU-77006-PFFC	77PFFC-006	HHU-77006 press fan filter clogged	HHU-77006 FN FTR CLOGGED	16 Bit	Bit	Bit	
138	FC3	40004		40004	4	HFD-77010-ZSL	77HFDZSL-010	HFD-77010 Not Close	HFD-77010 NOT CLS	16 Bit	Bit	Bit	
139	FC3	40004		40004	5	HFD-77010-ZSH	77HFDZSH-010	HFD-77010 Not Open	HFD-77010 NOT OPN	16 Bit	Bit	Bit	
140	FC3	40004		40004	6	HFD-77011-ZSL	77HFDZSL-011	HFD-77011 Not Close	HFD-77011 NOT CLS	16 Bit	Bit	Bit	
141	FC3	40004		40004	7	HFD-77011-ZSH	77HFDZSH-011	HFD-77011 Not Open	HFD-77011 NOT OPN	16 Bit	Bit	Bit	
142	FC3	40004		40004	8	77-TT-301-F	77TTXA-301	77-TT-301 Fault	77-TT-301 FLT	16 Bit	Bit	Bit	
143	FC3	40004		40004	9	77-TT-302-F	77TTXA-302	77-TT-302 Fault	77-TT-302 FLT	16 Bit	Bit	Bit	
144	FC3	40004		40004	10	77-TT-303-F	77TTXA-303	77-TT-303 Fault	77-TT-303 FLT	16 Bit	Bit	Bit	
145	FC3	40004		40004	11	77-TT-304-F	77TTXA-304	77-TT-304 Fault	77-TT-304 FLT	16 Bit	Bit	Bit	
146	FC3	40004		40004	12	77-PT-301-F	77PTXA-301	77-PT-301 Fault	77-PT-301 FLT	16 Bit	Bit	Bit	
147	FC3	40005		40005	9	B300-HSB-001-MF	B300SMF-001	HVAC System Major Fault	MODBUS MAJOR FAULT	16 Bit	Bit	Bit	
	B400						xx			16 Bit	Bit	Bit	
148	FC3	40001		40001	0	SPARE	SPARE	SPARE		16 Bit	Bit	Bit	
149	FC3	40001		40001	1	B400-HSB-001-MBT	77B4HSBXS-001	B400-HSB-100 Main Braker Trip	B400-HSB-001 MN BKR TRP	16 Bit	Bit	Bit	
150	FC3	40001		40001	2	B400-HSB-001-PEB	77B4PEB-001	B400-HSB-100 Panel emergency Button	B400-HSB-001 PL EM BTN	16 Bit	Bit	Bit	
151	FC3	40001		40001	3	B400-HSB-001-MLT	77HSBXS-044	B400-HSB-100 Module Light Trip	B400-HSB-001 MOD LTE TRP	16 Bit	Bit	Bit	
152	FC3	40001		40001	4	B400-HSB-001-MST	77HSBXS-444	B400-HSB-100 Module Socket Trip	B400-HSB-001 MOD SKT TRP	16 Bit	Bit	Bit	
153	FC3	40001		40001	5	HSS-77-0010/11/12-TRP	77HSSXS-101112	HSS-77-0010/11/12 Space Heater Trip	HSS77-0010/11/12 HTR TRP	16 Bit	Bit	Bit	
154	FC3	40001		40001	6	B400-HSB-001-ATRP	77B4HSBAXS-001	B400-HSB-100 Main Panel Aux Section Trip	B400-HSB-001 AUX SEC TRP	16 Bit	Bit	Bit	
155	FC3	40001		40001	7	HSS-77-0010/11/12-F	77B3UXA-101112	HSS-77-0010/11/12 Space Heater Fault	HSS77-0010/11/12 HTR FLT	16 Bit	Bit	Bit	
156	FC3	40001		40001	8	HHU-77007-PFFC	77PFFC-007	HHU-77007 Press Fan Filter Clogged	HHU-77007 FLTR CLOGGED	16 Bit	Bit	Bit	
157	FC3	40001		40001	9	HHU-77007-MDF	77MDF-007	HHU-77007 motorised dampers Fault	HHU-77007 MOT DMP FLT	16 Bit	Bit	Bit	
158	FC3	40001		40001	10	HFM-77-401-PTCP	77PTCP-401	HHU-77007 press fan PTC protection	HFM-77-401 PTC PRTN	16 Bit	Bit	Bit	
159	FC3	40001		40001	11	HFM-77-401-VSDF	77VSDF-401	HHU-77007 press fan VSD fault	HFM-77-401 VSD FLT	16 Bit	Bit	Bit	
160	FC3	40001		40001	12	HFM-77-401-TRP	77PFTRP-401	HHU-77007 press fan trip	HFM-77-401 PRS FN TRP	16 Bit	Bit	Bit	
161	FC3	40001		40001	13	HFM-77-402-BBA	77BBA-402	HHU-77007 broken belt alarm	HFM-77-402 BRK BELT ALM	16 Bit	Bit	Bit	
162	FC3	40001		40001	14	HFM-77-402-TRP	77SFTRP-402	HHU-77007 supply fan trip	HFM-77-402 FN TRP	16 Bit	Bit	Bit	
163	FC3	40001		40001	15	HCO-77-401-TRP	77CTRP-401	HHU-77007 compressor trip	HCO-77-401 CMP TRP	16 Bit	Bit	Bit	
164	FC3	40002		40002	0	HCO-77-401-HPA	77HPA-401	HHU-77007 high pressure alarm	HCO-77-401 HP ALM	16 Bit	Bit	Bit	
165	FC3	40002		40002	1	HCO-77-401-LPA	77LPA-401	HHU-77007 low pressure alarm	HCO-77-401 LP ALM	16 Bit	Bit	Bit	
166	FC3	40002		40002	2	HFM-77-405/406-TRP	77CFTRP-405406	HHU-77007 condenser fan trip	HFM77-405/406 CND FN TRP	16 Bit	Bit	Bit	
167	FC3	40002		40002	3	HFM-77-405/406-VSDF	77VSDF-405406	HHU-77007 condenser fan VSD fault	HFM77-405/406 FN VSD FLT	16 Bit	Bit	Bit	
168	FC3	40002		40002	4	HSS-77-401-TSPH	77TSPH-401	HHU-77007 electrical heater Protection thermostate	HSS-77-401 THR PTR	16 Bit	Bit	Bit	
169	FC3	40002		40002	5	HSS-77-401-TRP	77EHTRP-401	HHU-77007 electrical heater trip	HSS-77-401 HTR TRP	16 Bit	Bit	Bit	
170	FC3	40002		40002	6	HSS-77-401-MF	77EHMF-401	HHU-77007 electrical heater modulation fault	HSS77-401 HTR MODLTN FLT	16 Bit	Bit	Bit	
171	FC3	40002		40002	7	SPARE	SPARE	Spare		16 Bit	Bit	Bit	
172	FC3	40002		40002	8	HHU-77007-MBT	77MBTRP-007	HHU-77007 main braker open	HHU-77007 MN BKR TRP	16 Bit	Bit	Bit	
173	FC3	40002		40002	9	HHU-77007-FC	77FC-007	HHU-77007 filter clogged	HHU-77007 FLTR CLOGGED	16 Bit	Bit	Bit	
174	FC3	40002		40002	10	HHU-77008-MDF	77MDF-008	HHU-77008 motorise dampers fault	HHU-77008 MOT DMP FLT	16 Bit	Bit	Bit	
175	FC3	40002		40002	11	HFM-77-403-PTCP	77PTCP-403	HHU-77008 press fan PTC protection	HFM-77-403 PTC PRTN	16 Bit	Bit	Bit	

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
176	FC3	40002		40002	12	HFM-77-403-VSDF	77VSDF-403	HHU-77008 press fan VSD fault	HFM-77-403 VSD FLT	16 Bit	Bit	Bit	
177	FC3	40002		40002	13	HFM-77-403-TRP	77PFTRP-403	HHU-77008 press fan trip	HFM-77-403 PRS FN TRP	16 Bit	Bit	Bit	
178	FC3	40002		40002	14	HFM-77-404-BBA	77BBA-404	HHU-77008 broken belt alarm	HFM-77-404 BRK BELT ALM	16 Bit	Bit	Bit	
179	FC3	40002		40002	15	HFM-77-404-TRP	77SFTRP-404	HHU-77008 supply fan trip	HFM-77-404 FN TRP	16 Bit	Bit	Bit	
180	FC3	40003		40003	0	HCO-77-402-TRP	77CTRP-402	HHU-77008 compressor trip	HCO-77-402 CMP TRP	16 Bit	Bit	Bit	
181	FC3	40003		40003	1	HCO-77-402-HPA	77HPA-402	HHU-77008 high pressure alarm	HCO-77-402 HP ALM	16 Bit	Bit	Bit	
182	FC3	40003		40003	2	HCO-77-402-LPA	77LPA-402	HHU-77008 low pressure alarm	HCO-77-402 LP ALM	16 Bit	Bit	Bit	
183	FC3	40003		40003	3	HFM-77-405/406-TRP	77B4CFTRP-405406	HHU-77008 condenser fan trip	HFM77-405/406 CND FN TRP	16 Bit	Bit	Bit	
184	FC3	40003		40003	4	HFM-77-405/406-VSDF	77B4VSDF-405406	HHU-77008 condenser fan VSD fault	HFM77-405/406 FN VSD FLT	16 Bit	Bit	Bit	
185	FC3	40003		40003	5	HHU-77008-FC	77FC-008	HHU-77008 filter clogged	HHU-77008 FLTR CLOGGED	16 Bit	Bit	Bit	
186	FC3	40003		40003	6	HSS-77-405-TSPH	77TSPH-405	HHU-77008 electrical heater Protection termostate	HSS-77-405 THR PTR	16 Bit	Bit	Bit	
187	FC3	40003		40003	7	HSS-77-405-TRP	77EHTRP-405	HHU-77008 electrical heater trip	HSS-77-405 HTR TRP	16 Bit	Bit	Bit	
188	FC3	40003		40003	8	HSS-77-405-MF	77EHMF-405	HHU-77008 electrical heater modulation fault	HSS77-405 HTR MODLTN FLT	16 Bit	Bit	Bit	
189	FC3	40003		40003	9	SPARE	SPARE	Spare		16 Bit	Bit	Bit	
190	FC3	40003		40003	10	HHU-77008-MBTRP	77MBTRP-008	HHU-77008 main braker trip	HHU-77008 MN BRK TRP	16 Bit	Bit	Bit	
191	FC3	40003		40003	11	HFD-77012-ZSL	77HFDZSL-012	HFD-77012 Not Close	HFD-77012 NOT CLS	16 Bit	Bit	Bit	
192	FC3	40003		40003	12	HFD-77012-ZSH	77HFDZSH-012	HFD-77012 Not Open	HFD-77012 NOT OPN	16 Bit	Bit	Bit	
193	FC3	40003		40003	13	HFD-77013-ZSL	77HFDZSL-013	HFD-77013 Not Close	HFD-77013 NOT CLS	16 Bit	Bit	Bit	
194	FC3	40003		40003	14	HFD-77013-ZSH	77HFDZSH-013	HFD-77013 Not Open	HFD-77013 NOT OPN	16 Bit	Bit	Bit	
195	FC3	40003		40003	15	HFD-77014-ZSL	77HFDZSL-014	HFD-77014 Not Close	HFD-77014 NOT CLS	16 Bit	Bit	Bit	
196	FC3	40004		40004	0	HFD-77014-ZSH	77HFDZSH-014	HFD-77014 Not Open	HFD-77014 NOT OPN	16 Bit	Bit	Bit	
197	FC3	40004		40004	1	B400-HSB-001-MSE	77HSBXA-444	Modbus Server Error	B400-MOD SERVER ERROR	16 Bit	Bit	Bit	
198	FC3	40004		40004	2	B400-HSB-001-MODBUSF	77HSBXA-044	ModbusFault	B400 - MOD FLT	16 Bit	Bit	Bit	
199	FC3	40004		40004	3	HHU-77008-PFFC	77PFFC-008	HHU-77008 press fan filter clogged	HHU-77008 FN FTR CLOGGED	16 Bit	Bit	Bit	
200	FC3	40004		40004	4	HFD-77015-ZSL	77HFDZSL-015	HFD-77015 Not Close	HFD-77015 NOT CLS	16 Bit	Bit	Bit	
201	FC3	40004		40004	5	HFD-77015-ZSH	77HFDZSH-015	HFD-77015 Not Open	HFD-77015 NOT OPN	16 Bit	Bit	Bit	
202	FC3	40004		40004	6	HFD-77016-ZSL	77HFDZSL-016	HFD-77016 Not Close	HFD-77016 NOT CLS	16 Bit	Bit	Bit	
203	FC3	40004		40004	7	HFD-77016-ZSH	77HFDZSH-016	HFD-77016 Not Open	HFD-77016 NOT OPN	16 Bit	Bit	Bit	
204	FC3	40004		40004	8	77-TT-401-F	77TTXA-401	77-TT-401 Fault	77-TT-401 FLT	16 Bit	Bit	Bit	
205	FC3	40004		40004	9	77-TT-402-F	77TTXA-402	77-TT-402 Fault	77-TT-402 FLT	16 Bit	Bit	Bit	
206	FC3	40004		40004	10	77-TT-403-F	77TTXA-403	77-TT-403 Fault	77-TT-403 FLT	16 Bit	Bit	Bit	
207	FC3	40004		40004	11	77-TT-404-F	77TTXA-404	77-TT-404 Fault	77-TT-404 FLT	16 Bit	Bit	Bit	
208	FC3	40004		40004	12	77-PT-401-F	77PTXA-401	77-PT-401 Fault	77-PT-401 FLT	16 Bit	Bit	Bit	
209	FC3	40005		40005	9	B400-HSB-001-MF	B400SMF-001	HVAC System Major Fault	MODBUS MAJOR FLT	16 Bit	Bit	Bit	

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
	B100												
1	FC3	40009	A	40009	1	B100-HSB-001-WD	77WD-001	ModBus WatchDog	MODBUS WATCHDOG	16 Bit	Bit	Bit	
2	FC3	40010	A	40010	1	B100-HSB-001-SS	77HSBHS-001	System Start From PCS	SYSTEM START FROM PCS	16 Bit	Bit	Bit	
	B200									16 Bit	Bit	Bit	
3	FC3	40009	A	40009	1	B200-HSB-001-WD	77B2WD-001	ModBus WatchDog	MODBUS WATCHDOG	16 Bit	Bit	Bit	
4	FC3	40010	A	40010	1	B200-HSB-001-SSTART	77B2HSBHS-001	System Start From PCS	SYSTEM START FROM PCS	16 Bit	Bit	Bit	
5	FC3	40011	A	40011	1	B200-HSB-001-SSTOP	77B2HSBHSS-001	System Stop From PCS	SYSTEM STOP FROM PCS	16 Bit	Bit	Bit	
6	FC3	40012	A	40012	1	B200-HSB-001-RA	77B2HSBHRS-001	Resel Alarm From PCS	SYSTEM RSTR FROM PCS	16 Bit	Bit	Bit	
	B300									16 Bit	Bit	Bit	
7	FC3	40010	A	40010	1	B300-HSB-001-SSTART	77B3HSBHS-001	System Start From PCS	B300-SYS START FROM PCS	16 Bit	Bit	Bit	
8	FC3	40011	A	40011	1	B300-HSB-001-SSTOP	77B3HSBHSS-001	System Stop From PCS	B300-SYS STOP FROM PCS	16 Bit	Bit	Bit	
9	FC3	40015	A	40015	1	B300-HSB-001-SR	77B3HSBHRS-001	System Reset Fault	B300-SYS RSTR FROM PCS	16 Bit	Bit	Bit	
10	FC3	40015	A	40015	1	B300-HSB-001-WD	77B3WD-001	WatchDog	B300-MODBUS WATCHDOG	16 Bit	Bit	Bit	
	B400									16 Bit	Bit	Bit	
11	FC3	40010	A	40010	1	B400-HSB-001-SSTART	77B4HSBHS-001	System Start From PCS	B400-SYS START FROM PCS	16 Bit	Bit	Bit	
12	FC3	40011	A	40011	1	B400-HSB-001-SSTOP	77B4HSBHSS-001	System Stop From PCS	B400-SYS STOP FROM PCS	16 Bit	Bit	Bit	
13	FC3	40015	A	40015	1	B300-HSB-001-SR	77B4HSBHRS-001	System Reset Fault	B400-SYS RSTR FROM PCS	16 Bit	Bit	Bit	
14	FC3	40016	A	40016	1	B300-HSB-001-WD	77B4WD-001	WatchDog	B400-MODBUS WATCHDOG	16 Bit	Bit	Bit	

AC -UPS PAS

SL	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	3 OR 4	00001	A	400001	-	20UI-5315	1=Normal Mode 2=Bypass mode 3=Battery mode 4=Eco Mode 5=Deactivation is imminent 6=Off		0	7						0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
2	3 OR 4	00039	A	400039	-	20FRQ-5301	RectMainsFreq.	RECT MAINS FREQ	0.0	99.0	Hz					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
3	3 OR 4	00040	A	400040		20VI-4101	RectMainsVoltL1	RECT MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
4	3 OR 4	00041	A	400041		20VI-4201	RectMainsVoltL2	RECT MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
5	3 OR 4	00042	A	400042		20VI-4301	RectMainsVoltL3	RECT MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
6	3 OR 4	00043	A	400043		20FRQ-5302	SBSMainsFreq.	SBS MAINS FREQ	0.0	99.0	Hz					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
7	3 OR 4	00044	A	400044		20VI-4102	SBSMainsVoltL1	SBS MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
8	3 OR 4	00045	A	400045		20VI-4202	SBSMainsVoltL2	SBS MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
9	3 OR 4	00046	A	400046		20VI-4302	SBSMainsVoltL3	SBS MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
10	3 OR 4	00047	A	400047		20VI-5303	BatteryVoltage	BATTERY VOLTAGE	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
11	3 OR 4	00048	A	400048		20CI-5301	BatteryCurrent	BATTERY CURRENT	0	3000.0	A					0	65535	16 Bit	UINT	INT10	PAS AC UPS-A
12	3 OR 4	00049	A	400049		20UI-5301	AutonomyTime	AUTONOMY TIME	0	999.0	min					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
13	3 OR 4	00050	A	400050		20UI-5302	BatteryCapacity	BATTERY CAPACITY	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
14	3 OR 4	00051	A	400051		20TI-5301	BatteryTemperature	BATTERY TEMPERATURE	0	99.9	°C					0	65535	16 Bit	UINT	INT10	PAS AC UPS-A
15	3 OR 4	00052	A	400052		20FRQ-5303	OutputFreq.	OUTPUT FREQ	0	99.0	Hz					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
16	3 OR 4	00053	A	400053		20VI-4103	OutputVoltageL1	OUTPUT VOLTAGE L1	0	999	v					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
17	3 OR 4	00054	A	400054		20UI-5303	OutputLoadL1	OUTPUT LOAD L1	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
18	3 OR 4	00055	A	400055		20CI-4101	OutputCurrentL1	OUTPUT CURRENT L1	0	9999	A					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
19	3 OR 4	00056	A	400056		20JI-5301	OutputPowerL1	OUTPUT POWER L1	0.0	1000.0	kW					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
20	3 OR 4	00057	A	400057		20VI-4203	OutputVoltageL2	OUTPUT VOLTAGE L2	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
21	3 OR 4	00058	A	400058		20UI-5304	OutputLoadL2	OUTPUT LOAD L2	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
22	3 OR 4	00059	A	400059		20CI-4201	OutputCurrentL2	OUTPUT CURRENT L2	0	9999	A					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
23	3 OR 4	00060	A	400060		20JI-5302	OutputPowerL2	OUTPUT POWER L2	0.0	1000.0	kW					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
24	3 OR 4	00061	A	400061		20VI-4303	OutputVoltageL3	OUTPUT VOLTAGE L3	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
25	3 OR 4	00062	A	400062		20UI-5305	OutputLoadL3	OUTPUT LOAD L3	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
26	3 OR 4	00063	A	400063		20CI-4301	OutputCurrentL3	OUTPUT CURRENT L3	0	9999	A					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
27	3 OR 4	00064	A	400064		20JI-5303	OutputPowerL3	OUTPUT POWER L3	0.0	1000.0	kW					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
28	3 OR 4	00150	A	400150	Real time (decimal)	20UI-5306	Year (20xx)	YEAR (20XX)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
29	3 OR 4	00151	A	400151		20UI-5307	Day (0-31)	DAY (0-31)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
30	3 OR 4	00152	A	400152		20UI-5308	Month (1-12)	MONTH (1-12)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
31	3 OR 4	00153	A	400153		20UI-5309	Hour (0-23)	HOUR (0-23)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
32	3 OR 4	00154	A	400154		20UI-5310	Minute (0-59)	MINUTE (0-59)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
33	3 OR 4	00155	A	400155		20UI-5311	Second (0-59)	SECOND (0-59)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
34	3 OR 4	00156	A	400156		20UI-5312	Millisecond (0-999)	MILLISECOND (0-999)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
35	3 OR 4	00157	A	400157		20UI-5313	Weekday 1 = Monday, 2 = Tuesday, ...	WEEKDAY 1 = MONDAY, 2 = TUESDAY, ...	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-A
36	3 OR 4	1005	A	401005		20UI-5314	Battery Capacity Test - Remaining Time	BATT CAPACITY TEST REMAIN TM	0.0	65535.0	min					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-A
37	3 OR 4	00001	A	400001	-	20UI-5365	1=Normal Mode 2=Bypass mode 3=Battery mode 4=Eco Mode 5=Deactivation is imminent 6=Off	PAS UPS A STATUS	0	7						0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
38	3 OR 4	00039	A	400039	-	20FRQ-5351	RectMainsFreq.	RECT MAINS FREQ	0	99	Hz					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B
39	3 OR 4	00040	A	400040		20VI-4151	RectMainsVoltL1	RECT MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
40	3 OR 4	00041	A	400041		20VI-4251	RectMainsVoltL2	RECT MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
41	3 OR 4	00042	A	400042		20VI-4351	RectMainsVoltL3	RECT MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
42	3 OR 4	00043	A	400043		20FRQ-5352	SBSMainsFreq.	SBS MAINS FREQ	0	99	Hz					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B
43	3 OR 4	00044	A	400044		20VI-4152	SBSMainsVoltL1	SBS MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
44	3 OR 4	00045	A	400045		20VI-4252	SBSMainsVoltL2	SBS MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
45	3 OR 4	00046	A	400046		20VI-4352	SBSMainsVoltL3	SBS MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
46	3 OR 4	00047	A	400047		20CI-5351	BatteryVoltage	BATTERY CURRENT	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
47	3 OR 4	00048	A	400048		20VI-5353	BatteryCurrent	BATTERY VOLTAGE	0	3000	A					0	65535	16 Bit	UINT	INT10	PAS AC UPS-B
48	3 OR 4	00049	A	400049		20UI-5352	AutonomyTime	BATTERY CAPACITY	0	999	min					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B
49	3 OR 4	00050	A	400050		20UI-5351	BatteryCapacity	AUTONOMY TIME	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
50	3 OR 4	00051	A	400051		20TI-5351	BatteryTemperature	BATTERY TEMPERATURE	0	99.9	°C					0	65535	16 Bit	UINT	INT10	PAS AC UPS-B
51	3 OR 4	00052	A	400052		20FRQ-5353	OutputFreq.	OUTPUT FREQ	0	99	Hz					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B
52	3 OR 4	00053	A	400053		20VI-4153	OutputVoltageL1	OUTPUT VOLTAGE L1	0	999	v					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
53	3 OR 4	00054	A	400054		20UI-5353	OutputLoadL1	OUTPUT LOAD L1	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
54	3 OR 4	00055	A	400055		20CI-4151	OutputCurrentL1	OUTPUT CURRENT L1	0	9999	A					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
55	3 OR 4	00056	A	400056		20JI-5351	OutputPowerL1	OUTPUT POWER L1	0	1000	kW					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B
56	3 OR 4	00057	A	400057		20VI-4253	OutputVoltageL2	OUTPUT VOLTAGE L2	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
57	3 OR 4	00058	A	400058		20UI-5354	OutputLoadL2	OUTPUT LOAD L2	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
58	3 OR 4	00059	A	400059		20CI-4251	OutputCurrentL2	OUTPUT CURRENT L2	0	9999	A					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
59	3 OR 4	00060	A	400060		20VI-4353	OutputPowerL2	OUTPUT POWER L2	0	1000	kW					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B
60	3 OR 4	00061	A	400061		20JI-5352	OutputVoltageL3	OUTPUT VOLTAGE L3	0	999	V					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
61	3 OR 4	00062	A	400062		20UI-5355	OutputLoadL3	OUTPUT LOAD L3	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
62	3 OR 4	00063	A	400063		20CI-4351	OutputCurrentL3	OUTPUT CURRENT L3	0	9999	A					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
63	3 OR 4	00064	A	400064		20JI-5353	OutputPowerL3	OUTPUT POWER L3	0	1000	kW					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B

AC -UPS PAS

SL	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
64	3 OR 4	00150	A	400150	Real time (decimal)	20UI-5356	Year (20xx)	YEAR (20XX)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
65	3 OR 4	00151	A	400151		20UI-5357	Day (0-31)	DAY (0-31)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
66	3 OR 4	00152	A	400152		20UI-5358	Month (1-12)	MONTH (1-12)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
67	3 OR 4	00153	A	400153		20UI-5359	Hour (0-23)	HOUR (0-23)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
68	3 OR 4	00154	A	400154		20UI-5360	Minute (0-59)	MINUTE (0-59)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
69	3 OR 4	00155	A	400155		20UI-5361	Second (0-59)	SECOND (0-59)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
70	3 OR 4	00156	A	400156		20UI-5362	Millisecond (0-999)	MILLISECOND (0-999)	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
71	3 OR 4	00157	A	400157		20UI-5363	Weekday 1 = Monday, 2 = Tuesday, ...	WEEKDAY 1 = MONDAY, 2 = TUESDAY, ...	0	100	%					0	65535	16 Bit	UINT	WORD	PAS AC UPS-B
72	3 OR 4	1005	A	41005		20UI-5364	Battery Capacity Test - Remaining Time	BATTERY CAPACITY TEST - REMAINING TIME	0	65535	min					0	65535	16 Bit	UINT	WORD10	PAS AC UPS-B

AC -UPS FGS

No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	3 OR 4	00001	A	400001	-	20UI-5415	1=Normal Mode 2=Bypass mode 3=Battery mode 4=Eco Mode 5=Deactivation is imminent 6=Off		0	7						0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
2	3 OR 4	00039	A	400039	-	20FRQ-5401	RectMainsFreq.	RECT MAINS FREQ	0.0	99.0	Hz					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
3	3 OR 4	00040	A	400040		20VI-4104	RectMainsVoltL1	RECT MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
4	3 OR 4	00041	A	400041		20VI-4204	RectMainsVoltL2	RECT MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
5	3 OR 4	00042	A	400042		20VI-4304	RectMainsVoltL3	RECT MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
6	3 OR 4	00043	A	400043		20FRQ-5402	SBSMainsFreq.	SBS MAINS FREQ	0.0	99.0	Hz					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
7	3 OR 4	00044	A	400044		20VI-4105	SBSMainsVoltL1	SBS MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
8	3 OR 4	00045	A	400045		20VI-4205	SBSMainsVoltL2	SBS MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
9	3 OR 4	00046	A	400046		20VI-4305	SBSMainsVoltL3	SBS MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
10	3 OR 4	00047	A	400047		20VI-5403	BatteryVoltage	BATTERY VOLTAGE	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
11	3 OR 4	00048	A	400048		20CI-5401	BatteryCurrent	BATTERY CURRENT	0	3000.0	A					0	65535	16 Bit	UINT	INT10	FGS AC UPS-A
12	3 OR 4	00049	A	400049		20UI-5401	AutonomyTime	AUTONOMY TIME	0	999.0	min					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
13	3 OR 4	00050	A	400050		20UI-5402	BatteryCapacity	BATTERY CAPACITY	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
14	3 OR 4	00051	A	400051		20TI-5401	BatteryTemperature	BATTERY TEMPERATURE	0	99.9	°C					0	65535	16 Bit	UINT	INT10	FGS AC UPS-A
15	3 OR 4	00052	A	400052		20FRQ-5403	OutputFreq.	OUTPUT FREQ	0	99.0	Hz					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
16	3 OR 4	00053	A	400053		20VI-4103	OutputVoltageL1	OUTPUT VOLTAGE L1	0	999	v					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
17	3 OR 4	00054	A	400054		20UI-5403	OutputLoadL1	OUTPUT LOAD L1	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
18	3 OR 4	00055	A	400055		20CI-4102	OutputCurrentL1	OUTPUT CURRENT L1	0	9999	A					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
19	3 OR 4	00056	A	400056		20JI-5401	OutputPowerL1	OUTPUT POWER L1	0.0	1000.0	kW					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
20	3 OR 4	00057	A	400057		20VI-4206	OutputVoltageL2	OUTPUT VOLTAGE L2	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
21	3 OR 4	00058	A	400058		20UI-5404	OutputLoadL2	OUTPUT LOAD L2	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
22	3 OR 4	00059	A	400059		20CI-4202	OutputCurrentL2	OUTPUT CURRENT L2	0	9999	A					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
23	3 OR 4	00060	A	400060		20JI-5402	OutputPowerL2	OUTPUT POWER L2	0.0	1000.0	kW					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
24	3 OR 4	00061	A	400061		20VI-4306	OutputVoltageL3	OUTPUT VOLTAGE L3	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
25	3 OR 4	00062	A	400062		20UI-5405	OutputLoadL3	OUTPUT LOAD L3	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
26	3 OR 4	00063	A	400063		20CI-4302	OutputCurrentL3	OUTPUT CURRENT L3	0	9999	A					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
27	3 OR 4	00064	A	400064		20JI-5403	OutputPowerL3	OUTPUT POWER L3	0.0	1000.0	kW					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
28	3 OR 4	00150	A	400150	Real time (decimal)	20UI-5406	Year (20xx)	Year (20xx)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
29	3 OR 4	00151	A	400151		20UI-5407	Day (0-31)	Day (0-31)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
30	3 OR 4	00152	A	400152		20UI-5408	Month (1-12)	Month (1-12)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
31	3 OR 4	00153	A	400153		20UI-5409	Hour (0-23)	Hour (0-23)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
32	3 OR 4	00154	A	400154		20UI-5410	Minute (0-59)	Minute (0-59)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
33	3 OR 4	00155	A	400155		20UI-5411	Second (0-59)	Second (0-59)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
34	3 OR 4	00156	A	400156		20UI-5412	Millisecond (0-999)	Millisecond (0-999)	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
35	3 OR 4	00157	A	400157		20UI-5413	Weekday 1 = Monday, 2 = Tuesday, ...	Weekday 1 = Monday, 2 = Tuesday, ...	0.0	100.0	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-A
36	3 OR 4	1005	A	41005		20UI-5414	Battery Capacity Test - Remaining Time	BATT CAPACITY TEST REMAIN TM	0.0	65535.0	min					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-A
37	3 OR 4	1	A	400001	-	20UI-5465	1=Normal Mode 2=Bypass mode 3=Battery mode 4=Eco Mode 5=Deactivation is imminent 6=Off	FGS UPS A STATUS	0	7						0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
38	3 OR 4	39	A	400039	-	20FRQ-5451	RectMainsFreq.	RECT MAINS FREQ	0	99	Hz					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
39	3 OR 4	40	A	400040		20VI-4154	RectMainsVoltL1	RECT MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
40	3 OR 4	41	A	400041		20VI-4254	RectMainsVoltL2	RECT MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
41	3 OR 4	42	A	400042		20VI-4354	RectMainsVoltL3	RECT MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
42	3 OR 4	43	A	400043		20FRQ-5452	SBSMainsFreq.	SBS MAINS FREQ	0	99	Hz					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
43	3 OR 4	44	A	400044		20VI-4155	SBSMainsVoltL1	SBS MAINS VOLT L1	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
44	3 OR 4	45	A	400045		20VI-4255	SBSMainsVoltL2	SBS MAINS VOLT L2	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
45	3 OR 4	46	A	400046		20VI-4355	SBSMainsVoltL3	SBS MAINS VOLT L3	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
46	3 OR 4	47	A	400047		20VI-5453	BatteryVoltage	BATTERY CURRENT	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
47	3 OR 4	48	A	400048		20CI-5451	BatteryCurrent	BATTERY VOLTAGE	0	3000	A					0	65535	16 Bit	UINT	INT10	FGS AC UPS-B
48	3 OR 4	49	A	400049		20UI-5451	AutonomyTime	BATTERY CAPACITY	0	999	min					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
49	3 OR 4	50	A	400050		20UI-5452	BatteryCapacity	AUTONOMY TIME	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
50	3 OR 4	51	A	400051		20TI-5451	BatteryTemperature	BATTERY TEMPERATURE	0	99.9	°C					0	65535	16 Bit	UINT	INT10	FGS AC UPS-B
51	3 OR 4	52	A	400052		20FRQ-5453	OutputFreq.	OUTPUT FREQ	0	99	Hz					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
52	3 OR 4	53	A	400053		20VI-4153	OutputVoltageL1	OUTPUT VOLTAGE L1	0	999	v					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
53	3 OR 4	54	A	400054		20UI-5453	OutputLoadL1	OUTPUT LOAD L1	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
54	3 OR 4	55	A	400055		20CI-4152	OutputCurrentL1	OUTPUT CURRENT L1	0	9999	A					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
55	3 OR 4	56	A	400056		20JI-5451	OutputPowerL1	OUTPUT POWER L1	0	1000	kW					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
56	3 OR 4	57	A	400057		20VI-4256	OutputVoltageL2	OUTPUT VOLTAGE L2	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
57	3 OR 4	58	A	400058		20UI-5454	OutputLoadL2	OUTPUT LOAD L2	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
58	3 OR 4	59	A	400059		20CI-4252	OutputCurrentL2	OUTPUT CURRENT L2	0	9999	A					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
59	3 OR 4	60	A	400060		20JI-5452	OutputPowerL2	OUTPUT POWER L2	0	1000	kW					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
60	3 OR 4	61	A	400061		20VI-4356	OutputVoltageL3	OUTPUT VOLTAGE L3	0	999	V					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
61	3 OR 4	62	A	400062		20UI-5455	OutputLoadL3	OUTPUT LOAD L3	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
62	3 OR 4	63	A	400063		20CI-4352	OutputCurrentL3	OUTPUT CURRENT L3	0	9999	A					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
63	3 OR 4	64	A	400064		20JI-5453	OutputPowerL3	OUTPUT POWER L3	0	1000	kW					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B
64	3 OR 4	150	A	400150	Real time (decimal)	20UI-5456	Year (20xx)	Year (20xx)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
65	3 OR 4	151	A	400151		20UI-5457	Day (0-31)	Day (0-31)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
66	3 OR 4	152	A	400152		20UI-5458	Month (1-12)	Month (1-12)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
67	3 OR 4	153	A	400153		20UI-5459	Hour (0-23)	Hour (0-23)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B

AC -UPS FGS

No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
68	3 OR 4	154	A	400154		20UI-5460	Minute (0-59)	Minute (0-59)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
69	3 OR 4	155	A	400155		20UI-5461	Second (0-59)	Second (0-59)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
70	3 OR 4	156	A	400156		20UI-5462	Millisecond (0-999)	Millisecond (0-999)	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
71	3 OR 4	157	A	400157		20UI-5463	Weekday 1 = Monday, 2 = Tuesday, ...	Weekday 1 = Monday, 2 = Tuesday, ...	0	100	%					0	65535	16 Bit	UINT	WORD	FGS AC UPS-B
72	3 OR 4	1005	A	41005		20UI-5464	Battery Capacity Test - Remaining Time	BATT CAPACITY TEST REMAIN TM	0	65535	min					0	65535	16 Bit	UINT	WORD10	FGS AC UPS-B

AC -UPS PAS

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	FC3 or 4	2.0	A	40002	01	NonCriticalFault	20UA-5301	W: Collective warning	NON CRITICAL FAULT	16 Bit	WORD	WORD	AC UPS-A
2	FC3 or 4	3.0	A	40003	01	CriticalFault	20XA-5301	A: Collective alarm	CRITICAL FAULT	16 Bit	WORD	WORD	AC UPS-A
3	FC3 or 4	4.0	A	40004	01	Userdef_DigIn1Active	20US-5307	W:	USERDEF_DIGIN1ACTIVE	16 Bit	WORD	WORD	AC UPS-A
4	FC3 or 4	5.0	A	40005	01	Userdef_DigIn2Active	20US-5308	W:	USERDEF_DIGIN2ACTIVE	16 Bit	WORD	WORD	AC UPS-A
5	FC3 or 4	6.0	A	40006	01	Userdef_DigIn3Active	20US-5309	W:	USERDEF_DIGIN3ACTIVE	16 Bit	WORD	WORD	AC UPS-A
6	FC3 or 4	7.0	A	40007	01	EmergencySwitchOff	20US-5310	A: UPS output off	EMERGENCYSWITCHOFF	16 Bit	WORD	WORD	AC UPS-A
7	FC3 or 4	8.0	A	40008	01	DouCanFault	20XA-5302	W: DOU CAN fault	DOU CAN FAULT	16 Bit	WORD	WORD	AC UPS-A
8	FC3 or 4	9.0	A	40009	01	Rectifier/bypass mains fault	20XA-5303	W: Rectifier/bypass mains fault	MAINS FAULT	16 Bit	WORD	WORD	AC UPS-A
9	FC3 or 4	10.0	A	40010	01	RectifierWarning	20US-5311	W: Rectifier warning	RECTIFIER WARNING	16 Bit	WORD	WORD	AC UPS-A
10	FC3 or 4	11.0	A	40011	01	RectifierFault	20XA-5304	A: Rectifier fault	RECTIFIER FAULT	16 Bit	WORD	WORD	AC UPS-A
11	FC3 or 4	12.0	A	40012	01	BatteryAlarm	20XA-5305	A: Battery fault	BATTERY ALARM	16 Bit	WORD	WORD	AC UPS-A
12	FC3 or 4	13.0	A	40013	01	InverterWarning	20US-5312	W: Inverter warning	INVERTER WARNING	16 Bit	WORD	WORD	AC UPS-A
13	FC3 or 4	14.0	A	40014	01	InverterFault	20XA-5306	A: Inverter fault	INVERTER FAULT	16 Bit	WORD	WORD	AC UPS-A
14	FC3 or 4	15.0	A	40015	01	SBSWarning	20US-5313	W: Bypass warning	SBS WARNING	16 Bit	WORD	WORD	AC UPS-A
15	FC3 or 4	16.0	A	40016	01	SBSFault	20XA-5307	A: Bypass fault	SBS FAULT	16 Bit	WORD	WORD	AC UPS-A
16	FC3 or 4	17.0	A	40017	01	EqualisingCharge	20US-5314	I: Charger status – equalising charging	EQUALISING CHARGE	16 Bit	WORD	WORD	AC UPS-A
17	FC3 or 4	18.0	A	40018	01	Charge	20US-5315	I: Charger status – charging	CHARGE	16 Bit	WORD	WORD	AC UPS-A
18	FC3 or 4	19.0	A	40019	01	TrickleCharge	20US-5316	I: Charger status – trickle charging	TRICKLE CHARGE	16 Bit	WORD	WORD	AC UPS-A
19	FC3 or 4	20.0	A	40020	01	GenSetOperation	20UA-5302	I: Charger status: Em. power supply "**O**"	GENSET OPERATION	16 Bit	WORD	WORD	AC UPS-A
20	FC3 or 4	21.0	A	40021	01	BattTemp.SensFault	20XA-5308	W: Battery temp. sensor	BATT TEMP SENS FAULT	16 Bit	WORD	WORD	AC UPS-A
21	FC3 or 4	22.0	A	40022	01	BatteryTemp.ToHigh	20TA-5301	W: Battery temp. too high	BATTERY TEMP TOHIGH	16 Bit	WORD	WORD	AC UPS-A
22	FC3 or 4	23.0	A	40023	01	CircuitBreaker	20XS-5301	W: Circuit-breaker tripped	CIRCUIT BREAKER	16 Bit	WORD	WORD	AC UPS-A
23	FC3 or 4	24.0	A	40024	01	BatteryWarning	20US-5317	W: Battery warning	BATTERY WARNING	16 Bit	WORD	WORD	AC UPS-A
24	FC3 or 4	25.0	A	40025	01	BatteryLow	20US-5318	W: Battery undervoltage	BATTERY LOW	16 Bit	WORD	WORD	AC UPS-A
25	FC3 or 4	26.0	A	40026	01	Overload	20US-5319	W: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	AC UPS-A
26	FC3 or 4	27.0	A	40027	01	FanFault	20XA-5309	W: Fan fault	FAN FAULT	16 Bit	WORD	WORD	AC UPS-A
27	FC3 or 4	28.0	A	40028	01	Overload	20UA-5303	A: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	AC UPS-A
28	FC3 or 4	29.0	A	40029	01	ShortCircuit	20US-5320	A: Inverter short-circuit	SHORT CIRCUIT	16 Bit	WORD	WORD	AC UPS-A
29	FC3 or 4	30.0	A	40030	01	DcUnderVoltage	20US-5321	A: Inverter DC undervoltage	DC UNDER VOLTAGE	16 Bit	WORD	WORD	AC UPS-A
30	FC3 or 4	31.0	A	40031	01	DcOverVoltage	20US-5322	A: Inverter DC overvoltage	DC OVER VOLTAGE	16 Bit	WORD	WORD	AC UPS-A
31	FC3 or 4	32.0	A	40032	01	PowerStackOverTemp	20XA-5310	A: Inverter stack fault	POWER STACK OVERTEMP	16 Bit	WORD	WORD	AC UPS-A
32	FC3 or 4	33.0	A	40033	01	SBSReady	20RDY-5301	I: Bypass ready	SBS READY	16 Bit	WORD	WORD	AC UPS-A
33	FC3 or 4	34.0	A	40034	01	SBSMainsFault	20XA-5311	W: Bypass mains fault	SBS MAINS FAULT	16 Bit	WORD	WORD	AC UPS-A
34	FC3 or 4	35.0	A	40035	01	SBSBlocked	20US-5323	W: Bypass blocked	SBSB LOCKED	16 Bit	WORD	WORD	AC UPS-A
35	FC3 or 4	36.0	A	40036	01	RectifierOn	20US-5324	I: Rectifier on	RECTIFIER ON	16 Bit	WORD	WORD	AC UPS-A
36	FC3 or 4	37.0	A	40037	01	InverterOn	20US-5325	I: Inverter on	INVERTER ON	16 Bit	WORD	WORD	AC UPS-A
37	FC3 or 4	38.0	A	40038	01	SBSOn	20US-5326	I: Bypass on	SBS ON	16 Bit	WORD	WORD	AC UPS-A
38	FC3 or 4	65.0	A	40065	01	LIFE CHECK BIT	20US-5343	LIFE CHECK BIT	LIFE CHECK BIT	16 Bit	WORD	WORD	AC UPS-A
39	FC3 or 4	66.0	A	40066		Userdef_AUX1 – Rect.	20UA-5304		USERDEF_AUX1 – RECT	16 Bit	WORD	WORD	AC UPS-A
40	FC3 or 4	67.0	A	40067		Userdef_AUX2 – Rect.	20UA-5305		USERDEF_AUX2 – RECT	16 Bit	WORD	WORD	AC UPS-A
41	FC3 or 4	68.0	A	40068		Userdef_AUX3 – Rect.	20UA-5306		USERDEF_AUX3 – RECT	16 Bit	WORD	WORD	AC UPS-A
42	FC3 or 4	69.0	A	40069		Userdef_AUX4 – Rect.	20UA-5307		USERDEF_AUX4 – RECT	16 Bit	WORD	WORD	AC UPS-A
43	FC3 or 4	70.0	A	40070		Userdef_AUX5 – Rect.	20UA-5308		USERDEF_AUX5 – RECT	16 Bit	WORD	WORD	AC UPS-A
44	FC3 or 4	71.0	A	40071		Userdef_AUX6 – Rect.	20UA-5309		USERDEF_AUX6 – RECT	16 Bit	WORD	WORD	AC UPS-A
45	FC3 or 4	72.0	A	40072		Userdef_AUX7– Rect.	20UA-5310		USERDEF_AUX7– RECT	16 Bit	WORD	WORD	AC UPS-A
46	FC3 or 4	73.0	A	40073		Userdef_AUX1 – Inv.	20UA-5311		USERDEF_AUX1 – INV	16 Bit	WORD	WORD	AC UPS-A
47	FC3 or 4	74.0	A	40074		Userdef_AUX2 – Inv.	20UA-5312		USERDEF_AUX2 – INV	16 Bit	WORD	WORD	AC UPS-A
48	FC3 or 4	75.0	A	40075		Userdef_AUX3 – Inv.	20UA-5313		USERDEF_AUX3 – INV	16 Bit	WORD	WORD	AC UPS-A
49	FC3 or 4	76.0	A	40076		Userdef_AUX4 – Inv.	20UA-5314		USERDEF_AUX4 – INV	16 Bit	WORD	WORD	AC UPS-A
50	FC3 or 4	77.0	A	40077		Userdef_AUX5 – Inv.	20UA-5315		USERDEF_AUX5 – INV	16 Bit	WORD	WORD	AC UPS-A
51	FC3 or 4	78.0	A	40078		Userdef_AUX6 – Inv.	20UA-5316		USERDEF_AUX6 – INV	16 Bit	WORD	WORD	AC UPS-A
52	FC3 or 4	79.0	A	40079		Userdef_AUX7 – Inv.	20UA-5317		USERDEF_AUX7 – INV	16 Bit	WORD	WORD	AC UPS-A
53	FC3 or 4	80.0	A	40080		Userdef_AUX1 – SBS	20UA-5318		USERDEF_AUX1 – SBS	16 Bit	WORD	WORD	AC UPS-A
54	FC3 or 4	81.0	A	40081		Userdef_AUX2 – SBS	20UA-5319		USERDEF_AUX2 – SBS	16 Bit	WORD	WORD	AC UPS-A
55	FC3 or 4	82.0	A	40082		Userdef_AUX3 – SBS	20UA-5320		USERDEF_AUX3 – SBS	16 Bit	WORD	WORD	AC UPS-A
56	FC3 or 4	83.0	A	40083		Userdef_AUX4 – SBS	20UA-5321		USERDEF_AUX4 – SBS	16 Bit	WORD	WORD	AC UPS-A
57	FC3 or 4	84.0	A	40084		Userdef_AUX5 – SBS	20UA-5322		USERDEF_AUX5 – SBS	16 Bit	WORD	WORD	AC UPS-A
58	FC3 or 4	85.0	A	40085		Userdef_AUX6 – SBS	20UA-5323		USERDEF_AUX6 – SBS	16 Bit	WORD	WORD	AC UPS-A
59	FC3 or 4	86.0	A	40086		Userdef_AUX7 – SBS	20UA-5324		USERDEF_AUX7 – SBS	16 Bit	WORD	WORD	AC UPS-A
60	FC3 or 4 , 6	1000.0	A	41000	1								AC UPS-A
61	FC3 or 4 , 6	1000.01	A	41000	2	ON	20HS-5302	ON	ON	16 Bit	Bit	Bit	AC UPS-A
62	FC3 or 4 , 6	1000.02	A	41000	3	OFF	20HS-5303	OFF	OFF	16 Bit	Bit	Bit	AC UPS-A
63	FC3 or 4 , 6	1000.09	A	41000	10	ACKNOWLEDGE FAULT	20HS-5304	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-A
64	FC3 or 4 , 6	1000.10	A	41000	11	EQUALISING CHARGING	20HS-5305	EQUALISING CHARGING	EQUALISING CHARGING	16 Bit	Bit	Bit	AC UPS-A
65	FC3 or 4 , 6	1000.11	A	41000	12	CHARGE	20HS-5306	CHARGE	CHARGE	16 Bit	Bit	Bit	AC UPS-A
66	FC3 or 4 , 6	1000.12	A	41000	13	TRICKLE CHARGING	20HS-5307	TRICKLE CHARGING	TRICKLE CHARGING	16 Bit	Bit	Bit	AC UPS-A
67	FC3 or 4 , 6	1001.0	A	41001	1					16 Bit	Bit	Bit	AC UPS-A
68	FC3 or 4 , 6	1001.1	A	41001	2	ON	20HS-5316	ON	ON	16 Bit	Bit	Bit	AC UPS-A
69	FC3 or 4 , 6	1001.2	A	41001	3	OFF	20HS-5317	OFF	OFF	16 Bit	Bit	Bit	AC UPS-A
70	FC3 or 4 , 6	1001.03	A	41001	4	Eco mode	20HS-5318	ECO MODE	ECO MODE	16 Bit	Bit	Bit	AC UPS-A

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
71	FC3 or 4 , 6	1001.09	A	41001	10	acknowledge fault	20HS-5319	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-A
72	FC3 or 4 , 6	1002.0	A	41002	1					16 Bit	Bit	Bit	AC UPS-A
73	FC3 or 4 , 6	1002.9	A	41002	10	acknowledge fault	20HS-5309	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-A
74	FC3 or 4 , 6	1003.0	A	41003	01					16 Bit	Bit	Bit	AC UPS-A
75	FC3 or 4 , 6	1003.0x 01	A	41003	02	Start test	20HS-5311	START TEST	START TEST	16 Bit	Bit	Bit	AC UPS-A
76	FC3 or 4 , 6	1003.0x 02	A	41003	03	Cancel test	20HS-5312	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	AC UPS-A
77	FC3 or 4 , 6	1003.0x 00	A	41003	04	Test not implemented	20US-5331	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	AC UPS-A
78	FC3 or 4 , 6	1003.0x01	A	41003	05	Test impl., waiting for approva	20US-5332	TEST IMPL WAITNG APPROVA	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	AC UPS-A
79	FC3 or 4 , 6	1003.0x02	A	41003	06	Test approved	20US-5333	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	AC UPS-A
80	FC3 or 4 , 6	1003.0x03	A	41003	07	Test running	20US-5334	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	AC UPS-A
81	FC3 or 4 , 6	1003.0x04	A	41003	08	Test successful	20US-5335	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	AC UPS-A
82	FC3 or 4 , 6	1003.0x05	A	41003	09	Test cancelled	20US-5336	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	AC UPS-A
83	FC3 or 4 , 6	1003.0x06	A	41003	10	Test warning	20UA-5325	TEST WARNING	TEST WARNING	16 Bit	Bit	Bit	AC UPS-A
84	FC3 or 4 , 6	1003.0x07	A	41003	11	Test error	20XA-5315	TEST ERROR	TEST ERROR	16 Bit	Bit	Bit	AC UPS-A
85	FC3 or 4 , 6	1004.0	A	41004	01					16 Bit	Bit	Bit	AC UPS-A
86	FC3 or 4 , 6	1004.0x 00	A	41004	02	Start test	20HS-5314	START TEST	START TEST	16 Bit	Bit	Bit	AC UPS-A
87	FC3 or 4 , 6	1004.0x 01	A	41004	03	Cancel test	20HS-5315	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	AC UPS-A
88	FC3 or 4 , 6	1004.0x 00	A	41004	04	Test not implemented	20US-5337	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	AC UPS-A
89	FC3 or 4 , 6	1004.0x01	A	41004	05	Test impl., waiting for approva	20US-5338	TEST IMPL WAITNG APPROVA	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	AC UPS-A
90	FC3 or 4 , 6	1004.0x02	A	41004	06	Test approved	20US-5339	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	AC UPS-A
91	FC3 or 4 , 6	1004.0x03	A	41004	07	Test running	20US-5340	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	AC UPS-A
92	FC3 or 4 , 6	1004.0x04	A	41004	08	Test successful	20US-5341	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	AC UPS-A
93	FC3 or 4 , 6	1004.0x05	A	41004	09	Test cancelled	20US-5342	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	AC UPS-A
94	FC3 or 4 , 6	1004.0x06	A	41004	10	Test warning	20UA-5326	TEST WARNING					
95	FC3 or 4 , 6	1004.0x07	A	41004	11	Test error	20XA-5316	TEST ERROR					
96	FC3 or 4	2.0	A	40002	01	NonCriticalFault	20UA-5351	W: Collective warning	NON CRITICAL FAULT	16 Bit	WORD	WORD	AC UPS-B
97	FC3 or 4	3.0	A	40003	01	CriticalFault	20XA-5351	A: Collective alarm	CRITICAL FAULT	16 Bit	WORD	WORD	AC UPS-B
98	FC3 or 4	4.0	A	40004	01	Userdef_DigIn1Active	20US-5357	W:	USERDEF_DIGIN1ACTIVE	16 Bit	WORD	WORD	AC UPS-B
99	FC3 or 4	5.0	A	40005	01	Userdef_DigIn2Active	20US-5358	W:	USERDEF_DIGIN2ACTIVE	16 Bit	WORD	WORD	AC UPS-B
100	FC3 or 4	6.0	A	40006	01	Userdef_DigIn3Active	20US-5359	W:	USERDEF_DIGIN3ACTIVE	16 Bit	WORD	WORD	AC UPS-B
101	FC3 or 4	7.0	A	40007	01	EmergencySwitchOff	20US-5360	A: UPS output off	EMERGENCYSWITCHOFF	16 Bit	WORD	WORD	AC UPS-B
102	FC3 or 4	8.0	A	40008	01	DouCanFault	20XA-5352	W: DOU CAN fault	DOU CAN FAULT	16 Bit	WORD	WORD	AC UPS-B
103	FC3 or 4	9.0	A	40009	01	MainsFault	20XA-5353	W: Rectifier/bypass mains fault	MAINS FAULT	16 Bit	WORD	WORD	AC UPS-B
104	FC3 or 4	10.0	A	40010	01	RectifierWarning	20US-5361	W: Rectifier warning	RECTIFIER WARNING	16 Bit	WORD	WORD	AC UPS-B
105	FC3 or 4	11.0	A	40011	01	RectifierFault	20XA-5354	A: Rectifier fault	RECTIFIER FAULT	16 Bit	WORD	WORD	AC UPS-B
106	FC3 or 4	12.0	A	40012	01	BatteryAlarm	20XA-5355	A: Battery fault	BATTERY ALARM	16 Bit	WORD	WORD	AC UPS-B
107	FC3 or 4	13.0	A	40013	01	InverterWarning	20US-5362	W: Inverter warning	INVERTER WARNING	16 Bit	WORD	WORD	AC UPS-B
108	FC3 or 4	14.0	A	40014	01	InverterFault	20XA-5356	A: Inverter fault	INVERTER FAULT	16 Bit	WORD	WORD	AC UPS-B
109	FC3 or 4	15.0	A	40015	01	SBSWarning	20US-5363	W: Bypass warning	SBS WARNING	16 Bit	WORD	WORD	AC UPS-B
110	FC3 or 4	16.0	A	40016	01	SBSFault	20XA-5357	A: Bypass fault	SBS FAULT	16 Bit	WORD	WORD	AC UPS-B
111	FC3 or 4	17.0	A	40017	01	EqualisingCharge	20US-5364	I: Charger status – equalising charging	EQUALISING CHARGE	16 Bit	WORD	WORD	AC UPS-B
112	FC3 or 4	18.0	A	40018	01	Charge	20US-5365	I: Charger status – charging	CHARGE	16 Bit	WORD	WORD	AC UPS-B
113	FC3 or 4	19.0	A	40019	01	TrickleCharge	20US-5366	I: Charger status – trickle charging	TRICKLE CHARGE	16 Bit	WORD	WORD	AC UPS-B
114	FC3 or 4	20.0	A	40020	01	GenSetOperation	20UA-5352	I: Charger status: Em. power supply "**O**"	GENSET OPERATION	16 Bit	WORD	WORD	AC UPS-B
115	FC3 or 4	21.0	A	40021	01	BattTemp.SensFault	20XA-5358	W: Battery temp. sensor	BATT TEMP SENS FAULT	16 Bit	WORD	WORD	AC UPS-B
116	FC3 or 4	22.0	A	40022	01	BatteryTemp.ToHigh	20TA-5351	W: Battery temp. too high	BATTERY TEMP TOHIGH	16 Bit	WORD	WORD	AC UPS-B
117	FC3 or 4	23.0	A	40023	01	CircuitBreaker	20XS-5351	W: Circuit-breaker tripped	CIRCUIT BREAKER	16 Bit	WORD	WORD	AC UPS-B
118	FC3 or 4	24.0	A	40024	01	BatteryWarning	20US-5367	W: Battery warning	BATTERY WARNING	16 Bit	WORD	WORD	AC UPS-B
119	FC3 or 4	25.0	A	40025	01	BatteryLow	20US-5368	W: Battery undervoltage	BATTERY LOW	16 Bit	WORD	WORD	AC UPS-B
120	FC3 or 4	26.0	A	40026	01	Overload	20US-5369	W: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	AC UPS-B
121	FC3 or 4	27.0	A	40027	01	FanFault	20XA-5359	W: Fan fault	FAN FAULT	16 Bit	WORD	WORD	AC UPS-B
122	FC3 or 4	28.0	A	40028	01	Overload	20UA-5353	A: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	AC UPS-B
123	FC3 or 4	29.0	A	40029	01	ShortCircuit	20US-5370	A: Inverter short-circuit	SHORT CIRCUIT	16 Bit	WORD	WORD	AC UPS-B
124	FC3 or 4	30.0	A	40030	01	DcUnderVoltage	20US-5371	A: Inverter DC undervoltage	DC UNDER VOLTAGE	16 Bit	WORD	WORD	AC UPS-B
125	FC3 or 4	31.0	A	40031	01	DcOverVoltage	20US-5372	A: Inverter DC overvoltage	DC OVER VOLTAGE	16 Bit	WORD	WORD	AC UPS-B
126	FC3 or 4	32.0	A	40032	01	PowerStackOverTemp	20XA-5360	A: Inverter stack fault	POWER STACK OVERTEMP	16 Bit	WORD	WORD	AC UPS-B
127	FC3 or 4	33.0	A	40033	01	SBSReady	20RDY5351	I: Bypass ready	SBS READY	16 Bit	WORD	WORD	AC UPS-B
128	FC3 or 4	34.0	A	40034	01	SBSMainsFault	20XA-5361	W: Bypass mains fault	SBS MAINS FAULT	16 Bit	WORD	WORD	AC UPS-B
129	FC3 or 4	35.0	A	40035	01	SBSBlocked	20US-5373	W: Bypass blocked	SBSB LOCKED	16 Bit	WORD	WORD	AC UPS-B
130	FC3 or 4	36.0	A	40036	01	RectifierOn	20US-5374	I: Rectifier on	RECTIFIER ON	16 Bit	WORD	WORD	AC UPS-B
131	FC3 or 4	37.0	A	40037	01	InverterOn	20US-5375	I: Inverter on	INVERTER ON	16 Bit	WORD	WORD	AC UPS-B
132	FC3 or 4	38.0	A	40038	01	SBSOn	20US-5376	I: Bypass on	SBS ON	16 Bit	WORD	WORD	AC UPS-B
133	FC3 or 4	65.0	A	40065	01	LIFE CHECK BIT	20US-5393	LIFE CHECK BIT	LIFE CHECK BIT	16 Bit	WORD	WORD	AC UPS-B
134	FC3 or 4	66.0	A	40066		Userdef_AUX1 – Rect.	20UA-5354		USERDEF_AUX1 – RECT	16 Bit	WORD	WORD	AC UPS-B
135	FC3 or 4	67.0	A	40067		Userdef_AUX2 – Rect.	20UA-5355		USERDEF_AUX2 – RECT	16 Bit	WORD	WORD	AC UPS-B
136	FC3 or 4	68.0	A	40068		Userdef_AUX3 – Rect.	20UA-5356		USERDEF_AUX3 – RECT	16 Bit	WORD	WORD	AC UPS-B
137	FC3 or 4	69.0	A	40069		Userdef_AUX4 – Rect.	20UA-5357		USERDEF_AUX4 – RECT	16 Bit	WORD	WORD	AC UPS-B
138	FC3 or 4	70.0	A	40070		Userdef_AUX5 – Rect.	20UA-5358		USERDEF_AUX5 – RECT	16 Bit	WORD	WORD	AC UPS-B
139	FC3 or 4	71.0	A	40071		Userdef_AUX6 – Rect.	20UA-5359		USERDEF_AUX6 – RECT	16 Bit	WORD	WORD	AC UPS-B
140	FC3 or 4	72.0	A	40072		Userdef_AUX7– Rect.	20UA-5360		USERDEF_AUX7– RECT	16 Bit	WORD	WORD	AC UPS-B
141	FC3 or 4	73.0	A	40073		Userdef_AUX1 – Inv.	20UA-5361		USERDEF_AUX1 – INV	16 Bit	WORD	WORD	AC UPS-B

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
142	FC3 or 4	74.0	A	40074		Userdef_AUX2 – Inv.	20UA-5362		USERDEF_AUX2 – INV	16 Bit	WORD	WORD	AC UPS-B
143	FC3 or 4	75.0	A	40075		Userdef_AUX3 – Inv.	20UA-5363		USERDEF_AUX3 – INV	16 Bit	WORD	WORD	AC UPS-B
144	FC3 or 4	76.0	A	40076		Userdef_AUX4 – Inv.	20UA-5364		USERDEF_AUX4 – INV	16 Bit	WORD	WORD	AC UPS-B
145	FC3 or 4	77.0	A	40077		Userdef_AUX5 – Inv.	20UA-5365		USERDEF_AUX5 – INV	16 Bit	WORD	WORD	AC UPS-B
146	FC3 or 4	78.0	A	40078		Userdef_AUX6 – Inv.	20UA-5366		USERDEF_AUX6 – INV	16 Bit	WORD	WORD	AC UPS-B
147	FC3 or 4	79.0	A	40079		Userdef_AUX7 – Inv.	20UA-5367		USERDEF_AUX7 – INV	16 Bit	WORD	WORD	AC UPS-B
148	FC3 or 4	80.0	A	40080		Userdef_AUX1 – SBS	20UA-5368		USERDEF_AUX1 – SBS	16 Bit	WORD	WORD	AC UPS-B
149	FC3 or 4	81.0	A	40081		Userdef_AUX2 – SBS	20UA-5369		USERDEF_AUX2 – SBS	16 Bit	WORD	WORD	AC UPS-B
150	FC3 or 4	82.0	A	40082		Userdef_AUX3 – SBS	20UA-5370		USERDEF_AUX3 – SBS	16 Bit	WORD	WORD	AC UPS-B
151	FC3 or 4	83.0	A	40083		Userdef_AUX4 – SBS	20UA-5371		USERDEF_AUX4 – SBS	16 Bit	WORD	WORD	AC UPS-B
152	FC3 or 4	84.0	A	40084		Userdef_AUX5 – SBS	20UA-5372		USERDEF_AUX5 – SBS	16 Bit	WORD	WORD	AC UPS-B
153	FC3 or 4	85.0	A	40085		Userdef_AUX6 – SBS	20UA-5373		USERDEF_AUX6 – SBS	16 Bit	WORD	WORD	AC UPS-B
154	FC3 or 4	86.0	A	40086		Userdef_AUX7 – SBS	20UA-5374		USERDEF_AUX7 – SBS	16 Bit	WORD	WORD	AC UPS-B
155	FC3 or 4 , 6	1000.0	A	41000	1								AC UPS-B
156	FC3 or 4 , 6	1000.01	A	41000	2	ON	20HS-5352	ON	ON	16 Bit	Bit	Bit	AC UPS-B
157	FC3 or 4 , 6	1000.02	A	41000	3	OFF	20HS-5353	OFF	OFF	16 Bit	Bit	Bit	AC UPS-B
158	FC3 or 4 , 6	1000.09	A	41000	10	ACKNOWLEDGE FAULT	20HS-5354	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-B
159	FC3 or 4 , 6	1000.10	A	41000	11	EQUALISING CHARGING	20HS-5355	EQUALISING CHARGING	EQUALISING CHARGING	16 Bit	Bit	Bit	AC UPS-B
160	FC3 or 4 , 6	1000.11	A	41000	12	CHARGE	20HS-5356	CHARGE	CHARGE	16 Bit	Bit	Bit	AC UPS-B
161	FC3 or 4 , 6	1000.12	A	41000	13	TRICKLE CHARGING	20HS-5357	TRICKLE CHARGING	TRICKLE CHARGING	16 Bit	Bit	Bit	AC UPS-B
162	FC3 or 4 , 6	1001.0	A	41001	1					16 Bit	Bit	Bit	AC UPS-B
163	FC3 or 4 , 6	1001.1	A	41001	2	ON	20HS-5366	ON	ON	16 Bit	Bit	Bit	AC UPS-B
164	FC3 or 4 , 6	1001.2	A	41001	3	OFF	20HS-5367	OFF	OFF	16 Bit	Bit	Bit	AC UPS-B
165	FC3 or 4 , 6	1001.03	A	41001	4	Eco mode	20HS-5368	ECO MODE	ECO MODE	16 Bit	Bit	Bit	AC UPS-B
166	FC3 or 4 , 6	1001.09	A	41001	10	acknowledge fault	20HS-5369	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-B
167	FC3 or 4 , 6	1002.0	A	41002	1					16 Bit	Bit	Bit	AC UPS-A
168	FC3 or 4 , 6	1002.9	A	41002	10	acknowledge fault	20HS-5359	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-A
169	FC3 or 4 , 6	1003.0	A	41003	01					16 Bit	Bit	Bit	AC UPS-B
170	FC3 or 4 , 6	1003.0x 01	A	41003	02	Start test	20HS-5361	START TEST	START TEST	16 Bit	Bit	Bit	AC UPS-B
171	FC3 or 4 , 6	1003.0x 02	A	41003	03	Cancel test	20HS-5362	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	AC UPS-B
172	FC3 or 4 , 6	1003.0x 00	A	41003	04	Test not implemented	20US-5381	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	AC UPS-B
173	FC3 or 4 , 6	1003.0x01	A	41003	05	Test impl., waiting for approva	20US-5382	TEST IMPL WAITNG APPROVA	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	AC UPS-B
174	FC3 or 4 , 6	1003.0x02	A	41003	06	Test approved	20US-5383	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	AC UPS-B
175	FC3 or 4 , 6	1003.0x03	A	41003	07	Test running	20US-5384	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	AC UPS-B
176	FC3 or 4 , 6	1003.0x04	A	41003	08	Test successful	20US-5385	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	AC UPS-B
177	FC3 or 4 , 6	1003.0x05	A	41003	09	Test cancelled	20US-5386	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	AC UPS-B
178	FC3 or 4 , 6	1003.0x06	A	41003	10	Test warning	20UA-5375	TEST WARNING	TEST WARNING	16 Bit	Bit	Bit	AC UPS-B
179	FC3 or 4 , 6	1003.0x07	A	41003	11	Test error	20XA-5365	TEST ERROR	TEST ERROR	16 Bit	Bit	Bit	AC UPS-B
180	FC3 or 4 , 6	1004.0	A	41004	01					16 Bit	Bit	Bit	AC UPS-B
181	FC3 or 4 , 6	1004.0x 00	A	41004	02	Start test	20HS-5364	START TEST	START TEST	16 Bit	Bit	Bit	AC UPS-B
182	FC3 or 4 , 6	1004.0x 01	A	41004	03	Cancel test	20HS-5365	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	AC UPS-B
183	FC3 or 4 , 6	1004.0x 00	A	41004	04	Test not implemented	20US-5387	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	AC UPS-B
184	FC3 or 4 , 6	1004.0x01	A	41004	05	Test impl., waiting for approva	20US-5388	TEST IMPL WAITNG APPROVA	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	AC UPS-B
185	FC3 or 4 , 6	1004.0x02	A	41004	06	Test approved	20US-5389	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	AC UPS-B
186	FC3 or 4 , 6	1004.0x03	A	41004	07	Test running	20US-5390	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	AC UPS-B
187	FC3 or 4 , 6	1004.0x04	A	41004	08	Test successful	20US-5391	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	AC UPS-B
188	FC3 or 4 , 6	1004.0x05	A	41004	09	Test cancelled	20US-5392	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	AC UPS-B
189	FC3 or 4 , 6	1004.0x06	A	41004	10	Test warning	20UA-5376	TEST WARNING	TEST WARNING				
190	FC3 or 4 , 6	1004.0x07	A	41004	11	Test error	20XA-5366	TEST ERROR	TEST ERROR				

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	FC3 or 4	2.0	A	40002	01	NonCriticalFault	20UA-5401	W: Collective warning	NON CRITICAL FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
2	FC3 or 4	3.0	A	40003	01	CriticalFault	20XA-5401	A: Collective alarm	CRITICAL FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
3	FC3 or 4	4.0	A	40004	01	Userdef_DigIn1Active	20US-5407	W:	USERDEF_DIGIN1ACTIVE	16 Bit	WORD	WORD	FGS AC UPS-A
4	FC3 or 4	5.0	A	40005	01	Userdef_DigIn2Active	20US-5408	W:	USERDEF_DIGIN2ACTIVE	16 Bit	WORD	WORD	FGS AC UPS-A
5	FC3 or 4	6.0	A	40006	01	Userdef_DigIn3Active	20US-5409	W:	USERDEF_DIGIN3ACTIVE	16 Bit	WORD	WORD	FGS AC UPS-A
6	FC3 or 4	7.0	A	40007	01	EmergencySwitchOff	20US-5410	A: UPS output off	EMERGENCYSWITCHOFF	16 Bit	WORD	WORD	FGS AC UPS-A
7	FC3 or 4	8.0	A	40008	01	DouCanFault	20XA-5402	W: DOU CAN fault	DOU CAN FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
8	FC3 or 4	9.0	A	40009	01	Rectifier/bypass mains fault	20XA-5403	W: Rectifier/bypass mains fault	MAINS FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
9	FC3 or 4	10.0	A	40010	01	RectifierWarning	20US-5411	W: Rectifier warning	RECTIFIER WARNING	16 Bit	WORD	WORD	FGS AC UPS-A
10	FC3 or 4	11.0	A	40011	01	RectifierFault	20XA-5404	A: Rectifier fault	RECTIFIER FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
11	FC3 or 4	12.0	A	40012	01	BatteryAlarm	20XA-5405	A: Battery fault	BATTERY ALARM	16 Bit	WORD	WORD	FGS AC UPS-A
12	FC3 or 4	13.0	A	40013	01	InverterWarning	20US-5412	W: Inverter warning	INVERTER WARNING	16 Bit	WORD	WORD	FGS AC UPS-A
13	FC3 or 4	14.0	A	40014	01	InverterFault	20XA-5406	A: Inverter fault	INVERTER FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
14	FC3 or 4	15.0	A	40015	01	SBSWarning	20US-5413	W: Bypass warning	SBS WARNING	16 Bit	WORD	WORD	FGS AC UPS-A
15	FC3 or 4	16.0	A	40016	01	SBSFault	20XA-5407	A: Bypass fault	SBS FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
16	FC3 or 4	17.0	A	40017	01	EqualisingCharge	20US-5414	I: Charger status – equalising charging	EQUALISING CHARGE	16 Bit	WORD	WORD	FGS AC UPS-A
17	FC3 or 4	18.0	A	40018	01	Charge	20UA-5427	I: Charger status – charging	CHARGE	16 Bit	WORD	WORD	FGS AC UPS-A
18	FC3 or 4	19.0	A	40019	01	TrickleCharge	20UA-5428	I: Charger status – trickle charging	TRICKLE CHARGE	16 Bit	WORD	WORD	FGS AC UPS-A
19	FC3 or 4	20.0	A	40020	01	GenSetOperation	20UA-5402	I: Charger status: Em. power supply "**O**"	GENSET OPERATION	16 Bit	WORD	WORD	FGS AC UPS-A
20	FC3 or 4	21.0	A	40021	01	BattTemp.SensFault	20XA-5408	W: Battery temp. sensor	BATT TEMP SENS FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
21	FC3 or 4	22.0	A	40022	01	BatteryTemp.ToHigh	20TA-5401	W: Battery temp. too high	BATTERY TEMP TOHIGH	16 Bit	WORD	WORD	FGS AC UPS-A
22	FC3 or 4	23.0	A	40023	01	CircuitBreaker	20XS-5401	W: Circuit-breaker tripped	CIRCUIT BREAKER	16 Bit	WORD	WORD	FGS AC UPS-A
23	FC3 or 4	24.0	A	40024	01	BatteryWarning	20US-5417	W: Battery warning	BATTERY WARNING	16 Bit	WORD	WORD	FGS AC UPS-A
24	FC3 or 4	25.0	A	40025	01	BatteryLow	20US-5418	W: Battery undervoltage	BATTERY LOW	16 Bit	WORD	WORD	FGS AC UPS-A
25	FC3 or 4	26.0	A	40026	01	Overload	20US-5419	W: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	FGS AC UPS-A
26	FC3 or 4	27.0	A	40027	01	FanFault	20XA-5409	W: Fan fault	FAN FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
27	FC3 or 4	28.0	A	40028	01	Overload	20UA-5403	A: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	FGS AC UPS-A
28	FC3 or 4	29.0	A	40029	01	ShortCircuit	20US-5420	A: Inverter short-circuit	SHORT CIRCUIT	16 Bit	WORD	WORD	FGS AC UPS-A
29	FC3 or 4	30.0	A	40030	01	DcUnderVoltage	20US-5421	A: Inverter DC undervoltage	DC UNDER VOLTAGE	16 Bit	WORD	WORD	FGS AC UPS-A
30	FC3 or 4	31.0	A	40031	01	DcOverVoltage	20US-5422	A: Inverter DC overvoltage	DC OVER VOLTAGE	16 Bit	WORD	WORD	FGS AC UPS-A
31	FC3 or 4	32.0	A	40032	01	PowerStackOverTemp	20XA-5410	A: Inverter stack fault	POWER STACK OVERTEMP	16 Bit	WORD	WORD	FGS AC UPS-A
32	FC3 or 4	33.0	A	40033	01	SBSReady	20RDY-5401	I: Bypass ready	SBS READY	16 Bit	WORD	WORD	FGS AC UPS-A
33	FC3 or 4	34.0	A	40034	01	SBSMainsFault	20XA-5411	W: Bypass mains fault	SBS MAINS FAULT	16 Bit	WORD	WORD	FGS AC UPS-A
34	FC3 or 4	35.0	A	40035	01	SBSBlocked	20US-5423	W: Bypass blocked	SBSB LOCKED	16 Bit	WORD	WORD	FGS AC UPS-A
35	FC3 or 4	36.0	A	40036	01	RectifierOn	20US-5424	I: Rectifier on	RECTIFIER ON	16 Bit	WORD	WORD	FGS AC UPS-A
36	FC3 or 4	37.0	A	40037	01	InverterOn	20US-5425	I: Inverter on	INVERTER ON	16 Bit	WORD	WORD	FGS AC UPS-A
37	FC3 or 4	38.0	A	40038	01	SBSOn	20US-5426	I: Bypass on	SBS ON	16 Bit	WORD	WORD	FGS AC UPS-A
38	FC3 or 4	65.0	A	40065	01	LIFE CHECK BIT	20US-5443	LIFE CHECK BIT	LIFE CHECK BIT	16 Bit	WORD	WORD	FGS AC UPS-A
39	FC3 or 4	66.0	A	40066		Userdef_AUX1 – Rect.	20UA-5404		USERDEF_AUX1 – RECT	16 Bit	WORD	WORD	FGS AC UPS-A
40	FC3 or 4	67.0	A	40067		Userdef_AUX2 – Rect.	20UA-5405		USERDEF_AUX2 – RECT	16 Bit	WORD	WORD	FGS AC UPS-A
41	FC3 or 4	68.0	A	40068		Userdef_AUX3 – Rect.	20UA-5406		USERDEF_AUX3 – RECT	16 Bit	WORD	WORD	FGS AC UPS-A
42	FC3 or 4	69.0	A	40069		Userdef_AUX4 – Rect.	20UA-5407		USERDEF_AUX4 – RECT	16 Bit	WORD	WORD	FGS AC UPS-A
43	FC3 or 4	70.0	A	40070		Userdef_AUX5 – Rect.	20UA-5408		USERDEF_AUX5 – RECT	16 Bit	WORD	WORD	FGS AC UPS-A
44	FC3 or 4	71.0	A	40071		Userdef_AUX6 – Rect.	20UA-5409		USERDEF_AUX6 – RECT	16 Bit	WORD	WORD	FGS AC UPS-A
45	FC3 or 4	72.0	A	40072		Userdef_AUX7– Rect.	20UA-5410		USERDEF_AUX7– RECT	16 Bit	WORD	WORD	FGS AC UPS-A
46	FC3 or 4	73.0	A	40073		Userdef_AUX1 – Inv.	20UA-5411		USERDEF_AUX1 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
47	FC3 or 4	74.0	A	40074		Userdef_AUX2 – Inv.	20UA-5412		USERDEF_AUX2 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
48	FC3 or 4	75.0	A	40075		Userdef_AUX3 – Inv.	20UA-5413		USERDEF_AUX3 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
49	FC3 or 4	76.0	A	40076		Userdef_AUX4 – Inv.	20UA-5414		USERDEF_AUX4 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
50	FC3 or 4	77.0	A	40077		Userdef_AUX5 – Inv.	20UA-5415		USERDEF_AUX5 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
51	FC3 or 4	78.0	A	40078		Userdef_AUX6 – Inv.	20UA-5416		USERDEF_AUX6 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
52	FC3 or 4	79.0	A	40079		Userdef_AUX7 – Inv.	20UA-5417		USERDEF_AUX7 – INV	16 Bit	WORD	WORD	FGS AC UPS-A
53	FC3 or 4	80.0	A	40080		Userdef_AUX1 – SBS	20UA-5418		USERDEF_AUX1 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A
54	FC3 or 4	81.0	A	40081		Userdef_AUX2 – SBS	20UA-5419		USERDEF_AUX2 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A
55	FC3 or 4	82.0	A	40082		Userdef_AUX3 – SBS	20UA-5420		USERDEF_AUX3 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A
56	FC3 or 4	83.0	A	40083		Userdef_AUX4 – SBS	20UA-5421		USERDEF_AUX4 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A
57	FC3 or 4	84.0	A	40084		Userdef_AUX5 – SBS	20UA-5422		USERDEF_AUX5 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A
58	FC3 or 4	85.0	A	40085		Userdef_AUX6 – SBS	20UA-5423		USERDEF_AUX6 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A
59	FC3 or 4	86.0	A	40086		Userdef_AUX7 – SBS	20UA-5424		USERDEF_AUX7 – SBS	16 Bit	WORD	WORD	FGS AC UPS-A

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No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
60	FC3 or 4 , 6	1000.0	A	41000	1								FGS AC UPS-A
61	FC3 or 4 , 6	1000.01	A	41000	2	ON	20HS-5402	ON	ON	16 Bit	Bit	Bit	FGS AC UPS-A
62	FC3 or 4 , 6	1000.02	A	41000	3	OFF	20HS-5403	OFF	OFF	16 Bit	Bit	Bit	FGS AC UPS-A
63	FC3 or 4 , 6	1000.09	A	41000	10	ACKNOWLEDGE FAULT	20HS-5404	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	FGS AC UPS-A
64	FC3 or 4 , 6	1000.10	A	41000	11	EQUALISING CHARGING	20HS-5405	EQUALISING CHARGING	EQUALISING CHARGING	16 Bit	Bit	Bit	FGS AC UPS-A
65	FC3 or 4 , 6	1000.11	A	41000	12	CHARGE	20HS-5406	CHARGE	CHARGE	16 Bit	Bit	Bit	FGS AC UPS-A
66	FC3 or 4 , 6	1000.12	A	41000	13	TRICKLE CHARGING	20HS-5407	TRICKLE CHARGING	TRICKLE CHARGING	16 Bit	Bit	Bit	FGS AC UPS-A
67	FC3 or 4 , 6	1001.0	A	41001	1					16 Bit	Bit	Bit	FGS AC UPS-A
68	FC3 or 4 , 6	1001.1	A	41001	2	ON	20HS-5416	ON	ON	16 Bit	Bit	Bit	FGS AC UPS-A
69	FC3 or 4 , 6	1001.2	A	41001	3	OFF	20HS-5417	OFF	OFF	16 Bit	Bit	Bit	FGS AC UPS-A
70	FC3 or 4 , 6	1001.03	A	41001	4	Eco mode	20HS-5418	ECO MODE	ECO MODE	16 Bit	Bit	Bit	FGS AC UPS-A
71	FC3 or 4 , 6	1001.09	A	41001	10	acknowledge fault	20HS-5419	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	FGS AC UPS-A
72	FC3 or 4 , 6	1002.0	A	41002	1					16 Bit	Bit	Bit	AC UPS-A
73	FC3 or 4 , 6	1002.9	A	41002	10	acknowledge fault	20HS-5409	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	AC UPS-A
74	FC3 or 4 , 6	1003.0	A	41003	01					16 Bit	Bit	Bit	FGS AC UPS-A
75	FC3 or 4 , 6	1003.0x 01	A	41003	02	Start test	20HS-5411	START TEST	START TEST	16 Bit	Bit	Bit	FGS AC UPS-A
76	FC3 or 4 , 6	1003.0x 02	A	41003	03	Cancel test	20HS-5412	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	FGS AC UPS-A
77	FC3 or 4 , 6	1003.0x 00	A	41003	04	Test not implemented	20US-5431	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	FGS AC UPS-A
78	FC3 or 4 , 6	1003.0x01	A	41003	05	Test impl., waiting for approva	20US-5432	TEST IMPL WAITNG APPRV	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	FGS AC UPS-A
79	FC3 or 4 , 6	1003.0x02	A	41003	06	Test approved	20US-5433	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	FGS AC UPS-A
80	FC3 or 4 , 6	1003.0x03	A	41003	07	Test running	20US-5434	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	FGS AC UPS-A
81	FC3 or 4 , 6	1003.0x04	A	41003	08	Test successful	20US-5435	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	FGS AC UPS-A
82	FC3 or 4 , 6	1003.0x05	A	41003	09	Test cancelled	20US-5436	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	FGS AC UPS-A
83	FC3 or 4 , 6	1003.0x06	A	41003	10	Test warning	20UA-5425	TEST WARNING	TEST WARNING	16 Bit	Bit	Bit	FGS AC UPS-A
84	FC3 or 4 , 6	1003.0x07	A	41003	11	Test error	20XA-5415	TEST ERROR	TEST ERROR	16 Bit	Bit	Bit	FGS AC UPS-A
85	FC3 or 4 , 6	1004.0	A	41004	01					16 Bit	Bit	Bit	FGS AC UPS-A
86	FC3 or 4 , 6	1004.0x 00	A	41004	02	Start test	20HS-5413	START TEST	START TEST	16 Bit	Bit	Bit	FGS AC UPS-A
87	FC3 or 4 , 6	1004.0x 01	A	41004	03	Cancel test	20HS-5414	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	FGS AC UPS-A
88	FC3 or 4 , 6	1004.0x 00	A	41004	04	Test not implemented	20US-5437	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	FGS AC UPS-A
89	FC3 or 4 , 6	1004.0x01	A	41004	05	Test impl., waiting for approva	20US-5438	TEST IMPL WAITING FOR AP	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	FGS AC UPS-A
90	FC3 or 4 , 6	1004.0x02	A	41004	06	Test approved	20US-5439	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	FGS AC UPS-A
91	FC3 or 4 , 6	1004.0x03	A	41004	07	Test running	20US-5440	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	FGS AC UPS-A
92	FC3 or 4 , 6	1004.0x04	A	41004	08	Test successful	20US-5441	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	FGS AC UPS-A
93	FC3 or 4 , 6	1004.0x05	A	41004	09	Test cancelled	20US-5442	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	FGS AC UPS-A
94	FC3 or 4 , 6	1004.0x06	A	41004	10	Test warning	20UA-5426	TEST WARNING	TEST WARNING	16 Bit	Bit	Bit	FGS AC UPS-A
95	FC3 or 4 , 6	1004.0x07	A	41004	11	Test error	20XA-5416	TEST ERROR	TEST ERROR	16 Bit	Bit	Bit	FGS AC UPS-A
96	FC3 or 4	2.0	A	40002	01	NonCriticalFault	20UA-5451	W: Collective warning	NON CRITICAL FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
97	FC3 or 4	3.0	A	40003	01	CriticalFault	20XA-5451	A: Collective alarm	CRITICAL FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
98	FC3 or 4	4.0	A	40004	01	Userdef_DigIn1Active	20US-5457	W:	USERDEF_DIGIN1ACTIVE	16 Bit	WORD	WORD	FGS AC UPS-B
99	FC3 or 4	5.0	A	40005	01	Userdef_DigIn2Active	20US-5458	W:	USERDEF_DIGIN2ACTIVE	16 Bit	WORD	WORD	FGS AC UPS-B
100	FC3 or 4	6.0	A	40006	01	Userdef_DigIn3Active	20US-5459	W:	USERDEF_DIGIN3ACTIVE	16 Bit	WORD	WORD	FGS AC UPS-B
101	FC3 or 4	7.0	A	40007	01	EmergencySwitchOff	20US-5460	A: UPS output off	EMERGENCYSWITCHOFF	16 Bit	WORD	WORD	FGS AC UPS-B
102	FC3 or 4	8.0	A	40008	01	DouCanFault	20XA-5452	W: DOU CAN fault	DOU CAN FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
103	FC3 or 4	9.0	A	40009	01	MainsFault	20XA-5453	W: Rectifier/bypass mains fault	MAINS FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
104	FC3 or 4	10.0	A	40010	01	RectifierWarning	20US-5461	W: Rectifier warning	RECTIFIER WARNING	16 Bit	WORD	WORD	FGS AC UPS-B
105	FC3 or 4	11.0	A	40011	01	RectifierFault	20XA-5454	A: Rectifier fault	RECTIFIER FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
106	FC3 or 4	12.0	A	40012	01	BatteryAlarm	20XA-5455	A: Battery fault	BATTERY ALARM	16 Bit	WORD	WORD	FGS AC UPS-B
107	FC3 or 4	13.0	A	40013	01	InverterWarning	20US-5462	W: Inverter warning	INVERTER WARNING	16 Bit	WORD	WORD	FGS AC UPS-B
108	FC3 or 4	14.0	A	40014	01	InverterFault	20XA-5456	A: Inverter fault	INVERTER FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
109	FC3 or 4	15.0	A	40015	01	SBSWarning	20US-5463	W: Bypass warning	SBS WARNING	16 Bit	WORD	WORD	FGS AC UPS-B
110	FC3 or 4	16.0	A	40016	01	SBSFault	20XA-5457	A: Bypass fault	SBS FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
111	FC3 or 4	17.0	A	40017	01	EqualisingCharge	20US-5464	I: Charger status – equalising charging	EQUALISING CHARGE	16 Bit	WORD	WORD	FGS AC UPS-B
112	FC3 or 4	18.0	A	40018	01	Charge	20UA-5477	I: Charger status – charging	CHARGE	16 Bit	WORD	WORD	FGS AC UPS-B
113	FC3 or 4	19.0	A	40019	01	TrickleCharge	20UA-5478	I: Charger status – trickle charging	TRICKLE CHARGE	16 Bit	WORD	WORD	FGS AC UPS-B
114	FC3 or 4	20.0	A	40020	01	GenSetOperation	20UA-5452	I: Charger status: Em. power supply "**O**"	GENSET OPERATION	16 Bit	WORD	WORD	FGS AC UPS-B
115	FC3 or 4	21.0	A	40021	01	BattTemp.SensFault	20XA-5458	W: Battery temp. sensor	BATT TEMP SENS FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
116	FC3 or 4	22.0	A	40022	01	BatteryTemp.ToHigh	20TA-5451	W: Battery temp. too high	BATTERY TEMP TOHIGH	16 Bit	WORD	WORD	FGS AC UPS-B
117	FC3 or 4	23.0	A	40023	01	CircuitBreaker	20XS-5451	W: Circuit-breaker tripped	CIRCUIT BREAKER	16 Bit	WORD	WORD	FGS AC UPS-B
118	FC3 or 4	24.0	A	40024	01	BatteryWarning	20US-5467	W: Battery warning	BATTERY WARNING	16 Bit	WORD	WORD	FGS AC UPS-B

AC -UPS FGS

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
119	FC3 or 4	25.0	A	40025	01	BatteryLow	20US-5468	W: Battery undervoltage	BATTERY LOW	16 Bit	WORD	WORD	FGS AC UPS-B
120	FC3 or 4	26.0	A	40026	01	Overload	20US-5469	W: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	FGS AC UPS-B
121	FC3 or 4	27.0	A	40027	01	FanFault	20XA-5459	W: Fan fault	FAN FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
122	FC3 or 4	28.0	A	40028	01	Overload	20UA-5453	A: Inverter overload	OVERLOAD	16 Bit	WORD	WORD	FGS AC UPS-B
123	FC3 or 4	29.0	A	40029	01	ShortCircuit	20US-5470	A: Inverter short-circuit	SHORT CIRCUIT	16 Bit	WORD	WORD	FGS AC UPS-B
124	FC3 or 4	30.0	A	40030	01	DcUnderVoltage	20US-5471	A: Inverter DC undervoltage	DC UNDER VOLTAGE	16 Bit	WORD	WORD	FGS AC UPS-B
125	FC3 or 4	31.0	A	40031	01	DcOverVoltage	20US-5472	A: Inverter DC overvoltage	DC OVER VOLTAGE	16 Bit	WORD	WORD	FGS AC UPS-B
126	FC3 or 4	32.0	A	40032	01	PowerStackOverTemp	20XA-5460	A: Inverter stack fault	POWER STACK OVERTEMP	16 Bit	WORD	WORD	FGS AC UPS-B
127	FC3 or 4	33.0	A	40033	01	SBSReady	20RDY5451	I: Bypass ready	SBS READY	16 Bit	WORD	WORD	FGS AC UPS-B
128	FC3 or 4	34.0	A	40034	01	SBSMainsFault	20XA-5461	W: Bypass mains fault	SBS MAINS FAULT	16 Bit	WORD	WORD	FGS AC UPS-B
129	FC3 or 4	35.0	A	40035	01	SBSBlocked	20US-5473	W: Bypass blocked	SBSB LOCKED	16 Bit	WORD	WORD	FGS AC UPS-B
130	FC3 or 4	36.0	A	40036	01	RectifierOn	20US-5474	I: Rectifier on	RECTIFIER ON	16 Bit	WORD	WORD	FGS AC UPS-B
131	FC3 or 4	37.0	A	40037	01	InverterOn	20US-5475	I: Inverter on	INVERTER ON	16 Bit	WORD	WORD	FGS AC UPS-B
132	FC3 or 4	38.0	A	40038	01	SBSOn	20US-5476	I: Bypass on	SBS ON	16 Bit	WORD	WORD	FGS AC UPS-B
133	FC3 or 4	65.0	A	40065	01	LIFE CHECK BIT	20US-5493	LIFE CHECK BIT	LIFE CHECK BIT	16 Bit	WORD	WORD	FGS AC UPS-B
134	FC3 or 4	66.0	A	40066		Userdef_AUX1 – Rect.	20UA-5454		USERDEF_AUX1 – RECT	16 Bit	WORD	WORD	FGS AC UPS-B
135	FC3 or 4	67.0	A	40067		Userdef_AUX2 – Rect.	20UA-5455		USERDEF_AUX2 – RECT	16 Bit	WORD	WORD	FGS AC UPS-B
136	FC3 or 4	68.0	A	40068		Userdef_AUX3 – Rect.	20UA-5456		USERDEF_AUX3 – RECT	16 Bit	WORD	WORD	FGS AC UPS-B
137	FC3 or 4	69.0	A	40069		Userdef_AUX4 – Rect.	20UA-5457		USERDEF_AUX4 – RECT	16 Bit	WORD	WORD	FGS AC UPS-B
138	FC3 or 4	70.0	A	40070		Userdef_AUX5 – Rect.	20UA-5458		USERDEF_AUX5 – RECT	16 Bit	WORD	WORD	FGS AC UPS-B
139	FC3 or 4	71.0	A	40071		Userdef_AUX6 – Rect.	20UA-5459		USERDEF_AUX6 – RECT	16 Bit	WORD	WORD	FGS AC UPS-B
140	FC3 or 4	72.0	A	40072		Userdef_AUX7– Rect.	20UA-5460		USERDEF_AUX7– RECT	16 Bit	WORD	WORD	FGS AC UPS-B
141	FC3 or 4	73.0	A	40073		Userdef_AUX1 – Inv.	20UA-5461		USERDEF_AUX1 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
142	FC3 or 4	74.0	A	40074		Userdef_AUX2 – Inv.	20UA-5462		USERDEF_AUX2 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
143	FC3 or 4	75.0	A	40075		Userdef_AUX3 – Inv.	20UA-5463		USERDEF_AUX3 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
144	FC3 or 4	76.0	A	40076		Userdef_AUX4 – Inv.	20UA-5464		USERDEF_AUX4 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
145	FC3 or 4	77.0	A	40077		Userdef_AUX5 – Inv.	20UA-5465		USERDEF_AUX5 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
146	FC3 or 4	78.0	A	40078		Userdef_AUX6 – Inv.	20UA-5466		USERDEF_AUX6 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
147	FC3 or 4	79.0	A	40079		Userdef_AUX7 – Inv.	20UA-5467		USERDEF_AUX7 – INV	16 Bit	WORD	WORD	FGS AC UPS-B
148	FC3 or 4	80.0	A	40080		Userdef_AUX1 – SBS	20UA-5468		USERDEF_AUX1 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
149	FC3 or 4	81.0	A	40081		Userdef_AUX2 – SBS	20UA-5469		USERDEF_AUX2 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
150	FC3 or 4	82.0	A	40082		Userdef_AUX3 – SBS	20UA-5470		USERDEF_AUX3 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
151	FC3 or 4	83.0	A	40083		Userdef_AUX4 – SBS	20UA-5471		USERDEF_AUX4 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
152	FC3 or 4	84.0	A	40084		Userdef_AUX5 – SBS	20UA-5472		USERDEF_AUX5 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
153	FC3 or 4	85.0	A	40085		Userdef_AUX6 – SBS	20UA-5473		USERDEF_AUX6 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
154	FC3 or 4	86.0	A	40086		Userdef_AUX7 – SBS	20UA-5474		USERDEF_AUX7 – SBS	16 Bit	WORD	WORD	FGS AC UPS-B
155	FC3 or 4 , 6	1000.0	A	41000	1								FGS AC UPS-B
156	FC3 or 4 , 6	1000.01	A	41000	2	ON	20HS-5452	ON	ON	16 Bit	Bit	Bit	FGS AC UPS-B
157	FC3 or 4 , 6	1000.02	A	41000	3	OFF	20HS-5453	OFF	OFF	16 Bit	Bit	Bit	FGS AC UPS-B
158	FC3 or 4 , 6	1000.09	A	41000	10	ACKNOWLEDGE FAULT	20HS-5454	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	FGS AC UPS-B
159	FC3 or 4 , 6	1000.10	A	41000	11	EQUALISING CHARGING	20HS-5455	EQUALISING CHARGING	EQUALISING CHARGING	16 Bit	Bit	Bit	FGS AC UPS-B
160	FC3 or 4 , 6	1000.11	A	41000	12	CHARGE	20HS-5456	CHARGE	CHARGE	16 Bit	Bit	Bit	FGS AC UPS-B
161	FC3 or 4 , 6	1000.12	A	41000	13	TRICKLE CHARGING	20HS-5457	TRICKLE CHARGING	TRICKLE CHARGING	16 Bit	Bit	Bit	FGS AC UPS-B
162	FC3 or 4 , 6	1001.0	A	41001	1					16 Bit	Bit	Bit	FGS AC UPS-B
163	FC3 or 4 , 6	1001.1	A	41001	2	ON	20HS-5466	ON	ON	16 Bit	Bit	Bit	FGS AC UPS-B
164	FC3 or 4 , 6	1001.2	A	41001	3	OFF	20HS-5467	OFF	OFF	16 Bit	Bit	Bit	FGS AC UPS-B
165	FC3 or 4 , 6	1001.03	A	41001	4	Eco mode	20HS-5468	ECO MODE	ECO MODE	16 Bit	Bit	Bit	FGS AC UPS-B
166	FC3 or 4 , 6	1001.09	A	41001	10	acknowledge fault	20HS-5469	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	FGS AC UPS-B
167	FC3 or 4 , 6	1002.0	A	41002	1					16 Bit	Bit	Bit	FGS AC UPS-B
168	FC3 or 4 , 6	1002.9	A	41002	10	acknowledge fault	20HS-5459	ACKNOWLEDGE FAULT	ACKNOWLEDGE FAULT	16 Bit	Bit	Bit	FGS AC UPS-B
169	FC3 or 4 , 6	1003.0	A	41003	01					16 Bit	Bit	Bit	FGS AC UPS-B
170	FC3 or 4 , 6	1003.0x 01	A	41003	02	Start test	20HS-5461	START TEST	START TEST	16 Bit	Bit	Bit	FGS AC UPS-B
171	FC3 or 4 , 6	1003.0x 02	A	41003	03	Cancel test	20HS-5462	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	FGS AC UPS-B
172	FC3 or 4 , 6	1003.0x 00	A	41003	04	Test not implemented	20US-5481	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	FGS AC UPS-B
173	FC3 or 4 , 6	1003.0x01	A	41003	05	Test impl., waiting for approva	20US-5482	TEST IMPL WAITNG APPRV	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	FGS AC UPS-B
174	FC3 or 4 , 6	1003.0x02	A	41003	06	Test approved	20US-5483	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	FGS AC UPS-B
175	FC3 or 4 , 6	1003.0x03	A	41003	07	Test running	20US-5484	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	FGS AC UPS-B
176	FC3 or 4 , 6	1003.0x04	A	41003	08	Test successful	20US-5485	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	FGS AC UPS-B
177	FC3 or 4 , 6	1003.0x05	A	41003	09	Test cancelled	20US-5486	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	FGS AC UPS-B
178	FC3 or 4 , 6	1003.0x06	A	41003	10	Test warning	20UA-5475	TEST WARNING	TEST WARNING	16 Bit	Bit	Bit	FGS AC UPS-B
179	FC3 or 4 , 6	1003.0x07	A	41003	11	Test error	20XA-5465	TEST ERROR	TEST ERROR	16 Bit	Bit	Bit	FGS AC UPS-B
180	FC3 or 4 , 6	1004.0	A	41004	01					16 Bit	Bit	Bit	FGS AC UPS-B

AC -UPS FGS

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
181	FC3 or 4 , 6	1004.0x 00	A	41004	02	Start test	20HS-5463	START TEST	START TEST	16 Bit	Bit	Bit	FGS AC UPS-B
182	FC3 or 4 , 6	1004.0x 01	A	41004	03	Cancel test	20HS-5464	CANCEL TEST	CANCEL TEST	16 Bit	Bit	Bit	FGS AC UPS-B
183	FC3 or 4 , 6	1004.0x 00	A	41004	04	Test not implemented	20US-5487	TEST NOT IMPLEMENTED	TEST NOT IMPLEMENTED	16 Bit	Bit	Bit	FGS AC UPS-B
184	FC3 or 4 , 6	1004.0x01	A	41004	05	Test impl., waiting for approva	20US-5488	TEST IMPL WAITING FOR AP	TEST IMPL., WAITING FOR APPROVA	16 Bit	Bit	Bit	FGS AC UPS-B
185	FC3 or 4 , 6	1004.0x02	A	41004	06	Test approved	20US-5489	TEST APPROVED	TEST APPROVED	16 Bit	Bit	Bit	FGS AC UPS-B
186	FC3 or 4 , 6	1004.0x03	A	41004	07	Test running	20US-5490	TEST RUNNING	TEST RUNNING	16 Bit	Bit	Bit	FGS AC UPS-B
187	FC3 or 4 , 6	1004.0x04	A	41004	08	Test successful	20US-5491	TEST SUCCESSFUL	TEST SUCCESSFUL	16 Bit	Bit	Bit	FGS AC UPS-B
188	FC3 or 4 , 6	1004.0x05	A	41004	09	Test cancelled	20US-5492	TEST CANCELLED	TEST CANCELLED	16 Bit	Bit	Bit	FGS AC UPS-B
189	FC3 or 4 , 6	1004.0x06	A	41004	10	Test warning	20UA-5476	TEST WARNING	TEST WARNING	16 Bit	Bit	Bit	FGS AC UPS-B
190	FC3 or 4 , 6	1004.0x07	A	41004	11	Test error	20XA-5466	TEST ERROR	TEST ERROR	16 Bit	Bit	Bit	FGS AC UPS-B

CI Server Modbus

No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	3 OR 4	00001	A	40001	-		1=87-XA-082 server panel supply and dode 2= 87-XA-083 server panel Cumulative Breaker Fault 4= 87-XA-084 =Server pane High temperature Alarm		0	65535						0	65535	16 Bit	UINT	WORD	Cabinet alarms

WATER TREATMENT PACKAGE

No.	MODBUS Device Type	Vendor MODBUS Address	DCS Function Code	PCS MODBUS Address	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Cal. Range Min. Value	Cal. Range Max. Value	Engg. Unit	Alarm LL	Alarm L	Alarm H	Alarm HH	MB Raw Data count Min.	MB Raw Data count Max.	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	FC3	40001	A	40001	_50AT020A	50AI-020A	H2 gas detection in container	H2 GAS DETECTION CONTNR	0	100	%LEL					0	65535	16 Bit	UINT		
2	FC3	40003	A	40003	_50AT020B	50AI-020B	H2 gas detection in container	H2 GAS DETECTION CONTNR	0	100	%LEL					0	65535	16 Bit	UINT		
3	FC3	40005	A	40005	_50AT020C	50AI-020C	H2 gas detection in container	H2 GAS DETECTION CONTNR	0	100	%LEL					0	65535	16 Bit	UINT		
4	FC3	40007	A	40007	_50AT023	50AI-023	Filtered seawater conductivity to P-50003A/B	FLT SEAWTR CNDTY P50003A	0	80000	uS/cm					0	65535	16 Bit	UINT		
5	FC3	40009	A	40009	_50AT024	50AI-024	Fresh water conductivity from A-50007A/B	FRSH WTR CNDTY A50007A/B	0	1000	uS/cm					0	65535	16 Bit	UINT		
6	FC3	40011	A	40011	_50AT026	50AI-026	Fresh water outlet total hardness	FRSH WTR OLHARDNES CaCO3	0	25	PPM					0	65535	16 Bit	UINT		
7	FC3	40013	A	40013	_50AT027	50AI-027	Fresh water outlet pH	FRESH WTR OL PH	0	14	PH					0	65535	16 Bit	UINT		
8	FC3	40015	A	40015	_50FT020	50FI-020	Seawater flow to S-50001	SEAWTR FLOW - S-50001	0	8	M3/H					0	65535	16 Bit	UINT		
9	FC3	40019	A	40019	_50FT022	50FI-022	Filtered seawater flow from P-50003A	FLT SEAWTR FLOW P-50003A	0	4	M3/H					0	65535	16 Bit	UINT		
10	FC3	40021	A	40021	_50FT023	50FI-023	Filtered seawater flow from P-50003B	FLT SEAWTR FLOW P50003B	0	2	M3/H					0	65535	16 Bit	UINT		
11	FC3	40023	A	40023	_50FT024	50FI-024	Fresh water flow from A-50007A/B	FRSH WTR FLW A-50007A/B	0	2	M3/H					0	65535	16 Bit	UINT		
12	FC3	40017	A	40017	_50FT026	50FI-026	Fresh water outlet flow	FRESH WTR OL FLOW	0	100	%L					0	65535	16 Bit	UINT		
13	FC3	40025	A	40025	_50LT020	50LI-020	T-50006 level	T-50006 LEVEL	0	1800	MM					0	65535	16 Bit	UINT		
14	FC3	40027	A	40027	_50LT021	50LI-021	T-50008 level	T-50008 LEVEL	0	1800	MM					0	65535	16 Bit	UINT		
15	FC3	40029	A	40029	_50LT022	50LI-022	T-50002 level	T-50002 LEVEL	0	1000	MM					0	65535	16 Bit	UINT		
16	FC3	40031	A	40031	_50LT023	50LI-023	T-50003 level	T-50003 LEVEL	0	500	MM					0	65535	16 Bit	UINT		
17	FC3	40033	A	40033	_50LT024	50LI-024	T-50004 level	T-50004 LEVEL	0	1000	MM					0	65535	16 Bit	UINT		
18	FC3	40035	A	40035	_50PDT023	50PDI-023	dP across S-50001	DP ACROSS S-50001	0	1	bar					0	65535	16 Bit	UINT		
19	FC3	40037	A	40037	_50PT020	50PI-020	Seawater inlet pressure	SEAWTR IL PR	0	6	bar					0	65535	16 Bit	UINT		
20	FC3	40039	A	40039	_50PT025	50PI-025	Filtered seawater pressure from P-50003A	FLT SEAWTR PR - P-50003A	0	6	bar					0	65535	16 Bit	UINT		
21	FC3	40041	A	40041	_50PT026	50PI-026	Filtered seawater pressure to P-50004A	FLT SEAWTR PR - P-50004A	0	6	bar					0	65535	16 Bit	UINT		
22	FC3	40043	A	40043	_50PT027	50PI-027	Filtered seawater pressure from P-50003B	FLT SEAWTR PR - P-50003B	0	6	bar					0	65535	16 Bit	UINT		
23	FC3	40045	A	40045	_50PT028	50PI-028	Filtered seawater pressure to P-50004B	FLT SEAWTR PR - P-50004B	0	6	bar					0	65535	16 Bit	UINT		
24	FC3	40047	A	40047	_50PT030	50PI-030	Filtered seawater pressure from P-50004A	FLT SEAWTR PR - P-50004A	0	100	bar					0	65535	16 Bit	UINT		
25	FC3	40049	A	40049	_50PT032	50PI-032	Filtered seawater pressure from P-50004B	FLT SEAWTR PR - P-50004B	0	100	bar					0	65535	16 Bit	UINT		
26	FC3	40051	A	40051	_50PT041	50PI-041	Fresh water outlet pressure	FRESH WTR OL PR	0	6	bar					0	65535	16 Bit	UINT		
27	FC3	40053	A	40053	_50PT047	50PI-047	Softening filter inlet pressure	SOFTENING FLT IL PR	0	6	bar					0	65535	16 Bit	UINT		
28	FC3	40055	A	40055	_50SIP50004A	50SIP-5004A	HP pump speed feedback	HP PMP SPEED FEEDBACK	0	100	%					0	65535	16 Bit	UINT		
29	FC3	40057	A	40057	_50SIP50004B	50SIP-5004B	HP pump speed feedback	HP PMP SPEED FEEDBACK	0	100	%					0	65535	16 Bit	UINT		
30	FC3	40059	A	40059	_50TT021	50TI-021	Seawater temperature from H-50001	SEAWTR TMP - H-50001	0	50	degC					0	65535	16 Bit	UINT		
31	FC3	40061	A	40061	_50TT022	50TI-022	Seawater temperature from H-50001	SEAWTR TMP - H-50001	0	50	degC					0	65535	16 Bit	UINT		
32	FC3	40063	A	40063	_50TT023	50TI-023	Ambient air temperature inside container	AMBT AIR TMP INSIDE CONT	0	50	degC					0	65535	16 Bit	UINT		
33	FC3	40065	A	40065	_50TT024	50TI-024	Fresh water outlet temperature	FRESH WTR OL TMP	0	50	degC					0	65535	16 Bit	UINT		

WATER TREATMENT PACKAGE

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
1	FC3	40101	A	40101	0	_50AT023_H	50AI023-H	Filtered seawater conductivity to P-50003A/B high	FLTED SEAWTRP50003A_B HI	16 Bit	Bit	Bit	
2	FC3	40101	A	40101	1	_50AT024_H	50AI024-H	Fresh water conductivity from A-50007A/B high	A50007A_B CNDTY HI	16 Bit	Bit	Bit	
3	FC3	40101	A	40101	2	_50AT024_HH	50AI024-HH	Fresh water conductivity from A-50007A/B very high	A50007A_B CNDTY HH	16 Bit	Bit	Bit	
4	FC3	40101	A	40101	3	_50AT026_H	50AI026-H	Fresh water outlet total hardness high	FRSH WTR OL HARDNESS HI	16 Bit	Bit	Bit	
5	FC3	40101	A	40101	4	_50AT026_HH	50AI026-HH	Fresh water outlet total hardness very high	FRSH WTR OL HARDNESS HH	16 Bit	Bit	Bit	
6	FC3	40101	A	40101	5	_50AT027_LL	50AI027-LL	Fresh water outlet pH very low	FRSH WTR OL PH VERY LO	16 Bit	Bit	Bit	
7	FC3	40101	A	40101	6	_50AT027_L	50AI027-L	Fresh water outlet pH low	FRSH WTR OL PH LO	16 Bit	Bit	Bit	
8	FC3	40101	A	40101	7	_50AT027_H	50AI027-H	Fresh water outlet pH high	FRSH WTR OL PH HI	16 Bit	Bit	Bit	
9	FC3	40101	A	40101	8	_50AT027_HH	50AI027-HH	Fresh water outlet pH very high	FRSH WTR OL PH HH	16 Bit	Bit	Bit	
10	FC3	40101	A	40101	9	_50FT020_L	50FI020-L	Seawater flow to S-50001 low	SEAWTR FLW - S50001 LO	16 Bit	Bit	Bit	
11	FC3	40101	A	40101	10	_50FT020_H	50FI020-H	Seawater flow to S-50001 high	SEAWTR FLW - S50001 HI	16 Bit	Bit	Bit	
12	FC3	40101	A	40101	11	_50FT022_L	50FI022-L	Filtered seawater flow from P-50003A low	FLTED SEAWTRP50003A LO	16 Bit	Bit	Bit	
13	FC3	40101	A	40101	12	_50FT022_H	50FI022-H	Filtered seawater flow from P-50003A high	FLTED SEAWTRP50003A HI	16 Bit	Bit	Bit	
14	FC3	40101	A	40101	13	_50FT023_L	50FI023-L	Filtered seawater flow from P-50003B low	FLTED SEAWTRP50003A LO	16 Bit	Bit	Bit	
15	FC3	40101	A	40101	14	_50FT023_H	50FI023-H	Filtered seawater flow from P-50003B high	FLTED SEAWTRP50003A HI	16 Bit	Bit	Bit	
16	FC3	40101	A	40101	15	_50FT024_L	50FI024-L	Fresh water flow from A-50007A/B low	FRSH WTR FLWA50007A_B LO	16 Bit	Bit	Bit	
17	FC3	40102	A	40102	0	_50FT026_L	50FI026-L	Fresh water outlet flow low	FRSH WTR OL FLW LO	16 Bit	Bit	Bit	
18	FC3	40102	A	40102	1	_50LT020_LL	50LI020-LL	T-50006 level very low	T50006 LEVEL VERY LOW	16 Bit	Bit	Bit	
19	FC3	40102	A	40102	2	_50LT020_L	50LI020-L	T-50006 level low	T50006 LEVEL LOW	16 Bit	Bit	Bit	
20	FC3	40102	A	40102	3	_50LT020_H	50LI020-H	T-50006 level high	T50006 LEVEL HIGH	16 Bit	Bit	Bit	
21	FC3	40102	A	40102	4	_50LT021_LL	50LI021-LL	T-50008 level very low	T50008 LEVEL VERY LOW	16 Bit	Bit	Bit	
22	FC3	40102	A	40102	5	_50LT021_L	50LI021-L	T-50008 level low	T50008 LEVEL LOW	16 Bit	Bit	Bit	
23	FC3	40102	A	40102	6	_50LT021_H	50LI021-H	T-50008 level high	T50008 LEVEL HIGH	16 Bit	Bit	Bit	
24	FC3	40102	A	40102	7	_50LT022_LL	50LI022-LL	T-50002 level very low	T50002 LEVEL VERY LOW	16 Bit	Bit	Bit	
25	FC3	40102	A	40102	8	_50LT022_L	50LI022-L	T-50002 level low	T50002 LEVEL LOW	16 Bit	Bit	Bit	
26	FC3	40102	A	40102	9	_50LT023_LL	50LI023-LL	T-50003 level very low	T50003 LEVEL VERY LOW	16 Bit	Bit	Bit	
27	FC3	40102	A	40102	10	_50LT023_LL	50LI023-L	T-50003 level low	T50003 LEVEL LOW	16 Bit	Bit	Bit	
28	FC3	40102	A	40102	11	_50LT024_LL	50LI024-LL	T-50004 level very low	T50004 LEVEL VERY LOW	16 Bit	Bit	Bit	
29	FC3	40102	A	40102	12	_50LT024_L	50LI024-L	T-50004 level low	T50004 LEVEL LOW	16 Bit	Bit	Bit	
30	FC3	40102	A	40102	13	_50PDT023_H	50PDI023-H	dP across S-50001 high	DP ACROSS S50001 HIGH	16 Bit	Bit	Bit	
31	FC3	40102	A	40102	14	_50PT020_L	50PI020-L	Seawater inlet pressure low	SEAWTR IL PRS LO	16 Bit	Bit	Bit	
32	FC3	40102	A	40102	15	_50PT025_L	50PI025-L	Filtered seawater pressure from P-50003A low	FLTED SEAWTR P50003A LO	16 Bit	Bit	Bit	
33	FC3	40103	A	40103	0	_50PT026_L	50PI026-L	Filtered seawater pressure to P-50004A low	FLTED SEAWTR- P50004A LO	16 Bit	Bit	Bit	
34	FC3	40103	A	40103	1	_50PT027_L	50PI027-L	Filtered seawater pressure from P-50003B low	FLTED SEAWTR P50003B LO	16 Bit	Bit	Bit	
35	FC3	40103	A	40103	2	_50PT028_L	50PI028-L	Filtered seawater pressure to P-50004B low	FLTED SEAWTR- P50004B LO	16 Bit	Bit	Bit	
36	FC3	40103	A	40103	3	_50PT030_L	50PI030-L	Filtered seawater pressure from P-50004A low	FLTED SEAWTR P50004A LO	16 Bit	Bit	Bit	
37	FC3	40103	A	40103	4	_50PT030_H	50PI030-H	Filtered seawater pressure from P-50004A high	FLTED SEAWTR P50004A HI	16 Bit	Bit	Bit	
38	FC3	40103	A	40103	5	_50PT032_L	50PI032-L	Filtered seawater pressure from P-50004B low	FLTED SEAWTR P50004B LO	16 Bit	Bit	Bit	
39	FC3	40103	A	40103	6	_50PT032_H	50PI032-H	Filtered seawater pressure from P-50004B high	FLTED SEAWTR P50004B HI	16 Bit	Bit	Bit	
40	FC3	40103	A	40103	7	_50PT041_L	50PI041-L	Fresh water outlet pressure low	FRSH WTR OL PRS LO	16 Bit	Bit	Bit	
41	FC3	40103	A	40103	8	_50PT041_H	50PI041-H	Fresh water outlet pressure high	FRSH WTR OL PRS HI	16 Bit	Bit	Bit	
42	FC3	40103	A	40103	9	_50PT047_L	50PI047-L	Softening filter inlet pressure low	SOFTN FLT ILPRS LO	16 Bit	Bit	Bit	
43	FC3	40103	A	40103	10	_50PT047_H	50PI047-H	Softening filter inlet pressure high	SOFTN FLT ILPRS HI	16 Bit	Bit	Bit	
44	FC3	40103	A	40103	11	_50TT022_L	50TI022-L	Seawater temperature from H-50001 low	SEAWTR TMP FRM H50001 LO	16 Bit	Bit	Bit	
45	FC3	40103	A	40103	12	_50TT022_H	50TI022-H	Seawater temperature from H-50001 high	SEAWTR TMP FRM H50001 HI	16 Bit	Bit	Bit	
46	FC3	40103	A	40103	13	_50TT022_HH	50TI022-HH	Seawater temperature from H-50001 very high	SEAWTR TMP H50001 HH	16 Bit	Bit	Bit	
47	FC3	40111	A	40111	0	_50XV020_O	50XV-020_O	Seawater inlet valve open	SEAWTR IL VLV OPN	16 Bit	Bit	Bit	
48	FC3	40111	A	40111	1	_50XV020_C	50XV-020_C	Seawater inlet valve closed	SEAWTR IL VLV CLS	16 Bit	Bit	Bit	
49	FC3	40111	A	40111	2	_50XV020_F	50XV-020_FALM	Seawater inlet valve failure	SEAWTR IL VLV FAIL	16 Bit	Bit	Bit	
50	FC3	40111	A	40111	3	_50XV021_O	50XV-021_O	P-50003A suction valve open	P50003A SUCTVLV OPN	16 Bit	Bit	Bit	
51	FC3	40111	A	40111	4	_50XV021_C	50XV-021_C	P-50003A suction valve closed	P50003A SUCTVLV CLS	16 Bit	Bit	Bit	
52	FC3	40111	A	40111	5	_50XV021_F	50XV-021_FALM	P-50003A suction valve failure	P50003A SUCTVLV FAIL	16 Bit	Bit	Bit	
53	FC3	40111	A	40111	6	_50XV022_O	50XV-022_O	P-50003B suction valve open	P50003B SUCTVLV OPN	16 Bit	Bit	Bit	
54	FC3	40111	A	40111	7	_50XV022_C	50XV-022_C	P-50003B suction valve closed	P50003B SUCTVLV CLS	16 Bit	Bit	Bit	
55	FC3	40111	A	40111	8	_50XV022_F	50XV-022_FALM	P-50003B suction valve failure	P50003B SUCTVLV FAIL	16 Bit	Bit	Bit	
56	FC3	40111	A	40111	9	_50XV023_O	50XV-023_O	P-50003A flushing valve open	P50003A FLSHVLV OPN	16 Bit	Bit	Bit	
57	FC3	40111	A	40111	10	_50XV023_C	50XV-023_C	P-50003A flushing valve closed	P50003A FLSHVLV CLS	16 Bit	Bit	Bit	
58	FC3	40111	A	40111	11	_50XV023_F	50XV-023_FALM	P-50003A flushing valve failure	P50003A FLSHVLV FAIL	16 Bit	Bit	Bit	
59	FC3	40111	A	40111	12	_50XV024_O	50XV-024_O	P-50003B flushing valve open	P50003B FLSHVLV OPN	16 Bit	Bit	Bit	
60	FC3	40111	A	40111	13	_50XV024_C	50XV-024_C	P-50003B flushing valve closed	P50003B FLSHVLV CLS	16 Bit	Bit	Bit	
61	FC3	40111	A	40111	14	_50XV024_F	50XV-024_FALM	P-50003B flushing valve failure	P50003B FLSHVLV FAIL	16 Bit	Bit	Bit	
62	FC3	40111	A	40111	15	_50XV025_O	50XV-025_O	Fresh water from A-50007A/B valve open	A50007A_B VLV OPN	16 Bit	Bit	Bit	
63	FC3	40112	A	40112	0	_50XV025_C	50XV-025_C	Fresh water from A-50007A/B valve closed	A50007A_B VLV CLS	16 Bit	Bit	Bit	
64	FC3	40112	A	40112	1	_50XV025_F	50XV-025_FALM	Fresh water from A-50007A/B valve failure	A50007A_B VLV FAIL	16 Bit	Bit	Bit	
65	FC3	40112	A	40112	2	_50XV026_O	50XV-026_O	Fresh water drain from A-50007A/B valve open	FRSH WTR DRNA50007AB OPN	16 Bit	Bit	Bit	
66	FC3	40112	A	40112	3	_50XV026_C	50XV-026_C	Fresh water drain from A-50007A/B valve closed	FRSH WTR DRNA50007AB CLS	16 Bit	Bit	Bit	
67	FC3	40112	A	40112	4	_50XV026_F	50XV-026_FALM	Fresh water drain from A-50007A/B valve failure	FRSH WTR DRNA50007AB FAL	16 Bit	Bit	Bit	
68	FC3	40112	A	40112	5	_50XV027_O	50XV-027_O	Brine from A-50007A valve open	BRN VLV A50007A OPN	16 Bit	Bit	Bit	
69	FC3	40112	A	40112	6	_50XV027_C	50XV-027_C	Brine from A-50007A valve closed	BRN VLV A50007A CLS	16 Bit	Bit	Bit	
70	FC3	40112	A	40112	7	_50XV027_F	50XV-027_FALM	Brine from A-50007A valve failure	BRN VLV A50007A FAIL	16 Bit	Bit	Bit	
71	FC3	40112	A	40112	8	_50XV028_O	50XV-028_O	Fresh water from A-50007B valve open	FRSH WTR VLVA50007B OPN	16 Bit	Bit	Bit	
72	FC3	40112	A	40112	9	_50XV028_C	50XV-028_C	Fresh water from A-50007B valve closed	FRSH WTR VLVA50007B CLS	16 Bit	Bit	Bit	
73	FC3	40112	A	40112	10	_50XV028_F	50XV-028_FALM	Fresh water from A-50007B valve failure	FRSH WTR VLVA50007B FAIL	16 Bit	Bit	Bit	
74	FC3	40112	A	40112	11	_50XV029_O	50XV-029_O	Fresh water drain from A-50007B valve open	FRSH WTR DRNA50007B OPN	16 Bit	Bit	Bit	
76	FC3	40112	A	40112	12	_50XV029_C	50XV-029_C	Fresh water drain from A-50007B valve closed	FRSH WTR DRNA50007B CLS	16 Bit	Bit	Bit	
77	FC3	40112	A	40112	13	_50XV029_F	50XV-029_FALM	Fresh water drain from A-50007B valve failure	FRSH WTR DRNA50007B FAIL	16 Bit	Bit	Bit	
78	FC3	40112	A	40112	14	_50XV030_O	50XV-030_O	Brine from A-50007B valve open	BRN VLV A50007B OPN	16 Bit	Bit	Bit	
79	FC3	40112	A	40112	15	_50XV030_C	50XV-030_C	Brine from A-50007B valve closed	BRN VLV A50007B CLS	16 Bit	Bit	Bit	
80	FC3	40113	A	40113	0	_50XV030_F	50XV-030_FALM	Brine from A-50007B valve failure	BRN VLV A50007B FAIL	16 Bit	Bit	Bit	
81	FC3	40113	A	40113	1	_50XV031_O	50XV-031_O	Fresh water outlet valve open	FRSH WTR OL VLV OPN	16 Bit	Bit	Bit	
82	FC3	40113	A	40113	2	_50XV031_C	50XV-031_C	Fresh water outlet valve closed	FRSH WTR OL VLV CLS	16 Bit	Bit	Bit	
83	FC3	40113	A	40113	3	_50XV031_F	50XV-031_FALM	Fresh water outlet valve failure	FRSH WTR OL VLV FAIL	16 Bit	Bit	Bit	
84	FC3	40113	A	40113	4	_50XV032_O	50XV-032_O	Fresh water off-spec valve open	FRSH WTR VLVOFFSPEC OPN	16 Bit	Bit	Bit	
85	FC3	40113	A	40113	5	_50XV032_C	50XV-032_C	Fresh water off-spec valve closed	FRSH WTR VLVOFFSPEC CLS	16 Bit	Bit	Bit	
86	FC3	40113	A	40113	6	_50XV032_F	50XV-032_FALM	Fresh water off-spec valve failure	FRSH WTR VLVOFFSPEC FAIL	16 Bit	Bit	Bit	
87	FC3	40121	A	40121	0	_50P50002A_R	50P50002A_R	Backwash pump running	BCK WSH PMP RUNNING	16 Bit	Bit	Bit	

WATER TREATMENT PACKAGE

No.	MODBUS Device Type	Vendor MODBUS Address	PCS Function Code	PCS MODBUS Address	PCS MODBUS Address BIT	Vendor Tag Name	PCS Tag Name	Vendor Tag Description	PCS Tag Description (Tag comment1- 12 char, Tag comment2- 12 Char)	Data Size	PCS Data Type	Vendor Data Type	Remarks
88	FC3	40121	A	40121	1	_50P50002A_F	50P50002A_FALM	Backwash pump failure	BCK WSH PMP FAILURE	16 Bit	Bit	Bit	
89	FC3	40121	A	40121	2	_50P50002B_R	50P50002B_R	Backwash pump running	BCK WSH PMP RUNNING	16 Bit	Bit	Bit	
90	FC3	40121	A	40121	3	_50P50002B_F	50P50002B_FALM	Backwash pump failure	BCK WSH PMP FAILURE	16 Bit	Bit	Bit	
91	FC3	40121	A	40121	4	_50P50003A_R	50P50003A_R	SW booster pump running	SW BSTR PMP RUNNING	16 Bit	Bit	Bit	
92	FC3	40121	A	40121	5	_50P50003A_F	50P50003A_FALM	SW booster pump failure	SW BSTR PMP FAILURE	16 Bit	Bit	Bit	
93	FC3	40121	A	40121	6	_50P50003B_R	50P50003B_R	SW booster pump running	SW BSTR PMP RUNNING	16 Bit	Bit	Bit	
94	FC3	40121	A	40121	7	_50P50003B_F	50P50003B_FALM	SW booster pump failure	SW BSTR PMP FAILURE	16 Bit	Bit	Bit	
95	FC3	40121	A	40121	8	_50P50004A_R	50P50004A_R	HP pump running	HP PMP RUNNING	16 Bit	Bit	Bit	
96	FC3	40121	A	40121	9	_50P50004A_F	50P50004A_FALM	HP pump failure	HP PMP FAILURE	16 Bit	Bit	Bit	
97	FC3	40121	A	40121	10	_50P50004B_R	50P50004B_R	HP pump running	HP PMP RUNNING	16 Bit	Bit	Bit	
98	FC3	40121	A	40121	11	_50P50004B_F	50P50004B_FALM	HP pump failure	HP PMP FAILURE	16 Bit	Bit	Bit	
99	FC3	40121	A	40121	12	_50P50005A_R	50P50005A_R	Caustic soda dosing pump running	CAUSTIC SODADOSING PMP	16 Bit	Bit	Bit	
100	FC3	40121	A	40121	13	_50P50005A_F	50P50005A_FALM	Caustic soda dosing pump failure	CAUSTIC SODADSING PMP FL	16 Bit	Bit	Bit	
101	FC3	40121	A	40121	14	_50P50005B_R	50P50005B_R	Caustic soda dosing pump running	CAUSTIC SODADOSING PMP	16 Bit	Bit	Bit	
102	FC3	40121	A	40121	15	_50P50005B_F	50P50005B_FALM	Caustic soda dosing pump failure	CAUSTIC SODADSING PMP FL	16 Bit	Bit	Bit	
103	FC3	40122	A	40122	0	_50P50006A_R	50P50006A_R	Antiscalant dosing pump running	ANTISCALANT DOSING PMP	16 Bit	Bit	Bit	
104	FC3	40122	A	40122	1	_50P50006A_F	50P50006A_FALM	Antiscalant dosing pump failure	ANTISCALANT DSING PMP FL	16 Bit	Bit	Bit	
105	FC3	40122	A	40122	2	_50P50006B_R	50P50006B_R	Antiscalant dosing pump running	ANTISCALANT DOSING PMP	16 Bit	Bit	Bit	
106	FC3	40122	A	40122	3	_50P50006B_F	50P50006B_FALM	Antiscalant dosing pump failure	ANTISCALANT DSING PMP FL	16 Bit	Bit	Bit	
107	FC3	40122	A	40122	4	_50P50007A_R	50P50007A_R	Non-oxidant biocide dosing pump - container inlet running	BIOCIDE DSNGPMPCONTNR IL	16 Bit	Bit	Bit	
108	FC3	40122	A	40122	5	_50P50007A_F	50P50007A_FALM	Non-oxidant biocide dosing pump - container inlet failure	BIOCID DSNG CNTR IL FAIL	16 Bit	Bit	Bit	
109	FC3	40122	A	40122	6	_50P50007B_R	50P50007B_R	Non-oxidant biocide dosing pump - container inlet running	BIOCIDE DSNGPMPCONTNR IL	16 Bit	Bit	Bit	
110	FC3	40122	A	40122	7	_50P50007B_F	50P50007B_FALM	Non-oxidant biocide dosing pump - container inlet failure	BIOCID DSNG CNTR IL FAIL	16 Bit	Bit	Bit	
111	FC3	40122	A	40122	8	_50P50008A_R	50P50008A_R	Non-oxidant biocide dosing pump - sea water intake running	BIOCID DSNG PMP SWTR IN	16 Bit	Bit	Bit	
112	FC3	40122	A	40122	9	_50P50008A_F	50P50008A_FALM	Non-oxidant biocide dosing pump - sea water intake failure	BIOCIDE DSNG SWTR IN F	16 Bit	Bit	Bit	
113	FC3	40122	A	40122	10	_50P50008B_R	50P50008B_R	Non-oxidant biocide dosing pump - sea water intake running	BIOCID DSNG PMP SWTR IN	16 Bit	Bit	Bit	
114	FC3	40122	A	40122	11	_50P50008B_F	50P50008B_FALM	Non-oxidant biocide dosing pump - sea water intake failure	BIOCIDE DSNG SWTR IN F	16 Bit	Bit	Bit	
115	FC3	40122	A	40122	12	_50P50009A_R	50P50009A_R	Fresh water pump running	FRSH WTR PMP RUNNING	16 Bit	Bit	Bit	
116	FC3	40122	A	40122	13	_50P50009A_F	50P50009A_FALM	Fresh water pump failure	FRSH WTR PMP FAILURE	16 Bit	Bit	Bit	
117	FC3	40122	A	40122	14	_50P50009B_R	50P50009B_R	Fresh water pump running	FRSH WTR PMP RUNNING	16 Bit	Bit	Bit	
118	FC3	40122	A	40122	15	_50P50009B_F	50P50009B_FALM	Fresh water pump failure	FRSH WTR PMP FAILURE	16 Bit	Bit	Bit	
119	FC3	40123	A	40123	0	_50P50010A_R	50P50010A_R	Non-oxidant biocide dosing pump - waste water tank running	BIOCIDE DSNGPMP WST TK	16 Bit	Bit	Bit	
120	FC3	40123	A	40123	1	_50P50010A_F	50P50010A_FALM	Non-oxidant biocide dosing pump - waste water tank failure	BIOCIDE DSNGPMP WST TK F	16 Bit	Bit	Bit	
121	FC3	40123	A	40123	2	_50P50010B_R	50P50010B_R	Non-oxidant biocide dosing pump - waste water tank running	BIOCIDE DSNGPMP WST TK	16 Bit	Bit	Bit	
122	FC3	40123	A	40123	3	_50P50010B_F	50P50010B_FALM	Non-oxidant biocide dosing pump - waste water tank failure	BIOCIDE DSNGPMP WST TK F	16 Bit	Bit	Bit	
123													
124	FC3	40131	A	40131	0	_50H50003A_A	50H50003A_A	Container electrical heater start/stop command	CONT ELEC HTSTRT_STP CMD	16 Bit	Bit	Bit	
125	FC3	40131	A	40131	1	_50H50003B_A	50H50003B_A	Container electrical heater start/stop command	CONT ELEC HTSTRT_STP CMD	16 Bit	Bit	Bit	
126	FC3	40131	A	40131	2	_50HFA50001A_A	50HFA50001A_A	Container air fan start/stop command	CONT AIR FANSTRT_STP CMD	16 Bit	Bit	Bit	
127	FC3	40131	A	40131	3	_50HFA50001B_A	50HFA50001B_A	Container air fan start/stop command	CONT AIR FANSTRT_STP CMD	16 Bit	Bit	Bit	
128	FC3	40131	A	40131	4	_50A50003_A	50A50003_A	Seawater coarse filter regeneration command	SEAWTR CRSE FLT REGN CMD	16 Bit	Bit	Bit	
129	FC3	40131	A	40131	5	_50S50001_A	50S50001_A	Sand filter regeneration command	SAND FLT REGEN CMD	16 Bit	Bit	Bit	
130	FC3	40131	A	40131	6	_50S50004_A	50S50004_A	Softening Filter regeneration command	SOFTN FLT REGEN CMD	16 Bit	Bit	Bit	
131	FC3	40131	A	40131	7	_50S50010_A	50S50010_A	UV sterilizer start/stop command	UV STERILIZESTRT_STP CMD	16 Bit	Bit	Bit	

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PHIPTOC1_Op	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PHIPTOC1_Op	20XS-5017	BOOL		PROTECTION TRIPPED "50-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PHLPTOC1_Op	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PHLPTOC1_Op	20XS-1118	BOOL		PROTECTION TRIPPED "51-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_EFLPTOC1_Op	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_EFLPTOC1_Op	20XS-1419	BOOL		PROTECTION TRIPPED "51N"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_ROVPTOV1_Op	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_ROVPTOV1_Op	20XS-5920	BOOL		PROTECTION TRIPPED "59N"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PHPTUV1_Op	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PHPTUV1_Op	20XS-2821	BOOL		PROTECTION TRIPPED "27-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PHPTOV1_Op	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PHPTOV1_Op	20XS-6122	BOOL		PROTECTION TRIPPED "59-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_MVGAPC1_SPCSO6	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_MVGAPC1_SPCSO6	20LOC-7101	BOOL		SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_MVGAPC1_SPCSO7	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_MVGAPC1_SPCSO7	20REM-7101	BOOL		SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_CMMXU1_A_phsA	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_CMMXU1_A_phsA	20CI-4101	FLOAT		Line Current (L1)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_CMMXU1_A_phsB	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_CMMXU1_A_phsB	20CI-4202	FLOAT		Line Current (L2)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_CMMXU1_A_phsC	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_CMMXU1_A_phsC	20CI-4303	FLOAT		Line Current (L3)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_VMMXU1_PPV_phsAB	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_VMMXU1_PPV_phsAB	20VI-1201	FLOAT		Line Volts (L1-L2)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_VMMXU1_PPV_phsBC	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_VMMXU1_PPV_phsBC	20VI-2302	FLOAT		Line Volts (L2-L3)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_VMMXU1_PPV_phsCA	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_VMMXU1_PPV_phsCA	20VI-3103	FLOAT		Line Volts (L3-L1)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_FMMXU1_Hz	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_FMMXU1_Hz	20FRQ-7201	FLOAT		Frequency	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PEMMXU1_TotVA	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PEMMXU1_TotVA	20JI-1601	FLOAT		APPARENT POWER (kVA)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PEMMXU1_TotW	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PEMMXU1_TotW	20JI-1802	FLOAT		REAL POWER (kW)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PEMMXU1_TotVAr	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PEMMXU1_TotVAr	20JI-1703	FLOAT		REACTIVE POWER (kVAR)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A1_PEMMXU1_TotPF	Logic.Application	SG_100D1_A1_GVL		SG_100D1_A1_PEMMXU1_TotPF	20XI-1901	FLOAT		POWER FACTOR	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SCBIGGIO1_Ind2	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind2	20US-4801	BOOL		V.T. HEALTLY CIRCUIT	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC1_SPCSO4	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC1_SPCSO4	20XS-8715	BOOL		INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SBBIGGIO1_Ind7	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SBBIGGIO1_Ind7	20XS-8616	BOOL		K86 TRIPPED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC1_SPCSO8	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC1_SPCSO8	20CLS-7201	BOOL		Contactor CLOSED AND INSERTED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC2_SPCSO2	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC2_SPCSO2	20ZSH-7201	BOOL		Contactor OPENED OR ISOLATED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC2_SPCSO3	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC2_SPCSO3	20CLS-7202	BOOL		MCB'S CLOSED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_TCSSCBR1_CircAlm	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_TCSSCBR1_CircAlm	20RDY-7201	BOOL		Contactor READY (TCS)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC2_SPCSO1	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC2_SPCSO1	20RDY-7202	BOOL		Contactor READY TO CLOSE	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SPCGAPC2_SPCSO002_On	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SPCGAPC2_SPCSO002_On	89OPC-7201	BOOL		OPENING COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SPCGAPC1_SPCSO001_On	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SPCGAPC1_SPCSO001_On	89CLC-7201	BOOL		CLOSING COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SPCGAPC1_SPCSO003_On	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SPCGAPC1_SPCSO003_On	89RSTC-7201	BOOL		K86 RESET COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SDBIGGIO1_Ind8	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SDBIGGIO1_Ind8	89UA-7202	BOOL		PROTECTION RELAY UNIT 1 HEALTHY	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SDBIGGIO1_Ind9	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SDBIGGIO1_Ind9	89HS-7201	BOOL		SELECTOR SWITCH OF OVERRIDE IN OFF (SIL ENABLED)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_CC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CC_PHL1_TEMP_DETECT	89TI-4101	INT		Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_CC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CC_PHL2_TEMP_DETECT	89TI-4202	INT		Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_CC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CC_PHL3_TEMP_DETECT	89TI-4303	INT		Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_CBC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CBC_PHL1_TEMP_DETECT	89TI-4104	INT		Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_CBC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CBC_PHL2_TEMP_DETECT	89TI-4205	INT		Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_CBC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CBC_PHL3_TEMP_DETECT	89TI-4306	INT		Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MBB_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_MBB_PHL1_TEMP_DETECT	89TI-4107	INT		Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MBB_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_MBB_PHL3_TEMP_DETECT	89TI-4308	INT		Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PHIPTOC1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PHIPTOC1_Op	89XS-5001	BOOL		PROTECTION TRIPPED "50-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PHLPTOC1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PHLPTOC1_Op	89XS-1102	BOOL		PROTECTION TRIPPED "51-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_EFLPTOC1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_EFLPTOC1_Op	89XS-1403	BOOL		PROTECTION TRIPPED "51N"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_LEDGGIO1_Ind3	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_LEDGGIO1_Ind3	89SYN-7201	BOOL		SYNCHRO "OK"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_ROVPTOV1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_ROVPTOV1_Op	89XS-5804	BOOL		PROTECTION TRIPPED "59N-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_ROVPTOV2_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_ROVPTOV2_Op	89XS-5705	BOOL		PROTECTION TRIPPED "59N-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PHPTUV1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PHPTUV1_Op	89XS-2806	BOOL		PROTECTION TRIPPED "27-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PHPTUV2_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PHPTUV2_Op	89XS-2907	BOOL		PROTECTION TRIPPED "27-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PHPTOV1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PHPTOV1_Op	89XS-6108	BOOL		PROTECTION TRIPPED "59-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PHPTOV2_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PHPTOV2_Op	89XS-6109	BOOL		PROTECTION TRIPPED "59-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_DPHLPTOC1_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_DPHLPTOC1_Op	89XS-6810	BOOL		PROTECTION TRIPPED "67-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_DPHLPTOC2_Op	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_DPHLPTOC2_Op	89XS-6911	BOOL		PROTECTION TRIPPED "67-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_MVGAPC1_SPCSO6	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC1_SPCSO6	89LOC-7201	BOOL		SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_MVGAPC1_SPCSO7	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC1_SPCSO7	89REM-7201	BOOL		SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_CMMXU1_A_phsA	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_CMMXU1_A_phsA	89CI-4101	FLOAT		Line Current (L1)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_CMMXU1_A_phsB	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_CMMXU1_A_phsB	89CI-4202	FLOAT		Line Current (L2)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_CMMXU1_A_phsC	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_CMMXU1_A_phsC	89CI-4303	FLOAT		Line Current (L3)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_VMMXU1_PPV_phsAB	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_VMMXU1_PPV_phsAB	89VI-1201	FLOAT		Line Volts (L1-L2)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_VMMXU1_PPV_phsBC	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_VMMXU1_PPV_phsBC	89VI-2302	FLOAT		Line Volts (L2-L3)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_VMMXU1_PPV_phsCA	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_VMMXU1_PPV_phsCA	89VI-3103	FLOAT		Line Volts (L3-L1)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_FMMXU1_Hz	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_FMMXU1_Hz	89FRQ-7201	FLOAT		Frequency	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PEMMXU1_TotVA	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PEMMXU1_TotVA	89JI-1601	FLOAT		APPARENT POWER (kVA)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PEMMXU1_TotW	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PEMMXU1_TotW	89JI-1802	FLOAT		REAL POWER (kW)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PEMMXU1_TotVAr	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PEMMXU1_TotVAr	89JI-1703	FLOAT		REACTIVE POWER (kVAR)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_PEMMXU1_TotPF	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_PEMMXU1_TotPF	89XI-1901	FLOAT		POWER FACTOR	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind7	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind7	89XS-3212	BOOL		TRANSFORMER PROTECTION TRIPPED "BUCHHOLZ"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind6	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind6	89XA-3201	BOOL		TRANSFORMER PROTECTION ALARM "BUCHHOLZ"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind9	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind9	89XS-3613	BOOL		TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind8	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind8	89XA-3602	BOOL		TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind12	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind12	89XA-3503	BOOL		TRANSFORMER PROTECTION TRIP "OIL PRESSURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind11	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind11	89XA-7204	BOOL		TRANSF. OIL LEVEL VERY LOW ALARM	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_TR_200ED1_TRANSFORMER_PROTECTION_ALARM_"OIL_PRESSURE"	Logic.Application	SG_100D1	A2_TR_200ED1	TRANSFORMER PROTECTION ALARM "OIL PRESSURE"	89XA-3505	BOOL				R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind14	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind14	89XS-4014	BOOL		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SCBIGGIO1_Ind13	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind13	89XA-4006	BOOL		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_SDBIGGIO1_Ind7	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SDBIGGIO1_Ind7	89XA-3407	BOOL		TRANSF. GENERAL ALARM	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL_SG_100D1_A2_LPHD1_PhyHealth	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_LPHD1_PhyHealth	89UA-3901	BOOL		WATCHDOG PROTECTION RELAY	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SCBIGGIO1_Ind2	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind2	89US-4801	BOOL		V.T. HEALTLY CIRCUIT	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC1_SPCSO4	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC1_SPCSO4	89XS-8715	BOOL		INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SBBIGGIO1_Ind7	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SBBIGGIO1_Ind7	89XS-8616	BOOL		K86 TRIPPED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC1_SPCSO8	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC1_SPCSO8	89CLS-7201	BOOL		Contactor CLOSED AND INSERTED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC2_SPCSO2	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC2_SPCSO2	89ZSH-7201	BOOL		Contactor OPENED OR ISOLATED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC2_SPCSO3	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC2_SPCSO3	89CLS-7202	BOOL		MCB'S CLOSED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_TCSSCBR1_CircAlm	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_TCSSCBR1_CircAlm	89RDY-7201	BOOL		Contactor READY (TCS)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_MVGAPC2_SPCSO1	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_MVGAPC2_SPCSO1	89RDY-7202	BOOL		Contactor READY TO CLOSE	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SPCGAPC2_SPCSO002_On	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SPCGAPC2_SPCSO002_On	89OPC-7201	BOOL		OPENING COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SPCGAPC1_SPCSO001_On	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SPCGAPC1_SPCSO001_On	89CLC-7201	BOOL		CLOSING COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SPCGAPC1_SPCSO003_On	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SPCGAPC1_SPCSO003_On	89RSTC-7201	BOOL		K86 RESET COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SDBIGGIO1_Ind8	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SDBIGGIO1_Ind8	89UA-7202	BOOL		PROTECTION RELAY UNIT 1 HEALTHY	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL_SG_100D1_A2_SDBIGGIO1_Ind9	Logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SDBIGGIO1_Ind9	89HS-7201	BOOL		SELECTOR SWITCH OF OVERRIDE IN OFF (SIL ENABLED)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_CC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CC_PHL1_TEMP_DETECT	89TI-4101	INT		Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_CC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CC_PHL2_TEMP_DETECT	89TI-4202	INT		Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_CC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CC_PHL3_TEMP_DETECT	89TI-4303	INT		Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_CBC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CBC_PHL1_TEMP_DETECT	89TI-4104	INT		Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_CBC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CBC_PHL2_TEMP_DETECT	89TI-4205	INT		Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_CBC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_CBC_PHL3_TEMP_DETECT	89TI-4306	INT		Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_MBB_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_MBB_PHL1_TEMP_DETECT	89TI-4107	INT		Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A2_MBB_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A2_MBB_PHL3_TEMP_DETECT	89TI-4308	INT		Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL_SG_100D1_A3_PHIPTOC1_Op	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_PHIPTOC1_Op	85XS-5001	BOOL	-	PROTECTION TRIPPED "50-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL_SG_100D1_A3_PHLPTOC1_Op	Logic

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC1_SPCSO8	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_MVGAPC1_SPCSO8	85 CLS-7301	BOOL	-	Contactor CLOSED AND INSERTED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC2_SPCSO2	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_MVGAPC2_SPCSO2	85 ZSH-7301	BOOL	-	Contactor OPENED OR ISOLATED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC2_SPCSO3	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_MVGAPC2_SPCSO3	85 CLS-7302	BOOL	-	MCB'S CLOSED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_TCSSCBR1_CircAlm	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_TCSSCBR1_CircAlm	85 RDY-7301	BOOL	-	Contactor READY (TCS)	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC2_SPCSO1	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_MVGAPC2_SPCSO1	85 RDY-7302	BOOL	-	Contactor READY TO CLOSE	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC2_SPCSO002_On	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_SPCGAPC2_SPCSO002_On	85 OPC-7301	BOOL	-	OPENING COMMAND - On Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC1_SPCSO001_On	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_SPCGAPC1_SPCSO001_On	85 CLC-7301	BOOL	-	CLOSING COMMAND - On Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC1_SPCSO003_On	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_SPCGAPC1_SPCSO003_On	85 RSTC-7301	BOOL	-	K86 RESET COMMAND - On Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SDBIGGIO1_Ind8	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_SDBIGGIO1_Ind8	85 UA-7302	BOOL	-	PROTECTION RELAY UNIT 2 HEALTHY	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SCBIGGIO1_Ind6	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_SCBIGGIO1_Ind6	85 UA-7303	BOOL	-	PROTECTION RELAY UNIT 4 HEALTHY	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SDBIGGIO1_Ind9	Logic.Application	SG_100D1_A3_GVL		SG_100D1_A3_SDBIGGIO1_Ind9	85 HS-7301	BOOL	-	SELECTOR SWITCH OF OVERRIDE (SIL ENABLED)	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_CC_PHL1_TEMP_DETECT	85 TI-4101	INT	-	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_CC_PHL2_TEMP_DETECT	85 TI-4202	INT	-	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_CC_PHL3_TEMP_DETECT	85 TI-4303	INT	-	Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CBC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_CBC_PHL1_TEMP_DETECT	85 TI-4104	INT	-	Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CBC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_CBC_PHL2_TEMP_DETECT	85 TI-4205	INT	-	Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CBC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_CBC_PHL3_TEMP_DETECT	85 TI-4306	INT	-	Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_MBB_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_MBB_PHL1_TEMP_DETECT	85 TI-4107	INT	-	Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_MBB_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A3_MBB_PHL3_TEMP_DETECT	85 TI-4308	INT	-	Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_TVC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A5_TVC_PHL1_TEMP_DETECT	85 TI-4109	INT	-	Phase L1 - Temperature Detection - T.V. Compartment		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_TVC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A5_TVC_PHL2_TEMP_DETECT	85 TI-4210	INT	-	Phase L2 - Temperature Detection - T.V. Compartment		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_TVC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A5_TVC_PHL3_TEMP_DETECT	85 TI-4311	INT	-	Phase L3 - Temperature Detection - T.V. Compartment		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_MBB_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A5_MBB_PHL1_TEMP_DETECT	85 TI-4112	INT	-	Phase L1 - Temperature Detection - Main Bus Bar		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_MBB_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A5_MBB_PHL3_TEMP_DETECT	85 TI-4313	INT	-	Phase L3 - Temperature Detection - Main Bus Bar		R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTOC1_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PHPTOC1_Op	70 XS-5019	BOOL	-	PROTECTION TRIPPED "50-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHLPTOC1_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PHLPTOC1_Op	70 XS-1120	BOOL	-	PROTECTION TRIPPED "51-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_EFLPTOC1_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_EFLPTOC1_Op	70 XS-1421	BOOL	-	PROTECTION TRIPPED "51N"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_LEDGGIO1_Ind3	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_LEDGGIO1_Ind3	70 SYN-7601	BOOL	-	SYNCHRO "OK"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_ROVPTOV1_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_ROVPTOV1_Op	70 XS-5822	BOOL	-	PROTECTION TRIPPED "59N-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_ROVPTOV2_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_ROVPTOV2_Op	70 XS-5723	BOOL	-	PROTECTION TRIPPED "59N-2"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTUV1_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PHPTUV1_Op	70 XS-2824	BOOL	-	PROTECTION TRIPPED "27-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTUV2_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PHPTUV2_Op	70 XS-2925	BOOL	-	PROTECTION TRIPPED "27-2"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTOV1_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PHPTOV1_Op	70 XS-6126	BOOL	-	PROTECTION TRIPPED "59-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTOV2_Op	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PHPTOV2_Op	70 XS-6127	BOOL	-	PROTECTION TRIPPED "59-2"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO6	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC1_SPCSO6	70 LOC-7602	BOOL	-	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO7	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC1_SPCSO7	70 REM-7602	BOOL	-	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_CMMXU1_A_phsA	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_CMMXU1_A_phsA	70 CI-4107	FLOAT	-	Line Current (L3)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_CMMXU1_A_phsB	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_CMMXU1_A_phsB	70 CI-4208	FLOAT	-	Line Current (L2)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_CMMXU1_A_phsC	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_CMMXU1_A_phsC	70 CI-4309	FLOAT	-	Line Current (L3)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU1_PPV_phsAB	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_VMMXU1_PPV_phsAB	70 VI-1204	FLOAT	-	Line Volts (L1-L2)	Feedback Voltage for the AVR	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU1_PPV_phsBC	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_VMMXU1_PPV_phsBC	70 VI-2305	FLOAT	-	Line Volts (L2-L3)	Feedback Voltage for the AVR	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU1_PPV_phsCA	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_VMMXU1_PPV_phsCA	70 VI-3106	FLOAT	-	Line Volts (L3-L1)	Feedback Voltage for the AVR	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_FMMXU1_Hz	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_FMMXU1_Hz	70 FRQ-7603	FLOAT	-	Frequency	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotVA	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PEMMXU1_TotVA	70 JI-1604	FLOAT	-	APPARENT POWER (kVA)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotW	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PEMMXU1_TotW	70 JI-1805	FLOAT	-	REAL POWER (kW)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotVAr	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PEMMXU1_TotVAr	70 JI-1706	FLOAT	-	REACTIVE POWER (kVAR)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotPF	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_PEMMXU1_TotPF	70 XI-1902	FLOAT	-	POWER FACTOR	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind9	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind9	70 XS-3628	BOOL	-	TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind8	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind8	70 XA-3606	BOOL	-	TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind12	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind12	70 XS-3529	BOOL	-	TRANSFORMER PROTECTION TRIPPED "OIL PRESSURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind11	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind11	70 XA-7607	BOOL	-	TRANSF. PROT. SELF DEHYDRATING BREATHER ALARM	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind14	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind14	70 XS-4030	BOOL	-	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind13	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind13	70 XA-4008	BOOL	-	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind7	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SDBIGGIO1_Ind7	70 XA-3209	BOOL	-	TRANSFORMER PROTECTION ALARM BUCHHOLZ	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind9	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SDBIGGIO1_Ind9	70 XS-3231	BOOL	-	TRANSFORMER PROTECTION TRIPPED BUCHHOLZ	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SBBIGGIO1_Ind9	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SBBIGGIO1_Ind9	70 UA-7603	BOOL	-	TRANSFORMER OLTC PROTECTION RELAY	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind10	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind10	70 XA-7610	BOOL	-	TRANSFORMER PROTECTION ALARM LEVEL OIL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind7	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind7	70 XS-7632	BOOL	-	TRANSFORMER PROTECTION TRIPPED LEVEL OIL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind3	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SDBIGGIO1_Ind3	70 XA-7611	BOOL	-	TRANSFORMER PROTECTION ALARM OIL LEVEL INDICATOR	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind1	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind1	70 XS-7633	BOOL	-	TRANSF. OLTC PROTECTION TRIPPED OIL LEVEL INDICATOR	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind6	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind6	70 XA-7612	BOOL	-	TRANSFORMER PROTECTION ALARM MEMBRANE CONTROL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_LPHD1_PhyHealth	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_LPHD1_PhyHealth	70 UA-3904	BOOL	-	WATCHDOG PROTECTION RELAY	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind2	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBIGGIO1_Ind2	70 US-4801	BOOL	-	V.T. HEALTLY CIRCUIT	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO4	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC1_SPCSO4	70 XS-8734	BOOL	-	INTERTRIP SEND TO 66kV SWITCHIL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SBBIGGIO1_Ind7	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SBBIGGIO1_Ind7	70 XS-8635	BOOL	-	K86 TRIPPED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO8	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC1_SPCSO8	70 CLS-7603	BOOL	-	C.B. CLOSED AND INSERTED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC2_SPCSO2	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC2_SPCSO2	70 ZSH-7602	BOOL	-	C.B. OPENED OR ISOLATED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC2_SPCSO5	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC2_SPCSO5	70 CLS-7604	BOOL	-	MCB'S CLOSED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_TCSSCBR1_CircAlm	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_TCSSCBR1_CircAlm	70 RDY-7603	BOOL	-	C.B. READY (TCS)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC2_SPCSO1	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_MVGAPC2_SPCSO1	70 RDY-7604	BOOL	-	C.B. READY TO CLOSE	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC2_SPCSO002_On	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SPCGAPC2_SPCSO002_On	70 OPC-7602	BOOL	-	OPENING COMMAND - On Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC1_SPCSO001_On	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SPCGAPC1_SPCSO001_On	70 CLC-7602	BOOL	-	CLOSING COMMAND - On Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC1_SPCSO003_On	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SPCGAPC1_SPCSO003_On	60 RSTC-7601	BOOL	-	K86 RESET COMMAND - On Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU2_HiWin	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_VMMXU2_HiWin	70 VI-7607	BOOL	-	LIVE VOLTAGE 6.6kV ON THE MAIN BUS-BARS	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBOGGIO1_SPCSO2	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SCBOGGIO1_SPCSO2	70 XS-7636	BOOL	-	TRIPPED AT CABLE COMPARTEMENT	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind4	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SDBIGGIO1_Ind4	70 UA-7605	BOOL	-	TR-100AD1 GENERAL ALAM	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind8	Logic.Application	SG_100D1_A6_GVL		SG_100D1_A6_SDBIGGIO1_Ind8	70 XA-3413	BOOL	-	RR-100D1 NER GENERAL ALARM	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_CC_PHL1_TEMP_DETECT	70 TI-4114	INT	-	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_CC_PHL2_TEMP_DETECT	70 TI-4215	INT	-	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A6_CC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_CC_PHL3_TEMP_DETECT	70TI4316	INT		Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A6_CBC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_CBC_PHL1_TEMP_DETECT	70TI4117	INT		Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A6_CBC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_CBC_PHL2_TEMP_DETECT	70TI4218	INT		Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A6_CBC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_CBC_PHL3_TEMP_DETECT	70TI4319	INT		Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A6_MBB_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_MBB_PHL1_TEMP_DETECT	70TI4120	INT		Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A6_MBB_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A6_MBB_PHL3_TEMP_DETECT	70TI4321	INT		Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PHIPTOC1_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PHIPTOC1_Op	80XS-5002	BOOL		PROTECTION TRIPPED "50-1"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PHLPTOC1_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PHLPTOC1_Op	80XS-1103	BOOL		PROTECTION TRIPPED "51-1"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_EFLPTOC1_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_EFLPTOC1_Op	80XS-1408	BOOL		PROTECTION TRIPPED "51N"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_LEDGGIO1_Ind3	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_LEDGGIO1_Ind3	80SYN-7709	BOOL		SYNCHRO "OK"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_ROVPTOV1_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_ROVPTOV1_Op	80XS-5801	BOOL		PROTECTION TRIPPED "59N-1"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_ROVPTOV2_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_ROVPTOV2_Op	80XS-5710	BOOL		PROTECTION TRIPPED "59N-2"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PHPTUV1_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PHPTUV1_Op	80XS-2811	BOOL		PROTECTION TRIPPED "27-1"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PHPTUV2_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PHPTUV2_Op	80XS-2912	BOOL		PROTECTION TRIPPED "27-2"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PHPTOV2_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PHPTOV2_Op	80XS-6104	BOOL		PROTECTION TRIPPED "59-2"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_DPHLPDOC1_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_DPHLPDOC1_Op	80XS-6802	BOOL		PROTECTION TRIPPED "67-1"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_DPHLPDOC2_Op	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_DPHLPDOC2_Op	80XS-6903	BOOL		PROTECTION TRIPPED "67-2"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC1_SPCSO6	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC1_SPCSO6	80LOC-7704	BOOL		SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC1_SPCSO7	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC1_SPCSO7	80REM-7705	BOOL		SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_CMMXU1_A_phsA	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_CMMXU1_A_phsA	80CI-4113	FLOAT		Line Current (L1)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_CMMXU1_A_phsB	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_CMMXU1_A_phsB	80CI-4206	FLOAT		Line Current (L2)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_CMMXU1_A_phsC	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_CMMXU1_A_phsC	80CI-4301	FLOAT		Line Current (L3)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_VMMXU1_PPV_phsAB	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_VMMXU1_PPV_phsAB	80VI-1202	FLOAT		Line Volts (L1-L2)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_VMMXU1_PPV_phsBC	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_VMMXU1_PPV_phsBC	80VI-2303	FLOAT		Line Volts (L2-L3)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_VMMXU1_PPV_phsCA	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_VMMXU1_PPV_phsCA	80VI-3104	FLOAT		Line Volts (L3-L1)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_FMMXU1_Hz	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_FMMXU1_Hz	80FRQ-7705	FLOAT		Frequency	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PEMMXU1_TotVA	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PEMMXU1_TotVA	80JI-1606	FLOAT		APPARENT POWER (kVA)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PEMMXU1_TotW	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PEMMXU1_TotW	80JI-1807	FLOAT		REAL POWER (kW)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PEMMXU1_TotVAr	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PEMMXU1_TotVAr	80JI-1708	FLOAT		REACTIVE POWER (kVAR)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_PEMMXU1_TotPF	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_PEMMXU1_TotPF	80XI-1909	FLOAT		POWER FACTOR	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind14	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind14	80XS-4010	BOOL		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind13	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind13	80XA-4005	BOOL		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_LPHD1_PhyHealth	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_LPHD1_PhyHealth	80UA-3906	BOOL		WATCHDOG PROTECTION RELAY	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind2	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind2	80US-4802	BOOL		V.T. HEALTLY CIRCUIT	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC1_SPCSO4	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC1_SPCSO4	80XS-8714	BOOL		INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SBIBIGIO1_Ind7	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SBIBIGIO1_Ind7	80XS-8615	BOOL		K86 TRIPPED	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC1_SPCSO8	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC1_SPCSO8	80CLS-7716	BOOL		Contactor CLOSED AND INSERTED	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC2_SPCSO2	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC2_SPCSO2	80ZSH-7707	BOOL		Contactor OPENED OR ISOLATED	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC2_SPCSO3	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC2_SPCSO3	80CLS-7707	BOOL		MCB'S CLOSED	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_TCSSCBR1_CircAlm	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_TCSSCBR1_CircAlm	80RDY-7708	BOOL		Contactor READY (TCS)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_MVGAPC2_SPCSO1	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_MVGAPC2_SPCSO1	80RDY-7709	BOOL		Contactor READY TO CLOSE	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SPCGAPC1_SPCSO002_On	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SPCGAPC1_SPCSO002_On	80OPC-7711	BOOL		OPENING COMMAND - On Command	SG100D1_A7_FULL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SPCGAPC1_SPCSO001_On	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SPCGAPC1_SPCSO001_On	80CLC-7708	BOOL		CLOSING COMMAND - On Command	SG100D1_A7_FULL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SPCGAPC1_SPCSO003_On	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SPCGAPC1_SPCSO003_On	80RSTC-7701	BOOL		K86 RESET COMMAND - On Command	SG100D1_A7_FULL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SDIBIGGIO1_Ind8	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SDIBIGGIO1_Ind8	80UA-7709	BOOL		PROTECTION RELAY UNIT 6 HEALTHY	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SDIBIGGIO1_Ind7	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SDIBIGGIO1_Ind7	80US-7710	BOOL		AUXILIARY 2 30VAC HEALTHY (ALL SWITCHBOARD)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind6	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind6	80UA-7711	BOOL		MCB'S CLOSED (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind7	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind7	80CLS-7703	BOOL		V.T. HEALTLY CIRCUIT (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind8	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind8	80US-4812	BOOL		UPS 110VDC A SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind9	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind9	80US-7713	BOOL		UPS 110VDC B SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind10	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind10	80US-7714	BOOL		230VAC SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind11	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind11	80US-7717	BOOL		24VDC SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL_SG_100D1_A7_SCBIGGIO1_Ind3	Logic.Application	SG_100D1_A7_GVL		SG_100D1_A7_SCBIGGIO1_Ind3	80US-7718	BOOL		EARTHING SWITCH OPENED (FROM MEASURE UNIT A5)	SG100D1_A7_FULL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_TR_100AD1_GENERAL_ALAM	Logic.Application	SG_100D1		TR-100AD1_GENERAL_ALAM	80ZSH-7715	BOOL		TR-100AD1 GENERAL ALAM		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_CC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_CC_PHL1_TEMP_DETECT	80TI4116	INT		Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_CC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_CC_PHL2_TEMP_DETECT	80TI4217	INT		Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_CC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_CC_PHL3_TEMP_DETECT	80TI4301	INT		Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_CBC_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_CBC_PHL1_TEMP_DETECT	80TI4119	INT		Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_CBC_PHL2_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_CBC_PHL2_TEMP_DETECT	80TI4220	INT		Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_CBC_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_CBC_PHL3_TEMP_DETECT	80TI4321	INT		Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_MBB_PHL1_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_MBB_PHL1_TEMP_DETECT	80TI4122	INT		Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL_SG_100D1_A7_MBB_PHL3_TEMP_DETECT	Logic.Application	SG_100D1_MDB_GVL		SG_100D1_A7_MBB_PHL3_TEMP_DETECT	80TI4318	INT		Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A7_FULL_CELL	R	MODBUS			
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_PROTECTION_TRIPPED_L	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_L	89XS-0019	BOOL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_L	DI	R	MODBUS	50.0	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_PROTECTION_TRIPPED_S	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_S	89XS-0020	BOOL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_S	DI	R	MODBUS	50.1	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_PROTECTION_TRIPPED_I	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_I	89XS-0021	BOOL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_I	DI	R	MODBUS	50.2	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_PROTECTION_TRIPPED_G_	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_G	89XS-0001	BOOL		CIRCUIT_BRAKER_PROTECTION_TRIPPED_G	DI	R	MODBUS	50.3	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_TRIPPED_COMMON	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_TRIPPED_COMMON	89XS-0002	BOOL		CIRCUIT_BRAKER_TRIPPED_COMMON	DI	R	MODBUS	40.3	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_OPEN	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_OPEN	89ZSH-0001	BOOL		CIRCUIT_BRAKER_OPEN	DI	R	MODBUS	40.6	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_CLOSED	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_CLOSED	89ZSL-0001	BOOL		CIRCUIT_BRAKER_CLOSED	DI	R	MODBUS	40.0	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_CONNECTED	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_CONNECTED	89US-0002	BOOL		CIRCUIT_BRAKER_CONNECTED	DI	R	MODBUS	40.1	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_ISOLATED	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_ISOLATED	89US-0003	BOOL		CIRCUIT_BRAKER_ISOLATED	DI	R	MODBUS	40.1	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_TEST	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_TEST	89TST-0001	BOOL		CIRCUIT_BRAKER_TEST	DI	R	MODBUS	40.2	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_CIRCUIT_BRAKER_TRIP_UNIT_DISCONNECTED	Logic.Application	SG_200D2_GVL		CIRCUIT_BRAKER_TRIP_UNIT_DISCONNECTED	89XS-0003	BOOL		CIRCUIT_BRAKER_TRIP_UNIT_DISCONNECTED	DI	R	MODBUS	40.15	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL_INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_OPEN	Logic.Application	SG_200D2_GVL		INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_OPEN	89QPC-0003	BOOL		INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_OPEN	DO	W	MODBUS	0.8	HOLDING REGISTER	E32
Logic.Application.SG_200D2_GVL_INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_CLOSE	Logic.Application	SG_200D2_GVL		INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_CLOSE	89CLC-0003	BOOL		INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_CLOSE	DO	W	MODBUS	0.7	HOLDING REGISTER	E32
Logic.Application.SG_200D2_GVL_MEASURE_CURRENT_L1	Logic.Application	SG_200D2_GVL		MEASURE_CURRENT_L1	89CI-4102	FLOAT		MEASURE_CURRENT_L1	AI	R	MODBUS	100-101	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL_MEASURE_CURRENT_L2	Logic.Application	SG_200D2_GVL		MEASURE_CURRENT_L2	89CI-4203	FLOAT		MEASURE_CURRENT_L2	AI	R	MODBUS	102-103	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL_MEASURE_CURRENT_L3	Logic.Application	SG_200D2_GVL		MEASURE_CURRENT_L3	89CI-4304	FLOAT		MEASURE_CURRENT_L3	AI	R	MODBUS	104-105	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL_MEASURE_VOLTAGE_L1_L2	Logic.Application	SG_200D2_GVL		MEASURE_VOLTAGE_L1_L2	89VI-1204	FLOAT		MEASURE_VOLTAGE_L1_L2	AI	R	MODBUS	154	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL_MEASURE_VOLTAGE_L2_L3	Logic.Application	SG_200D2_GVL		MEASURE_VOLTAGE_L2_L3	89VI-2314	FLOAT		MEASURE_VOLTAGE_L2_L3	AI	R	MODBUS	155	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL_MEASURE_VOLTAGE_L3_L1	Logic.Application	SG_200D2_GVL		MEASURE_VOLTAGE_L3_L1	89VI-3115	FLOAT		MEASURE_VOLTAGE_L3_L1	AI	R	MODBUS	156	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL_MEASURE_FREQUENCY	Logic.Application	SG_200D2_GVL		MEASURE_FREQUENCY	89FRQ-0012	FLOAT		MEASURE_FREQUENCY	AI	R	MODBUS	254	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL_MEASURE_APPARENT_POWER	Logic.Application	SG_200D2_GVL		MEASURE_APPARENT_POWER	89JI-0013	FLOAT		MEASURE_APPARENT_POWER	AI	R	MODBUS	Z22-223	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL_MEASURE_REAL_POWER	Logic.Application	SG_200D2_GVL		MEASURE_REAL_POWER	89JI-1814	FLOAT		MEASURE_REAL_POWER	AI	R	MODBUS	206-207	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL_MEASURE_REACTIVE_POWER	Logic.Application	SG_200D2_GVL		MEASURE_REACTIVE_POWER	89JI-1715	FLOAT		MEASURE_REACTIVE_POWER	AI	R	MODBUS	214-215	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL_MEASURE_POWER_FACTOR	Logic.Application	SG_200D2_GVL		MEASURE_POWER_FACTOR	89XI-1916	FLOAT		MEASURE_POWER_FACTOR	AI	R	MODBUS	253	INPUT REGISTER	S16
Logic.Application.SG_200D2_GVL_QB1_DISCONNECTED_OR_OPEN	Logic.Application	SG_200D2_GVL		QB1_DISCONNECTED_OR_OPEN	89ZSH-7117	BOOL		QB1_DISCONNECTED_OR_OPEN	DI	R	MODBUS	1	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_QB1_CONNECTED_AND_CLOSED	Logic.Application	SG_200D2_GVL		QB1_CONNECTED_AND_CLOSED	89ZSL-7118	BOOL		QB1_CONNECTED_AND_CLOSED	DI	R	MODBUS	2	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_QB2_DISCONNECTED_OR_OPEN	Logic.Application	SG_200D2_GVL		QB2_DISCONNECTED_OR_OPEN	89ZSH-7119	BOOL		QB2_DISCONNECTED_OR_OPEN	DI	R	MODBUS	3	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_QB2_CONNECTED_AND_CLOSED	Logic.Application	SG_200D2_GVL		QB2_CONNECTED_AND_CLOSED	89ZSL-7120	BOOL		QB2_CONNECTED_AND_CLOSED	DI	R	MODBUS	4	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_SA1_ON_LOCAL_POSITION	Logic.Application	SG_200D2_GVL		SA1_ON_LOCAL_POSITION	89LOC-7121	BOOL		SA1_ON_LOCAL_POSITION	DI	R	MODBUS	5	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_SA1_ON_REMOTE_POSITION	Logic.Application	SG_200D2_GVL		SA1_ON_REMOTE_POSITION	89REM-7101	BOOL		SA1_ON_REMOTE_POSITION	DI	R	MODBUS	6	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_MCBs_ALARM	Logic.Application	SG_200D2_GVL		MCBs_ALARM	89XA-7102	BOOL		MCBs_ALARM	DI	R	MODBUS	7	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_COMMON_FAILURE	Logic.Application	SG_200D2_GVL		COMMON_FAILURE	89XA-7103	BOOL		COMMON_FAILURE	DI	R	MODBUS	8	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_SURGE_ARRESTER_FAULT	Logic.Application	SG_200D2_GVL		SURGE_ARRESTER_FAULT	89UA-7104	BOOL		SURGE_ARRESTER_FAULT	DI	R	MODBUS	9	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL_SG_200N1_MCBs_FAILURE	Logic.Application	SG_200D2_GVL		SG_200N1_MCBs_FAILURE	89XA-7105	BOOL			DI	R	MODBUS	10	DISCRETE INPUTS	BOOL
Logic.Application.SG_200N1_GVL_SG_200N1_DPHLPTOC2_Op	Logic.Application	SG_200N1_GVL		SG_200N1_DPHLPTOC2_Op	50XS-5006	BOOL		CIRCUIT-BRAKER - PROTECTION TRIPPED "50"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL_SG_200N1_DPHLPTOC1_Op	Logic.Application	SG_200N1_GVL		SG_200N1_DPHLPTOC1_Op	50XS-5107	BOOL		CIRCUIT-BRAKER - PROTECTION TRIPPED "51"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL_SG_200N1_XAGGIO130_Ind004	Logic.Application	SG_200N1_GVL		SG_200N1_XAGGIO130_Ind004	50XS-7408	BOOL		CIRCUIT-BRAKER - FUNCTION TRIPPED "74TCS"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL_SG_200N1_XGGIO120_Ind001	Logic.Application	SG_200N1_GVL		SG_200N1_XGGIO120_Ind001	50XS-8609	BOOL		CIRCUIT-BRAKER - FUNCTION TRIPPED "86"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL_SG_200N1_MVGAPC2_SPCSO001	Logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC2_SPCSO001	50ZSL-0010	BOOL		CIRCUIT-BRAKER - READY TO CLOSE	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL_

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER.STATUS_STATUS_ELECTROLYZER	Logic.Application	ELECTROLYZER	STATUS	STATUS_ELECTROLYZER	20XI-7113	INT16	-	LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDBY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_WATCHDOG	Logic.Application	ELECTROLYZER	STATUS	WATCHDOG	20XI-7114	INT16	-	COMMUNICATION CONTROL		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_Selector_Swtch_mode	Logic.Application	ELECTROLYZER	STATUS	Selector Swtch mode	20XI-7115	INT16	-	0: Maintenance 1 : Remote 2 : Maintenance		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Process_CODE_01	Logic.Application	ELECTROLYZER	PROCESS	Process_CODE_01	20XI-0016	INT16	-	Each Bit of INT Code represent one process signal		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Process_CODE_02	Logic.Application	ELECTROLYZER	PROCESS	Process_CODE_02	20XI-0017	INT16	-	Each Bit of INT Code represent one process signal		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_RETURN_FLOW_SETPOINT	Logic.Application	ELECTROLYZER	PROCESS	RETURN FLOW SETPOINT	20UFC-0038	FLOAT	NM3/H	VALUE FLOW SETPOINT CLIENT (FLOW SETPOINT)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_FT630_Ratio	Logic.Application	ELECTROLYZER	PROCESS	FT630 Ratio	20UFC-0630	FLOAT	%	ELECTROLYSE OUTLET HYDROGENE FLOW		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT630	Logic.Application	ELECTROLYZER	PROCESS	PT630	20PI-0630	FLOAT	BARG	PRESSURE IN THE ELECTROLYZER (H2)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT610	Logic.Application	ELECTROLYZER	PROCESS	PT610	20PI-0610	FLOAT	BARG	PRESSURE IN THE ELECTROLYZER (O2)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_CT/P-620	Logic.Application	ELECTROLYZER	PROCESS	CT/P-620	20CT/P-0042	FLOAT	µS/cm	CONDUCTIVITIMER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-001	Logic.Application	ELECTROLYZER	PROCESS	IM-001	20IM-0043	FLOAT	A	CURRENT output of Rectifier 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-100	Logic.Application	ELECTROLYZER	PROCESS	VM-100	20VM-0023	FLOAT	V	VOLTAGE OUTPUT of Rectifier 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-002	Logic.Application	ELECTROLYZER	PROCESS	IM-002	20IM-0024	FLOAT	A	CURRENT output of Rectifier 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-102	Logic.Application	ELECTROLYZER	PROCESS	VM-102	20VM-0025	FLOAT	V	VOLTAGE OUTPUT of Rectifier 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT200	Logic.Application	ELECTROLYZER	PROCESS	TT200	20TI-0200	FLOAT	°C	TEMPERATURE TRANSMITTER THERMAL SKID		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT201	Logic.Application	ELECTROLYZER	PROCESS	TT201	20TI-0201	FLOAT	°C	TEMPERATURE TRANSMITTER THERMAL SKID		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT400	Logic.Application	ELECTROLYZER	PROCESS	TT400	20TI-0400	FLOAT	°C	TEMPERATURE TRANSMITTER WATER CHILLER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT401	Logic.Application	ELECTROLYZER	PROCESS	TT401	20TI-0401	FLOAT	°C	TEMPERATURE TRANSMITTER WATER CHILLER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT1000	Logic.Application	ELECTROLYZER	PROCESS	TT1000	20TI-1000	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT1001	Logic.Application	ELECTROLYZER	PROCESS	TT1001	20TI-1001	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_LT600	Logic.Application	ELECTROLYZER	PROCESS	LT600	20LI-0600	FLOAT	%	SEPARATOR TANK WATER LEVEL O2 SIDE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_LT620	Logic.Application	ELECTROLYZER	PROCESS	LT620	20LI-0620	FLOAT	%	SEPARATOR TANK WATER LEVEL SIDE H2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT900	Logic.Application	ELECTROLYZER	PROCESS	PT900	20PI-0900	FLOAT	BARG	NITROGEN NETWORK PRESSURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD1000	Logic.Application	ELECTROLYZER	PROCESS	AHD1000	20AHD-0032	FLOAT	%	QUANTITY OF HYDROGEN IN THE AMBIENT		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD1001	Logic.Application	ELECTROLYZER	PROCESS	AHD1001	20AHD-0033	FLOAT	%	QUANTITY OF HYDROGEN IN THE AMBIENT		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_HIOD610	Logic.Application	ELECTROLYZER	PROCESS	HIOD610	20HIOD-0034	FLOAT	%	HYDROGEN MEASUREMENT IN OXYGEN		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_DPT800	Logic.Application	ELECTROLYZER	PROCESS	DPT800	20DPI-0800	FLOAT	ppmV	DEW POINT MEASUREMENT H2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_OIHA800	Logic.Application	ELECTROLYZER	PROCESS	OIHA800	20OIHA-0008	FLOAT	ppmV	OXYGEN MEASUREMENT IN HYDROGEN		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Stack_operating_hours_(h)	Logic.Application	ELECTROLYZER	PROCESS	Stack operating hours (h)	20XI-0018	FLOAT	h	Stack operating hours (h)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Full_load_hours_stack_(h)	Logic.Application	ELECTROLYZER	PROCESS	Full load hours stack (h)	20XI-0019	FLOAT	h	Full load hours stack (h)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Total_power_consumption	Logic.Application	ELECTROLYZER	PROCESS	Total power consumption	20QII-0037	FLOAT	W	Total power consumption (W)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Total_system_energy_consumption_(Wh)	Logic.Application	ELECTROLYZER	PROCESS	Total system energy consumption (Wh)	20QII-0011	FLOAT	Wh	Total system energy consumption (Wh)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Energy_consumption_stack_(Wh)	Logic.Application	ELECTROLYZER	PROCESS	Energy consumption stack (Wh)	20QII-0001	FLOAT	Wh	Energy consumption stack (Wh)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT601	Logic.Application	ELECTROLYZER	PROCESS	TT601	20TI-0601	FLOAT	°C	O2 SIDE STACK 1 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT602	Logic.Application	ELECTROLYZER	PROCESS	TT602	20TI-0602	FLOAT	°C	O2 SIDE STACK 2 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT603	Logic.Application	ELECTROLYZER	PROCESS	TT603	20TI-0603	FLOAT	°C	O2 SIDE STACK 3 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT604	Logic.Application	ELECTROLYZER	PROCESS	TT604	20TI-0604	FLOAT	°C	O2 SIDE STACK 4 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT605	Logic.Application	ELECTROLYZER	PROCESS	TT605	20TI-0605	FLOAT	°C	O2 SIDE STACK 5 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT606	Logic.Application	ELECTROLYZER	PROCESS	TT606	20TI-0606	FLOAT	°C	O2 SIDE STACK 6 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT607	Logic.Application	ELECTROLYZER	PROCESS	TT607	20TI-0607	FLOAT	°C	O2 SIDE STACK 7 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT608	Logic.Application	ELECTROLYZER	PROCESS	TT608	20TI-0608	FLOAT	°C	O2 SIDE STACK 8 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_FI-600	Logic.Application	ELECTROLYZER	PROCESS	FT-600	20FI-0600	FLOAT	NM3/H	FLOW TRANSMITTER 200 M3/H H2O+O2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_FT-620	Logic.Application	ELECTROLYZER	PROCESS	PT-620	20FI-0620	FLOAT	NM3/H	FLOW TRANSMITTER 80 M3/H H2O+H2 ATEX DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-611	Logic.Application	ELECTROLYZER	PROCESS	PT-611	20PI-0611	FLOAT	BARG	PRESSURE TRANSMITTER 16 BARG O2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-612	Logic.Application	ELECTROLYZER	PROCESS	PT-612	20PI-0612	FLOAT	BARG	PRESSURE TRANSMITTER 16 BARG O2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-631	Logic.Application	ELECTROLYZER	PROCESS	PT-631	20PI-0631	FLOAT	BARG	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-632	Logic.Application	ELECTROLYZER	PROCESS	PT-632	20PI-0632	FLOAT	BARG	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-633	Logic.Application	ELECTROLYZER	PROCESS	PT-633	20PI-0633	FLOAT	BARG	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-910	Logic.Application	ELECTROLYZER	PROCESS	PT-910	20PI-0910	FLOAT	BARG	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-920	Logic.Application	ELECTROLYZER	PROCESS	PT-920	20PI-0920	FLOAT	BARG	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_LT-300	Logic.Application	ELECTROLYZER	PROCESS	LT-300	20LI-0300	FLOAT	%	Level Transmitter	Package PWT-300	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-1002	Logic.Application	ELECTROLYZER	PROCESS	TT-1002	20TI-1002	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD-1002	Logic.Application	ELECTROLYZER	PROCESS	AHD-1002	20AHD-0015	FLOAT	% LIE	AMBIENT HYDROGEN DETECTOR 0.01KG/S 28M H2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD-1003	Logic.Application	ELECTROLYZER	PROCESS	AHD-1003	20AHD-0016	FLOAT	% LIE	AMBIENT HYDROGEN DETECTOR		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_DPRT-1000	Logic.Application	ELECTROLYZER	PROCESS	DPRT-1000	20DPRT-0017	FLOAT	BARG	DIFFERENTIAL PRESSURE TRANSMITTER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-001	Logic.Application	ELECTROLYZER	PROCESS	IM-001	20IM-0018	FLOAT	A	Output current of Rectifier 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-002	Logic.Application	ELECTROLYZER	PROCESS	IM-002	20IM-0019	FLOAT	A	Output current of Rectifier 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-003	Logic.Application	ELECTROLYZER	PROCESS	IM-003	20IM-0020	FLOAT	A	Output current of Rectifier 3		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-004	Logic.Application	ELECTROLYZER	PROCESS	IM-004	20IM-0004	FLOAT	A	Output current of Rectifier 4		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-64_1	Logic.Application	ELECTROLYZER	PROCESS	PT-64.1	20PI-0641	FLOAT	BARG	HPU AQUAGAS Pressure transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-60_1	Logic.Application	ELECTROLYZER	PROCESS	TT-60.1	20TI-9601	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-60_2	Logic.Application	ELECTROLYZER	PROCESS	TT-60.2	20TI-9602	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-60_3	Logic.Application	ELECTROLYZER	PROCESS	TT-60.3	20TI-9603	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-61_1	Logic.Application	ELECTROLYZER	PROCESS	TT-61.1	20TI-9604	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_5	Logic.Application	ELECTROLYZER	PROCESS	TT-64.5	20TI-9605	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_6	Logic.Application	ELECTROLYZER	PROCESS	TT-64.6	20TI-9606	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_7	Logic.Application	ELECTROLYZER	PROCESS	TT-64.7	20TI-9607	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_8	Logic.Application	ELECTROLYZER	PROCESS	TT-64.8	20TI-9608	FLOAT	°C	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-202A	Logic.Application	ELECTROLYZER	PROCESS	TT-202A	20TI-202A	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG	ATEX DEGREASED	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-202B	Logic.Application	ELECTROLYZER	PROCESS	TT-202B	20TI-202B	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG	ATEX DEGREASED	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-621	Logic.Application	ELECTROLYZER	PROCESS	TT-621	20TI-0621	FLOAT	°C	TEMPERATURE TRANSMITTER 0/120 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-1002	Logic.Application	ELECTROLYZER	PROCESS	TT-1002	20TI-9002	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-1003	Logic.Application	ELECTROLYZER	PROCESS	TT-1003	20TI-9003	FLOAT	°C	TEMPERATURE TRANSMITTER -20/80 DEG ATEX		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-001	Logic.Application	ELECTROLYZER	PROCESS	VM-001	20VM-0011	FLOAT	V	Voltage sensor of stack 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-002	Logic.Application	ELECTROLYZER	PROCESS	VM-002	20VM-0012	FLOAT	V	Voltage sensor of stack 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-003	Logic.Application	ELECTROLYZER	PROCESS	VM-003	20VM-0013	FLOAT	V	Voltage sensor of stack 3		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-004	Logic.Application	ELECTROLYZER	PROCESS	VM-004	20VM-0014	FLOAT	V	Voltage sensor of stack 4		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-005	Logic.Application	ELECTROLYZER	PROCESS	VM-005	20VM-0015	FLOAT	V	Voltage sensor of stack 5		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-006	Logic.Application	ELECTROLYZER	PROCESS	VM-006	20VM-0016	FLOAT	V	Voltage sensor of stack 6		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-007	Logic.Application	ELECTROLYZER	PROCESS	VM-007	20VM-0017	FLOAT	V	Voltage sensor of stack 7		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-008	Logic.Application	ELECTROLYZER	PROCESS	VM-008	20VM-0044	FLOAT	V	Voltage sensor of stack 8		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockSafetyFaults_SAFETY_FAULT_ALARM_CODE_1	Logic.Application	ELECTROLYZER	IntelockSafetyFaults	SAFETY_FAULT_ALARM_CODE_1	20XZA-0001	INT16		Each Bit of INT Code represent an alarm		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockSafetyFaults_SAFETY_FAULT_ALARM_CODE_2	Logic.Application	ELECTROLYZER	IntelockSafetyFaults	SAFETY_FAULT_ALARM_CODE_2	20XZA-0002	INT16		Each Bit of INT Code represent an alarm		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockSafetyFaults_SAFETY_FAULT_ALARM_CODE_3	Logic.Application	ELECTROLYZER	IntelockSafetyFaults	SAFETY_FAULT_ALARM_CODE_3	20XZA-0003	INT16		Each Bit of INT Code represent an alarm		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_Interlock_process_ALARM_(IP1)_CODE_01	Logic.Application	ELECTROLYZER	IntelockProcessFaults	Interlock process_ALARM (IP1)_CODE_01	20XA-0048	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_02	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_02	20XA-0021	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_03	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_03	20XA-0022	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_04	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_04	20XA-0023	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_05	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_05	20XA-0049	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_06	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_06	20XA-0050	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_07	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_07	20XA-0051	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_08	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_08	20XA-0052	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_09	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_09	20XA-0053	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_10	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_10	20XA-0054	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_11	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_11	20XA-0024	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_12	Logic.Application	ELECTROLYZER	IntelockProcessFaults	MAJOR_FAULT_ALARM_CODE_12	20XA-0025	INT16		Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessWarning_Warning_CODE_13	Logic.Application	ELECTROLYZER	IntelockProcessWarning	Warning_CODE_13	20XA-0026	INT16		Each Bit of INT Code represent a warning		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessWarning_Warning_CODE_14	Logic.Application	ELECTROLYZER	IntelockProcessWarning	Warning_CODE_14	20XA-0027	INT16		Each Bit of INT Code represent a warning		R	PROFINET			
Logic.Application.FUEL_CELL.AnalogCommands_POWER_SP	Logic.Application	FUEL_CELL	AnalogCommands	POWER_SP	80JC-0057	FLOAT		Export Power Setpoint kW. Range 0 to 1200 kW		R/W	MODBUS	1000	HOLDING REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_10ft-Container_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	10ft - Container Temperature	80TI-0039	INT16			Not implemented yet by package	R	MODBUS	1117	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_10ft-Ventilation_Fan_Speed	Logic.Application	FUEL_CELL	AnalogStatus	10ft - Ventilation Fan Speed	80SPD-0040	INT16			Not implemented yet by package	R	MODBUS	1118	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Container_Temperature_2	Logic.Application	FUEL_CELL	AnalogStatus	40ft - Container Temperature 2	80TI-0035	INT16			Not implemented yet by package	R	MODBUS	1113	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Container_Temperature_3	Logic.Application	FUEL_CELL	AnalogStatus	40ft - Container Temperature 3	80TI-0036	INT16			Not implemented yet by package	R	MODBUS	1114	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Ventilation_Fan_1_Speed	Logic.Application	FUEL_CELL	AnalogStatus	40ft - Ventilation Fan 1 Speed	80SPD-0037	INT16			Not implemented yet by package	R	MODBUS	1115	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Ventilation_Fan_2_Speed	Logic.Application	FUEL_CELL	AnalogStatus	40ft - Ventilation Fan 2 Speed	80SPD-0038	INT16			Not implemented yet by package	R	MODBUS	1116	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Ventilation_Intake_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	40ft - Ventilation Intake Temperature	80TI-0034	INT16			Not implemented yet by package	R	MODBUS	1112	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Ambient_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	Ambient Temperature	80TI-0060	FLOAT			Not implemented yet by package	R	MODBUS	1230	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Aux_AC_power	Logic.Application	FUEL_CELL	AnalogStatus	Aux AC power	80JI-0045	INT16				R	MODBUS	1041	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Apparent_Power	Logic.Application	FUEL_CELL	AnalogStatus	AUX Apparent Power	80JI-0078	FLOAT				R	MODBUS	1341	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Current_L1	Logic.Application	FUEL_CELL	AnalogStatus	AUX Current L1	80CI-4159	FLOAT				R	MODBUS	1336	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Current_L2	Logic.Application	FUEL_CELL	AnalogStatus	AUX Current L2	80CI-4260	FLOAT				R	MODBUS	1337	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Current_L3	Logic.Application	FUEL_CELL	AnalogStatus	AUX Current L3	80CI-4361	FLOAT				R	MODBUS	1338	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Frequency	Logic.Application	FUEL_CELL	AnalogStatus	AUX Frequency	80FRQ-0093	FLOAT				R	MODBUS	1343	INPUT REGISTER	UINT16

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part2	Original Data Type
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Power	Logic.Application	FUEL_CELL	AnalogStatus	AUX Power	80JI-0062	FLOAT				R	MODBUS	1339	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Power_Factor	Logic.Application	FUEL_CELL	AnalogStatus	AUX Power Factor	80XI-1992	FLOAT				R	MODBUS	1342	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Reactive_Power	Logic.Application	FUEL_CELL	AnalogStatus	AUX Reactive Power	80JI-1763	FLOAT				R	MODBUS	1340	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L1L2	Logic.Application	FUEL_CELL	AnalogStatus	AUX Voltage L1L2	80VI-4146	FLOAT				R	MODBUS	1330	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L1N	Logic.Application	FUEL_CELL	AnalogStatus	AUX Voltage L1N	80VI-4138	FLOAT				R	MODBUS	1333	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L2L3	Logic.Application	FUEL_CELL	AnalogStatus	AUX Voltage L2L3	80VI-2347	FLOAT				R	MODBUS	1331	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L2N	Logic.Application	FUEL_CELL	AnalogStatus	AUX Voltage L2N	80VI-4239	FLOAT				R	MODBUS	1334	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L3L1	Logic.Application	FUEL_CELL	AnalogStatus	AUX Voltage L3L1	80VI-4137	FLOAT				R	MODBUS	1332	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L3N	Logic.Application	FUEL_CELL	AnalogStatus	AUX Voltage L3N	80VI-4340	FLOAT				R	MODBUS	1335	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Available_Unused_Power_(AUP)	Logic.Application	FUEL_CELL	AnalogStatus	Available Unused Power (AUP)	80JI-0041	INT16			Not implemented yet by package	R	MODBUS	1119	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Calculated_Maximum_Power_(CMP)	Logic.Application	FUEL_CELL	AnalogStatus	Calculated Maximum Power (CMP)	80JI-0042	INT16			Not implemented yet by package	R	MODBUS	1120	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Container_intake_air_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	Container intake air Temperature	80TI-0061	FLOAT				R	MODBUS	1231	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_1	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 1	80ER-0046	INT16			Not implemented yet by package	R	MODBUS	1050	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_10	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 10	80ER-0010	INT16			Not implemented yet by package	R	MODBUS	1059	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_11	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 11	80ER-0011	INT16			Not implemented yet by package	R	MODBUS	1060	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_12	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 12	80ER-0022	INT16			Not implemented yet by package	R	MODBUS	1061	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_13	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 13	80ER-0048	INT16			Not implemented yet by package	R	MODBUS	1062	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_14	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 14	80ER-0049	INT16			Not implemented yet by package	R	MODBUS	1063	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_15	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 15	80ER-0050	INT16			Not implemented yet by package	R	MODBUS	1064	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_16	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 16	80ER-0051	INT16			Not implemented yet by package	R	MODBUS	1065	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_17	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 17	80ER-0016	INT16			Not implemented yet by package	R	MODBUS	1066	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_18	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 18	80ER-0017	INT16			Not implemented yet by package	R	MODBUS	1067	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_19	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 19	80ER-0019	INT16			Not implemented yet by package	R	MODBUS	1068	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_2	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 2	80ER-0047	INT16			Not implemented yet by package	R	MODBUS	1051	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_20	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 20	80ER-0021	INT16			Not implemented yet by package	R	MODBUS	1069	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_3	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 3	80ER-0020	INT16			Not implemented yet by package	R	MODBUS	1052	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_4	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 4	80ER-0002	INT16			Not implemented yet by package	R	MODBUS	1053	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_5	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 5	80ER-0005	INT16			Not implemented yet by package	R	MODBUS	1054	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_6	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 6	80ER-0006	INT16			Not implemented yet by package	R	MODBUS	1055	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_7	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 7	80ER-0018	INT16			Not implemented yet by package	R	MODBUS	1056	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_8	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 8	80ER-0008	INT16			Not implemented yet by package	R	MODBUS	1057	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_9	Logic.Application	FUEL_CELL	AnalogStatus	Error Code 9	80ER-0003	INT16			Not implemented yet by package	R	MODBUS	1058	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Export_AC_Power	Logic.Application	FUEL_CELL	AnalogStatus	Export AC Power	80JI-0019	INT16				R	MODBUS	1039	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_+_DC/DC_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	FC1 + DC/DC efficiency	80UI-8145	FLOAT			Not implemented yet by package	R	MODBUS	1203	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC1 DCDC A Power	80JI-8103	FLOAT				R	MODBUS	1239	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC1 DCDC B Power	80JI-8104	FLOAT				R	MODBUS	1240	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_H2_flow_rate	Logic.Application	FUEL_CELL	AnalogStatus	FC1 H2 flow rate	80UF-8125	FLOAT			Not implemented yet by package	R	MODBUS	1223	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	FC1 Hour Meter	80UI-8126	FLOAT			Not implemented yet by package	R	MODBUS	1280	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC1_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC1 shutdown counter	80CNT-8101	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1303	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Current_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC1 Stack Current String A	80CI-8132	FLOAT				R	MODBUS	1256	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Current_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC1 Stack Current String B	80CI-8117	FLOAT				R	MODBUS	1257	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_stack_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	FC1 stack lifetime produced energy	80JI-8153	FLOAT			Not implemented yet by package	R	MODBUS	1209	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC1 Stack Power	80JI-8128	FLOAT				R	MODBUS	1238	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Voltage_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC1 Stack Voltage String A	80VI-8118	FLOAT				R	MODBUS	1258	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Voltage_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC1 Stack Voltage String B	80VI-8119	FLOAT				R	MODBUS	1259	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC1 start counter	80CNT-8134	INT16			Not implemented yet by package	R	MODBUS	1296	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_State	Logic.Application	FUEL_CELL	AnalogStatus	FC1_State	80UI-8134	INT16		Fuel Cell Module #1 Statemachine Index (enumeration)		R	MODBUS	1001	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_+_DC/DC_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	FC2 + DC/DC efficiency	80UI-8246	FLOAT			Not implemented yet by package	R	MODBUS	1204	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC2 DCDC A Power	80JI-8277	FLOAT				R	MODBUS	1242	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC2 DCDC B Power	80JI-8216	FLOAT				R	MODBUS	1243	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_H2_flow_rate	Logic.Application	FUEL_CELL	AnalogStatus	FC2 H2 flow rate	80UF-8226	FLOAT			Not implemented yet by package	R	MODBUS	1224	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	FC2 Hour Meter	80UI-8227	FLOAT			Not implemented yet by package	R	MODBUS	1282	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC2_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC2 shutdown counter	80CNT-8278	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1304	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Current_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC2 Stack Current String A	80CI-8219	FLOAT				R	MODBUS	1260	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Current_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC2 Stack Current String B	80CI-8230	FLOAT				R	MODBUS	1261	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_stack_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	FC2 stack lifetime produced energy	80JI-8254	FLOAT			Not implemented yet by package	R	MODBUS	1211	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC2 Stack Power	80JI-8276	FLOAT				R	MODBUS	1241	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Voltage_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC2 Stack Voltage String A	80VI-8204	FLOAT				R	MODBUS	1262	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Voltage_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC2 Stack Voltage String B	80VI-8205	FLOAT				R	MODBUS	1263	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC2 start counter	80CNT-8235	INT16			Not implemented yet by package	R	MODBUS	1297	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_State	Logic.Application	FUEL_CELL	AnalogStatus	FC2_State	80UI-8218	INT16		Fuel Cell Module #2 Statemachine Index		R	MODBUS	1002	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_+_DC/DC_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	FC3 + DC/DC efficiency	80UI-8347	FLOAT			Not implemented yet by package	R	MODBUS	1205	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC3 DCDC A Power	80JI-8307	FLOAT				R	MODBUS	1245	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC3 DCDC B Power	80JI-8308	FLOAT				R	MODBUS	1246	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_H2_flow_rate	Logic.Application	FUEL_CELL	AnalogStatus	FC3 H2 flow rate	80UF-8304	FLOAT			Not implemented yet by package	R	MODBUS	1225	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	FC3 Hour Meter	80UI-8328	FLOAT			Not implemented yet by package	R	MODBUS	1284	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC3_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC3 shutdown counter	80CNT-8379	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1305	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Current_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC3 Stack Current String A	80CI-8303	FLOAT				R	MODBUS	1264	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Current_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC3 Stack Current String B	80CI-8306	FLOAT				R	MODBUS	1265	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_stack_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	FC3 stack lifetime produced energy	80JI-8355	FLOAT			Not implemented yet by package	R	MODBUS	1213	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC3 Stack Power	80JI-8317	FLOAT				R	MODBUS	1244	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Voltage_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC3 Stack Voltage String A	80VI-8304	FLOAT				R	MODBUS	1266	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Voltage_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC3 Stack Voltage String B	80VI-8366	FLOAT				R	MODBUS	1267	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC3 start counter	80CNT-8336	INT16			Not implemented yet by package	R	MODBUS	1298	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_State	Logic.Application	FUEL_CELL	AnalogStatus	FC3_State	80UI-8358	INT16		Fuel Cell Module #3 Statemachine Index		R	MODBUS	1003	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_+_DC/DC_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	FC4 + DC/DC efficiency	80UI-8448	FLOAT			Not implemented yet by package	R	MODBUS	1206	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC4 DCDC A Power	80JI-8437	FLOAT				R	MODBUS	1248	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC4 DCDC B Power	80JI-8412	FLOAT				R	MODBUS	1249	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_H2_flow_rate	Logic.Application	FUEL_CELL	AnalogStatus	FC4 H2 flow rate	80UF-8457	FLOAT			Not implemented yet by package	R	MODBUS	1226	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	FC4 Hour Meter	80UI-8429	FLOAT			Not implemented yet by package	R	MODBUS	1286	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC4_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC4 shutdown counter	80CNT-8480	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1306	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Current_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC4 Stack Current String A	80CI-8467	FLOAT				R	MODBUS	1268	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Current_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC4 Stack Current String B	80CI-8421	FLOAT				R	MODBUS	1269	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_stack_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	FC4 stack lifetime produced energy	80JI-8456	FLOAT			Not implemented yet by package	R	MODBUS	1215	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC4 Stack Power	80JI-8464	FLOAT				R	MODBUS	1247	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Voltage_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC4 Stack Voltage String A	80VI-8450	FLOAT				R	MODBUS	1270	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Voltage_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC4 Stack Voltage String B	80VI-8404	FLOAT				R	MODBUS	1271	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC4 start counter	80CNT-8439	INT16			Not implemented yet by package	R	MODBUS	1299	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_State	Logic.Application	FUEL_CELL	AnalogStatus	FC4_State	80UI-8459	INT16		Fuel Cell Module #4 Statemachine Index		R	MODBUS	1004	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_+_DC/DC_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	FC5 + DC/DC efficiency	80UI-8549	FLOAT			Not implemented yet by package	R	MODBUS	1207	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC5 DCDC A Power	80JI-8529	FLOAT				R	MODBUS	1251	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC5 DCDC B Power	80JI-8504	FLOAT				R	MODBUS	1252	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_H2_flow_rate	Logic.Application	FUEL_CELL	AnalogStatus	FC5 H2 flow rate	80UF-8558	FLOAT			Not implemented yet by package	R	MODBUS	1227	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	FC5 Hour Meter	80UI-8530	FLOAT			Not implemented yet by package	R	MODBUS	1288	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC5_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC5 shutdown counter	80CNT-8581	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1307	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Current_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC5 Stack Current String A	80CI-8522	FLOAT				R	MODBUS	1272	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Current_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC5 Stack Current String B	80CI-8533	FLOAT				R	MODBUS	1273	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_stack_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	FC5 stack lifetime produced energy	80JI-8503	FLOAT			Not implemented yet by package	R	MODBUS	1217	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC5 Stack Power	80JI-8565	FLOAT				R	MODBUS	1250	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Voltage_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC5 Stack Voltage String A	80VI-8534	FLOAT				R	MODBUS	1274	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Voltage_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC5 Stack Voltage String B	80VI-8535	FLOAT				R	MODBUS	1275	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC5 start counter	80CNT-8540	INT16			Not implemented yet by package	R	MODBUS	1300	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_State	Logic.Application	FUEL_CELL	AnalogStatus	FC5_State	80UI-8560	INT16		Fuel Cell Module #5 Statemachine Index		R	MODBUS	1005	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_+_DC/DC_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	FC6 + DC/DC efficiency	80UI-8652	FLOAT			Not implemented yet by package	R	MODBUS	1208	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC6 DCDC A Power	80JI-8630	FLOAT				R	MODBUS	1254	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC6 DCDC B Power	80JI-8631	FLOAT				R	MODBUS	1255	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_H2_flow_rate	Logic.Application	FUEL_CELL	AnalogStatus	FC6 H2 flow rate	80UF-8603	FLOAT			Not implemented yet by package	R	MODBUS	1228	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	FC6 Hour Meter	80UI-8631	FLOAT			Not implemented yet by package	R	MODBUS	1290	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC6_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC6 shutdown counter	80CNT-8682	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1308	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Current_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC6 Stack Current String A	80CI-8636	FLOAT			Not implemented yet by package	R	MODBUS	1276	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Current_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC6 Stack Current String B	80CI-8623	FLOAT			Not implemented yet by package	R	MODBUS	1277	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_stack_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	FC6 stack lifetime produced energy	80JI-8623	FLOAT			Not implemented yet by package	R	MODBUS	1219	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Power	Logic.Application	FUEL_CELL	AnalogStatus	FC6 Stack Power	80JI-8605	FLOAT				R	MODBUS	1253	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Voltage_String_A	Logic.Application	FUEL_CELL	AnalogStatus	FC6 Stack Voltage String A	80VI-8624	FLOAT			Not implemented yet by package	R	MODBUS	1278	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Voltage_String_B	Logic.Application	FUEL_CELL	AnalogStatus	FC6 Stack Voltage String B	80VI-8625	FLOAT			Not implemented yet by package	R	MODBUS	1279	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	FC6 start counter	80CNT-8641	INT16			Not implemented yet by package	R	MODBUS	1301	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_State	Logic.Application	FUEL_CELL	AnalogStatus	FC6_State	80UI-8661	INT16		Fuel Cell Module #6 Statemachine Index		R	MODBUS	1006	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCM_RUNNING	Logic.Application	FUEL_CELL	AnalogStatus	FCM_RUNNING	80UI-0063	INT16		Number of Fuel Cell Modules Producing Power		R	MODBUS	1016	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_1_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 1 DCDC A Power	80JI-0026	FLOAT				R	MODBUS	1021	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_1_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 1 DCDC B Power	80JI-0064	FLOAT				R	MODBUS	1022	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_1_Power_Internal	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 1 Power Internal	80JI-0025	FLOAT			Not implemented yet by package	R	MODBUS	1020	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_2_DCDC_A_Power	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 2 DCDC A Power	80JI-0066	FLOAT				R	MODBUS	1024	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_2_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 2 DCDC B Power	80JI-0067	FLOAT				R	MODBUS	1025	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_2_Power_Internal	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 2 Power Internal	80JI-0065	FLOAT			Not implemented

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part2	Original Data Type
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_6_DCDC_B_Power	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 6 DCDC B Power	80JI-0037	FLOAT				R	MODBUS	1037	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_6_Power_Internal	Logic.Application	FUEL_CELL	AnalogStatus	FCWave 6 Power Internal	80JI-0074	FLOAT			Not implemented yet by package	R	MODBUS	1035	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_H2_Consumtion_Status_Word	Logic.Application	FUEL_CELL	AnalogStatus	H2 Consumtion Status Word	80US-0059	UINT		Bitmask. Each bit (n) indicates that the FCn is consuming	Not implemented yet by package	R	MODBUS	1229	INPUT REGISTER	WORD
Logic.Application.FUEL_CELL.AnalogStatus_HT1_Coolant_Forward_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	HT1 Coolant Forward Temperature	80TI-0022	FLOAT				R	MODBUS	1235	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1_Coolant_Return_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	HT1 Coolant Return Temperature	80TI-0023	FLOAT				R	MODBUS	1234	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1-Flowrate	Logic.Application	FUEL_CELL	AnalogStatus	HT1 - Flowrate	80UIF-0024	FLOAT				R	MODBUS	1102	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1-Pump_RPM	Logic.Application	FUEL_CELL	AnalogStatus	HT1 - Pump RPM	80SPD-0025	INT16			Not implemented yet by package	R	MODBUS	1103	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2_Coolant_Forward_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	HT2 Coolant Forward Temperature	80TI-0026	FLOAT				R	MODBUS	1237	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2_Coolant_Return_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	HT2 Coolant Return Temperature	80TI-0027	FLOAT				R	MODBUS	1236	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2-Flowrate	Logic.Application	FUEL_CELL	AnalogStatus	HT2 - Flowrate	80UIF-0028	INT16			Not implemented yet by package	R	MODBUS	1106	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2-Pump_RPM	Logic.Application	FUEL_CELL	AnalogStatus	HT2 - Pump RPM	80SPD-0029	INT16			Not implemented yet by package	R	MODBUS	1107	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT_Coolant_Return_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	LT Coolant Return Temperature	80TI-0030	FLOAT				R	MODBUS	1232	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT_Cooling_Forward_Temperature	Logic.Application	FUEL_CELL	AnalogStatus	LT Cooling Forward Temperature	80TI-0031	FLOAT				R	MODBUS	1233	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT-Flowrate	Logic.Application	FUEL_CELL	AnalogStatus	LT - Flowrate	80UIF-0032	INT16			Not implemented yet by package	R	MODBUS	1110	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT-Pump_RPM	Logic.Application	FUEL_CELL	AnalogStatus	LT - Pump RPM	80SPD-0033	INT16			Not implemented yet by package	R	MODBUS	1111	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L1L2	Logic.Application	FUEL_CELL	AnalogStatus	Main Busbar Voltage L1L2	80VI-4157	FLOAT				R	MODBUS	1324	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L1N	Logic.Application	FUEL_CELL	AnalogStatus	Main Busbar Voltage L1N	80VI-4143	FLOAT				R	MODBUS	1327	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L2L3	Logic.Application	FUEL_CELL	AnalogStatus	Main Busbar Voltage L2L3	80VI-2358	FLOAT				R	MODBUS	1325	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L2N	Logic.Application	FUEL_CELL	AnalogStatus	Main Busbar Voltage L2N	80VI-4244	FLOAT				R	MODBUS	1328	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L3L1	Logic.Application	FUEL_CELL	AnalogStatus	Main Busbar Voltage L3L1	80VI-4142	FLOAT				R	MODBUS	1326	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L3N	Logic.Application	FUEL_CELL	AnalogStatus	Main Busbar Voltage L3N	80VI-4245	FLOAT				R	MODBUS	1329	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Apparent_Power	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Apparent Power	80JI-0054	FLOAT				R	MODBUS	1321	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Current_L1	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Current L1	80CI-4190	INT16				R	MODBUS	1316	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Current_L2	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Current L2	80CI-4291	INT16				R	MODBUS	1317	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Current_L3	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Current L3	80CI-4351	INT16				R	MODBUS	1318	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Frequency	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Frequency	80FRQ-0056	FLOAT				R	MODBUS	1323	INPUT REGISTER	UINT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Power	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Power	80JI-0052	FLOAT				R	MODBUS	1319	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Power_Factor	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Power Factor	80XI-1955	FLOAT				R	MODBUS	1322	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Reactive_Power	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Reactive Power	80JI-1753	FLOAT				R	MODBUS	1320	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L1L2	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Voltage L1L2	80VI-4184	FLOAT				R	MODBUS	1310	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L1N	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Voltage L1N	80VI-4187	FLOAT				R	MODBUS	1313	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L2L3	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Voltage L2L3	80VI-2385	FLOAT				R	MODBUS	1311	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L2N	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Voltage L2N	80VI-4288	FLOAT				R	MODBUS	1314	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L3L1	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Voltage L3L1	80VI-4186	FLOAT				R	MODBUS	1312	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L3N	Logic.Application	FUEL_CELL	AnalogStatus	Main Output Voltage L3N	80VI-4389	FLOAT				R	MODBUS	1315	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Nanogrid AC_Power	Logic.Application	FUEL_CELL	AnalogStatus	Nanogrid AC Power	80JI-0044	INT16			Not implemented yet by package	R	MODBUS	1040	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Operating_state	Logic.Application	FUEL_CELL	AnalogStatus	Operating state	80UI-0043	INT16			Not implemented yet by package	R	MODBUS	1121	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_P_MAX	Logic.Application	FUEL_CELL	AnalogStatus	P_MAX	80UI-0062	INT16		Total Capacity of FC Package		R	MODBUS	1013	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_P_OPTIMIZED	Logic.Application	FUEL_CELL	AnalogStatus	P_OPTIMIZED	80UI-0017	INT16		Fuel Efficient Power Point	Not implemented yet by package	R	MODBUS	1014	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_PLC_ON_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	PLC ON Hour Meter	80UI-0035	FLOAT			Not implemented yet by package	R	MODBUS	1294	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_StateMain	Logic.Application	FUEL_CELL	AnalogStatus	StateMain	80UI-0033	INT16		MainFCPackageStatemachine Index (enumeration) 6:Initialization(Initialize) 10:Sleep(Sleep) 14:Wakeup(StartupContainerVentilation) 17:Wakeup(FCwaveWakeup) 19:Wakeup(HydrogenHeaterStartup) 20:Standby(Standby) 30:Startup(BatteryStartup) 40:Startup(NanogridStartup) 50:Startup(LTCoolantStartup) 60:Startup(MicrogridStartup) 100:Running(Running) 105:Rampdown(RampDownPower) 110:Rampdown(MicrogridShutdown) 120:Rampdown(ChargeBattery) 130:Rampdown(ShutdownFCwaves) 140:Aftercool(Aftercool) 160:Shutdown(ShutdownNanogrid) 172:Shutdown(ShutdownHydorgenHeater) 180:Shutdown(PutFCwavesToSleep) 190:Shutdown(ShutdownVentilation) 200:Error(Error)		R	MODBUS	1000	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_System_efficiency	Logic.Application	FUEL_CELL	AnalogStatus	System efficiency	80UI-0044	FLOAT		+/- 5% ACCURACY	Not implemented yet by package	R	MODBUS	1202	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_System_lifetime_produced_energy	Logic.Application	FUEL_CELL	AnalogStatus	System lifetime produced energy	80JI-0024	UINT32			Not implemented yet by package	R	MODBUS	1221	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_System_ON_Hour_Meter	Logic.Application	FUEL_CELL	AnalogStatus	System ON Hour Meter	80UI-0032	FLOAT			Not implemented yet by package	R	MODBUS	1292	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_System_shutdown_counter	Logic.Application	FUEL_CELL	AnalogStatus	System shutdown counter	80CNT-0083	INT16		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1309	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_System_start_counter	Logic.Application	FUEL_CELL	AnalogStatus	System start counter	80CNT-0099	INT16			Not implemented yet by package	R	MODBUS	1302	INPUT REGISTER	INT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Available_capacity	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Available_capacity	89UI-0001	UINT16	kW	InverterSystem_Available_capacity		w	MODBUS	30001	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Current_curtailment_setpoint	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Current_curtailment_setpoint	89CI-0007	UINT16	kW	InverterSystem_Current_curtailment_setpoint		w	MODBUS	30003	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Current_total_power	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Current_total_power	89QII-0007	UINT16	kW	InverterSystem_Current_total_power		w	MODBUS	30005	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Status	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Status	89US-0004	BOOL		InverterSystem_Status		R	MODBUS	30007	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Fault	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Fault	89US-0005	BOOL		InverterSystem_Fault		R	MODBUS	30008	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Maintenance	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Maintenance	89US-3806	BOOL		InverterSystem_Maintenance		R	MODBUS	30009	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Curtailment_setpoint_CMD	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Curtailment_setpoint_CMD	89UC-0001	UINT16	kW	InverterSystem_Curtailment_setpoint_CMD		W	MODBUS	40001	HOLDING REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Startup_CMD	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Startup_CMD	89ST-0001	BOOL		InverterSystem_Startup_CMD		W	MODBUS	40003	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Shutdown_CMD	Logic.Application	SOLAR_FARM_GVL		InverterSystem_Shutdown_CMD	89SP-0001	BOOL		InverterSystem_Shutdown_CMD		W	MODBUS	40004	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_OpenStatus	Logic.Application	SOLAR_FARM_GVL		Main_CB_OpenStatus	89ZSH-0005	BOOL		Main_CB_OpenStatus		R	MODBUS	30101	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_ClosedStatus	Logic.Application	SOLAR_FARM_GVL		Main_CB_ClosedStatus	89ZSL-0004	BOOL		Main_CB_ClosedStatus		R	MODBUS	30102	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_RemoteControlAvailable	Logic.Application	SOLAR_FARM_GVL		Main_CB_RemoteControlAvailable	89REM-0003	BOOL		Main_CB_RemoteControlAvailable		R	MODBUS	30103	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_OpenRequest_CMD	Logic.Application	SOLAR_FARM_GVL		Main_CB_OpenRequest_CMD	89ZSH-0006	BOOL		Main_CB_OpenRequest_CMD		R	MODBUS	40101	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_ClosedRequest_CMD	Logic.Application	SOLAR_FARM_GVL		Main_CB_ClosedRequest_CMD	89ZSL-0005	BOOL		Main_CB_ClosedRequest_CMD		R	MODBUS	40102	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.EQMeter_A_B_line_voltage	Logic.Application	SOLAR_FARM_GVL		EQMeter_A_B_line_voltage	89VI-0007	FLOAT	V	EQMeter_A_B_line_voltage		R	MODBUS	30201	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_B_C_line_voltage	Logic.Application	SOLAR_FARM_GVL		EQMeter_B_C_line_voltage	89VI-0008	FLOAT	V	EQMeter_B_C_line_voltage		W	MODBUS	30203	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_C_A_line_voltage	Logic.Application	SOLAR_FARM_GVL		EQMeter_C_A_line_voltage	89VI-0009	FLOAT	V	EQMeter_C_A_line_voltage		W	MODBUS	30205	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_A_current	Logic.Application	SOLAR_FARM_GVL		EQMeter_Phase_A_current	89CI-0008	FLOAT	A	EQMeter_Phase_A_current		R	MODBUS	30207	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_B_current	Logic.Application	SOLAR_FARM_GVL		EQMeter_Phase_B_current	89CI-0009	FLOAT	A	EQMeter_Phase_B_current		R	MODBUS	30209	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_C_current	Logic.Application	SOLAR_FARM_GVL		EQMeter_Phase_C_current	89CI-0010	FLOAT	A	EQMeter_Phase_C_current		R	MODBUS	30211	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Total_active_power	Logic.Application	SOLAR_FARM_GVL		EQMeter_Total_active_power	89QJI-1808	FLOAT	kW	EQMeter_Total_active_power		R	MODBUS	30213	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_A_B_line_voltage_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_A_B_line_voltage_CMD	89VI-0010	FLOAT	V	External_EQMeter_A_B_line_voltage_CMD		W	MODBUS	40301	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_B_C_line_voltage_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_B_C_line_voltage_CMD	89VI-0011	FLOAT	V	External_EQMeter_B_C_line_voltage_CMD		W	MODBUS	40303	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_C_A_line_voltage_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_C_A_line_voltage_CMD	89VI-0012	FLOAT	V	External_EQMeter_C_A_line_voltage_CMD		W	MODBUS	40305	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_A_current_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_Phase_A_current_CMD	89CI-0011	FLOAT	A	External_EQMeter_Phase_A_current_CMD		W	MODBUS	40307	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_B_current_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_Phase_B_current_CMD	89CI-0012	FLOAT	A	External_EQMeter_Phase_B_current_CMD		W	MODBUS	40309	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_C_current_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_Phase_C_current_CMD	89CI-0013	FLOAT	A	External_EQMeter_Phase_C_current_CMD		W	MODBUS	40311	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Total_active_power_CMD	Logic.Application	SOLAR_FARM_GVL		External_EQMeter_Total_active_power_CMD	89QJI-1809	FLOAT	kW	External_EQMeter_Total_active_power_CMD		W	MODBUS	40313	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_CB_OpenStatus_CMD	Logic.Application	SOLAR_FARM_GVL		External_CB_OpenStatus_CMD	89ZSH-0007	BOOL		External_CB_OpenStatus_CMD		W	MODBUS	30401	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_ClosedStatus_CMD	Logic.Application	SOLAR_FARM_GVL		External_CB_ClosedStatus_CMD	89ZSL-0006	BOOL		External_CB_ClosedStatus_CMD		W	MODBUS	30402	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_OpenRequest	Logic.Application	SOLAR_FARM_GVL		External_CB_OpenRequest	89ZSH-0008	BOOL		External_CB_OpenRequest		R	MODBUS	40401	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_ClosedRequest	Logic.Application	SOLAR_FARM_GVL		External_CB_ClosedRequest	89ZSL-0007	BOOL		External_CB_ClosedRequest		R	MODBUS	40402	HOLDING REGISTER	BIT
Logic.Application.BESS.Status1_Statusword	Logic.Application	BESS	Status1	Statusword	85US-9102	UINT16		Bitmask 0:Warning 1:Error 2:Preheat State 3:Standby State 4:Precharge State 5:Ready State 6:Active State "In Operation" 7:Safety relais triggered 8:Smoke detector triggered 9:main switch on		R	MODBUS			
Logic.Application.BESS_GVL.Status1_StatusWord_Warning	Logic.Application	BESS_GVL		Status1_StatusWord_Warning	85XA-9101	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_Error	Logic.Application	BESS_GVL		Status1_StatusWord_Error	85XA-9102	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_PhreHeat	Logic.Application	BESS_GVL		Status1_StatusWord_PhreHeat	85US-9108	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_StandBy	Logic.Application	BESS_GVL		Status1_StatusWord_StandBy	85US-9105	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_PreCharge	Logic.Application	BESS_GVL		Status1_StatusWord_PreCharge	85US-9106	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_Ready	Logic.Application	BESS_GVL		Status1_StatusWord_Ready	85RDY-9101	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_ActiveInOperation	Logic.Application	BESS_GVL		Status1_StatusWord_ActiveInOperation	85US-9107	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_SafetyRelaisTriggered	Logic.Application	BESS_GVL		Status1_StatusWord_SafetyRelaisTriggered	85XS-9101	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_SmokeDetectorTriggered	Logic.Application	BESS_GVL		Status1_StatusWord_SmokeDetectorTriggered	85XS-9102	BOOL								
Logic.Application.BESS_GVL.Status1_StatusWord_MainSwitchOn	Logic.Application	BESS_GVL		Status1_StatusWord_MainSwitchOn	85US-9104	BOOL								
Logic.Application.BESS_GVL.Status1_HeartBeat	Logic.Application	BESS_GVL		Status1_HeartBeat	85US-9103	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Control_Cab_Temp	Logic.Application	BESS_GVL		Status1_Control_Cab_Temp	85TI-9109	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Power_Cab_Temp	Logic.Application	BESS_GVL		Status1_Power_Cab_Temp	85JI-9104	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Cab_Temp	Logic.Application	BESS_GVL		Status1_Cab_Temp	85TI-9110	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Cooling_Water_Temp	Logic.Application	BESS_GVL		Status1_Cooling_Water_Temp	85TI-9111	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Outside_Temp	Logic.Application	BESS_GVL		Status1_Outside_Temp	85TI-9128	INT16								
Logic.Application.BESS_GVL.Status1_Room_Temp	Logic.Application	BESS_GVL		Status1_Room_Temp	85TI-9129	INT16								
Logic.Application.BESS_GVL.Status1_Actual_Records	Logic.Application	BESS_GVL		Status1_Actual_Records	85UI-9101	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record	Logic.Application	BESS_GVL		Status1_Record	85UI-9102	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_Error_Number	Logic.Application	BESS_GVL		Status1_Record_Error_Number	85ERR-9101	UINT32				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_Error_Level	Logic.Application	BESS_GVL		Status1_Record_Error_Level	85ERR-9102	INT16				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_TimeStamp_Date	Logic.Application	BESS_GVL		Status1_Record_TimeStamp_Date	85UI-9103	DATE				R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_TimeStamp_Time	Logic.Application	BESS_GVL		Status1_Record_TimeStamp_Time	85UI-9104	TIME				R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_1_Temp	Logic.Application	BESS_GVL		Status2_IGBT_1_Temp	85TI-9212	INT16		Status2_IGBT_1_Temp		R	MODBUS			

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.Status2_Inductor_1_Temp	Logic.Application	BESS_GVL		Status2_Inductor_1_Temp	85TI-9213	INT16		Status2_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_2_Temp	Logic.Application	BESS_GVL		Status2_IGBT_2_Temp	85TI-9214	INT16		Status2_IGBT_2_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_2_Temp	Logic.Application	BESS_GVL		Status2_Inductor_2_Temp	85TI-9215	INT16		Status2_Inductor_2_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_3_Temp	Logic.Application	BESS_GVL		Status2_IGBT_3_Temp	85TI-9216	INT16		Status2_IGBT_3_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_3_Temp	Logic.Application	BESS_GVL		Status2_Inductor_3_Temp	85TI-9217	INT16		Status2_Inductor_3_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_4_Temp	Logic.Application	BESS_GVL		Status2_IGBT_4_Temp	85TI-9218	INT16		Status2_IGBT_4_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_4_Temp	Logic.Application	BESS_GVL		Status2_Inductor_4_Temp	85TI-9219	INT16		Status2_Inductor_4_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_5_Temp	Logic.Application	BESS_GVL		Status2_IGBT_5_Temp	85TI-9220	INT16		Status2_IGBT_5_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_5_Temp	Logic.Application	BESS_GVL		Status2_Inductor_5_Temp	85TI-9221	INT16		Status2_Inductor_5_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Grid_Frequency	Logic.Application	BESS_GVL		Status2_Grid_Frequency	85FRQ-9202	FLOAT		Status2_Grid_Frequency		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT1_RMS_Voltage	Logic.Application	BESS_GVL		Status2_IGBT1_RMS_Voltage	85VI-9204	FLOAT		Status2_IGBT1_RMS_Voltage		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT2_RMS_Voltage	Logic.Application	BESS_GVL		Status2_IGBT2_RMS_Voltage	85VI-9205	FLOAT		Status2_IGBT2_RMS_Voltage		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT3_RMS_Voltage	Logic.Application	BESS_GVL		Status2_IGBT3_RMS_Voltage	85VI-9206	FLOAT		Status2_IGBT3_RMS_Voltage		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT1_RMS_Current	Logic.Application	BESS_GVL		Status2_IGBT1_RMS_Current	85CI-9204	FLOAT		Status2_IGBT1_RMS_Current		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT2_RMS_Current	Logic.Application	BESS_GVL		Status2_IGBT2_RMS_Current	85CI-9205	FLOAT		Status2_IGBT2_RMS_Current		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT3_RMS_Current	Logic.Application	BESS_GVL		Status2_IGBT3_RMS_Current	85CI-9206	FLOAT		Status2_IGBT3_RMS_Current		R	MODBUS			
Logic.Application.BESS_GVL.Status3_StatusWord_Available	Logic.Application	BESS_GVL		Status3_StatusWord_Available	85US-9306	BOOL		Status3_StatusWord_Available		R				
Logic.Application.BESS_GVL.Status3_StatusWord_PRL_Active	Logic.Application	BESS_GVL		Status3_StatusWord_PRL_Active	85US-9305	BOOL		Status3_StatusWord_PRL_Active		R				
Logic.Application.BESS_GVL.Status3_ActivePower	Logic.Application	BESS_GVL		Status3_ActivePower	85JI-1805	FLOAT	kW	Status3_ActivePower		R	MODBUS			
Logic.Application.BESS_GVL.Status3_ReactivePower	Logic.Application	BESS_GVL		Status3_ReactivePower	85JI-1706	FLOAT	KVAr	Status3_ReactivePower		R	MODBUS			
Logic.Application.BESS_GVL.Status3_SOC	Logic.Application	BESS_GVL		Status3_SOC	85UI-9305	FLOAT	%	Status3_SOC		R	MODBUS			
Logic.Application.BESS_GVL.Status3_SOH	Logic.Application	BESS_GVL		Status3_SOH	85UI-9306	FLOAT	%	Status3_SOH		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Charge_Power_Max	Logic.Application	BESS_GVL		Status3_Charge_Power_Max	85JI-9307	FLOAT	kW	Status3_Charge_Power_Max		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Discharge_Power_Max	Logic.Application	BESS_GVL		Status3_Discharge_Power_Max	85JI-9308	FLOAT	kW	Status3_Discharge_Power_Max		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Charge_Energy	Logic.Application	BESS_GVL		Status3_Charge_Energy	85JI-9309	FLOAT	kWh	Status3_Charge_Energy		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Discharge_Energy	Logic.Application	BESS_GVL		Status3_Discharge_Energy	85JI-9310	FLOAT	kWh	Status3_Discharge_Energy		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Convert_Operating_Mode	Logic.Application	BESS_GVL		Status3_Convert_Operating_Mode	85UI-9307	INT16		Status3_Convert_Operating_Mode		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand	Logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand	85US-0001			String_StatusWord_Balancing_Demand						
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active	Logic.Application	BESS_GVL		String_StatusWord_Balancing_Active	85US-0002			String_StatusWord_Balancing_Active						
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected	Logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected	85US-0003			String_StatusWord_Battery_Rack1_Connected						
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected	Logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected	85US-0004			String_StatusWord_Battery_Rack2_Connected						
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error	Logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error	85XA-0001			String_StatusWord_Battery_Rack1_Error						
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error	Logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error	85XA-0002			String_StatusWord_Battery_Rack2_Error						
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1	Logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1	85XS-0001			String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1						
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2	Logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2	85XS-0002			String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2						
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1	Logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1	85XA-0003			String_StatusWord_Gas_Alarm_Battery_Rack_1						
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2	Logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2	85XA-0004			String_StatusWord_Gas_Alarm_Battery_Rack_2						
Logic.Application.BESS_GVL.String_Current_1	Logic.Application	BESS_GVL		String_Current_1	85CI-7307	FLOAT		String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1	Logic.Application	BESS_GVL		String_Voltage_1	85VI-7307	FLOAT		String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1	Logic.Application	BESS_GVL		String_Cell_Voltage_Min_1	85VI-7308	FLOAT		String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1	Logic.Application	BESS_GVL		String_Cell_Voltage_Max_1	85VI-7309	FLOAT		String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1	Logic.Application	BESS_GVL		String_Cell_Temp_Min_1	85TI-7322	FLOAT		String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1	Logic.Application	BESS_GVL		String_Cell_Temp_Max_1	85TI-7323	FLOAT		String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1	Logic.Application	BESS_GVL		String_SOC_1	85UI-7308	FLOAT		String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2	Logic.Application	BESS_GVL		String_Current_2	85CI-7308	FLOAT		String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2	Logic.Application	BESS_GVL		String_Voltage_2	85VI-7310	FLOAT		String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2	Logic.Application	BESS_GVL		String_Cell_Voltage_Min_2	85VI-7311	FLOAT		String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2	Logic.Application	BESS_GVL		String_Cell_Voltage_Max_2	85VI-7312	FLOAT		String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2	Logic.Application	BESS_GVL		String_Cell_Temp_Min_2	85TI-7324	FLOAT		String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2	Logic.Application	BESS_GVL		String_Cell_Temp_Max_2	85TI-7325	FLOAT		String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2	Logic.Application	BESS_GVL		String_SOC_2	85UI-7309	FLOAT		String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp	Logic.Application	BESS_GVL		String_IGBT_1_Temp	85TI-7326	INT16		String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp	Logic.Application	BESS_GVL		String_Inductor_1_Temp	85TI-7327	INT16		String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Control_Controlword	Logic.Application	BESS_GVL	Control	Controlword	85UI-0010	INT16		Controlword	Bit 13 = 1 -> Start Bit 13 = 0 -> Stop	W	MODBUS			
Logic.Application.BESS_GVL.Control_Reset_cmd	Logic.Application	BESS_GVL		Control_Reset_cmd	85RSTC-7302	BOOL		Control_Reset_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Preheating_System_cmd	Logic.Application	BESS_GVL		Control_Enable_Preheating_System_cmd	85UC-0001	BOOL		Control_Enable_Preheating_System_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Precharging_DC_Link_cmd	Logic.Application	BESS_GVL		Control_Enable_Precharging_DC_Link_cmd	85UC-0002	BOOL		Control_Enable_Precharging_DC_Link_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Primary_Control_Mode_cmd	Logic.Application	BESS_GVL		Control_Enable_Primary_Control_Mode_cmd	85UC-0003	BOOL		Control_Enable_Primary_Control_Mode_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_1_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_1_cmd	85UC-0004	BOOL		Control_Enable_Balancing_DC_DC_1_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_2_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_2_cmd	85UC-0005	BOOL		Control_Enable_Balancing_DC_DC_2_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_3_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_3_cmd	85UC-0006	BOOL		Control_Enable_Balancing_DC_DC_3_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_4_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_4_cmd	85UC-0007	BOOL		Control_Enable_Balancing_DC_DC_4_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_5_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_5_cmd	85UC-0008	BOOL		Control_Enable_Balancing_DC_DC_5_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_6_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_6_cmd	85UC-0009	BOOL		Control_Enable_Balancing_DC_DC_6_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_7_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_7_cmd	85UC-00010	BOOL		Control_Enable_Balancing_DC_DC_7_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_8_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_8_cmd	85UC-00011	BOOL		Control_Enable_Balancing_DC_DC_8_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_9_cmd	Logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_9_cmd	85UC-00012	BOOL		Control_Enable_Balancing_DC_DC_9_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Start_Signal_From_EMCS_cmd	Logic.Application	BESS_GVL		Control_Start_Signal_From_EMCS_cmd	85UC-00013	BOOL		Control_Start_Signal_From_EMCS_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_HeartBeat_cmd	Logic.Application	BESS_GVL		Control_HeartBeat_cmd	85UI-0011	INT16		Control_HeartBeat_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_HeartBeat_TimeOut_cmd	Logic.Application	BESS_GVL		Control_HeartBeat_TimeOut_cmd	85UI-7312	INT16		Control_HeartBeat_TimeOut_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Request_Alarm_Record_cmd	Logic.Application	BESS_GVL		Control_Request_Alarm_Record_cmd	85XA-7302	INT16		Control_Request_Alarm_Record_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_ActivePower_cmd	Logic.Application	BESS_GVL		Control_ActivePower_cmd	85JI-7311	INT16	kW	Control_ActivePower_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_ReactivePower_cmd	Logic.Application	BESS_GVL		Control_ReactivePower_cmd	85JI-1712	INT16		Control_ReactivePower_cmd		W	MODBUS			
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Raise_On_CMD	Logic.Application	TransformerAVR_GVL		Change_Tap_Position_Raise_On_CMD	70UC-0021	BOOL		Change_Tap_Position_Raise_On_CMD		W	MODBUS	0	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Lower_On_CMD	Logic.Application	TransformerAVR_GVL		Change_Tap_Position_Lower_On_CMD	70UC-0022	BOOL		Change_Tap_Position_Lower_On_CMD		W	MODBUS	1	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Raise_On_CMD	Logic.Application	TransformerAVR_GVL		Change_Voltage_Raise_On_CMD	70UC-0023	BOOL		Change_Voltage_Raise_On_CMD		W	MODBUS	2	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Lower_On_CMD	Logic.Application	TransformerAVR_GVL		Change_Voltage_Lower_On_CMD	70UC-0024	BOOL		Change_Voltage_Lower_On_CMD		W	MODBUS	3	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation_On_CMD	Logic.Application	TransformerAVR_GVL		Automatic_Manual_operation_On_CMD	70UC-0025	BOOL		Automatic_Manual_operation_On_CMD		W	MODBUS	4	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_active_On_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_1_active_On_CMD	70UC-0026	BOOL		Band_center_voltage_1_active_On_CMD		W	MODBUS	5	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_active_On_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_2_active_On_CMD	70UC-0027	BOOL		Band_center_voltage_2_active_On_CMD		W	MODBUS	6	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_active_On_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_3_active_On_CMD	70UC-0028	BOOL		Band_center_voltage_3_active_On_CMD		W	MODBUS	7	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Parallel_Independent_On_CMD	Logic.Application	TransformerAVR_GVL		Parallel_Independent_On_CMD	70UC-0029	BOOL		Parallel_Independent_On_CMD		W	MODBUS	10	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control_On_CMD	Logic.Application	TransformerAVR_GVL		Master_mode_selection_activationparallel_control_On_CMD	70UC-0030	BOOL		Master_mode_selection_activationparallel_control_On_CMD		W	MODBUS	11	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control_On_CMD	Logic.Application	TransformerAVR_GVL		Follower_mode_selection_activationparallel_control_On_CMD	70UC-0031	BOOL		Follower_mode_selection_activationparallel_control_On_CMD		W	MODBUS	12	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control_On_CMD	Logic.Application	TransformerAVR_GVL		Circulating_current_selection_activation_parallel_control_On_CMD	70UC-0032	BOOL		Circulating_current_selection_activation_parallel_control_On_CMD		W	MODBUS	13	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation_On_CMD	Logic.Application	TransformerAVR_GVL		Line_Drop_Compensation_On_CMD	70UC-0033	BOOL		Line_Drop_Compensation_On_CMD		W	MODBUS	14	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD	Logic.Application	TransformerAVR_GVL		Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage	70UC-0034	BOOL		Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD		W	MODBUS	15	COILS	BOOL
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_On_CMD	Logic.Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control_On_CMD	70UC-0035	BOOL		TAPCON_dynamic_set_point_control_On_CMD		W	MODBUS	16	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_1_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_1_On_CMD	70UC-0036	BOOL		General_Purpose_Command_1_On_CMD		W	MODBUS	113	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_2_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_2_On_CMD	70UC-0037	BOOL		General_Purpose_Command_2_On_CMD		W	MODBUS	114	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_3_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_3_On_CMD	70UC-0038	BOOL		General_Purpose_Command_3_On_CMD		W	MODBUS	115	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_4_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_4_On_CMD	70UC-0039	BOOL		General_Purpose_Command_4_On_CMD		W	MODBUS	116	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_5_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_5_On_CMD	70UC-0040	BOOL		General_Purpose_Command_5_On_CMD		W	MODBUS	117	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_6_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_6_On_CMD	70UC-0041	BOOL		General_Purpose_Command_6_On_CMD		W	MODBUS	118	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_7_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_7_On_CMD	70UC-0042	BOOL		General_Purpose_Command_7_On_CMD		W	MODBUS	119	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_8_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_8_On_CMD	70UC-0043	BOOL		General_Purpose_Command_8_On_CMD		W	MODBUS	120	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_9_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_9_On_CMD	70UC-0044	BOOL		General_Purpose_Command_9_On_CMD		W	MODBUS	121	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_10_On_CMD	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_10_On_CMD	70UC-0045	BOOL		General_Purpose_Command_10_On_CMD		W	MODBUS	122	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control_On_CMD	Logic.Application	TransformerAVR_GVL		Desired_power_factor_selection_activation_parallel_control_On_CMD	70UC-0046	BOOL		Desired_power_factor_selection_activation_parallel_control_On_CMD		W	MODBUS	363	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_load_type_selection_On_CMD	Logic.Application	TransformerAVR_GVL		Desired_load_type_selection_On_CMD	70UC-0047	BOOL		Desired_load_type_selection_On_CMD		W	MODBUS	364	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation	Logic.Application	TransformerAVR_GVL		Automatic_Manual_operation	70AM-0002	BOOL		Automatic_Manual_operation		R	MODBUS	4	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_desired_value_1_active	Logic.Application	TransformerAVR_GVL		Band_center_voltage_desired_value_1_active	70US-0068	BOOL		Band_center_voltage_desired_value_1_active		R	MODBUS	5	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_desired_value_2_active	Logic.Application	TransformerAVR_GVL		Band_center_voltage_desired_value_2_active	70US-0069	BOOL		Band_center_voltage_desired_value_2_active		R	MODBUS	6	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_desired_value_3_active	Logic.Application	TransformerAVR_GVL		Band_center_voltage_desired_value_3_active	70US-0070	BOOL		Band_center_voltage_desired_value_3_active		R	MODBUS	7	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Parallel_Independent	Logic.Application	TransformerAVR_GVL		Parallel_Independent	70US-0071	BOOL		Parallel_Independent		R	MODBUS	10	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control	Logic.Application	TransformerAVR_GVL		Master_mode_selection_activationparallel_control	70US-0072	BOOL		Master_mode_selection_activationparallel_control		R	MODBUS	11	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control	Logic.Application	TransformerAVR_GVL		Follower_mode_selection_activationparallel_control	70US-0073	BOOL		Follower_mode_selection_activationparallel_control		R	MODBUS	12	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control	Logic.Application	TransformerAVR_GVL		Circulating_current_selection_activation_parallel_control	70US-0074	BOOL		Circulating_current_selection_activation_parallel_control		R	MODBUS	13	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation	Logic.Application	TransformerAVR_GVL		Line_Drop_Compensation	70US-0075	BOOL		Line_Drop_Compensation		R	MODBUS	14	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic	Logic.Application	TransformerAVR_GVL		Time_delay_linear_or_integral_characteristic	70US-0076	BOOL		Time_delay_linear_or_integral_characteristic		R	MODBUS	15	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control	Logic.Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control	70US-0077	BOOL		TAPCON_dynamic_set_point_control		R	MODBUS	16	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Error_of_parallel_operation	Logic.Application	TransformerAVR_GVL		Error_of_parallel_operation	70XA-0037	BOOL		Error_of_parallel_operation		R	MODBUS	25	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Tap_indication_error_eg_wrong_BCD_code	Logic.Application	TransformerAVR_GVL		Tap_indication_error_eg_wrong_BCD_code	70XS-0038	BOOL		Tap_indication_error_eg_wrong_BCD_code		R	MODBUS	26	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Local_operation	Logic.Application	TransformerAVR_GVL		Local_operation	70LOC-0001	BOOL		Local_operation		R	MODBUS	27	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Health_AVR	Logic.Application	TransformerAVR_GVL		Health_AVR	70US-0012	BOOL		Health_AVR		R	MODBUS	28	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Function_monitoring	Logic.Application	TransformerAVR_GVL		Function_monitoring	70US-0013	BOOL		Function_monitoring		R	MODBUS	29	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Motor_drive_running	Logic.Application	TransformerAVR_GVL		Motor_drive_running	70US-0014	BOOL		Motor_drive_running		R	MODBUS	30	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.LTC_inhibit_due_to_under_voltage	Logic.Application	TransformerAVR_GVL		LTC_inhibit_due_to_under_voltage	70XA-0067	BOOL		LTC_inhibit_due_to_under_voltage		R	MODBUS	31	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.LTC_inhibit_due_to_over_voltage	Logic.Application	TransformerAVR_GVL		LTC_inhibit_due_to_over_voltage	70XA-0068	BOOL		LTC_inhibit_due_to_over_voltage		R	MODBUS	32	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.LTC_inhibit_due_to_over_current	Logic.Application	TransformerAVR_GVL		LTC_inhibit_due_to_over_current	70XA-0069	BOOL		LTC_inhibit_due_to_over_current		R	MODBUS	33	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.End_position_raise_or_highest_allowed_tap_position_reached	Logic.Application	TransformerAVR_GVL		End_position_raise_or_highest_allowed_tap_position_reached	70US-0016	BOOL		End_position_raise_or_highest_allowed_tap_position_reached		R	MODBUS	34	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.End_position_lower_or_lowest_allowed_tap_position_reached	Logic.Application	TransformerAVR_GVL		End_position_lower_or_lowest_allowed_tap_position_reached	70US-0017	BOOL		End_position_lower_or_lowest_allowed_tap_position_reached		R	MODBUS	35	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Block_Automatic_Control	Logic.Application	TransformerAVR_GVL		Block_Automatic_Control	70AC-0001	BOOL		Block_Automatic_Control		R	MODBUS	36	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		Voltage_high_limit_exceeded	70XA-1001	BOOL		Voltage_high_limit_exceeded		R	MODBUS	37	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Voltage_high_limit_2_exceeded	70XA-1002	BOOL		Voltage_high_limit_2_exceeded		R	MODBUS	38	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		Voltage_low_limit_exceeded	70XA-1003	BOOL		Voltage_low_limit_exceeded		R	MODBUS	39	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Voltage_low_limit_2_exceeded	70XA-1004	BOOL		Voltage_low_limit_2_exceeded		R	MODBUS	40	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_overload	Logic.Application	TransformerAVR_GVL		Current_overload	70XA-0038	BOOL		Current_overload		R	MODBUS	41	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_overload_2	Logic.Application	TransformerAVR_GVL		Current_overload_2	70XA-0039	BOOL		Current_overload_2		R	MODBUS	42	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_underload	Logic.Application	TransformerAVR_GVL		Current_underload	70XA-0040	BOOL		Current_underload		R	MODBUS	43	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_underload_2	Logic.Application	TransformerAVR_GVL		Current_underload

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Apparent_power_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		Apparent_power_high_limit_exceeded	70XA-1005	BOOL		Apparent_power_high_limit_exceeded		R	MODBUS	45	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Apparent_power_high_limit_2_exceeded	70XA-1006	BOOL		Apparent_power_high_limit_2_exceeded		R	MODBUS	46	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		Apparent_power_low_limit_exceeded	70XA-1007	BOOL		Apparent_power_low_limit_exceeded		R	MODBUS	47	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Apparent_power_low_limit_2_exceeded	70XA-1008	BOOL		Apparent_power_low_limit_2_exceeded		R	MODBUS	48	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		Active_power_high_limit_exceeded	70XA-1009	BOOL		Active_power_high_limit_exceeded		R	MODBUS	49	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Active_power_high_limit_2_exceeded	70XA-1010	BOOL		Active_power_high_limit_2_exceeded		R	MODBUS	50	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		Active_power_low_limit_exceeded	70XA-1011	BOOL		Active_power_low_limit_exceeded		R	MODBUS	51	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Active_power_low_limit_2_exceeded	70XA-1012	BOOL		Active_power_low_limit_2_exceeded		R	MODBUS	52	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		Reactive_power_high_limit_exceeded	70XA-1013	BOOL		Reactive_power_high_limit_exceeded		R	MODBUS	53	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Reactive_power_high_limit_2_exceeded	70XA-1014	BOOL		Reactive_power_high_limit_2_exceeded		R	MODBUS	54	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		Reactive_power_low_limit_exceeded	70XA-1015	BOOL		Reactive_power_low_limit_exceeded		R	MODBUS	55	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Reactive_power_low_limit_2_exceeded	70XA-1016	BOOL		Reactive_power_low_limit_2_exceeded		R	MODBUS	56	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Power_Factor_Cosinus_phi_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		Power_Factor_Cosinus_phi_low_limit_exceeded	70XA-1017	BOOL		Power_Factor_Cosinus_phi_low_limit_exceeded		R	MODBUS	57	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Power_Factor_Cosinus_phi_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		Power_Factor_Cosinus_phi_low_limit_2_exceeded	70XA-1018	BOOL		Power_Factor_Cosinus_phi_low_limit_2_exceeded		R	MODBUS	58	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_input_failure_eg_missing_connection	Logic.Application	TransformerAVR_GVL		Voltage_input_failure_eg_missing_connection	70XA-0042	BOOL		Voltage_input_failure_eg_missing_connection		R	MODBUS	59	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_failure_TDSC	Logic.Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control_failure_TDSC	70XA-0043	BOOL		TAPCON_dynamic_set_point_control_failure_TDSC		R	MODBUS	112	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_1_GPC1	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_1_GPC1	70UC-7801	BOOL		General_Purpose_Command_1_GPC1		R	MODBUS	113	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_2_GPC2	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_2_GPC2	70UC-7802	BOOL		General_Purpose_Command_2_GPC2		R	MODBUS	114	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_3_GPC3	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_3_GPC3	70UC-7803	BOOL		General_Purpose_Command_3_GPC3		R	MODBUS	115	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_4_GPC4	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_4_GPC4	70UC-7804	BOOL		General_Purpose_Command_4_GPC4		R	MODBUS	116	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_5_GPC5	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_5_GPC5	70UC-7805	BOOL		General_Purpose_Command_5_GPC5		R	MODBUS	117	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_6_GPC6	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_6_GPC6	70UC-7806	BOOL		General_Purpose_Command_6_GPC6		R	MODBUS	118	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_7_GPC7	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_7_GPC7	70UC-7807	BOOL		General_Purpose_Command_7_GPC7		R	MODBUS	119	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_8_GPC8	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_8_GPC8	70UC-7808	BOOL		General_Purpose_Command_8_GPC8		R	MODBUS	120	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_9_GPC9	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_9_GPC9	70UC-7809	BOOL		General_Purpose_Command_9_GPC9		R	MODBUS	121	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_10_GPC10	Logic.Application	TransformerAVR_GVL		General_Purpose_Command_10_GPC10	70UC-7810	BOOL		General_Purpose_Command_10_GPC10		R	MODBUS	122	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_1_GPM1	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_1_GPM1	70MSG-0001	BOOL		General_Purpose_Message_1_GPM1		R	MODBUS	123	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_2_GPM2	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_2_GPM2	70MSG-0002	BOOL		General_Purpose_Message_2_GPM2		R	MODBUS	124	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_3_GPM3	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_3_GPM3	70MSG-0003	BOOL		General_Purpose_Message_3_GPM3		R	MODBUS	125	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_4_GPM4	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_4_GPM4	70MSG-0004	BOOL		General_Purpose_Message_4_GPM4		R	MODBUS	126	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_5_GPM5	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_5_GPM5	70MSG-0005	BOOL		General_Purpose_Message_5_GPM5		R	MODBUS	127	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_6_GPM6	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_6_GPM6	70MSG-0006	BOOL		General_Purpose_Message_6_GPM6		R	MODBUS	128	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_7_GPM7	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_7_GPM7	70MSG-0007	BOOL		General_Purpose_Message_7_GPM7		R	MODBUS	129	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_8_GPM8	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_8_GPM8	70MSG-0008	BOOL		General_Purpose_Message_8_GPM8		R	MODBUS	130	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_9_GPM9	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_9_GPM9	70MSG-0009	BOOL		General_Purpose_Message_9_GPM9		R	MODBUS	131	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_10_GPM10	Logic.Application	TransformerAVR_GVL		General_Purpose_Message_10_GPM10	70MSG-0010	BOOL		General_Purpose_Message_10_GPM10		R	MODBUS	132	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control	Logic.Application	TransformerAVR_GVL		Desired_power_factor_selection_activation_parallel_control	70HS-1910	BOOL		Desired_power_factor_selection_activation_parallel_control		R	MODBUS	363	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_load_type_selection	Logic.Application	TransformerAVR_GVL		Desired_load_type_selection	70HS-0011	BOOL		Desired_load_type_selection		R	MODBUS	364	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Motor_protective_switch_triggered	Logic.Application	TransformerAVR_GVL		Motor_protective_switch_triggered	70XA-0044	BOOL		Motor_protective_switch_triggered		R	MODBUS	570	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Information_active	Logic.Application	TransformerAVR_GVL		Event_category_Information_active	70XS-0039	BOOL		Event_category_Information_active		R	MODBUS	572	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Warning_active	Logic.Application	TransformerAVR_GVL		Event_category_Warning_active	70XA-0045	BOOL		Event_category_Warning_active		R	MODBUS	573	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Error_active	Logic.Application	TransformerAVR_GVL		Event_category_Error_active	70XA-0046	BOOL		Event_category_Error_active		R	MODBUS	574	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_low_limit_2_exceeded	70XA-1019	BOOL		General_purpose_analog_input_1_low_limit_2_exceeded		R	MODBUS	695	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_low_limit_exceeded	70XA-1020	BOOL		General_purpose_analog_input_1_low_limit_exceeded		R	MODBUS	696	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_high_limit_exceeded	70XA-1021	BOOL		General_purpose_analog_input_1_high_limit_exceeded		R	MODBUS	697	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_high_limit_2_exceeded	70XA-1022	BOOL		General_purpose_analog_input_1_high_limit_2_exceeded		R	MODBUS	698	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_low_limit_2_exceeded	70XA-1023	BOOL		General_purpose_analog_input_2_low_limit_2_exceeded		R	MODBUS	699	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_low_limit_exceeded	70XA-1024	BOOL		General_purpose_analog_input_2_low_limit_exceeded		R	MODBUS	700	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_high_limit_exceeded	70XA-1025	BOOL		General_purpose_analog_input_2_high_limit_exceeded		R	MODBUS	701	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_high_limit_2_exceeded	70XA-1026	BOOL		General_purpose_analog_input_2_high_limit_2_exceeded		R	MODBUS	702	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_low_limit_2_exceeded	70XA-1027	BOOL		General_purpose_analog_input_3_low_limit_2_exceeded		R	MODBUS	703	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_low_limit_exceeded	70XA-1028	BOOL		General_purpose_analog_input_3_low_limit_exceeded		R	MODBUS	704	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_high_limit_exceeded	70XA-1029	BOOL		General_purpose_analog_input_3_high_limit_exceeded		R	MODBUS	705	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_high_limit_2_exceeded	70XA-1030	BOOL		General_purpose_analog_input_3_high_limit_2_exceeded		R	MODBUS	706	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_low_limit_2_exceeded	70XA-1031	BOOL		General_purpose_analog_input_4_low_limit_2_exceeded		R	MODBUS	707	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_low_limit_exceeded	70XA-1032	BOOL		General_purpose_analog_input_4_low_limit_exceeded		R	MODBUS	708	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_high_limit_exceeded	70XA-1033	BOOL		General_purpose_analog_input_4_high_limit_exceeded		R	MODBUS	709	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_high_limit_2_exceeded	70XA-1034	BOOL		General_purpose_analog_input_4_high_limit_2_exceeded		R	MODBUS	710	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_low_limit_2_exceeded	70XA-1035	BOOL		General_purpose_analog_input_5_low_limit_2_exceeded		R	MODBUS	711	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_low_limit_exceeded	70XA-1036	BOOL		General_purpose_analog_input_5_low_limit_exceeded		R	MODBUS	712	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_high_limit_exceeded	70XA-1037	BOOL		General_purpose_analog_input_5_high_limit_exceeded		R	MODBUS	713	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_high_limit_2_exceeded	70XA-1038	BOOL		General_purpose_analog_input_5_high_limit_2_exceeded		R	MODBUS	714	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_low_limit_2_exceeded	70XA-1039	BOOL		General_purpose_analog_input_6_low_limit_2_exceeded		R	MODBUS	715	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_low_limit_exceeded	70XA-1040	BOOL		General_purpose_analog_input_6_low_limit_exceeded		R	MODBUS	716	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_high_limit_exceeded	70XA-1041	BOOL		General_purpose_analog_input_6_high_limit_exceeded		R	MODBUS	717	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_high_limit_2_exceeded	70XA-1042	BOOL		General_purpose_analog_input_6_high_limit_2_exceeded		R	MODBUS	718	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_low_limit_2_exceeded	70XA-1043	BOOL		General_purpose_analog_input_7_low_limit_2_exceeded		R	MODBUS	719	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_low_limit_exceeded	70XA-1044	BOOL		General_purpose_analog_input_7_low_limit_exceeded		R	MODBUS	720	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_high_limit_exceeded	70XA-1045	BOOL		General_purpose_analog_input_7_high_limit_exceeded		R	MODBUS	721	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_high_limit_2_exceeded	70XA-1046	BOOL		General_purpose_analog_input_7_high_limit_2_exceeded		R	MODBUS	722	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_low_limit_2_exceeded	70XA-1047	BOOL		General_purpose_analog_input_8_low_limit_2_exceeded		R	MODBUS	723	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_low_limit_exceeded	70XA-1048	BOOL		General_purpose_analog_input_8_low_limit_exceeded		R	MODBUS	724	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_high_limit_exceeded	70XA-1049	BOOL		General_purpose_analog_input_8_high_limit_exceeded		R	MODBUS	725	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_high_limit_2_exceeded	70XA-1050	BOOL		General_purpose_analog_input_8_high_limit_2_exceeded		R	MODBUS	726	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_low_limit_2_exceeded	70XA-1051	BOOL		General_purpose_analog_input_9_low_limit_2_exceeded		R	MODBUS	727	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_low_limit_exceeded	70XA-1052	BOOL		General_purpose_analog_input_9_low_limit_exceeded		R	MODBUS	728	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_high_limit_exceeded	70XA-1053	BOOL		General_purpose_analog_input_9_high_limit_exceeded		R	MODBUS	729	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_high_limit_2_exceeded	70XA-1054	BOOL		General_purpose_analog_input_9_high_limit_2_exceeded		R	MODBUS	730	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_low_limit_2_exceeded	70XA-1055	BOOL		General_purpose_analog_input_10_low_limit_2_exceeded		R	MODBUS	731	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_low_limit_exceeded	70XA-1056	BOOL		General_purpose_analog_input_10_low_limit_exceeded		R	MODBUS	732	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_high_limit_exceeded	70XA-1057	BOOL		General_purpose_analog_input_10_high_limit_exceeded		R	MODBUS	733	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_high_limit_2_exceeded	70XA-1058	BOOL		General_purpose_analog_input_10_high_limit_2_exceeded		R	MODBUS	734	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_low_limit_2_exceeded	70XA-1059	BOOL		General_purpose_analog_input_11_low_limit_2_exceeded		R	MODBUS	735	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_low_limit_exceeded	70XA-1060	BOOL		General_purpose_analog_input_11_low_limit_exceeded		R	MODBUS	736	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_high_limit_exceeded	70XA-1061	BOOL		General_purpose_analog_input_11_high_limit_exceeded		R	MODBUS	737	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_high_limit_2_exceeded	70XA-1062	BOOL		General_purpose_analog_input_11_high_limit_2_exceeded		R	MODBUS	738	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_low_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_low_limit_2_exceeded	70XA-1063	BOOL		General_purpose_analog_input_12_low_limit_2_exceeded		R	MODBUS	739	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_low_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_low_limit_exceeded	70XA-1064	BOOL		General_purpose_analog_input_12_low_limit_exceeded		R	MODBUS	740	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_high_limit_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_high_limit_exceeded	70XA-1065	BOOL		General_purpose_analog_input_12_high_limit_exceeded		R	MODBUS	741	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_high_limit_2_exceeded	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_high_limit_2_exceeded	70XA-1066	BOOL		General_purpose_analog_input_12_high_limit_2_exceeded		R	MODBUS	742	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.OLTC_position_even	Logic.Application	TransformerAVR_GVL		OLTC_position_even	70US-0025	BOOL		OLTC_position_even		R	MODBUS	834	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.OLTC_position_odd	Logic.Application	TransformerAVR_GVL		OLTC_position_odd	70US-0026	BOOL		OLTC_position_odd		R	MODBUS	835	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Tap_change_operation_incomplete	Logic.Application	TransformerAVR_GVL		Tap_change_operation_incomplete	70UC-0012	BOOL		Tap_change_operation_incomplete		R	MODBUS	836	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Switching_delay_only_TC230_AVT	Logic.Application	TransformerAVR_GVL		Switching_delay_only_TC230_AVT	70US-4927	BOOL		Switching_delay_only_TC230_AVT		R	MODBUS	854	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_1_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_1_DI_16_110V_1	70US-0028	BOOL		DIO_Input_X1_1_DI_16_110V_1		R	MODBUS	2002	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_2_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_2_DI_16_110V_1	70US-0029	BOOL		DIO_Input_X1_2_DI_16_110V_1		R	MODBUS	2003	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_3_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_3_DI_16_110V_1	70US-0030	BOOL		DIO_Input_X1_3_DI_16_110V_1		R	MODBUS	2004	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_4_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_4_DI_16_110V_1	70US-0031	BOOL		DIO_Input_X1_4_DI_16_110V_1		R	MODBUS	2005	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_5_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_5_DI_16_110V_1	70US-0032	BOOL		DIO_Input_X1_5_DI_16_110V_1		R	MODBUS	2006	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_6_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_6_DI_16_110V_1	70US-0033	BOOL		DIO_Input_X1_6_DI_16_110V_1		R	MODBUS	2007	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_7_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_7_DI_16_110V_1	70US-0034	BOOL		DIO_Input_X1_7_DI_16_110V_1		R	MODBUS	2008	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_8_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X1_8_DI_16_110V_1	70US-0035	BOOL		DIO_Input_X1_8_DI_16_110V_1		R	MODBUS	2009	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_1_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X2_1_DI_16_110V_1	70US-0036	BOOL		DIO_Input_X2_1_DI_16_110V_1		R	MODBUS	2010	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_2_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X2_2_DI_16_110V_1	70US-0037	BOOL		DIO_Input_X2_2_DI_16_110V_1		R	MODBUS	2011	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_3_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X2_3_DI_16_110V_1	70US-0038	BOOL		DIO_Input_X2_3_DI_16_110V_1		R	MODBUS	2012	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_4_DI_16_110V_1	Logic.Application	TransformerAVR_GVL		DIO_Input_X2_4_DI_16_110V_1	70US

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Total_reactive_power_total_Q_1	Logic.Application	TransformerAVR_GVL		Total_reactive_power_total_Q_1	70QII-1702	FLOAT		Total_reactive_power_total_Q_1		R	MODBUS	32	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_apparent_power_total_S_1	Logic.Application	TransformerAVR_GVL		Total_apparent_power_total_S_1	70QII-1603	FLOAT		Total_apparent_power_total_S_1		R	MODBUS	33	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Average_power_factor_total_PF	Logic.Application	TransformerAVR_GVL		Average_power_factor_total_PF	70XI-1903	FLOAT		Average_power_factor_total_PF		R	MODBUS	34	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Frequency	Logic.Application	TransformerAVR_GVL		Frequency	70HRQ-0004	FLOAT		Frequency		R	MODBUS	35	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L1L2_1	Logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L1L2_1	70VI-1238	FLOAT		Phase_to_phase_voltage_L1L2_1		R	MODBUS	36	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L2L3_1	Logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L2L3_1	70VI-2339	FLOAT		Phase_to_phase_voltage_L2L3_1		R	MODBUS	37	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L3L1_1	Logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L3L1_1	70VI-3140	FLOAT		Phase_to_phase_voltage_L3L1_1		R	MODBUS	38	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L1_1	Logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L1_1	70VI-4141	FLOAT		Phase_to_neutral_voltage_L1_1		R	MODBUS	39	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L2_1	Logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L2_1	70VI-4242	FLOAT		Phase_to_neutral_voltage_L2_1		R	MODBUS	40	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L3_1	Logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L3_1	70VI-4343	FLOAT		Phase_to_neutral_voltage_L3_1		R	MODBUS	41	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L1	Logic.Application	TransformerAVR_GVL		Phase_current_L1	70CI-4113	FLOAT		Phase_current_L1		R	MODBUS	42	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L2	Logic.Application	TransformerAVR_GVL		Phase_current_L2	70CI-4214	FLOAT		Phase_current_L2		R	MODBUS	43	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L3	Logic.Application	TransformerAVR_GVL		Phase_current_L3	70CI-4315	FLOAT		Phase_current_L3		R	MODBUS	44	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_N	Logic.Application	TransformerAVR_GVL		Phase_current_N	70CI-0016	FLOAT		Phase_current_N		R	MODBUS	45	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L1_1	Logic.Application	TransformerAVR_GVL		Phase_active_power_P_L1_1	70JI-4112	FLOAT		Phase_active_power_P_L1_1		R	MODBUS	46	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L2_1	Logic.Application	TransformerAVR_GVL		Phase_active_power_P_L2_1	70JI-4213	FLOAT		Phase_active_power_P_L2_1		R	MODBUS	47	INPUT REGISTER	FLOAT

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L3_1	Logic.Application	TransformerAVR_GVL		Phase_active_power_P_L3_1	70JI-4314	FLOAT		Phase_active_power_P_L3_1		R	MODBUS	48	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L1_1	Logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L1_1	70JI-4115	FLOAT		Phase_reactive_power_Q_L1_1		R	MODBUS	49	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L2_1	Logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L2_1	70JI-4216	FLOAT		Phase_reactive_power_Q_L2_1		R	MODBUS	50	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L3_1	Logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L3_1	70JI-4317	FLOAT		Phase_reactive_power_Q_L3_1		R	MODBUS	51	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L1_1	Logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L1_1	70JI-4118	FLOAT		Phase_apparent_power_S_L1_1		R	MODBUS	52	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L2_1	Logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L2_1	70JI-4219	FLOAT		Phase_apparent_power_S_L2_1		R	MODBUS	53	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L3_1	Logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L3_1	70JI-4320	FLOAT		Phase_apparent_power_S_L3_1		R	MODBUS	54	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L1	Logic.Application	TransformerAVR_GVL		Phase_power_factor_L1	70XI-1904	FLOAT		Phase_power_factor_L1		R	MODBUS	55	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L2	Logic.Application	TransformerAVR_GVL		Phase_power_factor_L2	70XI-1905	FLOAT		Phase_power_factor_L2		R	MODBUS	56	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L3	Logic.Application	TransformerAVR_GVL		Phase_power_factor_L3	70XI-1906	FLOAT		Phase_power_factor_L3		R	MODBUS	57	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U1I1	Logic.Application	TransformerAVR_GVL		Phase_Angle_U1I1	70UI-0002	FLOAT		Phase_Angle_U1I1		R	MODBUS	58	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U2I2	Logic.Application	TransformerAVR_GVL		Phase_Angle_U2I2	70UI-0003	FLOAT		Phase_Angle_U2I2		R	MODBUS	59	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U3I3	Logic.Application	TransformerAVR_GVL		Phase_Angle_U3I3	70UI-0004	FLOAT		Phase_Angle_U3I3		R	MODBUS	60	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_Position	Logic.Application	TransformerAVR_GVL		Tap_Position	70UI-0005	FLOAT		Tap_Position		R	MODBUS	61	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Operation_counter_LSB_MSB	Logic.Application	TransformerAVR_GVL		Operation_counter_LSB_MSB	70CNT-0001	FLOAT		Operation_counter_LSB_MSB		R	MODBUS	174	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Operation_counter_MSB	Logic.Application	TransformerAVR_GVL		Operation_counter_MSB	70CNT-0002	FLOAT		Operation_counter_MSB		R	MODBUS	175	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Desired_power_factor	Logic.Application	TransformerAVR_GVL		Desired_power_factor	70XI-1907	FLOAT		Desired_power_factor		R	MODBUS	184	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1	70UI-0006	FLOAT		General_purpose_analog_input_1		R	MODBUS	480	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2	70UI-0007	FLOAT		General_purpose_analog_input_2		R	MODBUS	481	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3	70UI-0008	FLOAT		General_purpose_analog_input_3		R	MODBUS	482	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4	70UI-0009	FLOAT		General_purpose_analog_input_4		R	MODBUS	483	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5	70UI-0010	FLOAT		General_purpose_analog_input_5		R	MODBUS	484	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6	70UI-0011	FLOAT		General_purpose_analog_input_6		R	MODBUS	485	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7	70UI-0012	FLOAT		General_purpose_analog_input_7		R	MODBUS	486	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8	70UI-0013	FLOAT		General_purpose_analog_input_8		R	MODBUS	487	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9	70UI-0014	FLOAT		General_purpose_analog_input_9		R	MODBUS	488	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10	70UI-0015	FLOAT		General_purpose_analog_input_10		R	MODBUS	489	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11	70UI-0016	FLOAT		General_purpose_analog_input_11		R	MODBUS	490	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12	Logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12	70UI-0017	FLOAT		General_purpose_analog_input_12		R	MODBUS	491	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1	Logic.Application	TransformerAVR_GVL		Band_center_voltage_1	70VI-0044	FLOAT		Band_center_voltage_1		R	MODBUS	516	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2	Logic.Application	TransformerAVR_GVL		Band_center_voltage_2	70VI-0045	FLOAT		Band_center_voltage_2		R	MODBUS	517	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3	Logic.Application	TransformerAVR_GVL		Band_center_voltage_3	70VI-0046	FLOAT		Band_center_voltage_3		R	MODBUS	518	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage	Logic.Application	TransformerAVR_GVL		Band_center_voltage	70VI-0047	FLOAT		Band_center_voltage		R	MODBUS	521	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage	Logic.Application	TransformerAVR_GVL		Control_Voltage	70VI-0048	FLOAT		Control_Voltage		R	MODBUS	522	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_active_power_total_P	Logic.Application	TransformerAVR_GVL		Total_active_power_total_P	70QII-1804	FLOAT		Total_active_power_total_P		R	MODBUS	523	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_reactive_power_total_Q	Logic.Application	TransformerAVR_GVL		Total_reactive_power_total_Q	70QII-1705	FLOAT		Total_reactive_power_total_Q		R	MODBUS	524	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_apparent_power_total_S	Logic.Application	TransformerAVR_GVL		Total_apparent_power_total_S	70QII-1606	FLOAT		Total_apparent_power_total_S		R	MODBUS	525	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L1L2	Logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L1L2	70VI-1249	FLOAT		Phase_to_phase_voltage_L1L2		R	MODBUS	526	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L2L3	Logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L2L3	70VI-2350	FLOAT		Phase_to_phase_voltage_L2L3		R	MODBUS	527	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L3L1	Logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L3L1	70VI-3151	FLOAT		Phase_to_phase_voltage_L3L1		R	MODBUS	528	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L1	Logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L1	70VI-4152	FLOAT		Phase_to_neutral_voltage_L1		R	MODBUS	529	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L2	Logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L2	70VI-4253	FLOAT		Phase_to_neutral_voltage_L2		R	MODBUS	530	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L3	Logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L3	70VI-4354	FLOAT		Phase_to_neutral_voltage_L3		R	MODBUS	531	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L1	Logic.Application	TransformerAVR_GVL		Phase_active_power_P_L1	70JI-4124	FLOAT		Phase_active_power_P_L1		R	MODBUS	532	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L2	Logic.Application	TransformerAVR_GVL		Phase_active_power_P_L2	70JI-4225	FLOAT		Phase_active_power_P_L2		R	MODBUS	533	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L3	Logic.Application	TransformerAVR_GVL		Phase_active_power_P_L3	70JI-4326	FLOAT		Phase_active_power_P_L3		R	MODBUS	534	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L1	Logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L1	70JI-4127	FLOAT		Phase_reactive_power_Q_L1		R	MODBUS	535	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L2	Logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L2	70JI-4228	FLOAT		Phase_reactive_power_Q_L2		R	MODBUS	536	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L3	Logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L3	70JI-4329	FLOAT		Phase_reactive_power_Q_L3		R	MODBUS	537	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L1	Logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L1	70JI-4130	FLOAT		Phase_apparent_power_S_L1		R	MODBUS	538	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L2	Logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L2	70JI-4231	FLOAT		Phase_apparent_power_S_L2		R	MODBUS	539	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L3	Logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L3	70JI-4332	FLOAT		Phase_apparent_power_S_L3		R	MODBUS	540	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control	Logic.Application	TransformerAVR_GVL		Minumum_voltage_value_for_dynamic_setpoint_control	70VI-0055	FLOAT		Minumum_voltage_value_for_dynamic_setpoint_control		R	MODBUS	541	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control	Logic.Application	TransformerAVR_GVL		Maximum_voltage_value_for_dynamic_setpoint_control	70VI-0056	FLOAT		Maximum_voltage_value_for_dynamic_setpoint_control		R	MODBUS	542	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W	Logic.Application	TransformerAVR_GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W	70VI-0057	FLOAT		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W		R	MODBUS	543	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_active_power_value_for_dynamic_setpoint_control	Logic.Application	TransformerAVR_GVL		Minumum_active_power_value_for_dynamic_setpoint_control	70JI-0033	FLOAT		Minumum_active_power_value_for_dynamic_setpoint_control		R	MODBUS	544	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control	Logic.Application	TransformerAVR_GVL		Maximum_active_power_value_for_dynamic_setpoint_control	70JI-0034	FLOAT		Maximum_active_power_value_for_dynamic_setpoint_control		R	MODBUS	545	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Target_tap_position	Logic.Application	TransformerAVR_GVL		Target_tap_position	70UI-0018	FLOAT		Target_tap_position		R	MODBUS	551	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_width_voltage_CMD	Logic.Application	TransformerAVR_GVL		Band_width_voltage_CMD	70VI-0058	FLOAT		Band_width_voltage_CMD		W	MODBUS	0	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_intentional_time_delay_for_regulation_of_voltage_CMD	Logic.Application	TransformerAVR_GVL		Control_intentional_time_delay_for_regulation_of_voltage_CMD	70VI-0059	FLOAT		Control_intentional_time_delay_for_regulation_of_voltage_CMD		W	MODBUS	1	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_resistance_component_CMD	Logic.Application	TransformerAVR_GVL		Line_drop_voltage_due_to_line_resistance_component_CMD	70VI-0060	FLOAT		Line_drop_voltage_due_to_line_resistance_component_CMD		W	MODBUS	2	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_reactance_component_CMD	Logic.Application	TransformerAVR_GVL		Line_drop_voltage_due_to_line_reactance_component_CMD	70VI-0061	FLOAT		Line_drop_voltage_due_to_line_reactance_component_CMD		W	MODBUS	3	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_voltage_below_which_auto_Lower_commands_blocked_CMD	Logic.Application	TransformerAVR_GVL		Control_voltage_below_which_auto_Lower_commands_blocked_CMD	70VI-0062	FLOAT		Control_voltage_below_which_auto_Lower_commands_blocked_CMD		W	MODBUS	4	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Limit_Load_Current_CMD	Logic.Application	TransformerAVR_GVL		Limit_Load_Current_CMD	70CI-0017	FLOAT		Limit_Load_Current_CMD		W	MODBUS	5	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_total_impedance_CMD	Logic.Application	TransformerAVR_GVL		Line_drop_voltage_due_to_line_total_impedance_CMD	70VI-0063	FLOAT		Line_drop_voltage_due_to_line_total_impedance_CMD		W	MODBUS	6	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD	Logic.Application	TransformerAVR_GVL		Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands	70UC-0015	FLOAT		Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD		W	MODBUS	7	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD	Logic.Application	TransformerAVR_GVL		Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands	70UC-0016	FLOAT		Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD		W	MODBUS	8	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_1_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_1_1_CMD	70VI-0064	FLOAT		Band_center_voltage_1_1_CMD		W	MODBUS	9	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_1_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_2_1_CMD	70VI-0065	FLOAT		Band_center_voltage_2_1_CMD		W	MODBUS	10	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_1_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_3_1_CMD	70VI-0066	FLOAT		Band_center_voltage_3_1_CMD		W	MODBUS	11	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD	Logic.Application	TransformerAVR_GVL		Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD	70VI-0067	FLOAT		Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	14	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD	Logic.Application	TransformerAVR_GVL		Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD	70VI-0068	FLOAT		Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	15	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD	Logic.Application	TransformerAVR_GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W	70VI-0069	FLOAT		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD		W	MODBUS	16	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD	Logic.Application	TransformerAVR_GVL		Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD	70JI-0035	FLOAT		Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	17	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD	Logic.Application	TransformerAVR_GVL		Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD	70JI-0036	FLOAT		Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	18	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Desired_power_factor_CMD	Logic.Application	TransformerAVR_GVL		Desired_power_factor_CMD	70XI-1908	FLOAT		Desired_power_factor_CMD		W	MODBUS	184	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_1_CMD	70VI-0070	FLOAT		Band_center_voltage_1_CMD		W	MODBUS	516	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_2_CMD	70VI-0071	FLOAT		Band_center_voltage_2_CMD		W	MODBUS	517	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_CMD	Logic.Application	TransformerAVR_GVL		Band_center_voltage_3_CMD	70VI-0072	FLOAT		Band_center_voltage_3_CMD		W	MODBUS	518	HOLDING REGISTER	FLOAT

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_CMD	Logic.Application	TransformerAVR_GVL		Minumum_voltage_value_for_dynamic_setpoint_control_CMD	70VI-0073	FLOAT		Minumum_voltage_value_for_dynamic_setpoint_control_CMD		W	MODBUS	541	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_CMD	Logic.Application	TransformerAVR_GVL		Maximum_voltage_value_for_dynamic_setpoint_control_CMD	70VI-0074	FLOAT		Maximum_voltage_value_for_dynamic_setpoint_control_CMD		W	MODBUS	542	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0.W_CMD	Logic.Application	TransformerAVR_GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0.W	70VI-0075	FLOAT		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0.W_CMD		W	MODBUS	543	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minimum_active_power_value_for_dynamic_setpoint_control_CMD	Logic.Application	TransformerAVR_GVL		Minimum_active_power_value_for_dynamic_setpoint_control_CMD	70JI-0037	FLOAT		Minimum_active_power_value_for_dynamic_setpoint_control_CMD		W	MODBUS	544	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_CMD	Logic.Application	TransformerAVR_GVL		Maximum_active_power_value_for_dynamic_setpoint_control_CMD	70JI-0038	FLOAT		Maximum_active_power_value_for_dynamic_setpoint_control_CMD		W	MODBUS	545	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Target_tap_position_CMD	Logic.Application	TransformerAVR_GVL		Target_tap_position_CMD	70UI-0019	FLOAT		Target_tap_position_CMD		W	MODBUS	551	HOLDING REGISTER	FLOAT
Logic.Application.GIS.7UT85_Physical_channel_status_(_Station_bus_)	Logic.Application	GIS	7UT85	Physical channel status (Station bus)	70US-0044	LCCH		Status		R				
Logic.Application.GIS.7UT85_Physical_channel_status_of_redundant_channel_(_Station_bus_)	Logic.Application	GIS	7UT85	Physical channel status of redundant channel (Station bus)	70US-0045	LCCH		Status		R				
Logic.Application.GIS.7UT85_Physical_channel_status_(_Process_bus_)	Logic.Application	GIS	7UT85	Physical channel status (Process bus)	70US-0046	LCCH		Status		R				
Logic.Application.GIS.7UT85_Physical_channel_status_of_redundant_channel_(_Process_bus_)	Logic.Application	GIS	7UT85	Physical channel status of redundant channel (Process bus)	70US-0047	LCCH		Status		R				
Logic.Application.GIS.7UT85_IED_physical_device_health	Logic.Application	GIS	7UT85	IED physical device health	70UI-0020	LPHD		Status		R				
Logic.Application.GIS.7UT85_Time_synchronized	Logic.Application	GIS	7UT85	Time synchronized	70SYN-0002	LTMS		Status		R				
Logic.Application.GIS.7UT85_GOOSE_Sub_ _fail_alarm	Logic.Application	GIS	7UT85	GOOSE Sub_ fail alarm	70XA-0016	LPHD		Status		R				
Logic.Application.GIS.7UT85_Memory_fail_alarm	Logic.Application	GIS	7UT85	Memory fail alarm	70XA-0017	LPHD		Status		R				
Logic.Application.GIS.7UT85_Process_bus_processor_fail_alarm	Logic.Application	GIS	7UT85	Process bus processor fail alarm	70XA-0018	LLN0		Status		R				
Logic.Application.GIS.7UT85_Sampled_value_publish_fail_alarm	Logic.Application	GIS	7UT85	Sampled value publish fail alarm	70XA-0019	LLN0		Status		R				
Logic.Application.GIS.7UT85_IED_Local/Remote_Status	Logic.Application	GIS	7UT85	IED Local/Remote Status	70REM-0003	LLN0		Status		R				
Logic.Application.GIS.7UT85_Process_bus_processor_fail_alarm	Logic.Application	GIS	7UT85	Process bus processor fail alarm	70XA-0020	LLN0		Status		R				
Logic.Application.GIS.7UT85_Sampled_value_subscription_fail_alarm	Logic.Application	GIS	7UT85	Sampled value subscription fail alarm	70XA-0021	LSVS		Status		R				
Logic.Application.GIS.7UT85_7SJ85_Relay_Failure	Logic.Application	GIS	7UT85	7SJ85 Relay Failure	70XA-0022	GGIO		Status		R				
Logic.Application.GIS.7UT85_Level_1_87T_pick-up_General	Logic.Application	GIS	7UT85	Level 1 87T pick-up General	70US-0048			Status		R				
Logic.Application.GIS.7UT85_Level_1_87T_operation_General	Logic.Application	GIS	7UT85	Level 1 87T operation General	70US-0049			Status		R				
Logic.Application.GIS.7UT85_Level_1_87N_pick-up_General	Logic.Application	GIS	7UT85	Level 1 87N pick-up General	70US-0050			Status		R				
Logic.Application.GIS.7UT85_Level_1_87N_operation_General	Logic.Application	GIS	7UT85	Level 1 87N operation General	70US-0051			Status		R				

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.GIS.7UT85_TR_1st_side_A_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 1st side A Phase currents magnitude	70CI-4418	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_A_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 1st side A Phase currents angle	70CA-4419	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_B_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 1st side B Phase currents magnitude	70CI-4520	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_B_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 1st side B Phase currents angle	70CA-4521	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_C_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 1st side C Phase currents magnitude	70CI-4622	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_C_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 1st side C Phase currents angle	70CA-4623	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_N_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 1st side N Phase currents magnitude	70CI-4724	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_side_N_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 1st side N Phase currents angle	70CA-4725	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_A_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 2nd side A Phase currents magnitude	70CI-4426	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_A_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 2nd side A Phase currents angle	70CA-4427	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_B_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 2nd side B Phase currents magnitude	70CI-4528	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_B_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 2nd side B Phase currents angle	70CA-4529	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_C_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 2nd side C Phase currents magnitude	70CI-4630	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_C_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 2nd side C Phase currents angle	70CA-4631	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_N_Phase_currents_magnitude	Logic.Application	GIS	7UT85	TR 2nd side N Phase currents magnitude	70CI-4732	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_side_N_Phase_currents_angle	Logic.Application	GIS	7UT85	TR 2nd side N Phase currents angle	70CA-4733	MMXU		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_current_Total_Demand_Distortion_phsA	Logic.Application	GIS	7UT85	TR 1st current Total Demand Distortion phsA	70CI-0034	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_current_Total_Demand_Distortion_phsB	Logic.Application	GIS	7UT85	TR 1st current Total Demand Distortion phsB	70CI-0035	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_current_Total_Demand_Distortion_phsC	Logic.Application	GIS	7UT85	TR 1st current Total Demand Distortion phsC	70CI-0036	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_current_Total_Harmonic_Distortion_phsA	Logic.Application	GIS	7UT85	TR 1st current Total Harmonic Distortion phsA	70CI-0037	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_current_Total_Harmonic_Distortion_phsB	Logic.Application	GIS	7UT85	TR 1st current Total Harmonic Distortion phsB	70CI-0038	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_1st_current_Total_Harmonic_Distortion_phsC	Logic.Application	GIS	7UT85	TR 1st current Total Harmonic Distortion phsC	70CI-0039	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Demand_Distortion_phsA	Logic.Application	GIS	7UT85	TR 2nd current Total Demand Distortion phsA	70CI-0040	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Demand_Distortion_phsB	Logic.Application	GIS	7UT85	TR 2nd current Total Demand Distortion phsB	70CI-0041	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Demand_Distortion_phsC	Logic.Application	GIS	7UT85	TR 2nd current Total Demand Distortion phsC	70CI-0042	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Harmonic_Distortion_phsA	Logic.Application	GIS	7UT85	TR 2nd current Total Harmonic Distortion phsA	70CI-0043	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Harmonic_Distortion_phsB	Logic.Application	GIS	7UT85	TR 2nd current Total Harmonic Distortion phsB	70CI-0044	MHAI		Measure		R				
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Harmonic_Distortion_phsC	Logic.Application	GIS	7UT85	TR 2nd current Total Harmonic Distortion phsC	70CI-0045	MHAI		Measure		R				
Logic.Application.GIS.7UT85.LSVS1.Smapled_Value_CT1	Logic.Application	GIS	7UT85	LSVS1 Smapled Value CT1	70CI-3346	I01ATCTR		Measure		R				
Logic.Application.GIS.7UT85.LSVS1.Smapled_Value_CT2	Logic.Application	GIS	7UT85	LSVS1 Smapled Value CT2	70CI-3347	I01ATCTR		Measure		R				
Logic.Application.GIS.7UT85.LSVS1.Smapled_Value_CT3	Logic.Application	GIS	7UT85	LSVS1 Smapled Value CT3	70CI-3348	I01ATCTR		Measure		R				
Logic.Application.GIS.7UT85.LSVS1.Smapled_Value_CT4	Logic.Application	GIS	7UT85	LSVS1 Smapled Value CT4	70CI-3349	I01ATCTR		Measure		R				
Logic.Application.GIS.7SJ85_Physical_channel_status_(_Station_bus_)	Logic.Application	GIS	7SJ85	Physical channel status (Station bus)	70US-0052	LCCH		Status		R				
Logic.Application.GIS.7SJ85_Physical_channel_status_of_redundant_channel_(_Station_bus_)	Logic.Application	GIS	7SJ85	Physical channel status of redundant channel (Station bus)	70US-0053	LCCH		Status		R				
Logic.Application.GIS.7SJ85_Physical_channel_status_(_Process_bus_)	Logic.Application	GIS	7SJ85	Physical channel status (Process bus)	70US-0054	LCCH		Status		R				
Logic.Application.GIS.7SJ85_Physical_channel_status_of_redundant_channel_(_Process_bus_)	Logic.Application	GIS	7SJ85	Physical channel status of redundant channel (Process bus)	70US-0055	LCCH		Status		R				
Logic.Application.GIS.7SJ85_IED_physical_device_health	Logic.Application	GIS	7SJ85	IED physical device health	70US-0056	LPHD		Status		R				
Logic.Application.GIS.7SJ85_Time_synchronized	Logic.Application	GIS	7SJ85	Time synchronized	70SYN-0003	LTMS		Status		R				
Logic.Application.GIS.7SJ85_GOOSE_Sub._fail_alarm	Logic.Application	GIS	7SJ85	GOOSE Sub. fail alarm	70XA-0023	LPHD		Status		R				
Logic.Application.GIS.7SJ85_Memory_fail_alarm	Logic.Application	GIS	7SJ85	Memory fail alarm	70XA-0024	LPHD		Status		R				
Logic.Application.GIS.7SJ85_Process_bus_processor_fail_alarm	Logic.Application	GIS	7SJ85	Process bus processor fail alarm	70XA-0025	LLN0		Status		R				
Logic.Application.GIS.7SJ85_Sampled_value_sub._fail_alarm	Logic.Application	GIS	7SJ85	Sampled value sub. fail alarm	70XA-0026	LLN0		Status		R				
Logic.Application.GIS.7SJ85_IED_Local/Remote_Status	Logic.Application	GIS	7SJ85	IED Local/Remote Status	70REM-0004	LLN0		Status		R				
Logic.Application.GIS.7SJ85_CB_QA1_status(Q0)	Logic.Application	GIS	7SJ85	CB QA1 status(Q0)	70US-0057	CSWI		Status		R				
Logic.Application.GIS.7SJ85_CB_QA1_control(Q0)	Logic.Application	GIS	7SJ85	CB QA1 control(Q0)	70US-0058	XCBR		Control		W				
Logic.Application.GIS.7SJ85_CB_QA1_open_command(Q0)	Logic.Application	GIS	7SJ85	CB QA1 open command(Q0)	70OPC-0003	XCBR		Control		W				
Logic.Application.GIS.7SJ85_DS_QZ91_status	Logic.Application	GIS	7SJ85	DS QZ91 status	70US-0059	CSWI		Status		R				
Logic.Application.GIS.7SJ85_DS_QZ91_control	Logic.Application	GIS	7SJ85	DS QZ91 control	70US-0060	XSWI		Control		W				
Logic.Application.GIS.7SJ85_DS_QZ92_status	Logic.Application	GIS	7SJ85	DS QZ92 status	70US-0061	CSWI		Status		R				
Logic.Application.GIS.7SJ85_DS_QZ92_control	Logic.Application	GIS	7SJ85	DS QZ92 control	70UC-0017	XSWI		Control		W				
Logic.Application.GIS.7SJ85_ES_QZ91_status	Logic.Application	GIS	7SJ85	ES QZ91 status	70US-0062	CSWI		Status		R				
Logic.Application.GIS.7SJ85_ES_QZ91_control	Logic.Application	GIS	7SJ85	ES QZ91 control	70UC-0018	XSWI		Control		W				
Logic.Application.GIS.7SJ85_ES_QZ92_status	Logic.Application	GIS	7SJ85	ES QZ92 status	70US-0063	CSWI		Status		R				
Logic.Application.GIS.7SJ85_ES_QZ92_control	Logic.Application	GIS	7SJ85	ES QZ92 control	70UC-0019	XSWI		Control		W				
Logic.Application.GIS.7SJ85_DC_Control_Voltage_Failure	Logic.Application	GIS	7SJ85	DC Control Voltage Failure	70XA-0027	GGIO		Status		R				
Logic.Application.GIS.7SJ85_AC_Control_Voltage_Failure	Logic.Application	GIS	7SJ85	AC Control Voltage Failure	70XA-0028	GGIO		Status		R				
Logic.Application.GIS.7SJ85_6.6kV_SWGR_CB_Open_Status	Logic.Application	GIS	7SJ85	6.6kV SWGR CB Open Status	70ZSH-0003	GGIO		Status		R				
Logic.Application.GIS.7SJ85_6.6kV_SWGR_ES_Open_Status	Logic.Application	GIS	7SJ85	6.6kV SWGR ES Open Status	70ZSH-0004	GGIO		Status		R				
Logic.Application.GIS.7SJ85_VD1_NO_VOLTAGE	Logic.Application	GIS	7SJ85	VD1 NO VOLTAGE	70VI-0076	GGIO		Status		R				
Logic.Application.GIS.7SJ85_VD2_NO_VOLTAGE	Logic.Application	GIS	7SJ85	VD2 NO VOLTAGE	70VI-0077	GGIO		Status		R				
Logic.Application.GIS.7SJ85_CB_Warning_Gas_Low_Stage-1	Logic.Application	GIS	7SJ85	CB Warning Gas Low Stage-1	70LOS-0016	GGIO		Status		R				
Logic.Application.GIS.7SJ85_CB_Warning_Gas_Low_Stage-2	Logic.Application	GIS	7SJ85	CB Warning Gas Low Stage-2	70LLS-0017	GGIO		Status		R				
Logic.Application.GIS.7SJ85_CB_Spring_Motor_Overload	Logic.Application	GIS	7SJ85	CB Spring Motor Overload	70UA-0007	GGIO		Status		R				
Logic.Application.GIS.7SJ85_CB_Spring_Motor_Excessive_Run_Time	Logic.Application	GIS	7SJ85	CB Spring Motor Excessive Run Time	70UA-0008	GGIO		Status		R				
Logic.Application.GIS.7SJ85_CB_Motor_Exceeded_&_Spring_Uncharged	Logic.Application	GIS	7SJ85	CB Motor Exceeded & Spring Uncharged	70US-0064	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS/ES_MOTOR_MCB_TRIP	Logic.Application	GIS	7SJ85	DS/ES MOTOR MCB TRIP	70XS-0037	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS_OR_ES_MANUAL_OPER_MODE	Logic.Application	GIS	7SJ85	DS OR ES MANUAL OPER MODE	70XS-0012	GGIO		Status		R				
Logic.Application.GIS.7SJ85_HAND_CRANK_INSERTED	Logic.Application	GIS	7SJ85	HAND CRANK INSERTED	70US-0065	GGIO		Status		R				
Logic.Application.GIS.7SJ85_7UT85_Relay_Failure	Logic.Application	GIS	7SJ85	7UT85 Relay Failure	70XA-0029	GGIO		Status		R				
Logic.Application.GIS.7SJ85_LCC_LOCAL_Status	Logic.Application	GIS	7SJ85	LCC LOCAL Status	70LOC-0004	GGIO		Status		R				
Logic.Application.GIS.7SJ85_LCC_REMOTE_Status	Logic.Application	GIS	7SJ85	LCC REMOTE Status	70REM-0005	GGIO		Status		R				
Logic.Application.GIS.7SJ85_TCS1_FAIL	Logic.Application	GIS	7SJ85	TCS1 FAIL	70XA-0030	GGIO		Status		R				
Logic.Application.GIS.7SJ85_TCS2_FAIL	Logic.Application	GIS	7SJ85	TCS2 FAIL	70XA-0031	GGIO		Status		R				
Logic.Application.GIS.7SJ85_MCB_Alarm-Q0	Logic.Application	GIS	7SJ85	MCB Alarm - Q0	70XA-0032	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS/ES_QZ92_GAS_Pressure_Low_Stage-1	Logic.Application	GIS	7SJ85	DS/ES QZ92 GAS Pressure Low Stage-1	70LOS-0017	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS/ES_QZ92_GAS_Pressure_Low_Stage-2	Logic.Application	GIS	7SJ85	DS/ES QZ92 GAS Pressure Low Stage-2	70LLS-0018	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS/ES_QZ91_GAS_Pressure_Low_Stage-1	Logic.Application	GIS	7SJ85	DS/ES QZ91 GAS Pressure Low Stage-1	70LOS-0018	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS/ES_QZ91_GAS_Pressure_Low_Stage-2	Logic.Application	GIS	7SJ85	DS/ES QZ91 GAS Pressure Low Stage-2	70LLS-0019	GGIO		Status		R				
Logic.Application.GIS.7SJ85_LOR_RESET_COMMAND	Logic.Application	GIS	7SJ85	LOR RESET COMMAND	70UC-0020	GGIO		Control		W				
Logic.Application.GIS.7SJ85_CB_QA1_open_command_by_HV_SCADA	Logic.Application	GIS	7SJ85	CB QA1 open command by HV SCADA	70OPC-0004	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS_QZ92_open_command_by_HV_SCADA	Logic.Application	GIS	7SJ85	DS QZ92 open command by HV SCADA	70OPC-0005	GGIO		Status		R				
Logic.Application.GIS.7SJ85_DS_QZ92_close_command_by_HV_SCADA	Logic.Application	GIS	7SJ85	DS QZ92 close command by HV SCADA	70CLC-0003	GGIO		Status		R				
Logic.Application.GIS.7SJ85_ES_QZ92_open_command_by_HV_SCADA	Logic.Application	GIS	7SJ85	ES QZ92 open command by HV SCADA	70OPC-0006	GGIO		Status		R				
Logic.Application.GIS.7SJ85_ES_QZ92_close_command_by_HV_SCADA	Logic.Application	GIS	7SJ85	ES QZ92 close command by HV SCADA	70CLC-0004	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Physical_channel_status_(_Process_bus_)	Logic.Application	GIS	7SJ85	IMU Physical channel status (Process bus)	70US-0066	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Physical_channel_status_of_redundant_channel_(_Process_bus_)	Logic.Application	GIS	7SJ85	IMU Physical channel status of redundant channel (Process bus)	70US-0067	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_IED_physical_device_health	Logic.Application	GIS	7SJ85	IMU IED physical device health	70UI-0021	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Current_time_source	Logic.Application	GIS	7SJ85	IMU Current time source	70CI-0050	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Time_synchronized	Logic.Application	GIS	7SJ85	IMU Time synchronized	70SYN-0004	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Location_daylight_saving_time	Logic.Application	GIS	7SJ85	IMU Location daylight saving time	70UI-0022	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_SC_fail_alarm	Logic.Application	GIS	7SJ85	IMU SC fail alarm	70XA-0033	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Internal_power_fail_alarm	Logic.Application	GIS	7SJ85	IMU Internal power fail alarm	70XA-0034	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Process_bus_processor_fail_alarm	Logic.Application	GIS	7SJ85	IMU Process bus processor fail alarm	70XA-0035	GGIO		Status		R				
Logic.Application.GIS.7SJ85_IMU_Sampled_value_publish_fail_alarm	Logic.Application	GIS	7SJ85	IMU Sampled value publish fail alarm	70XA-0036	GGIO		Status		R				
Logic.Application.GIS.7SJ85_Level_1_50_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 50 pick-up General	70UI-0023			Status		R				
Logic.Application.GIS.7SJ85_Level_1_50_operation_General	Logic.Application	GIS	7SJ85	Level 1 50 operation General	70UI-0024			Status		R				
Logic.Application.GIS.7SJ85_Level_1_50N_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 50N pick-up General	70UI-0025			Status		R				
Logic.Application.GIS.7SJ85_Level_1_50N_operation_General	Logic.Application	GIS	7SJ85	Level 1 50N operation General	70UI-0026			Status		R				
Logic.Application.GIS.7SJ85_Level_1_51_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 51 pick-up General	70UI-5127			Status		R				
Logic.Application.GIS.7SJ85_Level_1_51_operation_General	Logic.Application	GIS	7SJ85	Level 1 51 operation General	70UI-5128			Status		R				
Logic.Application.GIS.7SJ85_Level_1_51G_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 51G pick-up General	70UI-1529			Status		R				
Logic.Application.GIS.7SJ85_Level_1_51G_operation_General	Logic.Application	GIS	7SJ85	Level 1 51G operation General	70UI-1530			Status		R				
Logic.Application.GIS.7SJ85_Level_1_67_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 67 pick-up General	70UI-0031			Status		R				
Logic.Application.GIS.7SJ85_Level_1_67_operation_General	Logic.Application	GIS	7SJ85	Level 1 67 operation General	70UI-0032			Status		R				
Logic.Application.GIS.7SJ85_Level_1_67N_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 67N pick-up General	70UI-0033			Status		R				
Logic.Application.GIS.7SJ85_Level_1_67N_operation_General	Logic.Application	GIS	7SJ85	Level 1 67N operation General	70UI-0034			Status		R				
Logic.Application.GIS.7SJ85_Level_1_27_pick-up_General	Logic.Application	GIS	7SJ85	Level 1 27 pick-up General	70UI-0035			Status		R				
Logic.Application.GIS.7SJ85_Level_1_27_operation_General	Logic.Application	GIS	7SJ85	Level 1 27 operation General	70UI-0036			Status		R				
Logic.Application.GIS.7SJ85_Total_active_power	Logic.Application	GIS	7SJ85	Total active power	89QII-1807	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_Total_reactive_power	Logic.Application	GIS	7SJ85	Total reactive power	70QII-1708	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_Total_apparent_power	Logic.Application	GIS	7SJ85	Total apparent power	70QII-1609	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_Average_power_factor	Logic.Application	GIS	7SJ85	Average power factor	70XI-1909	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_Frequency	Logic.Application	GIS	7SJ85	Frequency	70FRQ-0001	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_AB_Phase_to_phase_voltages_magnitude	Logic.Application	GIS	7SJ85	AB Phase to phase voltages magnitude	70VI-4578	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_AB_Phase_to_phase_voltages_angle	Logic.Application	GIS	7SJ85	AB Phase to phase voltages angle	70VA-4501	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_BC_Phase_to_phase_voltages_magnitude	Logic.Application	GIS	7SJ85	BC Phase to phase voltages magnitude	70VI-4680	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_BC_Phase_to_phase_voltages_angle	Logic.Application	GIS	7SJ85	BC Phase to phase voltages angle	70VA-4602	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_CA_Phase_to_phase_voltages_magnitude	Logic.Application	GIS	7SJ85	CA Phase to phase voltages magnitude	70VI-4482	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_CA_Phase_to_phase_voltages_angle	Logic.Application	GIS	7SJ85	CA Phase to phase voltages angle	70VA-4403	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_A_Phase_voltages_magnitude	Logic.Application	GIS	7SJ85	A Phase voltages magnitude	70VI-4484	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_A_Phase_voltages_angle	Logic.Application	GIS	7SJ85	A Phase voltages angle	70VA-4404	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_B_Phase_voltages_magnitude	Logic.Application	GIS	7SJ85	B Phase voltages magnitude	70VI-4586	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_B_Phase_voltages_angle	Logic.Application	GIS	7SJ85	B Phase voltages angle	70VA-4505	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_C_Phase_voltages_magnitude	Logic.Application	GIS	7SJ85	C Phase voltages magnitude	70VI-4688	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_C_Phase_voltages_angle	Logic.Application	GIS	7SJ85	C Phase voltages angle	70VA-4606	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_N_Phase_voltages_magnitude	Logic.Application	GIS	7SJ85	N Phase voltages magnitude	70VI-4790	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_N_Phase_voltages_angle	Logic.Application	GIS	7SJ85	N Phase voltages angle	70VA-4707	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_A_Phase_currents_magnitude	Logic.Application	GIS	7SJ85	A Phase currents magnitude	70CI-4451	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_A_Phase_currents_angle	Logic.Application	GIS	7SJ85	A Phase currents angle	70CA-4452	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_B_Phase_currents_magnitude	Logic.Application	GIS	7SJ85	B Phase currents magnitude	70CI-4553	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_B_Phase_currents_angle	Logic.Application	GIS	7SJ85	B Phase currents angle	70CA-4554	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_C_Phase_currents_magnitude	Logic.Application	GIS	7SJ85	C Phase currents magnitude	70CI-4655	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_C_Phase_currents_angle	Logic.Application	GIS	7SJ85	C Phase currents angle	70CA-4656	MMXU		Measure		R				
Logic.Application.GIS.7SJ85_N_Phase_currents_magnitude	Logic.Application	GIS	7SJ85	N Phase currents magnitude	70CI-4757	MMXU		Measure		R				

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.GIS.7SI85_N.Phase_currents_angle	Logic.Application	GIS	7SJ85	N Phase currents angle	70CA-4758	MMXU		Measure		R				
Logic.Application.GIS.7SI85_A.Phase_active_power_magnitude	Logic.Application	GIS	7SJ85	A Phase active power magnitude	70JI-4442	MMXU		Measure		R				
Logic.Application.GIS.7SI85_B.Phase_active_power_magnitude	Logic.Application	GIS	7SJ85	B Phase active power magnitude	70JI-4543	MMXU		Measure		R				
Logic.Application.GIS.7SI85_C.Phase_active_power_magnitude	Logic.Application	GIS	7SJ85	C Phase active power magnitude	70JI-4644	MMXU		Measure		R				
Logic.Application.GIS.7SI85_A.Phase_reactive_power_magnitude	Logic.Application	GIS	7SJ85	A Phase reactive power magnitude	70JI-4445	MMXU		Measure		R				
Logic.Application.GIS.7SI85_B.Phase_reactive_power_magnitude	Logic.Application	GIS	7SJ85	B Phase reactive power magnitude	70JI-4546	MMXU		Measure		R				
Logic.Application.GIS.7SI85_C.Phase_reactive_power_magnitude	Logic.Application	GIS	7SJ85	C Phase reactive power magnitude	70JI-4647	MMXU		Measure		R				
Logic.Application.GIS.7SI85_Import_active_energy	Logic.Application	GIS	7SJ85	Import active energy	70UI-0037	MMTR		Measure		R				
Logic.Application.GIS.7SI85_Export_active_energy	Logic.Application	GIS	7SJ85	Export active energy	70UI-0038	MMTR		Measure		R				
Logic.Application.GIS.7SI85_Import_reactive_energy	Logic.Application	GIS	7SJ85	Import reactive energy	70UI-0039	MMTR		Measure		R				
Logic.Application.GIS.7SI85_Export_reactive_energy	Logic.Application	GIS	7SJ85	Export reactive energy	70UI-0040	MMTR		Measure		R				
Logic.Application.GIS.7SI85_Current_Total_Demand_Distortion_phsA	Logic.Application	GIS	7SJ85	Current Total Demand Distortion phsA	70CI-0059	MHAI		Measure		R				
Logic.Application.GIS.7SI85_Current_Total_Demand_Distortion_phsB	Logic.Application	GIS	7SJ85	Current Total Demand Distortion phsB	70CI-0060	MHAI		Measure		R				
Logic.Application.GIS.7SI85_Current_Total_Demand_Distortion_phsC	Logic.Application	GIS	7SJ85	Current Total Demand Distortion phsC	70CI-0061	MHAI		Measure		R				
Logic.Application.GIS.7SI85_Current_Total_Harmonic_Distortion_phsA	Logic.Application	GIS	7SJ85	Current Total Harmonic Distortion phsA	70CI-0062	MHAI		Measure		R				
Logic.Application.GIS.7SI85_Current_Total_Harmonic_Distortion_phsB	Logic.Application	GIS	7SJ85	Current Total Harmonic Distortion phsB	70CI-0063	MHAI		Measure		R				
Logic.Application.GIS.7SI85_Current_Total_Harmonic_Distortion_phsC	Logic.Application	GIS	7SJ85	Current Total Harmonic Distortion phsC	70CI-0064	MHAI		Measure		R				
Logic.Application.GIS.7SI85_Voltage_unbalance_max_overall	Logic.Application	GIS	7SJ85	Voltage unbalance max overall	70VI-0092	QVUV		Measure		R				
Logic.Application.GIS.7SI85_Voltage_dip_Dur_	Logic.Application	GIS	7SJ85	Voltage dip Dur.	70VI-0093	QVVR		Measure		R				
Logic.Application.GIS.7SI85_Voltage_dip_Vres_	Logic.Application	GIS	7SJ85	Voltage dip Vres.	70VI-0094	QVVR		Measure		R				
Logic.Application.GIS.7SI85_Voltage_swell_Dur_	Logic.Application	GIS	7SJ85	Voltage swell Dur.	70VI-0095	QVVR		Measure		R				
Logic.Application.GIS.7SI85_Voltage_swell_Vsw_	Logic.Application	GIS	7SJ85	Voltage swell Vsw.	70VI-0096	QVVR		Measure		R				
Logic.Application.GIS.7SI85_Voltage_interrup._Dur_	Logic.Application	GIS	7SJ85	Voltage interrup. Dur.	70VI-0097	QVVR		Measure		R				
Logic.Application.GIS.7SI85_Voltage_interrup._Vres_	Logic.Application	GIS	7SJ85	Voltage interrup. Vres.	70VI-0098	QVVR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_CT1	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value CT1	70CI-3365	I01ATCTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_CT2	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value CT2	70CI-3301	I01ATCTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_CT3	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value CT3	70CI-3302	I01ATCTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_CT4	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value CT4	70CI-3303	I01ATCTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_VT1	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value VT1	70VI-4941	U01BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_VT2	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value VT2	70VI-4942	U01BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_VT3	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value VT3	70VI-4943	U01BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS1_Smapled_Value_VT4	Logic.Application	GIS	7SJ85	LSVS1.Smapled Value VT4	70VI-4944	U01BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS2_Smapled_Value_VT1	Logic.Application	GIS	7SJ85	LSVS2.Smapled Value VT1	70VI-4945	U02BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS2_Smapled_Value_VT2	Logic.Application	GIS	7SJ85	LSVS2.Smapled Value VT2	70VI-4946	U02BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS2_Smapled_Value_VT3	Logic.Application	GIS	7SJ85	LSVS2.Smapled Value VT3	70VI-4947	U02BCVTVTR		Measure		R				
Logic.Application.GIS.7SI85_LSVS2_Smapled_Value_VT4	Logic.Application	GIS	7SJ85	LSVS2.Smapled Value VT4	70VI-4948	U02BCVTVTR		Measure		R				
Logic.Application.WindFarm.HNA5-AFA70_ActivePower	Logic.Application	WindFarm	HNA5-AFA70	ActivePower	87JI-0001	DOUBLE	MW	Active Power Production		R				
Logic.Application.EMCS_Internal.ProcessAlarm	Logic.Application	EMCS_Internal		ProcessAlarm	87UI-0001	UINT16	-	Enumeration to be defined		R				
Logic.Application.EMCS_Internal.ElectricalAlarm	Logic.Application	EMCS_Internal		ElectricalAlarm	87UI-0002	UINT16	-	Enumeration to be defined		R				
Logic.Application.EMCS_Internal.AuxLoad	Logic.Application	EMCS_Internal		AuxLoad	70UI-0041	Float	kW	Measure of the auxiliaries consumption		R				
Logic.Application.EMCS_Internal.AVR_AutoManual	Logic.Application	EMCS_Internal		AVR_AutoManual	70AM-0003	Boolean	-	0: manual, 1: automatic		W				
Logic.Application.EMCS_Internal.AVR_OutputVoltage	Logic.Application	EMCS_Internal		AVR_OutputVoltage	70VI-4949	Float	kW	Measured at A6_TR_100AD1		R				
Logic.Application.EMCS_Internal.AVR_Status	Logic.Application	EMCS_Internal		AVR_Status	70UI-0042	UInt16		TBD, not used at the moment		R				
Logic.Application.EMCS_Internal.AVR_TapLower	Logic.Application	EMCS_Internal		AVR_TapLower	70HS-0016	Boolean		Command to lower the TAP		W				
Logic.Application.EMCS_Internal.AVR_TapPosition	Logic.Application	EMCS_Internal		AVR_TapPosition	70UI-0043	Int16		Current tap position		R				
Logic.Application.EMCS_Internal.AVR_TapRaise	Logic.Application	EMCS_Internal		AVR_TapRaise	70HS-0017	Boolean		Command to rise the TAP		R				
Logic.Application.EMCS_Internal.AVR_VoltageDeviationPerc	Logic.Application	EMCS_Internal		AVR_VoltageDeviationPerc	70VC-0001	Float		Deviation from the set point		W				
Logic.Application.EMCS_Internal.AVR_VoltageSetPoint	Logic.Application	EMCS_Internal		AVR_VoltageSetPoint	70VC-0002	Float		Set point		W				
Logic.Application.EMCS_Internal.BESS_ActivePower	Logic.Application	EMCS_Internal		BESS_ActivePower	85JI-1813	Float	kW	BESS measured active power. If positive the battery is discharged If negative the battery is charged		R				
Logic.Application.EMCS_Internal.BESS_ActivePowerSetPoint	Logic.Application	EMCS_Internal		BESS_ActivePowerSetPoint	85JI-1814	Float	kW	BESS set point feedback		R				
Logic.Application.EMCS_Internal.BESS_ActivePowerSetPointCmd	Logic.Application	EMCS_Internal		BESS_ActivePowerSetPointCmd	85JC-0001	Float	kW	BESS set point command		W				
Logic.Application.EMCS_Internal.BESS_FullyCharged	Logic.Application	EMCS_Internal		BESS_FullyCharged	85US-0005	Boolean	-	Flag indicating that the BESS SOC reached the maximum allowed	See the parameter BESS_MAXIMUM_OPERATING_RESERVE	R				
Logic.Application.EMCS_Internal.BESS_HasVoltage	Logic.Application	EMCS_Internal		BESS_HasVoltage	85US-0006	Boolean	-	Flag indicating that the BESS is energyzed (measured at SG_100D1.A3_BESS)		R				
Logic.Application.EMCS_Internal.BESS_Healthy	Logic.Application	EMCS_Internal		BESS_Healthy	85US-0007	Boolean		Flag indicating that the BESS is healty and can operate		R				
Logic.Application.EMCS_Internal.BESS_OperatingStatus	Logic.Application	EMCS_Internal		BESS_OperatingStatus	85UI-0012	Int16		Current operating status	1:"Warning", 2:"Error", 4:"Preheat State", 8:"Standby State", 16:"Precharge State", 32:"Ready State", 64:"Active State", 128:"Safety relais", 256:"Smoke detector", 512:"main switch on",	R				
Logic.Application.EMCS_Internal.BESS_OperatingStatusCmd	Logic.Application	EMCS_Internal		BESS_OperatingStatusCmd	85UC-00014	Int16		BitMask Dec 0: Stop; 0 13: Start 8192	Command to set the operating status	W				
Logic.Application.EMCS_Internal.BESS_ResidualEnergy	Logic.Application	EMCS_Internal		BESS_ResidualEnergy	85JI-0015	Float	kWh	Calculated energy that can be provided by the BESS given its SOC		R				
Logic.Application.EMCS_Internal.BESS_SOC	Logic.Application	EMCS_Internal		BESS_SOC	85UI-0013	Float	%	Status of Charge of the Battery		R				
Logic.Application.EMCS_Internal.BUS_6_6kV_HasVoltage	Logic.Application	EMCS_Internal		BUS_6_6kV_HasVoltage	85US-0008	Boolean				R				
Logic.Application.EMCS_Internal.Electrolyzer_ActivationThreshold	Logic.Application	EMCS_Internal		Electrolyzer_ActivationThreshold	20UI-0001	Float				R				
Logic.Application.EMCS_Internal.Electrolyzer_ActivePowerConsumption	Logic.Application	EMCS_Internal		Electrolyzer_ActivePowerConsumption	20JI-1602	Float				R				
Logic.Application.EMCS_Internal.Electrolyzer_ActivePowerSetPointCmd	Logic.Application	EMCS_Internal		Electrolyzer_ActivePowerSetPointCmd	20JC-7108	Float				W				
Logic.Application.EMCS_Internal.Electrolyzer_OperatingStatus	Logic.Application	EMCS_Internal		Electrolyzer_OperatingStatus	20UI-0002	Int16	-	Enumeration LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDBY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress		R				
Logic.Application.EMCS_Internal.Electrolyzer_OperatingStatusCmd	Logic.Application	EMCS_Internal		Electrolyzer_OperatingStatusCmd	20UC-0001	Int16	-	Enum 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STANDBY (STANDY BY) 4 : MODE PRODUCTION		W				
Logic.Application.EMCS_Internal.Electrolyzer_SetPointChoiseCmd	Logic.Application	EMCS_Internal		Electrolyzer_SetPointChoiseCmd	20UC-0002	Int16				W				
Logic.Application.EMCS_Internal.FuelCell_ActivePower	Logic.Application	EMCS_Internal		FuelCell_ActivePower	80JI-0099	Float				R				
Logic.Application.EMCS_Internal.FuelCell_ActivePowerSetPointCmd	Logic.Application	EMCS_Internal		FuelCell_ActivePowerSetPointCmd	80JC-0001	Float				W				
Logic.Application.EMCS_Internal.FuelCell_ConversionEfficiency	Logic.Application	EMCS_Internal		FuelCell_ConversionEfficiency	80UI-0011	Float				R				
Logic.Application.EMCS_Internal.FuelCell_Efficiency	Logic.Application	EMCS_Internal		FuelCell_Efficiency	80UI-0012	Float				R				
Logic.Application.EMCS_Internal.FuelCell_OperatingStatus	Logic.Application	EMCS_Internal		FuelCell_OperatingStatus	80UI-0014	Int16		Main FC Package Statemachine Index (enumeration) 6:Initialization(Initialize) 10:Sleep(Sleep) 14:Wakeup(StartupContainerVentilation) 17:Wakeup(FCwaveWakeup) 19:Wakeup(HydrogenHeaterStartup) 20:Standby(Standby) 30:Startup(BatteryStartup) 40:Startup(NanogridStartup) 50:Startup(LTCoolantStartup) 60:Startup(MicrogridStartup) 100:Running(Running) 105:Rampdown(RampDownPower) 110:Rampdown(MicrogridShutdown) 120:Rampdown(ChargeBattery) 130:Rampdown(ShutdownFCwaves) 140:Aftercool(Aftercool) 160:Shutdown(ShutdownNanogrid) 172:Shutdown(ShutdownHydorgenHeater) 180:Shutdown(PutFCwavesToSleep) 190:Shutdown(ShutdownVentilation) 200:Error(Error)		R				

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_Internal.FuelCell_OperatingStatusCmd	Logic.Application	EMCS_Internal		FuelCell_OperatingStatusCmd	80UC-0002	Int16		BitMask Dec 0:Wakeup 1 1:Sleep 2 2:Start 4 3:Stop 8 4:<Spare> 16 5:Reset 32		W				
Logic.Application.EMCS_Internal.FuelCell_ResidualEnergy	Logic.Application	EMCS_Internal		FuelCell_ResidualEnergy	80UI-0013	Float				R				
Logic.Application.EMCS_Internal.GridTied	Logic.Application	EMCS_Internal		GridTied	87US-0007	Boolean				R				
Logic.Application.EMCS_Internal.HNA5_ActivePower	Logic.Application	EMCS_Internal		HNA5_ActivePower	87JI-0002	Float				R				
Logic.Application.EMCS_Internal.HNA5_Fault	Logic.Application	EMCS_Internal		HNA5_Fault	87XA-0001	Boolean		HOLD 34 FDS		R				
Logic.Application.EMCS_Internal.HNA5_P_GT_GUAR_ActivationTime	Logic.Application	EMCS_Internal		HNA5_P_GT_GUAR.ActivationTime	87UI-0003	Float				R				
Logic.Application.EMCS_Internal.HNA5_P_GT_GUAR_IsActive	Logic.Application	EMCS_Internal		HNA5_P_GT_GUAR.IsActive	87US-0001	Boolean				R				
Logic.Application.EMCS_Internal.HNA5_P_GT_GUAR_Inertia	Logic.Application	EMCS_Internal		HNA5_P_GT_GUAR.Inertia	87UI-0004	Int16				R				
Logic.Application.EMCS_Internal.HNA5_P_GT_SURP_ActivationTime	Logic.Application	EMCS_Internal		HNA5_P_GT_SURP.ActivationTime	87UI-0005	Float				R				
Logic.Application.EMCS_Internal.HNA5_P_GT_SURP_IsActive	Logic.Application	EMCS_Internal		HNA5_P_GT_SURP.IsActive	87US-0002	Boolean				R				
Logic.Application.EMCS_Internal.HNA5_P_GT_SURP_Inertia	Logic.Application	EMCS_Internal		HNA5_P_GT_SURP.Inertia	87UI-0006	Int16				R				
Logic.Application.EMCS_Internal.HNA5_P_LT_GUAR_ActivationTime	Logic.Application	EMCS_Internal		HNA5_P_LT_GUAR.ActivationTime	87UI-0007	Float				R				
Logic.Application.EMCS_Internal.HNA5_P_LT_GUAR_IsActive	Logic.Application	EMCS_Internal		HNA5_P_LT_GUAR.IsActive	87US-0003	Boolean				R				
Logic.Application.EMCS_Internal.HNA5_P_LT_GUAR_Inertia	Logic.Application	EMCS_Internal		HNA5_P_LT_GUAR.Inertia	87US-0004	Int16				R				
Logic.Application.EMCS_Internal.HNA6_QA1CB_CloseCmd	Logic.Application	EMCS_Internal		HNA6_QA1CB_CloseCmd	87CLC-0001	Boolean				W				
Logic.Application.EMCS_Internal.HNA6_QA1CB_OpenCmd	Logic.Application	EMCS_Internal		HNA6_QA1CB_OpenCmd	87OPC-0001	Boolean				W				
Logic.Application.EMCS_Internal.HNA6_QA1CB_Status	Logic.Application	EMCS_Internal		HNA6_QA1CB_Status	87UI-0008	SByte				R				
Logic.Application.EMCS_Internal.HNA6_QA1CB_StatusInt	Logic.Application	EMCS_Internal		HNA6_QA1CB_StatusInt	87UI-0009	SByte		Used internally only for simulation/test purpose		R				
Logic.Application.EMCS_Internal.PlatformSupplyGuarantee	Logic.Application	EMCS_Internal		PlatformSupplyGuarantee	87US-0006	Boolean		Overall status of the supplu guarantee (Operator and WindFarm)		R				
Logic.Application.EMCS_Internal.ResidualOperationTime	Logic.Application	EMCS_Internal		ResidualOperationTime	87UI-0010	Float	hours	In emergency mode tells how many seconds the BLPH can operate before going to POWER OUT MODE		R				
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_CloseCmd	Logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_CloseCmd	20CLC-7102	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_Closed	Logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_Closed	20ZSL-7103	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_Open	Logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_Open	20ZSH-7102	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_OpenCmd	Logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_OpenCmd	20OPC-7102	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_CloseCmd	Logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_CloseCmd	89CLC-7202	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_Closed	Logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_Closed	89ZSL-0003	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_Open	Logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_Open	89ZSH-0003	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_OpenCmd	Logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_OpenCmd	89OPC-7202	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_CloseCmd	Logic.Application	EMCS_Internal		SG100D1_A3_BESS_CloseCmd	85CLC-7302	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_Closed	Logic.Application	EMCS_Internal		SG100D1_A3_BESS_Closed	85ZSL-7302	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_Open	Logic.Application	EMCS_Internal		SG100D1_A3_BESS_Open	85ZSH-7302	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_OpenCmd	Logic.Application	EMCS_Internal		SG100D1_A3_BESS_OpenCmd	85OPC-7302	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_CloseCmd	Logic.Application	EMCS_Internal		SG100D1_A4_TR_200DE1_CloseCmd	70CLC-7402	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_Closed	Logic.Application	EMCS_Internal		SG100D1_A4_TR_200DE1_Closed	70ZSL-7402	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_Open	Logic.Application	EMCS_Internal		SG100D1_A4_TR_200DE1_Open	70ZSH-7402	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_OpenCmd	Logic.Application	EMCS_Internal		SG100D1_A4_TR_200DE1_OpenCmd	70OPC-7402	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_CloseCmd	Logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_CloseCmd	70CLC-7603	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_Closed	Logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_Closed	70ZSL-7603	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_Open	Logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_Open	70ZSH-7603	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_OpenCmd	Logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_OpenCmd	70OPC-7603	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2	Logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2	70VI-1208	Float		Voltage used as feedback for the AVR Transformer		R				
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_CloseCmd	Logic.Application	EMCS_Internal		SG100D1_A7_FUELL_CELL_CloseCmd	80CLC-7712	Boolean				W				
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_Closed	Logic.Application	EMCS_Internal		SG100D1_A7_FUELL_CELL_Closed	80ZSL-7701	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_Open	Logic.Application	EMCS_Internal		SG100D1_A7_FUELL_CELL_Open	80ZSH-7702	Boolean				R				
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_OpenCmd	Logic.Application	EMCS_Internal		SG100D1_A7_FUELL_CELL_OpenCmd	80OPC-7712	Boolean				W				
Logic.Application.EMCS_Internal.SG200D2_CloseCmd	Logic.Application	EMCS_Internal		SG200D2_CloseCmd	89CLC-0004	Boolean				W				
Logic.Application.EMCS_Internal.SG200D2_Closed	Logic.Application	EMCS_Internal		SG200D2_Closed	89ZSL-0009	Boolean				R				
Logic.Application.EMCS_Internal.SG200D2_Open	Logic.Application	EMCS_Internal		SG200D2_Open	89ZSH-0009	Boolean				R				
Logic.Application.EMCS_Internal.SG200D2_OpenCmd	Logic.Application	EMCS_Internal		SG200D2_OpenCmd	89OPC-0004	Boolean				W				
Logic.Application.EMCS_Internal.SolarFarm_ActivePower	Logic.Application	EMCS_Internal		SolarFarm_ActivePower	89JI-0011	Float				R				
Logic.Application.EMCS_Internal.SolarFarm_ActivePowerSetPoint	Logic.Application	EMCS_Internal		SolarFarm_ActivePowerSetPoint	89JI-0012	Float				R				
Logic.Application.EMCS_Internal.SolarFarm_ActivePowerSetPointCmd	Logic.Application	EMCS_Internal		SolarFarm_ActivePowerSetPointCmd	89JC-0001	Float				W				
Logic.Application.EMCS_Internal.SolarFarm_CB_CloseRequest	Logic.Application	EMCS_Internal		SolarFarm_CB_CloseRequest	89CLC-0006	Boolean				W				
Logic.Application.EMCS_Internal.SolarFarm_CB_OpenRequest	Logic.Application	EMCS_Internal		SolarFarm_CB_OpenRequest	89OPC-0006	Boolean				W				
Logic.Application.EMCS_Internal.SolarFarm_Fault	Logic.Application	EMCS_Internal		SolarFarm_Fault	89XA-7106	Boolean				R				
Logic.Application.EMCS_Internal.SolarFarm_Healthy	Logic.Application	EMCS_Internal		SolarFarm_Healthy	89UA-7107	Boolean				R				
Logic.Application.EMCS_Internal.SolarFarm_Maintenance	Logic.Application	EMCS_Internal		SolarFarm_Maintenance	89US-0007	Boolean				R				
Logic.Application.EMCS_Internal.SolarFarm_OperatingStatus	Logic.Application	EMCS_Internal		SolarFarm_OperatingStatus	89UI-0002	Int16		0: Shutdown, 1: Operating,		R				
Logic.Application.EMCS_Internal.SolarFarm_ShutdownCmd	Logic.Application	EMCS_Internal		SolarFarm_ShutdownCmd	89HS-0001	Boolean				W				
Logic.Application.EMCS_Internal.SolarFarm_StartupCmd	Logic.Application	EMCS_Internal		SolarFarm_StartupCmd	89HS-0002	Boolean				W				
Logic.Application.EMCS_Internal.OperatorSupplyGuarantee	Logic.Application	EMCS_Internal		OperatorSupplyGuarantee	87US-0005	Boolean	-	Enumeration: 0: Automatic 1: Manual Active 2: Manual Inactive	Automatic: the HNA5 Supply Guaranty is applied Manual Active: operator override Manual Inactive: operator override	W				
Logic.Application.EMCS_Internal.TotalActivePower	Logic.Application	EMCS_Internal		TotalActivePower	89QII-0014	Float				R				
Logic.Application.EMCS_Parameters.ColdStandBy_Mode_Delay	Logic.Application	EMCS_Parameters		ColdStandBy_Mode_Delay	87UI-0018	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.ELECTROLYZER_MAX_SET_POINT	Logic.Application	EMCS_Parameters		ELECTROLYZER_MAX_SET_POINT	87UI-0019	Float	kW	Max set point that can be applied						
Logic.Application.EMCS_Parameters.ELECTROLYZER_STOP_TIMEOUT	Logic.Application	EMCS_Parameters		ELECTROLYZER_STOP_TIMEOUT	87UI-0020	Int64	s	Max time to wait the electrolyzer after sending the stop command						
Logic.Application.EMCS_Parameters.Emergency_Mode_Delay	Logic.Application	EMCS_Parameters		Emergency_Mode_Delay	87UI-0021	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Export_Mode_Delay	Logic.Application	EMCS_Parameters		Export_Mode_Delay	87UI-0022	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.FUEL_CELL_MAXIMUM_SETPOINT	Logic.Application	EMCS_Parameters		FUEL_CELL_MAXIMUM_SETPOINT	87UI-0023	Float	kW	Max set point that can be applied						
Logic.Application.EMCS_Parameters.HotStandBy_Mode_Delay	Logic.Application	EMCS_Parameters		HotStandBy_Mode_Delay	87UI-0024	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Idle_Mode_Delay	Logic.Application	EMCS_Parameters		Idle_Mode_Delay	87UI-0025	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Import_Able_Mode_Delay	Logic.Application	EMCS_Parameters		Import_Able_Mode_Delay	87UI-0026	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Import_Mode_Delay	Logic.Application	EMCS_Parameters		Import_Mode_Delay	87UI-0027	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Import_Not_Able_Mode_Delay	Logic.Application	EMCS_Parameters		Import_Not_Able_Mode_Delay	87UI-0028	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Maintenance_Mode_Delay	Logic.Application	EMCS_Parameters		Maintenance_Mode_Delay	87UI-0029	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.None_Mode_Delay	Logic.Application	EMCS_Parameters		None_Mode_Delay	87UI-0030	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Powerout_Mode_Delay	Logic.Application	EMCS_Parameters		Powerout_Mode_Delay	87UI-0031	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.Research_Mode_Delay	Logic.Application	EMCS_Parameters		Research_Mode_Delay	87UI-0032	Int16	s	Inertia to enter the mode						
Logic.Application.EMCS_Parameters.SOLAR_FARM_MAXIMUM_SETPOINT	Logic.Application	EMCS_Parameters		SOLAR_FARM_MAXIMUM_SETPOINT	87UI-0033	Float	kW	Max set point that can be applied						
Logic.Application.EMCS_Parameters.WINDFARM_POWER_COMPARE_HOLD_TIME	Logic.Application	EMCS_Parameters		WINDFARM_POWER_COMPARE_HOLD_TIME	87UI-0034	UInt16	s	Default = 60 seconds. Hysteresis on wind power comparison						
Logic.Application.EMCS_Parameters.WINDFARM_SUPPLY_GUARANTEE_MIN_POWER	Logic.Application	EMCS_Parameters		WINDFARM_SUPPLY_GUARANTEE_MIN_POWER	87UI-0035	Float	kW	Default = 1000						
Logic.Application.EMCS_Parameters.WINDFARM_SURPLUS_MIN_POWER	Logic.Application	EMCS_Parameters		WINDFARM_SURPLUS_MIN_POWER	87UI-0036	Float	kW	Default = 2000						
Logic.Application.EMCS_StatusMachine.Current_Mode	Logic.Application	EMCS_StatusMachine		Current_Mode	87UI-0037	Int16		Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH						
Logic.Application.EMCS_StatusMachine.Current_SubMode	Logic.Application	EMCS_StatusMachine		Current_SubMode	87UI-0038	Int16		Enumeration 0:Idle 1:Init 2:Running 3:Stopping						
Logic.Application.EMCS_StatusMachine.Next_Mode	Logic.Application	EMCS_StatusMachine		Next_Mode	87UI-0039	Int16		Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH						
Logic.Application.EMCS_StatusMachine.Next_SubMode	Logic.Application	EMCS_StatusMachine		Next_SubMode	87UI-0040	Int16		Enumeration 0:Idle 1:Init 2:Running 3:Stopping						
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.PreconditionsActive	87US-0008	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.IsActive	87US-0009	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.ActivationTime	87UI-0041	Float								
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.ExecutorStatus	87UI-0042	Int16								
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.Inertia	87UI-0043	Int16								
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.PreconditionsActive	87US-0010	Boolean	-							

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	HMI Tag Name	Type	Unit	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.IsActive	87US-0011	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.ActivationTime	87UI-0044	Float								
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.ExecutorStatus	87UI-0045	Int16								
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.Inertia	87UI-0046	Int16								
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.PreconditionsActive	87US-0012	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.IsActive	87US-0013	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.ActivationTime	87UI-0047	Float								
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.ExecutorStatus	87UI-0048	Int16								
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.Inertia	87UI-0049	Int16								
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.PreconditionsActive	87US-0014	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.IsActive	87US-0015	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.ActivationTime	87UI-0050	Float								
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.ExecutorStatus	87UI-0051	Int16								
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.Inertia	87UI-0052	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.PreconditionsActive	87US-0016	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.IsActive	87US-0017	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.ActivationTime	87UI-0053	Float								
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.ExecutorStatus	87UI-0054	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.Inertia	87UI-0055	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.PreconditionsActive	87US-0018	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.IsActive	87US-0019	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.ActivationTime	87UI-0056	Float								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.ExecutorStatus	87UI-0057	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.Inertia	87UI-0058	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.PreconditionsActive	87US-0020	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.IsActive	87US-0021	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.ActivationTime	87UI-0059	Float								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.ExecutorStatus	87UI-0060	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.Inertia	87UI-0061	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.PreconditionsActive	87US-0022	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.IsActive	87US-0023	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.ActivationTime	87UI-0062	Float								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.ExecutorStatus	87UI-0063	Int16								
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.Inertia	87UI-0064	Int16								
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.PreconditionsActive	87US-0024	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.IsActive	87US-0025	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.ActivationTime	87UI-0065	Float								
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.ExecutorStatus	87UI-0066	Int16								
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.Inertia	87UI-0067	Int16								
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.PreconditionsActive	87US-0026	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.IsActive	87US-0027	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.ActivationTime	87UI-0068	Float								
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.ExecutorStatus	87UI-0069	Int16								
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.Inertia	87UI-0070	Int16								
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.PreconditionsActive	87US-0028	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.IsActive	87US-0029	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.ActivationTime	87UI-0071	Float								
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.ExecutorStatus	87UI-0072	Int16								
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.Inertia	87UI-0073	Int16								
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_PreconditionsActive	Logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.PreconditionsActive	87US-0030	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_IsActive	Logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.IsActive	87US-0031	Boolean	-							
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_ActivationTime	Logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.ActivationTime	87UI-0074	Float								
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_ExecutorStatus	Logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.ExecutorStatus	87UI-0075	Int16								
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_Inertia	Logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.Inertia	87UI-0076	Int16								

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EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	HMI TAG	HMI COMMENT	Notes
PCS.EMCS.PermToStartFC	Coil	1	BOOL	-	Permissive to start Fuel Cell sent by PCS	87PERM-0001	PERM TO FUEL CELL	
PCS.EMCS.PermToStartEL	Coil	2	BOOL	-	Permissive to start Electrolyzer sent by PCS	87PERM-0002	PERM TO ELECTROLYZER	
PCS.EMCS.ProcessFullyCharged	Coil	3	BOOL	-	PCS indicates if the Fuel Tanks are full	87H2TK-0001	TANK FULL	
PCS.EMCS.BESSFault	Coil	4	BOOL	-	Sent by PCS. 1: fault; 0: OK. When 1 the BESS must be immediately stopped	87XA-0001	BESS FAULT	
PCS.EMCS.HOTSTANDBY	Coil	5	BOOL	-	Permissive to enter HOT STAND BY Mode sent by PCS	87HSBY-0001	HOT STANDBY	
PCS.EMCS.COLD STANDBY	Coil	6	BOOL	-	Permissive to enter COLD STAND BY Mode sent by PCS	87CSBY-0001	COLD STANDBY	
PCS.EMCS.EMERGENCY	Coil	7	BOOL	-	Permissive to enter EMERGENCY Mode sent by PCS	Rev	EMERGENCY MODE	
PCS.EMCS.EXPORT	Coil	8	BOOL	-	Permissive to enter EXPORT Mode sent by PCS	87EXP-0001	EXPORT MODE CMD	
PCS.CmdToLoadShedStage1	DiscreteInput	1	BOOL	-	Request sent from EMCS to PCS to activate the Load Shedding of EMERGENCY MODE	87LDSH-001	EMERGENCY MODE	The load shedding of the devices belonging to the first list is performed
PCS.CmdToLoadShedStage2	DiscreteInput	2	BOOL	-	Request sent from EMCS to PCS to activate the Load Shedding of LOW BESS LEVEL	87LDSH-002	LOAD SHED	The load shedding of the devices belonging to the second list is performed
PCS.EntertMode	InputRegister	1	UINT16	-	EMCS Mode Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	87MODE-001	EMCS MODE STATUS	Request sent by the EMCS to the PCS to enter in a specific mode. The PCS monitor the value change to capture the mode request. POWER OUT mode is a special condition. The EMCS move to the POWER OUT mode without waiting the PCS permission.
PCS.CurrentMode	InputRegister	2	UINT16	-	EMCS Mode Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	87MODE-002	EMCS MODE REQUEST	EMCS communicate through this register which is its current MODE. The PCS listen for the mode change. If the POWER OUT MODE is reached, the PCS takes the predefined actions (trip everithing)

EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	HMI TAG	HMI COMMENT	Notes
FuelCellOperatingStatus	InputRegister	3	UINT16		6:Initialization(Initialize) 10: Sleep(Sleep) 14: Wakeup(StartupContainerVentilation) 17: Wakeup(FCwaveWakeup) 19: Wakeup(HydrogenHeaterStartup) 20: Standby(Standby) 30: Startup(BatteryStartup) 40: Startup(NanogridStartup) 50: Startup(LTCoolantStartup) 60: Startup(MicrogridStartup) 100:Running(Running) 105:Rampdown(RampDownPower) 110:Rampdown(MicrogridShutdown) 120:Rampdown(ChargeBattery) 130:Rampdown(ShutdownFCwaves) 140:Aftercool(Aftercool) 160:Shutdown(ShutdownNanogrid) 172:Shutdown(ShutdownHydorgenHeater) 180:Shutdown(PutFCwavesToSleep) 190:Shutdown(ShutdownVentilation) 200:Error(Error)	87UI-0003	INITIALIZE STATUS	
ElectrolyzerOperatingStatus	InputRegister	4	UINT16		LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress	87UI-0004		
PCS.EMCS.PermToEnterMode	HoldingRegister	1	UINT16	-	EMCS Mode Enmeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	87MODE-003	LOCAL MODE	Permissive to enter in the mode indicated by the register value.
PCS.EMCS.HydrogenLevel	HoldingRegister	2	UINT16	Kg	Hydrogen level in Kg. PCS communicates the level periodically to the EMCS.	87H2LI-001	H2 LELVEL	
PCS.EMCS.ESD-1D	HoldingRegister	3	BOOL	-	PCS inform the EMCS to go in Power Out mode	87PWRC-001	POWER OUT MODE REQ	

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-4.2 EMCS IO List (HW and SW)

1724000594-IN-LIS-00005

Base Load Power Hub (BLPH)

EMCS_IO_List

Document Number: 1724000594-IN-LIS-00005
Supplier Document Number: E366772C00-EMCS_IO

Document Class: 2

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	19/09/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
02	11/06/2025	ACCEPTED FOR CONSTRUCTION (AFC)	CF	AB	SC
01	3/02/2025	ISSUE FOR REVIEW (IFR)	CF	AB	SC
00	24/09/2024	ISSUE FOR REVIEW (IFR)	CF	AB	SC

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	EMCS_IO_List	Page: 2 of 45 Date: 11/06/2025 Rev. 02

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3	Table of Contents			X					
4	Revision / Change Log			X					
5	Notes			X					
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42	EMCS Address Space (MODBUS)			X					
43	EMCS Address Space (MODBUS)			X					
44	EMCS Address Space (MODBUS)			X					
45	EMCS HW IO			X					

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Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ISSUE FOR REVIEW (IFR)
02	ACCEPTED FOR CONSTRUCTION (AFC)

HOLDS LIST

No.	Description
1.	
2.	
3.	
4.	

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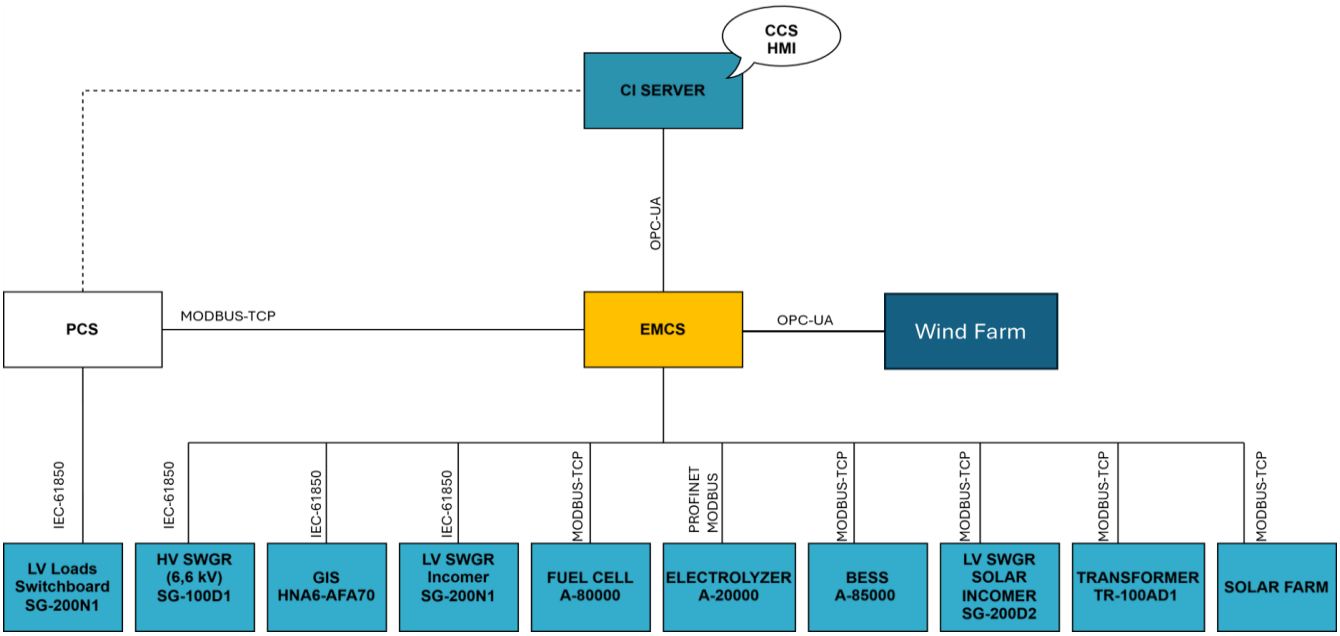
Notes

This document describes the list of signals exposed by the EMCS.
The EMCS, beside the role of central controller, acts as a communication gateway toward the devices relevant to the energy management of the BLPH: BESS, SolarFarm, FuelCell, Electrolizer, WindFarm and electrical equipment like GIS, SG-100D1, SG-200D2, SG-200N1, TransformerAVR.

The EMCS provides two communication interfaces as Server:
- **OPC-UA**: to provide real-time data to the CSS SCADA related to both field devices and internal measures/statuses. Moreover, it provides an interface to set parameters of the EMCS itself.
- **MODBUS-TCP**: to exchange measures, statuses and commands with the PCS.

The picture below shows all the connections and the used protocols.



Reference Documents:

SG-100D1	1723002197-EL-LIS-00041.pdf
SG-200D2	1723002197-EL-LIS-00043.pdf
SG-200N1	1723002197-EL-LIS-00042.pdf
Transformer TR-100D1	BAL_8249889_001_00_1_EN.pdf
GIS	1723001595-EL-LIS-00011.pdf
BESS	23A2007_240628_PROFINET_Register BESS_V1_0_0_3.xlsx
SolarFarm	HKN1-02-REG-341 Manual for controlling the solar farm via the client connector REV A.pdf
FuelCell	Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark.xlsx
Electrolizer	C63-AUT-002_03_Communication table

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.Status1_StatusWord_Warning	logic.Application	BESS_GVL		Status1_StatusWord_Warning	BOOL		1		Status1_StatusWord_Warning		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_Error	logic.Application	BESS_GVL		Status1_StatusWord_Error	BOOL		1		Status1_StatusWord_Error		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_PhreHeat	logic.Application	BESS_GVL		Status1_StatusWord_PhreHeat	BOOL		1		Status1_StatusWord_PhreHeat		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_StandBy	logic.Application	BESS_GVL		Status1_StatusWord_StandBy	BOOL		1		Status1_StatusWord_StandBy		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_PreCharge	logic.Application	BESS_GVL		Status1_StatusWord_PreCharge	BOOL		1		Status1_StatusWord_PreCharge		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_Ready	logic.Application	BESS_GVL		Status1_StatusWord_Ready	BOOL		1		Status1_StatusWord_Ready		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_ActiveInOperation	logic.Application	BESS_GVL		Status1_StatusWord_ActiveInOperation	BOOL		1		Status1_StatusWord_ActiveInOperation		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_SafetyRelaisTriggered	logic.Application	BESS_GVL		Status1_StatusWord_SafetyRelaisTriggered	BOOL		1		Status1_StatusWord_SafetyRelaisTriggered		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_SmokeDetectorTriggered	logic.Application	BESS_GVL		Status1_StatusWord_SmokeDetectorTriggered	BOOL		1		Status1_StatusWord_SmokeDetectorTriggered		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_MainSwitchOn	logic.Application	BESS_GVL		Status1_StatusWord_MainSwitchOn	BOOL		1		Status1_StatusWord_MainSwitchOn		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_H2_detected_BESS_1_1_4	logic.Application	BESS_GVL		Status1_StatusWord_H2_detected_BESS_1_1_4	BOOL		1		Hydrogen detector inside the container reached error level		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_H2_detected_BESS_1_5_8	logic.Application	BESS_GVL		Status1_StatusWord_H2_detected_BESS_1_5_8	BOOL		1		Hydrogen detector inside the container reached error level		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_H2_detected_BESS_1_9_11	logic.Application	BESS_GVL		Status1_StatusWord_H2_detected_BESS_1_9_11	BOOL		1		Hydrogen detector inside the container reached error level		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_H2_detected_BESS_2_1_4	logic.Application	BESS_GVL		Status1_StatusWord_H2_detected_BESS_2_1_4	BOOL		1		Hydrogen detector inside the container reached error level		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_H2_detected_BESS_2_5_8	logic.Application	BESS_GVL		Status1_StatusWord_H2_detected_BESS_2_5_8	BOOL		1		Hydrogen detector inside the container reached error level		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_StatusWord_H2_detected_BESS_2_9_11	logic.Application	BESS_GVL		Status1_StatusWord_H2_detected_BESS_2_9_11	BOOL		1		Hydrogen detector inside the container reached error level		R	MODBUS	0 (0-16 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_HeartBeat	logic.Application	BESS_GVL		Status1_HeartBeat	INT16		1		Status1_HeartBeat		R	MODBUS	1	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status1_Control_Cab_Temp	logic.Application	BESS_GVL		Status1_Control_Cab_Temp	INT16	°c	1		Status1_Control_Cab_Temp		R	MODBUS	2	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status1_Power_Cab_Temp	logic.Application	BESS_GVL		Status1_Power_Cab_Temp	INT16	°c	1		Status1_Power_Cab_Temp		R	MODBUS	3	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status1_Cab_Temp	logic.Application	BESS_GVL		Status1_Cab_Temp	INT16	°c	1		Status1_Cab_Temp		R	MODBUS	3	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status1_Cooling_Water_Temp	logic.Application	BESS_GVL		Status1_Cooling_Water_Temp	INT16	°c	1		Status1_Cooling_Water_Temp		R	MODBUS	4	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status1_Outside_Temp	logic.Application	BESS_GVL		Status1_Outside_Temp	INT16		1		Status1_Outside_Temp		R	MODBUS	4		INT16
Logic.Application.BESS_GVL.Status1_Room_Temp	logic.Application	BESS_GVL		Status1_Room_Temp	INT16		1		Status1_Room_Temp		R	MODBUS	5		INT16
Logic.Application.BESS_GVL.Status1_Actual_Records	logic.Application	BESS_GVL		Status1_Actual_Records	INT16		1		Status1_Actual_Records		R	MODBUS	7	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status1_Record	logic.Application	BESS_GVL		Status1_Record	INT16		1		Status1_Record		R	MODBUS	8	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status1_Record_Error_Number	logic.Application	BESS_GVL		Status1_Record_Error_Number	UINT32		1		Status1_Record_Error_Number		R	MODBUS	9 - 10	INPUT REGISTER	UDINT
Logic.Application.BESS_GVL.Status1_Record_Error_Level	logic.Application	BESS_GVL		Status1_Record_Error_Level	INT16		1		Status1_Record_Error_Level		R	MODBUS	11	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status1_Record_TimeStamp_Date	logic.Application	BESS_GVL		Status1_Record_TimeStamp_Date	DATE		1		Status1_Record_TimeStamp_Date		R	MODBUS	12 - 13	INPUT REGISTER	UDINT
Logic.Application.BESS_GVL.Status1_Record_TimeStamp_Time	logic.Application	BESS_GVL		Status1_Record_TimeStamp_Time	TIME		1		Status1_Record_TimeStamp_Time		R	MODBUS	14 - 15	INPUT REGISTER	UDINT
Logic.Application.BESS_GVL.Status2_StatusWord	logic.Application	BESS_GVL		Status2_StatusWord	UINT16		1		Status2_StatusWord		R	MODBUS	16	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status2_IGBT_1_Temp	logic.Application	BESS_GVL		Status2_IGBT_1_Temp	INT16	°c	1		Status2_IGBT_1_Temp		R	MODBUS	17	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_Inductor_1_Temp	logic.Application	BESS_GVL		Status2_Inductor_1_Temp	INT16	°c	1		Status2_Inductor_1_Temp		R	MODBUS	17	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_IGBT_2_Temp	logic.Application	BESS_GVL		Status2_IGBT_2_Temp	INT16	°c	1		Status2_IGBT_2_Temp		R	MODBUS	18	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_Inductor_2_Temp	logic.Application	BESS_GVL		Status2_Inductor_2_Temp	INT16	°c	1		Status2_Inductor_2_Temp		R	MODBUS	19	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_IGBT_3_Temp	logic.Application	BESS_GVL		Status2_IGBT_3_Temp	INT16	°c	1		Status2_IGBT_3_Temp		R	MODBUS	20	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_Inductor_3_Temp	logic.Application	BESS_GVL		Status2_Inductor_3_Temp	INT16	°c	1		Status2_Inductor_3_Temp		R	MODBUS	20	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_IGBT_4_Temp	logic.Application	BESS_GVL		Status2_IGBT_4_Temp	INT16	°c	1		Status2_IGBT_4_Temp		R	MODBUS	21	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_Inductor_4_Temp	logic.Application	BESS_GVL		Status2_Inductor_4_Temp	INT16	°c	1		Status2_Inductor_4_Temp		R	MODBUS	22	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_IGBT_5_Temp	logic.Application	BESS_GVL		Status2_IGBT_5_Temp	INT16	°c	1		Status2_IGBT_5_Temp		R	MODBUS	23	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_Inductor_5_Temp	logic.Application	BESS_GVL		Status2_Inductor_5_Temp	INT16	°c	1		Status2_Inductor_5_Temp		R	MODBUS	23	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Status2_Grid_Frequency	logic.Application	BESS_GVL		Status2_Grid_Frequency	FLOAT	Hz	1		Status2_Grid_Frequency		R	MODBUS	25	INPUT REGISTER	UINT
Logic.Application.BESS_GVL.Status2_IGBT1_RMS_Voltage	logic.Application	BESS_GVL		Status2_IGBT1_RMS_Voltage	FLOAT	V	1		Status2_IGBT1_RMS_Voltage		R	MODBUS	26	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status2_IGBT2_RMS_Voltage	logic.Application	BESS_GVL		Status2_IGBT2_RMS_Voltage	FLOAT	V	1		Status2_IGBT2_RMS_Voltage		R	MODBUS	27	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status2_IGBT3_RMS_Voltage	logic.Application	BESS_GVL		Status2_IGBT3_RMS_Voltage	FLOAT	V	1		Status2_IGBT3_RMS_Voltage		R	MODBUS	28	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status2_IGBT1_RMS_Current	logic.Application	BESS_GVL		Status2_IGBT1_RMS_Current	FLOAT	V	1		Status2_IGBT1_RMS_Current		R	MODBUS	29	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status2_IGBT2_RMS_Current	logic.Application	BESS_GVL		Status2_IGBT2_RMS_Current	FLOAT	V	1		Status2_IGBT2_RMS_Current		R	MODBUS	30	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status2_IGBT3_RMS_Current	logic.Application	BESS_GVL		Status2_IGBT3_RMS_Current	FLOAT	V	1		Status2_IGBT3_RMS_Current		R	MODBUS	31	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Statusword	logic.Application	BESS_GVL		Statusword	UINT16		1		Statusword		R	MODBUS	32 (0 - 1 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.Status3_StatusWord_Available	logic.Application	BESS_GVL		Status3_StatusWord_Available	BOOL		1		Status3_StatusWord_Available		R	MODBUS	0		BOOL
Logic.Application.BESS_GVL.Status3_StatusWord_PRL_Active	logic.Application	BESS_GVL		Status3_StatusWord_PRL_Active	BOOL		1		Status3_StatusWord_PRL_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.Status3_ActivePower	logic.Application	BESS_GVL		Status3_ActivePower	FLOAT	kW	1		Status3_ActivePower		R	MODBUS	33	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_ReactivePower	logic.Application	BESS_GVL		Status3_ReactivePower	FLOAT	KVAr	1		Status3_ReactivePower		R	MODBUS	34	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_SOC	logic.Application	BESS_GVL		Status3_SOC	FLOAT	%	1		Status3_SOC		R	MODBUS	35	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_SOH	logic.Application	BESS_GVL		Status3_SOH	FLOAT	%	1		Status3_SOH		R	MODBUS	36	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_Charge_Power_Max	logic.Application	BESS_GVL		Status3_Charge_Power_Max	FLOAT	kW	1		Status3_Charge_Power_Max		R	MODBUS	37	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_Discharge_Power_Max	logic.Application	BESS_GVL		Status3_Discharge_Power_Max	FLOAT	kW	1		Status3_Discharge_Power_Max		R	MODBUS	38	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_Charge_Energy	logic.Application	BESS_GVL		Status3_Charge_Energy	FLOAT	kWh	1		Status3_Charge_Energy		R	MODBUS	39	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_Discharge_Energy	logic.Application	BESS_GVL		Status3_Discharge_Energy	FLOAT	kWh	1		Status3_Discharge_Energy		R	MODBUS	40	INPUT REGISTER	INT
Logic.Application.BESS_GVL.Status3_Convert_Operating_Mode	logic.Application	BESS_GVL		Status3_Convert_Operating_Mode	INT16		1		Status3_Convert_Operating_Mode		R	MODBUS	42	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.StringStatus_Statusword	logic.Application	BESS_GVL	StringStatus	Statusword	UINT16		1		Statusword		R	MODBUS	48 (0 - 9 Bit Reference)	INPUT REGISTER	WORD
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand	BOOL		1		Batterycabinet 1 and 2 on		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active	BOOL		1		Batterycabinet 1 and 2 on DCDC 1 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected	BOOL		1		Batterycabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS	0	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected	BOOL		1		Batterycabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error	BOOL		1		Batterycabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error	BOOL		1		Batterycabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1	BOOL		1		Batterycabinet 1 and 2 on		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2	BOOL		1		Batterycabinet 1 and 2 on		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1	BOOL		1		Batterycabinet 1 and 2 on		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2	BOOL		1		Batterycabinet 1 and 2 on		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1	logic.Application	BESS_GVL		String_Current_1	FLOAT	A	1		Batterycabinet 1 and 2 on DCDC 1 - String_Current_1		R	MODBUS	49	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1	logic.Application	BESS_GVL		String_Voltage_1	FLOAT	V	1		Batterycabinet 1 and 2 on DCDC 1 - String_Voltage_1		R	MODBUS	50	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1	FLOAT	V	1		Batterycabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Min_1		R	MODBUS	51	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1	FLOAT	V	1		Batterycabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Max_1		R	MODBUS	52	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1	logic.Application	BESS_GVL		String_Cell_Temp_Min_1	FLOAT	°c	1		Batterycabinet 1 and 2 on DCDC 1 - String_Cell_Temp_Min_1		R	MODBUS	53	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1	logic.Application	BESS_GVL		String_Cell_Temp_Max_1	FLOAT	°c	1		Batterycabinet 1 and 2 on DCDC 1 - Strina_Cell_Temp_Max_1		R	MODBUS	54	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1	logic.Application	BESS_GVL		String_SOC_1	FLOAT	%	1		Batterycabinet 1 and 2 on DCDC 1 - String_SOC_1		R	MODBUS	55	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2	logic.Application	BESS_GVL		String_Current_2	FLOAT	A	1		Batterycabinet 1 and 2 on DCDC 1 - String_Current_2		R	MODBUS	56	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2	logic.Application	BESS_GVL		String_Voltage_2	FLOAT	V	1		Batterycabinet 1 and 2 on DCDC 1 - String_Voltage_2		R	MODBUS	57	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2	FLOAT	V	1		Batterycabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Min_2		R	MODBUS	58	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2	FLOAT	V	1		Batterycabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Max_2		R	MODBUS	59	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2	logic.Application	BESS_GVL		String_Cell_Temp_Min_2	FLOAT	°c	1		Batterycabinet 1 and 2 on DCDC 1 - String_Cell_Temp_Min_2		R	MODBUS	60	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2	logic.Application	BESS_GVL		String_Cell_Temp_Max_2	FLOAT	°c	1		Batterycabinet 1 and 2 on DCDC 1 - Strina_Cell_Temp_Max_2		R	MODBUS	61	INPUT REGISTER	INT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_SOC_2	logic.Application	BESS_GVL		String_SOC_2	FLOAT	%	1		Batterycabinet 1 and 2 on DCDC 1 - String_SOC_2		R	MODBUS	62	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp	logic.Application	BESS_GVL		String_IGBT_1_Temp	INT16	°c	1		Batterycabinet 1 and 2 on DCDC 1 - String_IGBT_1_Temp		R	MODBUS	63	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp	logic.Application	BESS_GVL		String_Inductor_1_Temp	INT16	°c	1		Batterycabinet 1 and 2 on DCDC 1 - String_Inductor_1_Temp		R	MODBUS	63	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balanding_Demand_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Balanding_Demand_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balanding_Active_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Balanding_Active_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack 1_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack 1_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack 2_DCDC1_BK3	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack 2_DCDC1_BK3	BOOL		1		Batterycabinet 3 on DCDC 1 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC1_BK3	logic.Application	BESS_GVL		String_Current_1_DCDC1_BK3	FLOAT	A	1		Batterycabinet 3 on DCDC 1 - String_Current_1		R	MODBUS	65	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC1_BK3	logic.Application	BESS_GVL		String_Voltage_1_DCDC1_BK3	FLOAT	V	1		Batterycabinet 3 on DCDC 1 - String_Voltage_1		R	MODBUS	66	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC1_BK3	FLOAT	V	1		Batterycabinet 3 on DCDC 1 - String_Cell_Voltage_Min_1		R	MODBUS	67	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC1_BK3	FLOAT	V	1		Batterycabinet 3 on DCDC 1 - String_Cell_Voltage_Max_1		R	MODBUS	68	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC1_BK3	FLOAT	°c	1		Batterycabinet 3 on DCDC 1 - String_Cell_Temp_Min_1		R	MODBUS	69	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC1_BK3	FLOAT	°c	1		Batterycabinet 3 on DCDC 1 - String_Cell_Temp_Max_1		R	MODBUS	70	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC1_BK3	logic.Application	BESS_GVL		String_SOC_1_DCDC1_BK3	FLOAT	%	1		Batterycabinet 3 on DCDC 1 - String_SOC_1		R	MODBUS	71	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC1_BK3	logic.Application	BESS_GVL		String_Current_2_DCDC1_BK3	FLOAT	A	1		Batterycabinet 3 on DCDC 1 - String_Current_2		R	MODBUS	72	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC1_BK3	logic.Application	BESS_GVL		String_Voltage_2_DCDC1_BK3	FLOAT	V	1		Batterycabinet 3 on DCDC 1 - String_Voltage_2		R	MODBUS	73	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC1_BK3	FLOAT	V	1		Batterycabinet 3 on DCDC 1 - String_Cell_Voltage_Min_2		R	MODBUS	74	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC1_BK3	FLOAT	V	1		Batterycabinet 3 on DCDC 1 - String_Cell_Voltage_Max_2		R	MODBUS	75	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC1_BK3	FLOAT	°c	1		Batterycabinet 3 on DCDC 1 - String_Cell_Temp_Min_2		R	MODBUS	76	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC1_BK3	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC1_BK3	FLOAT	°c	1		Batterycabinet 3 on DCDC 1 - String_Cell_Temp_Max_2		R	MODBUS	77	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC1_BK3	logic.Application	BESS_GVL		String_SOC_2_DCDC1_BK3	FLOAT		1		Batterycabinet 3 on DCDC 1 - String_SOC_2		R	MODBUS	78	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC1_BK3	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC1_BK3	INT16	°c	1		Batterycabinet 3 on DCDC 1 - String_IGBT_1_Temp		R	MODBUS	79	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC1_BK3	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC1_BK3	INT16	°c	1		Batterycabinet 3 on DCDC 1 - String_Inductor_1_Temp		R	MODBUS	79	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balanding_Demand_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Balanding_Demand_DCDC2_BK4_5	BOOL		1		DCDC 2 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balanding_Active_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Balanding_Active_DCDC2_BK4_5	BOOL		1		Batterycabinet 4 and 5 on DCDC 2 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC2_BK4_5	BOOL		1		Batterycabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC2_BK4_5	BOOL		1		Batterycabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC2_BK4_5	BOOL		1		Batterycabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC2_BK4_5	BOOL		1		Batterycabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC2_BK4_5	BOOL		1		DCDC 2 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC2_BK4_5	BOOL		1		DCDC 2 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC2_BK4_5	BOOL		1		DCDC 2 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC2_BK4_5	BOOL		1		DCDC 2 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Current_1_DCDC2_BK4_5	FLOAT		1		Batterycabinet 4 and 5 on DCDC 2 - String_Current_1		R	MODBUS	81	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Voltage_1_DCDC2_BK4_5	FLOAT		1		Batterycabinet 4 and 5 on DCDC 2 - String_Voltage_1		R	MODBUS	82	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC2_BK4_5	FLOAT		1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Min_1		R	MODBUS	83	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC2_BK4_5	FLOAT		1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Max_1		R	MODBUS	84	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC2_BK4_5	FLOAT	°c	1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Min_1		R	MODBUS	85	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC2_BK4_5	FLOAT	°c	1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Max_1		R	MODBUS	86	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC2_BK4_5	logic.Application	BESS_GVL		String_SOC_1_DCDC2_BK4_5	FLOAT	%	1		Batterycabinet 4 and 5 on DCDC 2 - String_SOC_1		R	MODBUS	87	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Current_2_DCDC2_BK4_5	FLOAT	A	1		Batterycabinet 4 and 5 on DCDC 2 - String_Current_2		R	MODBUS	88	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Voltage_2_DCDC2_BK4_5	FLOAT	V	1		Batterycabinet 4 and 5 on DCDC 2 - String_Voltage_2		R	MODBUS	89	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC2_BK4_5	FLOAT	V	1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Min_2		R	MODBUS	90	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC2_BK4_5	FLOAT	V	1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Max_2		R	MODBUS	91	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC2_BK4_5	FLOAT	°c	1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Min_2		R	MODBUS	92	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC2_BK4_5	FLOAT	°c	1		Batterycabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Max_2		R	MODBUS	93	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC2_BK4_5	logic.Application	BESS_GVL		String_SOC_2_DCDC2_BK4_5	FLOAT	%	1		Batterycabinet 4 and 5 on DCDC 2 - String_SOC_2		R	MODBUS	94	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC2_BK4_5	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC2_BK4_5	INT16	°c	1		Batterycabinet 4 and 5 on DCDC 2 - String_IGBT_1_Temp		R	MODBUS	95	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC2_BK4_5	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC2_BK4_5	INT16	°c	1		Batterycabinet 4 and 5 on DCDC 2 - String_Inductor_1_Temp		R	MODBUS	95	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balanding_Demand_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Balanding_Demand_DCDC3_BK6_7	BOOL		1		DCDC 3 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balanding_Active_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Balanding_Active_DCDC3_BK6_7	BOOL		1		Batterycabinet 6 and 7 on DCDC 3 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC3_BK6_7	BOOL		1		Batterycabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC3_BK6_7	BOOL		1		Batterycabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC3_BK6_7	BOOL		1		Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC3_BK6_7	BOOL		1		Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC3_BK6_7	BOOL		1		DCDC 3 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC3_BK6_7	BOOL		1		DCDC 3 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC3_BK6_7	BOOL		1		DCDC 3 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC3_BK6_7	BOOL		1		DCDC 3 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Current_1_DCDC3_BK6_7	FLOAT	A	1		Battery cabinet 6 and 7 on DCDC 3 - String_Current_1		R	MODBUS	97	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Voltage_1_DCDC3_BK6_7	FLOAT	V	1		Battery cabinet 6 and 7 on DCDC 3 - String_Voltage_1		R	MODBUS	98	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC3_BK6_7	FLOAT	V	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Min_1		R	MODBUS	99	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC3_BK6_7	FLOAT	V	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Max_1		R	MODBUS	100	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC3_BK6_7	FLOAT	°C	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Min_1		R	MODBUS	101	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC3_BK6_7	FLOAT	°C	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Max_1		R	MODBUS	102	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC3_BK6_7	logic.Application	BESS_GVL		String_SOC_1_DCDC3_BK6_7	FLOAT	%	1		Battery cabinet 6 and 7 on DCDC 3 - String_SOC_1		R	MODBUS	103	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Current_2_DCDC3_BK6_7	FLOAT	A	1		Battery cabinet 6 and 7 on DCDC 3 - String_Current_2		R	MODBUS	104	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Voltage_2_DCDC3_BK6_7	FLOAT	V	1		Battery cabinet 6 and 7 on DCDC 3 - String_Voltage_2		R	MODBUS	105	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC3_BK6_7	FLOAT	V	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Min_2		R	MODBUS	106	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC3_BK6_7	FLOAT	V	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Max_2		R	MODBUS	107	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC3_BK6_7	FLOAT	°C	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Min_2		R	MODBUS	108	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC3_BK6_7	FLOAT	°C	1		Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Max_2		R	MODBUS	109	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC3_BK6_7	logic.Application	BESS_GVL		String_SOC_2_DCDC3_BK6_7	FLOAT	%	1		Battery cabinet 6 and 7 on DCDC 3 - String_SOC_2		R	MODBUS	110	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC3_BK6_7	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC3_BK6_7	INT16	°C	1		Battery cabinet 6 and 7 on DCDC 3 - String_IGBT_1_Temp		R	MODBUS	111	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC3_BK6_7	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC3_BK6_7	INT16	°C	1		Battery cabinet 6 and 7 on DCDC 3 - String_Inductor_1_Temp		R	MODBUS	111	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC3_BK8	BOOL		1		String_StatusWord_Balancing		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC3_BK8	BOOL		1		Battery cabinet 8 on DCDC 3 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC3_BK8	BOOL		1		Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC3_BK8	BOOL		1		Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC3_BK8	BOOL		1		Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC3_BK8	BOOL		1		Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC3_BK8	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC3_BK8	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC3_BK8	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC3_BK8	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC3_BK8	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC3_BK8	logic.Application	BESS_GVL		String_Current_1_DCDC3_BK8	FLOAT		1		Battery cabinet 8 on DCDC 3 - String_Current_1		R	MODBUS	113	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC3_BK8	logic.Application	BESS_GVL		String_Voltage_1_DCDC3_BK8	FLOAT		1		Battery cabinet 8 on DCDC 3 - String_Voltage_1		R	MODBUS	114	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC3_BK8	FLOAT	V	1		Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Min_1		R	MODBUS	115	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC3_BK8	FLOAT	V	1		Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Max_1		R	MODBUS	116	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC3_BK8	FLOAT	°C	1		Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Min_1		R	MODBUS	117	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC3_BK8	FLOAT	°C	1		Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Max_1		R	MODBUS	118	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC3_BK8	logic.Application	BESS_GVL		String_SOC_1_DCDC3_BK8	FLOAT	%	1		Battery cabinet 8 on DCDC 3 - String_SOC_1		R	MODBUS	119	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC3_BK8	logic.Application	BESS_GVL		String_Current_2_DCDC3_BK8	FLOAT	A	1		Battery cabinet 8 on DCDC 3 - String_Current_2		R	MODBUS	120	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC3_BK8	logic.Application	BESS_GVL		String_Voltage_2_DCDC3_BK8	FLOAT	V	1		Battery cabinet 8 on DCDC 3 - String_Voltage_2		R	MODBUS	121	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC3_BK8	FLOAT	V	1		Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Min_2		R	MODBUS	122	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC3_BK8	FLOAT	V	1		Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Max_2		R	MODBUS	123	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC3_BK8	FLOAT	°C	1		Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Min_2		R	MODBUS	124	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC3_BK8	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC3_BK8	FLOAT	°C	1		Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Max_2		R	MODBUS	125	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC3_BK8	logic.Application	BESS_GVL		String_SOC_2_DCDC3_BK8	FLOAT	%	1		Battery cabinet 8 on DCDC 3 - String_SOC_2		R	MODBUS	126	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC3_BK8	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC3_BK8	INT16	°C	1		Battery cabinet 8 on DCDC 3 - String_IGBT_1_Temp		R	MODBUS	127	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC3_BK8	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC3_BK8	INT16	°C	1		Battery cabinet 8 on DCDC 3 - String_Inductor_1_Temp		R	MODBUS	127	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC4_BK9_10	BOOL		1		DCDC 4 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC4_BK9_10	BOOL		1		Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC4_BK9_10	BOOL		1		Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC4_BK9_10	BOOL		1		Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC4_BK9_10	BOOL		1		Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC4_BK9_10	BOOL		1		Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC4_BK9_10	BOOL		1		DCDC 4 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC4_BK9_10	BOOL		1		DCDC 4 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC4_BK9_10	BOOL		1		DCDC 4 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC4_BK9_10	BOOL		1		DCDC 4 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Current_1_DCDC4_BK9_10	FLOAT	A	1		Battery cabinet 9 and 10 on DCDC 4 - String_Current_1		R	MODBUS	129	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Voltage_1_DCDC4_BK9_10	FLOAT	V	1		Battery cabinet 9 and 10 on DCDC 4 - String_Voltage_1		R	MODBUS	130	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC4_BK9_10	FLOAT	V	1		Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Min_1		R	MODBUS	131	INPUT REGISTER	INT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC4_BK9_10	FLOAT	V	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Max_1		R	MODBUS	132	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC4_BK9_10	FLOAT	°C	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Min_1		R	MODBUS	133	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC4_BK9_10	FLOAT	°C	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Max_1		R	MODBUS	134	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC4_BK9_10	logic.Application	BESS_GVL		String_SOC_1_DCDC4_BK9_10	FLOAT	%	1		Batterycabinet 9 and 10 on DCDC 4 - String_SOC_1		R	MODBUS	135	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Current_2_DCDC4_BK9_10	FLOAT	A	1		Batterycabinet 9 and 10 on DCDC 4 - String_Current_2		R	MODBUS	136	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Voltage_2_DCDC4_BK9_10	FLOAT	V	1		Batterycabinet 9 and 10 on DCDC 4 - String_Voltage_2		R	MODBUS	137	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC4_BK9_10	FLOAT	V	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Min_2		R	MODBUS	138	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC4_BK9_10	FLOAT	V	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Max_2		R	MODBUS	139	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC4_BK9_10	FLOAT	°C	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Min_2		R	MODBUS	140	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC4_BK9_10	FLOAT	°C	1		Batterycabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Max_2		R	MODBUS	141	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC4_BK9_10	logic.Application	BESS_GVL		String_SOC_2_DCDC4_BK9_10	FLOAT	%	1		Batterycabinet 9 and 10 on DCDC 4 - String_SOC_2		R	MODBUS	142	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC4_BK9_10	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC4_BK9_10	INT16	°C	1		Batterycabinet 9 and 10 on DCDC 4 - String_IGBT_1_Temp		R	MODBUS	143	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC4_BK9_10	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC4_BK9_10	INT16	°C	1		Batterycabinet 9 and 10 on DCDC 4 - String_Inductor_1_Temp		R	MODBUS	143	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC4_BK11	BOOL		1		String_StatusWord_Balancing		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC4_BK11	BOOL		1		Batterycabinet 11 on DCDC 4 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC4_BK11	BOOL		1		Batterycabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC4_BK11	BOOL		1		Batterycabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC4_BK11	BOOL		1		Batterycabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC4_BK11	BOOL		1		Batterycabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC4_BK11	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC4_BK11	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC4_BK11	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC4_BK11	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC4_BK11	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC4_BK11	logic.Application	BESS_GVL		String_Current_1_DCDC4_BK11	FLOAT	A	1		Batterycabinet 11 on DCDC 4 - String_Current_1		R	MODBUS	145	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC4_BK11	logic.Application	BESS_GVL		String_Voltage_1_DCDC4_BK11	FLOAT	V	1		Batterycabinet 11 on DCDC 4 - String_Voltage_1		R	MODBUS	146	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC4_BK11	FLOAT	V	1		Batterycabinet 11 on DCDC 4 - String_Cell_Voltage_Min_1		R	MODBUS	147	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC4_BK11	FLOAT	V	1		Batterycabinet 11 on DCDC 4 - String_Cell_Voltage_Max_1		R	MODBUS	148	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC4_BK11	FLOAT	°C	1		Batterycabinet 11 on DCDC 4 - String_Cell_Temp_Min_1		R	MODBUS	149	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC4_BK11	FLOAT	°C	1		Batterycabinet 11 on DCDC 4 - String_Cell_Temp_Max_1		R	MODBUS	150	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC4_BK11	logic.Application	BESS_GVL		String_SOC_1_DCDC4_BK11	FLOAT	%	1		Batterycabinet 11 on DCDC 4 - String_SOC_1		R	MODBUS	151	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC4_BK11	logic.Application	BESS_GVL		String_Current_2_DCDC4_BK11	FLOAT	A	1		Batterycabinet 11 on DCDC 4 - String_Current_2		R	MODBUS	152	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC4_BK11	logic.Application	BESS_GVL		String_Voltage_2_DCDC4_BK11	FLOAT	V	1		Batterycabinet 11 on DCDC 4 - String_Voltage_2		R	MODBUS	153	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC4_BK11	FLOAT	V	1		Batterycabinet 11 on DCDC 4 - String_Cell_Voltage_Min_2		R	MODBUS	154	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC4_BK11	FLOAT	V	1		Batterycabinet 11 on DCDC 4 - String_Cell_Voltage_Max_2		R	MODBUS	155	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC4_BK11	FLOAT	°C	1		Batterycabinet 11 on DCDC 4 - String_Cell_Temp_Min_2		R	MODBUS	156	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC4_BK11	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC4_BK11	FLOAT	°C	1		Batterycabinet 11 on DCDC 4 - String_Cell_Temp_Max_2		R	MODBUS	157	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC4_BK11	logic.Application	BESS_GVL		String_SOC_2_DCDC4_BK11	FLOAT	%	1		Batterycabinet 11 on DCDC 4 - String_SOC_2		R	MODBUS	158	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC4_BK11	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC4_BK11	INT16	°C	1		Batterycabinet 11 on DCDC 4 - String_IGBT_1_Temp		R	MODBUS	159	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC4_BK11	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC4_BK11	INT16	°C	1		Batterycabinet 11 on DCDC 4 - String_Inductor_1_Temp		R	MODBUS	159	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC6_BK12_13	BOOL		1		DCDC 6 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC6_BK12_13	BOOL		1		Batterycabinet 12 and 13 on DCDC 6 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC6_BK12_13	BOOL		1		Batterycabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC6_BK12_13	BOOL		1		Batterycabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC6_BK12_13	BOOL		1		Batterycabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC6_BK12_13	BOOL		1		Batterycabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC6_BK12_13	BOOL		1		DCDC 6 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC6_BK12_13	BOOL		1		DCDC 6 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC6_BK12_13	BOOL		1		DCDC 6 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC6_BK12_13	BOOL		1		DCDC 6 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Current_1_DCDC6_BK12_13	FLOAT	A	1		Batterycabinet 12 and 13 on DCDC 6 - String_Current_1		R	MODBUS	161	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Voltage_1_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Voltage_1		R	MODBUS	162	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Min_1		R	MODBUS	163	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Max_1		R	MODBUS	164	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Min_1		R	MODBUS	165	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC6_BK12_13	FLOAT	°C	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Max_1		R	MODBUS	166	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC6_BK12_13	logic.Application	BESS_GVL		String_SOC_1_DCDC6_BK12_13	FLOAT	%	1		Batterycabinet 12 and 13 on DCDC 6 - String_SOC_1		R	MODBUS	167	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Current_2_DCDC6_BK12_13	FLOAT	A	1		Batterycabinet 12 and 13 on DCDC 6 - String_Current_2		R	MODBUS	168	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Voltage_2_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Voltage_2		R	MODBUS	169	INPUT REGISTER	INT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Min_2		R	MODBUS	170	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC6_BK12_13	FLOAT	V	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Max_2		R	MODBUS	171	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC6_BK12_13	FLOAT	°C	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Min_2		R	MODBUS	172	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC6_BK12_13	FLOAT	°C	1		Batterycabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Max_2		R	MODBUS	173	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC6_BK12_13	logic.Application	BESS_GVL		String_SOC_2_DCDC6_BK12_13	FLOAT	%	1		Batterycabinet 12 and 13 on DCDC 6 - String_SOC_2		R	MODBUS	174	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC6_BK12_13	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC6_BK12_13	INT16	°C	1		Batterycabinet 12 and 13 on DCDC 6 - String_IGBT_1_Temp		R	MODBUS	175	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC6_BK12_13	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC6_BK12_13	INT16	°C	1		Batterycabinet 12 and 13 on DCDC 6 - String_Inductor_1_Temp		R	MODBUS	175	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC6_BK14	BOOL		1		String_StatusWord_Balancing		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC6_BK14	BOOL		1		Batterycabinet 14 on DCDC 6 - String_StatusWord_Balancing_Active		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC6_BK14	BOOL		1		Batterycabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC6_BK14	BOOL		1		Batterycabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC6_BK14	BOOL		1		Batterycabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack1_Error		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC6_BK14	BOOL		1		Batterycabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack2_Error		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC6_BK14	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC6_BK14	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC6_BK14	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC6_BK14	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC6_BK14	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS	176	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_1_DCDC6_BK14	logic.Application	BESS_GVL		String_Current_1_DCDC6_BK14	FLOAT	A	1		Batterycabinet 14 on DCDC 6 - String_Current_1		R	MODBUS	177	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC6_BK14	logic.Application	BESS_GVL		String_Voltage_1_DCDC6_BK14	FLOAT	V	1		Batterycabinet 14 on DCDC 6 - String_Voltage_1		R	MODBUS	178	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC6_BK14	FLOAT	V	1		Batterycabinet 14 on DCDC 6 - String_Cell_Voltage_Min_1		R	MODBUS	179	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC6_BK14	FLOAT	V	1		Batterycabinet 14 on DCDC 6 - String_Cell_Voltage_Max_1		R	MODBUS	180	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC6_BK14	FLOAT	°C	1		Batterycabinet 14 on DCDC 6 - String_Cell_Temp_Min_1		R	MODBUS	181	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC6_BK14	FLOAT	°C	1		Batterycabinet 14 on DCDC 6 - String_Cell_Temp_Max_1		R	MODBUS	182	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC6_BK14	logic.Application	BESS_GVL		String_SOC_1_DCDC6_BK14	FLOAT	%	1		Batterycabinet 14 on DCDC 6 - String_SOC_1		R	MODBUS	183	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC6_BK14	logic.Application	BESS_GVL		String_Current_2_DCDC6_BK14	FLOAT	A	1		Batterycabinet 14 on DCDC 6 - String_Current_2		R	MODBUS	184	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC6_BK14	logic.Application	BESS_GVL		String_Voltage_2_DCDC6_BK14	FLOAT	V	1		Batterycabinet 14 on DCDC 6 - String_Voltage_2		R	MODBUS	185	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC6_BK14	FLOAT	V	1		Batterycabinet 14 on DCDC 6 - String_Cell_Voltage_Min_2		R	MODBUS	186	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC6_BK14	FLOAT	V	1		Batterycabinet 14 on DCDC 6 - String_Cell_Voltage_Max_2		R	MODBUS	187	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC6_BK14	FLOAT	°C	1		Batterycabinet 14 on DCDC 6 - String_Cell_Temp_Min_2		R	MODBUS	188	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC6_BK14	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC6_BK14	FLOAT	°C	1		Batterycabinet 14 on DCDC 6 - String_Cell_Temp_Max_2		R	MODBUS	189	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC6_BK14	logic.Application	BESS_GVL		String_SOC_2_DCDC6_BK14	FLOAT	%	1		Batterycabinet 14 on DCDC 6 - String_SOC_2		R	MODBUS	190	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC6_BK14	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC6_BK14	INT16	°C	1		Batterycabinet 14 on DCDC 6 - String_IGBT_1_Temp		R	MODBUS	191	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC6_BK14	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC6_BK14	INT16	°C	1		Batterycabinet 14 on DCDC 6 - String_Inductor_1_Temp		R	MODBUS	191	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC7_BK15_16	BOOL		1		DCDC 7 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC7_BK15_16	BOOL		1		Batterycabinet 15 and 16 on DCDC 7 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC7_BK15_16	BOOL		1		Batterycabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC7_BK15_16	BOOL		1		Batterycabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC7_BK15_16	BOOL		1		Batterycabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC7_BK15_16	BOOL		1		Batterycabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC7_BK15_16	BOOL		1		DCDC 7 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC7_BK15_16	BOOL		1		DCDC 7 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC7_BK15_16	BOOL		1		DCDC 7 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC7_BK15_16	BOOL		1		DCDC 7 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Current_1_DCDC7_BK15_16	FLOAT	A	1		Batterycabinet 15 and 16 on DCDC 7 - String_Current_1		R	MODBUS	193	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Voltage_1_DCDC7_BK15_16	FLOAT	V	1		Batterycabinet 15 and 16 on DCDC 7 - String_Voltage_1		R	MODBUS	194	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC7_BK15_16	FLOAT	V	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Min_1		R	MODBUS	195	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC7_BK15_16	FLOAT	V	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Max_1		R	MODBUS	196	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC7_BK15_16	FLOAT	°C	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Min_1		R	MODBUS	197	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC7_BK15_16	FLOAT	°C	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Max_1		R	MODBUS	198	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC7_BK15_16	logic.Application	BESS_GVL		String_SOC_1_DCDC7_BK15_16	FLOAT	%	1		Batterycabinet 15 and 16 on DCDC 7 - String_SOC_1		R	MODBUS	199	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Current_2_DCDC7_BK15_16	FLOAT	A	1		Batterycabinet 15 and 16 on DCDC 7 - String_Current_2		R	MODBUS	200	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Voltage_2_DCDC7_BK15_16	FLOAT	V	1		Batterycabinet 15 and 16 on DCDC 7 - String_Voltage_2		R	MODBUS	201	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC7_BK15_16	FLOAT	V	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Min_2		R	MODBUS	202	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC7_BK15_16	FLOAT	V	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Max_2		R	MODBUS	203	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC7_BK15_16	FLOAT	°C	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Min_2		R	MODBUS	204	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC7_BK15_16	FLOAT	°C	1		Batterycabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Max_2		R	MODBUS	205	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC7_BK15_16	logic.Application	BESS_GVL		String_SOC_2_DCDC7_BK15_16	FLOAT	%	1		Batterycabinet 15 and 16 on DCDC 7 - String_SOC_2		R	MODBUS	206	INPUT REGISTER	INT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC7_BK15_16	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC7_BK15_16	INT16	°c	1		Battery cabinet 15 and 16 on DCDC 7 - String_IGBT_1_Temp		R	MODBUS	207	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC7_BK15_16	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC7_BK15_16	INT16	°c	1		Battery cabinet 15 and 16 on DCDC 7 - String_Inductor_1_Temp		R	MODBUS	207	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC7_BK17	BOOL		1		String_StatusWord_Balancing		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC7_BK17	BOOL		1		Battery cabinet 17 on DCDC 7 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC7_BK17	BOOL		1		Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC7_BK17	BOOL		1		Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC7_BK17	BOOL		1		Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC7_BK17	BOOL		1		Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC7_BK17	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC7_BK17	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC7_BK17	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC7_BK17	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC7_BK17	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC7_BK17	logic.Application	BESS_GVL		String_Current_1_DCDC7_BK17	FLOAT	A	1		Battery cabinet 17 on DCDC 7 - String_Current_1		R	MODBUS	209	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC7_BK17	logic.Application	BESS_GVL		String_Voltage_1_DCDC7_BK17	FLOAT	V	1		Battery cabinet 17 on DCDC 7 - String_Voltage_1		R	MODBUS	210	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC7_BK17	FLOAT	V	1		Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Min_1		R	MODBUS	211	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC7_BK17	FLOAT	V	1		Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Max_1		R	MODBUS	212	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC7_BK17	FLOAT	°c	1		Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Min_1		R	MODBUS	213	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC7_BK17	FLOAT	°c	1		Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Max_1		R	MODBUS	214	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC7_BK17	logic.Application	BESS_GVL		String_SOC_1_DCDC7_BK17	FLOAT	%	1		Battery cabinet 17 on DCDC 7 - String_SOC_1		R	MODBUS	215	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC7_BK17	logic.Application	BESS_GVL		String_Current_2_DCDC7_BK17	FLOAT	A	1		Battery cabinet 17 on DCDC 7 - String_Current_2		R	MODBUS	216	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC7_BK17	logic.Application	BESS_GVL		String_Voltage_2_DCDC7_BK17	FLOAT	V	1		Battery cabinet 17 on DCDC 7 - String_Voltage_2		R	MODBUS	217	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC7_BK17	FLOAT	V	1		Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Min_2		R	MODBUS	218	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC7_BK17	FLOAT	V	1		Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Max_2		R	MODBUS	219	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC7_BK17	FLOAT	°c	1		Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Min_2		R	MODBUS	220	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC7_BK17	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC7_BK17	FLOAT	°c	1		Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Max_2		R	MODBUS	221	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC7_BK17	logic.Application	BESS_GVL		String_SOC_2_DCDC7_BK17	FLOAT	%	1		Battery cabinet 17 on DCDC 7 - String_SOC_2		R	MODBUS	222	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC7_BK17	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC7_BK17	INT16	°c	1		Battery cabinet 17 on DCDC 7 - String_IGBT_1_Temp		R	MODBUS	223	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC7_BK17	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC7_BK17	INT16	°c	1		Battery cabinet 17 on DCDC 7 - String_Inductor_1_Temp		R	MODBUS	223	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC8_BK18_19	BOOL		1		DCDC 8 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC8_BK18_19	BOOL		1		Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC8_BK18_19	BOOL		1		Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC8_BK18_19	BOOL		1		Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC8_BK18_19	BOOL		1		Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC8_BK18_19	BOOL		1		Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC8_BK18_19	BOOL		1		DCDC 8 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC8_BK18_19	BOOL		1		DCDC 8 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC8_BK18_19	BOOL		1		DCDC 8 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC8_BK18_19	BOOL		1		DCDC 8 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Current_1_DCDC8_BK18_19	FLOAT		1		Battery cabinet 18 and 19 on DCDC 8 - String_Current_1		R	MODBUS	225	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Voltage_1_DCDC8_BK18_19	FLOAT		1		Battery cabinet 18 and 19 on DCDC 8 - String_Voltage_1		R	MODBUS	226	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC8_BK18_19	FLOAT	V	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Min_1		R	MODBUS	227	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC8_BK18_19	FLOAT	V	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Max_1		R	MODBUS	228	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC8_BK18_19	FLOAT	°c	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Min_1		R	MODBUS	229	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC8_BK18_19	FLOAT	°c	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Max_1		R	MODBUS	230	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC8_BK18_19	logic.Application	BESS_GVL		String_SOC_1_DCDC8_BK18_19	FLOAT		1		Battery cabinet 18 and 19 on DCDC 8 - String_SOC_1		R	MODBUS	231	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Current_2_DCDC8_BK18_19	FLOAT	A	1		Battery cabinet 18 and 19 on DCDC 8 - String_Current_2		R	MODBUS	232	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Voltage_2_DCDC8_BK18_19	FLOAT	V	1		Battery cabinet 18 and 19 on DCDC 8 - String_Voltage_2		R	MODBUS	233	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC8_BK18_19	FLOAT	V	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Min_2		R	MODBUS	234	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC8_BK18_19	FLOAT	V	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Max_2		R	MODBUS	235	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC8_BK18_19	FLOAT	°c	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Min_2		R	MODBUS	236	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC8_BK18_19	FLOAT	°c	1		Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Max_2		R	MODBUS	237	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC8_BK18_19	logic.Application	BESS_GVL		String_SOC_2_DCDC8_BK18_19	FLOAT	%	1		Battery cabinet 18 and 19 on DCDC 8 - String_SOC_2		R	MODBUS	238	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC8_BK18_19	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC8_BK18_19	INT16	°c	1		Battery cabinet 18 and 19 on DCDC 8 - String_IGBT_1_Temp		R	MODBUS	239	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC8_BK18_19	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC8_BK18_19	INT16	°c	1		Battery cabinet 18 and 19 on DCDC 8 - String_Inductor_1_Temp		R	MODBUS	239	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC9_BK20_21	BOOL		1		DCDC 9 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC9_BK20_21	BOOL		1		Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC9_BK20_21	BOOL		1		Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC9_BK20_21	BOOL		1		Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC9_BK20_21	BOOL		1		Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC9_BK20_21	BOOL		1		Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC9_BK20_21	BOOL		1		DCDC 9 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC9_BK20_21	BOOL		1		DCDC 9 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC9_BK20_21	BOOL		1		DCDC 9 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC9_BK20_21	BOOL		1		DCDC 9 -		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Current_1_DCDC9_BK20_21	FLOAT		1		Battery cabinet 20 and 21 on DCDC 9 - String_Current_1		R	MODBUS	241	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Voltage_1_DCDC9_BK20_21	FLOAT		1		Battery cabinet 20 and 21 on DCDC 9 - String_Voltage_1		R	MODBUS	242	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC9_BK20_21	FLOAT	V	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Min_1		R	MODBUS	243	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC9_BK20_21	FLOAT	V	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Max_1		R	MODBUS	244	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC9_BK20_21	FLOAT	°C	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Min_1		R	MODBUS	245	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC9_BK20_21	FLOAT	°C	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Max_1		R	MODBUS	246	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC9_BK20_21	logic.Application	BESS_GVL		String_SOC_1_DCDC9_BK20_21	FLOAT	%	1		Battery cabinet 20 and 21 on DCDC 9 - String_SOC_1		R	MODBUS	247	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Current_2_DCDC9_BK20_21	FLOAT	A	1		Battery cabinet 20 and 21 on DCDC 9 - String_Current_2		R	MODBUS	248	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Voltage_2_DCDC9_BK20_21	FLOAT	V	1		Battery cabinet 20 and 21 on DCDC 9 - String_Voltage_2		R	MODBUS	249	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC9_BK20_21	FLOAT	V	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Min_2		R	MODBUS	250	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC9_BK20_21	FLOAT	V	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Max_2		R	MODBUS	251	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC9_BK20_21	FLOAT	°C	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Min_2		R	MODBUS	252	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC9_BK20_21	FLOAT	°C	1		Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Max_2		R	MODBUS	253	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC9_BK20_21	logic.Application	BESS_GVL		String_SOC_2_DCDC9_BK20_21	FLOAT	%	1		Battery cabinet 20 and 21 on DCDC 9 - String_SOC_2		R	MODBUS	254	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC9_BK20_21	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC9_BK20_21	INT16	°C	1		Battery cabinet 20 and 21 on DCDC 9 - String_IGBT_1_Temp		R	MODBUS	255	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC9_BK20_21	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC9_BK20_21	INT16	°C	1		Battery cabinet 20 and 21 on DCDC 9 - String_Inductor_1_Temp		R	MODBUS	255	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Balancing_Demand_DCDC9_BK22	BOOL		1		String_StatusWord_Balancing		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Balancing_Active_DCDC9_BK22	BOOL		1		Battery cabinet 22 on DCDC 9 - String_StatusWord_Balancing_Active		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Connected_DCDC9_BK22	BOOL		1		Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack1_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Connected_DCDC9_BK22	BOOL		1		Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack2_Connected		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack1_Error_DCDC9_BK22	BOOL		1		Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack1_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Battery_Rack2_Error_DCDC9_BK22	BOOL		1		Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack2_Error		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC9_BK22	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC9_BK22	BOOL		1		String_StatusWord_Smoke_D		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC9_BK22	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC9_BK22	logic.Application	BESS_GVL		String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC9_BK22	BOOL		1		String_StatusWord_Gas_Alar		R	MODBUS			BOOL
Logic.Application.BESS_GVL.String_Current_1_DCDC9_BK22	logic.Application	BESS_GVL		String_Current_1_DCDC9_BK22	FLOAT	C	1		Battery cabinet 22 on DCDC 9 - String_Current_1		R	MODBUS	257	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_1_DCDC9_BK22	logic.Application	BESS_GVL		String_Voltage_1_DCDC9_BK22	FLOAT	V	1		Battery cabinet 22 on DCDC 9 - String_Voltage_1		R	MODBUS	258	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Voltage_Min_1_DCDC9_BK22	FLOAT	V	1		Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Min_1		R	MODBUS	259	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Voltage_Max_1_DCDC9_BK22	FLOAT	V	1		Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Max_1		R	MODBUS	260	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Temp_Min_1_DCDC9_BK22	FLOAT	°C	1		Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Min_1		R	MODBUS	261	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Temp_Max_1_DCDC9_BK22	FLOAT	°C	1		Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Max_1		R	MODBUS	262	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_1_DCDC9_BK22	logic.Application	BESS_GVL		String_SOC_1_DCDC9_BK22	FLOAT	%	1		Battery cabinet 22 on DCDC 9 - String_SOC_1		R	MODBUS	263	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Current_2_DCDC9_BK22	logic.Application	BESS_GVL		String_Current_2_DCDC9_BK22	FLOAT	A	1		Battery cabinet 22 on DCDC 9 - String_Current_2		R	MODBUS	264	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Voltage_2_DCDC9_BK22	logic.Application	BESS_GVL		String_Voltage_2_DCDC9_BK22	FLOAT	V	1		Battery cabinet 22 on DCDC 9 - String_Voltage_2		R	MODBUS	265	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Voltage_Min_2_DCDC9_BK22	FLOAT	V	1		Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Min_2		R	MODBUS	266	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Voltage_Max_2_DCDC9_BK22	FLOAT	V	1		Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Max_2		R	MODBUS	267	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Temp_Min_2_DCDC9_BK22	FLOAT	°C	1		Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Min_2		R	MODBUS	268	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC9_BK22	logic.Application	BESS_GVL		String_Cell_Temp_Max_2_DCDC9_BK22	FLOAT	°C	1		Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Max_2		R	MODBUS	269	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_SOC_2_DCDC9_BK22	logic.Application	BESS_GVL		String_SOC_2_DCDC9_BK22	FLOAT	%	1		Battery cabinet 22 on DCDC 9 - String_SOC_2		R	MODBUS	270	INPUT REGISTER	INT
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC9_BK22	logic.Application	BESS_GVL		String_IGBT_1_Temp_DCDC9_BK22	INT16	°C	1		Battery cabinet 22 on DCDC 9 - String_IGBT_1_Temp		R	MODBUS	271	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC9_BK22	logic.Application	BESS_GVL		String_Inductor_1_Temp_DCDC9_BK22	INT16	°C	1		Battery cabinet 22 on DCDC 9 - String_Inductor_1_Temp		R	MODBUS	271	INPUT REGISTER	SINT
Logic.Application.BESS_GVL.Control_Controlword	logic.Application	BESS_GVL	Control	Controlword	INT16		1		Controlword	Bit:13 = 1 -> Start Bit:13 = 0 -> Stop	W	MODBUS	4000(0 - 13 Bit Reference)	HOLDING REGISTER	INT
Logic.Application.BESS_GVL.Control_Reset_cmd	logic.Application	BESS_GVL		Control_Reset_cmd	BOOL		1		Control_Reset_cmd		W	MODBUS	4000(0)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Preheating_System_cmd	logic.Application	BESS_GVL		Control_Enable_Preheating_System_cmd	BOOL		1		Control_Enable_Preheating_System_cmd		W	MODBUS	4000(1)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Precharging_DC_Link_cmd	logic.Application	BESS_GVL		Control_Enable_Precharging_DC_Link_cmd	BOOL		1		Control_Enable_Precharging_DC_Link_cmd		W	MODBUS	4000(2)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Primary_Control_Mode_cmd	logic.Application	BESS_GVL		Control_Enable_Primary_Control_Mode_cmd	BOOL		1		Control_Enable_Primary_Control_Mode_cmd		W	MODBUS	4000(3)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_1_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_1_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_1_cmd		W	MODBUS	4000(4)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_2_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_2_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_2_cmd		W	MODBUS	4000(5)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_3_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_3_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_3_cmd		W	MODBUS	4000(6)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_4_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_4_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_4_cmd		W	MODBUS	4000(7)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_5_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_5_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_5_cmd		W	MODBUS	4000(8)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_6_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_6_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_6_cmd		W	MODBUS	4000(9)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_7_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_7_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_7_cmd		W	MODBUS	4000(10)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_8_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_8_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_8_cmd		W	MODBUS	4000(11)	HOLDING REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_9_cmd	logic.Application	BESS_GVL		Control_Enable_Balancing_DC_DC_9_cmd	BOOL		1		Control_Enable_Balancing_DC_DC_9_cmd		W	MODBUS	4000(12)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_Start_Signal_from_EMCS_cmd	logic.Application	BESS_GVL		Control_Start_Signal_From_EMCS_cmd	BOOL		1		Control_Start_Signal_From_EMCS_cmd		W	MODBUS	4000(13)	HOLDING REGISTER	BOOL
Logic.Application.BESS_GVL.Control_HeartBeat_cmd	logic.Application	BESS_GVL		Control_HeartBeat_cmd	INT16		1		Control_HeartBeat_cmd		W	MODBUS	40001	HOLDING REGISTER	INT
Logic.Application.BESS_GVL.Control_HeartBeat_TimeOut_cmd	logic.Application	BESS_GVL		Control_HeartBeat_TimeOut_cmd	INT16		1		Control_HeartBeat_TimeOut_cmd		W	MODBUS	40002	HOLDING REGISTER	INT
Logic.Application.BESS_GVL.Control_Request_Alarm_Record_cmd	logic.Application	BESS_GVL		Control_Request_Alarm_Record_cmd	INT16		1		Control_Request_Alarm_Record_cmd		W	MODBUS	40003	HOLDING REGISTER	INT
Logic.Application.BESS_GVL.Control_ActivePower_cmd	logic.Application	BESS_GVL		Control_ActivePower_cmd	INT16	kW	1	-1000 : 1000	Control_ActivePower_cmd		W	MODBUS	40004	HOLDING REGISTER	INT
Logic.Application.BESS_GVL.Control_ReactivePower_cmd	logic.Application	BESS_GVL		Control_ReactivePower_cmd	INT16	kVar	1	-	Control_ReactivePower_cmd		W	MODBUS	40005	HOLDING REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.MAIN_PowerSetpoint	logic.Application	ELECTROLYZER_GVL	MAIN	PowerSetpoint	FLOAT	Kw	1	250-2500	Requested power set point		W	PROFINET	0-1	HOLDING REGISTER	REAL
Logic.Application.ELECTROLYZER_GVL.MAIN_FLOW_SETPOINT	logic.Application	ELECTROLYZER_GVL	MAIN	FLOW SETPOINT	FLOAT	NM3/H	1	50-500	Requested flow set point		W	PROFINET	2 - 3	HOLDING REGISTER	REAL
Logic.Application.ELECTROLYZER_GVL.MAIN_WATCHDOG	logic.Application	ELECTROLYZER_GVL	MAIN	WATCHDOG	INT16	-	1	0-100	Communication control		W	PROFINET	4	HOLDING REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.YEAR_MONTH	logic.Application	ELECTROLYZER_GVL		YEAR_MONTH	BYTE	-					W	PROFINET	5		INT
Logic.Application.ELECTROLYZER_GVL.DAY_HOUR	logic.Application	ELECTROLYZER_GVL		DAY_HOUR	BYTE	-					W	PROFINET	6		INT
Logic.Application.ELECTROLYZER_GVL.MIN_SECONDES	logic.Application	ELECTROLYZER_GVL		MIN_SECONDES	BYTE	-					W	PROFINET	7		INT
Logic.Application.ELECTROLYZER_GVL.MAIN_Command	logic.Application	ELECTROLYZER_GVL	MAIN	Command	UINT16	-	1	-	1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STANDBY (STANDBY) 4 : MODE PRODUCTION		W	PROFINET	8	HOLDING REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise	BOOL	-	1	-	Bit= 0 : Power Setpoint Bit = 1 : FlowH2 Setpoint		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_1_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_1_cmd	BOOL	-	1	-	Spare_1		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_2_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_2_cmd	BOOL	-	1	-	Spare_2		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_3_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_3_cmd	BOOL	-	1	-	Spare_3		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_4_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_4_cmd	BOOL	-	1	-	Spare_4		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_5_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_5_cmd	BOOL	-	1	-	Spare_5		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_6_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_6_cmd	BOOL	-	1	-	Spare_6		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_7_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_7_cmd	BOOL	-	1	-	Spare_7		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_8_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_8_cmd	BOOL	-	1	-	Spare_8		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_9_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_9_cmd	BOOL	-	1	-	Spare_9		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Setpoint_Choise_Spare_10_cmd	logic.Application	ELECTROLYZER_GVL		Setpoint_Choise_Spare_10_cmd	BOOL	-	1	-	Spare_10		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.H_V_CB_STATUS_OPEN	logic.Application	ELECTROLYZER_GVL		H_VCB STATUSOPEN	BOOL	-	1	-	H VCB STATUSOPEN		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.H_V_CB_STATUS_CLOSED	logic.Application	ELECTROLYZER_GVL		H_VCB STATUSCLOSED	BOOL	-	1	-	H VCB STATUSCLOSED		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.BOOL_spare_13	logic.Application	ELECTROLYZER_GVL		BOOL spare 13	BOOL	-	1	-	Reserved		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.BOOL_spare_14	logic.Application	ELECTROLYZER_GVL		BOOL spare 14	BOOL	-	1	-	Reserved		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.BOOL_spare_15	logic.Application	ELECTROLYZER_GVL		BOOL spare 15	BOOL	-	1	-	Reserved		W	PROFINET	9	HOLDING REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.MAIN_50_AT_027_cmd	logic.Application	ELECTROLYZER_GVL	MAIN	50_AT_027_cmd	REAL	pH	1	-	Fresh water outlet pH	NEW TAG NAME UPDATED	W	PROFINET	10 - 11	HOLDING REGISTER	REAL
Logic.Application.ELECTROLYZER_GVL.MAIN_50_TT_034_cmd	logic.Application	ELECTROLYZER_GVL	MAIN	50_TT_034_cmd	REAL	°C	1	-	Fresh water outlet temperature	NEW TAG NAME UPDATED	W	PROFINET	12 - 13	HOLDING REGISTER	REAL
Logic.Application.ELECTROLYZER_GVL.MAIN_50_AT_026_cmd	logic.Application	ELECTROLYZER_GVL	MAIN	50_AT_026_cmd	REAL	ppm CaCO3	1	-	Fresh water outlet total hardness	NEW TAG NAME UPDATED	W	PROFINET	14 - 15	HOLDING REGISTER	REAL
Logic.Application.ELECTROLYZER_GVL.MAIN_50_AT_024_cmd	logic.Application	ELECTROLYZER_GVL	MAIN	50_AT_024_cmd	REAL	us/cm	1	-	Fresh water conductivity from AS0007A/B	NEW TAG NAME UPDATED	W	PROFINET	16 - 17	HOLDING REGISTER	REAL
Logic.Application.ELECTROLYZER_GVL.STATUS_MINOR_FAULT	logic.Application	ELECTROLYZER_GVL	STATUS	MINOR_FAULT	BOOL	-	1	-	AT LEAST ONE "MINOR_FAULT" PRESENT (Warning) ; 1= Fault exist		R	PROFINET	0 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.STATUS_MAJOR_FAULT	logic.Application	ELECTROLYZER_GVL	STATUS	MAJOR_FAULT	BOOL	-	1	-	AT LEAST ONE "DEFAUT MAJEUR" PRESENT ; 1= Fault exist		R	PROFINET	0 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.STATUS_SAFETY_FAULT	logic.Application	ELECTROLYZER_GVL	STATUS	SAFETY_FAULT	BOOL	-	1	-	AT LEAST ONE "DEFAUT DE SECURITE" PRESENT ; 1= Fault exist		R	PROFINET	0 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.STATUS_SSI	logic.Application	ELECTROLYZER_GVL	STATUS	SSI	BOOL	-	1	-	FIRE CENTRAL alarm ; 1= Aalrm exist		R	PROFINET	0 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.STATUS_STATUS_ELECTROLYZER	logic.Application	ELECTROLYZER_GVL	STATUS	STATUS_ELECTROLYZER	INT16	-	1	-	LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress		R	PROFINET	1	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.STATUS_WATCHDOG	logic.Application	ELECTROLYZER_GVL	STATUS	WATCHDOG	INT16	-	1	-	COMMUNICATION CONTROL		R	PROFINET	2	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.FSH_640	logic.Application	ELECTROLYZER_GVL		FSH_640	BOOL	-	1	-	FLOWSWITCH HIGH DN50 (LIQUID TEX SILDISCREASED		R	PROFINET	3 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_T2	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64 T2	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_1_1	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64_1_1	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_1_2	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64_1_2	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_1_3	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64_1_3	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_1_4	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64_1_4	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_2	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64_2	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_QS_64_3	logic.Application	ELECTROLYZER_GVL	PROCESS	QS 64_3	BOOL	-	1	-	TBD-Limit switch		R	PROFINET	3 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSH_600	logic.Application	ELECTROLYZER_GVL	PROCESS	LSH_600	BOOL	-	1	-	High level in ST600		R	PROFINET	3 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSH_610	logic.Application	ELECTROLYZER_GVL	PROCESS	LSH_610	BOOL	-	1	-	Water level CS610 HH		R	PROFINET	3 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSH_630	logic.Application	ELECTROLYZER_GVL	PROCESS	LSH_630	BOOL	-	1	-	Water level CS630 H		R	PROFINET	3 (Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSH_631	logic.Application	ELECTROLYZER_GVL	PROCESS	LSH_631	BOOL	-	1	-	Water level CS 630 HH		R	PROFINET	3 (Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSH_640	logic.Application	ELECTROLYZER_GVL	PROCESS	LSH_640	BOOL	-	1	-	DG640 Level Switch - HH		R	PROFINET	3 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_600	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_600	BOOL	-	1	-	Low level ST-600		R	PROFINET	3 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_610	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_610	BOOL	-	1	-	Water level CS610 L		R	PROFINET	3 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_611	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_611	BOOL	-	1	-	Water level CS610 LL		R	PROFINET	3 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_620	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_620	BOOL	-	1	-	Very low level ST-620		R	PROFINET	4 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_630	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_630	BOOL	-	1	-	Very low level ST-630		R	PROFINET	4 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_640	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_640	BOOL	-	1	-	level ST-640 Low		R	PROFINET	4 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_LSL_641	logic.Application	ELECTROLYZER_GVL	PROCESS	LSL_641	BOOL	-	1	-	level ST-640 LL		R	PROFINET	4 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Transformer_DGPT2_REED_Fault	logic.Application	ELECTROLYZER_GVL		Transformer DGPT2 REED Fault	BOOL	-	1	-	Transformer DGPT2 REED Fault		W	PROFINET	4 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Transformer_DGPT2_PRESSURE_Fault	logic.Application	ELECTROLYZER_GVL		Transformer DGPT2 PRESSURE Fault	BOOL	-	1	-	Transformer DGPT2 PRESSURE Fault		W	PROFINET	4(Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Transformer_DGPT2_Temperature_T1_ALARM	logic.Application	ELECTROLYZER_GVL		Transformer DGPT2 Temperature T1 ALARM	BOOL	-	1	-	Transformer DGPT2 Temperature (T1) ALARM		W	PROFINET	4 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.Transformer_DGPT2_Temperature_T2_FAULT	logic.Application	ELECTROLYZER_GVL		Transformer DGPT2 Temperature T2 FAULT	BOOL	-	1	-	Transformer DGPT2 Temperature (T2) FAULT		W	PROFINET	4(Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.RECTIFIER_1_MAIN_CB_TRIP	logic.Application	ELECTROLYZER_GVL		RECTIFIER 1 MAIN CB TRIP	BOOL	-	1	-	RECTIFIER 1 MAIN CB ' TRIP'		W	PROFINET	4 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.RECTIFIER_2_MAIN_CB_TRIP	logic.Application	ELECTROLYZER_GVL		RECTIFIER 2 MAIN CB TRIP	BOOL	-	1	-	RECTIFIER 2 MAIN CB ' TRIP'		W	PROFINET	4 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.RECTIFIER_1_MAIN_CB_OPEN	logic.Application	ELECTROLYZER_GVL		RECTIFIER 1 MAIN CB OPEN	BOOL	-	1	-	RECTIFIER 1 MAIN CB OPEN		W	PROFINET	4 (Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.RECTIFIER_1_MAIN_CB_CLOSED	logic.Application	ELECTROLYZER_GVL		RECTIFIER 1 MAIN CB CLOSED	BOOL	-	1	-	RECTIFIER 1 MAIN CB CLOSED		W	PROFINET	4(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.RECTIFIER_2_MAIN_CB_OPEN	logic.Application	ELECTROLYZER_GVL		RECTIFIER 2 MAIN CB OPEN	BOOL	-	1	-	RECTIFIER 2 MAIN CB OPEN		W	PROFINET	4 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.RECTIFIER_2_MAIN_CB_CLOSED	logic.Application	ELECTROLYZER_GVL		RECTIFIER 2 MAIN CB CLOSED	BOOL	-	1	-	RECTIFIER 2 MAIN CB CLOSED		W	PROFINET	4 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_Water_request	logic.Application	ELECTROLYZER_GVL	PROCESS	Water_request	BOOL	-	1	-	Water_Request		W	PROFINET	4 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_Setpoint_Choise_Spare_12_cmd	logic.Application	ELECTROLYZER_GVL	PROCESS	Setpoint_Choise_Spare_12_cmd	BOOL	-	1	-	Spare_12		W	PROFINET	4 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.PROCESS_Setpoint_Choise_Spare_5_2_cmd	logic.Application	ELECTROLYZER_GVL	PROCESS	Setpoint_Choise_Spare_5_2_cmd	INT16	-	1	-	Spare_5_2		W	PROFINET	5	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_RETURN_FLOW_SETPOINT	logic.Application	ELECTROLYZER_GVL	PROCESS	RETURN FLOW SETPOINT	INT16	-	1	50-500	VALUE FLOW SETPOINT CLIENT (FLOW SETPOINT)		R	PROFINET	6	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT630_Ratio	logic.Application	ELECTROLYZER_GVL	PROCESS	PT630_Ratio	INT16	%	1	-	ELECTROISE OUTLET HYDROGENE FLOW		R	PROFINET	7	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT630	logic.Application	ELECTROLYZER_GVL	PROCESS	PT630	INT16	BARG	1	-	PRESSURE IN THE ELECTROLYSER (H2)		R	PROFINET	8	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT610	logic.Application	ELECTROLYZER_GVL	PROCESS	PT610	INT16	BARG	1	-	PRESSURE IN THE ELECTROLYSER (O2)		R	PROFINET	9	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_CT_P_600	logic.Application	ELECTROLYZER_GVL	PROCESS	CT_P_600	INT16	µS/cm	1	-	CONDUCTIVITIMER WATER O2 SIDE		R	PROFINET	10	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_CT_P_620	logic.Application	ELECTROLYZER_GVL	PROCESS	CT_P_620	INT16	µS/cm	1	-	CONDUCTIVITIMER WATER H2 SIDE		R	PROFINET	11	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_IM_001	logic.Application	ELECTROLYZER_GVL	PROCESS	IM_001	INT16	A	1	-	CURRENT output of Rectifier 1		R	PROFINET	12	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_100	logic.Application	ELECTROLYZER_GVL	PROCESS	VM_100	INT16	V	1	-	VOLTAGE OUTPUT of Rectifier 1		R	PROFINET	13	INPUT REGISTER	INT

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.PROCESS_IM_002	Logic.Application	ELECTROLYZER_GVL	PROCESS	IM_002	INT16	A	1	-	CURRENT output of Rectifer 2		R	PROFINET	14	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_102	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_102	INT16	V	1	-	VOLTAGE OUTPUT of Rectifier 2		R	PROFINET	15	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT200	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT200	INT16	°C	1	-	TEMPERATURE TRANSMITTER THERMAL SKID		R	PROFINET	16	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT201	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT201	INT16	°C	1	-	TEMPERATURE TRANSMITTER THERMAL SKID		R	PROFINET	17	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_202A	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_202A	INT16	°C	1	-	TEMPERATURE TRANSMITTER 20/80 DEG, ATEX DEGREASED		R	PROFINET	18	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_202B	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_202B	INT16	°C	1	-	TEMPERATURE TRANSMITTER 20/80 DEG, ATEX DEGREASED		R	PROFINET	19	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT400	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT400	INT16	°C	1	-	TEMPERATURE TRANSMITTER WATER CHILLER		R	PROFINET	20	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT401	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT401	INT16	°C	1	-	TEMPERATURE TRANSMITTER WATER CHILLER		R	PROFINET	21	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT1000	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT1000	INT16	°C	1	-	TEMPERATURE TRANSMITTER 20/80 DEG		R	PROFINET	22	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT1001	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT1001	INT16	°C	1	-	TEMPERATURE TRANSMITTER 20/80 DEG		R	PROFINET	23	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT1002	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT1002	INT16	°C	1	-	TEMPERATURE TRANSMITTER 20/80 DEG		R	PROFINET	24	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT1003	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT1003	INT16	°C	1	-	TEMPERATURE TRANSMITTER 20/80 DEG		R	PROFINET	25	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_LT300	Logic.Application	ELECTROLYZER_GVL	PROCESS	LT300	INT16	%	1	-	Level Transmitter,Package PWT-300		R	PROFINET	26	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_LT600	Logic.Application	ELECTROLYZER_GVL	PROCESS	LT600	INT16	%	1	-	SEPARATOR TANK WATER LEVEL O2 SIDE		R	PROFINET	27	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_LT620	Logic.Application	ELECTROLYZER_GVL	PROCESS	LT620	INT16	%	1	-	SEPARATOR TANK WATER LEVEL SIDE H2		R	PROFINET	28	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT900	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT900	INT16	BARG	1	-	NITROGEN NETWORK PRESSURE		R	PROFINET	29	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_AHD1000	Logic.Application	ELECTROLYZER_GVL	PROCESS	AHD1000	INT16	%	1	-	QUANTITY OF HYDROGEN IN THE AMBIENT		R	PROFINET	30	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_AHD1001	Logic.Application	ELECTROLYZER_GVL	PROCESS	AHD1001	INT16	%	1	-	QUANTITY OF HYDROGEN IN THE AMBIENT		R	PROFINET	31	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_AHD_1002	Logic.Application	ELECTROLYZER_GVL	PROCESS	AHD_1002	INT16	% UE	1	-	AMBIENT HYDROGEN DETECTOR 0.01KG/S 28M H2		R	PROFINET	32	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_AHD_1003	Logic.Application	ELECTROLYZER_GVL	PROCESS	AHD_1003	INT16	% UE	1	-	AMBIENT HYDROGEN DETECTOR		R	PROFINET	33	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_HIOD610A	Logic.Application	ELECTROLYZER_GVL	PROCESS	HIOD610A	INT16	%	1	-	HYDROGEN MEASUREMENT IN OXYGEN		R	PROFINET	34	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_DPT800	Logic.Application	ELECTROLYZER_GVL	PROCESS	DPT800	INT16	ppmV	1	-	DEW POINT MEASUREMENT H2		R	PROFINET	35	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_OIHA800	Logic.Application	ELECTROLYZER_GVL	PROCESS	OIHA800	INT16	ppmV	1	-	OXYGEN MEASUREMENT IN HYDROGEN		R	PROFINET	36	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_Stack_operating_hours__h	Logic.Application	ELECTROLYZER_GVL	PROCESS	Stack operating hours _h	INT16	h	1	-	Stack operating hours (h)		R	PROFINET	37	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_Full_load_hours_stack__h	Logic.Application	ELECTROLYZER_GVL	PROCESS	Full load hours stack _h	INT16	h	1	-	Full load hours stack (h)		R	PROFINET	38	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_Total_power_consumption__W	Logic.Application	ELECTROLYZER_GVL	PROCESS	Total power consumption _W	INT16	W	1	-	Total power consumption (W)		R	PROFINET	39	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_Total_system_energy_consumption__Wh	Logic.Application	ELECTROLYZER_GVL	PROCESS	Total system energy consumption _Wh	INT16	Wh	1	-	Total system energy consumption (Wh)		R	PROFINET	40	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_Energy_consumption_stack__Wh	Logic.Application	ELECTROLYZER_GVL	PROCESS	Energy consumption stack _Wh	INT16	Wh	1	-	Energy consumption stack (Wh)		R	PROFINET	41	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT600_	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT600	INT16	°C	1	-	O2 SIDE STACKS INLET TEMPERATURE		R	PROFINET	42	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT601_A	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT601_A	INT16	°C	1	-	O2 SIDE STACK 1 OUTLET TEMPERATURE		R	PROFINET	43	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT602_B	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT602_B	INT16	°C	1	-	O2 SIDE STACK 2 OUTLET TEMPERATURE		R	PROFINET	44	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT603_C	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT603_C	INT16	°C	1	-	O2 SIDE STACK 3 OUTLET TEMPERATURE		R	PROFINET	45	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT604_D	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT604_D	INT16	°C	1	-	O2 SIDE STACK 4 OUTLET TEMPERATURE		R	PROFINET	46	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT605_E	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT605_E	INT16	°C	1	-	O2 SIDE STACK 5 OUTLET TEMPERATURE		R	PROFINET	47	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT606_F	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT606_F	INT16	°C	1	-	O2 SIDE STACK 6 OUTLET TEMPERATURE		R	PROFINET	48	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT607_G	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT607_G	INT16	°C	1	-	O2 SIDE STACK 7 OUTLET TEMPERATURE		R	PROFINET	49	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT608_H	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT608_H	INT16	°C	1	-	O2 SIDE STACK 8 OUTLET TEMPERATURE		R	PROFINET	50	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT620	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT620	INT16	°C	1	-	H2 SIDE STACKS INLET TEMPERATURE		R	PROFINET	51	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT621	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT621	INT16	°C	1	-	TEMPERATURE TRANSMITTER 0/120 DEG		R	PROFINET	52	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_FT_600	Logic.Application	ELECTROLYZER_GVL	PROCESS	FT_600	INT16	NM3/H	1	-	FLOW TRANSMITTER 200 M3/H H2O+O2 ATEX SIL DEGREASED		R	PROFINET	53	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_FT_620	Logic.Application	ELECTROLYZER_GVL	PROCESS	FT_620	INT16	NM3/H	1	-	FLOW TRANSMITTER 80 M3/H H2O+H2 ATEX DEGREASED		R	PROFINET	54	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_611	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_611	INT16	BARG	1	-	PRESSURE TRANSMITTER 16 BARG O2 ATEX SIL DEGREASED		R	PROFINET	55	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_612	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_612	INT16	BARG	1	-	PRESSURE TRANSMITTER 16 BARG O2 ATEX SIL DEGREASED		R	PROFINET	56	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_631	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_631	INT16	BARG	1	-	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET	57	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_632	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_632	INT16	BARG	1	-	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET	58	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_633	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_633	INT16	BARG	1	-	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET	59	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_910	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_910	INT16	BARG	1	-	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET	60	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_920	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_920	INT16	BARG	1	-	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET	61	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_DPRT_1000	Logic.Application	ELECTROLYZER_GVL	PROCESS	DPRT_1000	INT16	BARG	1	-	DIFFERENTIAL PRESSURE TRANSMITTER		R	PROFINET	62	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_PT_64_1	Logic.Application	ELECTROLYZER_GVL	PROCESS	PT_64_1	INT16	BARG	1	-	HPU AQUAGAS Pressure transmitter , Package HPP-700		R	PROFINET	63	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_60_1	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_60_1	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	64	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_60_2	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_60_2	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	65	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_61_1	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_61_1	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	67	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_64_5	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_64_5	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	68	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_64_6	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_64_6	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	69	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_64_7	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_64_7	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	70	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_TT_64_8	Logic.Application	ELECTROLYZER_GVL	PROCESS	TT_64_8	INT16	°C	1	-	HPU AQUAGAS Temperature transmitter,Package HPP-700		R	PROFINET	71	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_001	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_001	INT16	V	1	-	Voltage sensor of stack 1		R	PROFINET	72	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_002	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_002	INT16	V	1	-	Voltage sensor of stack 2		R	PROFINET	73	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_003	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_003	INT16	V	1	-	Voltage sensor of stack 3		R	PROFINET	74	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_004	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_004	INT16	V	1	-	Voltage sensor of stack 4		R	PROFINET	75	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_005	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_005	INT16	V	1	-	Voltage sensor of stack 5		R	PROFINET	76	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_006	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_006	INT16	V	1	-	Voltage sensor of stack 6		R	PROFINET	77	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_007	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_007	INT16	V	1	-	Voltage sensor of stack 7		R	PROFINET	78	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_VM_008	Logic.Application	ELECTROLYZER_GVL	PROCESS	VM_008	INT16	V	1	-	Voltage sensor of stack 8		R	PROFINET	79	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_Selector_Swtch_mode	Logic.Application	ELECTROLYZER_GVL	PROCESS	Selector Swtch mode	INT16	-	1	0-2	0: Maintenance 1: Remote 2: Maintenance		R	PROFINET	80	INPUT REGISTER	INT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.PROCESS_HIOD610B	logic.Application	ELECTROLYZER_GVL	PROCESS	HIOD610B	INT16	%	1	-	HYDROGEN MEASUREMENT IN OXYGEN		R	PROFINET	81	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_HIOD610C	logic.Application	ELECTROLYZER_GVL	PROCESS	HIOD610C	INT16	%	1	-	HYDROGEN MEASUREMENT IN OXYGEN		R	PROFINET	82	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_3	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_3	INT16		1	-	SPARE3	NEW SPARES	R	PROFINET	83	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_4	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_4	INT16		1	-	SPARE4	NEW SPARES	R	PROFINET	84	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_5	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_5	INT16		1	-	SPARE5	NEW SPARES	R	PROFINET	85	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_6	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_6	INT16		1	-	SPARE6	NEW SPARES	R	PROFINET	86	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_7	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_7	INT16		1	-	SPARE7	NEW SPARES	R	PROFINET	87	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_8	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_8	INT16		1	-	SPARE8	NEW SPARES	R	PROFINET	88	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_9	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_9	INT16		1	-	SPARE9	NEW SPARES	R	PROFINET	89	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_10	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_10	INT16		1	-	SPARE10	NEW SPARES	R	PROFINET	90	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_11	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_11	INT16		1	-	SPARE11	NEW SPARES	R	PROFINET	91	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_12	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_12	INT16		1	-	SPARE12	NEW SPARES	R	PROFINET	92	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.PROCESS_SPARE_13	logic.Application	ELECTROLYZER_GVL	PROCESS	SPARE_13	INT16		1	-	SPARE13	NEW SPARES	R	PROFINET	93	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_AQA_1010_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	AQA_1010_ISO22	BOOL		1	-	FIRE AND GAS DETECTION - FIRE - SSI-1000		R	PROFINET	94 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_BZ_001_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	BZ_001_ISO22	BOOL		1	-	PLC FAULT - ERR - PLC-001		R	PROFINET	94 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_CAHH_610_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	CAHH_610_C63	BOOL		1	-	VERY HIGH H2 CONCENTRATION IN O2 - HH - HIOD-610A/B/C 2oo3		R	PROFINET	94(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_CAHH_1000_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	CAHH_1000_ISO22	BOOL		1	-	VERY HIGH HYDROGEN CONCENTRATION IN AIR - HH - AHD-1000		R	PROFINET	94(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_CAHH_1001_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	CAHH_1001_ISO22	BOOL		1	-	VERY HIGH HYDROGEN CONCENTRATION IN AIR - HH - AHD-1001		R	PROFINET	94 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_CAHH_1002_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	CAHH_1002_C63	BOOL		1	-	VERY HIGH HYDROGEN CONCENTRATION IN AIR - HH - AHD-1002		R	PROFINET	94 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_CAHH_1003_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	CAHH_1003_ISO22	BOOL		1	-	VERY HIGH HYDROGEN CONCENTRATION IN AIR - HH - AHD-1003		R	PROFINET	94 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_CAHH_1004_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	CAHH_1004_ISO22	BOOL		1	-	VERY HIGH HYDROGEN CONCENTRATION IN AIR - HH - AHD-1004		R	PROFINET	94 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_FAHH_640_ISO22_500	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	FAHH_640_ISO22_500	BOOL		1	-	DEBIT EQUILIBRAGE ELEVEE - FSH-640 - HH		R	PROFINET	94 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_FAHH_800_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	FAHH_800_ISO22	BOOL		1	-	VERY HIGH H2 ANALYSIS FLOWRATE - HH - FICV-800		R	PROFINET	94 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_FALL_600_ISO22_500	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	FALL_600_ISO22_500	BOOL		1	-	VERY LOW FLOW ON ANODIC CIRCULATION LOOP - LL - FT-600		R	PROFINET	94 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_FALL_610_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	FALL_610_ISO22	BOOL		1	-	VERY LOW O2 ANALYSIS FLOWRATE - LL - FICV-610A/B/C 2oo3		R	PROFINET	94 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_GGA_604_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	GGA_604_ISO22	BOOL		1	-	HV-604 VALVE CLOSED ON ANODIC LOOP - ERR - ZIO-604		R	PROFINET	94 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_GGA_605_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	GGA_605_ISO22	BOOL		1	-	HV-605 VALVE CLOSED ON ANODIC LOOP - ERR - ZIO-605		R	PROFINET	94 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_GGA_623_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	GGA_623_ISO22	BOOL		1	-	HV-623 VALVE CLOSED ON CATHODIC LOOP - ERR - ZIO-623		R	PROFINET	94 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_GGA_624_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	GGA_624_ISO22	BOOL		1	-	HV-624VALVE CLOSED ON CATHODIC LOOP - ERR - ZIO-624		R	PROFINET	94 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_LAHH_631_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	LAHH_631_ISO22	BOOL		1	-	VERY HIGH LEVEL CS-630 - HH - LSH-631		R	PROFINET	95 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_LALL_611_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	LALL_611_ISO22	BOOL		1	-	VERY LOW LEVEL CS-610 - LL - LSL-611		R	PROFINET	95 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_LASHH_600_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	LASHH_600_ISO22	BOOL		1	-	VERY HIGH LEVEL ST-600 (SIS) - HH - LSH-600		R	PROFINET	95(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_LASLL_620_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	LASLL_620_C63	BOOL		1	-	VERY LOW LEVEL ST-600 (SIS) - LL - LSL-600		R	PROFINET	95(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_LASLL_620_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	LASLL_620_C63	BOOL		1	-	VERY LOW LEVEL ST-620 (SIS) - LL - LSL-620		R	PROFINET	95 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_LASLL_500_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	LASLL_500_C63	BOOL		1	-	VERY LOW DRAIN WATER LEVEL ON HYDROGEN VENT - LSLL-500		R	PROFINET	95 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAR_001_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAR_001_ISO22	BOOL		1	-	CUSTOMER EMERGENCY STOP - ASC-001		R	PROFINET	95 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_001_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_001_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-001		R	PROFINET	95 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_002_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_002_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-002		R	PROFINET	95 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_003_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_003_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-003		R	PROFINET	95 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_004_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_004_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-004		R	PROFINET	95 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_005_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_005_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-005		R	PROFINET	95 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_006_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_006_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-006		R	PROFINET	95 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_OAZ_007_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	OAZ_007_ISO22	BOOL		1	-	EMERGENCY SHUTDOWN BUTTON - ESD-007		R	PROFINET	95 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PAHH_600A_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PAHH_600A_C63	BOOL		1	-	VERY HIGH PRESSURE DOWNSTREAM OF CP600A - HH - PT-600A		R	PROFINET	95 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PAHH_600B_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PAHH_600B_C63	BOOL		1	-	VERY HIGH PRESSURE DOWNSTREAM OF CP600B - HH - PT-600B		R	PROFINET	95 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PAHH_611_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PAHH_611_ISO22	BOOL		1	-	VERY HIGH PRESSURE IN OXYGEN SEPARATOR ST-600 (SIS)- HH - PT-611		R	PROFINET	96 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PAHH_620A_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PAHH_620A_C63	BOOL		1	-	VERY HIGH PRESSURE DOWNSTREAM OF CP620A - HH - PT-620A		R	PROFINET	96 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PAHH_620B_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PAHH_620B_C63	BOOL		1	-	VERY HIGH PRESSURE DOWNSTREAM OF CP620B - HH - PT-620B		R	PROFINET	96(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PAHH_631_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PAHH_631_ISO22	BOOL		1	-	VERY HIGH PRESSURE IN HYDROGEN SEPARATOR ST-620 (SIS)- HH - PT-631		R	PROFINET	96(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PALL_611_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PALL_611_ISO22	BOOL		1	-	LOW PRESSURE ON ANODIC SIDE - LL - PT-611		R	PROFINET	96 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PALL_631_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PALL_631_ISO22	BOOL		1	-	LOW PRESSURE ON CATHODIC SIDE - LL - PT-631		R	PROFINET	96 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PDAHH_002_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PDAHH_002_ISO22	BOOL		1	-	VERY HIGH DIFFERENTIAL PRESSURE - HH - PT631-PT611		R	PROFINET	96 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PDALL_002_ISO22	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PDALL_002_ISO22	BOOL		1	-	VERY LOW DIFFERENTIAL PRESSURE - LL - PT631-PT611		R	PROFINET	96 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_PKA_633_C63	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	PKA_633_C63	BOOL		1	-	LEAKAGE ON CLIENT LINE - CLOSING PV635 - PT-633		R	PROFINET	96 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_1	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_1	INT16	-	1	-	3610KA1 SAF MODULE		R	PROFINET	96 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_2	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_2	INT16	-	1	-	HIGH PRESSURE IN OXYGEN SEPARATOR ST-600 (SIS) OPENING PV-610 - H - PT-611		R	PROFINET	96 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_3	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_3	BOOL	-	1	-	HIGH PRESSURE IN HYDROGEN SEPARATOR ST-620 (SIS) OPENING PV-630 - H - PT-631		R	PROFINET	96 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_4	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_4	BOOL	-	1	-	VERY LOW LEVEL DG-640 (SIS) - LL - LSL-641		R	PROFINET	96 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_5	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_5	BOOL	-	1	-	SPARE		R	PROFINET	96 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_6	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_6	BOOL	-	1	-	SPARE		R	PROFINET	96 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.IntellockSafetyFaults_Spare_7	logic.Application	ELECTROLYZER_GVL	IntellockSafetyFaults	Spare_7	BOOL	-	1	-	SPARE		R	PROFINET	96 (Bit Reference 15)	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockSafetyFaults.ALARM_CODE_4	logic.Application	ELECTROLYZER_GVL	InterlockSafetyFaults	ALARM_CODE_4	INT16	-	1	-	SPARE		R	PROFINET	97	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockSafetyFaults.ALARM_CODE_5	logic.Application	ELECTROLYZER_GVL	InterlockSafetyFaults	ALARM_CODE_5	INT16	-	1	-	SPARE		R	PROFINET	98	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.XGA_007_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_007_C63	BOOL				TRANSFORMER GAS PRESSURE TEMPERATURE DETECTION FAULT		R	PROFINET	99 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.ACA_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ACA_001_ISO22	BOOL				WAITING TOO LONG BEFORE STARTING RECTIFIER - HH - REC-001		R	PROFINET	99 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.ACA_002_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ACA_002_ISO22	BOOL				WAITING TOO LONG BEFORE STARTING RECTIFIER - HH - REC-002		R	PROFINET	99(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_1005	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_1005	BOOL				DEFAULT COMMUNICATION PLC ELOGEN /RECTIFIER		R	PROFINET	99(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_1006	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_1006	BOOL				COMMUNICATION FAULT, PLC ELOGEN / HVAC		R	PROFINET	99 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_001_ISO22	BOOL				RECTIFIER FAULT - ERR - REC-001		R	PROFINET	99 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_002_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_002_ISO22	BOOL				RECTIFIER FAULT - ERR - REC-002		R	PROFINET	99 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_052	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_052	BOOL	-	1	-	CUSTOMERELOGEN COMMUNICATION SWITCH FAULT,REMOTE MODE		R	PROFINET	99 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_1001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_1001_ISO22	BOOL	-	1	-	FIRE CONTROL PANEL FAULT - ERR - SSI-1000		R	PROFINET	99 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_1003	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_1003	BOOL	-	1	-	COMMUNICATION FAULT, PLC ELOGEN / WTP		R	PROFINET	99 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.EJAHH_001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	EJAHH_001_C63	BOOL	-	1	-	HIGH 230V-NETWORK VOLTAGE - HH - PQ-001		R	PROFINET	99 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.EJAHH_002_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	EJAHH_002_C63	BOOL	-	1	-	HIGH 400V-NETWORK VOLTAGE - HH - PQ-002		R	PROFINET	99 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.AQA_1001_ISO22_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_1001_ISO22_1	BOOL	-	1	-	FIRE CONTROL PANEL FAULT - ERR - SSI-1000		R	PROFINET	99 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.ZIO_604	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ZIO_604	BOOL	-	1	-	HV-604 VALVE CLOSED ON ANODIC LOOP - ERR - ZIO-604		R	PROFINET	99 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.ZIO_623	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ZIO_623	BOOL	-	1	-	HV-623 VALVE CLOSED ON ANODIC LOOP - ERR - ZIO-623		R	PROFINET	99 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.ZIO_605	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ZIO_605	BOOL	-	1	-	HV-605 VALVE CLOSED ON ANODIC LOOP - ERR - ZIO-605		R	PROFINET	99 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.ZIO_624	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ZIO_624	BOOL	-	1	-	HV-624 VALVE CLOSED ON ANODIC LOOP - ERR - ZIO-624		R	PROFINET	100 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.SPARE8E	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPARE8E	BOOL	-	1	-	SPARE		R	PROFINET	100 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.FALL_620_ISO22_500	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	FALL_620_ISO22_500	BOOL	-	1	-	VERY LOW FLOW ON CATHODIC CIRCULATION LOOP - LL - FT-620		R	PROFINET	100(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.FSA_64_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	FSA 64_1	BOOL	-	1	-	NO SIGNAL - ERR - FC 64.1		R	PROFINET	100(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.FSA_64_1_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	FSA 64_1 LL	BOOL	-	1	-	GAS INLET FLOW VERY LOW - LL - FC 64.1		R	PROFINET	100 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_1_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_1 HH	BOOL	-	1	-	VALVE 64-V4.1 NOT CLOSED - HH - GS 64.1.1		R	PROFINET	100 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_1_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_1 LL	BOOL	-	1	-	VALVE 64-V4.1 NOT OPEN - LL GS 64.1.1		R	PROFINET	100 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_2_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_2 HH	BOOL	-	1	-	VALVE 64-V4.2 NOT CLOSED - HH - GS 64.1.2		R	PROFINET	100 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_2_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_2 LL	BOOL	-	1	-	VALVE 64-V4.2 NOT OPEN - LL GS 64.1.2		R	PROFINET	100 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_3_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_3 HH	BOOL	-	1	-	VALVE 64-V4.3 NOT CLOSED - HH - GS 64.1.3		R	PROFINET	100 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_3_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_3 LL	BOOL	-	1	-	VALVE 64-V4.3 NOT OPEN - LL GS 64.1.3		R	PROFINET	100 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_4_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_4 HH	BOOL	-	1	-	VALVE 64-V4.4 NOT CLOSED - HH - GS 64.1.4		R	PROFINET	100 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_1_4_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_1_4 LL	BOOL	-	1	-	VALVE 64-V4.4 NOT OPEN - LL GS 64.1.4		R	PROFINET	100 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_2_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_2 HH	BOOL	-	1	-	VALVE 64-V5 NOT CLOSED - HH - GS 64.2		R	PROFINET	100 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_2_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_2 LL	BOOL	-	1	-	VALVE 64-V5 NOT OPEN - LL - GS 64.2		R	PROFINET	100 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_3_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_3 HH	BOOL	-	1	-	VALVE 64-V7 NOT CLOSED - HH - GS 64.3		R	PROFINET	100 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_3_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_3 LL	BOOL	-	1	-	VALVE 64-V7 NOT OPEN - LL - GS 64.3		R	PROFINET	101 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_T2_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_T2 HH	BOOL	-	1	-	VALVE 64-T2 NOT OPEN - HH - GS 64.T2		R	PROFINET	101 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.GSA_64_T2_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	GSA 64_T2 LL	BOOL	-	1	-	VALVE 64-T2 NOT CLOSED - LL GS 64.T2		R	PROFINET	101(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.IAHH_001__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	IAHH_001 _ISO22	BOOL	-	1	-	HIGH CURRENT RECTIFIER - HH - IM-001		R	PROFINET	101(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.IAHH_002__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	IAHH_002 _ISO22	BOOL	-	1	-	HIGH CURRENT RECTIFIER - HH - IM-002		R	PROFINET	101 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.IDAHH_001__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	IDAHH_001 _ISO22	BOOL	-	1	-	HIGH RECTIFIER CURRENT DEVIATION - HH - INTERNAL RECTIFIERCURRENT PROBE - IM-001		R	PROFINET	101 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.IDAHH_002__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	IDAHH_002 _ISO22	BOOL	-	1	-	HIGH RECTIFIER CURRENT DEVIATION - HH - INTERNAL RECTIFIERCURRENT PROBE - IM-002		R	PROFINET	101 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.XGA_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_001_ISO22	BOOL	-	1	-	LOSS OF 400 VAC POWER SUPPLY - ERR		R	PROFINET	101 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K01_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K01 HH	BOOL	-	1	-	K01 AUX. CONTACT = 1 - HH - K01		R	PROFINET	101 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K01_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K01 LL	BOOL	-	1	-	K01 AUX. CONTACT = 1 - LL - K01		R	PROFINET	101 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K02_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K02 HH	BOOL	-	1	-	K02 AUX. CONTACT = 1 - HH - K02		R	PROFINET	101 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K02_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K02 LL	BOOL	-	1	-	K02 AUX. CONTACT = 0 - LL - K02		R	PROFINET	101 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K03_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K03 HH	BOOL	-	1	-	DEOXO TRACE HEATER HE 61.1, K03 NOT ACTIVATED - HH - K03		R	PROFINET	101 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K03_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K03 LL	BOOL	-	1	-	DEOXO TRACE HEATER HE 61.1, K03 NOT ACTIVATED - LL - K03		R	PROFINET	101 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K04_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K04 HH	BOOL	-	1	-	DEOXO TRACE HEATER HE 61.1, K03 NOT ACTIVATED - HH - K04		R	PROFINET	101 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.KSA_K04_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	KSA K04 LL	BOOL	-	1	-	DEOXO TRACE HEATER HE 61.1, K03 NOT ACTIVATED - LL - K04		R	PROFINET	101 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_001__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_001 _ISO22	BOOL	-	1	-	WATER LEAK DETECTION - HH WLD-001		R	PROFINET	102 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_002__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_002 _ISO22	BOOL	-	1	-	WATER LEAK DETECTION - HH WLD-002		R	PROFINET	102 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_003__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_003 _ISO22	BOOL	-	1	-	WATER LEAK DETECTION - HH WLD-003		R	PROFINET	102(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_004__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_004 _ISO22	BOOL	-	1	-	WATER LEAK DETECTION - HH WLD-004		R	PROFINET	102(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_005__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_005 _ISO22	BOOL	-	1	-	WATER LEAK DETECTION - HH WLD-005		R	PROFINET	102 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_006__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_006 _ISO22	BOOL	-	1	-	WATER LEAK DETECTION - HH WLD-006		R	PROFINET	102 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_600__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_600 _ISO22	BOOL	-	1	-	VERY HIGH LEVEL ST-600 - HH - LT-600		R	PROFINET	102 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LAHH_620__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAHH_620 _ISO22	BOOL	-	1	-	VERY HIGH LEVEL ST-620 - HH - LT-620		R	PROFINET	102 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults.LALL_100__C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LALL_100 _C63	BOOL	-	1	-	VERY LOW LEVEL WTP-100 - LL - LT-100		R	PROFINET	102 (Bit Reference 8)	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_LASHH_500__C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LASHH_500_C63	BOOL	-	1	-	VERY HIGH LEVEL WATER DRAIN ON VENT - LSHH-500		R	PROFINET	102 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_001__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_001_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-001		R	PROFINET	102 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_002__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_002_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-002		R	PROFINET	102 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_003__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_003_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-003		R	PROFINET	102 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_004__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_004_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-004		R	PROFINET	102 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_005__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_005_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-005		R	PROFINET	102 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_006__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_006_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-006		R	PROFINET	102 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_007__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_007_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-007		R	PROFINET	103 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_008__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_008_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-008		R	PROFINET	103 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_009__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_009_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-009		R	PROFINET	103(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_010__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_010_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-010		R	PROFINET	103(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_011__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_011_ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-011		R	PROFINET	103 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_OAS_012_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	OAS_012 ISO22	BOOL	-	1	-	ELECTROLYSER DOOR OPENED - DS-012		R	PROFINET	103 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PALL_1002_013	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PALL_1002_013	BOOL	-	1	-		NEW	R	PROFINET	103 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PALL_1003_013	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PALL_1003_013	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PALL_1006_013	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PALL_1006_013	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_SPAREEE_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPAREEE_1	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_SPAREEE_2	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPAREEE_2	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_SPAREEE_3	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPAREEE_3	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_SPAREEE_4	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPAREEE_4	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_SPAREEE_5	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPAREEE_5	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PAHH_130__ISO22_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PAHH_130__ISO22_1	BOOL					SPARE	NEW	R	PROFINET	103 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PAHH_610__ISO22_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PAHH_610 _ISO22_1							NEW	R	PROFINET	103 (Bit Reference 15)		BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PAHH_630__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PAHH_630 _ISO22	BOOL	-	1	-	VERY HIGH PRESSURE IN HYDROGEN SEPARATOR ST-620 (BPCS)- HH - PT-630		R	PROFINET	104 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PAHH_900__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PAHH_900 _ISO22	BOOL	-	1	-	LEAK ON OXYGEN INERTING LINE - HH - PT-900		R	PROFINET	104 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PAHH_910__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PAHH_910 _ISO22	BOOL	-	1	-	VERY HIGH NITROGEN PRESSURE - HH - PT-910		R	PROFINET	104(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PAHH_920__ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PAHH_920 _ISO22	BOOL	-	1	-	LEAK ON HYDROGEN INERTING LINE - HH - PT-920		R	PROFINET	104(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PALL_150_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PALL_150_ISO22	BOOL	-	1	-	VERY LOW INSTRUMENT AIR PRESSURE - LL - PT-150		R	PROFINET	104 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PALL_910_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PALL_910_ISO22	BOOL	-	1	-	VERY LOW NITROGEN PRESSURE - LL - PT910		R	PROFINET	104 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PDAHH_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PDAHH_001_ISO22	BOOL	-	1	-	VERY IMPORTANT DIFFERENTIAL PRESSURE - HH - PT630-PT610		R	PROFINET	104 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PDALL_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PDALL_001_ISO22	BOOL	-	1	-	IMPORTANT REVERSE DIFFERENTIAL PRESSURE - LL - PT630-PT610		R	PROFINET	104 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_600_ISO22	BOOL	-	1	-	ANODE TEMPERATURE INLET STACK VERY HIGH - HH - TT-600		R	PROFINET	104 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_7	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_7	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601A		R	PROFINET	104 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_6	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_6	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601B		R	PROFINET	104 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_5	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_5	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601C		R	PROFINET	104 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_4	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_4	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601D		R	PROFINET	104 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_3	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_3	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601E		R	PROFINET	104 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_2	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_2	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601F		R	PROFINET	104 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22_1	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601G		R	PROFINET	104 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_601_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_601_ISO22	BOOL	-	1	-	IMPORTANT REVERSE DIFFERENTIAL PRESSURE - LL - PT630-PT610		R	PROFINET	105 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TAHH_620_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TAHH_620_ISO22	BOOL	-	1	-	ANODE TEMPERATURE INLET STACK VERY HIGH - HH - TT-600		R	PROFINET	105 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TDAHH_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TDAHH_600_ISO22	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TDALL_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TDALL_600_ISO22	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_60_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 60_1	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_60_1_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 60_1 HH	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_60_1_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 60_1 LL	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_60_2	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 60_2	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_60_2_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 60_2 HH	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_60_2_LL	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 60_2 LL	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK VERY HIGH - HH - TT-601a,b		R	PROFINET	105 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_61_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 61_1	BOOL	-	1	-	CATHODE TEMPERATURE INLET STACK VERY HIGH - HH - TT-620		R	PROFINET	105 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_61_1_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 61_1 HH	BOOL	-	1	-	ANODE DT VERY HIGH - HH - TDY-600		R	PROFINET	105 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_2_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_2 HH	BOOL	-	1	-	ANODE DT VERY LOW - LL - TDY-600		R	PROFINET	105 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_3_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_3 HH	BOOL	-	1	-	NO SIGNAL - ERR - TT-601		R	PROFINET	105 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_4_HH	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_4 HH	BOOL	-	1	-	DECKO TOWER 61, SURFACE TEMPERATURE VERY HIGH - HH - TT-60.1		R	PROFINET	105 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_5	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_5	BOOL	-	1	-	DECKO TOWER 61, SURFACE TEMPERATURE VERY LOW - LL - TT-60.1		R	PROFINET	105 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_5_HH_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_5 HH A	BOOL	-	1	-	DRYER TOWER 64A, BOTTOM ADS. TEMPERATURE VERY HIGH - HH - TT-64.5		R	PROFINET	106 (Bit Reference 0)	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_5_HH_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_5 HH R	BOOL	-	1	-	DRYER TOWER 64A, BOTTOM REGENERATION TEMPERATURE VERY HIGH - HH - TT 64.5		R	PROFINET	106 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_6	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_6	BOOL	-	1	-	NO SIGNAL - ERR - TT 64.6		R	PROFINET	106(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_6_HH_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_6 HH A	BOOL	-	1	-	DRYER TOWER 64A, TOP ADS. TEMPERATURE VERY HIGH - HH - 64.6		R	PROFINET	106(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_6_HH_C	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_6 HH C	BOOL	-	1	-	DRYER TOWER 64A, COOLING FLOW VERY LOW - HH - 64.6		R	PROFINET	106 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_6_HH_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_6 HH R	BOOL	-	1	-	DRYER TOWER 64A, TOP REGENERATION TEMPERATURE VERY HIGH - HH - 64.6		R	PROFINET	106 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_7	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_7	BOOL	-	1	-	NO SIGNAL - ERR - TT 64.7		R	PROFINET	106 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_7_HH_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_7 HH A	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM ADS. TEMPERATURE VERY HIGH - HH - TT 64.7		R	PROFINET	106 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_7_HH_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_7 HH R	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM REGENERATION TEMPERATURE VERY HIGH - HH - TT 64.7		R	PROFINET	106 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_8	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_8	BOOL	-	1	-	NO SIGNAL - ERR - TT 64.8		R	PROFINET	106 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_8_HH_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_8 HH A	BOOL	-	1	-	DRYER TOWER 64B, TOP ADS. TEMPERATURE VERY HIGH - HH - 64.8		R	PROFINET	106 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_8_HH_C	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_8 HH C	BOOL	-	1	-	DRYER TOWER 64B, COOLING FLOW TOO LOW - HH - TT 64.8		R	PROFINET	106 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_TSA_64_8_HH_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	TSA 64_8 HH R	BOOL	-	1	-	DRYER TOWER 64B, TOP REGENERATION TEMPERATURE VERY HIGH - HH - 64.8		R	PROFINET	106 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VAHH_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VAHH_001_ISO22	BOOL	-	1	-	STACK-001 VERY HIGH CELL VOLTAGE - HH - PCA-001		R	PROFINET	106 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VAHH_101_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VAHH_101_C63	BOOL	-	1	-	REC-001 VERY HIGH VOLTAGE - HH - VM-101		R	PROFINET	106 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VAHH_102_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VAHH_102_C63	BOOL	-	1	-	REC-002 VERY HIGH VOLTAGE - HH - VM-102		R	PROFINET	106 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VALL_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VALL_001_ISO22	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM ADS. TEMPERATURE VERY HIGH - HH - TT 64.7		R	PROFINET	107 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_001_ISO22	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM REGENERATION TEMPERATURE VERYHIGH - HH - T		R	PROFINET	107 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_002_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_002_ISO22	BOOL	-	1	-	NO SIGNAL - ERR - TT 64.8		R	PROFINET	107(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_003_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_003_ISO22	BOOL	-	1	-	DRYER TOWER 64B, TOP ADS. TEMPERATURE VERY HIGH - HH - 64.8		R	PROFINET	107(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_004_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_004_ISO22	BOOL	-	1	-	DRYER TOWER 64B, COOLING FLOWTOO LOW - HH - TT 64.8		R	PROFINET	107 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_005_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_005_ISO22	BOOL	-	1	-	DRYER TOWER 64B, TOP REGENERATION TEMPERATURE VERY HIGH - HH - 64.8		R	PROFINET	107 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_006_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_006_ISO22	BOOL	-	1	-	STACK-001 VERY HIGH CELL VOLTAGE - HH - PCA-001		R	PROFINET	107 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_007_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_007_ISO22	BOOL	-	1	-	REC-001 VERY HIGH VOLTAGE - HH - VM-101		R	PROFINET	107 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VKA_008_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VKA_008_ISO22	BOOL	-	1	-	REC-002 VERY HIGH VOLTAGE - HH - VM-102		R	PROFINET	107 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_001_ISO22	BOOL	-	1	-	STACK-001 VERY LOW CELL VOLTAGE - LL - PCA-001		R	PROFINET	107 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_002_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_002_ISO22	BOOL	-	1	-	STACK-001 VOLTAGE DROP - PCA-001 - DROP		R	PROFINET	107 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_003_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_003_ISO22	BOOL	-	1	-	STACK-002 VOLTAGE DROP - PCA-002 - DROP		R	PROFINET	107 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_004_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_004_ISO22	BOOL	-	1	-	STACK-003 VOLTAGE DROP - PCA-003 - DROP		R	PROFINET	107 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_005_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_005_ISO22	BOOL	-	1	-	STACK-004 VOLTAGE DROP - PCA-004 - DROP		R	PROFINET	107 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_006_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_006_ISO22	BOOL	-	1	-	STACK-005 VOLTAGE DROP - PCA-005 - DROP		R	PROFINET	107 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_007_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_007_ISO22	BOOL	-	1	-	STACK-006 VOLTAGE DROP - PCA-006 - DROP		R	PROFINET	107 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_VQAHH_008_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	VQAHH_008_ISO22	BOOL	-	1	-	VOLTAGE DEVIATION BETWEEN PCA-008 AND VM-008 - HH		R	PROFINET	108 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_YAHH_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	YAHH_600_ISO22	BOOL	-	1	-	VERY HIGH CONDUCTIVITY CT600 - HH		R	PROFINET	108(Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_YAHH_620_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	YAHH_620_ISO22	BOOL	-	1	-	VERY HIGH CONDUCTIVITY CT620 - HH		R	PROFINET	108(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_YALL_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	YALL_600_ISO22	BOOL	-	1	-	CALIBRATION FAULT - CT600		R	PROFINET	108(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_YALL_620_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	YALL_620_ISO22	BOOL	-	1	-	CALIBRATION FAULT - CT620		R	PROFINET	108 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_SPARE1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	SPARE1	BOOL	-	1	-	SPARE		R	PROFINET	108 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_002_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_002_C63	BOOL	-	1	-	OVERVOLTAGE - SURGE PROTECTION - RFB		R	PROFINET	108 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_003_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_003_C63	BOOL	-	1	-	FAULT - UPS CIRCUIT BREAKER AUXILIARY CONTACT - OPS		R	PROFINET	108 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_004_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_004_C63	BOOL	-	1	-	BREAKER - AUXILIARY TYPE 2 - 1200M1		R	PROFINET	108 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_008_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_008_C63	BOOL	-	1	-	FAULT - HCU RECTIFIER 400Vac POWER SUPPLY CIRCUIT BREAKER AUXILIARY CONTACT - 1000F3		R	PROFINET	108 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_302_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_302_C63	BOOL	-	1	-	BREAKER WTP300 - 1020F3		R	PROFINET	108 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_010_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_010_C63	BOOL	-	1	-	HVAC PANEL CIRCUIT BREAKER AUXILIARY CONTACT - 1020M1		R	PROFINET	108 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_014_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_014_C63	BOOL	-	1	-	FAULT - RECTIFIER UPS POWER SUPPLY 1 CIRCUIT BREAKER AUXILIARY CONTACT - 1300F5		R	PROFINET	108 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_1000_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_1000_C63	BOOL	-	1	-	SSI-1000 POWER FAILURE - 1300F7		R	PROFINET	108 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_015_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_015_C63	BOOL	-	1	-	RIO 1 PANEL POWER SUPPLY CIRCUIT BREAKER AUXILIARY CONTACT - 1310E1		R	PROFINET	108 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_XGA_016_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	XGA_016_C63	BOOL	-	1	-	RIO 2 PANEL POWER SUPPLY CIRCUIT BREAKER AUXILIARY CONTACT - 1310E3		R	PROFINET	108 (Bit Reference 15)	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_JGA_005_C63_DUP	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	JGA_005_C63_DUP	BOOL	-	1	-	FAULT - RECTIFIER 230Vac POWER SUPPLY CIRCUIT BREAKER AUXILIARY CONTACT - 1000E1		R	PROFINET	109 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_JGA_006_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	JGA_006_ISO22	BOOL	-	1	-	REC_MAIN_BREK_DEF		R	PROFINET	109 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_PSA_001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	PSA_001_C63	BOOL	-	1	-	RECTIFIER COOLING NETWORK PRESSURE SWITCH - PS001		R	PROFINET	109(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_AQA_005_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_005_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION RIO MAIN - ERR		R	PROFINET	109(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_AQA_006_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_006_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION RIO 1 - ERR		R	PROFINET	109 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_AQA_007_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_007_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION RIO 2 - ERR		R	PROFINET	109 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_AQA_018_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	AQA_018_C63	BOOL	-	1	-	LOSS OF COMMUNICATION RIO BLRIKERT - ERR		R	PROFINET	109 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_LAH_630_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LAH_630_C63	BOOL	-	1	-	HIGH LEVEL CS-630 - HH - LSH-630		R	PROFINET	109 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_LALL_600_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LALL_600_C63	BOOL	-	1	-	VERY LOW LEVEL ST-600 LL - LT-600		R	PROFINET	109 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_LALL_620_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LALL_620_C63	BOOL	-	1	-	VERY LOW LEVEL ST-620 LL - LT-620		R	PROFINET	109 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_LASLL_600_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LASLL_600_C63	BOOL	-	1	-	VERY LOW LEVEL ST600 (SIS) - LL - LSL-600		R	PROFINET	109 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_LASLL_620_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	LASLL_620_C63	BOOL	-	1	-	VERY LOW LEVEL ST620 (SIS) - LL - LSL-620		R	PROFINET	109 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_ALARM_CODE_11_SPARE_BIT_12	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ALARM_CODE_11_SPARE_BIT_12	BOOL	-	1	-	SPARE		R	PROFINET	109 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_ALARM_CODE_11_SPARE_BIT_13	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ALARM_CODE_11_SPARE_BIT_13	BOOL	-	1	-	SPARE		R	PROFINET	109 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_ALARM_CODE_11_SPARE_BIT_14	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ALARM_CODE_11_SPARE_BIT_14	BOOL	-	1	-	SPARE		R	PROFINET	109 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_ALARM_CODE_11_SPARE_BIT_15	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	ALARM_CODE_11_SPARE_BIT_15	BOOL	-	1	-	SPARE		R	PROFINET	109 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_12	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_12	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	110	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_13	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_13	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	111	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_14	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_14	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	112	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_15	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_15	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	113	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_16	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_16	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	114	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_17	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_17	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	115	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_18	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_18	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	116	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_19	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_19	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	117	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaults_MAJOR_FAULT_ALARM_CODE_20	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaults	MAJOR_FAULT_ALARM_CODE_20	INT16	-	1	-	Each Bit of INT Code represent a fault		R	PROFINET	118	INPUT REGISTER	INT
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AAH_800_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AAH_800_ISO22	BOOL	-	1	-	HIGH OXYGEN CONCENTRATION IN H2 - H - OHA-800		R	PROFINET	119 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_ACA_300A_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	ACA_300A_C63	BOOL	-	1	-	VERY HIGH OXYGEN CONCENTRATION IN H2 - HH - OHA-80		R	PROFINET	119 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_306_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_306_C63	BOOL	-	1	-	HEAT RIBBON 306 CIRCUIT BREAKER AUXILIARY CONTACT - 1230F7		R	PROFINET	119(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_ACA_600A_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	ACA_600A_ISO22	BOOL	-	1	-	STARTING MALFUNCTION CP-600A - ERR - CP-600A		R	PROFINET	119(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_307_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_307_C63	BOOL	-	1	-	FAULT - HEAT RIBBON 307 CIRCUIT BREAKER AUXILIARY CONTACT - 1230E1		R	PROFINET	119 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_ACA_620A_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	ACA_620A_ISO22	BOOL	-	1	-	STARTING MALFUNCTION CP-620A - ERR - CP-620A		R	PROFINET	119 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_503_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_503_C63	BOOL	-	1	-	FAULT - HEAT RIBBON 503 CIRCUIT BREAKER AUXILIARY CONTACT		R	PROFINET	119 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAH_610_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAH_610_C63	BOOL	-	1	-	HIGH H2 CONCENTRATION IN O2 - H - H100-610A/B/C 2oo3		R	PROFINET	119 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAH_1000_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAH_1000_ISO22	BOOL	-	1	-	HIGH HYDROGEN CONCENTRATION IN AIR - H - AHD-1000		R	PROFINET	119 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAH_1001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAH_1001_ISO22	BOOL	-	1	-	HIGH HYDROGEN CONCENTRATION IN AIR - H - AHD-1001		R	PROFINET	119 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAH_1002_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAH_1002_C63	BOOL	-	1	-	HIGH HYDROGEN CONCENTRATION IN AIR - H - AHD-1002		R	PROFINET	119 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAH_1003_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAH_1003_ISO22	BOOL	-	1	-	HIGH HYDROGEN CONCENTRATION IN AIR - H - AHD-1003		R	PROFINET	119 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAH_1004_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAH_1004_ISO22	BOOL	-	1	-	HIGH HYDROGEN CONCENTRATION IN AIR - H - AHD-1004		R	PROFINET	119 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAHH_300_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAHH_300_C63	BOOL	-	1	-	VERY HIGH CONDUCTIVITY LP300 - HH		R	PROFINET	119 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_CAHH_800_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	CAHH_800_ISO22	BOOL	-	1	-	VERY HIGH H2O CONCENTRATION in H2 - HH - DPT-800		R	PROFINET	119 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EJALL_001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EJALL_001_C63	BOOL	-	1	-	VERY LOW 230V - NETWORK VOLTAGE - LL - PQ-001		R	PROFINET	119 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EJALL_002_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EJALL_002_C63	BOOL	-	1	-	MALFUNCTION RELAY ELECTRICAL HEATER - ERR - RELAY EH-1002		R	PROFINET	120 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_600A_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_600A_C63	BOOL	-	1	-	MALFUNCTION RELAY ELECTRICAL HEATER - ERR - RELAY EH-1003		R	PROFINET	120 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_606_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_606_C63	BOOL	-	1	-	MALFUNCTION RELAY ELECTRICAL HEATER - ERR - RELAY EH-1004		R	PROFINET	120(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_607B_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_607B_C63	BOOL	-	1	-	MALFUNCTION RELAY ELECTRICAL HEATER - ERR - RELAY EH-1006		R	PROFINET	120(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_620A_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_620A_C63	BOOL	-	1	-	MALFUNCTION RELAY ELECTRICAL HEATER - ERR - RELAY EH-1007		R	PROFINET	120 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1101_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1101_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-001		R	PROFINET	120 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1102_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1102_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-002		R	PROFINET	120 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1103_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1103_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-003		R	PROFINET	120 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1104_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1104_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-004		R	PROFINET	120 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1105_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1105_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-005		R	PROFINET	120 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1106_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1106_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-006		R	PROFINET	120 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1107_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1107_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-007		R	PROFINET	120 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_EGA_1108_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	EGA_1108_ISO22	BOOL	-	1	-	MALFUNCTION RELAY FAN STACK - ERR - RELAY EXT-008		R	PROFINET	120 (Bit Reference 12)	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FAL_600_ISO22_500	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FAL_600_ISO22_500	BOOL	-	1	-	LOW FLOW ON ANODIC CIRCULATION LOOP - L - FT-600		R	PROFINET	120 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FAL_620_ISO22_500	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FAL_620_ISO22_500	BOOL	-	1	-	LOW FLOW ON CATHODIC CIRCULATION LOOP - L - FT-620		R	PROFINET	120 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FAL_900_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FAL_900_ISO22	BOOL	-	1	-	LOW N2 FLOWRATE FOR PURGE - L - FT-900		R	PROFINET	120 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FAL_901_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FAL_901_ISO22	BOOL	-	1	-	LOW N2 FLOWRATE FOR PURGE - L - FT-901		R	PROFINET	121 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FAL_920_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FAL_920_ISO22	BOOL	-	1	-	LOW N2 FLOWRATE FOR PURGE - L - FT-920		R	PROFINET	121 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FAL_921_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FAL_921_ISO22	BOOL	-	1	-	LOW N2 FLOWRATE FOR PURGE - L - FT-921		R	PROFINET	121(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FALL_611_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FALL_611_ISO22	BOOL	-	1	-	VERY LOW O2 FAST LOOP FLOWRATE - LL - FICV-611		R	PROFINET	121(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FALL_800_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FALL_800_ISO22	BOOL	-	1	-	VERY LOW H2 FLOW ANALYSIS - LL - FICV-800		R	PROFINET	121 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_FDAH_630_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	FDAH_630_ISO22	BOOL	-	1	-	HIGH DEVIATION H2 PRODUCTION VSH2 FLOWMETER - HH - FT-630		R	PROFINET	121 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_GDA_611_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	GDA_611_ISO22	BOOL	-	1	-	POSITION DEVIATION OF MPV-611 - ERR - MPV-611		R	PROFINET	121 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_GDA_630_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	GDA_630_ISO22	BOOL	-	1	-	POSITION DEVIATION OF MPV-630 - ERR - MPV-630		R	PROFINET	121 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_300A_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_300A_C63	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER PUMP - ERR - BREAKER LP-300A		R	PROFINET	121 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_300B_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_300B_C63	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER PUMP - ERR - BREAKER LP-300B		R	PROFINET	121 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_600A_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_600A_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER PUMP - ERR - BREAKER CP-600A		R	PROFINET	121 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_600B_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_600B_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER PUMP - ERR - BREAKER CP-600B		R	PROFINET	121 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_620A_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_620A_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER PUMP - ERR - BREAKER CP-620A		R	PROFINET	121 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_620B_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_620B_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER PUMP - ERR - BREAKER CP-620B		R	PROFINET	121 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1001_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER ELECTRICAL HEATER ERR - BREAKER EH-1001		R	PROFINET	121 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1002_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1002_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER ELECTRICAL HEATER ERR - BREAKER EH-1002		R	PROFINET	121 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1003_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1003_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER ELECTRICAL HEATER ERR - BREAKER EH-1003		R	PROFINET	122 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1004_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1004_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER ELECTRICAL HEATER ERR - BREAKER EH-1004		R	PROFINET	122 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1006_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1006_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER ELECTRICAL HEATER ERR - BREAKER EH-1006		R	PROFINET	122(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1007_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1007_ISO22	BOOL	-	1	-	MALFUNCTION CIRCUIT BREAKER ELECTRICAL HEATER ERR - BREAKER EH-1007		R	PROFINET	122(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1121	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1121	BOOL	-	1	-	MALFUNCTION MAIN CIRCUIT BREAKER FOR 4 FANS STACK - ERR - BREAKER STACK 001/002/003/004		R	PROFINET	122 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_1122	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_1122	BOOL	-	1	-	MALFUNCTION COMMON CIRCUIT BREAKER OF 4 FANS STACKS - ERR - BREAKER STACK 005/006/007/008		R	PROFINET	122 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAH_600_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAH_600_C63	BOOL	-	1	-	HIGH LEVEL ST-600 - H - LT-600		R	PROFINET	122 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAH_610_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAH_610_ISO22	BOOL	-	1	-	HIGH LEVEL CS-610 - H - LSH-610		R	PROFINET	122 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAH_620_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAH_620_C63	BOOL	-	1	-	HIGH LEVEL ST-620 - H - LT-620		R	PROFINET	122 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_ODA_001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	ODA_001_C63	BOOL	-	1	-	DIVERGENCE REMOTE / LOCAL		R	PROFINET	122 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAHH_640_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAHH_640_ISO22	BOOL	-	1	-	HIGH LEVEL DG-640 - HH - LSH-640		R	PROFINET	122 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAL_600_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAL_600_C63	BOOL	-	1	-	LOW LEVEL ST-600 - L -		R	PROFINET	122 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAL_610_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAL_610_ISO22	BOOL	-	1	-	Low Level CS-610 - L - LSL-610		R	PROFINET	122 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAL_620_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAL_620_C63	BOOL	-	1	-	LOW LEVEL ST-620 - L - LT-620		R	PROFINET	122 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_LAL_630_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	LAL_630_ISO22	BOOL	-	1	-	LOW LEVEL CS-630 - L - LSL-630		R	PROFINET	122 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_625_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_625_C63	BOOL	-	1	-	FAULT - HEAT RIBBON 625 CIRCUIT BREAKER AUXILIARY CONTACT		R	PROFINET	122 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_640_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_640_C63	BOOL	-	1	-	FAULT - HEAT RIBBON 640 CIRCUIT BREAKER AUXILIARY CONTACT		R	PROFINET	123 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PA_64_1_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PA_64_1_L	BOOL	-	1	-	CONDENSATE, PT 64.1 SET POINT NOT REACHED - L - PT-64-1		R	PROFINET	123 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_150_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_150_ISO22	BOOL	-	1	-	HIGH INSTRUMENT AIR PRESSURE - H - PT-150		R	PROFINET	123(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_300_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_300_ISO22	BOOL	-	1	-	HIGH PRESSURE DOWNSTREAM LP-300 - H - PT300		R	PROFINET	123(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_600_ISO22	BOOL	-	1	-	HIGH PRESSURE DOWNSTREAM CP600A/B - H - PT-600		R	PROFINET	123 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_610_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_610_ISO22	BOOL	-	1	-	HIGH PRESSURE IN OXYGEN SEPARATOR ST-600 (BPCS) - H - PT-610		R	PROFINET	123 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_612_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_612_ISO22	BOOL	-	1	-	HIGH OXYGEN VENT PRESSURE - H - PT-612		R	PROFINET	123 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_620_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_620_ISO22	BOOL	-	1	-	HIGH PRESSURE DOWNSTREAM CP620A/B - H - PT-620		R	PROFINET	123 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_630_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_630_ISO22	BOOL	-	1	-	HIGH HYDROGEN PRESSURE HYDROGEN SIDE - H - PT-630		R	PROFINET	123 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAH_910_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAH_910_ISO22	BOOL	-	1	-	HIGH NITROGEN PRESSURE - H - PT-910		R	PROFINET	123 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAHH_300_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAHH_300_C63	BOOL	-	1	-	VERY HIGH PRESSURE DOWNSTREAM OF LP300A/B - HH - PT-300		R	PROFINET	123 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAHH_632_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAHH_632_C63	BOOL	-	1	-	VERY HIGH PRESSURE ON HYDROGEN VENT - HH - PT-632		R	PROFINET	123 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAHH_633_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAHH_633_C63	BOOL	-	1	-	VERY HIGH PRESSURE ON HYDROGEN CUSTOMER LINE - HH - PT-633		R	PROFINET	123 (Bit Reference 12)	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAL_150_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAL_150_ISO22	BOOL	-	1	-	LOW INSTRUMENT AIR PRESSURE - L - PT-150		R	PROFINET	123 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAL_300_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAL_300_C63	BOOL	-	1	-	LP300 PUMP PRESSURE LOSS - L - PT300		R	PROFINET	123 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAL_600_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAL_600_C63	BOOL	-	1	-	CP-600 PUMP PRESSURE LOSS - L - PT600		R	PROFINET	123 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAL_620_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAL_620_C63	BOOL	-	1	-	CP-620 PRESSURE LOSS - L - PT-620		R	PROFINET	124 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PAL_910_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PAL_910_ISO22	BOOL	-	1	-	LOW NITROGEN PRESSURE - L - PT-910		R	PROFINET	124 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_300_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_300_C63	BOOL	-	1	-	LP-300 PUMP CHANGEOVER UNFORESEEN - LL - PT300		R	PROFINET	124(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_600_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_600_C63	BOOL	-	1	-	CP - 600 CHANGEOVER UNFORESEEN - LL - PT - 600		R	PROFINET	124(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_620_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_620_C63	BOOL	-	1	-	CP-620 CHANGEOVER UNFORESEEN - LL - PT - 620		R	PROFINET	124 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_1001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_1001_C63	BOOL	-	1	-	VERY LOW PRESSURE IN WTP ROOM - LOSS OF VENTILATION - LL - PT-1001		R	PROFINET	124 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_SPARE14	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_SPARE14	BOOL	-	1	-	VERY LOW PRESSURE IN O2/H2 ROOM - LOSS OF VENTILATION - LL - PT-1002		R	PROFINET	124 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_SPARE15	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_SPARE15	BOOL	-	1	-	VERY LOW PRESSURE IN STACK ROOM - LOSS OF VENTILATION - LL - PT-1003		R	PROFINET	124 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_1004_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_1004_C63	BOOL	-	1	-	VERY LOW PRESSURE IN ELECTRICAL ROOM - LOSS OF VENTILATION - LL - PT-1004		R	PROFINET	124 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_1005_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_1005_C63	BOOL	-	1	-	VERY LOW PRESSURE IN HVAC CONTAINER - LOSS OF VENTILATION - LL - PT-1005		R	PROFINET	124 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PALL_SPAR002	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PALL_SPARE02	BOOL	-	1	-	VERY LOW PRESSURE IN PROCESS CONTAINER - LOSS OF VENTILATION - LL - PT-1006		R	PROFINET	124 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PDAH_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PDAH_001_ISO22	BOOL	-	1	-	IMPORTANT DIFFERENTIAL PRESSURE - H - PT630-PT610		R	PROFINET	124 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PDAH_610_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PDAH_610_ISO22	BOOL	-	1	-	OXYGEN SIDE DEPRESSURISATION TOO LONG - H - PT-610		R	PROFINET	124 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PDAH_630_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PDAH_630_ISO22	BOOL	-	1	-	HYDROGEN SIDE DEPRESSURISATION TOO LONG - H - PT-630		R	PROFINET	124 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_PDAL_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	PDAL_001_ISO22	BOOL	-	1	-	REVERSE DIFFERENTIAL PRESSURE - L - PT630-PT610		R	PROFINET	124 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_60_1_H	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 60_1 H	BOOL	-	1	-	DEOXO TOWER 61, SURFACE TEMPERATURE HIGH - H - TT 60.1		R	PROFINET	124 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_60_1_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 60_1 L	BOOL	-	1	-	DEOXO TOWER 61, SURFACE TEMPERATURE LOW - L - TT 60.1		R	PROFINET	125 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_60_2_H	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 60_2 H	BOOL	-	1	-	DEOXO TRACE HEATER HE 61.1, TEMPERATURE HIGH - H - TT 60.2		R	PROFINET	125 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_60_2_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 60_2 L	BOOL	-	1	-	DEOXO TRACE HEATER HE 61.1, TEMPERATURE LOW - L - TT 60.2		R	PROFINET	125(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_61_1_H	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 61_1 H	BOOL	-	1	-	DEOXO TOWER 61, GAS OUTLET TEMPERATURE HIGH - H - TT 61.1		R	PROFINET	125(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_5_H	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_5 H	BOOL	-	1	-	Température liquide de refroidissement sécheur 64A TT 64.5 - H -		R	PROFINET	125 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_5_H_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_5 H A	BOOL	-	1	-	DRYER TOWER 64A, BOTTOM ADS. TEMPERATURE HIGH - H - TT 64.5		R	PROFINET	125 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_5_H_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_5 H R	BOOL	-	1	-	DRYER TOWER 64A, BOTTOM REGENERATION TEMPERATURE HIGH - H - TT 64.5		R	PROFINET	125 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_5_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_5 L	BOOL	-	1	-	Température bas sécheur 64A régénération TT 64.5 - L		R	PROFINET	125 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_6_H_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_6 H A	BOOL	-	1	-	DRYER TOWER 64A, TOP ADS. TEMPERATURE HIGH - H - 64.6		R	PROFINET	125 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_6_H_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_6 H R	BOOL	-	1	-	DRYER TOWER 64A, TOP REGENERATION TEMPERATURE HIGH - H - 64.6		R	PROFINET	125 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_6_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_6 L	BOOL	-	1	-	TOP DRYER TOWER 64A REGENERATION TEMPERATURE - L - TT 64.6		R	PROFINET	125 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_7_H	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_7 H	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM COOLIN FLOW LOW - H - TT 64.7		R	PROFINET	125 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_7_H_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_7 H A	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM ADS. TEMPERATURE HIGH - H - TT 64.7		R	PROFINET	125 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_7_H_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_7 H R	BOOL	-	1	-	DRYER TOWER 64B, BOTTOM REGENERATION TEMPERATURE HIGH - H - TT 64.7		R	PROFINET	125 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_7_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_7 L	BOOL	-	1	-	DRYER TOWER 64B, REGENERATION TEMPERATURE BOTTOM LOW - L - TT 64.7		R	PROFINET	125 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_8_H_A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_8 H A	BOOL	-	1	-	DRYER TOWER 64B, TOP ADS. TEMPERATURE HIGH - H - 64.8		R	PROFINET	125 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_8_H_R	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_8 H R	BOOL	-	1	-	DRYER TOWER 64B, TOP REGENERATION TEMPERATURE HIGH - H - 64.8		R	PROFINET	126 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TA_64_8_L	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TA 64_8 L	BOOL	-	1	-	DRYER TOWER 64B, REGENERATION TEMPERATURE TOP LOW - L - TT 64.8		R	PROFINET	126 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_7	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_7	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601A		R	PROFINET	126(Bit Reference 2)	INPUT REGISTER	BOOL

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_6	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_6	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601B		R	PROFINET	126(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_5	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_5	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601C		R	PROFINET	126 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_4	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_4	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601D		R	PROFINET	126 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_3	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_3	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601E		R	PROFINET	126 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_2	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_2	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601F		R	PROFINET	126 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22_1	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601G		R	PROFINET	126 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAH_601_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAH_601_ISO22	BOOL	-	1	-	ANODE TEMPERATURE OUTLET STACK HIGH - H - TT-601H		R	PROFINET	126 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAHH_1001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAHH_1001_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY HIGH WTP ROOM - HH - TT-1001		R	PROFINET	126 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAHH_1002_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAHH_1002_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY HIGH O2/H2 LOOP CONTAINER - HH - TT-1002		R	PROFINET	126 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAHH_1003_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAHH_1003_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY HIGH STACK ROOM - HH - TT-1003		R	PROFINET	126 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAHH_1004_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAHH_1004_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY HIGH ELECTRICAL ROOM - HH - TT-1004		R	PROFINET	126 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAHH_1005_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAHH_1005_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY HIGH HVAC CONTAINER - HH - TT-1005		R	PROFINET	126 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAHH_1006_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAHH_1006_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY HIGH PROCESS CONTAINER - HH - TT-1006		R	PROFINET	126 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_1	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601A		R	PROFINET	127 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_2	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_2	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601B		R	PROFINET	127 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_3	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_3	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601C		R	PROFINET	127(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_4	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_4	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601D		R	PROFINET	127(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_5_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_5_1	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601E		R	PROFINET	127 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_6_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_6_1	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601F		R	PROFINET	127 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22_7_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22_7_1	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601G		R	PROFINET	127 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_601_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_601_ISO22	BOOL	-	1	-	ANODE TEMPERATURE LOW - L - TT-601H		R	PROFINET	127 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TAL_1003_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TAL_1003_ISO22	BOOL	-	1	-	AMBIENT TEMPERATURE LOW - L - TT-1003		R	PROFINET	127 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_600_ISO22	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-600		R	PROFINET	127 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_8	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_8	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601A		R	PROFINET	127 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_9	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_9	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601B		R	PROFINET	127 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_10	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_10	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601C		R	PROFINET	127 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_11	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_11	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601D		R	PROFINET	127 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_12	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_12	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601E		R	PROFINET	127 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_13	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_13	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601F		R	PROFINET	127 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_14	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_14	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601G		R	PROFINET	128 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_601_ISO22_15	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_601_ISO22_15	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-601H		R	PROFINET	128 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_620_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_620_ISO22	BOOL	-	1	-	ANODE TEMPERATURE VERY LOW - LL - TT-620		R	PROFINET	128(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_1001_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_1001_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY LOW WTP ROOM - LL - TT-1001		R	PROFINET	128(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_1002_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_1002_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY LOW O2/H2 LOOP CONTAINER - LL - TT-1002		R	PROFINET	128 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_1003_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_1003_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY LOW STACK ROOM - LL - TT-1003		R	PROFINET	128 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_1005_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_1005_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY LOW HVAC CONTAINER - LL - TT-1005		R	PROFINET	128 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_1006_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_1006_C63	BOOL	-	1	-	AMBIENT TEMPERATURE VERY LOW PROCESS CONTAINER - LL - TT-1006		R	PROFINET	128 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TALL_1003_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TALL_1003_ISO22	BOOL	-	1	-	AMBIENT TEMPERATURE VERY LOW - LL - TT-1004		R	PROFINET	128 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TDAH_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TDAH_600_ISO22	BOOL	-	1	-	ANODE DT HIGH - H - TDY-600		R	PROFINET	128 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TDAL_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TDAL_600_ISO22	BOOL	-	1	-	ANODE DT LOW - L - TDY-600		R	PROFINET	128 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TSAHH_621A_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TSAHH_621A_ISO22	BOOL	-	1	-	CP-620A HIGH TEMPERATURE MAGNETIC COUPLING - HH - TT-621A		R	PROFINET	128 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_TSAHH_621B_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	TSAHH_621B_ISO22	BOOL	-	1	-	CP-620A HIGH TEMPERATURE MAGNETIC COUPLING - HH - TT-621B		R	PROFINET	128 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_VAH_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	VAH_001_ISO22	BOOL	-	1	-	STACK-001-008 VERY HIGH CELL VOLTAGE - H - PCA-001		R	PROFINET	128 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_VAH_101_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	VAH_101_C63	BOOL	-	1	-	REC-001 HIGH VOLTAGE - H - VM-101		R	PROFINET	128 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_VAH_102_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	VAH_102_C63	BOOL	-	1	-	REC-002 HIGH VOLTAGE - H - VM-102		R	PROFINET	128 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_VAL_001_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	VAL_001_ISO22	BOOL	-	1	-	STACK-001 LOW CELL VOLTAGE - L - PCA-001		R	PROFINET	129 (Bit Reference 0)	INPUT REGISTER	BOOL

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_YAH_600_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	YAH_600_ISO22	BOOL	-	1	-	CONDUCTIVITE ELEVEE CT600 - H		R	PROFINET	129 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_YAH_620_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	YAH_620_ISO22	BOOL	-	1	-	CONDUCTIVITE ELEVEE CT620 - H		R	PROFINET	129(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SCA_300A_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SCA_300A_C63	BOOL	-	1	-	ERROR VSD LP-300A - ERR - VAR-300A		R	PROFINET	129(Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SCA_300B_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SCA_300B_C63	BOOL	-	1	-	ERROR VSD LP-300B - ERR - VAR-300B		R	PROFINET	129 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SCA_600A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SCA_600A	BOOL	-	1	-	ERROR VSD CP-600A - ERR - VAR-600A		R	PROFINET	129 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SCA_600B	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SCA_600B	BOOL	-	1	-	ERROR VSD CP-600B - ERR - VAR-600B		R	PROFINET	129 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SCA_620A	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SCA_620A	BOOL	-	1	-	ERROR VSD CP-620A - ERR - VAR-620A		R	PROFINET	129 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SCA_620B	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SCA_620B	BOOL	-	1	-	ERROR VSD CP-620B - ERR - VAR-620B		R	PROFINET	129 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_Spare_1_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	Spare_1_1	BOOL	-			SPARE		R	PROFINET	129 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_200_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_200_C63	BOOL	-	1	-	DRY COOLER FAULT - ERR - DC-200		R	PROFINET	129 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_201_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_201_C63	BOOL	-	1	-	DRY COOLER FAULT - ERR - DC-201		R	PROFINET	129 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_400_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_400_C63	BOOL	-	1	-	WATER CHILLER DEFAULT - ERR - WC-400		R	PROFINET	129 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_401_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_401_C63	BOOL	-	1	-	WATER CHILLER DEFAULT - ERR - WC-401		R	PROFINET	129 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_400_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_400_C63	BOOL	-	1	-	BREAKER WC-400 - CHILLER 1 - 102QM5		R	PROFINET	129 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_401_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_401_C63	BOOL	-	1	-	BREAKER WC-401 - CHILLER 2 - 102QM7		R	PROFINET	129 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_012_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_012_C63	BOOL	-	1	-	BREAKER DC ALIM1 24VDC - 1300F1		R	PROFINET	130 (Bit Reference 0)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_JGA_013_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	JGA_013_C63	BOOL	-	1	-	BREAKER DC ALIM2 24VDC - 1300F3		R	PROFINET	130 (Bit Reference 1)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_008_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_008_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX001 - ERR		R	PROFINET	130(Bit Reference 2)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_009_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_009_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX002 - ERR		R	PROFINET	130 (Bit Reference 3)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_010_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_010_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX003 - ERR		R	PROFINET	130 (Bit Reference 4)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_011_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_011_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX004 - ERR		R	PROFINET	130 (Bit Reference 5)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_012_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_012_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX005 - ERR		R	PROFINET	130 (Bit Reference 6)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_013_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_013_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX006 - ERR		R	PROFINET	130 (Bit Reference 7)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_014_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_014_ISO22	BOOL	-	1	-	LOSS OF COMMUNICATION CANPNX007 - ERR		R	PROFINET	130 (Bit Reference 8)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_015_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_015_ISO22	BOOL	-	1		LOSS OF COMMUNICATION CANPNX008 - ERR		R	PROFINET	130 (Bit Reference 9)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_016_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_016_ISO22	BOOL	-	1		LOSS OF COMMUNICATION PQ001 ERR		R	PROFINET	130 (Bit Reference 10)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_AQA_017_ISO22	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	AQA_017_ISO22	BOOL	-	1		LOSS OF COMMUNICATION PQ002 ERR		R	PROFINET	130 (Bit Reference 11)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_ACA_300A_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	ACA_300A_C63	BOOL	-	1		LP-300A STARTING FAULT - LP-300A		R	PROFINET	130 (Bit Reference 12)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_ACA_300B_C63	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	ACA_300B_C63	BOOL	-	1		LP-300B STARTING FAULT - LP-300B		R	PROFINET	130 (Bit Reference 13)	INPUT REGISTER	BOOL
Logic.Application.EMCS_Connections.BESS_Connected	logic.Application	EMCS_Connections		BESS_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.Electrolyzer_Connected	logic.Application	EMCS_Connections		Electrolyzer_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.FuelCell_Connected	logic.Application	EMCS_Connections		FuelCell_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.GIS_Connected	logic.Application	EMCS_Connections		GIS_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.SG_10001_Connected	logic.Application	EMCS_Connections		SG_10001_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.SG_20002_Connected	logic.Application	EMCS_Connections		SG_20002_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.SG_20041_Connected	logic.Application	EMCS_Connections		SG_20041_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.SolarFarm_Connected	logic.Application	EMCS_Connections		SolarFarm_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.TransformerAVR_Connected	logic.Application	EMCS_Connections		TransformerAVR_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Connections.WindFarm_Connected	logic.Application	EMCS_Connections		WindFarm_Connected	BOOL	-	1		Device communication status		R	Internal logic			BOOL
Logic.Application.EMCS_Internal.ProcessAlarm	logic.Application	EMCS_Internal		ProcessAlarm	UINT16	-	1		Enumeration to be defined		R	Internal mapped			UINT16
Logic.Application.EMCS_Internal.ElectricalAlarm	logic.Application	EMCS_Internal		ElectricalAlarm	UINT16	-	1		Enumeration to be defined		R	Internal mapped			UINT16
Logic.Application.EMCS_Internal.AutoManualMode	logic.Application	EMCS_Internal		AutoManualMode	UInt16		1		Enumeration: 0: Automatic 1: Manual Maintenance 2: Manual Research		W	Internal mapped			UINT16
Logic.Application.EMCS_Internal.AuxLoad	logic.Application	EMCS_Internal		AuxLoad	Float	kW	1		Measure of the auxiliaries		R	Internal mapped			Float
Logic.Application.EMCS_Internal.AVR_AutoManual	logic.Application	EMCS_Internal		AVR_AutoManual	BOOL	-	1		0: manual, 1: automatic		W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.AVR_OutputVoltage	logic.Application	EMCS_Internal		AVR_OutputVoltage	Float	kW	1		Measured at AS_TR_100AD1		R	Internal mapped			Float
Logic.Application.EMCS_Internal.AVR_Status	logic.Application	EMCS_Internal		AVR_Status	Uint16		1		TBD, not used at the moment		R	Internal mapped			Uint16
Logic.Application.EMCS_Internal.AVR_TapLower	logic.Application	EMCS_Internal		AVR_TapLower	BOOL		1		Command to lower the TAP		W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.AVR_TapPosition	logic.Application	EMCS_Internal		AVR_TapPosition	Int16		1		Current tap position		R	Internal mapped			Int16
Logic.Application.EMCS_Internal.AVR_TapRaise	logic.Application	EMCS_Internal		AVR_TapRaise	BOOL		1		Command to rise the TAP		R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.AVR_VoltageDeviationPerc	logic.Application	EMCS_Internal		AVR_VoltageDeviationPerc	Float		1		Deviation from the set point		W	Internal mapped			Float
Logic.Application.EMCS_Internal.AVR_VoltageSetPoint	logic.Application	EMCS_Internal		AVR_VoltageSetPoint	Float	V	1	5940 - 7260	Set point		W	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_ActivePower	logic.Application	EMCS_Internal		BESS_ActivePower	Float	kW	1		BESS measured active power. If positive the battery is discharged		R	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_ActivePowerSetPoint	logic.Application	EMCS_Internal		BESS_ActivePowerSetPoint	Float	kW	1		BESS set point feedback		R	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_ActivePowerSetPointCmd	logic.Application	EMCS_Internal		BESS_ActivePowerSetPointCmd	Float	kW	1	-1000 - 1000	BESS set point command		W	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_FullyCharged	logic.Application	EMCS_Internal		BESS_FullyCharged	BOOL		1		Flag indicating that the BESS SOC reached the maximum	See the parameter BESS_MAXIMUM_OPERATING_RESERVE	R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.BESS_GridFormingPermissive	logic.Application	EMCS_Internal		BESS_GridFormingPermissive	BOOL	-	1		Permissive given to the BESS		W	Hardwired	0		BOOL
Logic.Application.EMCS_Internal.BESS_HasVoltage	logic.Application	EMCS_Internal		BESS_HasVoltage	BOOL	-	1		Flag indicating that the BESS is energized (measured at		R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.BESS_Healthy	logic.Application	EMCS_Internal		BESS_Healthy	BOOL		1		Flag indicating that the BESS is		R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.BESS_OperatingStatus	logic.Application	EMCS_Internal		BESS_OperatingStatus	Int16		1		Current operating status	1:"Warning", 2:"Error", 4:"Preheat State", 8:"Standby State", 16:"Precharge State", 32:"Ready State", 64:"Active State", 128:"Safety relaid", 256:"Smoke detector", 512:"main switch on",	R	Internal mapped			Int16
Logic.Application.EMCS_Internal.BESS_OperatingStatusCmd	logic.Application	EMCS_Internal		BESS_OperatingStatusCmd	Int16	-	1		BitMask Dec 0: Stop; 0 1: Start 8192	Command to set the operating status	W	Internal mapped			Int16
Logic.Application.EMCS_Internal.BESS_DischargeEnergy	logic.Application	EMCS_Internal		BESS_DischargeEnergy	Float	kWh	1		Energy that can be provided by the BESS		R	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_ChargeEnergy	logic.Application	EMCS_Internal		BESS_ChargeEnergy	Float	kWh	1		Energy that can be charged in the BESS		R	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_AvailableEnergyPerc	logic.Application	EMCS_Internal		BESS_AvailableEnergyPerc	Float	%	1		Calculated Available Energy. It is based on Discharge Energy		R	Internal mapped			Float
Logic.Application.EMCS_Internal.BESS_SOC	logic.Application	EMCS_Internal		BESS_SOC	Float	%	1		Status of Charge of the		R	Internal mapped			Float
Logic.Application.EMCS_Internal.BUS_6_6kV_HasVoltage	logic.Application	EMCS_Internal		BUS_6_6kV_HasVoltage	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.Electrolyzer_ActivationThreshold	logic.Application	EMCS_Internal		Electrolyzer_ActivationThreshold	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.Electrolyzer_ActivePowerConsumption	logic.Application	EMCS_Internal		Electrolyzer_ActivePowerConsumption	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.Electrolyzer_FlowSetPointCmd	logic.Application	EMCS_Internal		Electrolyzer_FlowSetPointCmd	Float	Nm3/h	1	50-900	Requested flow set point		W	Internal mapped			Float
Logic.Application.EMCS_Internal.Electrolyzer_ActivePowerSetPointCmd	logic.Application	EMCS_Internal		Electrolyzer_ActivePowerSetPointCmd	Float	kW	1	250 - 2500	Requested power set point		W	Internal mapped			Float

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_Internal.Electrolyzer_OperatingStatus	logic.Application	EMCS_Internal		Electrolyzer_OperatingStatus	Int16	-	1		Enumeration LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7 : MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10: Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress		R	Internal mapped			Int16
Logic.Application.EMCS_Internal.Electrolyzer_OperatingStatusCmd	logic.Application	EMCS_Internal		Electrolyzer_OperatingStatusCmd	Int16	-	1		Enum 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STANDBY (STANDY BY)		W	Internal mapped			Int16
Logic.Application.EMCS_Internal.Electrolyzer_SetPointChoiseCmd	logic.Application	EMCS_Internal		Electrolyzer_SetPointChoiseCmd	Int16	-	1		0: Power SetPoint 1: Flow H2 Setpoint		W	Internal mapped			Int16
Logic.Application.EMCS_Internal.FuelCell_ActivePower	logic.Application	EMCS_Internal		FuelCell_ActivePower	Float	kW	1	0 : 1200			R	Internal mapped			Float
Logic.Application.EMCS_Internal.FuelCell_ActivePowerSetPointCmd	logic.Application	EMCS_Internal		FuelCell_ActivePowerSetPointCmd	Float	kW	1	0 : 1200	Export Power Setpoint kW.		W	Internal mapped			Float
Logic.Application.EMCS_Internal.FuelCell_ConversionEfficiency	logic.Application	EMCS_Internal		FuelCell_ConversionEfficiency	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.FuelCell_Efficiency	logic.Application	EMCS_Internal		FuelCell_Efficiency	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.FuelCell_OperatingStatus	logic.Application	EMCS_Internal		FuelCell_OperatingStatus	Int16		1		Main FC Package Statemachine Index (enumeration) 6: Initialization (Initialize) 10: Sleep (Sleep) 14: Wakeup (StartupContainerVentilation) 17: Wakeup (PCwarmWakeup) 19: Wakeup (HydrogenHeaterStartup) 20: Standby (Standby) 30: Startup (BatteryStartup) 40: Startup (NitrogenStartup) 50: Startup (LTCoolantStartup) 60: Startup (MicrogridStartup) 100:Running (Running) 105:Rampdown (RampDownPower) 110:Rampdown		R	Internal mapped			Int16
Logic.Application.EMCS_Internal.FuelCell_OperatingStatusCmd	logic.Application	EMCS_Internal		FuelCell_OperatingStatusCmd	Int16	-	1		Bit Mask Dec 0:Wakeup 1 1:Sleep 2 2:Start 4 3:Stop 8 4:<Spare> 16 5:Reset 32		W	Internal mapped			Int16
Logic.Application.EMCS_Internal.FuelCell_ResidualEnergy	logic.Application	EMCS_Internal		FuelCell_ResidualEnergy	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.GridTied	logic.Application	EMCS_Internal		GridTied	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNAS_ActivePower	logic.Application	EMCS_Internal		HNAS_ActivePower	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.HNAS_Fault	logic.Application	EMCS_Internal		HNAS_Fault	BOOL		1		HOLD 34 FOS		R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNAS_SupplyGuarantee	logic.Application	EMCS_Internal		HNAS_SupplyGuarantee	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNAS_P_GT_GUAR_ActivationTime	logic.Application	EMCS_Internal		HNAS_P_GT_GUAR.ActivationTime	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.HNAS_P_GT_GUAR_IsActive	logic.Application	EMCS_Internal		HNAS_P_GT_GUAR.IsActive	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNAS_P_GT_GUAR_Inertia	logic.Application	EMCS_Internal		HNAS_P_GT_GUAR.Inertia	Int16		1				R	Internal mapped			Int16
Logic.Application.EMCS_Internal.HNAS_P_GT_SURP_ActivationTime	logic.Application	EMCS_Internal		HNAS_P_GT_SURP.ActivationTime	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.HNAS_P_GT_SURP_IsActive	logic.Application	EMCS_Internal		HNAS_P_GT_SURP.IsActive	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNAS_P_GT_SURP_Inertia	logic.Application	EMCS_Internal		HNAS_P_GT_SURP.Inertia	Int16		1				R	Internal mapped			Int16
Logic.Application.EMCS_Internal.HNAS_P_LT_GUAR_ActivationTime	logic.Application	EMCS_Internal		HNAS_P_LT_GUAR.ActivationTime	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.HNAS_P_LT_GUAR_IsActive	logic.Application	EMCS_Internal		HNAS_P_LT_GUAR.IsActive	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNAS_P_LT_GUAR_Inertia	logic.Application	EMCS_Internal		HNAS_P_LT_GUAR.Inertia	Int16		1				R	Internal mapped			Int16
Logic.Application.EMCS_Internal.HNA6_QA1CB_CloseCmd	logic.Application	EMCS_Internal		HNA6_QA1CB_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNA6_QA1CB_OpenCmd	logic.Application	EMCS_Internal		HNA6_QA1CB_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.HNA6_QA1CB_Status	logic.Application	EMCS_Internal		HNA6_QA1CB_Status	SByte		1				R	Internal mapped			SByte
Logic.Application.EMCS_Internal.HNA6_QA1CB_StatusInt	logic.Application	EMCS_Internal		HNA6_QA1CB_StatusInt	SByte		1		Used internally only for simulation/test purpose		R	Internal mapped			SByte
Logic.Application.EMCS_Internal.PlatformSupplyGuarantee	logic.Application	EMCS_Internal		PlatformSupplyGuarantee	BOOL		1		Overall status of the supply guarantee (Operator and WindFarm)		R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.ResidualOperationTime	logic.Application	EMCS_Internal		ResidualOperationTime	Float	hours	1		In emergency mode tells how many seconds the BUPH can operate before going to POWER OUT MODE		R	Internal mapped			Float
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_CloseCmd	logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_Closed	logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_Open	logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_OpenCmd	logic.Application	EMCS_Internal		SG100D1_A1_ELECTROLYZER_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_CloseCmd	logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_Closed	logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_Open	logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_OpenCmd	logic.Application	EMCS_Internal		SG100D1_A2_TR_200ED1_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_CloseCmd	logic.Application	EMCS_Internal		SG100D1_A3_BESS_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_Closed	logic.Application	EMCS_Internal		SG100D1_A3_BESS_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_Open	logic.Application	EMCS_Internal		SG100D1_A3_BESS_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_OpenCmd	logic.Application	EMCS_Internal		SG100D1_A3_BESS_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200ED1_CloseCmd	logic.Application	EMCS_Internal		SG100D1_A4_TR_200ED1_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200ED1_Closed	logic.Application	EMCS_Internal		SG100D1_A4_TR_200ED1_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200ED1_Open	logic.Application	EMCS_Internal		SG100D1_A4_TR_200ED1_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200ED1_OpenCmd	logic.Application	EMCS_Internal		SG100D1_A4_TR_200ED1_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_CloseCmd	logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_Closed	logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_Open	logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_OpenCmd	logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2	logic.Application	EMCS_Internal		SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2	Float		1		Voltage used as feedback for the AVR Transformer		R	Internal mapped			Float
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL CELL_CloseCmd	logic.Application	EMCS_Internal		SG100D1_A7_FUELL CELL_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL CELL_Closed	logic.Application	EMCS_Internal		SG100D1_A7_FUELL CELL_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL CELL_Open	logic.Application	EMCS_Internal		SG100D1_A7_FUELL CELL_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL CELL_OpenCmd	logic.Application	EMCS_Internal		SG100D1_A7_FUELL CELL_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG200D2_CloseCmd	logic.Application	EMCS_Internal		SG200D2_CloseCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG200D2_Closed	logic.Application	EMCS_Internal		SG200D2_Closed	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG200D2_Open	logic.Application	EMCS_Internal		SG200D2_Open	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SG200D2_OpenCmd	logic.Application	EMCS_Internal		SG200D2_OpenCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_ActivePower	logic.Application	EMCS_Internal		SolarFarm_ActivePower	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.SolarFarm_ActivePowerSetPoint	logic.Application	EMCS_Internal		SolarFarm_ActivePowerSetPoint	Float		1				R	Internal mapped			Float
Logic.Application.EMCS_Internal.SolarFarm_ActivePowerSetPointCmd	logic.Application	EMCS_Internal		SolarFarm_ActivePowerSetPointCmd	Float	kW	1	0 : 900	InverterSystem_Current_curtailment_setpoint		W	Internal mapped			Float
Logic.Application.EMCS_Internal.SolarFarm_CB_CloseRequest	logic.Application	EMCS_Internal		SolarFarm_CB_CloseRequest	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_CB_OpenRequest	logic.Application	EMCS_Internal		SolarFarm_CB_OpenRequest	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_Fault	logic.Application	EMCS_Internal		SolarFarm_Fault	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_Healthy	logic.Application	EMCS_Internal		SolarFarm_Healthy	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_Maintenance	logic.Application	EMCS_Internal		SolarFarm_Maintenance	BOOL		1				R	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_OperatingStatus	logic.Application	EMCS_Internal		SolarFarm_OperatingStatus	Int16		1		0: Shutdown, 1: Operating		R	Internal mapped			Int16
Logic.Application.EMCS_Internal.SolarFarm_ShutdownCmd	logic.Application	EMCS_Internal		SolarFarm_ShutdownCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.SolarFarm_StartupCmd	logic.Application	EMCS_Internal		SolarFarm_StartupCmd	BOOL		1				W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.OperatorSupplyGuarantee	logic.Application	EMCS_Internal		OperatorSupplyGuarantee	BOOL		1		Enumeration: 0: Automatic 1: Manual Active 2: Manual Inactive	Automatic: the HNAS Supply Guaranty is applied Manual Active: operator override Manual Inactive: operator override	W	Internal mapped			BOOL
Logic.Application.EMCS_Internal.TotalActivePower	logic.Application	EMCS_Internal		TotalActivePower	Float		1				R	Internal mapped			Float

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_Parameters.BESS_ENERGY_CAPACITY	logic.Application	EMCS_Parameters		BESS_ENERGY_CAPACITY	Float	kWh	1		Total energy that the BESS can store		W	Internal logic			Float
Logic.Application.EMCS_Parameters.BESS_LIMIT_FOR_ADV_LOAD_SHEDDING	logic.Application	EMCS_Parameters		BESS_LIMIT_FOR_ADV_LOAD_SHEDDING	Float	%	1		Level at which the request to load shedding the second group of auxiliaries is sent to the PCS		W	Internal logic			Float
Logic.Application.EMCS_Parameters.BESS_MAXIMUM_CHARGE_SETPOINT	logic.Application	EMCS_Parameters		BESS_MAXIMUM_CHARGE_SETPOINT	Float	kW	1		Max set point that can be applied		W	Internal logic			Float
Logic.Application.EMCS_Parameters.BESS_MAXIMUM_DISCHARGE_START_RESERVE	logic.Application	EMCS_Parameters		BESS_MAXIMUM_DISCHARGE_START_RESERVE	Float	%	1		Request to start BESS discharge only if the BESS charge level is above this threshold		W	Internal logic			Float
Logic.Application.EMCS_Parameters.BESS_MAXIMUM_OPERATING_RESERVE	logic.Application	EMCS_Parameters		BESS_MAXIMUM_OPERATING_RESERVE	Float	%	1		Maximum charge level		W	Internal logic			Float
Logic.Application.EMCS_Parameters.BESS_MINIMUM_CHARGE_START_RESERVE	logic.Application	EMCS_Parameters		BESS_MINIMUM_CHARGE_START_RESERVE	Float	%	1		Request to start BESS charge only if the BESS charge level is below this threshold		W	Internal logic			Float
Logic.Application.EMCS_Parameters.BESS_MINIMUM_OPERATING_RESERVE	logic.Application	EMCS_Parameters		BESS_MINIMUM_OPERATING_RESERVE	Float	%	1		Minimum charge level		W	Internal logic			Float
Logic.Application.EMCS_Parameters.ColdStandBy_Mode_Delay	logic.Application	EMCS_Parameters		ColdStandBy_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.ELECTROLYZER_MAX_SET_POINT	logic.Application	EMCS_Parameters		ELECTROLYZER_MAX_SET_POINT	Float	kW	1		Max set point that can be applied		W	Internal logic			Float
Logic.Application.EMCS_Parameters.ELECTROLYZER_STOP_TIMEOUT	logic.Application	EMCS_Parameters		ELECTROLYZER_STOP_TIMEOUT	Int64	s	1		Max time to wait the electrolyser after sending the stop command		W	Internal logic			Int64
Logic.Application.EMCS_Parameters.Emergency_Mode_Delay	logic.Application	EMCS_Parameters		Emergency_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Export_Mode_Delay	logic.Application	EMCS_Parameters		Export_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.FUEL_CELL_MAXIMUM_SETPOINT	logic.Application	EMCS_Parameters		FUEL_CELL_MAXIMUM_SETPOINT	Float	kW	1		Max set point that can be applied		W	Internal logic			Float
Logic.Application.EMCS_Parameters.HotStandBy_Mode_Delay	logic.Application	EMCS_Parameters		HotStandBy_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Idle_Mode_Delay	logic.Application	EMCS_Parameters		Idle_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Import_Able_Mode_Delay	logic.Application	EMCS_Parameters		Import_Able_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Import_Mode_Delay	logic.Application	EMCS_Parameters		Import_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Import_Not_Able_Mode_Delay	logic.Application	EMCS_Parameters		Import_Not_Able_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Maintenance_Mode_Delay	logic.Application	EMCS_Parameters		Maintenance_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.None_Mode_Delay	logic.Application	EMCS_Parameters		None_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Poweout_Mode_Delay	logic.Application	EMCS_Parameters		Poweout_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.Research_Mode_Delay	logic.Application	EMCS_Parameters		Research_Mode_Delay	Int16	s	1		Inertia to enter the mode		W	Internal logic			Int16
Logic.Application.EMCS_Parameters.SOLAR_FARM_MAXIMUM_SETPOINT	logic.Application	EMCS_Parameters		SOLAR_FARM_MAXIMUM_SETPOINT	Float	kW	1		Max set point that can be applied		W	Internal logic			Float
Logic.Application.EMCS_Parameters.WINDFARM_POWER_COMPARE_HOLD_TIME	logic.Application	EMCS_Parameters		WINDFARM_POWER_COMPARE_HOLD_TIME	Uint16	s	1		Default = 60 seconds. Hysteresis on wind power comparison		W	Internal logic			Uint16
Logic.Application.EMCS_Parameters.WINDFARM_SUPPLY_GUARANTEE_MIN_POWER	logic.Application	EMCS_Parameters		WINDFARM_SUPPLY_GUARANTEE_MIN_POWER	Float	kW	1		Default = 1000		W	Internal logic			Float
Logic.Application.EMCS_Parameters.WINDFARM_SURPLUS_MIN_POWER	logic.Application	EMCS_Parameters		WINDFARM_SURPLUS_MIN_POWER	Float	kW	1		Default = 2000		W	Internal logic			Float
Logic.Application.EMCS_StatusMachine.Current_Mode	logic.Application	EMCS_StatusMachine		Current_Mode	Int16		1		Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_NOT_ABLE_TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH		R	Internal logic			Int16
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_ActiveEnergyExport	logic.Application	Wind_Farm_GVL	HNAS_AFA70	ActiveEnergyExport	INT32	GWh	1		Active Energy Export total		R	OPC-UA	HKNtn.ActiveEnergyExport		INT32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_ActiveEnergyImport	logic.Application	Wind_Farm_GVL	HNAS_AFA70	ActiveEnergyImport	INT32	MWh	1		Active Energy Import total		R	OPC-UA	HKNtn.ActiveEnergyImport		INT32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_ActLimit_PowerBy	logic.Application	Wind_Farm_GVL	HNAS_AFA70	ActLimit_PowerBy	STRING		1				R	OPC-UA	HKNtn.ActivePower		STRING
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_BirdCurtailFB	logic.Application	Wind_Farm_GVL	HNAS_AFA70	BirdCurtailFB	INT32		1				R	OPC-UA	HKNtn.ActLimit_PowerBy		INT32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_Frequency	logic.Application	Wind_Farm_GVL	HNAS_AFA70	Frequency	DOUBLE	Hz	1		Frequency		R	OPC-UA	HKNtn.BirdCurtailFB		DOUBLE
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_LocRemSt	logic.Application	Wind_Farm_GVL	HNAS_AFA70	LocRemSt	INT32		1		"Reflects turbine state 0= Operating on Grid 1= Operating- waiting for converter cut-in 2= Operating- waiting for release 3= Operating- waiting for wind/ acceleration 4= Stopped - pitch exercising/lubrication 5= Stopped - untwisting cables 6= Stopped - Wind Speed too high 7= Stopped - Grid Error 8= Stopped - Error with auto reset (only applicable for WTC2) 9= Stopped - manual alarm reset required 10 = Safety Stop (only applicable for WTC3) 11= Remote Stop"		R	OPC-UA	HKNtn.LocRemSt		
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_OrienStp	logic.Application	Wind_Farm_GVL	HNAS_AFA70	OrienStp	INT32		1		Command to activate/deactivate orientation stop Value = 1 - Deactivate orientation stop Value = 2 - Activate orientation stop. Azimuth and yaw defined by parameters. Value = 101 - (HeliHoist 101) Prepare 90° azimuth and 90° yaw. Must be enabled by sending Rtn with ('HHOSeAct.Value') Value = 102 - (HeliHoist 102) Prepare 30° azimuth and -90° yaw. Must be enabled by sending Rtn with ('HHOSeAct.Value') Value = 110 - (HeliHoist 110) Prepare 0° azimuth and 0° yaw. Must be enabled by sending Rtn with ('HHOSeAct.Value') Value = 111 - (HeliHoist 111) Prepare 0° azimuth and 90° yaw. Must be enabled by sending Rtn with ('HHOSeAct.Value') Value = 112 - (HeliHoist 112) Prepare 0° azimuth and -90° yaw. Must be enabled by sending		R/W	OPC-UA	HKNtn.OrienStp		
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_PowerRef	logic.Application	Wind_Farm_GVL	HNAS_AFA70	PowerRef	Double		1		Turbine power reference (setpoint)		R	OPC-UA	HKNtn.PowerRef		Double
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_PwrAvail	logic.Application	Wind_Farm_GVL	HNAS_AFA70	PwrAvail	Double		1		Estimated Available Power from turbine		R	OPC-UA	HKNtn.PwrAvail		Double
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_ReactiveEnergyExport	logic.Application	Wind_Farm_GVL	HNAS_AFA70	ReactiveEnergyExport	Int32		1		Reactive Energy Export total		R	OPC-UA	HKNtn.ReactiveEnergyExport		Int32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_ReactiveEnergyImport	logic.Application	Wind_Farm_GVL	HNAS_AFA70	ReactiveEnergyImport	Int32		1		Reactive Energy Import total		R	OPC-UA	HKNtn.ReactiveEnergyImport		Int32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_WindDirection	logic.Application	Wind_Farm_GVL	HNAS_AFA70	WindDirection	Int32		1		Geographic wind direction in degrees(0-360). -1 No source		R	OPC-UA	HKNtn.WindDirection		Int32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_WindSpeed	logic.Application	Wind_Farm_GVL	HNAS_AFA70	WindSpeed	Double		1		Turbine wind speed from active wind sensor		R	OPC-UA	HKNtn.WindSpeed		Double
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_WpsStatus	logic.Application	Wind_Farm_GVL	HNAS_AFA70	WpsStatus	Int32		1		State indication from SCADA. Coding: 0=Fault ass 1=Service mode 2=Fault condition 3=No communication to WTC3/STC1 8=No LAN communication			OPC-UA			Int32
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_TurbinePowerRef	logic.Application	Wind_Farm_GVL	HNAS_AFA70	TurbinePowerRef	Double		1		Turbine power reference (setpoint)			OPC-UA			Double
Logic.Application.Wind_Farm_GVL.SupplyGuarantee	logic.Application	Wind_Farm_GVL		SupplyGuarantee			1			Still missing in the source I/O list Indicates the electrical status of the Circuit Breakers between BLPH and offshore substation		OPC-UA	HNAS.SupplyGuarantee		Double
Logic.Application.SG_10001_A7_GVLSG_10001_A7_PHPTOVS_Op	logic.Application	SG_10001_A7_GVL		SG_10001_A7_PHPTOV1_Op	BOOL		1		PROTECTION TRIPPED "59-1"	9010001_A7_FUELL_CELL		IEC-61850			BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original DataType
Logic.Application.EMCS_StatusMachine.Current_SubMode	logic.Application	EMCS_StatusMachine		Current_SubMode	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.Next_Mode	logic.Application	EMCS_StatusMachine		Next_Mode	Int16		1		Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.Next_SubMode	logic.Application	EMCS_StatusMachine		Next_SubMode	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS_PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS_IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS_ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_COLD_STANDBY_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_EMERGENCY_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_EXPORT_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_HOT_STANDBY_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.ExecutorStatus	Int16		1		Enumeration		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_IDLE_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.ExecutorStatus	Int16		1		Enumeration		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_IMPORT_ABLE_TO_CHARGE_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.ExecutorStatus	Int16		1		Enumeration		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_IMPORT_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.FuelCell_GVL.ControlWord	logic.Application	FuelCell_GVL		ControlWord	INT16		1		BitMask Desc		R/W	MODBUS	1001	HOLDING REGISTER	BOOL
Logic.Application.FuelCell_GVL.POWER_SP	logic.Application	FuelCell_GVL		POWER_SP	FLOAT	kW	1	0 - 1200	ExportPower Setpoint kW		R/W	MODBUS	1000	HOLDING REGISTER	INT16
Logic.Application.FuelCell_GVL.10ft-Container_Temperature	logic.Application	FuelCell_GVL		10ft - Container Temperature	INT16	°C	1			Not implemented yet by package	R	MODBUS	1117	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.10ft-Ventilation_Fan Speed	logic.Application	FuelCell_GVL		10ft - Ventilation Fan Speed	INT16	rpm	1			Not implemented yet by package	R	MODBUS	1118	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.40ft-Container_Temperature_2	logic.Application	FuelCell_GVL		40ft - Container Temperature 2	INT16	°C	1			Not implemented yet by package	R	MODBUS	1113	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.40ft-Container_Temperature_3	logic.Application	FuelCell_GVL		40ft - Container Temperature 3	INT16	°C	1			Not implemented yet by package	R	MODBUS	1114	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.40ft-Ventilation_Fan_1_Speed	logic.Application	FuelCell_GVL		40ft - Ventilation Fan 1 Speed	INT16	rpm	1			Not implemented yet by package	R	MODBUS	1115	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.40ft-Ventilation_Fan_2_Speed	logic.Application	FuelCell_GVL		40ft - Ventilation Fan 2 Speed	INT16	rpm	1			Not implemented yet by package	R	MODBUS	1116	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.40ft-Ventilation_Intake_Temperature	logic.Application	FuelCell_GVL		40ft - Ventilation Intake Temperature	INT16	°C	1			Not implemented yet by package	R	MODBUS	1132	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.MainSafetyOK_AID_1001	logic.Application	FuelCell_GVL		MainSafetyOK_AID_1001	BOOL						R	MODBUS	1001 - ALARM 10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.SafetymoduleBusCommsDriverError_AID_1002	logic.Application	FuelCell_GVL		SafetymoduleBusCommsDriverError_AID_1002	BOOL						R	MODBUS	1002 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.ESTOPCustomer_AID_1003	logic.Application	FuelCell_GVL		ESTOPCustomer_AID_1003	BOOL						R	MODBUS	1003 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.ESTOPcontrolCabinet_AID_1004	logic.Application	FuelCell_GVL		ESTOPcontrolCabinet_AID_1004	BOOL						R	MODBUS	1004 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.ESTOPcontainerDoor_AID_1005	logic.Application	FuelCell_GVL		ESTOPcontainerDoor_AID_1005	BOOL						R	MODBUS	1005 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.ESTOPcoolantSkid_AID_1006	logic.Application	FuelCell_GVL		ESTOPcoolantSkid_AID_1006	BOOL						R	MODBUS	1006 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FitBusStatus1_AID_1007	logic.Application	FuelCell_GVL		FitBusStatus1_AID_1007	BOOL						R	MODBUS	1007 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FitBusStatus2_AID_1008	logic.Application	FuelCell_GVL		FitBusStatus2_AID_1008	BOOL						R	MODBUS	1008 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.ESTOP10ft_AID_1009	logic.Application	FuelCell_GVL		ESTOP10ft_AID_1009	BOOL						R	MODBUS	1009 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.DoorRight_10ft_AID_1010	logic.Application	FuelCell_GVL		DoorRight_10ft_AID_1010	BOOL						R	MODBUS	1010 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.DoorLeft_10ft_AID_1011	logic.Application	FuelCell_GVL		DoorLeft_10ft_AID_1011	BOOL						R	MODBUS	1011 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.smokeDetectorIntake_AID_1012	logic.Application	FuelCell_GVL		smokeDetectorIntake_AID_1012	BOOL						R	MODBUS	1012 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.smokeDetectorOutletA_AID_1013	logic.Application	FuelCell_GVL		smokeDetectorOutletA_AID_1013	BOOL						R	MODBUS	1013 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.smokeDetectorOutletB_AID_1014	logic.Application	FuelCell_GVL		smokeDetectorOutletB_AID_1014	BOOL						R	MODBUS	1014 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.smokeDetector10ft_AID_1015	logic.Application	FuelCell_GVL		smokeDetector10ft_AID_1015	BOOL						R	MODBUS	1015 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.hydrogenSensorVentintakeA_AID_1016	logic.Application	FuelCell_GVL		hydrogenSensorVentintakeA_AID_1016	BOOL						R	MODBUS	1016 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.hydrogenSensorOutletMok_AID_1017	logic.Application	FuelCell_GVL		hydrogenSensorOutletMok_AID_1017	BOOL						R	MODBUS	1017 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.hydrogenSensorOutletBok_AID_1018	logic.Application	FuelCell_GVL		hydrogenSensorOutletBok_AID_1018	BOOL						R	MODBUS	1018 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FCwave_1_Error_AID_1019	logic.Application	FuelCell_GVL		FCwave_1_Error_AID_1019	BOOL						R	MODBUS	1019 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FCwave_2_Error_AID_1020	logic.Application	FuelCell_GVL		FCwave_2_Error_AID_1020	BOOL						R	MODBUS	1020 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FCwave_3_Error_AID_1021	logic.Application	FuelCell_GVL		FCwave_3_Error_AID_1021	BOOL						R	MODBUS	1021 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FCwave_4_Error_AID_1022	logic.Application	FuelCell_GVL		FCwave_4_Error_AID_1022	BOOL						R	MODBUS	1022 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FCwave_5_Error_AID_1023	logic.Application	FuelCell_GVL		FCwave_5_Error_AID_1023	BOOL						R	MODBUS	1023 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.FCwave_6_Error_AID_1024	logic.Application	FuelCell_GVL		FCwave_6_Error_AID_1024	BOOL						R	MODBUS	1024 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.HT_Cool_1_Error_AID_1025	logic.Application	FuelCell_GVL		HT_Cool_1_Error_AID_1025	BOOL						R	MODBUS	1025 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.HT_Cool_2_Error_AID_1026	logic.Application	FuelCell_GVL		HT_Cool_2_Error_AID_1026	BOOL						R	MODBUS	1026 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.LT_Cool_Error_AID_1027	logic.Application	FuelCell_GVL		LT_Cool_Error_AID_1027	BOOL						R	MODBUS	1027 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.Microgrid_Error_AID_1028	logic.Application	FuelCell_GVL		Microgrid_Error_AID_1028	BOOL						R	MODBUS	1028 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.Nanogrid_Error_AID_1029	logic.Application	FuelCell_GVL		Nanogrid_Error_AID_1029	BOOL						R	MODBUS	1029 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.Ventilation_Error_AID_1030	logic.Application	FuelCell_GVL		Ventilation_Error_AID_1030	BOOL						R	MODBUS	1030 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.Climate_40ft_Error_AID_1031	logic.Application	FuelCell_GVL		Climate_40ft_Error_AID_1031	BOOL						R	MODBUS	1031 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.Climate_10ft_Error_AID_1032	logic.Application	FuelCell_GVL		Climate_10ft_Error_AID_1032	BOOL						R	MODBUS	1032 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.H2_Heating_Error_AID_1033	logic.Application	FuelCell_GVL		H2_Heating_Error_AID_1033	BOOL						R	MODBUS	1033 - ALARM10	INPUT REGISTER	BOOL
Logic.Application.FuelCell_GVL.Ambient_Temperature	logic.Application	FuelCell_GVL		Ambient_Temperature	FLOAT	°C	1			Not implemented yet by package	R	MODBUS	1142 (Bit Reference 0)	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Aux_AC_power	logic.Application	FuelCell_GVL		Aux_AC_power	INT16	kW	1				R	MODBUS	1230	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Aaparent_Power	logic.Application	FuelCell_GVL		AUX Aaparent Power	FLOAT	kW	1				R	MODBUS	1041	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Current_L1	logic.Application	FuelCell_GVL		AUX Current L1	FLOAT	A	1				R	MODBUS	1141	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Current_L2	logic.Application	FuelCell_GVL		AUX Current L2	FLOAT	A	1				R	MODBUS	1136	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Current_L3	logic.Application	FuelCell_GVL		AUX Current L3	FLOAT	A	1				R	MODBUS	1137	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Frequency	logic.Application	FuelCell_GVL		AUX Frequency	FLOAT	Hz	1				R	MODBUS	1138	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Power	logic.Application	FuelCell_GVL		AUX Power	FLOAT	kW	1				R	MODBUS	1143	INPUT REGISTER	UINT16
Logic.Application.FuelCell_GVL.AUX_Power_Factor	logic.Application	FuelCell_GVL		AUX Power Factor	FLOAT	NA	1				R	MODBUS	1139	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Reactive_Power	logic.Application	FuelCell_GVL		AUX Reactive Power	FLOAT	Kvar	1				R	MODBUS	1142	INPUT REGISTER	INT16
													1140		

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.FuelCell_GVL.AUX_Voltage_L1L2	logic.Application	FuelCell_GVL		AUX Voltage L1L2	FLOAT	V	1				R	MODBUS	1130	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Voltage_L1N	logic.Application	FuelCell_GVL		AUX Voltage L1N	FLOAT	V	1				R	MODBUS	1133	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Voltage_L2L3	logic.Application	FuelCell_GVL		AUX Voltage L2L3	FLOAT	V	1				R	MODBUS	1131	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Voltage_L2N	logic.Application	FuelCell_GVL		AUX Voltage L2N	FLOAT	V	1				R	MODBUS	1134	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Voltage_L3L1	logic.Application	FuelCell_GVL		AUX Voltage L3L1	FLOAT	V	1				R	MODBUS	1132	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.AUX_Voltage_L3N	logic.Application	FuelCell_GVL		AUX Voltage L3N	FLOAT	V	1				R	MODBUS	1135	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Available_Unused_Power_(AUP)	logic.Application	FuelCell_GVL		Available Unused Power (AUP)	INT16	kW	1			Not implemented yet by package	R	MODBUS	1119	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Calculated_Maximum_Power_(CMP)	logic.Application	FuelCell_GVL		Calculated Maximum Power (CMP)	INT16	kW	1			Not implemented yet by package	R	MODBUS	1120	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Container_intake_air_Temperature	logic.Application	FuelCell_GVL		Container intake air Temperature	FLOAT	°C	1				R	MODBUS	1231	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_1	logic.Application	FuelCell_GVL		Error Code 1	INT16	NA	1			Implemented by package	R	MODBUS	1050	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_10	logic.Application	FuelCell_GVL		Error Code 10	INT16	NA	1			Implemented by package	R	MODBUS	1059	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_11	logic.Application	FuelCell_GVL		Error Code 11	INT16	NA	1			Implemented by package	R	MODBUS	1060	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_12	logic.Application	FuelCell_GVL		Error Code 12	INT16	NA	1			Implemented by package	R	MODBUS	1061	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_13	logic.Application	FuelCell_GVL		Error Code 13	INT16	NA	1			Implemented by package	R	MODBUS	1062	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_14	logic.Application	FuelCell_GVL		Error Code 14	INT16	NA	1			Implemented by package	R	MODBUS	1063	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_15	logic.Application	FuelCell_GVL		Error Code 15	INT16	NA	1			Implemented by package	R	MODBUS	1064	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_16	logic.Application	FuelCell_GVL		Error Code 16	INT16	NA	1			Implemented by package	R	MODBUS	1065	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_17	logic.Application	FuelCell_GVL		Error Code 17	INT16	NA	1			Implemented by package	R	MODBUS	1066	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_18	logic.Application	FuelCell_GVL		Error Code 18	INT16	NA	1			Implemented by package	R	MODBUS	1067	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_19	logic.Application	FuelCell_GVL		Error Code 19	INT16	NA	1			Implemented by package	R	MODBUS	1068	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_2	logic.Application	FuelCell_GVL		Error Code 2	INT16	NA	1			Implemented by package	R	MODBUS	1051	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_20	logic.Application	FuelCell_GVL		Error Code 20	INT16	NA	1			Implemented by package	R	MODBUS	1069	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_21	logic.Application	FuelCell_GVL		Error Code 21	INT16	NA	1			Implemented by package	R	MODBUS	1070	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_22	logic.Application	FuelCell_GVL		Error Code 22	INT16	NA	1			Implemented by package	R	MODBUS	1071	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_23	logic.Application	FuelCell_GVL		Error Code 23	INT16	NA	1			Implemented by package	R	MODBUS	1072	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_24	logic.Application	FuelCell_GVL		Error Code 24	INT16	NA	1			Implemented by package	R	MODBUS	1073	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_25	logic.Application	FuelCell_GVL		Error Code 25	INT16	NA	1			Implemented by package	R	MODBUS	1074	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_26	logic.Application	FuelCell_GVL		Error Code 26	INT16	NA	1			Implemented by package	R	MODBUS	1075	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_27	logic.Application	FuelCell_GVL		Error Code 27	INT16	NA	1			Implemented by package	R	MODBUS	1076	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_28	logic.Application	FuelCell_GVL		Error Code 28	INT16	NA	1			Implemented by package	R	MODBUS	1077	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_29	logic.Application	FuelCell_GVL		Error Code 29	INT16	NA	1			Implemented by package	R	MODBUS	1078	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_30	logic.Application	FuelCell_GVL		Error Code 30	INT16	NA	1			Implemented by package	R	MODBUS	1079	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_31	logic.Application	FuelCell_GVL		Error Code 31	INT16	NA	1			Implemented by package	R	MODBUS	1080	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_32	logic.Application	FuelCell_GVL		Error Code 32	INT16	NA	1			Implemented by package	R	MODBUS	1081	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_33	logic.Application	FuelCell_GVL		Error Code 33	INT16	NA	1			Implemented by package	R	MODBUS	1082	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_34	logic.Application	FuelCell_GVL		Error Code 34	INT16	NA	1			Implemented by package	R	MODBUS	1083	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_35	logic.Application	FuelCell_GVL		Error Code 35	INT16	NA	1			Implemented by package	R	MODBUS	1084	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_36	logic.Application	FuelCell_GVL		Error Code 36	INT16	NA	1			Implemented by package	R	MODBUS	1085	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_37	logic.Application	FuelCell_GVL		Error Code 37	INT16	NA	1			Implemented by package	R	MODBUS	1086	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_38	logic.Application	FuelCell_GVL		Error Code 38	INT16	NA	1			Implemented by package	R	MODBUS	1087	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_39	logic.Application	FuelCell_GVL		Error Code 39	INT16	NA	1			Implemented by package	R	MODBUS	1088	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_40	logic.Application	FuelCell_GVL		Error Code 40	INT16	NA	1			Implemented by package	R	MODBUS	1089	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_41	logic.Application	FuelCell_GVL		Error Code 41	INT16	NA	1			Implemented by package	R	MODBUS	1090	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_42	logic.Application	FuelCell_GVL		Error Code 42	INT16	NA	1			Implemented by package	R	MODBUS	1091	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_43	logic.Application	FuelCell_GVL		Error Code 43	INT16	NA	1			Implemented by package	R	MODBUS	1092	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_44	logic.Application	FuelCell_GVL		Error Code 44	INT16	NA	1			Implemented by package	R	MODBUS	1093	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_45	logic.Application	FuelCell_GVL		Error Code 45	INT16	NA	1			Implemented by package	R	MODBUS	1094	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_46	logic.Application	FuelCell_GVL		Error Code 46	INT16	NA	1			Implemented by package	R	MODBUS	1095	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_47	logic.Application	FuelCell_GVL		Error Code 47	INT16	NA	1			Implemented by package	R	MODBUS	1096	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_48	logic.Application	FuelCell_GVL		Error Code 48	INT16	NA	1			Implemented by package	R	MODBUS	1097	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_49	logic.Application	FuelCell_GVL		Error Code 49	INT16	NA	1			Implemented by package	R	MODBUS	1098	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_50	logic.Application	FuelCell_GVL		Error Code 50	INT16	NA	1			Implemented by package	R	MODBUS	1099	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_3	logic.Application	FuelCell_GVL		Error Code 3	INT16	NA	1			Implemented by package	R	MODBUS	1052	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_4	logic.Application	FuelCell_GVL		Error Code 4	INT16	NA	1			Implemented by package	R	MODBUS	1053	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_5	logic.Application	FuelCell_GVL		Error Code 5	INT16	NA	1			Implemented by package	R	MODBUS	1054	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_6	logic.Application	FuelCell_GVL		Error Code 6	INT16	NA	1			Implemented by package	R	MODBUS	1055	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_7	logic.Application	FuelCell_GVL		Error Code 7	INT16	NA	1			Implemented by package	R	MODBUS	1056	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_8	logic.Application	FuelCell_GVL		Error Code 8	INT16	NA	1			Implemented by package	R	MODBUS	1057	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Error_Code_9	logic.Application	FuelCell_GVL		Error Code 9	INT16	NA	1			Implemented by package	R	MODBUS	1058	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Export_AC_Power	logic.Application	FuelCell_GVL		Export AC Power	INT16	kW	1				R	MODBUS	1039	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_+_DC/DC_efficiency	logic.Application	FuelCell_GVL		FC1 + DC/DC efficiency	FLOAT		1			Not implemented yet by package	R	MODBUS	1201	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_DCDC_A_Power	logic.Application	FuelCell_GVL		FC1 DCDC A Power	FLOAT	KW	1				R	MODBUS	1239	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_DCDC_B_Power	logic.Application	FuelCell_GVL		FC1 DCDC B Power	FLOAT	KW	1				R	MODBUS	1240	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_H2_flow_rate	logic.Application	FuelCell_GVL		FC1 H2 flow rate	FLOAT	kg/h	1			Not implemented yet by package	R	MODBUS	1223	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_Hour_Meter	logic.Application	FuelCell_GVL		FC1 Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1230	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC1_shutdown_counter	logic.Application	FuelCell_GVL		FC1 shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1203	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_Stack_Current_String_A	logic.Application	FuelCell_GVL		FC1 Stack Current String A	FLOAT	A	1				R	MODBUS	1236	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_Stack_Current_String_B	logic.Application	FuelCell_GVL		FC1 Stack Current String B	FLOAT	A	1				R	MODBUS	1237	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_stack_lifetime_produced_energy	logic.Application	FuelCell_GVL		FC1 stack lifetime produced energy	FLOAT	kwh	1			Not implemented yet by package	R	MODBUS	1209	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC1_Stack_Power	logic.Application	FuelCell_GVL		FC1 Stack Power	FLOAT	kw	1				R	MODBUS	1238	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_Stack_Voltage_String_A	logic.Application	FuelCell_GVL		FC1 Stack Voltage StringA	FLOAT	V	1				R	MODBUS	1238	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_Stack_Voltage_String_B	logic.Application	FuelCell_GVL		FC1 Stack Voltage StringB	FLOAT	V	1				R	MODBUS	1239	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_start_counter	logic.Application	FuelCell_GVL		FC1 start counter	INT16		1			Not implemented yet by package	R	MODBUS	1296	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC1_State	logic.Application	FuelCell_GVL		FC1_State	INT16		1		Fuel Cell Module #1 Statemachine Index (enumeration)		R	MODBUS	1001	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_+_DC/DC_efficiency	logic.Application	FuelCell_GVL		FC2 + DC/DC efficiency	FLOAT		1			Not implemented yet by package	R	MODBUS	1204	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_DCDC_A_Power	logic.Application	FuelCell_GVL		FC2 DCDC A Power	FLOAT	KW	1				R	MODBUS	1242	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_DCDC_B_Power	logic.Application	FuelCell_GVL		FC2 DCDC B Power	FLOAT	KW	1				R	MODBUS	1243	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_H2_flow_rate	logic.Application	FuelCell_GVL		FC2 H2 flow rate	FLOAT	kg/h	1			Not implemented yet by package	R	MODBUS	1224	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_Hour_Meter	logic.Application	FuelCell_GVL		FC2 Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1232	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC2_shutdown_counter	logic.Application	FuelCell_GVL		FC2 shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1104	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_Stack_Current_String_A	logic.Application	FuelCell_GVL		FC2 Stack Current String A	FLOAT	A	1				R	MODBUS	1260	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_Stack_Current_String_B	logic.Application	FuelCell_GVL		FC2 Stack Current String B	FLOAT	A	1				R	MODBUS	1261	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_stack_lifetime_produced_energy	logic.Application	FuelCell_GVL		FC2 stack lifetime produced energy	FLOAT	kwh	1			Not implemented yet by package	R	MODBUS	1211	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC2_Stack_Power	logic.Application	FuelCell_GVL		FC2 Stack Power	FLOAT	KW	1				R	MODBUS	1241	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_Stack_Voltage_String_A	logic.Application	FuelCell_GVL		FC2 Stack Voltage StringA	FLOAT	V	1				R	MODBUS	1262	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_Stack_Voltage_String_B	logic.Application	FuelCell_GVL		FC2 Stack Voltage StringB	FLOAT	V	1				R	MODBUS	1263	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_start_counter	logic.Application	FuelCell_GVL		FC2 start counter	INT16		1			Not implemented yet by package	R	MODBUS	1297	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC2_State	logic.Application	FuelCell_GVL		FC2_State	INT16		1		Fuel Cell Module #2 Statemachine Index		R	MODBUS	1002	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_+_DC/DC_efficiency	logic.Application	FuelCell_GVL		FC3 + DC/DC efficiency	FLOAT		1			Not implemented yet by package	R	MODBUS	1205	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_DCDC_A_Power	logic.Application	FuelCell_GVL		FC3 DCDC A Power	FLOAT	KW	1				R	MODBUS	1245	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_DCDC_B_Power	logic.Application	FuelCell_GVL		FC3 DCDC B Power	FLOAT	KW	1				R	MODBUS	1246	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_H2_flow_rate	logic.Application	FuelCell_GVL		FC3 H2 flow rate	FLOAT	kg/h	1			Not implemented yet by package	R	MODBUS	1225	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_Hour_Meter	logic.Application	FuelCell_GVL		FC3 Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1284	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC3_shutdown_counter	logic.Application	FuelCell_GVL		FC3 shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1305	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_Stack_Current_String_A	logic.Application	FuelCell_GVL		FC3 Stack Current String A	FLOAT	A	1				R	MODBUS	1264	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_Stack_Current_String_B	logic.Application	FuelCell_GVL		FC3 Stack Current String B	FLOAT	A	1				R	MODBUS	1265	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_stack_lifetime_produced_energy	logic.Application	FuelCell_GVL		FC3 stack lifetime produced energy	FLOAT	kwh	1			Not implemented yet by package	R	MODBUS	1213	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC3_Stack_Power	logic.Application	FuelCell_GVL		FC3 Stack Power	FLOAT	KW	1				R	MODBUS	1244	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_Stack_Voltage_String_A	logic.Application	FuelCell_GVL		FC3 Stack Voltage StringA	FLOAT	V	1				R	MODBUS	1266	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_Stack_Voltage_String_B	logic.Application	FuelCell_GVL		FC3 Stack Voltage StringB	FLOAT	V	1				R	MODBUS	1267	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_start_counter	logic.Application	FuelCell_GVL		FC3 start counter	INT16		1			Not implemented yet by package	R	MODBUS	1298	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC3_State	logic.Application	FuelCell_GVL		FC3_State	INT16		1		Fuel Cell Module #3 Statemachine Index		R	MODBUS	1003	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_+_DC/DC_efficiency	logic.Application	FuelCell_GVL		FC4 + DC/DC efficiency	FLOAT		1			Not implemented yet by package	R	MODBUS	1206	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_DCDC_A_Power	logic.Application	FuelCell_GVL		FC4 DCDC A Power	FLOAT	KW	1				R	MODBUS	1248	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_DCDC_B_Power	logic.Application	FuelCell_GVL		FC4 DCDC B Power	FLOAT	KW	1				R	MODBUS	1249	INPUT REGISTER	INT16

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.FuelCell_GVL.FC4_H2_flow_rate	logic.Application	FuelCell_GVL		FC4 H2 flow rate	FLOAT	kg/h	1			Not implemented yet by package	R	MODBUS	1226	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC4_Hour_Meter	logic.Application	FuelCell_GVL		FC4 Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1286	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC4_shutdown_counter	logic.Application	FuelCell_GVL		FC4 shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1306	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_Stack_Current_String_A	logic.Application	FuelCell_GVL		FC4 Stack Current String A	FLOAT	A	1				R	MODBUS	1268	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_Stack_Current_String_B	logic.Application	FuelCell_GVL		FC4 Stack Current String B	FLOAT	A	1				R	MODBUS	1269	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_stack_lifetime_produced_energy	logic.Application	FuelCell_GVL		FC4 stack lifetime produced energy	FLOAT	kwh	1			Not implemented yet by package	R	MODBUS	1215	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC4_Stack_Power	logic.Application	FuelCell_GVL		FC4 Stack Power	FLOAT		1				R	MODBUS	1247	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_Stack_Voltage_String_A	logic.Application	FuelCell_GVL		FC4 Stack Voltage StringA	FLOAT	V	1				R	MODBUS	1270	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_Stack_Voltage_String_B	logic.Application	FuelCell_GVL		FC4 Stack Voltage StringB	FLOAT	V	1				R	MODBUS	1271	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_start_counter	logic.Application	FuelCell_GVL		FC4 start counter	INT16		1			Not implemented yet by package	R	MODBUS	1299	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC4_State	logic.Application	FuelCell_GVL		FC4_State	INT16		1		Fuel Cell Module #4 Statemachine Index		R	MODBUS	1004	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_+_DC/DC_efficiency	logic.Application	FuelCell_GVL		FC5 + DC/DC efficiency	FLOAT		1			Not implemented yet by package	R	MODBUS	1207	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_DCDC_A_Power	logic.Application	FuelCell_GVL		FC5 DCDC A Power	FLOAT	KW	1				R	MODBUS	1251	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_DCDC_B_Power	logic.Application	FuelCell_GVL		FC5 DCDC B Power	FLOAT	KW	1				R	MODBUS	1252	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_H2_flow_rate	logic.Application	FuelCell_GVL		FC5 H2 flow rate	FLOAT	kg/h	1			Not implemented yet by package	R	MODBUS	1227	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_Hour_Meter	logic.Application	FuelCell_GVL		FC5 Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1288	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC5_shutdown_counter	logic.Application	FuelCell_GVL		FC5 shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1307	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_Stack_Current_String_A	logic.Application	FuelCell_GVL		FC5 Stack Current String A	FLOAT	A	1				R	MODBUS	1272	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_Stack_Current_String_B	logic.Application	FuelCell_GVL		FC5 Stack Current String B	FLOAT	A	1				R	MODBUS	1273	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_stack_lifetime_produced_energy	logic.Application	FuelCell_GVL		FC5 stack lifetime produced energy	FLOAT	kwh	1			Not implemented yet by package	R	MODBUS	1217	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC5_Stack_Power	logic.Application	FuelCell_GVL		FC5 Stack Power	FLOAT		1				R	MODBUS	1250	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_Stack_Voltage_String_A	logic.Application	FuelCell_GVL		FC5 Stack Voltage StringA	FLOAT	V	1				R	MODBUS	1274	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_Stack_Voltage_String_B	logic.Application	FuelCell_GVL		FC5 Stack Voltage StringB	FLOAT	V	1				R	MODBUS	1275	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_start_counter	logic.Application	FuelCell_GVL		FC5 start counter	INT16		1			Not implemented yet by package	R	MODBUS	1300	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC5_State	logic.Application	FuelCell_GVL		FC5_State	INT16		1		Fuel Cell Module #5 Statemachine Index		R	MODBUS	1005	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_+_DC/DC_efficiency	logic.Application	FuelCell_GVL		FC6 + DC/DC efficiency	FLOAT		1			Not implemented yet by package	R	MODBUS	1208	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_DCDC_A_Power	logic.Application	FuelCell_GVL		FC6 DCDC A Power	FLOAT	KW	1				R	MODBUS	1254	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_DCDC_B_Power	logic.Application	FuelCell_GVL		FC6 DCDC B Power	FLOAT	KW	1				R	MODBUS	1255	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_H2_flow_rate	logic.Application	FuelCell_GVL		FC6 H2 flow rate	FLOAT	kg/h	1			Not implemented yet by package	R	MODBUS	1228	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_Hour_Meter	logic.Application	FuelCell_GVL		FC6 Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1290	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC6_shutdown_counter	logic.Application	FuelCell_GVL		FC6 shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1308	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_Stack_Current_String_A	logic.Application	FuelCell_GVL		FC6 Stack Current String A	FLOAT	A	1			Not implemented yet by package	R	MODBUS	1276	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_Stack_Current_String_B	logic.Application	FuelCell_GVL		FC6 Stack Current String B	FLOAT	A	1			Not implemented yet by package	R	MODBUS	1277	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_stack_lifetime_produced_energy	logic.Application	FuelCell_GVL		FC6 stack lifetime produced energy	FLOAT	kwh	1			Not implemented yet by package	R	MODBUS	1219	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.FC6_Stack_Power	logic.Application	FuelCell_GVL		FC6 Stack Power	FLOAT	KW	1				R	MODBUS	1253	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_Stack_Voltage_String_A	logic.Application	FuelCell_GVL		FC6 Stack Voltage StringA	FLOAT	V	1			Not implemented yet by package	R	MODBUS	1278	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_Stack_Voltage_String_B	logic.Application	FuelCell_GVL		FC6 Stack Voltage StringB	FLOAT	V	1			Not implemented yet by package	R	MODBUS	1279	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_start_counter	logic.Application	FuelCell_GVL		FC6 start counter	INT16		1			Not implemented yet by package	R	MODBUS	1301	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FC6_State	logic.Application	FuelCell_GVL		FC6_State	INT16		1		Fuel Cell Module #6 Statemachine Index		R	MODBUS	1006	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCM_RUNNING	logic.Application	FuelCell_GVL		FCM_RUNNING	INT16		1		Number of Fuel Cell Modules Producing Power		R	MODBUS	1016	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_1_DCDC_A_Power	logic.Application	FuelCell_GVL		FCWave 1 DCDC A Power	FLOAT	KW	1				R	MODBUS	1021	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_1_DCDC_B_Power	logic.Application	FuelCell_GVL		FCWave 1 DCDC B Power	FLOAT	KW	1				R	MODBUS	1022	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_1_Power_Internal	logic.Application	FuelCell_GVL		FCWave 1 Power Internal	FLOAT		1			Not implemented yet by package	R	MODBUS	1020	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_2_DCDC_A_Power	logic.Application	FuelCell_GVL		FCWave 2 DCDC A Power	FLOAT	KW	1				R	MODBUS	1024	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_2_DCDC_B_Power	logic.Application	FuelCell_GVL		FCWave 2 DCDC B Power	FLOAT	KW	1				R	MODBUS	1025	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_2_Power_Internal	logic.Application	FuelCell_GVL		FCWave 2 Power Internal	FLOAT		1			Not implemented yet by package	R	MODBUS	1023	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_3_DCDC_A_Power	logic.Application	FuelCell_GVL		FCWave 3 DCDC A Power	FLOAT	KW	1				R	MODBUS	1027	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_3_DCDC_B_Power	logic.Application	FuelCell_GVL		FCWave 3 DCDC B Power	FLOAT	KW	1				R	MODBUS	1028	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_3_Power_Internal	logic.Application	FuelCell_GVL		FCWave 3 Power Internal	FLOAT		1			Not implemented yet by package	R	MODBUS	1026	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_4_DCDC_A_Power	logic.Application	FuelCell_GVL		FCWave 4 DCDC A Power	FLOAT	KW	1				R	MODBUS	1030	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_4_DCDC_B_Power	logic.Application	FuelCell_GVL		FCWave 4 DCDC B Power	FLOAT	KW	1				R	MODBUS	1031	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_4_Power_Internal	logic.Application	FuelCell_GVL		FCWave 4 Power Internal	FLOAT		1			Not implemented yet by package	R	MODBUS	1029	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_5_DCDC_A_Power	logic.Application	FuelCell_GVL		FCWave 5 DCDC A Power	FLOAT	KW	1				R	MODBUS	1033	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_5_DCDC_B_Power	logic.Application	FuelCell_GVL		FCWave 5 DCDC B Power	FLOAT	KW	1				R	MODBUS	1034	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_5_Power_Internal	logic.Application	FuelCell_GVL		FCWave 5 Power Internal	FLOAT		1			Not implemented yet by package	R	MODBUS	1032	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_6_DCDC_A_Power	logic.Application	FuelCell_GVL		FCWave 6 DCDC A Power	FLOAT	KW	1				R	MODBUS	1036	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_6_DCDC_B_Power	logic.Application	FuelCell_GVL		FCWave 6 DCDC B Power	FLOAT	KW	1				R	MODBUS	1037	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.FCWave_6_Power_Internal	logic.Application	FuelCell_GVL		FCWave 6 Power Internal	FLOAT		1			Not implemented yet by package	R	MODBUS	1035	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.H2_Consumption_Status_Word	logic.Application	FuelCell_GVL		H2 Consumption Status Word	UINT		1		Bitmask. Each bit (n) indicates that the FCn is consuming	Not implemented yet by package	R	MODBUS	1229	INPUT REGISTER	WORD
Logic.Application.FuelCell_GVL.HT1_Coolant_Forward_Temperature	logic.Application	FuelCell_GVL		HT1 Coolant Forward Temperature	FLOAT	°C	1				R	MODBUS	1235	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT1_Coolant_Return_Temperature	logic.Application	FuelCell_GVL		HT1 Coolant Return Temperature	FLOAT	°C	1				R	MODBUS	1234	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT1_Coolant_Return_Temperature	logic.Application	FuelCell_GVL		HT1 - Coolant Return Temperature	FLOAT	°C	1				R	MODBUS	1102	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT1-Flowrate	logic.Application	FuelCell_GVL		HT1 - Flowrate	FLOAT	m3 * h	1				R	MODBUS	1110	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT1-Pump_Inlet_Temperature	logic.Application	FuelCell_GVL		HT1 - Pump Inlet Temperature	FLOAT	°C	1				R	MODBUS	1101	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT1-Pump_RPM	logic.Application	FuelCell_GVL		HT1 - Pump RPM	INT16	rpm	1			Not implemented yet by package	R	MODBUS	1103	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT2_Coolant_Forward_Temperature	logic.Application	FuelCell_GVL		HT2 Coolant Forward Temperature	FLOAT	°C	1				R	MODBUS	1237	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT2_Coolant_Return_Temperature	logic.Application	FuelCell_GVL		HT2 Coolant Return Temperature	FLOAT	°C	1				R	MODBUS	1236	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT2-Coolant_Return_Temperature	logic.Application	FuelCell_GVL		HT2 - Coolant Return Temperature	INT16	°C	1			Not implemented yet by package	R	MODBUS	1104	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT2-Flowrate	logic.Application	FuelCell_GVL		HT2 - Flowrate	INT16	m3 * h	1			Not implemented yet by package	R	MODBUS	1105	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT2-Pump_Inlet_Temperature	logic.Application	FuelCell_GVL		HT2 - Pump Inlet Temperature	INT16	°C	1			Not implemented yet by package	R	MODBUS	1105	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.HT2-Pump_RPM	logic.Application	FuelCell_GVL		HT2 - Pump RPM	INT16	rpm	1			Not implemented yet by package	R	MODBUS	1107	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Inhibits_Status_Word	logic.Application	FuelCell_GVL		Inhibits Status Word	INT16		1		Informing that the FC cannot start	To be developed by package	R	MODBUS	1017	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.LT_Coolant_Return_Temperature	logic.Application	FuelCell_GVL		LT Coolant Return Temperature	FLOAT	°C	1				R	MODBUS	1232	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.LT_Cooling_Forward_Temperature	logic.Application	FuelCell_GVL		LT Cooling Forward Temperature	FLOAT	°C	1				R	MODBUS	1233	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.LT-Coolant_Forward_Temperature	logic.Application	FuelCell_GVL		LT - Coolant Forward Temperature	INT16	°C	1			Not implemented yet by package	R	MODBUS	1109	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.LT-Coolant_Return_Temperature	logic.Application	FuelCell_GVL		LT - Coolant Return Temperature	INT16	°C	1			Not implemented yet by package	R	MODBUS	1108	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.LT-Flowrate	logic.Application	FuelCell_GVL		LT - Flowrate	INT16	m3 * h	1			Not implemented yet by package	R	MODBUS	1130	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.LT-Pump_RPM	logic.Application	FuelCell_GVL		LT - Pump RPM	INT16	rpm	1			Not implemented yet by package	R	MODBUS	1131	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Busbar_Voltage_L1L2	logic.Application	FuelCell_GVL		Main Busbar Voltage L1L2	FLOAT	V	1				R	MODBUS	1324	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Busbar_Voltage_L1N	logic.Application	FuelCell_GVL		Main Busbar Voltage L1N	FLOAT	V	1				R	MODBUS	1327	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Busbar_Voltage_L2L3	logic.Application	FuelCell_GVL		Main Busbar Voltage L2L3	FLOAT	V	1				R	MODBUS	1325	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Busbar_Voltage_L2N	logic.Application	FuelCell_GVL		Main Busbar Voltage L2N	FLOAT	V	1				R	MODBUS	1328	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Busbar_Voltage_L3L1	logic.Application	FuelCell_GVL		Main Busbar Voltage L3L1	FLOAT	V	1				R	MODBUS	1326	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Busbar_Voltage_L3N	logic.Application	FuelCell_GVL		Main Busbar Voltage L3N	FLOAT	V	1				R	MODBUS	1329	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Apparent_Power	logic.Application	FuelCell_GVL		Main Output Apparent Power	FLOAT	KVA	1				R	MODBUS	1321	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Current_L1	logic.Application	FuelCell_GVL		Main Output Current L1	INT16	A	1				R	MODBUS	1316	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Current_L2	logic.Application	FuelCell_GVL		Main Output Current L2	INT16	A	1				R	MODBUS	1317	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Current_L3	logic.Application	FuelCell_GVL		Main Output Current L3	INT16	A	1				R	MODBUS	1318	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Frequency	logic.Application	FuelCell_GVL		Main Output Frequency	FLOAT	Hz	1				R	MODBUS	1323	INPUT REGISTER	UINT16
Logic.Application.FuelCell_GVL.Main_Output_Power	logic.Application	FuelCell_GVL		Main Output Power	FLOAT	KW	1				R	MODBUS	1319	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Power_Factor	logic.Application	FuelCell_GVL		Main Output Power Factor	FLOAT		1				R	MODBUS	1322	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Reactive_Power	logic.Application	FuelCell_GVL		Main Output Reactive Power	FLOAT	kvar	1				R	MODBUS	1320	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Voltage_L1L2	logic.Application	FuelCell_GVL		Main Output Voltage L1L2	FLOAT	v	1				R	MODBUS	1310	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Voltage_L1N	logic.Application	FuelCell_GVL		Main Output Voltage L1N	FLOAT	v	1				R	MODBUS	1313	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Voltage_L2L3	logic.Application	FuelCell_GVL		Main Output Voltage L2L3	FLOAT	v	1				R	MODBUS	1311	INPUT REGISTER	INT16

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.FuelCell_GVL.Main_Output_Voltage_L2N	logic.Application	FuelCell_GVL		Main Output Voltage L2N	FLOAT	v	1				R	MODBUS	1334	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Voltage_L3L1	logic.Application	FuelCell_GVL		Main Output Voltage L3L1	FLOAT	v	1				R	MODBUS	1332	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Main_Output_Voltage_L3N	logic.Application	FuelCell_GVL		Main Output Voltage L3N	FLOAT	v	1				R	MODBUS	1335	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Nanogrid_AC_Power	logic.Application	FuelCell_GVL		Nanogrid AC Power	INT16	kw	1			Not implemented yet by package	R	MODBUS	1040	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Nanogrid_Power	logic.Application	FuelCell_GVL		Nanogrid Power	FLOAT	kw-DC	1			Not implemented yet by package	R	MODBUS	1344	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.Operating_state	logic.Application	FuelCell_GVL		Operating state	INT16		1			Not implemented yet by package	R	MODBUS	1121	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.P_MAX	logic.Application	FuelCell_GVL		P_MAX	INT16	kw	1		Total Capacity of FC Package		R	MODBUS	1013	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.P_OPTIMIZED	logic.Application	FuelCell_GVL		P_OPTIMIZED	INT16		1		Fuel Efficiest Power Point	Not implemented yet by package	R	MODBUS	1014	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.PLC_ON_Hour_Meter	logic.Application	FuelCell_GVL		PlC ON Hour Meter	FLOAT		1			Not implemented yet by package	R	MODBUS	1294	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.StateMain	logic.Application	FuelCell_GVL		StateMain	INT16		1		Main FC Package Statemachine Index (enumeration) 6: Initialization (Initialize) 10: Sleep (Sleep) 14: Wakeup (StartupContainerVentilation) 17: Wakeup (FCwaveWakeup) 19: Wakeup (HydrogenHeaterStartup) 20: Standby (Standby) 30: Startup (BatteryStartup) 40: Startup (NanogridStartup) 50: Startup (LTCoolerStartup) 60: Startup (MicrogridStartup) 100:Running (Running) 105:Rampdown (RampDownPower) 110:Rampdown (MicrogridShutdown) 120:Rampdown (ChargeBattery) 130:Rampdown (ShutdownFCwaves)		R	MODBUS	1000	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.System_efficiency	logic.Application	FuelCell_GVL		System efficiency	FLOAT		1	[0.0 : 1.0]	+/- 5% ACCURACY	Not implemented yet by package	R	MODBUS	1202	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.System_lifetime_produced_energy	logic.Application	FuelCell_GVL		System lifetime produced energy	UINT32	kWh	1			Not implemented yet by package	R	MODBUS	1221	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.System_ON_Hour_Meter	logic.Application	FuelCell_GVL		System ON Hour Meter	FLOAT	hrs	1			Not implemented yet by package	R	MODBUS	1292	INPUT REGISTER	UINT32
Logic.Application.FuelCell_GVL.System_shutdown_counter	logic.Application	FuelCell_GVL		System shutdown counter	INT16		1		ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1309	INPUT REGISTER	INT16
Logic.Application.FuelCell_GVL.System_start_counter	logic.Application	FuelCell_GVL		System start counter	INT16		1			Not implemented yet by package	R	MODBUS	1302	INPUT REGISTER	INT16
Logic.Application.BIPH_EW100_GVL.BUH_EW100_M1CH1_LCCH1_ChUv	logic.Application	BUH_EW100_GVL	BUH_EW100	M1CH1_LCCH1_ChUv	BOOL		1		Status	Physical channel status (Station bus)	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_M1CH1_LCCH1_RedChUv	logic.Application	BUH_EW100_GVL	BUH_EW100	M1CH1_LCCH1_RedChUv	BOOL		1		Status	Physical channel status (redundant channel (Station bus)	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_M2CH1_LCCH1_ChUv	logic.Application	BUH_EW100_GVL	BUH_EW100	M2CH1_LCCH1_ChUv	BOOL		1		Status	Physical channel status (Process bus)	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_M2CH1_LCCH1_RedChUv	logic.Application	BUH_EW100_GVL	BUH_EW100	M2CH1_LCCH1_RedChUv	BOOL		1		Status	Physical channel status of redundant channel (Process bus)	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_LPHD0_PhyHealth	logic.Application	BUH_EW100_GVL	BUH_EW100	LPHD0_PhyHealth	DINT		1		Status	IED physical device health	R	IEC-61850			DINT
Logic.Application.BIPH_EW100_GVL.BUH_EW100_LTMSGGIO0_Ind001	logic.Application	BUH_EW100_GVL	BUH_EW100	LTMSGGIO0_Ind001	BOOL		1		Status	Time synchronized	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_LHRGGIO0_HexHh	logic.Application	BUH_EW100_GVL	BUH_EW100	LHRGGIO0_HexHh	DINT		1		Status	Memory fail alarm	R	IEC-61850			DINT
Logic.Application.BIPH_EW100_GVL.BUH_EW100_LLNGGIO0_Health	logic.Application	BUH_EW100_GVL	BUH_EW100	LLNGGIO0_Health	DINT		1		Status	Process bus processor fail alarm	R	IEC-61850			DINT
Logic.Application.BIPH_EW100_GVL.BUH_EW100_CALH1_GrAlm	logic.Application	BUH_EW100_GVL	BUH_EW100	CALH1_GrAlm	BOOL		1		Status	Sampled value Sub. fail alarm	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_LLNGGIO0_Ind001	logic.Application	BUH_EW100_GVL	BUH_EW100	LLNGGIO0_Ind001	BOOL		1		Status	IED Loda/Remote Status	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_USERGGIO1_Ind001	logic.Application	BUH_EW100_GVL	BUH_EW100	USERGGIO1_Ind001	BOOL		1		Status	7S85 Relay Failure	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTRC1_Op	logic.Application	BUH_EW100_GVL	BUH_EW100	PTRC1_Op	BOOL		1		Status	Level 1 87T pick-up General	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTRC1_Str	logic.Application	BUH_EW100_GVL	BUH_EW100	PTRC1_Str	BOOL		1		Status	Level 1 87T operation General	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PDIF1_Op	logic.Application	BUH_EW100_GVL	BUH_EW100	PDIF1_Op	BOOL		1		Status	Level 1 87N pick-up General	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PDIF1_Str	logic.Application	BUH_EW100_GVL	BUH_EW100	PDIF1_Str	BOOL		1		Status	Level 1 87N operation General	R	IEC-61850			BOOL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_phsA_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_phsA_mag	REAL		1		Measure	TR 1st side(FDR_P1) A Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_phsB_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_phsB_mag	REAL		1		Measure	TR 1st side(FDR_P1) B Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_phsC_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_phsC_mag	REAL		1		Measure	TR 1st side(FDR_P1) B Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_res_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_res_mag	REAL		1		Measure	TR 1st side(FDR_P1) B Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_phsA_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_phsA_ang	REAL		1		Measure	TR 1st side(FDR_P1) C Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_phsB_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_phsB_ang	REAL		1		Measure	TR 1st side(FDR_P1) C Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_phsC_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_phsC_ang	REAL		1		Measure	TR 1st side(FDR_P1) N Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU1_A_res_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU1_A_res_ang	REAL		1		Measure	TR 1st side(FDR_P1) N Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_phsA_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_phsA_mag	REAL		1		Measure	TR 1st side(FDR_P2) A Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_phsB_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_phsB_mag	REAL		1		Measure	TR 1st side(FDR_P2) A Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_phsC_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_phsC_mag	REAL		1		Measure	TR 1st side(FDR_P2) B Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_res_mag	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_res_mag	REAL		1		Measure	TR 1st side(FDR_P2) B Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_phsA_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_phsA_ang	REAL		1		Measure	TR 1st side(FDR_P2) C Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_phsB_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_phsB_ang	REAL		1		Measure	TR 1st side(FDR_P2) C Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_phsC_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_phsC_ang	REAL		1		Measure	TR 1st side(FDR_P2) N Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_VI3p2MMXU1_A_res_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	VI3p2MMXU1_A_res_ang	REAL		1		Measure	TR 1st side(FDR_P2) N Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_phsA	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_phsA	REAL		1		Measure	TR 2nd side A Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_phsB	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_phsB	REAL		1		Measure	TR 2nd side A Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_phsC	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_phsC	REAL		1		Measure	TR 2nd side B Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_res	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_res	REAL		1		Measure	TR 2nd side B Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_phsA_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_phsA_ang	REAL		1		Measure	TR 2nd side C Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_phsB_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_phsB_ang	REAL		1		Measure	TR 2nd side C Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_phsC_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_phsC_ang	REAL		1		Measure	TR 2nd side N Phase currents magnitude	R	IEC-61850			REAL
Logic.Application.BIPH_EW100_GVL.BUH_EW100_PTSMMXU2_A_res_ang	logic.Application	BUH_EW100_GVL	BUH_EW100	PTSMMXU2_A_res_ang	REAL		1		Measure	TR 2nd side N Phase currents angle	R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_M1CH1_LCCH2_ChUv	logic.Application	BUH_EW200_GVL	BUH_EW200	M1CH1_LCCH2_ChUv	BOOL		1		Status	Physical channel status (Station bus) EMCS	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_M1CH1_LCCH2_RedChUv	logic.Application	BUH_EW200_GVL	BUH_EW200	M1CH1_LCCH2_RedChUv	BOOL		1		Status	Physical channel status of redundant channel (Station bus) EMCS	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_M4CH1_LCCH3_ChUv	logic.Application	BUH_EW200_GVL	BUH_EW200	M4CH1_LCCH3_ChUv	BOOL		1		Status	Physical channel status (Station bus) HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_M4CH1_LCCH3_RedChUv	logic.Application	BUH_EW200_GVL	BUH_EW200	M4CH1_LCCH3_RedChUv	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_M2CH1_LCCH1_ChUv	logic.Application	BUH_EW200_GVL	BUH_EW200	M2CH1_LCCH1_ChUv	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_M2CH1_LCCH1_RedChUv	logic.Application	BUH_EW200_GVL	BUH_EW200	M2CH1_LCCH1_RedChUv	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_LPHD0_PhyHealth_DINT	logic.Application	BUH_EW200_GVL	BUH_EW200	LPHD0_PhyHealth_DINT	DINT		1		Status		R	IEC-61850			DINT
Logic.Application.BIPH_EW200_GVL.BUH_EW200_LTMSGGIO0_TmSynErr	logic.Application	BUH_EW200_GVL	BUH_EW200	LTMSGGIO0_TmSynErr	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_GOOSECALH1_GrAlm	logic.Application	BUH_EW200_GVL	BUH_EW200	GOOSECALH1_GrAlm	DINT		1		Status		R	IEC-61850			DINT
Logic.Application.BIPH_EW200_GVL.BUH_EW200_LPHDGGIO0_FltDskHlth	logic.Application	BUH_EW200_GVL	BUH_EW200	LPHDGGIO0_FltDskHlth	DINT		1		Status		R	IEC-61850			DINT
Logic.Application.BIPH_EW200_GVL.BUH_EW200_LLN0_Health_DINT	logic.Application	BUH_EW200_GVL	BUH_EW200	LLN0_Health_DINT	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_COMSUPCALH1_GrAlm	logic.Application	BUH_EW200_GVL	BUH_EW200	COMSUPCALH1_GrAlm	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_LLNGGIO0_LocKey	logic.Application	BUH_EW200_GVL	BUH_EW200	LLNGGIO0_LocKey	BOOL		1		Status		W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_On	BOOL		1		Control		W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_Off	BOOL		1		Control		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_Status	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_Status	BOOL		1		Status		W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_On_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_On_HMI	BOOL		1		Control		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_Off_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_Off_HMI	BOOL		1		Control		W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_Intermediate	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_Intermediate	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_On	BOOL		1		Status		W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_Off	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C1SCSWI4_Pos_Bad	logic.Application	BUH_EW200_GVL	BUH_EW200	C1SCSWI4_Pos_Bad	BOOL		1		Status		W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1CSWI1_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1CSWI1_Pos_On	BOOL		1		Control		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1CSWI1_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1CSWI1_Pos_Off	BOOL		1		Control		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1CSWI1_Pos_Status	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1CSWI1_Pos_Status	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1CSWI1_Pos_On_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1CSWI1_Pos_On_HMI	BOOL		1		Control		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1CSWI1_Pos_Off_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1CSWI1_Pos_Off_HMI	BOOL		1		Control		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC2CSWI2_Pos_Intermediate	logic.Application	BUH_EW200_GVL	BUH_EW200	DC2CSWI2_Pos_Intermediate	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC2CSWI2_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	DC2CSWI2_Pos_On	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC2CSWI2_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	DC2CSWI2_Pos_Off	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC2CSWI2_Pos_Bad	logic.Application	BUH_EW200_GVL	BUH_EW200	DC2CSWI2_Pos_Bad	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC4CSWI4_Pos_Intermediate	logic.Application	BUH_EW200_GVL	BUH_EW200	DC4CSWI4_Pos_Intermediate	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC4CSWI4_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	DC4CSWI4_Pos_On	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC4CSWI4_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	DC4CSWI4_Pos_Off	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC4CSWI4_Pos_Bad	logic.Application	BUH_EW200_GVL	BUH_EW200	DC4CSWI4_Pos_Bad	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC3CSWI3_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	DC3CSWI3_Pos_On	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC3CSWI3_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	DC3CSWI3_Pos_Off	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC3CSWI3_Pos_Status	logic.Application	BUH_EW200_GVL	BUH_EW200	DC3CSWI3_Pos_Status	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC3CSWI3_Pos_On_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	DC3CSWI3_Pos_On_HMI	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC3CSWI3_Pos_Off_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	DC3CSWI3_Pos_Off_HMI	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C8CSCSWI6_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	C8CSCSWI6_Pos_On	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C8CSCSWI6_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	C8CSCSWI6_Pos_Off	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C8CSCSWI6_Pos_Status	logic.Application	BUH_EW200_GVL	BUH_EW200	C8CSCSWI6_Pos_Status	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C8CSCSWI6_Pos_On_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	C8CSCSWI6_Pos_On_HMI	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_C8CSCSWI6_Pos_Off_HMI	logic.Application	BUH_EW200_GVL	BUH_EW200	C8CSCSWI6_Pos_Off_HMI	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1XSWI1_Pos_Intermediate	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1XSWI1_Pos_Intermediate	BOOL		1		Status	DS Q291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1XSWI1_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1XSWI1_Pos_On	BOOL		1		Status	DS Q291 status For HV SCADA	W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1XSWI1_Pos_Off	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1XSWI1_Pos_Off	BOOL		1		Status	DS Q291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC1XSWI1_Pos_Bad	logic.Application	BUH_EW200_GVL	BUH_EW200	DC1XSWI1_Pos_Bad	BOOL		1		Status	DS Q291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUH_EW200_DC2CSWI2_Pos_On	logic.Application	BUH_EW200_GVL	BUH_EW200	DC2CSWI2_Pos_On	BOOL		1		Control	DS Q292 control For HV SCADA	R	IEC-61850			BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC2CSW12_Pos_Off	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC2CSW12_Pos_Off	BOOL		1		Control	DS CJ292 control For HV-SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC2CSW12_Pos_Status	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC2CSW12_Pos_Status	BOOL		1		Status	DS CJ292 status For HV-SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC2CSW12_Pos_On_HMI	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC2CSW12_Pos_On_HMI	BOOL		1		Control	DS CJ292 control For HV-SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC2CSW12_Pos_Off_HMI	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC2CSW12_Pos_Off_HMI	BOOL		1		Control	DS CJ292 control For HV-SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC3CSW13_Pos_Intermediate	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC3CSW13_Pos_Intermediate	BOOL		1		Status	ES CJ291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC3CSW13_Pos_On	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC3CSW13_Pos_On	BOOL		1		Status	ES CJ291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC3CSW13_Pos_Off	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC3CSW13_Pos_Off	BOOL		1		Status	ES CJ291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC3CSW13_Pos_Bad	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC3CSW13_Pos_Bad	BOOL		1		Status	ES CJ291 status For HV SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC4CSW15_Pos_On	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC4CSW15_Pos_On	BOOL		1		Control	ES CJ292 control For HV-SCADA	W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC4CSW15_Pos_Off	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC4CSW15_Pos_Off	BOOL		1		Control	ES CJ292 control For HV-SCADA	W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC4CSW15_Pos_Status	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC4CSW15_Pos_Status	BOOL		1		Status	ES CJ292 status For HV-SCADA	R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC4CSW15_Pos_On_HMI	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC4CSW15_Pos_On_HMI	BOOL		1		Control	ES CJ292 control For HV-SCADA	W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.DC4CSW15_Pos_Off_HMI	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	DC4CSW15_Pos_Off_HMI	BOOL		1		Control	ES CJ292 control For HV-SCADA	W	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP5	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP5	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP51	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP51	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP52	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP52	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP53	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP53	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP54	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP54	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP55	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP55	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP56	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP56	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP57	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP57	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP58	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP58	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP59	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP59	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP510	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP510	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP511	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP511	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP512	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP512	BOOL		1		Status		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP513	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP513	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP514	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP514	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP515	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP515	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP516	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP516	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP517	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP517	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP518	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP518	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP519	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP519	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP520	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP520	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP521	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP521	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP522	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP522	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP523	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP523	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP524	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP524	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SPC_On	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SPC_On	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SPC_Off	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SPC_Off	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SPC_Status	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SPC_Status	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SPC_On_HMI	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SPC_On_HMI	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SPC_Off_HMI	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SPC_Off_HMI	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP525	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP525	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP526	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP526	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP527	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP527	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP528	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP528	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP529	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP529	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP530	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP530	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP532_RxChUv	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP532_RxChUv	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP533_RxRedChUv	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP533_RxRedChUv	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_InInt001_RxPhyHealth	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_InInt001_RxPhyHealth	DINT		1		Measure		R	IEC-61850			DINT
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_InInt002_RxTmSyn	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_InInt002_RxTmSyn	DINT		1		Measure		R	IEC-61850			DINT
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP534_RxInd005	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP534_RxInd005	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP535_RxInd032	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP535_RxInd032	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP536_RxInd030	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP536_RxInd030	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP537_RxInd025C1	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP537_RxInd025C1	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP538_RxInd021SC1	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP538_RxInd021SC1	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP539_RxInd025C1	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP539_RxInd025C1	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP540_RxInd025C2	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP540_RxInd025C2	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP541_RxInd021SC2	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP541_RxInd021SC2	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP542_RxInd025C2	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP542_RxInd025C2	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP543_RxInd025C3	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP543_RxInd025C3	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP544_RxInd021SC3	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP544_RxInd021SC3	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP545_RxInd025C3	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP545_RxInd025C3	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP546_RxInd025C4	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP546_RxInd025C4	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP547_RxInd021SC4	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP547_RxInd021SC4	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.USERGGO1_SP548_RxInd025C4	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	USERGGO1_SP548_RxInd025C4	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.OCbphase1IDPTOC1_Op	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	OCbphase1IDPTOC1_Op	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.OCbphase1IIPTOC1_Str	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	OCbphase1IIPTOC1_Str	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.OCbphase1IIPTOC1_Op	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	OCbphase1IIPTOC1_Op	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.NOCandA1NPTOC1_Str	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	NOCandA1NPTOC1_Str	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.NOCandA1NPTOC1_Op	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	NOCandA1NPTOC1_Op	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.NOCandPHA1PTPC1_Str	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	NOCandPHA1PTPC1_Str	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.NOCandPHA1PTPC1_Op	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	NOCandPHA1PTPC1_Op	BOOL		1		Measure		R	IEC-61850			BOOL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PPV_phsAB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PPV_phsAB_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PPV_phsBC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PPV_phsBC_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PPV_phsCA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PPV_phsCA_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_phsA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_phsA_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_phsB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_phsB_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_phsC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_phsC_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_res_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_res_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PPV_phsAB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PPV_phsAB_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PPV_phsBC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PPV_phsBC_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PPV_phsCA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PPV_phsCA_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_phsA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_phsA_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_phsB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_phsB_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_phsC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_phsC_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_res_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_res_Mag	REAL		1		Measure		R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PPV_phsAB_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PPV_phsAB_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PPV_phsBC_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PPV_phsBC_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PPV_phsCA_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PPV_phsCA_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_phsA_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_phsA_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_phsB_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_phsB_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_phsC_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_phsC_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0J3_PhV_res_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0J3_PhV_res_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PPV_phsAB_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PPV_phsAB_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PPV_phsBC_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PPV_phsBC_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PPV_phsCA_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PPV_phsCA_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_phsA_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_phsA_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_phsB_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_phsB_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_phsC_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_phsC_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV2MM0J1_PhV_res_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV2MM0J1_PhV_res_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.PREVE1MM0U1_TotW	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	PREVE1MM0U1_TotW	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.PREVE1MM0U1_TotVAr	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	PREVE1MM0U1_TotVAr	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.PREVE1MM0U1_TotVA	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	PREVE1MM0U1_TotVA	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.PREVE1MM0U1_TotPF	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	PREVE1MM0U1_TotPF	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.PREVE1MM0U1_Hz	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	PREVE1MM0U1_Hz	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PPV_phsAB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PPV_phsAB_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PPV_phsBC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PPV_phsBC_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PPV_phsCA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PPV_phsCA_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PhV_phsA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PhV_phsA_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PhV_phsB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PhV_phsB_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PhV_phsC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PhV_phsC_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PhV_res_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PhV_res_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_A_phsA_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_A_phsA_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_A_phsB_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_A_phsB_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_A_phsC_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_A_phsC_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_A_res_Mag	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_A_res_Mag	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PPV_phsAB_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PPV_phsAB_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PPV_phsBC_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PPV_phsBC_Ang	REAL						R	IEC-61850			REAL
Logic.Application.BIPH_EW200_GVL.BUPH_EW200.FIREV1MM0U1_PPV_phsCA_Ang	Logic.Application	BUPH_EW200_GVL	BUPH_EW200	FIREV1MM0U1_PPV_phsCA_Ang

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original DataType
Logic.Application.BPH_EW200_GVL.BUH_EW200.XPREV1MMTR1_SupWh	logic.Application	BUH_EW200.GVL	BUH_EW200	XPREV1MMTR1_SupWh	LINT		1				R	IEC-61850			LINT
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_TotW	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_TotW	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_TotVAr	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_TotVAr	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_TotVA	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_TotVA	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_TotPF	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_TotPF	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_Hz	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_Hz	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PPV_phsAB_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PPV_phsAB_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PPV_phsBC_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PPV_phsBC_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PPV_phsCA_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PPV_phsCA_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_phsA_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_phsA_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_phsB_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_phsB_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_phsC_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_phsC_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_res_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_res_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_phsA_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_phsA_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_phsB_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_phsB_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_phsC_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_phsC_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_res_Mag	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_res_Mag	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PPV_phsAB_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PPV_phsAB_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PPV_phsBC_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PPV_phsBC_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PPV_phsCA_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PPV_phsCA_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_phsA_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_phsA_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_phsB_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_phsB_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_phsC_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_phsC_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_PhV_res_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_PhV_res_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_phsA_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_phsA_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_phsB_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_phsB_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_phsC_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_phsC_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_A_res_Ang	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_A_res_Ang	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_W_phsA	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_W_phsA	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_W_phsB	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_W_phsB	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_W_phsC	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_W_phsC	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_VAr_phsA	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_VAr_phsA	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_VAr_phsB	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_VAr_phsB	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW200_GVL.BUH_EW200.PPREV2MMXU1_VAr_phsC	logic.Application	BUH_EW200.GVL	BUH_EW200	PPREV2MMXU1_VAr_phsC	REAL		1				R	IEC-61850			REAL
Logic.Application.BPH_EW300_GVL.BUH_EW200.XPREV2MMTR1_DmdWh	logic.Application	BUH_EW200.GVL	BUH_EW200	XPREV2MMTR1_DmdWh	LINT		1				R	IEC-61850			LINT
Logic.Application.BPH_EW200_GVL.BUH_EW200.XPREV2MMTR1_SupVArh	logic.Application	BUH_EW200.GVL	BUH_EW200	XPREV2MMTR1_SupVArh	LINT		1				R	IEC-61850			LINT
Logic.Application.BPH_EW200_GVL.BUH_EW200.XPREV2MMTR1_DmdVArh	logic.Application	BUH_EW200.GVL	BUH_EW200	XPREV2MMTR1_DmdVArh	LINT		1				R	IEC-61850			LINT
Logic.Application.BPH_EW200_GVL.BUH_EW200.XPREV2MMTR1_SupWh	logic.Application	BUH_EW200.GVL	BUH_EW200	XPREV2MMTR1_SupWh	LINT		1				R	IEC-61850			LINT
Logic.Application.SG_100D1.A2_TR_200ED1.PPREV2MMXU1_PPV_phsBC_Mag	logic.Application	SG_100D1	A2_TR_200ED1	PPREV2MMXU1_PPV_phsBC_Mag	BOOL		1				R	IEC-61850			BOOL
Logic.Application.SG_100D1.FREV2MMXU1_PPV_phsBC_Ang	logic.Application	SG_100D1		PPREV2MMXU1_PPV_phsBC_Ang	BOOL		1				R	IEC-61850			BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PPV_phsAB_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PPV_phsAB_Mag	BOOL		1		PROTECTION TRIPPED "51-1"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PPV_phsAB_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PPV_phsAB_Ang	BOOL		1		PROTECTION TRIPPED "51-1"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_res_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_res_Mag	BOOL		1		PROTECTION TRIPPED "51N"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_res_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_res_Ang	BOOL		1		PROTECTION TRIPPED "51N"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_phsC_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_phsC_Mag	BOOL		1		PROTECTION TRIPPED "27-1"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_phsC_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_phsC_Ang	BOOL		1		PROTECTION TRIPPED "59-1"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_phsB_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_phsB_Mag	BOOL		1		SELECTOR SWITCH IN LOCAL POSITION		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_phsB_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_phsB_Ang	BOOL		1		SELECTOR SWITCH IN REMOTE POSITION		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_phsA_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_phsA_Mag	FLOAT		1		Line Current L1 (L1)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU1_PhV_phsA_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU1_PhV_phsA_Ang	FLOAT		1		Line Current L1 (L1)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PPV_phsCA_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PPV_phsCA_Mag	FLOAT		1		Line Current L3 (L3)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PPV_phsCA_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PPV_phsCA_Ang	FLOAT		1		Line Volts (L3-L1)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PPV_phsBC_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PPV_phsBC_Mag	FLOAT		1		Line Volts (L2-L3)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PPV_phsBC_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PPV_phsBC_Ang	FLOAT		1		Line Volts (L2-L3)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PPV_phsAB_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PPV_phsAB_Mag	FLOAT		1		Frequency		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PPV_phsAB_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PPV_phsAB_Ang	FLOAT		1		APPARENT POWER (kVA)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PhV_res_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PhV_res_Mag	FLOAT		1		REAL POWER (kW)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PhV_res_Ang	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PhV_res_Ang	FLOAT		1		REACTIVE POWER (kVAR)		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV2MMXU3_PhV_phsC_Mag	logic.Application	SG_100D1_A1_GVL		PPREV2MMXU3_PhV_phsC_Mag	FLOAT		1		POWER FACTOR		SG100D1_A1_ELECTROYZER				FLOAT
Logic.Application.SG_100D1_A1_GVL.FREV1MMXU3_PhV_phsC_Ang	logic.Application	SG_100D1_A1_GVL		PPREV1MMXU3_PhV_phsC_Ang	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV1MMXU3_PhV_phsB_Mag	logic.Application	SG_100D1_A1_GVL		PPREV1MMXU3_PhV_phsB_Mag	BOOL		1		TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV1MMXU3_PhV_phsB_Ang	logic.Application	SG_100D1_A1_GVL		PPREV1MMXU3_PhV_phsB_Ang	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OIL PRESSURE"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV1MMXU3_PhV_phsA_Mag	logic.Application	SG_100D1_A1_GVL		PPREV1MMXU3_PhV_phsA_Mag	BOOL		1		TRANSFORMER PROTECTION ALARM "OIL PRESSURE"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.FREV1MMXU3_PhV_phsA_Ang	logic.Application	SG_100D1_A1_GVL		PPREV1MMXU3_PhV_phsA_Ang	BOOL		1		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4XSWI4_Pos_On	logic.Application	SG_100D1_A1_GVL		DC4XSWI4_Pos_On	BOOL		1		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE"		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4XSWI4_Pos_Off	logic.Application	SG_100D1_A1_GVL		DC4XSWI4_Pos_Off	BOOL		1		WATCHDOG PROTECTION RELAY		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4XSWI4_Pos_Intermediate	logic.Application	SG_100D1_A1_GVL		DC4XSWI4_Pos_Intermediate	BOOL		1		VT. HEALTHY CIRCUIT		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4XSWI4_Pos_Bad	logic.Application	SG_100D1_A1_GVL		DC4XSWI4_Pos_Bad	BOOL		1		INTERTRIP SEND TO L.V. SWITCHBOARD		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4CSWI5_Pos_Status	logic.Application	SG_100D1_A1_GVL		DC4CSWI5_Pos_Status	BOOL		1		63B TRIPPED		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4CSWI5_Pos_On_HMI	logic.Application	SG_100D1_A1_GVL		DC4CSWI5_Pos_On_HMI	BOOL		1		C.B. CLOSED AND INSERTED		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4CSWI5_Pos_On	logic.Application	SG_100D1_A1_GVL		DC4CSWI5_Pos_On	BOOL		1		C.B. OPENED OR ISOLATED		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4CSWI5_Pos_Off_HMI	logic.Application	SG_100D1_A1_GVL		DC4CSWI5_Pos_Off_HMI	BOOL		1		MCB'S CLOSED		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC4CSWI5_Pos_Off	logic.Application	SG_100D1_A1_GVL		DC4CSWI5_Pos_Off	BOOL		1		C.B. READY (TCS)		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC3XSWI3_Pos_On	logic.Application	SG_100D1_A1_GVL		DC3XSWI3_Pos_On	BOOL		1		C.B. READY TO CLOSE		SG100D1_A1_ELECTROYZER				BOOL
Logic.Application.SG_100D1_A1_GVL.DC3XSWI3_Pos_Off	logic.Application	SG_100D1_A1_GVL		DC3XSWI3_Pos_Off	BOOL		1		OPENING COMMAND - On Command		SG100D1_A1_ELECTROYZER			W	BOOL
Logic.Application.SG_100D1_A1_GVL.DC3XSWI3_Pos_Intermediate	logic.Application	SG_100D1_A1_GVL		DC3XSWI3_Pos_Intermediate	BOOL		1		OPENING COMMAND - Off Command		SG100D1_A1_ELECTROYZER			W	BOOL
Logic.Application.SG_100D1_A1_GVL.DC3XSWI3_Pos_Bad	logic.Application	SG_100D1_A1_GVL		DC3XSWI3_Pos_Bad	BOOL		1		CLOSING COMMAND - On Command		SG100D1_A1_ELECTROYZER			W	BOOL
Logic.Application.SG_100D1_A1_GVL.DC3CSWI3_Pos_Status	logic.Application	SG_100D1_A1_GVL		DC3CSWI3_Pos_Status	BOOL		1		CLOSING COMMAND - Off Command		SG100D1_A1_ELECTROYZER			W	BOOL
Logic.Application.SG_100D1_A1_GVL.DC3CSWI3_Pos_On_HMI	logic.Application	SG_100D1_A1_GVL		DC3CSWI3_Pos_On_HMI	BOOL		1		63B RESET COMMAND - On Command		SG100D1_A1_ELECTROYZER			W	BOOL
Logic.Application.SG_100D1_A1_GVL.DC3CSWI3_Pos_On	logic.Application	SG_100D1_A1_GVL		DC3CSWI3_Pos_On	BOOL		1		63B RESET COMMAND - Off Command		SG100D1_A1_ELECTROYZER			W	BOOL
Logic.Application.SG_100D1_A1_GVL.DC3CSWI3_Pos_Off_HMI	logic.Application	SG_100D1_A1_GVL		DC3CSWI3_Pos_Off_HMI	BOOL		1		PROTECTION RELAY UNIT HEALTHY		SG100D1_A1_ELECTROYZER			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2XSWI2_Pos_Off	logic.Application	SG_100D1_A2_GVL		DC2XSWI2_Pos_Off	BOOL		1		PROTECTION TRIPPED "51-1"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2XSWI2_Pos_On	logic.Application	SG_100D1_A2_GVL		DC2XSWI2_Pos_On	BOOL		1		PROTECTION TRIPPED "51-1"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_Off	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_Off	BOOL		1		PROTECTION TRIPPED "51N"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_Intermediate	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_Intermediate	BOOL		1		EARCHING "DC"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_Bad	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_Bad	BOOL		1		PROTECTION TRIPPED "59N-1"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_Status	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_Status	BOOL		1		PROTECTION TRIPPED "59N-2"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_On_HMI	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_On_HMI	BOOL		1		PROTECTION TRIPPED "27-1"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_On	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_On	BOOL		1		PROTECTION TRIPPED "27-2"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_Off_HMI	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_Off_HMI	BOOL		1		PROTECTION TRIPPED "59-1"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC2CSWI2_Pos_Off	logic.Application	SG_100D1_A2_GVL		DC2CSWI2_Pos_Off	BOOL		1		PROTECTION TRIPPED "59-2"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC1XSWI1_Pos_On	logic.Application	SG_100D1_A2_GVL		DC1XSWI1_Pos_On	BOOL		1		PROTECTION TRIPPED "67-1"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC1XSWI1_Pos_Off	logic.Application	SG_100D1_A2_GVL		DC1XSWI1_Pos_Off	BOOL		1		PROTECTION TRIPPED "67-2"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC1XSWI1_Pos_Intermediate	logic.Application	SG_100D1_A2_GVL		DC1XSWI1_Pos_Intermediate	BOOL		1		SELECTOR SWITCH IN LOCAL POSITION		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC1XSWI1_Pos_Bad	logic.Application	SG_100D1_A2_GVL		DC1XSWI1_Pos_Bad	BOOL		1		SELECTOR SWITCH IN REMOTE POSITION		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.DC1CSWI1_Pos_Status	logic.Application	SG_100D1_A2_GVL		DC1CSWI1_Pos_Status	FLOAT		1		Line Current (L1)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.DC1CSWI1_Pos_On_HMI	logic.Application	SG_100D1_A2_GVL		DC1CSWI1_Pos_On_HMI	FLOAT		1		Line Current (L2)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.DC1CSWI1_Pos_On	logic.Application	SG_100D1_A2_GVL		DC1CSWI1_Pos_On	FLOAT		1		Line Current (L3)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.DC1CSWI1_Pos_Off_HMI	logic.Application	SG_100D1_A2_GVL		DC1CSWI1_Pos_Off_HMI	FLOAT		1		Line Volts (L1-L2)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.DC1CSWI1_Pos_Off	logic.Application	SG_100D1_A2_GVL		DC1CSWI1_Pos_Off	FLOAT		1		Line Volts (L2-L3)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.COMSUPCALH1_GrAlm	logic.Application	SG_100D1_A2_GVL		COMSUPCALH1_GrAlm	FLOAT		1		Line Volts (L3-L1)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.CB1CSCSW16_Pos_Status	logic.Application	SG_100D1_A2_GVL		CB1CSCSW16_Pos_Status	FLOAT		1		Frequency		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.CB1CSCSW16_Pos_On_HMI	logic.Application	SG_100D1_A2_GVL		CB1CSCSW16_Pos_On_HMI	FLOAT		1		APPARENT POWER (kVA)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.CB1CSCSW16_Pos_On	logic.Application	SG_100D1_A2_GVL		CB1CSCSW16_Pos_On	FLOAT		1		REAL POWER (kW)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.CB1CSCSW16_Pos_Off_HMI	logic.Application	SG_100D1_A2_GVL		CB1CSCSW16_Pos_Off_HMI	FLOAT		1		REACTIVE POWER (kVAR)		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.CB1CSCSW16_Pos_Off	logic.Application	SG_100D1_A2_GVL		CB1CSCSW16_Pos_Off	FLOAT		1		POWER FACTOR		SG100D1_A2_TR_200ED1			R	FLOAT
Logic.Application.SG_100D1_A2_GVL.CB1XSWI4_Pos_On	logic.Application	SG_100D1_A2_GVL		CB1XCSWI4_Pos_On	BOOL		1		TRANSFORMER PROTECTION TRIPPED "TEMPERATURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1XSWI4_Pos_Off	logic.Application	SG_100D1_A2_GVL		CB1XCSWI4_Pos_Off	BOOL		1		TRANSFORMER PROTECTION ALARM "TEMPERATURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1XSWI4_Pos_Intermediate	logic.Application	SG_100D1_A2_GVL		CB1XCSWI4_Pos_Intermediate	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1XSWI4_Pos_Bad	logic.Application	SG_100D1_A2_GVL		CB1XCSWI4_Pos_Bad	BOOL		1		TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1CSWI4_Pos_Status	logic.Application	SG_100D1_A2_GVL		CB1CSWI4_Pos_Status	BOOL		1		TRANSFORMER PROTECTION TRIP "OLI PRESSURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1CSWI4_Pos_On_HMI	logic.Application	SG_100D1_A2_GVL		CB1CSWI4_Pos_On_HMI	BOOL		1		TRANF. OIL LEVEL VERY LOW ALARM		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1CSWI4_Pos_On	logic.Application	SG_100D1_A2_GVL		CB1CSWI4_Pos_On	BOOL		1		TRANF. PROTECTION TRIPPED "WINDING TEMPERATURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1CSWI4_Pos_Off_HMI	logic.Application	SG_100D1_A2_GVL		CB1CSWI4_Pos_Off_HMI	BOOL		1		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE"		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.CB1CSWI4_Pos_Off	logic.Application	SG_100D1_A2_GVL		CB1CSWI4_Pos_Off	BOOL		1		TRANSF. GENERAL ALARM		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_LPH01_PhyHealth	logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_LPH01_PhyHealth	BOOL		1		WATCHDOG PROTECTION RELAY		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind2	logic.Application	SG_100D1_A2_GVL		SG_100D1_A2_SCBIGGIO1_Ind2	BOOL		1		VT. HEALTHY CIRCUIT		SG100D1_A2_TR_200ED1			R	BOOL
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_MVGAPC2_SPCSO1	logic.Application	SG_10001_A2_GVL		SG_10001_A2_MVGAPC2_SPCSO1	BOOL		1		Contactor READY TO CLOSE	SG10001_A2_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SPCGAPC2_SPCSO02_On	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SPCGAPC2_SPCSO02_On	BOOL		1		OPENING COMMAND - On Command	SG10001_A2_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SPCGAPC2_SPCSO02_Off	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SPCGAPC2_SPCSO02_Off	BOOL		1		OPENING COMMAND - Off Command	SG10001_A2_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SPCGAPC1_SPCSO01_On	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SPCGAPC1_SPCSO01_On	BOOL		1		CLOSING COMMAND - On Command	SG10001_A2_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SPCGAPC1_SPCSO01_Off	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SPCGAPC1_SPCSO01_Off	BOOL		1		CLOSING COMMAND - Off Command	SG10001_A2_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SPCGAPC1_SPCSO03_On	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SPCGAPC1_SPCSO03_On	BOOL		1		KB/RESET COMMAND - On Command	SG10001_A2_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SPCGAPC1_SPCSO03_Off	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SPCGAPC1_SPCSO03_Off	BOOL		1		KB/RESET COMMAND - Off Command	SG10001_A2_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SCBIGGIO1_Ind8	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SCBIGGIO1_Ind8	BOOL	-	1		PROTECTION RELAY UNIT1 HEALTHY	SG10001_A2_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A2_GVLSG_1000.1_A2_SCBIGGIO1_Ind9	logic.Application	SG_10001_A2_GVL		SG_10001_A2_SCBIGGIO1_Ind9	BOOL	-	1		SELECTOR SWITCH OF OVERRIDE IN DEFY OFF (ISOLATED)	SG10001_A2_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PHPTOC1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PHPTOC1_Op	BOOL	-	1		PROTECTION TRIPPED "50-1"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PHLPTOC1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PHIPTOC1_Op	BOOL	-	1		PROTECTION TRIPPED "51-1"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_EFIPTOC1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_EFLPTOC1_Op	BOOL	-	1		PROTECTION TRIPPED "51N"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_LEDGGIO1_Ind3	logic.Application	SG_10001_A3_GVL		SG_10001_A3_LEDGGIO1_Ind3	BOOL	-	1		SYNCHRO "OK"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_ROVPTOV1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_ROVPTOV1_Op	BOOL	-	1		PROTECTION TRIPPED "59N-1"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_ROVPTOV2_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_ROVPTOV2_Op	BOOL	-	1		PROTECTION TRIPPED "59N-2"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PHPTUV1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PHPTUV1_Op	BOOL	-	1		PROTECTION TRIPPED "27-1"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PHPTUV2_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PHPTUV2_Op	BOOL	-	1		PROTECTION TRIPPED "27-2"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PHPTOV1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PHPTOV1_Op	BOOL	-	1		PROTECTION TRIPPED "59-1"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PHPTOV2_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PHPTOV2_Op	BOOL	-	1		PROTECTION TRIPPED "59-2"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_DPHLPTOC1_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_DPHLPTOC1_Op	BOOL	-	1		PROTECTION TRIPPED "67-1"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_DPHLPTOC2_Op	logic.Application	SG_10001_A3_GVL		SG_10001_A3_DPHLPTOC2_Op	BOOL	-	1		PROTECTION TRIPPED "67-2"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC1_SPCSO6	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC1_SPCSO6	BOOL	-	1		SELECTOR SWITCH IN LOCAL POSITION	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC1_SPCSO7	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC1_SPCSO7	BOOL	-	1		SELECTOR SWITCH IN REMOTE POSITION	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_CMMXU1_A_phsA	logic.Application	SG_10001_A3_GVL		SG_10001_A3_CMMXU1_A_phsA	FLOAT	A	1		Line Current (L1)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_CMMXU1_A_phsB	logic.Application	SG_10001_A3_GVL		SG_10001_A3_CMMXU1_A_phsB	FLOAT	A	1		Line Current (L2)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_CMMXU1_A_phsC	logic.Application	SG_10001_A3_GVL		SG_10001_A3_CMMXU1_A_phsC	FLOAT	A	1		Line Current (L3)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_VMMXU1_PPV_phsAB	logic.Application	SG_10001_A3_GVL		SG_10001_A3_VMMXU1_PPV_phsAB	FLOAT	V	1		Line Volts (L1-L2)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_VMMXU1_PPV_phsBC	logic.Application	SG_10001_A3_GVL		SG_10001_A3_VMMXU1_PPV_phsBC	FLOAT	V	1		Line Volts (L2-L3)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_VMMXU1_PPV_phsCA	logic.Application	SG_10001_A3_GVL		SG_10001_A3_VMMXU1_PPV_phsCA	FLOAT	V	1		Line Volts (L3-L1)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_FMMXU1_Hz	logic.Application	SG_10001_A3_GVL		SG_10001_A3_FMMXU1_Hz	FLOAT	Hz	1		Frequency	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PEMMXU1_TotVA	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PEMMXU1_TotVA	FLOAT	kVA	1		APPARENT POWER (kVA)	SG10001_A3_BESS	R	IEC-61850			Analog
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PEMMXU1_TotW	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PEMMXU1_TotW	FLOAT	kW	1		REAL POWER (kW)	SG10001_A3_BESS	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PEMMXU1_TotVAr	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PEMMXU1_TotVAr	FLOAT	kVAR	1		REACTIVE POWER (kVAR)	SG10001_A3_BESS	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_PEMMXU1_TotPF	logic.Application	SG_10001_A3_GVL		SG_10001_A3_PEMMXU1_TotPF	FLOAT	COSFI	1		POWER FACTOR	SG10001_A3_BESS	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SCBIGGIO1_Ind34	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SCBIGGIO1_Ind34	BOOL	-	1		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SCBIGGIO1_Ind33	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SCBIGGIO1_Ind33	BOOL	-	1		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE"	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_LPHD1_PhyHealth	logic.Application	SG_10001_A3_GVL		SG_10001_A3_LPHD1_PhyHealth	BOOL	-	1		MV SWGEAR PROTECTION RELAY	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SCBIGGIO1_Ind2	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SCBIGGIO1_Ind2	BOOL	-	1		VT - HEALTHY CIRCUIT	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC1_SPCSO4	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC1_SPCSO4	BOOL	-	1		EXTERTTIP SEND TO LV SWITCHBOARD	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SBBIGGIO1_Ind7	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SBBIGGIO1_Ind7	BOOL	-	1		XFR TRIPPED	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC1_SPCSO8	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC1_SPCSO8	BOOL	-	1		Contactor CLOSED AND INSERTED	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC1_SPCSO2	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC1_SPCSO2	BOOL	-	1		Contactor OPENED OR EARTHED	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC2_SPCSO3	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC2_SPCSO3	BOOL	-	1		MOPS CLOSED	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_TCSSCBR1_CircAlm	logic.Application	SG_10001_A3_GVL		SG_10001_A3_TCSSCBR1_CircAlm	BOOL	-	1		Contactor READY (TCS)	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_MVGAPC2_SPCSO1	logic.Application	SG_10001_A3_GVL		SG_10001_A3_MVGAPC2_SPCSO1	BOOL	-	1		Contactor READY TO CLOSE	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SPCGAPC2_SPCSO02_On	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SPCGAPC2_SPCSO02_On	BOOL	-	1		OPENING COMMAND - On Command	SG10001_A3_BESS	W	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SPCGAPC2_SPCSO02_Off	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SPCGAPC2_SPCSO02_Off	BOOL		1		OPENING COMMAND - Off Command	SG10001_A3_BESS	W	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SPCGAPC1_SPCSO01_On	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SPCGAPC1_SPCSO01_On	BOOL	-	1		CLOSING COMMAND - On Command	SG10001_A3_BESS	W	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SPCGAPC1_SPCSO01_Off	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SPCGAPC1_SPCSO01_Off	BOOL		1		CLOSING COMMAND - Off Command	SG10001_A3_BESS	W	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SPCGAPC1_SPCSO03_On	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SPCGAPC1_SPCSO03_On	BOOL		1		KB/RESET COMMAND - On Command	SG10001_A3_BESS	W	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SPCGAPC1_SPCSO03_Off	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SPCGAPC1_SPCSO03_Off	BOOL		1		KB/RESET COMMAND - Off Command	SG10001_A3_BESS	W	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SCBIGGIO1_Ind8	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SCBIGGIO1_Ind8	BOOL	-	1		PROTECTION RELAY UNIT2 HEALTHY	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SCBIGGIO1_Ind6	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SCBIGGIO1_Ind6	BOOL	-	1		PROTECTION RELAY UNIT1 HEALTHY	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A3_GVLSG_1000.1_A3_SCBIGGIO1_Ind9	logic.Application	SG_10001_A3_GVL		SG_10001_A3_SCBIGGIO1_Ind9	BOOL	-	1		SELECTOR SWITCH OF OVERRIDE IN DEFY OFF (ISOLATED)	SG10001_A3_BESS	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHHPTOC2_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHHPTOC2_Op	BOOL		1		PROTECTION TRIPPED "50"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHHPTOC1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHHPTOC1_Op	BOOL		1		PROTECTION TRIPPED "50-1"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHIPTOC1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHIPTOC1_Op	BOOL		1		PROTECTION TRIPPED "50-2"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHLPTOC2_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHIPTOC2_Op	BOOL		1		PROTECTION TRIPPED "51"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHLPTOC1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHLPTOC1_Op	BOOL		1		PROTECTION TRIPPED "51-1"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_EFIPTOC1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_EFLPTOC1_Op	BOOL		1		PROTECTION TRIPPED "51N"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_EFIHPTOC1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_EFIHPTOC1_Op	BOOL		1		PROTECTION TRIPPED "50N"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_ROVPTOV1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_ROVPTOV1_Op	BOOL		1		PROTECTION TRIPPED "59N-1"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_ROVPTOV2_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_ROVPTOV2_Op	BOOL		1		PROTECTION TRIPPED "59N-2"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHPTUV1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHPTUV1_Op	BOOL		1		PROTECTION TRIPPED "27-1"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PHPTOV1_Op	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PHPTOV1_Op	BOOL		1		PROTECTION TRIPPED "59-1"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC1_SPCSO6	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC1_SPCSO6	BOOL		1		SELECTOR SWITCH IN LOCAL POSITION	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC1_SPCSO7	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC1_SPCSO7	BOOL		1		SELECTOR SWITCH IN REMOTE POSITION	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_CMMXU1_A_phsA	logic.Application	SG_10001_A4_GVL		SG_10001_A4_CMMXU1_A_phsA	FLOAT		1		Line Current (L1)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_CMMXU1_A_phsB	logic.Application	SG_10001_A4_GVL		SG_10001_A4_CMMXU1_A_phsB	FLOAT		1		Line Current (L2)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_CMMXU1_A_phsC	logic.Application	SG_10001_A4_GVL		SG_10001_A4_CMMXU1_A_phsC	FLOAT		1		Line Current (L3)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_VMMXU1_PPV_phsAB	logic.Application	SG_10001_A4_GVL		SG_10001_A4_VMMXU1_PPV_phsAB	FLOAT		1		VOLTAGE MAIN BUS BAR (L1-L2)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_VMMXU1_PPV_phsBC	logic.Application	SG_10001_A4_GVL		SG_10001_A4_VMMXU1_PPV_phsBC	FLOAT		1		VOLTAGE MAIN BUS BAR (L2-L3)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_VMMXU1_PPV_phsCA	logic.Application	SG_10001_A4_GVL		SG_10001_A4_VMMXU1_PPV_phsCA	FLOAT		1		VOLTAGE MAIN BUS BAR (L3-L1)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_FMMXU1_Hz	logic.Application	SG_10001_A4_GVL		SG_10001_A4_FMMXU1_Hz	FLOAT		1		Frequency	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PEMMXU1_TotVA	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PEMMXU1_TotVA	FLOAT		1		APPARENT POWER (kVA)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PEMMXU1_TotW	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PEMMXU1_TotW	FLOAT		1		REAL POWER (kW)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PEMMXU1_TotVAr	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PEMMXU1_TotVAr	FLOAT		1		REACTIVE POWER (kVAR)	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_PEMMXU1_TotPF	logic.Application	SG_10001_A4_GVL		SG_10001_A4_PEMMXU1_TotPF	FLOAT		1		POWER FACTOR	SG10001_A4_TR_200E01	R	IEC-61850			FLOAT
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind7	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind7	BOOL		1		TRANSFORMER PROTECTION TRIPPED "BUCHHOLZ"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind6	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind6	BOOL		1		TRANSFORMER PROTECTION ALARM "BUCHHOLZ"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind9	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind9	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OLTEMPERATURE	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind8	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind8	BOOL		1		TRANSFORMER PROTECTION ALARM "OLTEMPERATURE	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind10	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind10	BOOL		1		PROTECTION TRIP PEDALARM "OIL LEVEL"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind12	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind12	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OLPRESSURE"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind14	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind14	BOOL		1		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind13	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind13	BOOL		1		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE"	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind11	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind11	BOOL		1		TRANSF. OIL LEVEL VERY LOW ALARM	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SDIGGIO1_Ind7	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SDIGGIO1_Ind7	BOOL		1		TRANSFORMER GENERAL ALARM	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_LPHD1_PhyHealth	logic.Application	SG_10001_A4_GVL		SG_10001_A4_LPHD1_PhyHealth	BOOL		1		MV SWGEAR PROTECTION RELAY	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC1_SPCSO4	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC1_SPCSO4	BOOL		1		EXTERTTIP SEND TO LV SWITCHBOARD	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SBBIGGIO1_Ind7	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SBBIGGIO1_Ind7	BOOL		1		XFR TRIPPED	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC1_SPCSO8	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC1_SPCSO8	BOOL		1		Contactor CLOSED AND INSERTED	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC1_SPCSO2	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC1_SPCSO2	BOOL		1		Contactor OPENED OR EARTHED	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC2_SPCSO3	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC2_SPCSO3	BOOL		1		MOPS CLOSED	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_TCSSCBR1_CircAlm	logic.Application	SG_10001_A4_GVL		SG_10001_A4_TCSSCBR1_CircAlm	BOOL		1		Contactor READY (TCS)	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_MVGAPC2_SPCSO1	logic.Application	SG_10001_A4_GVL		SG_10001_A4_MVGAPC2_SPCSO1	BOOL		1		Contactor READY TO CLOSE	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SPCGAPC2_SPCSO02_On	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SPCGAPC2_SPCSO02_On	BOOL		1		OPENING COMMAND - On Command	SG10001_A4_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SPCGAPC2_SPCSO02_Off	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SPCGAPC2_SPCSO02_Off	BOOL		1		OPENING COMMAND - Off Command	SG10001_A4_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SPCGAPC1_SPCSO01_On	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SPCGAPC1_SPCSO01_On	BOOL		1		CLOSING COMMAND - On Command	SG10001_A4_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SPCGAPC1_SPCSO01_Off	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SPCGAPC1_SPCSO01_Off	BOOL		1		CLOSING COMMAND - Off Command	SG10001_A4_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SPCGAPC1_SPCSO03_On	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SPCGAPC1_SPCSO03_On	BOOL		1		KB/RESET COMMAND - On Command	SG10001_A4_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SPCGAPC1_SPCSO03_Off	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SPCGAPC1_SPCSO03_Off	BOOL		1		KB/RESET COMMAND - Off Command	SG10001_A4_TR_200E01	W	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind8	logic.Application	SG_10001_A4_GVL		SG_10001_A4_SCBIGGIO1_Ind8	BOOL		1		PROTECTION RELAY UNIT1 HEALTHY	SG10001_A4_TR_200E01	R	IEC-61850			BOOL
Logic.Application.SG_10001_A4_GVLSG_1000.1_A4_SCBIGGIO1_Ind9	logic.Application	SG_10001_A4_GV

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic Application.SG_10001_A6_GVLSG_10001_A6_PHPTOV1_Op	logic Application	SG_10001_A6_GVL		SG_10001_A6_PHPTOV1_Op	BOOL		1		PROTECTION TRIPPED "59-1"	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_PHPTOV2_Op	logic Application	SG_10001_A6_GVL		SG_10001_A6_PHPTOV2_Op	BOOL		1		PROTECTION TRIPPED "59-2"	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC1_SPCS06	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC1_SPCS06	BOOL		1		SELECTOR SWITCH IN LOCAL POSITION	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC1_SPCS07	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC1_SPCS07	BOOL		1		SELECTOR SWITCH IN REMOTE POSITION	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_CMMXU1_A_phsA	logic Application	SG_10001_A6_GVL		SG_10001_A6_CMMXU1_A_phsA	FLOAT		1		Line Current (L1)	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_CMMXU1_A_phsB	logic Application	SG_10001_A6_GVL		SG_10001_A6_CMMXU1_A_phsB	FLOAT		1		Line Current (L2)	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_CMMXU1_A_phsC	logic Application	SG_10001_A6_GVL		SG_10001_A6_CMMXU1_A_phsC	FLOAT		1		Line Current (L3)	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_VMMXU1_PPV_phsAB	logic Application	SG_10001_A6_GVL		SG_10001_A6_VMMXU1_PPV_phsAB	FLOAT		1		Line Volts (L1-L2)	Feedback Voltage for the AVR	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_VMMXU1_PPV_phsBC	logic Application	SG_10001_A6_GVL		SG_10001_A6_VMMXU1_PPV_phsBC	FLOAT		1		Line Volts (L2-L3)	Feedback Voltage for the AVR	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_VMMXU1_PPV_phsCA	logic Application	SG_10001_A6_GVL		SG_10001_A6_VMMXU1_PPV_phsCA	FLOAT		1		Line Volts (L3-L1)	Feedback Voltage for the AVR	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_FMMXU1_Hz	logic Application	SG_10001_A6_GVL		SG_10001_A6_FMMXU1_Hz	FLOAT		1		Frequency	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_PEMMXU1_TotVA	logic Application	SG_10001_A6_GVL		SG_10001_A6_PEMMXU1_TotVA	FLOAT		1		APPARENT POWER (VA)	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_PEMMXU1_TotW	logic Application	SG_10001_A6_GVL		SG_10001_A6_PEMMXU1_TotW	FLOAT		1		REAL POWER (W)	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_PEMMXU1_TotVAr	logic Application	SG_10001_A6_GVL		SG_10001_A6_PEMMXU1_TotVAr	FLOAT		1		REACTIVE POWER (VAR)	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_PEMMXU1_TotPF	logic Application	SG_10001_A6_GVL		SG_10001_A6_PEMMXU1_TotPF	FLOAT		1		POWER FACTOR	SG10001_A6_TR_10ADA1	R	IEC-61850			FLOAT
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind9	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind9	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind8	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind8	BOOL		1		TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind12	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind12	BOOL		1		TRANSFORMER PROTECTION TRIPPED "OIL PRESSURE"	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind11	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind11	BOOL		1		TRANSF. PROT. SILIF DEHYDRATING BREATHER ALARM	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind14	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind14	BOOL		1		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind13	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind13	BOOL		1		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SBIIGGIO1_Ind7	logic Application	SG_10001_A6_GVL		SG_10001_A6_SBIIGGIO1_Ind7	BOOL		1		TRANSFORMER PROTECTION ALARM BUCHHOLZ	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SOBIIGGIO1_Ind9	logic Application	SG_10001_A6_GVL		SG_10001_A6_SOBIIGGIO1_Ind9	BOOL		1		TRANSFORMER PROTECTION TRIPPED BUCHHOLZ	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SBIIGGIO1_Ind9	logic Application	SG_10001_A6_GVL		SG_10001_A6_SBIIGGIO1_Ind9	BOOL		1		TRANSFORMER OTC PROTECTION RELAY	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind10	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind10	BOOL		1		TRANSFORMER PROTECTION ALARM LEVEL OIL	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind7	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind7	BOOL		1		TRANSFORMER PROTECTION TRIPPED LEVEL OIL	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SOBIIGGIO1_Ind3	logic Application	SG_10001_A6_GVL		SG_10001_A6_SOBIIGGIO1_Ind3	BOOL		1		TRANSF. OLTCPROTECTION TRIPPED OIL LEVEL INDICATOR	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind1	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind1	BOOL		1		TRANSF. OLTCPROTECTION ALARM OIL LEVEL INDICATOR	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind6	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind6	BOOL		1		TRANSFORMER PROTECTION ALARM MEMBRANE CONTROL	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_LPHD1_PhyHeAlth	logic Application	SG_10001_A6_GVL		SG_10001_A6_LPHD1_PhyHeAlth	BOOL		1		WATCHDOG PROTECTION RELAY	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIGGIO1_Ind2	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIGGIO1_Ind2	BOOL		1		V.T. HEALTHY CIRCUIT	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC1_SPCS04	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC1_SPCS04	BOOL		1		INTERTRIP SEND TO 66kV SWITCHYARD	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SBIIGGIO1_Ind7	logic Application	SG_10001_A6_GVL		SG_10001_A6_SBIIGGIO1_Ind7	BOOL		1		IDB TRIPPED	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC1_SPCS08	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC1_SPCS08	BOOL		1		C.B. CLOSED AND INSERTED	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC2_SPCS02	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC2_SPCS02	BOOL		1		C.B. OPENED OR ISOLATED	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC2_SPCS05	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC2_SPCS05	BOOL		1		MCB'S CLOSED	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_TCSSCBR1_CircAlm	logic Application	SG_10001_A6_GVL		SG_10001_A6_TCSSCBR1_CircAlm	BOOL		1		C.B. READY (TCS)	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_MVSAPC2_SPCS01	logic Application	SG_10001_A6_GVL		SG_10001_A6_MVSAPC2_SPCS01	BOOL		1		C.B. READY TO CLOSE	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SPCSAPC2_SPCS002_On	logic Application	SG_10001_A6_GVL		SG_10001_A6_SPCSAPC2_SPCS002_On	BOOL		1		OPENING COMMAND - On Command	SG10001_A6_TR_10ADA1	W	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SPCSAPC2_SPCS002_Off	logic Application	SG_10001_A6_GVL		SG_10001_A6_SPCSAPC2_SPCS002_Off	BOOL		1		OPENING COMMAND - Off Command	SG10001_A6_TR_10ADA1	W	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SPCSAPC1_SPCS001_On	logic Application	SG_10001_A6_GVL		SG_10001_A6_SPCSAPC1_SPCS001_On	BOOL		1		CLOSING COMMAND - On Command	SG10001_A6_TR_10ADA1	W	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SPCSAPC1_SPCS001_Off	logic Application	SG_10001_A6_GVL		SG_10001_A6_SPCSAPC1_SPCS001_Off	BOOL		1		CLOSING COMMAND - Off Command	SG10001_A6_TR_10ADA1	W	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SPCSAPC1_SPCS003_On	logic Application	SG_10001_A6_GVL		SG_10001_A6_SPCSAPC1_SPCS003_On	BOOL		1		IDB RESET COMMAND - On Command	SG10001_A6_TR_10ADA1	W	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SPCSAPC1_SPCS003_Off	logic Application	SG_10001_A6_GVL		SG_10001_A6_SPCSAPC1_SPCS003_Off	BOOL		1		IDB RESET COMMAND - Off Command	SG10001_A6_TR_10ADA1	W	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_VMMXU2_HiWrn	logic Application	SG_10001_A6_GVL		SG_10001_A6_VMMXU2_HiWrn	BOOL		1		LIVE VOLTAGE 6.6kV ON THE MAIN BUSBARS	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SCBIOGIO1_SPCS02	logic Application	SG_10001_A6_GVL		SG_10001_A6_SCBIOGGIO1_SPCS02	BOOL		1		TRIPPED ARC CABLE COMPARTMENT	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SOBIIGGIO1_Ind4	logic Application	SG_10001_A6_GVL		SG_10001_A6_SOBIIGGIO1_Ind4	BOOL		1		TR 10001 GENERAL ALARM	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A6_GVLSG_10001_A6_SOBIIGGIO1_Ind8	logic Application	SG_10001_A6_GVL		SG_10001_A6_SOBIIGGIO1_Ind8	BOOL		1		RR-10001 NER GENERAL ALARM	SG10001_A6_TR_10ADA1	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_PHPTOC1_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_PHPTOC1_Op	BOOL		1		PROTECTION TRIPPED "50-1"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_PHPTOC1_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_PHPTOC1_Op	BOOL		1		PROTECTION TRIPPED "51-1"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_EFIPTOC1_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_EFLPTOC1_Op	BOOL		1		PROTECTION TRIPPED "51N"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_LEDGGIO1_Ind3	logic Application	SG_10001_A7_GVL		SG_10001_A7_LEDGGIO1_Ind3	BOOL		1		SYNCHRO "ON"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_ROVPTOV1_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_ROVPTOV1_Op	BOOL		1		PROTECTION TRIPPED "59N-1"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_ROVPTOV2_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_ROVPTOV2_Op	BOOL		1		PROTECTION TRIPPED "59N-2"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_PHPTUV1_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_PHPTUV1_Op	BOOL		1		PROTECTION TRIPPED "27-1"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_PHPTUV2_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_PHPTUV2_Op	BOOL		1		PROTECTION TRIPPED "27-2"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_ExecutorStatus	logic Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic Application.SG_10001_A7_GVLSG_10001_A7_PHPTOV2_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_PHPTOV2_Op	BOOL		1		PROTECTION TRIPPED "59-2"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_DPHLPDOC1_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_DPHLPDOC1_Op	BOOL		1		PROTECTION TRIPPED "67-1"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_DPHLPDOC2_Op	logic Application	SG_10001_A7_GVL		SG_10001_A7_DPHLPDOC2_Op	BOOL		1		PROTECTION TRIPPED "67-2"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC1_SPCS06	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC1_SPCS06	BOOL		1		SELECTOR SWITCH IN LOCAL POSITION	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC1_SPCS07	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC1_SPCS07	BOOL		1		SELECTOR SWITCH IN REMOTE POSITION	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_CMMXU1_A_phsA	logic Application	SG_10001_A7_GVL		SG_10001_A7_CMMXU1_A_phsA	FLOAT		1		Line Current (L1)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_CMMXU1_A_phsB	logic Application	SG_10001_A7_GVL		SG_10001_A7_CMMXU1_A_phsB	FLOAT		1		Line Current (L2)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_CMMXU1_A_phsC	logic Application	SG_10001_A7_GVL		SG_10001_A7_CMMXU1_A_phsC	FLOAT		1		Line Current (L3)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_VMMXU1_PPV_phsAB	logic Application	SG_10001_A7_GVL		SG_10001_A7_VMMXU1_PPV_phsAB	FLOAT		1		Line Volts (L1-L2)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_VMMXU1_PPV_phsBC	logic Application	SG_10001_A7_GVL		SG_10001_A7_VMMXU1_PPV_phsBC	FLOAT		1		Line Volts (L2-L3)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_VMMXU1_PPV_phsCA	logic Application	SG_10001_A7_GVL		SG_10001_A7_VMMXU1_PPV_phsCA	FLOAT		1		Line Volts (L3-L1)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_FMMXU1_Hz	logic Application	SG_10001_A7_GVL		SG_10001_A7_FMMXU1_Hz	FLOAT		1		Frequency	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_PEMMXU1_TotVA	logic Application	SG_10001_A7_GVL		SG_10001_A7_PEMMXU1_TotVA	FLOAT		1		APPARENT POWER (VA)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_PEMMXU1_TotW	logic Application	SG_10001_A7_GVL		SG_10001_A7_PEMMXU1_TotW	FLOAT		1		REAL POWER (W)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_PEMMXU1_TotVAr	logic Application	SG_10001_A7_GVL		SG_10001_A7_PEMMXU1_TotVAr	FLOAT		1		REACTIVE POWER (VAR)	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_PEMMXU1_TotPF	logic Application	SG_10001_A7_GVL		SG_10001_A7_PEMMXU1_TotPF	FLOAT		1		POWER FACTOR	SG10001_A7_FUELL_CELL	R	IEC-61850			FLOAT
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind14	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind14	BOOL		1		TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind13	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind13	BOOL		1		TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_LPHD1_PhyHeAlth	logic Application	SG_10001_A7_GVL		SG_10001_A7_LPHD1_PhyHeAlth	BOOL		1		WATCHDOG PROTECTION RELAY	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind2	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind2	BOOL		1		V.T. HEALTHY CIRCUIT	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC1_SPCS04	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC1_SPCS04	BOOL		1		INTERTRIP SEND TO 66kV SWITCHYARD	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SBIIGGIO1_Ind7	logic Application	SG_10001_A7_GVL		SG_10001_A7_SBIIGGIO1_Ind7	BOOL		1		IDB TRIPPED	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC1_SPCS08	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC1_SPCS08	BOOL		1		Contactor CLOSED AND INSERTED	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC2_SPCS02	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC2_SPCS02	BOOL		1		Contactor OPENED OR ISOLATED	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC2_SPCS03	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC2_SPCS03	BOOL		1		MCB'S CLOSED	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_TCSSCBR1_CircAlm	logic Application	SG_10001_A7_GVL		SG_10001_A7_TCSSCBR1_CircAlm	BOOL		1		Contactor READY (TCS)	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_MVSAPC2_SPCS01	logic Application	SG_10001_A7_GVL		SG_10001_A7_MVSAPC2_SPCS01	BOOL		1		Contactor READY TO CLOSE	SG10001_A7_FUELL_CELL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SPCSAPC1_SPCS002_On	logic Application	SG_10001_A7_GVL		SG_10001_A7_SPCSAPC1_SPCS002_On	BOOL		1		OPENING COMMAND - On Command	SG10001_A7_FUELL_CELL	W	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SPCSAPC1_SPCS002_Off	logic Application	SG_10001_A7_GVL		SG_10001_A7_SPCSAPC1_SPCS002_Off	BOOL		1		OPENING COMMAND - Off Command	SG10001_A7_FUELL_CELL	W	IEC-61850			BOOL

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic Application.SG_10001_A7_GVLSG_10001_A7_SPCGAPC1_SPCS0001_On	logic Application	SG_10001_A7_GVL		SG_10001_A7_SPCGAPC1_SPCS0001_On	BOOL		1		CLOSING COMMAND- On Command	SG10001_A7_FUELL_CEIL	W	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SPCGAPC1_SPCS0001_Off	logic Application	SG_10001_A7_GVL		SG_10001_A7_SPCGAPC1_SPCS0001_Off	BOOL		1		CLOSING COMMAND- Off Command	SG10001_A7_FUELL_CEIL	W	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SPCGAPC1_SPCS0003_On	logic Application	SG_10001_A7_GVL		SG_10001_A7_SPCGAPC1_SPCS0003_On	BOOL		1		K86 RESET COMMAND - On Command	SG10001_A7_FUELL_CEIL	W	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SPCGAPC1_SPCS0003_Off	logic Application	SG_10001_A7_GVL		SG_10001_A7_SPCGAPC1_SPCS0003_Off	BOOL		1		K86 RESET COMMAND - Off Command	SG10001_A7_FUELL_CEIL	W	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SDBIGGIO1_Ind8	logic Application	SG_10001_A7_GVL		SG_10001_A7_SDBIGGIO1_Ind8	BOOL		1		PROTECTION RELAY UNIT 6 HEALTHY	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SDBIGGIO1_Ind7	logic Application	SG_10001_A7_GVL		SG_10001_A7_SDBIGGIO1_Ind7	BOOL		1		AUXILIARY 230VAC HEALTHY (ALL SWITCHGEARS)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind6	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind6	BOOL		1		MCB'S CLOSED (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind7	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind7	BOOL		1		VT- HEALTHY CIRCUIT (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind8	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind8	BOOL		1		UPS 110VDC ASUPPLY "ON" (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind9	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind9	BOOL		1		UPS 110VDC BSUPPLY "ON" (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind10	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind10	BOOL		1		230VAC SUPPLY "ON" (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind11	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind11	BOOL		1		24VDC SUPPLY "ON" (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_A7_GVLSG_10001_A7_SCBIGGIO1_Ind3	logic Application	SG_10001_A7_GVL		SG_10001_A7_SCBIGGIO1_Ind3	BOOL		1		EARTHING SWITCH ORDERED (FROM MEASURE UNIT A5)	SG10001_A7_FUELL_CEIL	R	IEC-61850			BOOL
Logic Application.SG_10001_M08_GVLSG_10001_A1_CC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_CC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Main B	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40117	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_CC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_CC_PH12_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - Main B	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40118	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_CC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_CC_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Main B	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40119	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_CBC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_CBC_PH12_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - C.B. Co	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40120	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_CBC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_CBC_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40121	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_CBC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_CBC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Cabel Co	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40122	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_MBB_PH11_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - Cabel Co	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40123	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A1_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A1_MBB_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Cabel Co	SG10001_A1_ELECTRICVSERFEEDER A-20000	R	MODBUS	40124	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_CC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_CC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Main B	SG10001_A2_TR_200E01	R	MODBUS	40125	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_CC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_CC_PH12_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - Main B	SG10001_A2_TR_200E01	R	MODBUS	40126	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_CC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_CC_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Main B	SG10001_A2_TR_200E01	R	MODBUS	40127	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_CBC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_CBC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - C.B. Co	SG10001_A2_TR_200E01	R	MODBUS	40128	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_CBC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_CBC_PH12_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - C.B. Co	SG10001_A2_TR_200E01	R	MODBUS	40129	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_CBC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_CBC_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A2_TR_200E01	R	MODBUS	40130	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_MBB_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Cabel Co	SG10001_A2_TR_200E01	R	MODBUS	40131	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A2_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A2_MBB_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Cabel Co	SG10001_A2_TR_200E01	R	MODBUS	40132	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_CC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_CC_PH11_TEMP_DETECT	INT	-	1		Phase L1 - Temperature Detection - Main B	SG10001_A3_BESS	R	MODBUS	40133	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_CC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_CC_PH12_TEMP_DETECT	INT	-	1		Phase L3 - Temperature Detection - Main B	SG10001_A3_BESS	R	MODBUS	40134	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_CC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_CC_PH13_TEMP_DETECT	INT	-	1		Phase L1 - Temperature Detection - C.B. Co	SG10001_A3_BESS	R	MODBUS	40135	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_CBC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_CBC_PH11_TEMP_DETECT	INT	-	1		Phase L2 - Temperature Detection - C.B. Co	SG10001_A3_BESS	R	MODBUS	40136	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_CBC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_CBC_PH12_TEMP_DETECT	INT	-	1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A3_BESS	R	MODBUS	40137	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_CBC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_CBC_PH13_TEMP_DETECT	INT	-	1		Phase L1 - Temperature Detection - Cabel Co	SG10001_A3_BESS	R	MODBUS	40138	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_MBB_PH11_TEMP_DETECT	INT	-	1		Phase L2 - Temperature Detection - Cabel Co	SG10001_A3_BESS	R	MODBUS	40139	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A3_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A3_MBB_PH13_TEMP_DETECT	INT	-	1		Phase L3 - Temperature Detection - Cabel Co	SG10001_A3_BESS	R	MODBUS	40140	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_CC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_CC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Main B	SG10001_A4_TR_200E01	R	MODBUS	40141	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_CC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_CC_PH12_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - Main B	SG10001_A4_TR_200E01	R	MODBUS	40142	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_CC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_CC_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A4_TR_200E01	R	MODBUS	40143	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_CBC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_CBC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - C.B. Co	SG10001_A4_TR_200E01	R	MODBUS	40144	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_CBC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_CBC_PH12_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - C.B. Co	SG10001_A4_TR_200E01	R	MODBUS	40145	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_CBC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_CBC_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A4_TR_200E01	R	MODBUS	40146	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_MBB_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Cabel Co	SG10001_A4_TR_200E01	R	MODBUS	40147	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A4_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A4_MBB_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Cabel Co	SG10001_A4_TR_200E01	R	MODBUS	40148	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_TVC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A5_TVC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Main B	SG10001_A5_MEASURING BUS BAR	R	MODBUS	40109	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_TVC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A5_TVC_PH12_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Main B	SG10001_A5_MEASURING BUS BAR	R	MODBUS	40110	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_TVC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A5_TVC_PH13_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - T.V. Conn	SG10001_A5_MEASURING BUS BAR	R	MODBUS	40111	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A5_MBB_PH11_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - T.V. Conn	SG10001_A5_MEASURING BUS BAR	R	MODBUS	40112	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A5_MBB_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - T.V. Conn	SG10001_A5_MEASURING BUS BAR	R	MODBUS	40113	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_CC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_CC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Main B	SG10001_A6_TR_100A01	R	MODBUS	40149	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_CC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_CC_PH12_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Main B	SG10001_A6_TR_100A01	R	MODBUS	40150	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_CC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_CC_PH13_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - C.B. Co	SG10001_A6_TR_100A01	R	MODBUS	40151	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_CBC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_CBC_PH11_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - C.B. Co	SG10001_A6_TR_100A01	R	MODBUS	40152	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_CBC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_CBC_PH12_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A6_TR_100A01	R	MODBUS	40153	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_CBC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_CBC_PH13_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Cabel Co	SG10001_A6_TR_100A01	R	MODBUS	40154	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_MBB_PH11_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - Cabel Co	SG10001_A6_TR_100A01	R	MODBUS	40155	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A6_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A6_MBB_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Cabel Co	SG10001_A6_TR_100A01	R	MODBUS	40156	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_CC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_CC_PH11_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Main B	SG10001_A7_FUELL_CEIL	R	MODBUS	40157	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_CC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_CC_PH12_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Main B	SG10001_A7_FUELL_CEIL	R	MODBUS	40158	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_CC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_CC_PH13_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - C.B. Co	SG10001_A7_FUELL_CEIL	R	MODBUS	40159	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_CBC_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_CBC_PH11_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - C.B. Co	SG10001_A7_FUELL_CEIL	R	MODBUS	40160	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_CBC_PH12_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_CBC_PH12_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - C.B. Co	SG10001_A7_FUELL_CEIL	R	MODBUS	40161	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_CBC_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_CBC_PH13_TEMP_DETECT	INT		1		Phase L1 - Temperature Detection - Cabel Co	SG10001_A7_FUELL_CEIL	R	MODBUS	40162	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_MBB_PH11_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_MBB_PH11_TEMP_DETECT	INT		1		Phase L2 - Temperature Detection - Cabel Co	SG10001_A7_FUELL_CEIL	R	MODBUS	40163	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A7_MBB_PH13_TEMP_DETECT	logic Application	SG_10001_M08_GVL		SG_10001_A7_MBB_PH13_TEMP_DETECT	INT		1		Phase L3 - Temperature Detection - Cabel Co	SG10001_A7_FUELL_CEIL	R	MODBUS	40164	HOLDING REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHA_PD_PRESENCE_LIKELIHOOD	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHA_PD_PRESENCE_LIKELIHOOD	INT		1		PDCOM measurements calculated: PD presence l	MEASURING BUS BAR	R	MODBUS	1088	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHA_PD_DISCHARGE_STRENGTH	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHA_PD_DISCHARGE_STRENGTH					PDCOM measurements calculated: Discharge strength	MEASURING BUS BAR	R	MODBUS	1089	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHA_PD_PULSE_RATE	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHA_PD_PULSE_RATE					PDCOM measurements calculated: Pulse rate (CO0	MEASURING BUS BAR	R	MODBUS	1090	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHA_PD_DISCHARGE_VARIABILITY	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHA_PD_DISCHARGE_VARIABILITY					PDCOM measurements calculated: Discharge va	MEASURING BUS BAR	R	MODBUS	1091	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHA_PD_DISCHARGE_INCREASE	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHA_PD_DISCHARGE_INCREASE					PDCOM measurements calculated: Discharge i	MEASURING BUS BAR	R	MODBUS	1092	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHB_PD_PRESENCE_LIKELIHOOD	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHB_PD_PRESENCE_LIKELIHOOD					PDCOM measurements calculated: PD presence l	MEASURING BUS BAR	R	MODBUS	1093	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHB_PD_DISCHARGE_STRENGTH	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHB_PD_DISCHARGE_STRENGTH					PDCOM measurements calculated: Discharge strength	MEASURING BUS BAR	R	MODBUS	1094	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHB_PD_PULSE_RATE	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHB_PD_PULSE_RATE					PDCOM measurements calculated: Pulse rate (CO0	MEASURING BUS BAR	R	MODBUS	1095	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHB_PD_DISCHARGE_VARIABILITY	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHB_PD_DISCHARGE_VARIABILITY					PDCOM measurements calculated: Discharge va	MEASURING BUS BAR	R	MODBUS	1096	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHB_PD_DISCHARGE_INCREASE	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHB_PD_DISCHARGE_INCREASE					PDCOM measurements calculated: Discharge i	MEASURING BUS BAR	R	MODBUS	1097	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHC_PD_PRESENCE_LIKELIHOOD	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHC_PD_PRESENCE_LIKELIHOOD					PDCOM measurements calculated: PD presence l	MEASURING BUS BAR	R	MODBUS	1098	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHC_PD_DISCHARGE_STRENGTH	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHC_PD_DISCHARGE_STRENGTH					PDCOM measurements calculated: Discharge strength	MEASURING BUS BAR	R	MODBUS	1099	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHC_PD_PULSE_RATE	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHC_PD_PULSE_RATE					PDCOM measurements calculated: Pulse rate (CO0	MEASURING BUS BAR	R	MODBUS	1100	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHC_PD_DISCHARGE_VARIABILITY	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHC_PD_DISCHARGE_VARIABILITY					PDCOM measurements calculated: Discharge va	MEASURING BUS BAR	R	MODBUS	1101	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_A5_PHC_PD_DISCHARGE_INCREASE	logic Application	SG_10001_M08_GVL		SG_10001_A5_PHC_PD_DISCHARGE_INCREASE					PDCOM measurements calculated: Discharge i	MEASURING BUS BAR	R	MODBUS	1102	INPUT REGISTER	INT
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_1_1W_FREE_TIME_WARNING	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_1_1W_FREE_TIME_WARNING					PD Warning-free time (1 week) is under warni	MEASURING BUS BAR	R	MODBUS	1958.00	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_1_1W_FREE_TIME_ALARM	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_1_1W_FREE_TIME_ALARM					PD Alarm-free time (1 week) is under alarm	MEASURING BUS BAR	R	MODBUS	1958.01	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_1_1M_FREE_TIME_WARNING	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_1_1M_FREE_TIME_WARNING					PD Warning-free time (1 month) is under warni	MEASURING BUS BAR	R	MODBUS	1958.02	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_1_1M_FREE_TIME_ALARM	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_1_1M_FREE_TIME_ALARM					PD Alarm-free time (1 month) is under alarm	MEASURING BUS BAR	R	MODBUS	1958.03	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_2_1W_FREE_TIME_WARNING	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_2_1W_FREE_TIME_WARNING					PD Warning-free time (1 week) is under warni	MEASURING BUS BAR	R	MODBUS	1958.04	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_2_1W_FREE_TIME_ALARM	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_2_1W_FREE_TIME_ALARM					PD Alarm-free time (1 week) is under alarm	MEASURING BUS BAR	R	MODBUS	1958.05	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_2_1M_FREE_TIME_WARNING	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_2_1M_FREE_TIME_WARNING					PD Warning-free time (1 month) is under warni	MEASURING BUS BAR	R	MODBUS	1958.06	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_2_1M_FREE_TIME_ALARM	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_2_1M_FREE_TIME_ALARM					PD Alarm-free time (1 month) is under alarm	MEASURING BUS BAR	R	MODBUS	1958.07	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_3_1W_FREE_TIME_WARNING	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_3_1W_FREE_TIME_WARNING					PD Warning-free time (1 week) is under warni	MEASURING BUS BAR	R	MODBUS	1958.08	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_3_1W_FREE_TIME_ALARM	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_3_1W_FREE_TIME_ALARM					PD Alarm-free time (1 week) is under alarm	MEASURING BUS BAR	R	MODBUS	1958.09	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_3_1M_FREE_TIME_WARNING	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_3_1M_FREE_TIME_WARNING					PD Warning-free time (1 month) is under warni	MEASURING BUS BAR	R	MODBUS	1958.10	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_3_1M_FREE_TIME_ALARM	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_3_1M_FREE_TIME_ALARM					PD Alarm-free time (1 month) is under alarm	MEASURING BUS BAR	R	MODBUS	1958.11	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_1_WARNING_LEVEL_REACHED	logic Application	SG_10001_M08_GVL		SG_10001_OUT_ANTENNA_1_WARNING_LEVEL_REACHED					PD has reached warning level, val	MEASURING BUS BAR	R	MODBUS	1953.14	INPUT REGISTER	BOOL
Logic Application.SG_10001_M08_GVLSG_10001_OUT_ANTENNA_1_

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_200D2_GVL.MEASURE_CURRENT_L1	logic.Application	SG_200D2_GVL		MEASURE_CURRENT_L1	FLOAT		1		MEASURE_CURRENT_L1	AI	R	MODBUS	100-101	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL.MEASURE_CURRENT_L2	logic.Application	SG_200D2_GVL		MEASURE_CURRENT_L2	FLOAT		1		MEASURE_CURRENT_L2	AI	R	MODBUS	102-103	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL.MEASURE_CURRENT_L3	logic.Application	SG_200D2_GVL		MEASURE_CURRENT_L3	FLOAT		1		MEASURE_CURRENT_L3	AI	R	MODBUS	104-105	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL.MEASURE_VOLTAGE_L1_L2	logic.Application	SG_200D2_GVL		MEASURE_VOLTAGE_L1_L2	FLOAT		1		MEASURE_VOLTAGE_L1_L2	AI	R	MODBUS	154	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_VOLTAGE_L2_L3	logic.Application	SG_200D2_GVL		MEASURE_VOLTAGE_L2_L3	FLOAT		1		MEASURE_VOLTAGE_L2_L3	AI	R	MODBUS	155	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_VOLTAGE_L3_L1	logic.Application	SG_200D2_GVL		MEASURE_VOLTAGE_L3_L1	FLOAT		1		MEASURE_VOLTAGE_L3_L1	AI	R	MODBUS	156	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_FREQUENCY	logic.Application	SG_200D2_GVL		MEASURE_FREQUENCY	FLOAT		1		MEASURE_FREQUENCY	AI	R	MODBUS	254	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_APPARENT_POWER	logic.Application	SG_200D2_GVL		MEASURE_APPARENT_POWER	FLOAT		1		MEASURE_APPARENT_POWER	AI	R	MODBUS	222-223	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL.MEASURE_REAL_POWER	logic.Application	SG_200D2_GVL		MEASURE_REAL_POWER	FLOAT		1		MEASURE_REAL_POWER	AI	R	MODBUS	206-207	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL.MEASURE_REACTIVE_POWER	logic.Application	SG_200D2_GVL		MEASURE_REACTIVE_POWER	FLOAT		1		MEASURE_REACTIVE_POWER	AI	R	MODBUS	214-215	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL.MEASURE_POWER_FACTOR	logic.Application	SG_200D2_GVL		MEASURE_POWER_FACTOR	FLOAT		1		MEASURE_POWER_FACTOR	AI	R	MODBUS	253	INPUT REGISTER	S16
Logic.Application.SG_200D2_GVL.QB1_DISCONNECTED_OR_OPEN	logic.Application	SG_200D2_GVL		QB1_DISCONNECTED_OR_OPEN	BOOL		1		QB1_DISCONNECTED_OR_OPEN	DI	R	MODBUS	1	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.QB1_CONNECTED_AND_CLOSED	logic.Application	SG_200D2_GVL		QB1_CONNECTED_AND_CLOSED	BOOL		1		QB1_CONNECTED_AND_CLOSED	DI	R	MODBUS	2	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.QB2_DISCONNECTED_OR_OPEN	logic.Application	SG_200D2_GVL		QB2_DISCONNECTED_OR_OPEN	BOOL		1		QB2_DISCONNECTED_OR_OPEN	DI	R	MODBUS	3	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.QB2_CONNECTED_AND_CLOSED	logic.Application	SG_200D2_GVL		QB2_CONNECTED_AND_CLOSED	BOOL		1		QB2_CONNECTED_AND_CLOSED	DI	R	MODBUS	4	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SA1_ON_LOCAL_POSITION	logic.Application	SG_200D2_GVL		SA1_ON_LOCAL_POSITION	BOOL		1		SA1_ON_LOCAL_POSITION	DI	R	MODBUS	5	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SA1_ON_REMOTE_POSITION	logic.Application	SG_200D2_GVL		SA1_ON_REMOTE_POSITION	BOOL		1		SA1_ON_REMOTE_POSITION	DI	R	MODBUS	6	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.MCBs_ALARM	logic.Application	SG_200D2_GVL		MCBs_ALARM	BOOL		1		MCBs_ALARM	DI	R	MODBUS	7	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.COMMON_FAILURE	logic.Application	SG_200D2_GVL		COMMON_FAILURE	BOOL		1		COMMON_FAILURE	DI	R	MODBUS	8	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SURGE_ARRESTER_FAULT	logic.Application	SG_200D2_GVL		SURGE_ARRESTER_FAULT	BOOL		1		SURGE_ARRESTER_FAULT	DI	R	MODBUS	9	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SG_200N1_MCBs_FAILURE	logic.Application	SG_200D2_GVL		SG_200N1_MCBs_FAILURE	BOOL		1			DI	R	MODBUS	10	DISCRETE INPUTS	BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_DPHLPTOC2_Op	logic.Application	SG_200N1_GVL		SG_200N1_DPHLPTOC2_Op	BOOL		1		THRYED "50"	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_DPHLPTOC1_Op	logic.Application	SG_200N1_GVL		SG_200N1_DPHLPTOC1_Op	BOOL		1		THRYED "51"	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_XAGGIO130_Ind004	logic.Application	SG_200N1_GVL		SG_200N1_XAGGIO130_Ind004	BOOL		1		THRYED "74TCF"	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_XGGIO120_Ind001	logic.Application	SG_200N1_GVL		SG_200N1_XGGIO120_Ind001	BOOL		1		THRYED "86"	DI	R	IEC-61850			BOOL

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original DataType
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC2_SPCS0001	logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC2_SPCS0001	BOOL		1		CIRCUIT-BRAKER - READY TO CLOSE	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC2_SPCS0002	logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC2_SPCS0002	BOOL		1		POSITION	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCS0008	logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC1_SPCS0008	BOOL		1		INTERTRIP	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_LPHD1_PhyHealth	logic.Application	SG_200N1_GVL		SG_200N1_LPHD1_PhyHealth	BOOL		1		CIRCUIT-BRAKER - WATCHDOG	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_XAGGIO130_Ind001	logic.Application	SG_200N1_GVL		SG_200N1_XAGGIO130_Ind001	BOOL		1		ACB ALARM	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCS0006	logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC1_SPCS0006	BOOL		1		SAL ON "LOCAL" POSITION	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCS0007	logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC1_SPCS0007	BOOL		1		SAL ON "REMOTE" POSITION	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_XAGGIO130_Ind002	logic.Application	SG_200N1_GVL		SG_200N1_XAGGIO130_Ind002	BOOL		1		SAL ON "MAINTENANCE" POSITION	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCS0004	logic.Application	SG_200N1_GVL		SG_200N1_MVGAPC1_SPCS0004	BOOL		1		INTERTRIP TO MV BAY	DI	R	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC2_SPCS0001_On	logic.Application	SG_200N1_GVL		SG_200N1_SPCGAPC2_SPCS0001_On	BOOL		1		CIRCUIT-BRAKER - CLOSE COMMAND - On Command	DO	W	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC2_SPCS0001_Off	logic.Application	SG_200N1_GVL		SG_200N1_SPCGAPC2_SPCS0001_Off	BOOL		1		CIRCUIT-BRAKER - CLOSE COMMAND - Off Command	DO	W	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCS0002_On	logic.Application	SG_200N1_GVL		SG_200N1_SPCGAPC1_SPCS0002_On	BOOL		1		CIRCUIT-BRAKER - OPEN COMMAND - On Command	DO	W	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCS0002_Off	logic.Application	SG_200N1_GVL		SG_200N1_SPCGAPC1_SPCS0002_Off	BOOL		1		CIRCUIT-BRAKER - OPEN COMMAND - Off Command	DO	W	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCS0003_On	logic.Application	SG_200N1_GVL		SG_200N1_SPCGAPC1_SPCS0003_On	BOOL		1		K86 RESET COMMAND - On Command	DO	W	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCS0003_Off	logic.Application	SG_200N1_GVL		SG_200N1_SPCGAPC1_SPCS0003_Off	BOOL		1		K86 RESET COMMAND - Off Command	DO	W	IEC-61850			BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_CMMXU1_A_phsA	logic.Application	SG_200N1_GVL		SG_200N1_CMMXU1_A_phsA	FLOAT	A	1		MEASURE - CURRENT "L1"	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_CMMXU1_A_phsB	logic.Application	SG_200N1_GVL		SG_200N1_CMMXU1_A_phsB	FLOAT	A	1		MEASURE - CURRENT "L2"	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_CMMXU1_A_phsC	logic.Application	SG_200N1_GVL		SG_200N1_CMMXU1_A_phsC	FLOAT	A	1		MEASURE - CURRENT "L3"	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_VMMXU1_PPV_phsAB	logic.Application	SG_200N1_GVL		SG_200N1_VMMXU1_PPV_phsAB	FLOAT	V	1		MEASURE - VOLTAGE "L1-L2"	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_VMMXU1_PPV_phsBC	logic.Application	SG_200N1_GVL		SG_200N1_VMMXU1_PPV_phsBC	FLOAT	V	1		MEASURE - VOLTAGE "L2-L3"	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_VMMXU1_PPV_phsCA	logic.Application	SG_200N1_GVL		SG_200N1_VMMXU1_PPV_phsCA	FLOAT	V	1		MEASURE - VOLTAGE "L3-L1"	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_FMMXU1_Hz	logic.Application	SG_200N1_GVL		SG_200N1_FMMXU1_Hz	FLOAT	Hz	1		MEASURE - FREQUENCY	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotVA	logic.Application	SG_200N1_GVL		SG_200N1_PEMMXU1_TotVA	FLOAT	kVA	1		MEASURE - APPARENT POWER	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotW	logic.Application	SG_200N1_GVL		SG_200N1_PEMMXU1_TotW	FLOAT	kW	1		MEASURE - REAL POWER	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotVAr	logic.Application	SG_200N1_GVL		SG_200N1_PEMMXU1_TotVAr	FLOAT	kVAR	1		MEASURE - REACTIVE POWER	AI	R	IEC-61850			FLOAT
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotPF	logic.Application	SG_200N1_GVL		SG_200N1_PEMMXU1_TotPF	FLOAT	COSFI	1		MEASURE - POWER FACTOR	AI	R	IEC-61850			FLOAT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Available_capacity	logic.Application	SOLAR_FARM_GVL		InverterSystem_Available_capacity	UINT16	kW	1		InverterSystem_Available_capactiv		W	MODBUS	30001	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Current_curtailment_setpoint	logic.Application	SOLAR_FARM_GVL		InverterSystem_Current_curtailment_setpoint	UINT16	kW	1	0 : 500	InverterSystem_Current_curtailment_setpoint		W	MODBUS	30003	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Current_total_power	logic.Application	SOLAR_FARM_GVL		InverterSystem_Current_total_power	UINT16	kW	1		InverterSystem_Current_total_power		W	MODBUS	30005	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Status	logic.Application	SOLAR_FARM_GVL		InverterSystem_Status	BOOL		1		InverterSystem_Status		R	MODBUS	30007	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Fault	logic.Application	SOLAR_FARM_GVL		InverterSystem_Fault	BOOL		1		InverterSystem_Fault		R	MODBUS	30008	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Maintenance	logic.Application	SOLAR_FARM_GVL		InverterSystem_Maintenance	BOOL		1		InverterSystem_Maintenance		R	MODBUS	30009	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Curtailment_setpoint_CMD	logic.Application	SOLAR_FARM_GVL		InverterSystem_Curtailment_setpoint_CMD	UINT16	kW	1		InverterSystem_Curtailment_setpoint_CMD		W	MODBUS	40001	HOLDING REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Startup_CMD	logic.Application	SOLAR_FARM_GVL		InverterSystem_Startup_CMD	BOOL		1		InverterSystem_Startup_CMD		W	MODBUS	40003	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Shutdown_CMD	logic.Application	SOLAR_FARM_GVL		InverterSystem_Shutdown_CMD	BOOL		1		InverterSystem_Shutdown_CMD		W	MODBUS	40004	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_OpenStatus	logic.Application	SOLAR_FARM_GVL		Main_CB_OpenStatus	BOOL		1		Main_CB_OpenStatus		R	MODBUS	30101	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_ClosedStatus	logic.Application	SOLAR_FARM_GVL		Main_CB_ClosedStatus	BOOL		1		Main_CB_ClosedStatus		R	MODBUS	30102	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_RemoteControlAvailable	logic.Application	SOLAR_FARM_GVL		Main_CB_RemoteControlAvailable	BOOL		1		Main_CB_RemoteControlAvailable		R	MODBUS	30103	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_OpenRequest_CMD	logic.Application	SOLAR_FARM_GVL		Main_CB_OpenRequest_CMD	BOOL		1		Main_CB_OpenRequest_CMD		R	MODBUS	40101	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_ClosedRequest_CMD	logic.Application	SOLAR_FARM_GVL		Main_CB_ClosedRequest_CMD	BOOL		1		Main_CB_ClosedRequest_CMD		R	MODBUS	40102	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.EQMeter_A_B_line_voltage	logic.Application	SOLAR_FARM_GVL		EQMeter_A_B_line_voltage	FLOAT	V	1		EQMeter_A_B_line_voltage		R	MODBUS	30201	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_B_C_line_voltage	logic.Application	SOLAR_FARM_GVL		EQMeter_B_C_line_voltage	FLOAT	V	1		EQMeter_B_C_line_voltage		W	MODBUS	30203	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_C_A_line_voltage	logic.Application	SOLAR_FARM_GVL		EQMeter_C_A_line_voltage	FLOAT	V	1		EQMeter_C_A_line_voltage		W	MODBUS	30205	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_A_current	logic.Application	SOLAR_FARM_GVL		EQMeter_Phase_A_current	FLOAT	A	1		EQMeter_Phase_A_current		R	MODBUS	30207	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_B_current	logic.Application	SOLAR_FARM_GVL		EQMeter_Phase_B_current	FLOAT	A	1		EQMeter_Phase_B_current		R	MODBUS	30209	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_C_current	logic.Application	SOLAR_FARM_GVL		EQMeter_Phase_C_current	FLOAT	A	1		EQMeter_Phase_C_current		R	MODBUS	30211	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Total_active_power	logic.Application	SOLAR_FARM_GVL		EQMeter_Total_active_power	FLOAT	kW	1		EQMeter_Total_active_power		R	MODBUS	30213	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_A_B_line_voltage_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_A_B_line_voltage_CMD	FLOAT	V	1		External_EQMeter_A_B_line_voltage_CMD		W	MODBUS	40301	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_B_C_line_voltage_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_B_C_line_voltage_CMD	FLOAT	V	1		External_EQMeter_B_C_line_voltage_CMD		W	MODBUS	40303	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_C_A_line_voltage_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_C_A_line_voltage_CMD	FLOAT	V	1		External_EQMeter_C_A_line_voltage_CMD		W	MODBUS	40305	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_A_current_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_Phase_A_current_CMD	FLOAT	A	1		External_EQMeter_Phase_A_current_CMD		W	MODBUS	40307	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_B_current_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_Phase_B_current_CMD	FLOAT	A	1		External_EQMeter_Phase_B_current_CMD		W	MODBUS	40309	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_C_current_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_Phase_C_current_CMD	FLOAT	A	1		External_EQMeter_Phase_C_current_CMD		W	MODBUS	40311	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Total_active_power_CMD	logic.Application	SOLAR_FARM_GVL		External_EQMeter_Total_active_power_CMD	FLOAT	kW	1		External_EQMeter_Total_active_power_CMD		W	MODBUS	40313	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_CB_OpenStatus_CMD	logic.Application	SOLAR_FARM_GVL		External_CB_OpenStatus_CMD	BOOL		1		External_CB_OpenStatus_CMD		W	MODBUS	30401	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_ClosedStatus_CMD	logic.Application	SOLAR_FARM_GVL		External_CB_ClosedStatus_CMD	BOOL		1		External_CB_ClosedStatus_CMD		W	MODBUS	30402	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_OpenRequest	logic.Application	SOLAR_FARM_GVL		External_CB_OpenRequest	BOOL		1		External_CB_OpenRequest		R	MODBUS	40401	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_ClosedRequest	logic.Application	SOLAR_FARM_GVL		External_CB_ClosedRequest	BOOL		1		External_CB_ClosedRequest		R	MODBUS	40402	HOLDING REGISTER	BIT
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Raise_On_CMD	logic.Application	TransformerAVR_GVL		Change_Tap_Position_Raise_On_CMD	BOOL		1		Change_Tap_Position_Raise_On_CMD		W	MODBUS	0	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Raise_Off_CMD	logic.Application	TransformerAVR_GVL		Change_Tap_Position_Raise_Off_CMD			1		Change_Tap_Position_Raise_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Lower_On_CMD	logic.Application	TransformerAVR_GVL		Change_Tap_Position_Lower_On_CMD	BOOL		1		Change_Tap_Position_Lower_On_CMD		W	MODBUS	1	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Lower_Off_CMD	logic.Application	TransformerAVR_GVL		Change_Tap_Position_Lower_Off_CMD			1		Change_Tap_Position_Lower_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Raise_On_CMD	logic.Application	TransformerAVR_GVL		Change_Voltage_Raise_On_CMD	BOOL		1		Change_Voltage_Raise_On_CMD		W	MODBUS	2	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Raise_Off_CMD	logic.Application	TransformerAVR_GVL		Change_Voltage_Raise_Off_CMD			1		Change_Voltage_Raise_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Lower_On_CMD	logic.Application	TransformerAVR_GVL		Change_Voltage_Lower_On_CMD	BOOL		1		Change_Voltage_Lower_On_CMD		W	MODBUS	3	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Lower_Off_CMD	logic.Application	TransformerAVR_GVL		Change_Voltage_Lower_Off_CMD			1		Change_Voltage_Lower_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation_On_CMD	logic.Application	TransformerAVR_GVL		Automatic_Manual_operation_On_CMD	BOOL		1		Automatic_Manual_operation_On_CMD		W	MODBUS	4	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation_Off_CMD	logic.Application	TransformerAVR_GVL		Automatic_Manual_operation_Off_CMD			1		Automatic_Manual_operation_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_active_On_CMD	logic.Application	TransformerAVR_GVL		Band_center_voltage_1_active_On_CMD	BOOL		1		Band_center_voltage_1_active_On_CMD		W	MODBUS	5	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_active_Off_CMD	logic.Application	TransformerAVR_GVL		Band_center_voltage_1_active_Off_CMD			1		Band_center_voltage_1_active_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_active_On_CMD	logic.Application	TransformerAVR_GVL		Band_center_voltage_2_active_On_CMD	BOOL		1		Band_center_voltage_2_active_On_CMD		W	MODBUS	6	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_active_Off_CMD	logic.Application	TransformerAVR_GVL		Band_center_voltage_2_active_Off_CMD			1		Band_center_voltage_2_active_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_active_On_CMD	logic.Application	TransformerAVR_GVL		Band_center_voltage_3_active_On_CMD	BOOL		1		Band_center_voltage_3_active_On_CMD		W	MODBUS	7	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_active_Off_CMD	logic.Application	TransformerAVR_GVL		Band_center_voltage_3_active_Off_CMD			1		Band_center_voltage_3_active_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Parallel_Independent_On_CMD	logic.Application	TransformerAVR_GVL		Parallel_Independent_On_CMD	BOOL		1		Parallel_Independent_On_CMD		W	MODBUS	10	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Parallel_Independent_Off_CMD	logic.Application	TransformerAVR_GVL		Parallel_Independent_Off_CMD			1		Parallel_Independent_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control_On_CMD	logic.Application	TransformerAVR_GVL		Master_mode_selection_activationparallel_control_On_CMD	BOOL		1		Master_mode_selection_activationparallel_control_On_CMD		W	MODBUS	11	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control_Off_CMD	logic.Application	TransformerAVR_GVL		Master_mode_selection_activationparallel_control_Off_CMD			1		Master_mode_selection_activationparallel_control_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control_On_CMD	logic.Application	TransformerAVR_GVL		Follower_mode_selection_activationparallel_control_On_CMD	BOOL		1		Follower_mode_selection_activationparallel_control_On_CMD		W	MODBUS	12	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control_Off_CMD	logic.Application	TransformerAVR_GVL		Follower_mode_selection_activationparallel_control_Off_CMD			1		Follower_mode_selection_activationparallel_control_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control_On_CMD	logic.Application	TransformerAVR_GVL		Circulating_current_selection_activation_parallel_control_On_CMD	BOOL		1		Circulating_current_selection_activation_parallel_control_On_CMD		W	MODBUS	13	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control_Off_CMD	logic.Application	TransformerAVR_GVL		Circulating_current_selection_activation_parallel_control_Off_CMD			1		Circulating_current_selection_activation_parallel_control_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation_On_CMD	logic.Application	TransformerAVR_GVL		Line_Drop_Compensation_On_CMD	BOOL		1		Line_Drop_Compensation_On_CMD		W	MODBUS	14	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation_Off_CMD	logic.Application	TransformerAVR_GVL		Line_Drop_Compensation_Off_CMD			1		Line_Drop_Compensation_Off_CMD		W	MODBUS	Internal logic		BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD	logic Application	TransformerAVR_GVL		Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD	BOOL		1		Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD		W	MODBUS	15	COILS	BOOL
Logic Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_Off_CMD	logic Application	TransformerAVR_GVL		Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_Off_CMD			1		Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_On_CMD	logic Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control_On_CMD	BOOL		1		TAPCON_dynamic_set_point_control_On_CMD		W	MODBUS	16	COILS	BOOL
Logic Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_Off_CMD	logic Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control_Off_CMD			1		TAPCON_dynamic_set_point_control_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_1_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_1_On_CMD	BOOL		1		General_Purpose_Command_1_On_CMD		W	MODBUS	113	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_1_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_1_Off_CMD			1		General_Purpose_Command_1_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_2_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_2_On_CMD	BOOL		1		General_Purpose_Command_2_On_CMD		W	MODBUS	114	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_2_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_2_Off_CMD			1		General_Purpose_Command_2_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_3_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_3_On_CMD	BOOL		1		General_Purpose_Command_3_On_CMD		W	MODBUS	115	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_3_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_3_Off_CMD			1		General_Purpose_Command_3_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_4_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_4_On_CMD	BOOL		1		General_Purpose_Command_4_On_CMD		W	MODBUS	116	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_4_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_4_Off_CMD			1		General_Purpose_Command_4_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_5_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_5_On_CMD	BOOL		1		General_Purpose_Command_5_On_CMD		W	MODBUS	117	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_5_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_5_Off_CMD			1		General_Purpose_Command_5_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_6_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_6_On_CMD	BOOL		1		General_Purpose_Command_6_On_CMD		W	MODBUS	118	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_6_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_6_Off_CMD			1		General_Purpose_Command_6_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_7_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_7_On_CMD	BOOL		1		General_Purpose_Command_7_On_CMD		W	MODBUS	119	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_7_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_7_Off_CMD			1		General_Purpose_Command_7_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_8_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_8_On_CMD	BOOL		1		General_Purpose_Command_8_On_CMD		W	MODBUS	120	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_8_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_8_Off_CMD			1		General_Purpose_Command_8_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_9_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_9_On_CMD	BOOL		1		General_Purpose_Command_9_On_CMD		W	MODBUS	121	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_9_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_9_Off_CMD			1		General_Purpose_Command_9_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_10_On_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_10_On_CMD	BOOL		1		General_Purpose_Command_10_On_CMD		W	MODBUS	122	COILS	BOOL
Logic Application.TransformerAVR_GVL.General_Purpose_Command_10_Off_CMD	logic Application	TransformerAVR_GVL		General_Purpose_Command_10_Off_CMD			1		General_Purpose_Command_10_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control_On_CMD	logic Application	TransformerAVR_GVL		Desired_power_factor_selection_activation_parallel_control_On_CMD	BOOL		1		Desired_power_factor_selection_activation_parallel_control_On_CMD		W	MODBUS	363	COILS	BOOL
Logic Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control_Off_CMD	logic Application	TransformerAVR_GVL		Desired_power_factor_selection_activation_parallel_control_Off_CMD			1		Desired_power_factor_selection_activation_parallel_control_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.Desired_load_type_selection_On_CMD	logic Application	TransformerAVR_GVL		Desired_load_type_selection_On_CMD	BOOL		1		Desired_load_type_selection_On_CMD		W	MODBUS	364	COILS	BOOL
Logic Application.TransformerAVR_GVL.Desired_load_type_selection_Off_CMD	logic Application	TransformerAVR_GVL		Desired_load_type_selection_Off_CMD			1		Desired_load_type_selection_Off_CMD		W	MODBUS	Internal logic		BOOL
Logic Application.TransformerAVR_GVL.Automatic_Manual_operation	logic Application	TransformerAVR_GVL		Automatic_Manual_operation	BOOL		1		Automatic_Manual_operation		R	MODBUS	4	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Band_center_voltage_desired_value_1_active	logic Application	TransformerAVR_GVL		Band_center_voltage_desired_value_1_active	BOOL		1		Band_center_voltage_desired_value_1_active		R	MODBUS	5	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Band_center_voltage_desired_value_2_active	logic Application	TransformerAVR_GVL		Band_center_voltage_desired_value_2_active	BOOL		1		Band_center_voltage_desired_value_2_active		R	MODBUS	6	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Band_center_voltage_desired_value_3_active	logic Application	TransformerAVR_GVL		Band_center_voltage_desired_value_3_active	BOOL		1		Band_center_voltage_desired_value_3_active		R	MODBUS	7	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Parallel_Independant	logic Application	TransformerAVR_GVL		Parallel_Independant	BOOL		1		Parallel_Independant		R	MODBUS	10	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control	logic Application	TransformerAVR_GVL		Master_mode_selection_activationparallel_control	BOOL		1		Master_mode_selection_activationparallel_control		R	MODBUS	11	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control	logic Application	TransformerAVR_GVL		Follower_mode_selection_activationparallel_control	BOOL		1		Follower_mode_selection_activationparallel_control		R	MODBUS	12	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control	logic Application	TransformerAVR_GVL		Circulating_current_selection_activation_parallel_control	BOOL		1		Circulating_current_selection_activation_parallel_control		R	MODBUS	13	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Line_Drop_Compensation	logic Application	TransformerAVR_GVL		Line_Drop_Compensation	BOOL		1		Line_Drop_Compensation		R	MODBUS	14	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic	logic Application	TransformerAVR_GVL		Time_delay_linear_or_integral_characteristic	BOOL		1		Time_delay_linear_or_integral_characteristic		R	MODBUS	15	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control	logic Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control	BOOL		1		TAPCON_dynamic_set_point_control		R	MODBUS	16	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Error_of_parallel_operation	logic Application	TransformerAVR_GVL		Error_of_parallel_operation	BOOL		1		Error_of_parallel_operation		R	MODBUS	25	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Tap_indication_error_eg_wrong_BCD_code	logic Application	TransformerAVR_GVL		Tap_indication_error_eg_wrong_BCD_code	BOOL		1		Tap_indication_error_eg_wrong_BCD_code		R	MODBUS	26	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Local_operation	logic Application	TransformerAVR_GVL		Local_operation	BOOL		1		Local_operation		R	MODBUS	27	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Health_AVR	logic Application	TransformerAVR_GVL		Health_AVR	BOOL		1		Health_AVR		R	MODBUS	28	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Function_monitoring	logic Application	TransformerAVR_GVL		Function_monitoring	BOOL		1		Function_monitoring		R	MODBUS	29	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Motor_drive_running	logic Application	TransformerAVR_GVL		Motor_drive_running	BOOL		1		Motor_drive_running		R	MODBUS	30	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.LTC_inhibit_due_to_under_voltage	logic Application	TransformerAVR_GVL		LTC_inhibit_due_to_under_voltage	BOOL		1		LTC_inhibit_due_to_under_voltage		R	MODBUS	31	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.LTC_inhibit_due_to_over_voltage	logic Application	TransformerAVR_GVL		LTC_inhibit_due_to_over_voltage	BOOL		1		LTC_inhibit_due_to_over_voltage		R	MODBUS	32	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.LTC_inhibit_due_to_over_current	logic Application	TransformerAVR_GVL		LTC_inhibit_due_to_over_current	BOOL		1		LTC_inhibit_due_to_over_current		R	MODBUS	33	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.End_position_raise_or_highest_allowed_tap_position_reached	logic Application	TransformerAVR_GVL		End_position_raise_or_highest_allowed_tap_position_reached	BOOL		1		End_position_raise_or_highest_allowed_tap_position_reached		R	MODBUS	34	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.End_position_lower_or_lowest_allowed_tap_position_reached	logic Application	TransformerAVR_GVL		End_position_lower_or_lowest_allowed_tap_position_reached	BOOL		1		End_position_lower_or_lowest_allowed_tap_position_reached		R	MODBUS	35	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Block_Automatic_Control	logic Application	TransformerAVR_GVL		Block_Automatic_Control	BOOL		1		Block_Automatic_Control		R	MODBUS	36	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Voltage_high_limit_exceeded	logic Application	TransformerAVR_GVL		Voltage_high_limit_exceeded	BOOL		1		Voltage_high_limit_exceeded		R	MODBUS	37	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Voltage_high_limit_2_exceeded	logic Application	TransformerAVR_GVL		Voltage_high_limit_2_exceeded	BOOL		1		Voltage_high_limit_2_exceeded		R	MODBUS	38	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Voltage_low_limit_exceeded	logic Application	TransformerAVR_GVL		Voltage_low_limit_exceeded	BOOL		1		Voltage_low_limit_exceeded		R	MODBUS	39	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Voltage_low_limit_2_exceeded	logic Application	TransformerAVR_GVL		Voltage_low_limit_2_exceeded	BOOL		1		Voltage_low_limit_2_exceeded		R	MODBUS	40	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Current_overload	logic Application	TransformerAVR_GVL		Current_overload	BOOL		1		Current_overload		R	MODBUS	41	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Current_overload_2	logic Application	TransformerAVR_GVL		Current_overload_2	BOOL		1		Current_overload_2		R	MODBUS	42	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Current_underload	logic Application	TransformerAVR_GVL		Current_underload	BOOL		1		Current_underload		R	MODBUS	43	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Current_underload_2	logic Application	TransformerAVR_GVL		Current_underload_2	BOOL		1		Current_underload_2		R	MODBUS	44	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Apparent_power_high_limit_exceeded	logic Application	TransformerAVR_GVL		Apparent_power_high_limit_exceeded	BOOL		1		Apparent_power_high_limit_exceeded		R	MODBUS	45	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Apparent_power_high_limit_2_exceeded	logic Application	TransformerAVR_GVL		Apparent_power_high_limit_2_exceeded	BOOL		1		Apparent_power_high_limit_2_exceeded		R	MODBUS	46	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Apparent_power_low_limit_exceeded	logic Application	TransformerAVR_GVL		Apparent_power_low_limit_exceeded	BOOL		1		Apparent_power_low_limit_exceeded		R	MODBUS	47	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Apparent_power_low_limit_2_exceeded	logic Application	TransformerAVR_GVL		Apparent_power_low_limit_2_exceeded	BOOL		1		Apparent_power_low_limit_2_exceeded		R	MODBUS	48	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Active_power_high_limit_exceeded	logic Application	TransformerAVR_GVL		Active_power_high_limit_exceeded	BOOL		1		Active_power_high_limit_exceeded		R	MODBUS	49	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Active_power_high_limit_2_exceeded	logic Application	TransformerAVR_GVL		Active_power_high_limit_2_exceeded	BOOL		1		Active_power_high_limit_2_exceeded		R	MODBUS	50	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Active_power_low_limit_exceeded	logic Application	TransformerAVR_GVL		Active_power_low_limit_exceeded	BOOL		1		Active_power_low_limit_exceeded		R	MODBUS	51	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Active_power_low_limit_2_exceeded	logic Application	TransformerAVR_GVL		Active_power_low_limit_2_exceeded	BOOL		1		Active_power_low_limit_2_exceeded		R	MODBUS	52	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Reactive_power_high_limit_exceeded	logic Application	TransformerAVR_GVL		Reactive_power_high_limit_exceeded	BOOL		1		Reactive_power_high_limit_exceeded		R	MODBUS	53	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Reactive_power_high_limit_2_exceeded	logic Application	TransformerAVR_GVL		Reactive_power_high_limit_2_exceeded	BOOL		1		Reactive_power_high_limit_2_exceeded		R	MODBUS	54	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Reactive_power_low_limit_exceeded	logic Application	TransformerAVR_GVL		Reactive_power_low_limit_exceeded	BOOL		1		Reactive_power_low_limit_exceeded		R	MODBUS	55	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Reactive_power_low_limit_2_exceeded	logic Application	TransformerAVR_GVL		Reactive_power_low_limit_2_exceeded	BOOL		1		Reactive_power_low_limit_2_exceeded		R	MODBUS	56	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Power_Factor_Cosinus_phi_low_limit_exceeded	logic Application	TransformerAVR_GVL		Power_Factor_Cosinus_phi_low_limit_exceeded	BOOL		1		Power_Factor_Cosinus_phi_low_limit_exceeded		R	MODBUS	57	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Power_Factor_Cosinus_phi_low_limit_2_exceeded	logic Application	TransformerAVR_GVL		Power_Factor_Cosinus_phi_Low_limit_2_exceeded	BOOL		1		Power_Factor_Cosinus_phi_low_limit_2_exceeded		R	MODBUS	58	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.Voltage_input_failure_eg_missing_connection	logic Application	TransformerAVR_GVL		Voltage_input_failure_eg_missing_connection	BOOL		1		Voltage_input_failure_eg_missing_connection		R	MODBUS	59	DISCRETE INPUTS	BOOL
Logic Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_failure_TDSC	logic Application	TransformerAVR_GVL		TAPCON_dynamic_set_point_control_failure_TDSC	BOOL		1		TAPCON_dynamic_set_point_control_failure_TDSC		R	MODBUS	112	DISCRETE INPUTS	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_1_GPC1	logic.Application	TransformerAVR_GVL		General_Purpose_Command_1_GPC1	BOOL		1		General_Purpose_Command_1_GPC1		R	MODBUS	113	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_2_GPC2	logic.Application	TransformerAVR_GVL		General_Purpose_Command_2_GPC2	BOOL		1		General_Purpose_Command_2_GPC2		R	MODBUS	114	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_3_GPC3	logic.Application	TransformerAVR_GVL		General_Purpose_Command_3_GPC3	BOOL		1		General_Purpose_Command_3_GPC3		R	MODBUS	115	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_4_GPC4	logic.Application	TransformerAVR_GVL		General_Purpose_Command_4_GPC4	BOOL		1		General_Purpose_Command_4_GPC4		R	MODBUS	116	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_5_GPC5	logic.Application	TransformerAVR_GVL		General_Purpose_Command_5_GPC5	BOOL		1		General_Purpose_Command_5_GPC5		R	MODBUS	117	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_6_GPC6	logic.Application	TransformerAVR_GVL		General_Purpose_Command_6_GPC6	BOOL		1		General_Purpose_Command_6_GPC6		R	MODBUS	118	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_7_GPC7	logic.Application	TransformerAVR_GVL		General_Purpose_Command_7_GPC7	BOOL		1		General_Purpose_Command_7_GPC7		R	MODBUS	119	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_8_GPC8	logic.Application	TransformerAVR_GVL		General_Purpose_Command_8_GPC8	BOOL		1		General_Purpose_Command_8_GPC8		R	MODBUS	120	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_9_GPC9	logic.Application	TransformerAVR_GVL		General_Purpose_Command_9_GPC9	BOOL		1		General_Purpose_Command_9_GPC9		R	MODBUS	121	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_10_GPC10	logic.Application	TransformerAVR_GVL		General_Purpose_Command_10_GPC10	BOOL		1		General_Purpose_Command_10_GPC10		R	MODBUS	122	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_1_GPM1	logic.Application	TransformerAVR_GVL		General_Purpose_Message_1_GPM1	BOOL		1		General_Purpose_Message_1_GPM1		R	MODBUS	123	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_2_GPM2	logic.Application	TransformerAVR_GVL		General_Purpose_Message_2_GPM2	BOOL		1		General_Purpose_Message_2_GPM2		R	MODBUS	124	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_3_GPM3	logic.Application	TransformerAVR_GVL		General_Purpose_Message_3_GPM3	BOOL		1		General_Purpose_Message_3_GPM3		R	MODBUS	125	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_4_GPM4	logic.Application	TransformerAVR_GVL		General_Purpose_Message_4_GPM4	BOOL		1		General_Purpose_Message_4_GPM4		R	MODBUS	126	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_5_GPM5	logic.Application	TransformerAVR_GVL		General_Purpose_Message_5_GPM5	BOOL		1		General_Purpose_Message_5_GPM5		R	MODBUS	127	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_6_GPM6	logic.Application	TransformerAVR_GVL		General_Purpose_Message_6_GPM6	BOOL		1		General_Purpose_Message_6_GPM6		R	MODBUS	128	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_7_GPM7	logic.Application	TransformerAVR_GVL		General_Purpose_Message_7_GPM7	BOOL		1		General_Purpose_Message_7_GPM7		R	MODBUS	129	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_8_GPM8	logic.Application	TransformerAVR_GVL		General_Purpose_Message_8_GPM8	BOOL		1		General_Purpose_Message_8_GPM8		R	MODBUS	130	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_9_GPM9	logic.Application	TransformerAVR_GVL		General_Purpose_Message_9_GPM9	BOOL		1		General_Purpose_Message_9_GPM9		R	MODBUS	131	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_10_GPM10	logic.Application	TransformerAVR_GVL		General_Purpose_Message_10_GPM10	BOOL		1		General_Purpose_Message_10_GPM10		R	MODBUS	132	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control	logic.Application	TransformerAVR_GVL		Desired_power_factor_selection_activation_parallel_control	BOOL		1		Desired_power_factor_selection_activation_parallel_control		R	MODBUS	363	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_load_type_selection	logic.Application	TransformerAVR_GVL		Desired_load_type_selection	BOOL		1		Desired_load_type_selection		R	MODBUS	364	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Motor_protective_switch_triggered	logic.Application	TransformerAVR_GVL		Motor_protective_switch_triggered	BOOL		1		Motor_protective_switch_triggered		R	MODBUS	570	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Information_active	logic.Application	TransformerAVR_GVL		Event_category_Information_active	BOOL		1		Event_category_Information_active		R	MODBUS	572	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Warning_active	logic.Application	TransformerAVR_GVL		Event_category_Warning_active	BOOL		1		Event_category_Warning_active		R	MODBUS	573	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Error_active	logic.Application	TransformerAVR_GVL		Event_category_Error_active	BOOL		1		Event_category_Error_active		R	MODBUS	574	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_1_low_limit_2_exceeded		R	MODBUS	695	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_low_limit_exceeded	BOOL		1		General_purpose_analog_input_1_low_limit_exceeded		R	MODBUS	696	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_high_limit_exceeded	BOOL		1		General_purpose_analog_input_1_high_limit_exceeded		R	MODBUS	697	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_1_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_1_high_limit_2_exceeded		R	MODBUS	698	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_2_low_limit_2_exceeded		R	MODBUS	699	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_low_limit_exceeded	BOOL		1		General_purpose_analog_input_2_low_limit_exceeded		R	MODBUS	700	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_high_limit_exceeded	BOOL		1		General_purpose_analog_input_2_high_limit_exceeded		R	MODBUS	701	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_2_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_2_high_limit_2_exceeded		R	MODBUS	702	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_3_low_limit_2_exceeded		R	MODBUS	703	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_low_limit_exceeded	BOOL		1		General_purpose_analog_input_3_low_limit_exceeded		R	MODBUS	704	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_high_limit_exceeded	BOOL		1		General_purpose_analog_input_3_high_limit_exceeded		R	MODBUS	705	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_3_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_3_high_limit_2_exceeded		R	MODBUS	706	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_4_low_limit_2_exceeded		R	MODBUS	707	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_low_limit_exceeded	BOOL		1		General_purpose_analog_input_4_low_limit_exceeded		R	MODBUS	708	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_high_limit_exceeded	BOOL		1		General_purpose_analog_input_4_high_limit_exceeded		R	MODBUS	709	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_4_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_4_high_limit_2_exceeded		R	MODBUS	710	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_5_low_limit_2_exceeded		R	MODBUS	711	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_low_limit_exceeded	BOOL		1		General_purpose_analog_input_5_low_limit_exceeded		R	MODBUS	712	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_high_limit_exceeded	BOOL		1		General_purpose_analog_input_5_high_limit_exceeded		R	MODBUS	713	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_5_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_5_high_limit_2_exceeded		R	MODBUS	714	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_6_low_limit_2_exceeded		R	MODBUS	715	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_low_limit_exceeded	BOOL		1		General_purpose_analog_input_6_low_limit_exceeded		R	MODBUS	716	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_high_limit_exceeded	BOOL		1		General_purpose_analog_input_6_high_limit_exceeded		R	MODBUS	717	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_6_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_6_high_limit_2_exceeded		R	MODBUS	718	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_7_low_limit_2_exceeded		R	MODBUS	719	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_low_limit_exceeded	BOOL		1		General_purpose_analog_input_7_low_limit_exceeded		R	MODBUS	720	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_high_limit_exceeded	BOOL		1		General_purpose_analog_input_7_high_limit_exceeded		R	MODBUS	721	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_7_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_7_high_limit_2_exceeded		R	MODBUS	722	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_8_low_limit_2_exceeded		R	MODBUS	723	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_low_limit_exceeded	BOOL		1		General_purpose_analog_input_8_low_limit_exceeded		R	MODBUS	724	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_high_limit_exceeded	BOOL		1		General_purpose_analog_input_8_high_limit_exceeded		R	MODBUS	725	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_8_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_8_high_limit_2_exceeded		R	MODBUS	726	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_9_low_limit_2_exceeded		R	MODBUS	727	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_low_limit_exceeded	BOOL		1		General_purpose_analog_input_9_low_limit_exceeded		R	MODBUS	728	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_high_limit_exceeded	BOOL		1		General_purpose_analog_input_9_high_limit_exceeded		R	MODBUS	729	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_9_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_9_high_limit_2_exceeded		R	MODBUS	730	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_10_low_limit_2_exceeded		R	MODBUS	731	DISCRETE INPUTS	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_low_limit_exceeded	BOOL		1		General_purpose_analog_input_10_low_limit_exceeded		R	MODBUS	732	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_high_limit_exceeded	BOOL		1		General_purpose_analog_input_10_high_limit_exceeded		R	MODBUS	733	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_10_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_10_high_limit_2_exceeded		R	MODBUS	734	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_11_low_limit_2_exceeded		R	MODBUS	735	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_low_limit_exceeded	BOOL		1		General_purpose_analog_input_11_low_limit_exceeded		R	MODBUS	736	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_high_limit_exceeded	BOOL		1		General_purpose_analog_input_11_high_limit_exceeded		R	MODBUS	737	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_11_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_11_high_limit_2_exceeded		R	MODBUS	738	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_low_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_low_limit_2_exceeded	BOOL		1		General_purpose_analog_input_12_low_limit_2_exceeded		R	MODBUS	739	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_low_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_low_limit_exceeded	BOOL		1		General_purpose_analog_input_12_low_limit_exceeded		R	MODBUS	740	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_high_limit_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_high_limit_exceeded	BOOL		1		General_purpose_analog_input_12_high_limit_exceeded		R	MODBUS	741	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_high_limit_2_exceeded	logic.Application	TransformerAVR_GVL		General_purpose_analog_input_12_high_limit_2_exceeded	BOOL		1		General_purpose_analog_input_12_high_limit_2_exceeded		R	MODBUS	742	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.OLTC_position_even	logic.Application	TransformerAVR_GVL		OLTC_position_even	BOOL		1		OLTC_position_even		R	MODBUS	834	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.OLTC_position_odd	logic.Application	TransformerAVR_GVL		OLTC_position_odd	BOOL		1		OLTC_position_odd		R	MODBUS	835	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Tap_change_operation_incomplete	logic.Application	TransformerAVR_GVL		Tap_change_operation_incomplete	BOOL		1		Tap_change_operation_incomplete		R	MODBUS	836	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Switching_delay_only_TC230_AVT	logic.Application	TransformerAVR_GVL		Switching_delay_only_TC230_AVT	BOOL		1		Switching_delay_only_TC230_AVT		R	MODBUS	854	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_1_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_1_DI_16_110V_1	BOOL		1		DIO_Input_X1_1_DI_16_110V_1		R	MODBUS	2002	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_2_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_2_DI_16_110V_1	BOOL		1		DIO_Input_X1_2_DI_16_110V_1		R	MODBUS	2003	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_3_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_3_DI_16_110V_1	BOOL		1		DIO_Input_X1_3_DI_16_110V_1		R	MODBUS	2004	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_4_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_4_DI_16_110V_1	BOOL		1		DIO_Input_X1_4_DI_16_110V_1		R	MODBUS	2005	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_5_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_5_DI_16_110V_1	BOOL		1		DIO_Input_X1_5_DI_16_110V_1		R	MODBUS	2006	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_6_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_6_DI_16_110V_1	BOOL		1		DIO_Input_X1_6_DI_16_110V_1		R	MODBUS	2007	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_7_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_7_DI_16_110V_1	BOOL		1		DIO_Input_X1_7_DI_16_110V_1		R	MODBUS	2008	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_8_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X1_8_DI_16_110V_1	BOOL		1		DIO_Input_X1_8_DI_16_110V_1		R	MODBUS	2009	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_1_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_1_DI_16_110V_1	BOOL		1		DIO_Input_X2_1_DI_16_110V_1		R	MODBUS	2010	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_2_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_2_DI_16_110V_1	BOOL		1		DIO_Input_X2_2_DI_16_110V_1		R	MODBUS	2011	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_3_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_3_DI_16_110V_1	BOOL		1		DIO_Input_X2_3_DI_16_110V_1		R	MODBUS	2012	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_4_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_4_DI_16_110V_1	BOOL		1		DIO_Input_X2_4_DI_16_110V_1		R	MODBUS	2013	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_5_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_5_DI_16_110V_1	BOOL		1		DIO_Input_X2_5_DI_16_110V_1		R	MODBUS	2014	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_6_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_6_DI_16_110V_1	BOOL		1		DIO_Input_X2_6_DI_16_110V_1		R	MODBUS	2015	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_7_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_7_DI_16_110V_1	BOOL		1		DIO_Input_X2_7_DI_16_110V_1		R	MODBUS	2016	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_8_DI_16_110V_1	logic.Application	TransformerAVR_GVL		DIO_Input_X2_8_DI_16_110V_1	BOOL		1		DIO_Input_X2_8_DI_16_110V_1		R	MODBUS	2017	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_width_voltage	logic.Application	TransformerAVR_GVL		Band_width_voltage	FLOAT		1		Band_width_voltage		R	MODBUS	0	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_intentional_time_delay_for_regulation_of_voltage	logic.Application	TransformerAVR_GVL		Control_intentional_time_delay_for_regulation_of_voltage	FLOAT		1		Control_intentional_time_delay_for_regulation_of_voltage		R	MODBUS	1	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_resistance_component	logic.Application	TransformerAVR_GVL		Line_drop_voltage_due_to_line_resistance_component	FLOAT		1		Line_drop_voltage_due_to_line_resistance_component		R	MODBUS	2	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_reactance_component	logic.Application	TransformerAVR_GVL		Line_drop_voltage_due_to_line_reactance_component	FLOAT		1		Line_drop_voltage_due_to_line_reactance_component		R	MODBUS	3	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_voltage_below_which_auto_Lower_commands_blocked	logic.Application	TransformerAVR_GVL		Control_voltage_below_which_auto_Lower_commands_blocked	FLOAT		1		Control_voltage_below_which_auto_Lower_commands_blocked		R	MODBUS	4	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Limit_load_Current	logic.Application	TransformerAVR_GVL		Limit_Load_Current	FLOAT		1		Limit_Load_Current		R	MODBUS	5	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_total_impedance	logic.Application	TransformerAVR_GVL		Line_drop_voltage_due_to_line_total_impedance	FLOAT		1		Line_drop_voltage_due_to_line_total_impedance		R	MODBUS	6	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked	logic.Application	TransformerAVR_GVL		Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked	FLOAT		1		Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked		R	MODBUS	7	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked	logic.Application	TransformerAVR_GVL		Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked	FLOAT		1		Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked		R	MODBUS	8	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_1	logic.Application	TransformerAVR_GVL		Band_center_voltage_1_1	FLOAT		1		Band_center_voltage_1_1		R	MODBUS	9	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_1	logic.Application	TransformerAVR_GVL		Band_center_voltage_2_1	FLOAT		1		Band_center_voltage_2_1		R	MODBUS	10	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_1	logic.Application	TransformerAVR_GVL		Band_center_voltage_3_1	FLOAT		1		Band_center_voltage_3_1		R	MODBUS	11	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_1	logic.Application	TransformerAVR_GVL		Minumum_voltage_value_for_dynamic_setpoint_control_1	FLOAT		1		Minumum_voltage_value_for_dynamic_setpoint_control_1		R	MODBUS	14	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_1	logic.Application	TransformerAVR_GVL		Maximum_voltage_value_for_dynamic_setpoint_control_1	FLOAT		1		Maximum_voltage_value_for_dynamic_setpoint_control_1		R	MODBUS	15	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1	logic.Application	TransformerAVR_GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1	FLOAT		1		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1		R	MODBUS	16	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_active_power_value_for_dynamic_setpoint_control_1	logic.Application	TransformerAVR_GVL		Minumum_active_power_value_for_dynamic_setpoint_control_1	FLOAT		1		Minumum_active_power_value_for_dynamic_setpoint_control_1		R	MODBUS	17	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_1	logic.Application	TransformerAVR_GVL		Maximum_active_power_value_for_dynamic_setpoint_control_1	FLOAT		1		Maximum_active_power_value_for_dynamic_setpoint_control_1		R	MODBUS	18	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_4	logic.Application	TransformerAVR_GVL		Band_center_voltage_4	FLOAT		1		Band_center_voltage_4		R	MODBUS	25	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage_1	logic.Application	TransformerAVR_GVL		Control_Voltage_1	FLOAT		1		Control_Voltage_1		R	MODBUS	26	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage_Deviation	logic.Application	TransformerAVR_GVL		Control_Voltage_Deviation	FLOAT		1		Control_Voltage_Deviation		R	MODBUS	27	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Load_Current	logic.Application	TransformerAVR_GVL		Load_Current	FLOAT		1		Load_Current		R	MODBUS	28	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_of_LodA_relative_to_CtlV	logic.Application	TransformerAVR_GVL		Phase_Angle_of_LodA_relative_to_CtlV	FLOAT		1		Phase_Angle_of_LodA_relative_to_CtlV		R	MODBUS	29	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Circulating_Current_reactive	logic.Application	TransformerAVR_GVL		Circulating_Current_reactive	FLOAT		1		Circulating_Current_reactive		R	MODBUS	30	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_active_power_total_P_1	logic.Application	TransformerAVR_GVL		Total_active_power_total_P_1	FLOAT		1		Total_active_power_total_P_1		R	MODBUS	31	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_reactive_power_total_Q_1	logic.Application	TransformerAVR_GVL		Total_reactive_power_total_Q_1	FLOAT		1		Total_reactive_power_total_Q_1		R	MODBUS	32	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_apparent_power_total_S_1	logic.Application	TransformerAVR_GVL		Total_apparent_power_total_S_1	FLOAT		1		Total_apparent_power_total_S_1		R	MODBUS	33	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Average_power_factor_total_PF	logic.Application	TransformerAVR_GVL		Average_power_factor_total_PF	FLOAT		1		Average_power_factor_total_PF		R	MODBUS	34	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Frequency	logic.Application	TransformerAVR_GVL		Frequency	FLOAT		1		Frequency		R	MODBUS	35	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L1L2_1	logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L1L2_1	FLOAT		1		Phase_to_phase_voltage_L1L2_1		R	MODBUS	36	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L2L3_1	logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L2L3_1	FLOAT		1		Phase_to_phase_voltage_L2L3_1		R	MODBUS	37	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L3L1_1	logic.Application	TransformerAVR_GVL		Phase_to_phase_voltage_L3L1_1	FLOAT		1		Phase_to_phase_voltage_L3L1_1		R	MODBUS	38	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L1_1	logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L1_1	FLOAT		1		Phase_to_neutral_voltage_L1_1		R	MODBUS	39	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L2_1	logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L2_1	FLOAT		1		Phase_to_neutral_voltage_L2_1		R	MODBUS	40	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L3_1	logic.Application	TransformerAVR_GVL		Phase_to_neutral_voltage_L3_1	FLOAT		1		Phase_to_neutral_voltage_L3_1		R	MODBUS	41	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L1	logic.Application	TransformerAVR_GVL		Phase_current_L1	FLOAT		1		Phase_current_L1		R	MODBUS	42	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L2	logic.Application	TransformerAVR_GVL		Phase_current_L2	FLOAT		1		Phase_current_L2		R	MODBUS	43	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L3	logic.Application	TransformerAVR_GVL		Phase_current_L3	FLOAT		1		Phase_current_L3		R	MODBUS	44	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_N	logic.Application	TransformerAVR_GVL		Phase_current_N	FLOAT		1		Phase_current_N		R	MODBUS	45	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L1_1	logic.Application	TransformerAVR_GVL		Phase_active_power_P_L1_1	FLOAT		1		Phase_active_power_P_L1_1		R	MODBUS	46	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L2_1	logic.Application	TransformerAVR_GVL		Phase_active_power_P_L2_1	FLOAT		1		Phase_active_power_P_L2_1		R	MODBUS	47	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L3_1	logic.Application	TransformerAVR_GVL		Phase_active_power_P_L3_1	FLOAT		1		Phase_active_power_P_L3_1		R	MODBUS	48	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L1_1	logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L1_1	FLOAT		1		Phase_reactive_power_Q_L1_1		R	MODBUS	49	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L2_1	logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L2_1	FLOAT		1		Phase_reactive_power_Q_L2_1		R	MODBUS	50	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L3_1	logic.Application	TransformerAVR_GVL		Phase_reactive_power_Q_L3_1	FLOAT		1		Phase_reactive_power_Q_L3_1		R	MODBUS	51	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L1_1	logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L1_1	FLOAT		1		Phase_apparent_power_S_L1_1		R	MODBUS	52	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L2_1	logic.Application	TransformerAVR_GVL		Phase_apparent_power_S_L2_1	FLOAT		1		Phase_apparent_power_S_L2_1		R	MODBUS	53	INPUT REGISTER	FLOAT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	SubComponent	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L3_1	logic.Application	TransformerAVR.GVL		Phase_apparent_power_S_L3_1	FLOAT		1		Phase_apparent_power_S_L3_1		R	MODBUS	54	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L1	logic.Application	TransformerAVR.GVL		Phase_power_factor_L1	FLOAT		1		Phase_power_factor_L1		R	MODBUS	55	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L2	logic.Application	TransformerAVR.GVL		Phase_power_factor_L2	FLOAT		1		Phase_power_factor_L2		R	MODBUS	56	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L3	logic.Application	TransformerAVR.GVL		Phase_power_factor_L3	FLOAT		1		Phase_power_factor_L3		R	MODBUS	57	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U1I1	logic.Application	TransformerAVR.GVL		Phase_Angle_U1I1	FLOAT		1		Phase_Angle_U1I1		R	MODBUS	58	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U2I2	logic.Application	TransformerAVR.GVL		Phase_Angle_U2I2	FLOAT		1		Phase_Angle_U2I2		R	MODBUS	59	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U3I3	logic.Application	TransformerAVR.GVL		Phase_Angle_U3I3	FLOAT		1		Phase_Angle_U3I3		R	MODBUS	60	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_Position	logic.Application	TransformerAVR.GVL		Tap_Position	FLOAT		1		Tap_Position		R	MODBUS	61	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Operation_counter_LSB_MSB	logic.Application	TransformerAVR.GVL		Operation_counter_LSB_MSB	FLOAT		1		Operation_counter_LSB_MSB		R	MODBUS	174	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Operation_counter_MSB	logic.Application	TransformerAVR.GVL		Operation_counter_MSB	FLOAT		1		Operation_counter_MSB		R	MODBUS	175	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Desired_power_factor	logic.Application	TransformerAVR.GVL		Desired_power_factor	FLOAT		1		Desired_power_factor		R	MODBUS	184	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_1	FLOAT		1		General_purpose_analog_input_1		R	MODBUS	480	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_2	FLOAT		1		General_purpose_analog_input_2		R	MODBUS	481	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_3	FLOAT		1		General_purpose_analog_input_3		R	MODBUS	482	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_4	FLOAT		1		General_purpose_analog_input_4		R	MODBUS	483	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_5	FLOAT		1		General_purpose_analog_input_5		R	MODBUS	484	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_6	FLOAT		1		General_purpose_analog_input_6		R	MODBUS	485	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_7	FLOAT		1		General_purpose_analog_input_7		R	MODBUS	486	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_8	FLOAT		1		General_purpose_analog_input_8		R	MODBUS	487	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_9	FLOAT		1		General_purpose_analog_input_9		R	MODBUS	488	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_10	FLOAT		1		General_purpose_analog_input_10		R	MODBUS	489	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_11	FLOAT		1		General_purpose_analog_input_11		R	MODBUS	490	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12	logic.Application	TransformerAVR.GVL		General_purpose_analog_input_12	FLOAT		1		General_purpose_analog_input_12		R	MODBUS	491	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1	logic.Application	TransformerAVR.GVL		Band_center_voltage_1	FLOAT		1		Band_center_voltage_1		R	MODBUS	516	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2	logic.Application	TransformerAVR.GVL		Band_center_voltage_2	FLOAT		1		Band_center_voltage_2		R	MODBUS	517	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3	logic.Application	TransformerAVR.GVL		Band_center_voltage_3	FLOAT		1		Band_center_voltage_3		R	MODBUS	518	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage	logic.Application	TransformerAVR.GVL		Band_center_voltage	FLOAT		1		Band_center_voltage		R	MODBUS	521	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage	logic.Application	TransformerAVR.GVL		Control_Voltage	FLOAT		1		Control_Voltage		R	MODBUS	522	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_active_power_total_P	logic.Application	TransformerAVR.GVL		Total_active_power_total_P	FLOAT		1		Total_active_power_total_P		R	MODBUS	523	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_reactive_power_total_Q	logic.Application	TransformerAVR.GVL		Total_reactive_power_total_Q	FLOAT		1		Total_reactive_power_total_Q		R	MODBUS	524	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_apparent_power_total_S	logic.Application	TransformerAVR.GVL		Total_apparent_power_total_S	FLOAT		1		Total_apparent_power_total_S		R	MODBUS	525	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L1L2	logic.Application	TransformerAVR.GVL		Phase_to_phase_voltage_L1L2	FLOAT		1		Phase_to_phase_voltage_L1L2		R	MODBUS	526	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L2L3	logic.Application	TransformerAVR.GVL		Phase_to_phase_voltage_L2L3	FLOAT		1		Phase_to_phase_voltage_L2L3		R	MODBUS	527	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L3L1	logic.Application	TransformerAVR.GVL		Phase_to_phase_voltage_L3L1	FLOAT		1		Phase_to_phase_voltage_L3L1		R	MODBUS	528	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L1	logic.Application	TransformerAVR.GVL		Phase_to_neutral_voltage_L1	FLOAT		1		Phase_to_neutral_voltage_L1		R	MODBUS	529	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L2	logic.Application	TransformerAVR.GVL		Phase_to_neutral_voltage_L2	FLOAT		1		Phase_to_neutral_voltage_L2		R	MODBUS	530	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L3	logic.Application	TransformerAVR.GVL		Phase_to_neutral_voltage_L3	FLOAT		1		Phase_to_neutral_voltage_L3		R	MODBUS	531	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L1	logic.Application	TransformerAVR.GVL		Phase_active_power_P_L1	FLOAT		1		Phase_active_power_P_L1		R	MODBUS	532	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L2	logic.Application	TransformerAVR.GVL		Phase_active_power_P_L2	FLOAT		1		Phase_active_power_P_L2		R	MODBUS	533	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L3	logic.Application	TransformerAVR.GVL		Phase_active_power_P_L3	FLOAT		1		Phase_active_power_P_L3		R	MODBUS	534	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L1	logic.Application	TransformerAVR.GVL		Phase_reactive_power_Q_L1	FLOAT		1		Phase_reactive_power_Q_L1		R	MODBUS	535	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L2	logic.Application	TransformerAVR.GVL		Phase_reactive_power_Q_L2	FLOAT		1		Phase_reactive_power_Q_L2		R	MODBUS	536	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L3	logic.Application	TransformerAVR.GVL		Phase_reactive_power_Q_L3	FLOAT		1		Phase_reactive_power_Q_L3		R	MODBUS	537	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L1	logic.Application	TransformerAVR.GVL		Phase_apparent_power_S_L1	FLOAT		1		Phase_apparent_power_S_L1		R	MODBUS	538	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L2	logic.Application	TransformerAVR.GVL		Phase_apparent_power_S_L2	FLOAT		1		Phase_apparent_power_S_L2		R	MODBUS	539	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L3	logic.Application	TransformerAVR.GVL		Phase_apparent_power_S_L3	FLOAT		1		Phase_apparent_power_S_L3		R	MODBUS	540	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control	logic.Application	TransformerAVR.GVL		Minumum_voltage_value_for_dynamic_setpoint_control	FLOAT		1		Minumum_voltage_value_for_dynamic_setpoint_control		R	MODBUS	541	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control	logic.Application	TransformerAVR.GVL		Maximum_voltage_value_for_dynamic_setpoint_control	FLOAT		1		Maximum_voltage_value_for_dynamic_setpoint_control		R	MODBUS	542	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W	logic.Application	TransformerAVR.GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W	FLOAT		1		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W		R	MODBUS	543	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_active_power_value_for_dynamic_setpoint_control	logic.Application	TransformerAVR.GVL		Minumum_active_power_value_for_dynamic_setpoint_control	FLOAT		1		Minumum_active_power_value_for_dynamic_setpoint_control		R	MODBUS	544	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control	logic.Application	TransformerAVR.GVL		Maximum_active_power_value_for_dynamic_setpoint_control	FLOAT		1		Maximum_active_power_value_for_dynamic_setpoint_control		R	MODBUS	545	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Target_tap_position	logic.Application	TransformerAVR.GVL		Target_tap_position	FLOAT		1		Target_tap_position		R	MODBUS	551	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_width_voltage_CMD	logic.Application	TransformerAVR.GVL		Band_width_voltage_CMD	FLOAT		1		Band_width_voltage_CMD		W	MODBUS	0	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_intentional_time_delay_for_regulation_of_voltage_CMD	logic.Application	TransformerAVR.GVL		Control_intentional_time_delay_for_regulation_of_voltage_CMD	FLOAT		1		Control_intentional_time_delay_for_regulation_of_voltage_CMD		W	MODBUS	1	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_resistance_component_CMD	logic.Application	TransformerAVR.GVL		Line_drop_voltage_due_to_line_resistance_component_CMD	FLOAT		1		Line_drop_voltage_due_to_line_resistance_component_CMD		W	MODBUS	2	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_reactance_component_CMD	logic.Application	TransformerAVR.GVL		Line_drop_voltage_due_to_line_reactance_component_CMD	FLOAT		1		Line_drop_voltage_due_to_line_reactance_component_CMD		W	MODBUS	3	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_voltage_below_which_auto_Lower_commands_blocked_CMD	logic.Application	TransformerAVR.GVL		Control_voltage_below_which_auto_Lower_commands_blocked_CMD	FLOAT		1		Control_voltage_below_which_auto_Lower_commands_blocked_CMD		W	MODBUS	4	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Limit_Load_Current_CMD	logic.Application	TransformerAVR.GVL		Limit_Load_Current_CMD	FLOAT		1		Limit_Load_Current_CMD		W	MODBUS	5	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_total_impedance_CMD	logic.Application	TransformerAVR.GVL		Line_drop_voltage_due_to_line_total_impedance_CMD	FLOAT		1		Line_drop_voltage_due_to_line_total_impedance_CMD		W	MODBUS	6	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD	logic.Application	TransformerAVR.GVL		Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD	FLOAT		1		Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD		W	MODBUS	7	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD	logic.Application	TransformerAVR.GVL		Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD	FLOAT		1		Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD		W	MODBUS	8	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_1_CMD	logic.Application	TransformerAVR.GVL		Band_center_voltage_1_1_CMD	FLOAT		1		Band_center_voltage_1_1_CMD		W	MODBUS	9	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_1_CMD	logic.Application	TransformerAVR.GVL		Band_center_voltage_2_1_CMD	FLOAT		1		Band_center_voltage_2_1_CMD		W	MODBUS	10	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_1_CMD	logic.Application	TransformerAVR.GVL		Band_center_voltage_3_1_CMD	FLOAT		1		Band_center_voltage_3_1_CMD		W	MODBUS	11	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD	logic.Application	TransformerAVR.GVL		Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1		Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	14	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD	logic.Application	TransformerAVR.GVL		Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1		Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	15	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD	logic.Application	TransformerAVR.GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD	FLOAT		1		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD		W	MODBUS	16	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD	logic.Application	TransformerAVR.GVL		Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1		Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	17	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD	logic.Application	TransformerAVR.GVL		Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1		Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	18	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Desired_power_factor_CMD	logic.Application	TransformerAVR.GVL		Desired_power_factor_CMD	FLOAT		1		Desired_power_factor_CMD		W	MODBUS	184	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_CMD	logic.Application	TransformerAVR.GVL		Band_center_voltage_1_CMD	FLOAT		1		Band_center_voltage_1_CMD		W	MODBUS	516	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_CMD	logic.Application	TransformerAVR.GVL		Band_center_voltage_2_CMD	FLOAT		1		Band_center_voltage_2_CMD		W	MODBUS	517	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_CMD	logic.Application	TransformerAVR.GVL		Band_center_voltage_3_CMD	FLOAT		1		Band_center_voltage_3_CMD		W	MODBUS	518	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_CMD	logic.Application	TransformerAVR.GVL		Minumum_voltage_value_for_dynamic_setpoint_control_CMD	FLOAT		1		Minumum_voltage_value_for_dynamic_setpoint_control_CMD		W	MODBUS	541	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_CMD	logic.Application	TransformerAVR.GVL		Maximum_voltage_value_for_dynamic_setpoint_control_CMD	FLOAT		1		Maximum_voltage_value_for_dynamic_setpoint_control_CMD		W	MODBUS	542	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_CMD	logic.Application	TransformerAVR.GVL		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_CMD	FLOAT		1		Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_CMD		W	MODBUS	543	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minimum_active_power_value_for_dynamic_setpoint_control_CMD	logic.Application	TransformerAVR.GVL		Minimum_active_power_value_for_dynamic_setpoint_control_CMD	FLOAT		1		Minimum_active_power_value_for_dynamic_setpoint_control_CMD		W	MODBUS	544	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_CMD	logic.Application	TransformerAVR.GVL		Maximum_active_power_value_for_dynamic_setpoint_control_CMD	FLOAT		1		Maximum_active_power_value_for_dynamic_setpoint_control_CMD		W	MODBUS	545	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Target_tap_position_CMD	logic.Application	TransformerAVR.GVL		Target_tap_position_CMD	FLOAT		1		Target_tap_position_CMD		W	MODBUS	551	HOLDING REGISTER	FLOAT
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_MAINTENANCE_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.PreconditionsActive	BOOL		1				R	Internal logic			BOOL
Logic.Application.Wind_Farm_GVL.HNAS_AFA70_ActivePower	logic.Application	Wind_Farm_GVL	HNAS_AFA70	ActivePower	DOUBLE	MW	1		Active Power Production		R	OPC-UA			DOUBLE
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.ActivationTime	Real		1				R	Internal logic			Real

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EMCS Address Space (OPC-UA)

OPC-UA Path	Prefix	Component	Sub Component	Tag Name	Type	Unit	Scale Factor	Range	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Current_L1	logic.Application	Wind_Farm_GVL	HNA5_AFA70	Current_L1	DOUBLE	A	1		Current Phase U		R	OPC-UA			DOUBLE
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Current_L2	logic.Application	Wind_Farm_GVL	HNA5_AFA70	Current_L2	DOUBLE	A	1		Current Phase V		R	OPC-UA			DOUBLE
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Current_L3	logic.Application	Wind_Farm_GVL	HNA5_AFA70	Current_L3	DOUBLE	A	1		Current Phase W		R	OPC-UA			DOUBLE
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_NONE_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_POWER_OUT_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ReactivePower	logic.Application	Wind_Farm_GVL	HNA5_AFA70	ReactivePower	DOUBLE		1		Reactive Power Production		R	OPC-UA			DOUBLE
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Voltage_L1	logic.Application	Wind_Farm_GVL	HNA5_AFA70	Voltage_L1	DOUBLE		1		Voltage Phase U		R	OPC-UA			DOUBLE
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Voltage_L2	logic.Application	Wind_Farm_GVL	HNA5_AFA70	Voltage_L2	DOUBLE		1		Voltage Phase V		R	OPC-UA			DOUBLE
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Voltage_L3	logic.Application	Wind_Farm_GVL	HNA5_AFA70	Voltage_L3	DOUBLE		1		Voltage Phase W		R	OPC-UA			DOUBLE
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_StatusCode	logic.Application	Wind_Farm_GVL	HNA5_AFA70	StatusCode	INT32		1		Reflects turbine state 0= Operating on Grid 1= Operating- waiting for converter cut-in 2= Operating- waiting for release 3= Operating- waiting for wind/ acceleration 4= Stopped - pitch exercising/lubrication 5= Stopped - untwisting cables 6= Stopped - Wind Speed too high *7= Stopped - Grid Error *8= Stopped - Error with auto reset (only applicable for WTC3) *9= Stopped - manual alarm reset required *10 = Safety Stop (only applicable for WTC3) *11= Remote Stop	The * prefix indicates that the status lead to a Wind Tuerbine fault	R	OPC-UA			INT32
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_PreconditionsActive	logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.PreconditionsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_IsActive	logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.IsActive	BOOL	-	1				R	Internal logic			BOOL
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_ActivationTime	logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.ActivationTime	Float		1				R	Internal logic			Float
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_ExecutorStatus	logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.ExecutorStatus	Int16		1		Enumeration 0:Idle 1:Init 2:Running 3:Stopping		R	Internal logic			Int16
Logic.Application.Wind_Farm_GVL.HNA5_QA1_Status	logic.Application	Wind_Farm_GVL	HNA5_QA1	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_CBQA1/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_QZ91_Status	logic.Application	Wind_Farm_GVL	HNA5_QZ91	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_DSQZ91/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_QZ92_Status	logic.Application	Wind_Farm_GVL	HNA5_QZ92	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_DSQZ92/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_QZ93_Status	logic.Application	Wind_Farm_GVL	HNA5_QZ93	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_DSQZ93/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_EQZ91_Status	logic.Application	Wind_Farm_GVL	HNA5_EQZ91	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_ESQZ91/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_EQZ92_Status	logic.Application	Wind_Farm_GVL	HNA5_EQZ92	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_ESQZ92/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_EQZ93_Status	logic.Application	Wind_Farm_GVL	HNA5_EQZ93	Status	UDINT		1		0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	OPC-UA	HNA5_ESQZ93/CSWI1/Pos/stVal[ST]		UDINT
Logic.Application.Wind_Farm_GVL.HNA5_Signals_Auto_reclose_disabled	logic.Application	Wind_Farm_GVL	HNA5_Signals	Auto_reclose_disabled	BOOL		1		0: Enabled, 1: Disabled		R	OPC-UA	HNA5_Signals/USER1/AROFF/stVal[ST]		BOOL
Logic.Application.Wind_Farm_GVL.HNA5_Signals_SWG_Tripped_Lockout	logic.Application	Wind_Farm_GVL	HNA5_Signals	SWG_Tripped_Lockout	BOOL		1		0:Healthy, 1:Tripped and Lockout		R	OPC-UA	HNA5_Signals/USER1/Lockout/stVal[ST]		BOOL
Logic.Application.Wind_Farm_GVL.HNA5_Signals_NoGridVoltage	logic.Application	Wind_Farm_GVL	HNA5_Signals	NoGridVoltage	BOOL		1		0:Grid Voltage, 1:No Grid Voltage		R	OPC-UA	HNA5_Signals/USER1/NoGridVlt/stVal[ST]		BOOL
Logic.Application.Wind_Farm_GVL.HNA5_Signals_Switchgear_Remote_Mode	logic.Application	Wind_Farm_GVL	HNA5_Signals	Switchgear_Remote_Mode	BOOL		1		0:Local, 1:Remote		R	OPC-UA	HNA5_Signals/USER1/SWGRemote/stVal[ST]		BOOL
Logic.Application.Wind_Farm_GVL.HNA5_Vl3p1_Current_phase_A	logic.Application	Wind_Farm_GVL	HNA5_Vl3p1	Current_phase_A	REAL	A	1				R	OPC-UA	HNA5_Vl3p1_OperationalValues/RPRE_MMXU1/A.phsA/cVal.mag.f[MX]		REAL
Logic.Application.Wind_Farm_GVL.HNA5_Vl3p1_Current_phase_B	logic.Application	Wind_Farm_GVL	HNA5_Vl3p1	Current_phase_B	REAL	A	1				R	OPC-UA	HNA5_Vl3p1_OperationalValues/RPRE_MMXU1/A.phsB/cVal.mag.f[MX]		REAL
Logic.Application.Wind_Farm_GVL.HNA5_Vl3p1_Current_phase_C	logic.Application	Wind_Farm_GVL	HNA5_Vl3p1	Current_phase_C	REAL	A	1				R	OPC-UA	HNA5_Vl3p1_OperationalValues/RPRE_MMXU1/A.phsC/cVal.mag.f[MX]		REAL
Logic.Application.Wind_Farm_GVL.HNA5_Vl3p1_Current_Neutral_point_measured	logic.Application	Wind_Farm_GVL	HNA5_Vl3p1	Current_Neutral_point_measured	REAL	A	1				R	OPC-UA			REAL
Logic.Application.Wind_Farm_GVL.HNA5_QA1_ReadyToClose	logic.Application	Wind_Farm_GVL	HNA5_QA1	ReadyToClose			1			Still missing in the source I/O list	R	OPC-UA			
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_Inertia	logic.Application	EMCS_StatusMachine		MODE_RESEARCH_STATUS.Inertia	Int16		1				R	Internal logic			Int16
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SPARE1_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SPARE 1_1	BOOL	-	1		spare		R	PROFINET	110 (Bit Reference 14)	INPUT REGISTER	BOOL
Logic.Application.ELECTROLYZER_GVL.InterlockProcessFaultWarning_SPARE2_1	logic.Application	ELECTROLYZER_GVL	InterlockProcessFaultWarning	SPARE 2_1	BOOL	-	1		spare		R	PROFINET	110 (Bit Reference 15)	INPUT REGISTER	BOOL
Logic.Application.IO_CARD_GVL.INPUT_012	logic.Application	IO_CARD_GVL		INPUT_012	BOOL	-	1			Hardwired signal	R				BOOL
Logic.Application.IO_CARD_GVL.INPUT_022	logic.Application	IO_CARD_GVL		INPUT_022	BOOL	-	1			Hardwired signal	R				BOOL
Logic.Application.IO_CARD_GVL.INPUT_023	logic.Application	IO_CARD_GVL		INPUT_023	BOOL	-	1			Hardwired signal	R				BOOL
Logic.Application.IO_CARD_GVL.INPUT_024	logic.Application	IO_CARD_GVL		INPUT_024	BOOL	-	1			Hardwired signal	R				BOOL

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	Notes
PCS.EMCS.PermToStartFC	Coil	02	BOOL	-	Permissive to start Fuel Cell sent by PCS	Permissive to start the Fuel Cell
PCS.EMCS.PermToStartEL	Coil	03	BOOL	-	Permissive to start Electrolyzer sent by PCS	Permissive to start the Electrolyzer
PCS.EMCS.ProcessFullyCharged	Coil	04	BOOL	-	PCS indicates if the Fuel Tanks are full	Flag indicating when the Hydrogen Storage is full
PCS.EMCS.BESSFault	Coil	05	BOOL	-	Sent by PCS. 1: fault; 0: OK. When 1 the BESS must be immediately stopped	
PCS.EMCS.ESD-1D	Coil	06	BOOL	-	PCS commands the EMCS to go in Power Out mode	
PCS.CmdToLoadShedStage1	DiscreteInput	01	BOOL	-	Request sent from EMCS to PCS to activate the Load Shedding of EMERGENCY MODE	The load shedding of the devices belonging to the first list is performed
PCS.CmdToLoadShedStage2	DiscreteInput	02	BOOL	-	Request sent from EMCS to PCS to activate the Load Shedding of LOW BESS LEVEL	The load shedding of the devices belonging to the second list is performed
PCS.EntertMode	InputRegister	01	UINT16	-	EMCS Mode Enumeration 0:NONE 1:IDLE 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	Request sent by the EMCS to the PCS to enter in a specific mode. The PCS monitor the value change to capture the mode request. POWER OUT mode is a special condition. The EMCS move to the POWER OUT mode without waiting the PCS permission.
PCS.CurrentMode	InputRegister	02	UINT16	-	EMCS Mode Enumeration 0:NONE 1:IDLE 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	EMCS communicates through this register which is its current MODE. The PCS listen for the mode change. If the POWER OUT MODE is reached, the PCS takes the predefined actions (trip everything)

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	Notes
FuelCellOperatingStatus	InputRegister	03	UINT16		6: Initialization (Initialize) 10: Sleep (Sleep) 14: Wakeup (StartupContainerVentilation) 17: Wakeup (FCwaveWakeup) 19: Wakeup (HydrogenHeaterStartup) 20: Standby (Standby) 30: Startup (BatteryStartup) 40: Startup (NanogridStartup) 50: Startup (LTCoolantStartup) 60: Startup (MicrogridStartup) 100:Running (Running) 105:Rampdown (RampDownPower) 110:Rampdown (MicrogridShutdown) 120:Rampdown (ChargeBattery) 130:Rampdown (ShutdownFCwaves) 140:Aftercool (Aftercool) 160:Shutdown (ShutdownNanogrid) 172:Shutdown (ShutdownHydorgenHeater) 180:Shutdown (PutFCwavesToSleep) 190:Shutdown (ShutdownVentilation) 200:Error (Error)	
ElectrolyzerOperatingStatus	InputRegister	04	UINT16		LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress	
FuelCell_FC1_State	InputRegister	05	UINT16		Reading FC1 state from FC	Reading from FC States
FuelCell_FC2_State	InputRegister	06	UINT16		Reading FC2 state from FC	
FuelCell_FC3_State	InputRegister	07	UINT16		Reading FC3 state from FC	
FuelCell_FC4_State	InputRegister	08	UINT16		Reading FC4 state from FC	
FuelCell_FC5_State	InputRegister	09	UINT16		Reading FC5 state from FC	
FuelCell_FC6_State	InputRegister	10	UINT16		Reading FC6 state from FC	
Water_request	InputRegister	11	BOOL		WTP Signal Reading from Electrolyzer	

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	Notes
PCS.EMCS.PermToEnterMode	HoldingRegister	01	UINT16	-	EMCS Mode Enmeration 0:NONE 1:IDLE 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	Permissive to enter in the mode indicated by the register value.
PCS.EMCS.HydrogenLevel	HoldingRegister	02	UINT16	Kg	Hydrogen level in Kg. PCS communicates the level periodically to the EMCS.	
Spare	HoldingRegister	03	INT16			
PCS.PermissiveModeTimeout	HoldingRegister	04	UINT16	s	Default 3 sec	
PCS.WTP.PH	HoldingRegister	05-06	FLOAT	pH	Fresh water outlet pH	Most Significant Register First
PCS.WTP.Temperature	HoldingRegister	07-08	FLOAT	°C	Fresh water outlet temperature	Most Significant Register First
PCS.WTP.Hardness	HoldingRegister	09-10	FLOAT	ppm CaCO3	Fresh water outlet total hardness	Most Significant Register First
PCS.WTP.Conductivity	HoldingRegister	11-12	FLOAT	uS/cm	Fresh water conductivity from A-50007A/B	Most Significant Register First
PCS_Spare_1	HoldingRegister	13-14	FLOAT		SPARE	
PCS_Spare_2	HoldingRegister	15-16	FLOAT		SPARE	
PCS_Spare_3	HoldingRegister	17-18	FLOAT		SPARE	
PCS_Spare_4	HoldingRegister	19-20	FLOAT		SPARE	
PCS.BESS_ActivePowerSetPointCmd	HoldingRegister	21-22	FLOAT	kW	BESS Active Power Set Point [-1000, 1000]	Most Significant Register First
PCS.BESS_OperatingStatusCmd	HoldingRegister	23	INT16	-	BitMask Dec 0: Stop; 0 1:Reset; 1 13: Start 8192	

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	EMCS_IO_List	Date: 11/06/2025 Rev. 02

EMCS HW I/O

Tag	From Equipment	From Device	To Equipment	To Device	COMM Interf.	Signal Type	Remark	Address	OPC UA Path
GRID FORMING MODE	EMCS	AXION DO Module	BESS	BESS	HW I/O	DO	cable 85002-CEC	0	
VENTILATION FAILURE	EMCS	AXION DI Module	EMCS PANEL	EMCS PANEL	HW I/O	DI	cable 85002-CEC	12	Logic.Application.IO_CARD_GVL.INPUT_012
POWER SUPPLY FAILURE	EMCS	AXION DI Module	EMCS PANEL	EMCS PANEL	HW I/O	DI	cable 85002-CEC	22	Logic.Application.IO_CARD_GVL.INPUT_022
BREAKER FAILURE	EMCS	AXION DI Module	EMCS PANEL	EMCS PANEL	HW I/O	DI	cable 85002-CEC	23	Logic.Application.IO_CARD_GVL.INPUT_023
HIGH TEMPERATURE	EMCS	AXION DI Module	EMCS PANEL	EMCS PANEL	HW I/O	DI	cable 85002-CEC	24	Logic.Application.IO_CARD_GVL.INPUT_024

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-5 Instrument Data Sheets & Specifications

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-5.1 PAS Hardware Functional Design Specification (FDS-HW)

1724000594-IN-SP-00017

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Sheet 1 of 323 Date: 22/05/2025 Rev: 05

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	24/06/2025

Base Load Power Hub (BLPH)

PAS Hardware Functional Design Specification (FDS-HW)

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00	13/05/2024	Issue for Review (IFR)	SKR	MP/AB	SC

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Sheet 2 of 323 Date: 22/05/2025 Rev: 05

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05	Accepted for Construction (AFC)

HOLDS LIST

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

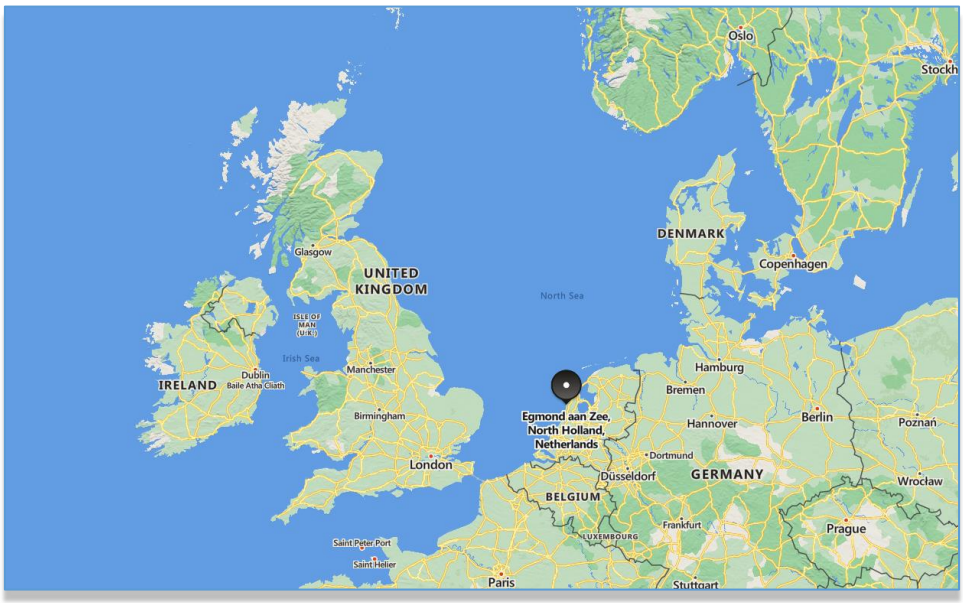


Figure 1 – HOLLANDSE KUST NOORD WIND PARK Location Map

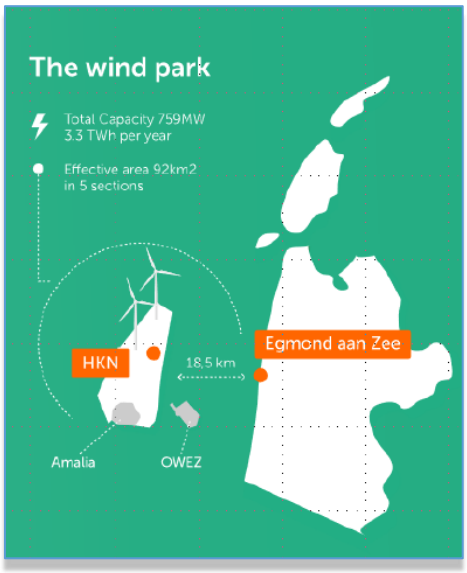


Figure 2 – Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

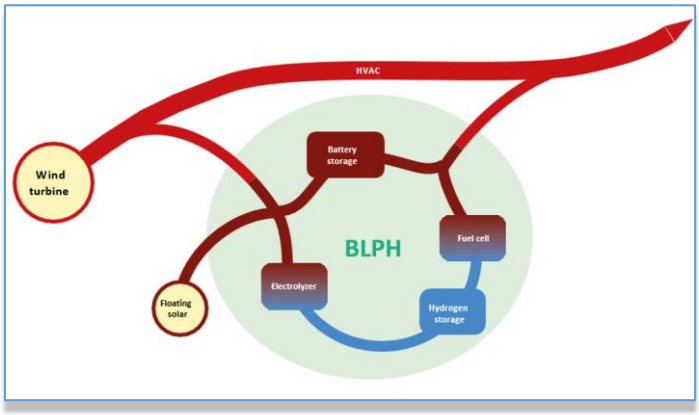


Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

2 DOCUMENT SCOPE

The purpose of this document is to provide the Hardware design basis of PCS, SIS, FGS and EMCS for HOLLANDSE KUST NOORD WIND PARK Project realized using Yokogawa Centum VP and ProSafe-RS System.

The contents of this document are limited to the scope of PCS, SIS, FGS and EMCS systems design and their safety aspects.

This Function Design Specification (FDS) covers the conceptual system design of:

- PCS, SIS & FGS Functional Requirements
- PCS, SIS & FGS System Description and Operation
- PCS, SIS & FGS Hardware Specification
- EMCS Hardware specifications

This document shall be further updated at the start of execution phase to confirm as final design for CONTRACTOR.

This document shall be maintained by the Vendor as a regularly updated "working document" and shall only be submitted to the Purchaser for review after the initial "design freeze" or after major modifications to design or requirements. An as-built update shall be issued to the Purchaser after completion of the Factory Acceptance Test (FAT).

2.1 REFERENCES

2.1.1 Project Reference Documents

Doc. No.	Description
K559-2254-IC-SPE-001	System specification for Main Automation Contractor
K559-2254-IC-PHI-001	Control System Philosophy
1724000594-IN-DD-00015	System Architecture
1724000594-IN-LIS-00003	Bill of Material
1724000594-IN-LIS-00004	PCS and Safety System IO List (HW and SW)
1724000594-IN-LIS-00005	EMCS IO List (HW and SW)
1724000594-IN-CA-00006	Power Consumption and Heat Dissipation
1724000594-IN-LIS-00007	Systems Cables List
1724000594-IN-RE-00008	Safety Controller loading estimation
1724000594-IN-DA-00009	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1724000594-IN-DA-00010	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00011	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00012	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DG-00016	Network Connection Diagram
1724000594-IN-DG-00020	PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00021	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00022	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00023	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-SP-00019	EMCS Software Functional Design Specification (FDS-SW)
1724000594-QC-PRO-00030	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

Table 1 – Project Reference Documents

2.1.2 Yokogawa Reference Document

Doc. No.	Description
IM 32P01B10-01EN	ProSafe-RS User's Guide
IM 32P01C10-01EN	Engineering Guide Vol.1
IM 32P01C20-01EN	Engineering Guide Vol.2
IM 32P01C50-01EN	Installation Guide
IM 32P01C60-01EN	License Management Guide
IM 32P01C70-01EN	ProSafe-RS Security Guide
IM 32P01S10-01EN	Safety Manual
IM 32P02B10-01EN	Messages Reference Manual
IM 32P04B10-01EN	Engineer's Reference Manual
IM 32P06C10-01EN	Hardware User's Guide
GS 36K01A10-01EN	Collaborative Information Server

GS 33J60E10-01EN	Field Node Unit, Duplexed Field Node Unit (for FIO, 19-inch Rack Mountable Type)
GS 33J60F20-01EN	ESB Bus Node Units (for N-IO/FIO)
GS 33J60E50-01EN	ESB Bus Coupler Module (for N-IO/FIO, 1-Port)
GS 33J60J10-01EN	Cables (for FIO)
GS 33J60G11-01EN	Ethernet Communication Module (for N-IO/FIO)
GS 33J60G90-01EN	PROFINET Communication Module (for N-IO/FIO)
GS 33J60F60-01EN	Analog I/O Modules (for FIO)
GS 33J60F70-01EN	Digital I/O Modules (for FIO)
GS 33J60H51-01EN	Terminal Boards (for FIO)
GS 33J50C10-01EN	Vnet/IP Interface Card
GS 32P06D10-01EN	ProSafe-RS Safety Node Unit, Duplexed Safety Node Unit (for N-IO/FIO, Rack Mountable Type)
GS 32Q06K10-31E	ProSafe-RS Safety Node Unit (Rack Mountable Type)
GS 32Q06L11-31E	ProSafe-RS ESB Bus Coupler Module
GS 32Q06K30-31E	ProSafe-RS Analog I/O Modules (for FIO)
GS 32Q06K40-31E	ProSafe-RS Digital I/O Modules (for FIO)
GS 32Q06M10-31E	ProSafe-RS/ProSafe-RS Lite Cable
GS 32Q06L20-31E	ProSafe-RS/ProSafe-RS Lite Terminal Boards/Relay Boards
TI 32P01A10-01EN	Safety Instrumented System ProSafe-RS System Overview
TI 32P01J10-01EN	ProSafe-RS Installation Guidance
TI 33Y01B30-01E	Security Standard of System Product

Table 2 – Yokogawa Reference Documents.

2.2 ORDER OF PRECEDENCE

The approved MAC Document Deliverables developed based on the various requirements in the order of priority listed below, this shall be the reference document for all further engineering, manufacturing, FAT and SAT:

1. European directives and supporting standards
2. Dutch legislation
3. End User Technical Standards
4. Referenced Dutch standards

5. Referenced European and International standards
6. Engineering Contractor Standards
7. Project specifications.

If lower-level requirement is more stringent than upper one in the above documents, a request shall be raised to OWNER for written decision before proceeding with the Design, Manufacture or Construction.

2.3 DEFINITIONS AND ABBREVIATIONS

PROJECT:	HOLLANDSE KUST NOORD WIND PARK PROJECT
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
COMPANY or Client (CPY):	CROSSWIND
VENDOR	YOKOGAWA ITALIA S.R.L.

Abbreviation	Description
ALARP	As Low as Reasonably Possible
AMS	Alarm Management System
ATEX	Appareils destinés à être utilisés en ATmosphères Explosibles (Equipment intended for use in explosive atmospheres)
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
CAPEX	Capital Expenditure
CAT	Category
CCN	Central Control Network
CCR	Central Control Room
CCS	Central Control System
CCTV	Closed Circuit Television
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
CTV	Crew Transfer Vessel
DEM	Design Engineering Manual

DEP	Design and Engineering Practice
DMZ	Demilitarised-Zone
DOCUMENT NAME	Document Title
EMC	Electromagnetic Compatibility
EMCS	Electrical Monitoring and Control System
EN	Engineering Notice
EPC	Engineering Procurement Construction
ENG	Engineering Workstation
EPIRB	Emergency Position Indicating Radio Beacon
EWS	Engineering Workstation
Ex	Explosion Proof
FC	Fuel Cell
FCS	Field Control Station
FEED	Front End Engineering Design
FEED CONTRACTOR	Organisation contracted directly by COMPANY to provide engineering, design, or other services.
FGS	Fire & Gas System
FIO	Field Input/Output
FNU	Field Node Unit
FO	Fibre Optic
FOPP	Fibre Optic Patch Panel
FTA	Field Termination Assembly
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positional Satellite
HAC	High Availability Computing
HART	Highway Addressable Remote Transducer
HAZOP	Hazardous Operability Study
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning

HV-SCADA	The given name for the COMPANY's control system wind farm infrastructure. BLPH's control system autonomously but will interface with HV-SCADA.
IACS	Industrial Automation and Control Systems
IAMS	Instrument Asset Management System
ICSS	Integrated Control and Safety System
IDCS	Intrusion Detection Control System
IEC	International Electrotechnical Commission
IP	Ingress Protection
IP	Internet Protocol
IS	Intrinsically Safe
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
LACS	Local Access Control System
LAN	Local Area Network
LOPA	Layers of Protection Analysis
LHVS	Land High Voltage Station
LV	Low Voltage
MAC	Main Automation Contractor, ABB AS
MCC	Motor Control Centre
NAMUR	Interessengemeinschaft Automatisierungstechnik der Prozessindustrie (User Association of Automation Technology in Process Industries)
NIS	Non-Intrinsically Safe
NU	Node Unit
OHVS	Offshore High Voltage Station
OPC	Open Platform Communications
OWS	Operator Workstation
PACO	Process, Automation, Control and Optimisation (PACO) is the term used to describe all functionality required for the monitoring and controlling of all process, safety and fire and gas systems selected for the project.

PAGA	Public Address and General Alarm
PAS	Process Automation System
P&ID	Piping and Instrument Diagram
PCN	Process Control Network
PCS	Process Control System
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
PV	Photo Voltaic
PURCHASER	The organisation placed a purchase order for the supply of equipment or services for the Project. The Purchaser could be the Company or the Contractor or some other party appointed by the COMPANY or Contractor.
RVO	Rijksdienst voor ondernemend Nederland – The Netherlands Enterprise Agency
SART	Search and Rescue Transponder
SCADA	Supervisory Control and Data Acquisition
SCS	Safety Control Stations
SGSI	Shell Global Solutions International
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
SNU	Safety Node Unit
SOLAS	Safety of Life at Sea
TB	Terminal Board
TETRA	Terrestrial Trunked Radio
TSO	Transmission System Operator
TQ	Technical Query
UCP	Unit Control Panel

UHF	Ultra-High Frequency
UPS	Uninterruptible Power Supply
VENDOR	Manufacturer/Supplier of equipment and services to perform the duties specified by the Purchaser.
VHF	Very High Frequency
VLAN	Virtual Local Area Network
VNET	Virtual Network
WAN	Wide Area Network
WTG	Wind Turbine Generator

Table 3 – Definitions and Abbreviations

3 SYSTEM OVERVIEW

BLPH is intended to be a greenfield platform whose purpose is to balance the power supply from HKN wind farm primarily through hydrogen generation and storage. The platform shall provide short-term energy storage through a BESS and long-term energy production and storage by producing and storing green hydrogen through electrolysis.

The facility shall receive power by external means from the Dutch grid (through the HKN wind park) and a floating solar farm. The facility is directly coupled to HNA5 through an inter array cable string that connects to the Dutch grid.

Power production from BLPH will be governed by the real-time data signals coming from Wind Turbine Generator number 57 (HNA5).

Additionally, BLPH shall receive power from an external floating solar farm, by others.

The PACO control system developed for BLPH shall comprise of two (2) interconnected, but independent systems:

- A Central Control System (CCS), that includes Process Control System (PCS) and Electrical Monitoring and Control System (EMCS)
- A combined Fire and Gas System (FGS) and Safety Instrumented System (SIS), which shall be referred to collectively as the Safety System.

The CCS shall be responsible for the monitoring and control of the facility, whilst the Safety System shall be responsible for the overall safeguarding of BLPH.

The wind farm system is operated by an independent SCADA system called CI Server (Collaborative Information Server). The PCS and the Safety System shall operate independently but shall interface fully with the CI Server. via the Vnet/IP Yokogawa network. EMCS shall be integrated to SCADA via OPC UA and Modbus to PCS.

Yokogawa's Integrated Control and Safety System consists of Operator Workstations, Engineering Workstations, Field Control Stations, Safety Control Stations, etc., connected via the Vnet/IP control bus and collectively call a domain. PCS, SIS, FGS and CI server will be in same domains depending on the total number of stations and/or process segregation (or other) requirements. Domain segregation is as below,

Domain	System
01	PCS, SIS, FGS and CI server

Table 4 – Domain Segregation

EMCS shall also be in Domain 1 and connected via PIN network, dedicated communication network for OPCUA and Modbus.
PACO network configuration and major components is shown in the overall System Architecture Drawing (Doc No - 1724000594-IN-DD-00015).

4 SYSTEM DESCRIPTION & DESIGN REQUIREMENTS

4.1 COLLABORATIVE INFORMATION (CI) SERVER

Collaborative Information Server (CI Server) integrates data collected from various controllers such as PCS (Process Control System), Safety System (SIS & FGS), IAMS (Instrument Asset Management system), EMCS Server (Electrical Monitoring and Control system) and PLC (Program Logic Controller) that constitute a system and provides the integrated data to the operator. CI-Server for Data Integration, HMI, AMS and Historian

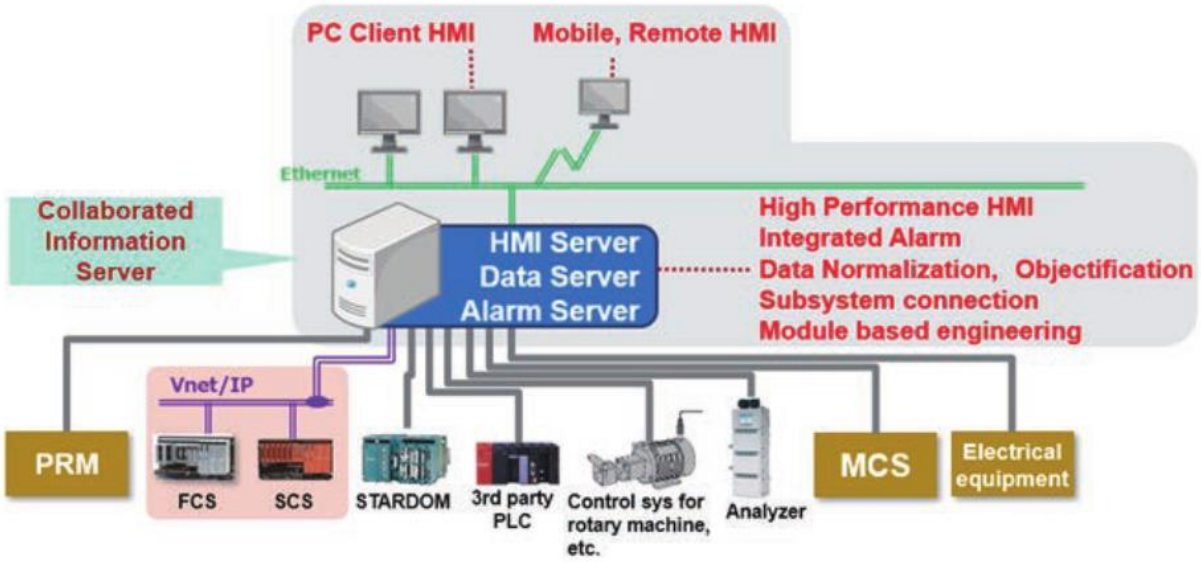


Figure 4 – Example of a system configuration.

4.1.1 CI server Overview

The CI Server is a Digital Transformation enabled next generation integration system, It facilitates seamless information centralization and establish effective communication across organization to achieve resource optimization, productivity improvements, plant efficiency improvements, reduction of unplanned shutdowns and increase of operating profits by reduced operational expenses in the long run.

The main features of are:

- Integration: Integrating the various facilities, systems and equipment across scattered manufacturing sites, making it easy to share and link the diverse data and information.
- Collaboration: Providing a real-time bird's eye view of production, people, output, inventory, and activity at any production site accessible from right person at right moment for monitoring & operation.
- Optimization: Linking collected big data and information with applications for process analysis and diagnosis to pursue next level production and quality improvement in operation.

4.1.2 CI Server Configuration

Yokogawa's "CI Server" (CIX) software consists of three main modules which are defined as follows:

Modules name	Description
CI View	This is the Client-module that shows the Graphics HMI for operation control and monitoring.
CI Portal	This is the server-module that hosting the Graphics HMI files and distributes it to all requesting clients (CI-View) with the embedded field's values collected by CI-Core.
CI Core	This is the server-module that collects, stores, and calculates the field's data. This module also take care of the data historian, alarming, audit-logging, user management and data-interfacing to other system and supports max. 256 characters length for tag naming.

Table 5 – CI Server Configuration

Logically this is shown in below diagram:

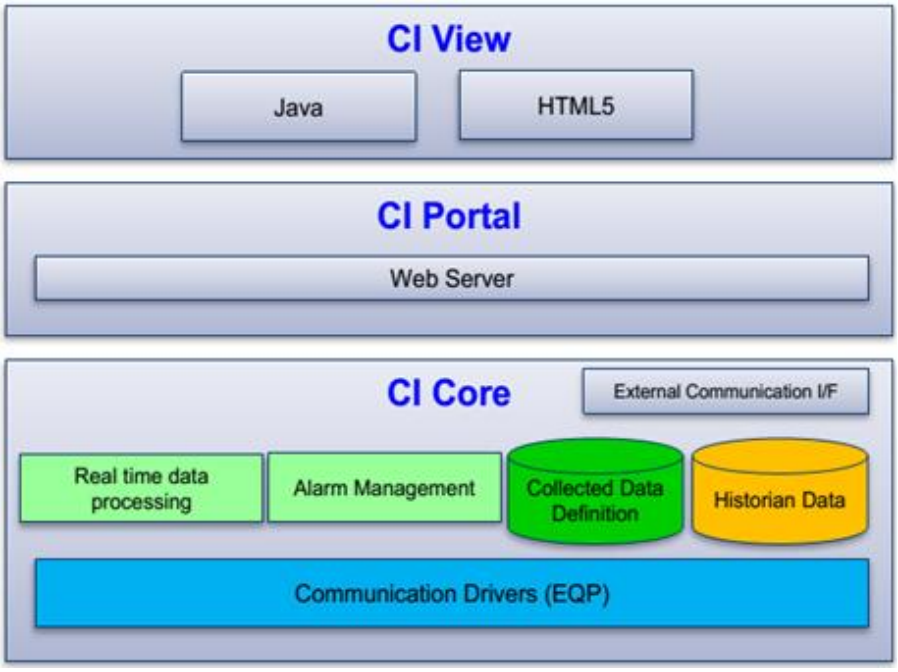


Figure 5 – CI Server Configuration.

The server modules (CI-Core and CI-Portal) are installed in separate servers to enable CI-Core redundancy design as shown in the Section 4.1.3.1.

Refer to the system architecture for a summary of system configuration. The detailed system configuration is as follows:

Location	Station	License	Redundancy	Physical	Vnet/IP	Ethernet
ITER	CI Core	1	HAC (x2)	Yes	Yes	Yes
ITER	CI Core	1	HAC (x2)	Yes	No	Yes
OER	CI-Portal	CI Portal (x 3)	No	Yes	No	Yes
CCR	IAMSCLT AMS	PRM Client (X1)	N/A	N/A	N/A	N/A
CCR	CIPO04 (OWS)	CI View (x 1)	N/A	N/A	N/A	N/A
CCR	CIPO05 (CAP)	CI View (x 1)	N/A	N/A	N/A	N/A

Table 6 – Detailed System Configuration.

4.1.3 Server Redundancy

The server's redundancy is one of the many factors of the CI Server System High-Availability design. The other factors are such as Network redundancy and Field-controller redundancy. This section explains the server redundancy for this project.

4.1.3.1 CI-Core HAC Servers

The CI-Core in ITER will be configured as a dual-redundant High Availability Computing (HAC). These will be installed in two identical physical machines (servers).

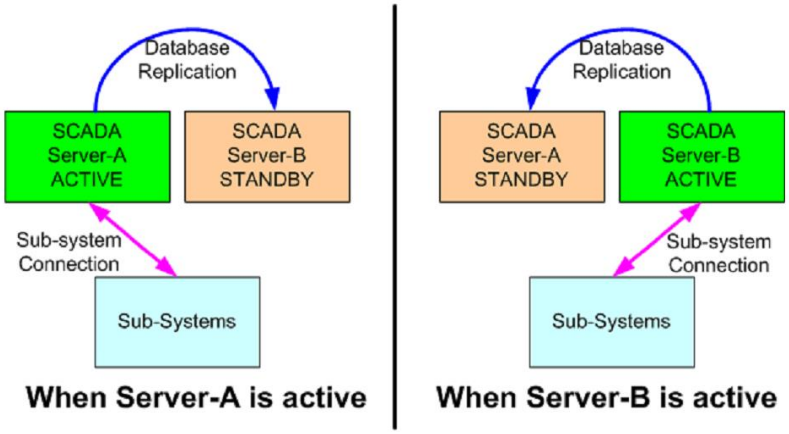


Figure 6 – CI-Core HAC Servers.

At start-up, Primary server will become the active server, while the secondary server will take role as the hot standby server. Then HAC module will synchronize the content (files) of the active server to the standby server. Only the differences of the files (delta) will be replicated. Initial replication to get in sync will takes time from a minute to hours depending on network speed and the size of files. After that, the databases are synchronized in real-time. Whenever there is abnormality in the active server (such as hardware failure) the standby side will be activated within ~15 seconds (depends on hardware and system size and configuration).

CI-Core HAC system is to synchronize the CI-Core database only.

4.1.4 HMI Server (CI-Portal)

CI-Portal role can be as:

CI-Portal function	Description
HMI Web-Server	Serving the HMI request from CI-View clients.
Engineering Workstation (EWS for CI-Server)	In this EWS (desktop), engineer can do: ➢ Configures CI-Core database (with Engineering module) ➢ Creates / modify Graphics HMI (with Edit Module)

Table 7 – CI-Portal roles

CI Portal software is installed on a physical machine. The application makes a native CI Server connection to CI Core. User can open the operator interfaces directly from actual machine or, if required via a Terminal Server (TS) or remote desktop connection.

The lists of CI Portals are:

CI Portal	Node#	Device Type	Location	Client HMI
CIPOSVR01	21	Thin client desktop PC	Operate Zone	1 User
CIPOSVR02	22	Thin client desktop PC	Operate Zone	1 User
CIPOSVR023	23	Thin client desktop PC	Operate Zone	1 User

Table 8 – List of CI-Portals

4.1.5 HMI Client (CI-View)

CI-View (HMI Client) connection is:

CI-View type	Description
Remote-Connect	The Java based CI-View suites which covers the functionality of Engineering, HMI Editing and HMI Viewing.

Table 9 - List of CI-View types

CI View solution is a web-based user interface of CI Server. It can be opened by opening a web browser and connecting either to a CI Portal machine or CI Core. A user license is required to open the operator interface. E.g. if CI Portal is equipped with 2 user licenses, on the native CI Portal machine the operator interface can be opened and via a web browser on the same or another machine a second Operators interface can be opened as well. This can be useful to give additional users access to the operator interface, e.g. during commissioning or e.g. to provide information to remote users.

For this project all OWS's are equipped with one CI View license.

The functionality as EWS or OWS is only determined by user's right, where-as the engineering capabilities is only available to the specific users in the "system-manager" group of CIX user database.

Machine	Function	# CI View license
CIPO04	Operator Working Station	1
CIPO05	Operator Working Station	1

Table 10 – List of CI-View machines

The maximum number of monitors that can be connected to one CI View is 4.

4.1.6 Historian (CI-Server)

CI Server has a build in Data Historian functionality. All data handled in CI Server can be saved as historical data, the types of data are as follows:

- Data (such as collected from the systems and controllers, internal calculation data)
- Alarms
- Audit Trail
- System log

Historical data can be output to the following:

- HMI (e.g. as trends, alarms)
- Reports
- Text file
- API

Historical data can be stored event based or scan based (periodically). Historical data can also be aggregated for e.g. daily, monthly reports:

- Aggregation cycle: 30 min, hourly, shift-based, daily, weekly, monthly and yearly aggregation
- Aggregation function: minimum, maximum, mean, integral, standard deviation, counter and differential summation.

Historical and configuration information can be outputted as tabular or time series reports.

Reports can also be created by Excel Add-in. User roles can be defined as to which data is accessible and which is not.

For this an dedicated redundant Historian Server is included and to located in the OER.

4.2 PCS

The Yokogawa Centum VP F-IO systems will serve as the primary components of the Integrated Control and Safety System (ICSS) supplied by Yokogawa for HOLLANDSE KUST NOORD WIND PARK Project. The Centum VP F-IO system shall be used as the Distributed Control System (PCS) for the ICSS and shall be comprised of the following main components:

- Engineering Workstations (ENG) common for PCS and Safety system(SIS and FGS) for engineering and maintenance
- Field Control Stations (FCS) & Node unit for monitoring and control of the plant
- I/O Modules for Field I/O (FIO)
- Field termination assembly (FTA) boards for field cables
- Communication modules for third party systems through Modbus TCP/IP, Profinet, etc.

- PCS Vnet/IP CN Network – Redundant
- PIN Network – Redundant

Please refer to System Architecture Drawing (Doc No - 1724000594-IN-DD-00015).

Inter-communication between the PCS and SIS & FGS stations shall be via the redundant Vnet/IP networks. Subsystem and third-party packages shall communicate with the PCS at the FCS level by means of redundant serial and TCP/IP communications (Modbus/TCP/IP, Modbus/RTU and OPC).

PCS (Process Control system) Design is based on the following principles:

- Automatic continuous process control (monitoring, control adjustment…).
- Logic sequencing.
- In some control and logics the use of Automatic Overrides will be applied to permit the

  motor/equipment starts without being tripped (e.g. in case of pump it is required to override the Low Low discharging Pressure for a delay time to start the pump itself). Automatic Inhibits remove the need for the operator to apply and remove inhibits in sequences etc.
- Data management (acquisition, status, treatment, storage).
- Alarm handling generated by PCS, EMCS, Safety System, HVAC and packages (annunciation, logging event recording, alarm suppression, sorting, and printing). An alarm management system shall be developed to assist operators in handling the multiple alarms associated with a shutdown occurrence.
- Communication with other equipment (packages, other systems, PLC, etc.)
- Generation of reports, historical archiving of events, alarms and process data on the Historian server (part of the OWS).
- Automatic diagnostics.
- HART acquisition system (communication cards, software…)

4.2.1 Centum VP System Overview

The FCS consists of Field Node Unit (FNU or CPU Node) and optionally Field Node Units or simply Node Units (NU or I/O Node). The FNU is the rack housing Centum VP CPU modules and I/O modules, while the NU is for installing Centum VP I/O modules only.

The FNU is a 19″ rack unit consisting of processor modules, power supply modules, ESB bus coupler modules, Vnet/IP connection ports and I/O modules. The NU is a 19″ rack unit consisting of power supply modules, ESB bus communications modules and I/O modules.

The FCS configuration by default supports 1 FNU and 9 NUs using standard ESB Bus Coupler Module EC401. Both FNU and NU consist of 12 module slots, numbered from left to right.

In FNU, the last two slots are occupied by the power supply modules. The next two slots, i.e. Slot-9 and 10 are occupied by CPU modules. To enable communication extension from FNU to NU, EC401 are to be installed in Slot-7 and 8 FNU. The remaining six slots can be used for I/O modules installation in singular or redundant configuration.

In NU, the last two slots are occupied by power supply modules. The next two slots, i.e. Slot-9 and 10 are occupied by ESB Bus Communication (SB401) modules. The remaining eight slots can be used for I/O modules installation in singular or redundant configuration.

The ESB Bus is a dual redundant bus system that is used for I/O communication and connects the NU to FNU of the FCS. Total length of the ESB bus should be less than 10 meters. The ESB bus employs dual redundant transmission channels with a network speed of 128 Mbits/sec. The ESB bus can also be extended by use of optical transmission modules.

ESB bus coupler modules, EC401 are used in this project.

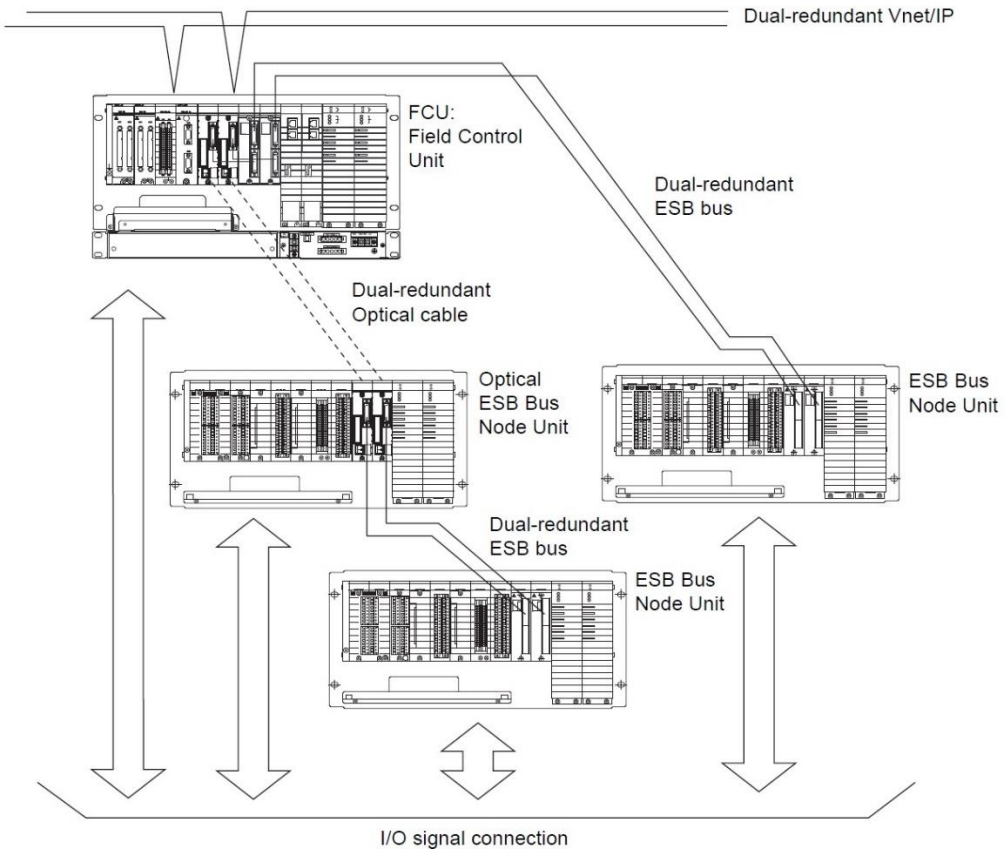


Figure 7 – Example of a PCS system configuration.

4.3 SIS AND FGS

The ProSafe-RS FIO system shall be used for HOLLANDSE KUST NOORD WIND PARK Project as the Safety Instrumented System (SIS) and Fire and Gas System for the ICSS and shall be comprised of the following main components.

- Engineering Workstations (ENG) common for PCS and Safety system (SIS and FGS) for engineering and maintenance
- Safety Control Stations (SCS) & Node unit for monitoring the safety state of plants and performs predetermined safety operation when demands required.
- I/O Modules for Field I/O (FIO)
- Field termination assembly (FTA) boards for field cables
- SIS & FGS Vnet/IP SN Network – Redundant
- PIN Network - Redundant

Please refer to System Architecture Drawing (Doc No - 1724000594-IN-DD-00015).

Safety SIS modules shall include a labelling facility or location index for ease of identification of individual I/O channel addresses. No range jumpers or user settable physical address jumpers are permitted. Modules shall be able to automatically determine their physical address and report this information to the controller.

The SIS shall continuously monitor the status of its components, via auto test and internal diagnostic of major parts (I/O cards, processors, buses, memory, power supply. etc.) to detect faults that may affect the operation of the system.

The system outputs that result in the shutdown of UPS battery will be designed as “energise to trip” SIS outputs: these outputs will be line monitored. All other SIS system outputs shall be designed as a failsafe system such that they are deactivated on trip. This implies that in the non-alarm state, closed input sensor switches are healthy.

The requirements for FGS have to be considered as part of the overall health, safety and environmental protection facilities for a plant installation. The fundamental requirements for FGS are specified in IEC61508 and IEC61511. The concepts within the standard are equally applicable where the consequences include asset or environmental loss.

Safety Instrumented System (SIS) / Fire and Gas (FGS) Design is based on the following principles:

- The scan time of the SIS and FGS logic solver shall be a maximum of 300 msec and 500msec.
- Integrated PCS, SIS and FGS with CI server SCADA function.
- Sequence of events (SOE) recording and analysis via CI server (In built Historian) and EWS.
- The SIS shall be fail-safe, normally energized, de-energized to trip and any energise to trip SIS/FGS field circuits shall be continuously line monitored by the system for fault conditions, i.e., device faults, open and short circuit faults, etc. EPC to provide detailed information.

- Proof test will be standardized, the test intervals for proof testing the sensors, logic solver and final elements shall be detailed out by the EPC contractor.
- SIS/FGS shall create "First up fault" alarm that allow control room operator to quickly interrogate trips through HMI with one Keystroke.
- Each SIS/FGS input shall have the facility for a maintenance inhibit to enable testing without causing a shutdown. The inhibits shall be selected and applied through the operator workstation displays. The inhibit shall only become active when the CAP is enabled. The inhibit state shall be indicated on the SIS/FGS Graphic displays. Input inhibits shall only affect SIS/FGS logic, not input alarming, i.e., inhibited inputs shall alarm to the operator.
- SIS/FGS Logic shall be based on C&E diagram received from EPC.
- The FGS will be designed as a normally de-energized system with line monitoring (as per input from EPC on requirements of line monitoring functionality, including discrete alarm inputs, such as detector or manual call points).
- All relevant subsystems and Field I/O shall interface with FGS through hardwired signals.
- Any single system fault shall not cause unwanted and unsafe actions, and such faults shall be revealed on occurrence.
- Every possible dangerous failure (fault detected only when the system is called upon to operate), which shall prevent an executive action from taking place in the event of a genuine trip input, shall be identified and exterminated.
- No single fault shall prevent the entire system from working normally i.e. no common mode failures.
- Replacement of I/O modules shall not require any kind of bypassing, either in hardware or software. To achieve such capability, it shall not be necessary to externally wire inputs and outputs to multiple I/O modules. Programming must be for the single I/O point only. Explicit programming of voting and module replaceability shall be unacceptable.
- Input and output signals shall be voted independently. The output-voting network shall be automatically tested at a regular interval.
- Maintenance inhibits, with only one input to any voted system being allowed to be overridden at any one time (Maintenance overrides shall not be provided on output devices).
- The FGS shall have the capability of on-line software download from the programming terminal without shutdown of the process. This capability shall be approved by EPC for class SIL 3 applications. Live/On-line download shall require security password to avoid unauthorized access.
- The FGS shall be provided with redundant communication and processor architecture to provide uninterrupted automatic Fire & Gas Detection and Protection and increased reliability.
- The FGS shall seamlessly interface with the PCS system. This will allow the operator to monitor the Fire & Gas detection status of the entire Complex via PCS operator consoles located in the CCR.

- Fire protection operator commands (e.g. starting fire water pumps, initiating extinguishing agent discharge, deluge system, etc.) that may be required in case of black out of all operator workstations.
- The FGS system hardware will be separated from all other control and safety systems (PCS, SIS, etc.) and will not require the correct operation of any other system to fulfil its own function. However, to optimize facilities spare inventory and ease maintenance, the FGS shall use the same hardware as the SIS system.
- For commissioning purposes, an ability to apply logic gate input and output forces shall be provided subject to correct access levels defined during design.
- AI signal shall be 4-20mA HART Rev 7 with following functions:
  1. Safety Analog input channels are configured to monitor cable faults (open circuit or short circuit) or transmitter faults (over range or under range) by employing SIS line monitoring features i.e. by comparing loop current (mA) with pre-set fault threshold values configured in SIS/FGS.
  2. The threshold setting for each of the diagnostics is consideration of NAMUR-NE43 recommendation. This setting is also applicable for all types of transmitters irrelevant of NAMUR compliant transmitter.
  3. The SIS/FGS software configuration will be enabled for each of the following diagnostics at input card level.
     I. Input low limit detection (Open Circuit, IOP-)
     II. Input high limit detection (Short Circuit, IOP+)
     III. Transmitter low limit detection (Transmitter Fault burnout High, TRANS+)
     IV. Transmitter high limit detection (Transmitter Fault, burnout Low TRANS-)
     V. The input channel status is represented as 'BAD ('in invalidity') upon fault detection.
- DI signal shall monitor field input contacts from switches, pushbuttons, etc. Line monitoring requirement shall be specified by EPC CONTRACTOR via I/O List documents per tag basis.
  1. DI-NIS Line monitoring diagnostics shall be configured for each digital input channel as per the requirements with following actions:
     I. Input disconnection detection (open circuit)
     II. Input short circuit detection (short circuit)
     III. The input channel status shall be represented as 'BAD' upon fault detection.
  2. DI-IS Line monitoring diagnostics shall be based on isolator specific end of line (EOL) specifications with following actions:f
     I. Combination of Open and short circuit detection: When checking for both defective

short and open circuits, connect the 680ohm and 22kohm in Series and Parallel with the contact outputs of the field equipment respectively

Note: These resistors will be supplied and installed at field by EPC CONTRACTOR.

Note: Disconnection and short circuit cannot be distinguished, However the Line monitoring fault can be reflected as channel fault.

- DO Signal shall be configured with following functions:

1. DO-NIS Line monitoring diagnostics function 'Detect Disconnection' shall be configured for each digital output channel as per the requirements with following actions:
    I. Open Circuit with Normally Energized: For normally energized output the open circuit line fault shall be detected by monitoring the loop impedance within the range. If the load impedance is out of range, then the system issues the diagnostic fault.
    II. Open Circuit with Normally De-Energized: For normally de-energized outputs, in order to detect short circuit, the DO module uses a "pulse ON" test by sending out a very short pulse (0.2mSec) periodically.
    III. It shall be noted that if relay is used, the line is monitored only as far as the relay.
    IV. Short Circuit: If the field cable +24Vdc line and 0Vdc line are shorted together, then the channel is disabled immediately (electronic current limit function) along with diagnostic fault.
    V. The output channel status shall be represented as 'BAD' upon fault detection

    Note: The disabled channel can be enabled manually only after removing the fault and by performing manual 'output enable' operation at engineering station.
2. DO-IS line monitoring diagnostics shall be based on barrier specific specifications.

    Note: Disconnection and short circuit cannot be distinguished, However the Line monitoring fault can be reflected as channel fault.

4.3.1 ProSafe-RS System Overview

The SCS consists of Safety Node Unit (SNU or CPU Node) and optionally Safety Node Units or simply Node Units (SNU or NU). The SNU is the rack housing Prosafe RS CPU modules and I/O modules, while the SNU is for installing Prosafe RS I/O modules only.

The SNU is a 19" rack unit consisting of processor modules, power supply modules, ESB bus coupler modules, Vnet/IP connection ports and I/O modules. The NU is a 19" rack unit consisting of power supply modules, ESB bus communications modules and I/O modules.

The SCS configuration by default supports 1 SNU and 9 NUs using standard ESB Bus Coupler Module SEC401. Both SNU and NU consist of 12 module slots, numbered from left to right.

In SNU, the last two slots are occupied by the power supply modules. The next two slots, i.e. Slot-9 and 10 are occupied by CPU modules. To enable communication extension from SNU to NU, SEC401 are to be installed in Slot-7 and 8. The remaining six slots can be used for I/O modules installation in singular or redundant configuration.

In NU, the last two slots are occupied by power supply modules. The next two slots, i.e. Slot-9 and 10 are occupied by ESB Bus Communication (SSB401) modules. The remaining eight slots can be used for I/O modules installation in singular or redundant configuration.

The ESB Bus is a dual redundant bus system that is used for I/O communication and connects the NU to SNU of the SCS. Total length of the ESB bus should be less than 10 meters. The ESB bus employs dual redundant transmission channels with a network speed of 128 Mbits/sec. The ESB bus can also be extended by use of optical transmission modules.

ESB bus coupler modules, SEC401 are used in this project.

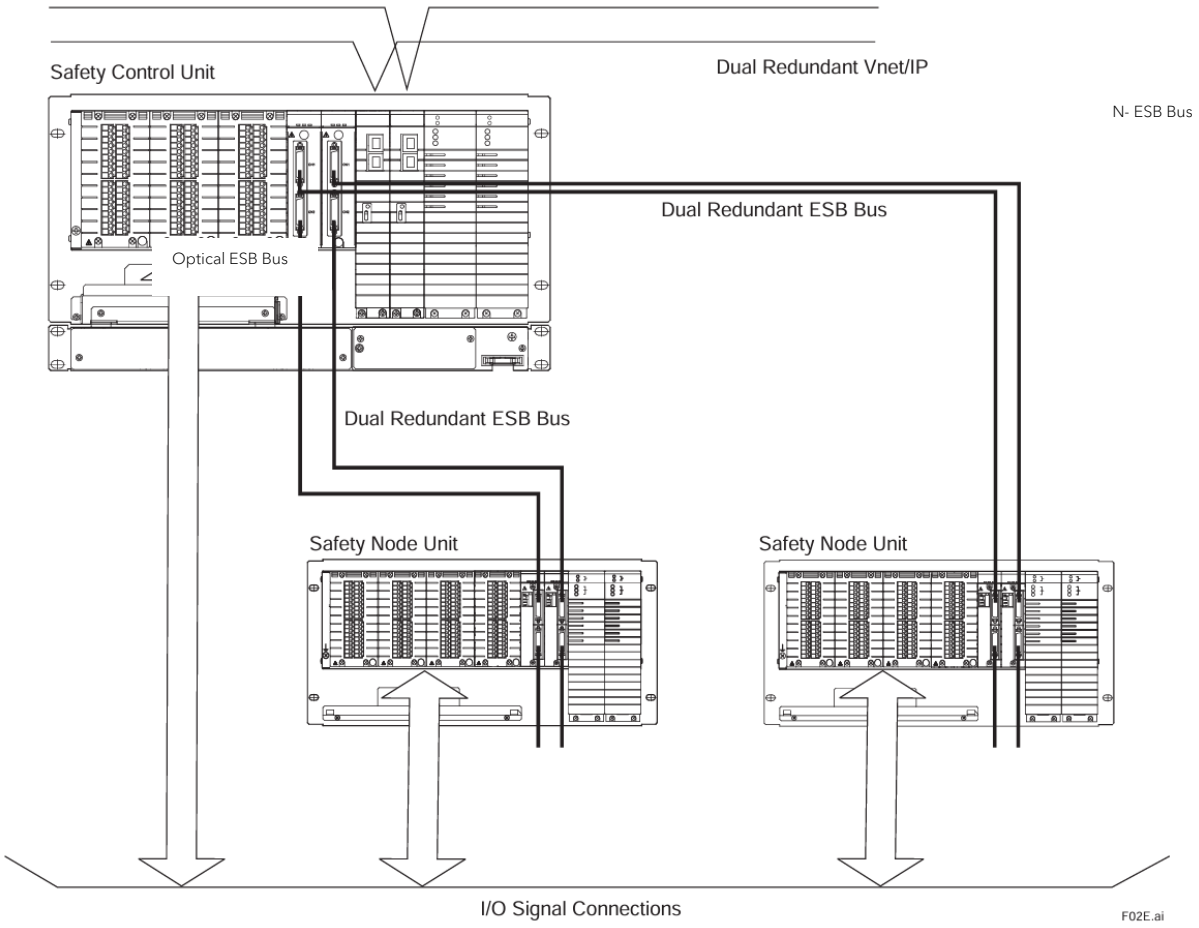


Figure 8 – Example of a SIS and FGS system configuration.

4.4 INSTRUMENT ASSET MANAGEMENT SYSTEM

Instrument Asset Management System (IAMS) is based on Yokogawa Plant Resource Manager (PRM). Yokogawa Plant Resource Manager is provided for field devices configuration, documentation, calibration, and diagnosis. The IAMS continuously monitors the status, events and operating conditions of all field connected Fieldbus or HART devices to provide an efficient maintenance schedule based on actual device conditions. The devices interfaced to the PRM are all the HART AI/AO devices connected to the PCS and SIS/F&G

PRM Solution includes PRM Server, PRM Field Communication Server and PRM Client as indicated below.

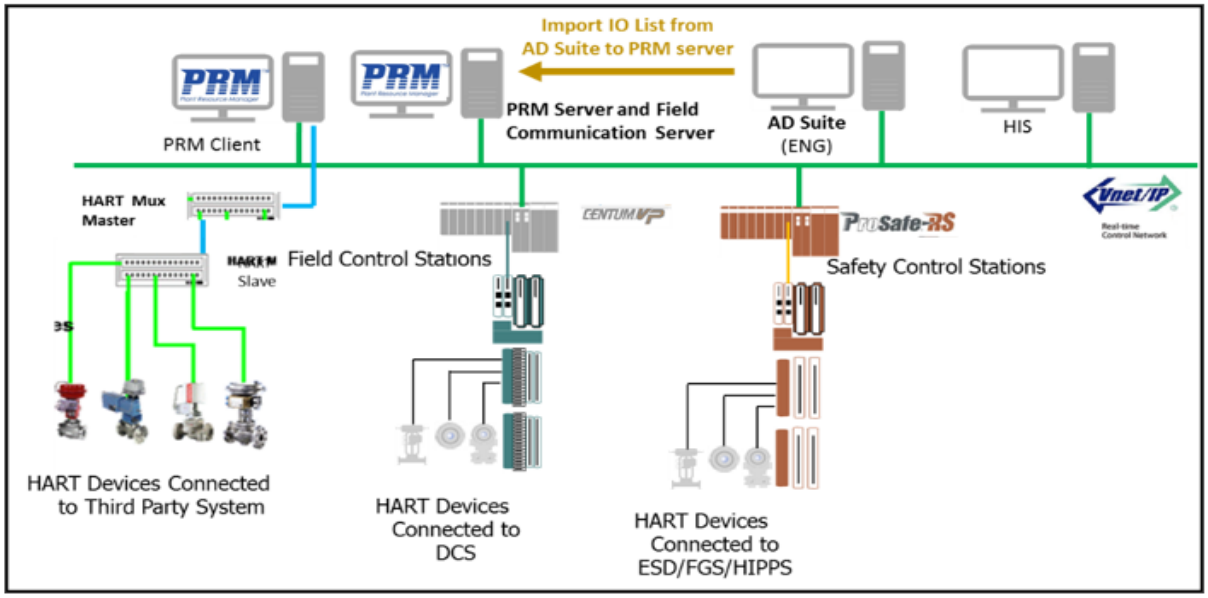


Figure 9 – PRM Solutions.

PRM Field Communication Server is connected to PCS network directly and transmits required data to PRM Server. As a standard PRM Server and PRM Field Communication Server software share the same physical server.

PRM also provides the interface to various systems and third-party device vendor's software tools for advance diagnostics. It is possible to register third party software tools as Plug-In Applications (PIA) in PRM. It is necessary to associate third party software tools registered in PRM with field devices and models in a class layer in order to use them as Plug-In applications. Contractor shall purchase Emergency Isolation Valves along with Applications and tools for diagnosis and analysis of valves and free issue to Yokogawa for loading onto PRM. The IAMS Server will be installed in the Server/Network cabinet in the OER and includes KVM extender to 24" LCD screen.

4.5 NETWORK ARCHITECTURE

4.5.1 Vnet/IP Networks

The control network is based on Yokogawa's robust and highly reliable fully duplexed Vnet/IP real-time network with quick response.

Vnet/IP forms the network backbone connecting Centum VP systems and ProSafe-RS systems and allows data exchange between them in addition to status monitoring on the CI Veiw. Vnet/IP is a fully dual redundant network with Control Bus 1 and 2.

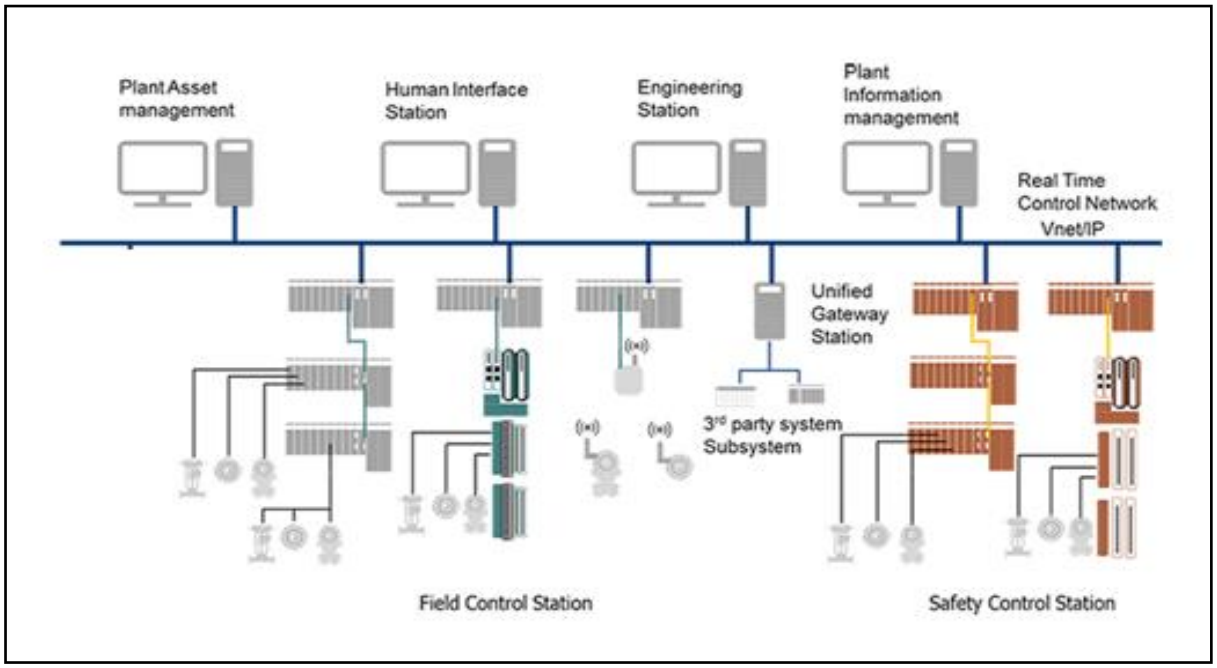


Figure 10 – Vnet/IP Features.

Vnet/IP also allows communication via Ethernet-based standard protocols within predetermined bandwidth (hereinafter referred to as Open Communications). The Vnet/IP Bus2 can be used for TCP/IP protocol-based communications, such as data access through an ExaOPC interface.

A Vnet/IP network uses network category 6 cables as a minimum.

Specifications on Connecting Equipment in Vnet/IP Domain:

- Number of Vnet/IP station: maximum 64 stations
- Other general-purpose Ethernet devices (PCs, routers etc): maximum 124 devices (bus-2 only)
- Distance between stations in the same domain: maximum 40 km.

- Distance between layer 2 switch and station: maximum 100 m (when UTP is used) & maximum 5 km (when optical fiber is used)
- Distance between layer 2 switches: maximum 5 km (when optical fiber is used)
- Number of layer 2 switches to be equipped between stations in the same domain: maximum 7 units per bus (multiple cascade connection available)
- Network topology: Tree formation.
- Transmission rate: 1 Gbps for PCS / 100 Mbps for ProSafe-RS.

Vnet/IP Components:

- Vnet/ IP is a control bus conforming to the IEEE 802.3 standard. Line speed is 1 Gbps. A Vnet/IP bus has a dual redundant configuration. On its bus-2, control communications and open-based communications with various Ethernet standard protocols are provided. At the bus-2 side, data access through an ExaOPC OPC interface and TCP/IP protocol-based communications can be carried out. For equipment for network connections, including repeaters, cables, layer 2 switches, and the like, commercially available general-purpose products are used. For the IP address, IPv4 for Class C private space addressing is applied.
- Layer 2 Switch: This is a device to connect equipment within the Vnet/IP domain. The layer 2 switch, unlike a HUB, incorporates bridge functions to send data to the destination terminal equipment only; it can, therefore, reduce traffic within its domain. Commercially available equipment can be used for a layer 2 switch.

Control Bus Communications Specification:

- Communication method: read/write communications, message communications, and link transmission.
- Link transmission period: 100 msec.

Open Communications Specification:

- Open communication is achieved through Bus-2. Ethernet-based communications devices are connected to CENTUM system components. Devices through an external network cannot be directly connected to the Vnet/IP from the viewpoint of security due to firewall protection.

Transmission Path Specifications:

- Network topology: Tree formation.
- Transmission path redundancy: Indispensable (control bus communications only)
- Transmission rate: 1 Gbps for PCS / 100 Mbps for ProSafe-RS

Control Communications:

- Vnet/IP is a redundant network configured with independent redundant control bus, i.e. bus 1 and bus 2. Normally, bus 1 is used for control communications only. Although it is possible to use bus 2 for normal Ethernet communication for small scale control system, bus 2 is used for control

communication only. Any station with Ethernet communication requirements such as OWS, etc. a dedicated Ethernet card will be installed in the station for this purpose.

- The components which use the control communication in a domain are connected to the 1Gbps Ethernet Layer 2 (L2) switch as one broadcast domain. The Control network (PCS) and Safety network (SIS/FGS) are segregated from each other and connected via secured switches (Firewalls) to ensure integrated communications between the systems. Vnet/IP is secure and has been thoroughly tested by Wurldtech which resulted in a certification that ensures an end-point security of the complete system.
- The Vnet/IP Control Networks are being applied as being a star topology. The PCS and Safety controllers (FCS and SCS), as well as the EWS, IAMS and CI Server are connected to Vnet/IP by means of L2 switches. The L2 switches will be accommodated in the System/Network Cabinet in ITER and OER.

Vnet/ IP Fault Tolerance and Selection of Transmission Path:

- A Vnet/IP communications station comprehends the path status for a communication destination from its own communication path information and chooses a normal bus to transmit the information required. If the communication paths for the communication destination are normal on both buses, Bus 1 is selected. For control communications, Bus 1 is prioritized to be used rather than Bus 2. If a problem occurs on Bus 1, Bus 2 will be used. If Bus 1 recovers, communication will be switched back to Bus-1 without disturbing the network communication. Bus switching (Manual bus switching is not supported) is performed on every path up to the communication destination.

4.5.2 Plant Information Network (PIN)

Besides the Vnet/IP Networks there is also a single Ethernet based Plant Information Network (PIN). This network is used for non-process related open communication between the several CI Portal/View stations and EWS's as well as printing functions (if required). The CI Porta/View stations are connected as thin clients with the CI-Servers.

In addition, the PIN is used for communication with the higher-level systems e.g. Cyber Security and connection to the clients Ethernet and/or office network (LAN). The PIN will be connected to the client's office network via DMZ and existing HV-SCADA system (for OPC-UA interface purpose) through Firewalls. Refer Overall system architecture (1724000594-IN-DD-00015).

4.5.3 Fiber Optic Network

The fiber optic network equipment and connection details as follows,

- The routing of this Fiber Optic Backbone is in scope of EPC/Client;
- The proposed fiber network scope includes the following:
  - For ITER → FO SFP transceivers and FO Patch cords for PIN;
  - For OER → FO SFP transceivers and FO Patch cords for PIN;

- For ITER → FO SFP transceivers and FO Patch cords for SERVICE;
- For OER → FO SFP transceivers and FO Patch cords for SERVICE;
- Number of required FO cores for PIN and Service: 1

Details of SFP transceiver for PIN and Service network between ITER and OER:

- Original model code vendor: PRE-SFP-B45-120-MSA

Common Specifications:

Item	Description
Function	Optical transmission
Type of Optical connector	Simplex LC
Number of optical fiber cores	1
features	Uncooled 1490 DFB laser Single +3.3V DC power supply Hot-pluggable SFP Class 1 laser safety certified Up to 120km on 9/125 μm SMF Dual data rate Simplex LC connector compatibility RoHS Compliant

Table 11 – Common Specifications.

Details of Specifications for SFP use for Solar Farm to ITER:

Yokogawa Mode Number: GRVSFP-675FA

Original Vendor Mode Number: M-SFP-LX/LC

Order Model Code	Interface Standard	Center Wavelength	Compatible Optical Fiber	Allowable Dissipation	Max transmission Distance	Operating Temperature
GRVSFP-674FA	100BASE-FX	1310 nm	Multi-mode	0 to 5 dB	4 km (*1)	0 to +60 °C
GRVSFP-675FA	1000BASE-LX	1310 nm	Single-mode (*2)	0 to 8 dB	20 km	0 to +60 °C
			Multi-mode (*3)	0 to 8 dB	0.55 km (*4)	
GRVSFP-676FA	1000BASE-LX	1310 nm	Single-mode (*2)	0 to 8 dB	20 km	-40 to +85 °C
			Multi-mode (*3)	0 to 8 dB	0.55 km (*4)	
GRVSFP-696FA	1000BASE-LH	1550 nm	Single-mode (*2)	6 to 20 dB	80 km (*5)	0 to +60 °C
GRVSFP-697FA	1000BASE-LH+	1550 nm	Single-mode (*2)	13 to 30 dB	120 km (*5)	0 to +60 °C

*1: Multi-mode optical fiber can work in case of its transmission band is 800 or more MHz•Km.
*2: Typical single-mode optical fiber cable complies with IEC 60793-2-50 B1.1, ITU-T G652.B, or JIS C 6835 SSMA.
*3: This needs Mode conditioning patch code.
*4: Multi-mode optical fiber can work in case of its transmission band is 500 or more MHz•Km.
*5: Single-mode optical fiber can work in case of it satisfies the following specifications.
- Cable attenuation at 1550 nm wavelength: 0.25 dB/km or less
- Chromatic dispersion at 1550 nm wavelength: 19 ps/nm/km or less

Table 12 – Details of Specifications

4.6 TIME SYNCHRONIZATION

Vnet/IP synchronizes the time between the Vnet/IP stations connected to a Vnet/IP network. Time synchronization sets the clock time in each Vnet/IP station in Vnet/IP to be the same. The OS clock time is also set for the same time using the Vnet/IP master time through each interstation time synchronization service.

A dedicated NTP server with GPS antenna shall be used for providing the main time reference.

Time synchronization for the Yokogawa Systems (PCS, SIS and FGS) shall be from the NTP Time server over bus2 of the Vnet/IP PCS and Safety networks. For 3rd party subsystems a time source from NTP server will be provided via Modbus communication cable. There is a dedicated PTP link from time sever to GIS Switchgear. Time stamping from time server to MV switchgear SG-100D1 shall be via EMCS.

4.7 ELECTRICAL MONITORING AND CONTROL SYSTEM (EMCS)

EMCS control system shall be used to monitor and control the electrical equipment's integrated with CI server. EMCS shall be communicated with CI server through PIN redundant Network and OPC UA.

The OPC-UA PubSub implementation in CI-Server offers Broker-less communication. This communication is based on the OPC foundation's UADP communication protocol. IEC61850 Redundant link shall be used to communicate with HV/MV/LV switchgear, etc.

EMCS has 2 OPC UA servers and CI Core 2 nos of Servers as OPC UA Client. OPC UA communication redundancy shall be managed at CI Core Server, EMCS shall be both active Servers.

The structure of communication device of OPCUA protocol is as follows:

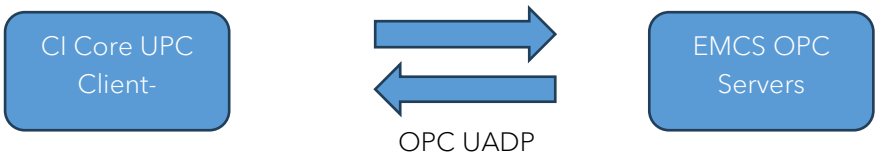


Figure 11 – Structure of communication device.

The UADP protocol is a broker-less application protocol based on the IP/UDP multi-cast protocol The fact that it is a broker-less means that there is no external application routing the messages between Publisher and Subscriber. The Publisher will broadcast all its message on the network. The Subscriber, who must be on the same network subnet, will read all published messages on the network. It will then filter the messages by publisher-ID and message-ID and only process further those messages it has been subscribed to. By default, UDP broadcast messages will not leave their network subnet. If you want broadcast message to propagate beyond their subnet you need to configure that option in the router.

Refer Appendix – 1 for EMCS Datasheet and Overall system architecture (1724000594-IN-DD-00015).

EMCS shall also communicate with PCS using Modbus Communication modules via Firewall. Refer Overall system architecture (1724000594-IN-DD-00015)

4.8 BACKUP AND RECOVERY SERVER

A backup of critical data and a disaster recovery plan is essential in the event of a hardware failure, virus infection, or environmental catastrophe. A Backup and Recovery server will be used to manage the backup of all critical data residing in the control system.

It is important to have an effective backup management solution that can manage the plant-wide backup operation from a central location. The scope of this proposal will cover the backup & recovery management for only Yokogawa Windows-Based Control Systems.

The rationale behind proposing for data backup solution for control systems is due to the following reasons:

1) In situation of hard disk system crash (even in RAID configuration) which results in total loss of data vitain control systems

2) In situation of virus/data attack on control systems which may incapacitate the ICS applications and database running on the system

3) As part of Business Continuity Plan to resume operation when natural disaster strikes the plant.

The Backup and Recovery solution will address three keys aspects of the ICS to ensure the systems can quickly return to "original state" following any of above-mentioned events threaten to destroy important data.

1) System Protection – System image to be restored in very short time.

2) Data Protection – Enable all important files or databases to be restored to the last backup data.

3) Online Backup – Enable all important files or databases to backup while the system is in operation.

The backup architecture enables centralized backup management of all critical data residing in the control systems database and is designed with a high-performance data protection strategy that integrates both disk and tape storage with an optimized backup application that can streamline back and recovery operation.

The key components of the architecture are as follows:

1) Backup Management Server + Disk Array Storage

2) Backup Management Software Veritas Backup Exec and Veritas System Recovery Software

The Backup Management Server will be connected PIN Network (Level 3).

4.9 DOMAIN CONTROLLER SERVER

Microsoft Active Directory Domain Services provide a set of directory services that are included in the Windows Server operating system. A directory service is a network service that identifies all resources on a network and makes them accessible to users and applications. It includes the directory, which stores information about network resources, as well as all the services that make the information available and useful. The resources stored in the directory, such as user data, printers, servers, databases, groups, computers, and security policies, are known as objects.
The Microsoft Active Directory Domain Services (AD DS) can organize resources in a logical structure. Grouping resources logically enables finding a resource by its name rather than by its physical location. The logical structure is composed of objects, organizational units, domains, trees, and forests.
It is vital to have control and management over all the objects to control the number of repositories in use, reduce administrative overheads, enhanced operational efficiency, and have tighter control over the security of user information. It can carry out single sign-on to network resources; lockdown desktop configurations and prevent access to specific operations such as software installation or registry editing and set access control privileges on directory objects. AD DS centralizes identity management and supports role-based security.

2 Nos of AD Servers are provided for high availability.

4.10 ANTI VIRUS PC

Significant risks of virus/malware intrusion and infection are increasing every day, to reduce this risk, Yokogawa in collaboration with Trellix provides a Standard Antivirus software for the Yokogawa IA control system. Based on Trellix's antivirus technology, the antivirus software (Trellix Endpoint Security (ENS)) shall

use the centralized management concept using the Trellix ePolicy Orchestrator and its features. The ePO is an integrated endpoint security platform that fully supports the Yokogawa IACS products.

The Yokogawa Antivirus Software features are the following:

- Optimized Configuration – System setup that will offer a balance between the high performance of the antivirus solution and stable operations of the Yokogawa ICSS products.
- Stable Operation of Yokogawa ICSS products – scheduled policy distribution and scanning operations that will not disrupt ICSS Operations
- Minimal False Positive – monthly updates from Trellix to increase correct detection of malware and viruses, thus providing a minimal false positive.
- Yokogawa File Exclusion – all Yokogawa products are excluded from On-Access Scan to increase performance and minimize false positives.
- Trellix AV compatibility with Yokogawa ICSS products.

Yokogawa and Trellix have a collaboration where the Yokogawa software is inside of the Trellix database, this implies that every DAT file that is released is tested against the Yokogawa software, hence massively reducing the change of false positives. Yokogawa will constantly monitor and test if the Trellix software introduces issues with the Yokogawa software.

The Yokogawa Standard Antivirus features file extension exclusions of all the Yokogawa product extensions for the On-Access Scan function and is already part of the provided pre-configured policies. There is no need to further exclude manually the Yokogawa products folder and files for On-Access Scan. However, all created on-access scan exclusions are fully scanned with the On Demand Scan function.

4.11 WINDOWS SECURITY UPDATE SERVICES

A Microsoft WSUS server will be deployed in the DMZ. It will be configured as an upstream server mode and will replicate product updates, via Business Management network on a scheduled basis.

Yokogawa validates the combined operation of the Yokogawa products and the Microsoft Security Updates. The report and information regarding Security Updates are published on the Yokogawa member website monthly. Yokogawa provides a replication XML file for simplifying the updating process of the Microsoft Security Update with a Windows Server Update Service (WSUS) server.

A WSUS server is integrated with a Windows Domain Active Directory for user authentication of WSUS users for administration, maintenance and monitoring, server-client secure communication, and domain authentication process. One server is deployed in Level 3.5 (DMZ) for the hosting of the DMZ WSUS server. This server will store all the product updates. A replication XML file will be stored monthly, in DMZ WSUS

Server. The replication XML file will be copied manually from the Yokogawa Customer Portal by a service engineer, as per the service contract details.

4.12 NETWORK MANAGEMENT SYSTEM SERVER

The Network Management System (NMS) provides visibility to all the monitored assets in the plant. Implementing this solution and following the recommended monitoring approach gives the plant asset administrator valuable information that could be used for asset administration, maintenance, and troubleshooting. An NMS Server will be used to monitor the devices and create alerts based on a configured threshold.

4.13 EQUIPMENT AND LOCATION

PACO system such as System Cabinets, Marshalling Cabinets, Workstations, Network cabinets, Server cabinets, FOPP cabinets etc. shall be installed in Telecom Equipment Room (ITER) offshore location which is qualified as non-hazardous area.

AREA	Description	Cabinet Name
ITER	PCS System Cabinet	B400-PCS-001/B400-PCS-002
ITER	SIS Cabinet	B400-SIS-001
ITER	/FGS Cabinet	B400-FGS-001/ B400-FGS-002/ B400-FGS-003
ITER	Server Cabinet	B400-SVR-001
ITER	Network Cabinet	B400-NET-001
OER	Server Cabinet	HKN-WPO1-BLPH-SRV-01
OER	Network Cabinet	HKN-WPO1-BLPH-NET-01

Table 13 – Controller Segregation

Server/Network cabinet name shall be installed in Onshore Equipment Room (OER) and three Tower type PC's (IAMS Client, CI-View (OWS), CI-View (CAP), 65" Inch VDU and Colour printer shall be installed in Central Control Room (CCR) which is qualified as non-hazardous area.

ITER, OER and CCR Equipment's shall be designed in a controlled environment with the following conditions,

- Temperature: 15 to 25 °C
- Relative humidity: 30 to 70% RH

Nevertheless, supplied equipment are suitable to withstand to the following conditions:

- Temperature: 5 to 45 °C
- Relative humidity: 10 to 93% RH

4.14 ELECTRICAL POWER SUPPLY REQUIREMENTS

Electrical power distribution to the PCS, SIS, FGS and EMCS system is in accordance with requirements defined in Control System (PCS) Specification", Doc no. – "123A90-DDL-IN-SP-40098". The electrical power distribution to the PCS, SIS and FGS is in accordance with requirements defined in Power and Heat Load Calculations.

The Power supply integrity of all PCS, SIS, FGS and EMCS components shall be ensured, using redundant power supply (Uninterruptible Power Supplies – UPS). The loss of primary or secondary power supply shall be detected and alarmed.

The PCS, SIS, FGS and EMCS cabinets shall receive dual segregated 230 VAC, 50 Hz, single phase UPS power from two independent sources provided by EPC CONTRACTOR. Each of the PCS, SIS and FGS CPU nodes and I/O nodes receive two independent UPS power feeders via a power distribution arrangement.

A transient power interruption of 20 msec shall have no effect on the equipment or system performance.

Non-UPS power 230 VAC, 50 Hz supply is used for utility sockets and lighting in cabinets.

4.15 ELECTROMAGNETIC COMPATIBILITY REQUIREMENTS

For the proper and stable operation of the PCS, SIS, FGS and EMCS system, the field electric strength of the location for the equipment shall be controlled as following:

- 10 V/m or less (80 MHz to 1.0 GHz)
- 10 V/m or less (1.4 to 2.0 GHz)
- 1 V/m or less (2.0 to 2.7 GHz)

In case of the usage of wireless equipment such as transceiver nearby this system, the following precaution shall be followed:

- The door of this system should be closed.
- In case of the usage of transceiver with 3 W or less, the distance from this system should be kept 1 m or more, with 10 W or less, 2 m or more.
- As for the usage of wireless equipment with 1 W or less such as mobile-telephone, PHS, Wireless telephone or LAN equipment, the distance should be kept 1 m or more. Attention should be paid to the microwave radiated from mobile-telephone or PHS even out of usage.

The hardware components of the ProSafe-RS comply with the EMC Conformity standards, EMC Directive EN 61000-6-2 (100-120 VAC, 220-240 VAC and 24 VDC power supply specifications) subject to conditions stated in the Yokogawa GS and IM.

- For surge immunity, an external device, such as a lightning arrester, is needed.

- The 24V DC power supply lines from the field power supply to DI and DO needs to be 30 m or less.

For a rack-mounted device to comply with safety standards and EMC standards, it needs to be housed in a lockable metal cabinet.

4.16 CRITICAL ACTION PANEL

A Critical Action Panel (CAP) shall be software-based control located at CCR for SIS and FGS functions. A dedicated tower type PC and screen with installed CI view/License software shall be used to control the action push buttons and monitor the trip status information.

All functional processing equipment of the Safety System shall be in the ITER (Offshore) with the exception of any equipment required for a Software Critical Action Panel (CAP) located in the onshore control room CCR. CAP shall provide executive action Software push buttons, trip status information and the Software Switch "Override Enabled/Disabled". Each SIS / FGS input shall have the facility for a maintenance override to enable testing without causing a shutdown. The override state shall be indicated on the SIS / FGS graphic displays.

4.17 MAINTENANCE OVERRIDE FUNCTION

Throughout the operational lifetime of the SIS/FGS, overrides for sensors and other input devices are required from time to time. Maintenance override switches (MOS) shall be used to inhibit trip initiators to enable maintenance or on-line functional testing. For safety reasons, these maintenance overrides shall be allowed for input signals only and not for output signals. Maintenance overrides should not prevent actual input status from being alarmed.

As a MOS effectively renders its associated safety instrumented function (SIF) ineffectual in the event of a hazardous demand (i.e. bypassed), their use shall be strictly governed by review and Contractor's operational procedures (permit to work system) including securing the physical keys from unauthorized access.

The following by-pass and override facilities shall be provided. Two different override functions shall be available:

- Startup Override Switch (OOS)
- Maintenance Override Switch (MOS)
- Automatic Override Switch (AOS)

4.17.1 Startup Override Switch (OOS)

To be able to start equipment or sections of process, it shall be necessary to override some inputs of the safety system, as sensor signal may be in an abnormal state prior to start-up and could cause a shutdown. Such overrides are designated as "Start-Up Overrides".

Activation of OOS shall be carried out automatically as far as possible by the SIS system during a start-up sequence, but some OOS may have to be set manually by the operator from the SIS Console. (e.g. automatic = pump discharge low pressure and manual = high level in a compressor scrubber).

Each OOS function shall be reset automatically either by the sensor signal reverting to the normal or healthy status, after a dedicated step of the equipment start-up sequence or after a predetermined time delay, or by a set of process conditions. If cancelled automatically by the sensor signal, the input logic shall prevent spurious trips being caused by oscillation of the input around the reset value.

Indication of the raw statuses of the sensors overridden by automatic start-up shall be shown into the OWS graphic displays and recorded on the event log.

4.17.2 Maintenance Override Switches (MOS)

Maintenance override switches shall be used to inhibit trip initiators in order to enable maintenance or on-line functional testing. Maintenance override shall be activated through PCS HMI with a maintenance access level and when the MOS Enabled key is enabled, located on the CAP.

Activation of input override shall inhibit the shutdown logic function only; field input status indication and alarm function shall remain in service.

Individual override status indication shall also be shown, with alarm at the OWS graphic displays and recorded on the event log in the CCR.

MOS shall be provided for all SIS system inputs with an exception of the following signals:

- Manual trip switches
- Flame failure detection, Axial displacement, Vibration signals.
- Limit / Proximity switches.
- Reset pushbutton.
- Key switch
- All outputs

5 DESIGN PHILOSOPHY

The PCS, SIS and FGS shall be designed to meet the operational philosophy of HOLLANDSE KUST NOORD WIND PARK Project which requires segregation of the system for security, confidentiality, and independent operation of the different CCR/ITER/OER.

5.1 CONTROLLER SEGREGATION:

5.1.1 Controller Segregation:

Based on PACO requirement the controller details as follow,

System	Domain Number	Station Number
PCS	1	01
SIS	1	10
FGS	1	20

Table 14 – Controller Segregation

For Complete details regarding the overall architecture For, refer "System Architecture Drawing (Doc No - 1724000594-IN-DD-00015).

5.2 I/O SEGREGATION:

5.2.1 PCS and EMCS

5.2.1.1 Hardwired I/O Segregation:

I/O segregation rules are applied to minimize the likelihood that a common failure will impact different operating units or trained equipment within a process unit.

Segregation also considers maintenance requirements between/within process units and equipment. The following rules are applied

- All I/O associated with redundant process equipment (e.g. duty-standby motors or pumps, multiple trains, etc.) shall be located on separate cards. i.e. motor A and motor B, the I/O for motor A shall be located on different cards from those assigned to motor B; thus, the failure of a single I/O card shall only affect the logic associated with one of them.
- Where possible, I/O shall be allocated to cards in a way to minimize the number of devices that would be affected by a card failure. For this purpose, spare channels shall be distributed across all available installed cards.
- Open and close limit switches from the same valve shall be located on the same input card and in consecutive channels.

- I/O segregation shall be considered with a view to minimize peer to peer control communication as much as possible to reduce inter-systems dependency and avoid any impact response time of a loop.

5.2.1.2 Serial I/O Segregation:

Modbus TCP/IP and Modbus RTU communication signals shall be connected to communication module in the PCS controller for the process unit the communication signals belong. OPC communication signals from different systems equipment shall be combined to minimize the number of OPC servers.

For more information on the Sub-System Communication Protocols refer to PCS and Safety System IO List (HW and SW) 1724000594-IN-LIS-00004 .

5.2.2 SIS

I/O segregation rules are applied to minimize the likelihood that a common failure will impact different operating units or trained equipment within a process unit.

Segregation also considers maintenance requirements between/within process units and equipment. The following rules are applied:

- I/O cards shall be segregated for each unit. For multi-trains within each unit (e.g. Utility), I/O cards will further be segregated for each train.
- Voted trip initiators (e.g. 2oo3 transmitters) shall be wired to separate hardware fault tolerant (redundant) sets of input cards. Dangerous and/or safe hardware fault tolerant initiators (such as, if applicable, 2oo3 transmitters) shall be wired to separate hardware fault tolerant sets of input cards (e.g. in case of 2oo3 transmitters A, B & C, transmitter A shall be wired to card 1, transmitter B to card 2 and transmitter C to card 3). This shall apply only for initiators involved in automatic executive action e.g. shutdown of process, deluge release. In such cases using 2 out of N voting, where the total quantity of detectors in voting exceeds three, the initiators shall be distributed in minimum three separate I/O cards.
- Voted trip outputs to final elements (e.g. 1oo2 valves) shall be wired to separate hardware fault tolerant (redundant) sets of output cards.
- All I/O associated with redundant process equipment (e.g. duty-standby motors or pumps, multiple trains, etc.) shall be located on separate cards. i.e. motor A and motor B, the I/O for motor A shall be located on different cards from those assigned to motor B; thus, the failure of a single I/O card shall only affect the logic associated with one of them.
- Cards for redundant equipment must be in different racks.
- Where possible, I/O shall be allocated to cards in a way to minimize the number of devices that would be affected by a card failure. For this purpose, spare channels shall be distributed across all available installed cards.
- Open and close limit switches from the same valve shall be located on the same input card.

- Each process unit I/O on the same SCS shall be segregated in different racks.
- I/O segregation rules shall be applied to minimize the likelihood that a common failure will impact different operating units or trained equipment within a process unit.
- Safety I/O's and Non-Safety I/O's shall be allocated in different I/O modules.
- No Safety Instrumented Functions (SIFs) with SIL targets are specified by the client. A quantitative assessment (PFDavg calculation) is not carried out as there is no customer specified safety requirement for the project.

5.2.3 FGS

I/O segregation rules are applied to minimize the impact of a failure in different operating units or trained equipment within a process unit and minimize likelihood of a common failure in a controller for voting inputs and outputs.

Segregation also considers maintenance requirements between/within process units and equipment. The following rules are applied:

- I/O cards shall be segregated for each fire zone (applicable also for FGS in CCR)
- Depending upon the number of inputs & outputs, the I/O cards may be combined for small areas for Utilities and interconnecting.
- Dangerous and/or safe hardware fault tolerant initiators (such as, if applicable, 2oo3 transmitters) shall be wired to separate hardware fault tolerant sets of input cards (e.g. in case of 2oo3 transmitters A, B & C, transmitter A shall be wired to card 1, transmitter B to card 2 and transmitter C to card 3). This shall apply only for initiators involved in automatic executive action e.g. shutdown of process, deluge release. In such cases using 2 out of N voting, where the total quantity of detectors in voting exceeds three, the initiators shall be distributed in minimum three separate I/O cards.
- Dangerous and/or safe hardware fault tolerant final elements (such as, if applicable, 1oo2 valves) shall be wired to separate hardware fault tolerant sets of output cards.
- I/O's belonging to one fire zone shall be grouped together.
- Where possible, I/O shall be allocated to cards in a way to minimize the number of devices that would be affected by a card failure.
- Safety I/O's and Non-Safety I/O's shall be allocated in different I/O modules.

6 SYSTEM SIZING AND SPARE CAPACITY

System sizing is based on many factors, some of which are listed below:

- Segregation of Controllers. (e.g. Number of nodes)
- Controller Scan period (based on FDS definition)
- I/Os quantity per Controller (based on I/O database)
- Remote I/O quantity per Controller (based on I/O database)
- Module redundancy (based on I/O database)
- Installed spare I/O quantity (e.g. 20% shall be considered during CPU load sizing)
- Application program size
- Peer-to-peer communication quantity and communicated data.
- Subsystem communication modules quantity and communicated data (Modbus read/write data)
- User interface requirements using PCS integration (e.g. MOS, bypass, faceplates, reset etc.)

6.1 CONTROLLER LOADING

Controller assignment shall ensure 60% controller loading at the end of FAT and I-SAT considering no change in IO count with respect to proposal IO summary and no major logic changes post FAT. The system sizing based on CPU loading estimation calculation includes system resources for 20% installed I/O spares.

6.2 ENGINEERING WORKSTATION:

EWS shall have adequate spare resource and software IO license to configure 20% installed spare I/O.

6.3 INSTALLED I/O SPARES

Installed spares shall be provided as below:

- Each type of I/O

Installed I/O spares shall be distributed across the I/O modules installed.

- The system shall be able to accept 20% increase in the number of software points without any hardware modifications after plant commissioning. This 20% spare capacity shall be usable without any modifications of the system.
- Only this 20% Spare I/O points shall be prewired to spare terminal blocks irrespective of the spare cores available in the Multi pair/core cables. The additional Spare core cables available in the multi pair cable shall be rolled and placed below the cabinet by EPC contractor.

Notes:

- Assumption that the design I/O data provided by EPC CONTRACTOR at the time of design freeze includes any growth in I/O until FAT.
- Redundant capacity shall not be considered as spare capacity.

6.4 POWER SUPPLY UNITS

Power supply units shall be sized to 80 % load and shall have a spare capacity to meet the 20% installed spare I/O and future I/O that can be installed in each marshalling cabinet.

6.5 WIRE DUCTS

Wire ducts in the cabinet shall have 20% spare space for future wiring requirements.

6.6 REDUNDANCY

PCS, SIS and FGS shall be designed such that no single component failure results in loss of essential control or unnecessary shutdown of process equipment. The following components shall be redundant.

- PCS, SIS and FGS Controller.
- Node Communication Modules (ESB)
- Power Supply Units
- Data link communications to the safety system (SIS, FGS).
- PIN Network
- PIN Network Switches / Firewalls
- Modbus TCP/IP/ RTU /OPC Communication Links.

Package	Area	Single/Redundant network	Comm Protocol	System connected with
UPS	UP-200F3	Redundant	Modbus	PCS Modules
	UP-200F4	Redundant	Modbus	PCS Modules
LV Switchgear	SG-200N1	Single	Modbus	PCS Module
	SG-200D2	Single	Modbus	EMCS
	SG-200N1	Redundant	IEC	EMCS
MV Switchgear	SG-100D1	Single	Modbus	EMCS
		Redundant	IEC	EMCS
Transformer	TR-100AD1	Single	Modbus	EMCS
HVAC	B100-HSB-001	Single	Modbus	PCS Module
	B200-HSB-001	Single	Modbus	PCS Module
	B300-HSB-001	Single	Modbus	PCS Module
	B400-HSB-001	Single	Modbus	PCS Module

Instrument Air Package	63-LP-001	Single	Profinet	PCS Module
Nitrogen Generation Package	64-LP-001	Single	Profinet	PCS Module
Water Treatment Package	50-LP-001	Single	Modbus	PCS Module
EMCS	EMCSSSVR01/02	Redundant	OPC UA	CI Servers
		Redundant	Modbus	PCS Module
ELECTROLYSER	A-20000	Single	Profinet	EMCS
FUEL CELL	A-80000	Single	Modbus	EMCS
BESS	A-85000	Single	Modbus	EMCS

Table 15 – Packages connection Specification

7 COMPONENTS OF CENTUM VP F-IO SYSTEM

7.1 FIELD CONTROL STATION

A Field Control Station (FCS) consists of Field Node Unit (FNU) and optionally other Node Units (NU). A FNU is basically the rack housing the CENTUM VP CPU modules and I/O modules, while the NU houses the CENTUM VP I/O modules only.

7.1.1 Field Node Unit (AFV30D-A41262)

A FNU is constructed by installing a power supply module, a processor module, an ESB bus coupler module and I/O modules on the base unit. In this project, AFV30D is used as the FNU with redundant CPU modules.

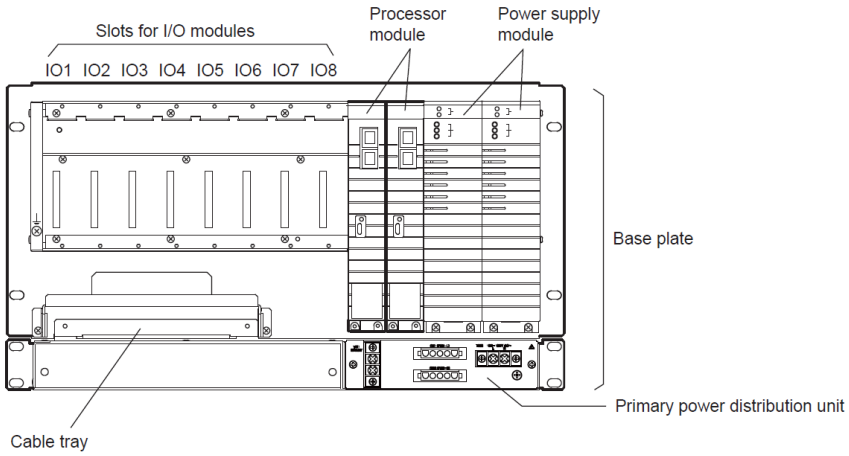


Figure 12 – Field Node Unit (FNU).

The table below shows the Field Node Unit (AFV30D-A41262) hardware specifications used for this project.

Item	Specifications
Model	AFV30D
Voltage & Frequency	220 ~ 240 V AC & 50 or 60 Hz
CPU Unit	CP461 Redundant
Power Supply Units	PW482 Redundant (220 to 240 V AC Power Supply)
ESB Modules	EC401 Redundant
Power Consumption of Unit	230 VA (220 to 240 V AC Power Supply)
Mounting type	19″ Rack or Mounting plate

Table 16 – FNU Specification

7.1.2 Field Central Processing Unit (CPU)

In a dual redundant FNU configuration, the FNU has 2 Central Processor Unit, each with 2 MPU's inside. Each MPU performs the same control computations, and the results are compared after each calculation. If the results agree, then the card is considered normal, and the results are transmitted to the memory and bus interface card. The main memory uses ECC (error-correcting code), which can correct transient reversed-bit errors.

On the other hand, if the results from MPU1 and MPU2 (on the same CPU card) do not agree, then the comparator interprets this status as "CPU abnormal" and switches the processing to the standby processor card.

A Watch Dog Timer is used to detect if the active processor card is abnormal, which results in a switch from active to standby processor card. The standby processor card is performing the same computations as the active card, and when it is switched to active status then the results it has just computed are transferred to the bus interface seamlessly without any interruption in control.

If a "CPU abnormal" error is detected in a CPU card, a self-diagnostic check is performed on the card; if the hardware is not abnormal, then the error is treated as a transient error and the card reverts from "abnormal" to "standby" status.

Under normal circumstances, when both the "active" and the "standby" CPU cards are healthy and if the "active" CPU card fails, the "standby" CPU card seamlessly switches its status to "active" and continues with its operations and reports the failure of the "active" CPU card. If the failed CPU card is replaced with a healthy card, then, the CPU card goes to the standby status. In the event of an "active" CPU card is performing the control functions and the "standby" card has failed, the failure is logged in the system. On replacement of the failed card with a healthy one it adopts the "standby" status.

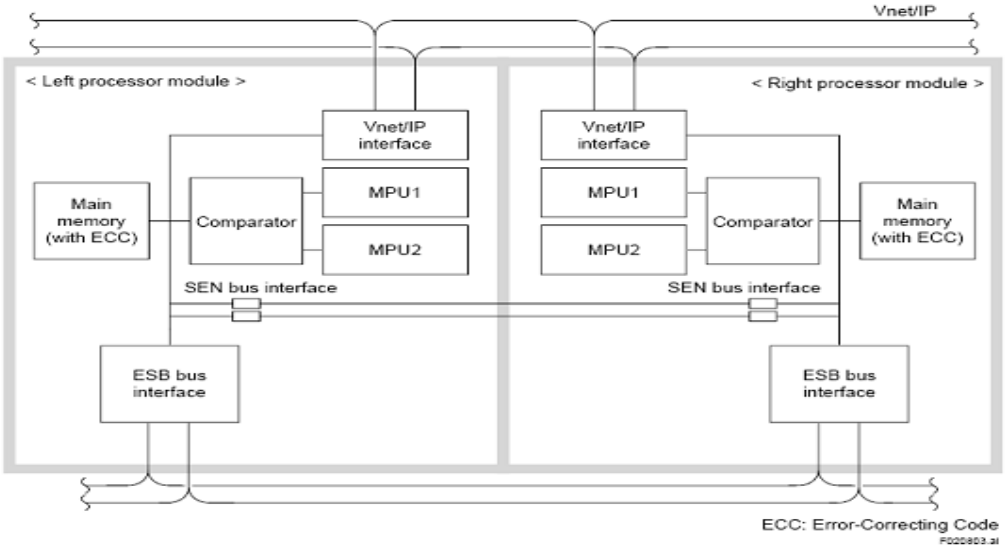


Figure Example of Duplexed (Dual-redundant) Processor Module Configuration

Figure 13 – Central Processing Unit (CPU).

7.1.3 Processor Module

- Control algorithm calculations and safety functions are performed in the processor module (Controller).
- The processor Module is CP471 which is part of the FNU supplied.
- The appearance of the processor module, front and rear, is illustrated in the drawing below.
- The battery pack is placed behind the front cover.
- The DIP switches for setting domain number and station number are placed at the rear of the module. Thus, the setting can only be performed by pulling out the module from its slot.

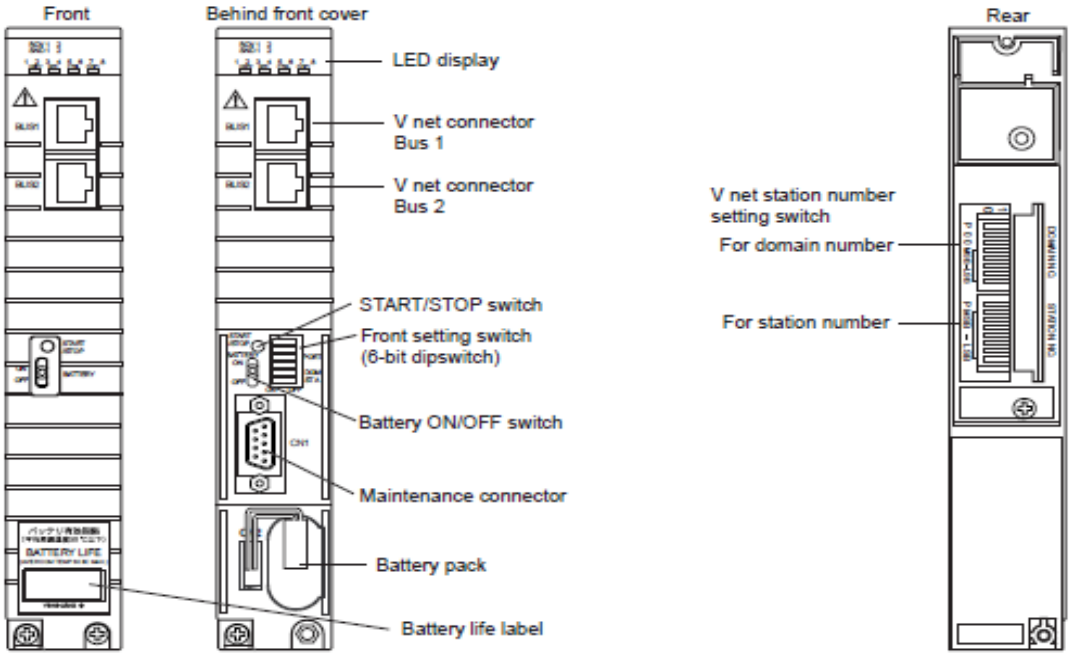


Figure 14 – PCS CPU.

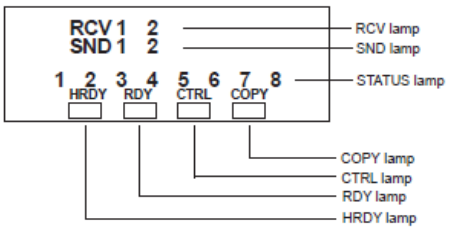


Figure 15 – PCS CPU LED.

HRDY:

The processor module performs self-diagnosis. If the processor module hardware is functioning normally, the green lamp turns on. If abnormality is found, the lamp turns off.

RDY:

The green lamp turns on if both the hardware and software are functioning normally. If either of them is abnormal, the lamp turns off.

CTRL:

The green lamp turns on if the processor module is performing control. If the processor module is standby, the lamp turns off.

COPY:

In the dual-redundant FCS, the green lamp turns on when program copy is executed and turns off when program copy is completed. When a processor module has been replaced or when the unit is stopped and then started again, the standby-side processor module automatically copies the program of the control-side processor module. When copy is completed, the lamp turns off. In the basic (single) Safety Node Unit, the lamp is always off.

RCV:

This indicates the control bus communication status. 1 stands for control bus bus1 while 2 stands for control bus bus2.

Vnet/IP: When receiving communication frames, the green lamp blinks, otherwise the lamp turns off.

SND:

This indicates the control bus communication status. 1 stands for control bus bus1 while 2 stands for control bus bus2.

Vnet/IP: When sending communication frames, the green lamp blinks, otherwise the lamp turns off.

7.1.4 ESB Bus Coupler Module (EC401-51)

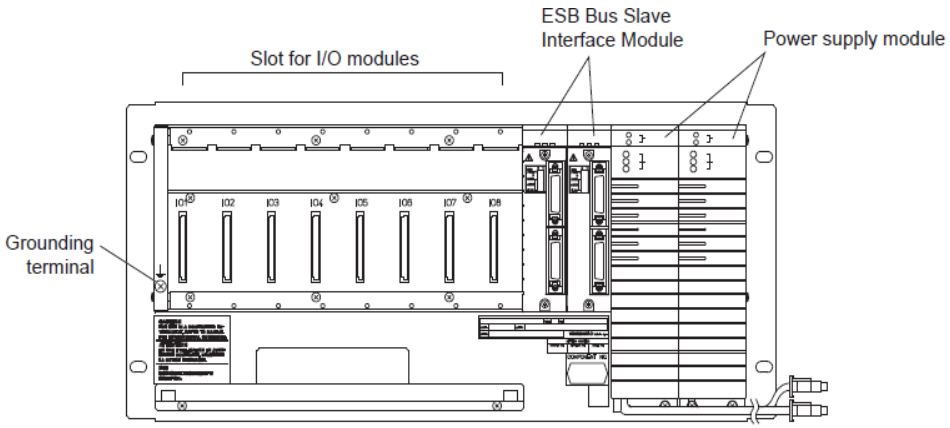
- ESB bus coupler module is used to connect Field Node Units and I/O node units via an ESB bus cable and mounted on the seventh and eighth slots of the Field Node Unit.
- Installing two modules in the FNU, dual redundant ESB bus can be configured.
- EC401 has one ESB bus connector port on the front of the module.

Item	Specifications
Model	EC401-51
Function	ESB bus master interface function
No. of Connectable Nodes	9 I/O Node Max

Transmission speed	128 Mbps (I/O module data transmission)
Transmission distance	10 m maximum
Current consumption	0.5 Amp.
Weight	0.24 g

Table 17 – ESB module specification

7.1.5 ESB Bus Node Unit (ANB10D)



A Node Unit (NU) for Dual-Redundant ESB Bus (ANB10D) consists of power supply modules, Bus Interface Modules, and only Communication Modules can be mounted.

It has an interface function that communicates the communication I/O signals with a Field Node Unit (FNU) via an ESB bus, as well as a function that supplies power to the Communication Modules.

SB401 (ESB Bus Interface Slave Module) is a bus interface module that connects the Field Node Unit and the ESB Bus. Node Unit for ESB Bus via the ESB Bus. This module is used in combination with ESB Bus Coupler Module (EC401) and can be installed in FIO Node Unit. Dual-redundant configuration of ESB Bus can be enabled by installing 2 modules.

Figure 16 – ESB Bus Node Unit (ANB10D).

Table below shows the Node Unit (ANB10D) hardware specifications used for this project.

Items	Specifications
Make	YOKOGAWA
Model	ANB10D-426/CU2N
Voltage	220-240 V AC
Frequency	50/60 Hz

Module Configuration	
Power Supply Module (Model: PW482)	2 (Redundant)
ESB Bus Interface Slave Module (Model: SB401)	2 (Redundant)
Communication Module	8 (max.)
Number of ESB Bus Node for N-IO Connections	Up to 8 units /FNU

Table 18 – Node Unit (ANB10D) hardware specification

7.2 IO MODULES FIO

7.2.1 Analog I/O Modules (AAI143-H53/A4D00 – AI, AAI543-H61/K4A00-AO)

Analog I/O Modules (for FIO) to be installed in the ESB bus node units (ANB10D), and Field Node Units (for FIO) (AFV30D).

- AI module provides 16 inputs of 4 to 20 mA signal. It can be used in dual-redundant configuration.
- AO module provides 16 outputs of 4 – 20 mA signal. It can be used in dual-redundant configuration.

These analog I/O modules function as signal converters; by inputting field analog signals into these modules, it converts them to internal data for field control stations (FCS), or the FCS's internal data to analog signals for outputs.

The Analog Input Module is used to read and convert the analog value. This analog module is configurable for loop powered transmitters, which are known as sinking type devices, or externally powered devices which are known as sourcing type devices. The dip switch inside the module can be set for "2-wire" for loop powered transmitter or "4-wire" for externally powered transmitter per channel basis.

The analog I/O module (with HART communication function) connected to a transmitter, or a valve positioner receives HART variable in addition to exchange analog input/output data by 4 – 20 mA signal with field control stations (FCS).

Following table is the specification for Analog Input and Analog Output Module.

AAI143-H53/A4D00 - Analog Input Module, 16 Channel

Items		Specifications
Model		AAI143 (*1)
Number of input channels		16, isolated
Input signal		4 to 20 mA
Allowable input current		24 mA
Withstanding voltage		Between input and system: 1500 V AC, for 1 minute (*3)
Input resistance	Power ON	270 Ω (20 mA) to 350 Ω (4 mA) (*2)
	Power OFF	500 kΩ or larger
Accuracy		±16 μA
Data update period		10 ms
Transmitter power supply		19.0 V or higher (at 20 mA) 25.5 V or less (at 0 mA) (output current limit: 25 mA) (*4)
Setting of 2-wire or 4-wire transmitter		For each channel by setting pin
Drift due to ambient temperature change		±16 μA/10 °C
Maximum current consumption		230 mA (5 V DC), 540 mA (24 V DC)
Weight		Approx. 0.30 kg
External communication		Pressure clamp terminal, MIL connector cable, dedicated cable (KS1)
HART communication		Available

Table 19 – Analog Input Module Specification (AAI143-H53/A4D00).

AAI543-H61/K4A00 - Analog Output Module, 16 Channel

Items	Specifications	
Model	AAI543-□5□/-□E□	AAI543-□6□/-□F□ (*2)
Number of output channels	16, isolated, standard switch-over response in redundant configuration (*3)	16, isolated, fast switch-over response in redundant configuration (*3)
Output signal	4 to 20 mA	
Withstanding voltage	Between output and system: 1500 V AC, for 1 minute (*4)	
Allowable load resistance	0 to 750 Ω	
Circuit-open detection	Less than 0.65 mA	
Accuracy	±48 μA	
Data update period	10 ms	
Drift due to ambient temperature change	±16 μA/10 °C	
Maximum current consumption	230 mA (5 V DC), 540 mA (24 V DC)	
Weight	Approx. 0.40 kg	
External communication	Pressure clamp terminal, MIL connector cable, dedicated cable (KS1)	
HART communication	Available	

Table 20 – Analog Output Module Specification (AAI543-H61/K4A00).

7.2.2 Digital I/O Modules (DI- ADV151-P63/D5A00 & DO- ADV551-P63/D5A00)

The Digital I/O Modules (FIO) that can be installed in the ESB Bus Node Unit (ANB10D), Optical ESB Bus Node Unit (ANB11D), and the Field Node Unit (AFV30D).

- The Digital Input Modules receive 32-channel or 64-channel 24 V DC ON/OFF signals.
- The Digital Output Modules output 32-channel or 64-channel transistor contact signals.

The Digital Input Module is used for Digital Input signals. This module used to detect the signals such as limit switches, pressure switches, proximity switches and Push button.

Signal Cable Interface (ATD5A) is installed on this module for connection to the Digital Terminal Board (A1BD5D) for Non-IS signals. Digital Inputs get transferred via system cable (AKB331) to Digital module.

PCS shall support the following final interface types.

- Solenoid valves with an operating voltage of 24 V DC.
- Interfacing relays (to motor control units) with a coil voltage of 24 V DC.
- Relays in Local panel or WHCP (Well Head Control Panel) with a coil rating of 24 V DC.

PCS outputs to low voltage 24 V DC devices shall be switched through digital output modules and not through relay contacts. Contractor shall ensure the inductive loads are installed with spark killer/ freewheeling diode (e.g. inside solenoid valve).

For applications where field load exceed output switching rating (e.g. very high-power solenoids), interface relay contact type output using relays may be used. The contact rating shall be selected according to the load specifications.

ADV151-P63/D5A00 - Digital Input Module, 32 Channel

Item	Specifications	
Model	**ADV151-P/ADV151-E (*1)**	**ADV161**
Number of input channels	32	64
Rated input voltage (*2)	24 V DC (sink/source)	24 V DC (sink/source)
Input ON voltage	18 to 26.4 V DC	20 to 26.4 V DC
Input OFF voltage	5.0 V DC or less	5.0 V DC or less
Input current (at rated input voltage)	4.1 mA±20 % / channel	2.5 mA±20 % / channel
Maximum allowable input voltage	30.0 V DC	30.0 V DC
Withstanding voltage	Between input signal and system: 2 kV AC, For 1 minute Between commons: 500 V AC, For 1 minute, common every 16-channel (*3)	
Functions		
Status input	Function for detecting ON/OFF status	Function for detecting ON/OFF status
Pushbutton input	Function for counting the pushbutton edges (*4)	Function for counting the pushbutton edges
SOE input	Function for capturing the SOE data (*5)	—
Input response time	8 ms or less (for status input)	
Minimum ON detection time	20 ms (for pushbutton input)	
Maximum ON/OFF cycle	25 Hz (for pushbutton input)	
Maximum current consumption	500 mA (5 V DC)	550 mA (5 V DC)
Weight	Approx. 0.30 kg	Approx. 0.30 kg
External connection	Pressure clamp terminal, Dedicated cable (AKB331), MIL connector cable	Dedicated cable (AKB337), MIL connector cable

Table 21 – Digital Input Module Specification (ADV151-P63/D5A00).

ADV551-P63/D5A00 - Digital Output Module, 32 Channel

Item		Specifications	
Model		ADV551	ADV561
Number of output channels		32	64
Rated applied voltage		24 V DC	24 V DC
External power supply rating		24 V DC, 50 mA	24 V DC, 100 mA
External power supply voltage range		20.4 to 26.4 V DC	20.4 to 26.4 V DC
Output ON voltage maximum value		2 V DC	2 V DC
Leak current maximum value when output OFF		0.1 mA	0.1 mA
Output format		Current sink	Current sink
Maximum load current (*1)		100 mA/channel, 26.4 V	100 mA/channel, 26.4 V
Withstanding voltage		Between output signal and system: 2 kV AC, For 1 minute Between commons: 500 V AC, For 1 minute, common minus (–) side every 16-channel (*2)	
Functions			
	Status input	ON/OFF status output function	ON/OFF status output function
	Pushbutton input	One-shot pulse width output function	One-shot pulse width output function
	SOE input	Time-proportioning ON/OFF	Time-proportioning ON/OFF
Output response time		3 ms or less (for status output) 10 ms or less (for mixed status and pulse outputs)	
Pulse width		8 ms to 7200 s	
Pulse width resolution		8 ms, but ON/OFF delay of maximum 1 ms is added	
Maximum current consumption		700 mA (5 V DC) 60 mA (external power supply)	780 mA (5 V DC) 120 mA (external power supply)
Weight		Approx. 0.20 kg	Approx. 0.30 kg
External connection		Pressure clamp terminal, Dedicated cable (AKB331), MIL connector cable	Dedicated cable (AKB337), MIL connector cable

Table 22 – Digital Output Module Specification (ADV551-P63/D5A00).

7.2.3 Node cables

Cables used in the CENTUM VP FIO.

Dedicated Signal Cable for Analog Modules

KS1 Cable (40-40 pins)

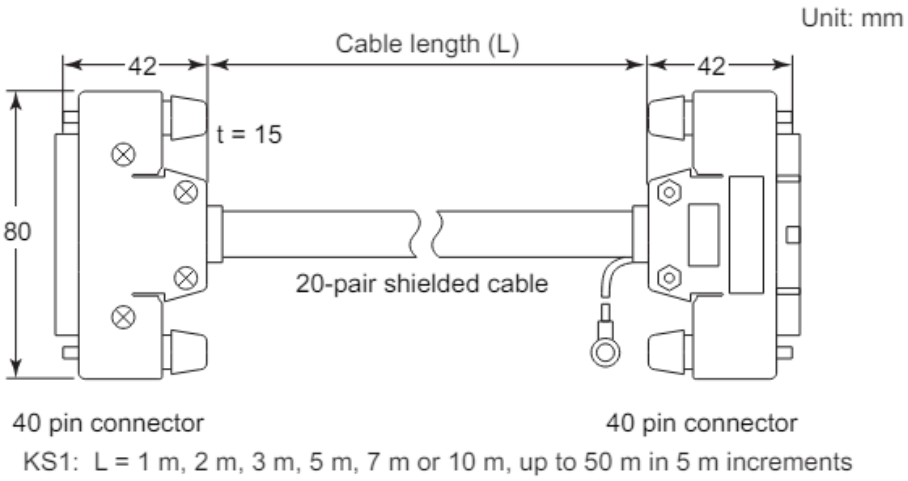


Figure 17 – Cable (KS1-10/HF) for Analog Module

Dedicated Signal Cable for Digital Modules

AKB331 Signal Cable (50-50 pins)

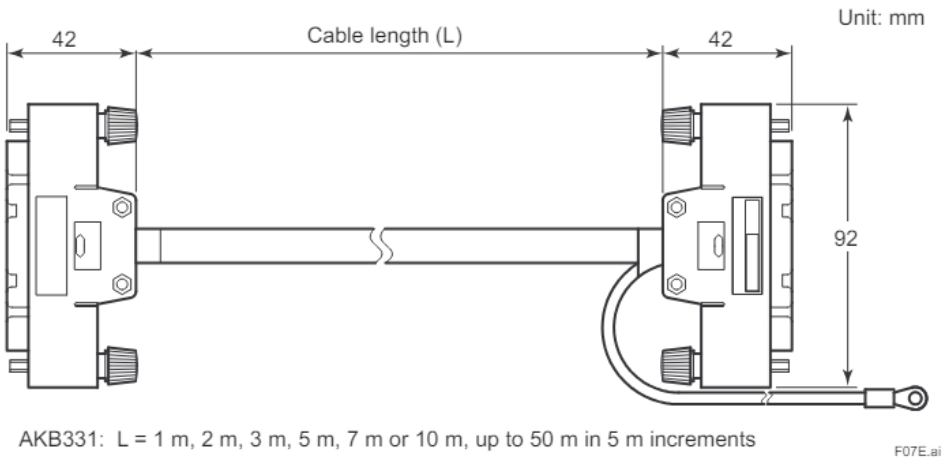


Figure 18 – Cable (AKB331-M010/HF) for Digital Module.

Analog Terminal Board (A1BA4D)

Analog Input termination board A1BA4D (YOKOGAWA make) shall be used to terminate the analog loops from the field. It consists of one set of connectors CN1 and CN2. It can be used for connecting redundant / non-redundant AI Modules using KS1 Cable. This Board is used for 16 Channel Analog Input configurations on AAI143-H module terminal connections.

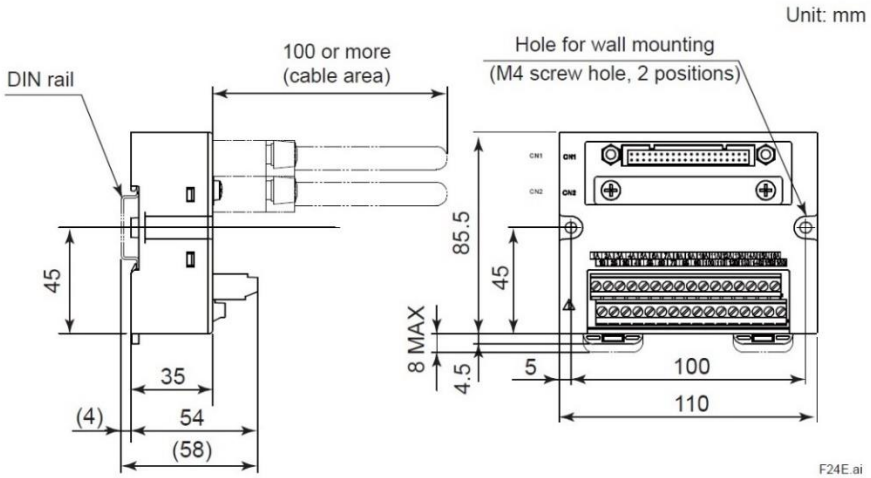


Figure 19 – TB (A1BA4D-06) for Analog Module

Digital Terminal Board (A1BD5D

Digital Input termination board A1BD5D (YOKOGAWA make) shall be used to terminate the Digital input loops from the field. It consists of one set of connectors CN1 and CN2. It can be used for connecting redundant / non-redundant DI Modules using AKB331 Cable. This board is used for 32 Channel Input configurations on ADV151-P module terminal connections.

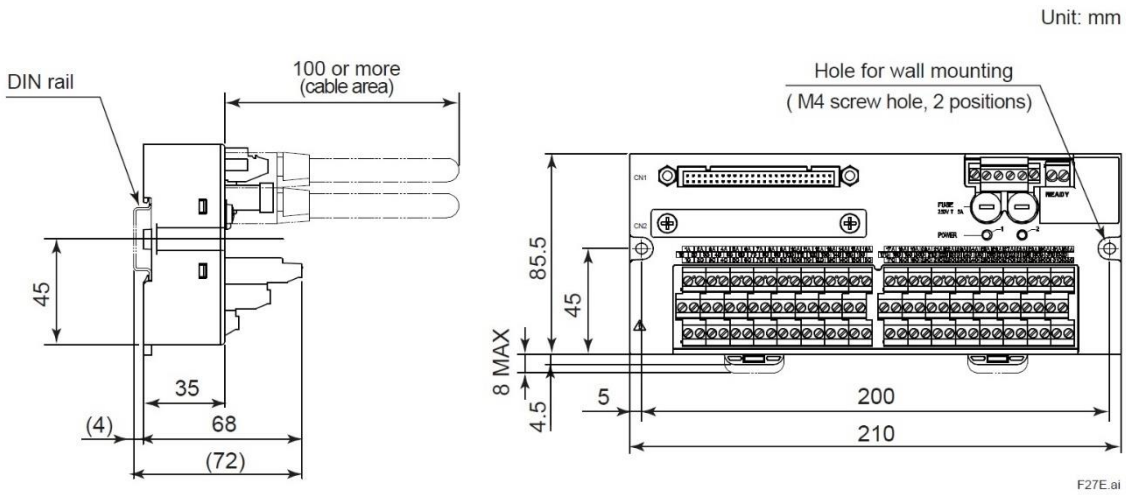


Figure 20 – TB (A1BD5D-06) for Digital Module

ESB cable

The below YCB301 cable shall be used for ESB bus connection.

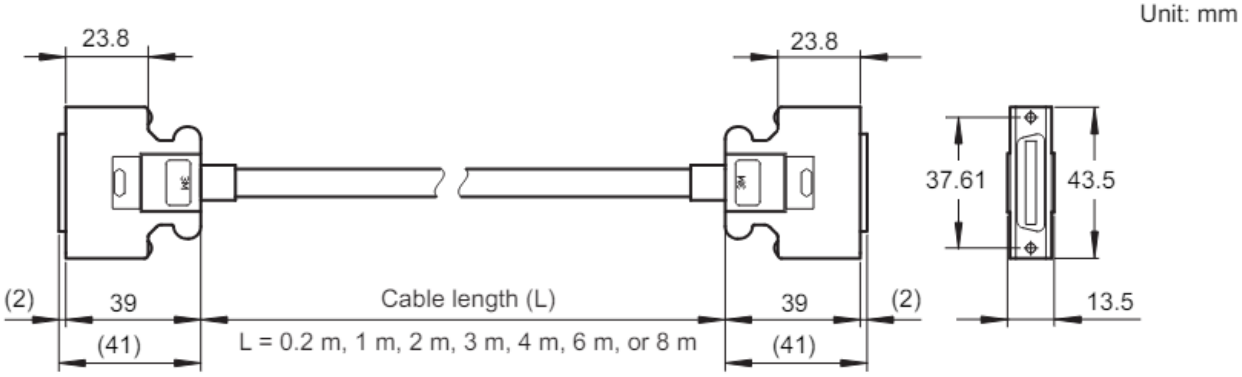


Figure 21 – YCB301 ESB Bus Cable

7.3 MODBUS TCP/IP COMMUNICATION MODULE (ALE111-S51)

Model ALE111 Ethernet Communication Module that a field control station (FCS) uses to perform Ethernet communication with subsystems such as FA-M3. This Ethernet communication module can be mounted on Field Node Units (AFV30D), ESB Bus node unit (ANB10D). The PCS collects data from subsystems or sets data with control calculations to subsystems using the builder functions by way of Ethernet communication modules.

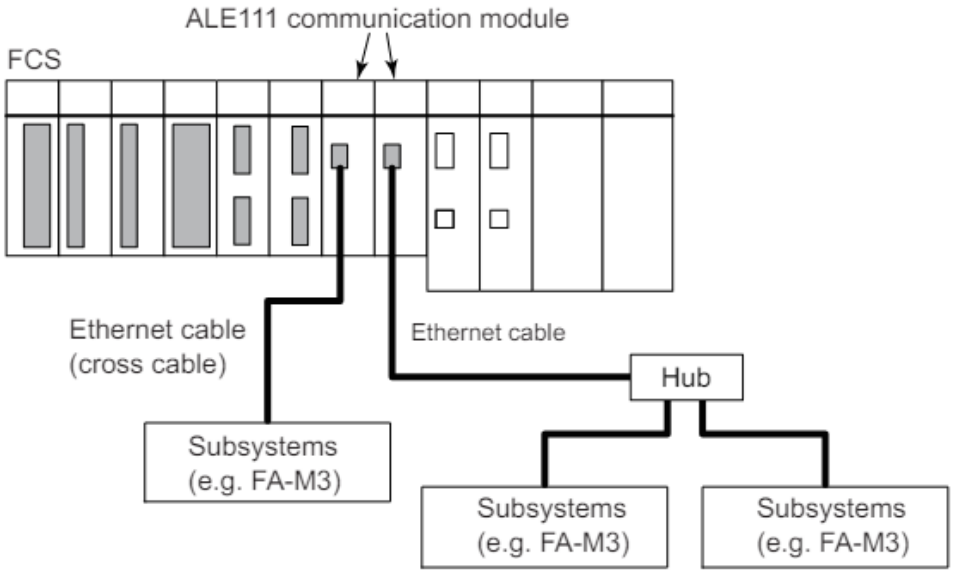


Figure 22 – Configuration Sample of Ethernet Communication Module.

The specifications of ALE111-S are as below,

Item	Specifications
Physical layer interface	IEEE802.3 10BASE-T
Connection method	Point-to-point
Connector	RJ-45
Transmission method	Half-duplex
Transmission speed	10 Mbps
Transmission route	100 ohm twisted-pair cable (not shielded)
Transmission distance	1 segment, 100 m (in between FCS and subsystems, or HUB and subsystems)
Installation method	Mounted on ANB10□, ANB11□, AFV30□, AFV40□, A2FV50□, or A2FV70□
No. of ports	One port
Media access control	CSMA/CD
Communication functions	Communications with FA-M3, Modbus, MELSEC, YFGW, DARWIN/DAQSTATION/SMARTDAC+, and PLC-5/SLC500
Current consumption	0.5 A
Weight	Approx. 0.30 kg

Table 23 – Ethernet communication module hardware specification.

7.4 PROFINET COMMUNCATION MODULE (A2LP131-S01)

Model A2LP131 PROFINET Communication Module which performs as the PROFINET IO-Controller to communicate and exchange data with PROFINET IO-Devices (*2). A2LP131 can be mounted on following Field Node Units (FNU). It can also be mounted on the ESB bus node unit (ANB10D) which is connected to the FNU.

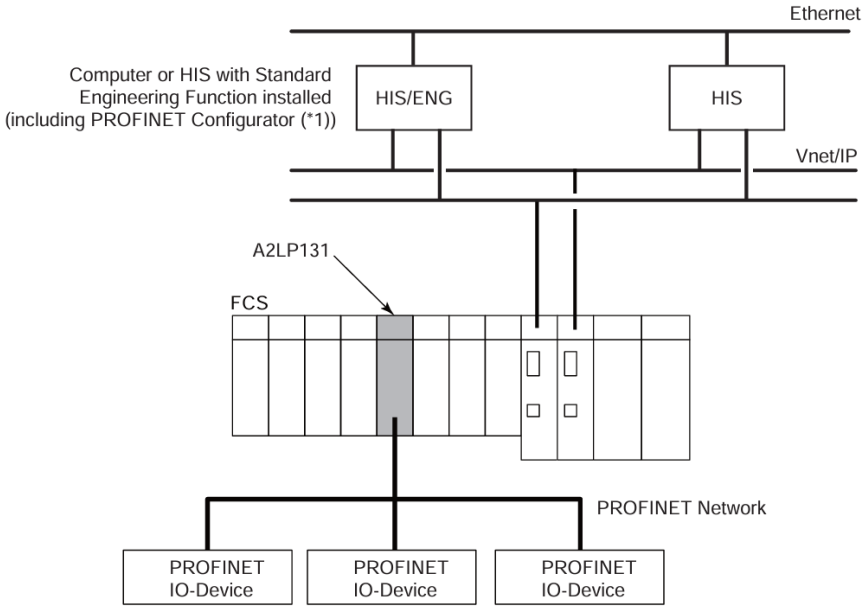


Figure 23 – System Configuration Example.

Item	Specifications
Model	A2LP131
Physical layer interface	IEEE 802.3 100BASE-TX
Connector	RJ-45 (*1)
Transmission speed	100 Mbps
Transmission route	2x2 twisted-pair shielded cable (symmetrical) (*1)
Transmission distance	1 segment, 100 m
Installation method	Mounted on ANB10□, ANB11□, AFV30□, AFV40□, A2FV50□, or A2FV70□ (*2)
No. of physical ports	One port
Maximum current consumption	0.8 A
Weight	Approx. 0.31 kg

Table 24 – PROFINET Communication Module Hardware Specification.

7.5 INSTALLATION ENVIRONMENT AND POWER SUPPLY SPECIFICATION CENTUM VP HARDWARE

The table below lists the general installation environment and power supply specifications for the Centum VP System.

Parameter		Specification	Remarks
Ambient temperature	Normal Operation	0 to 50°C (for AFV30D) 0 to 60°C (for ANB10D, I/O modules, communication)	Avoid direct sunlight
	Transportation/ Storage	-20 to 60°C	
Relative humidity	Normal Operation	5 to 95 % (non-condensing)	
	Transportation/ Storage	5 to 95 % (non-condensing)	
Ambient temperature change rate	Normal Operation	Within ± 10°C/h	
	Transportation/ Storage	Within ± 20°C/h	
Power Source	Voltage Range	100 - 120V AC±10% 220 - 240V AC±10%	
	Frequency	50/60 ±3Hz	
	Distortion Factor	10% or less	
	Peak Value	For 100V AC system: 118V AC or larger For 220V AC system: 258V AC or larger	
	Momentary Failure	20 ms or less	
Withstanding Voltage		1500V AC for 1 minute (for 100-120/220-240V AC) (Between power & ground terminals)	
Insulation resistance		20 MΩ at 500V DC (Between power & ground terminals)	
Grounding		100Ω or less, independent grounding	
Dust		Maximum of 0.3mg/m^3	
Corrosive gas		ANSI/ISA S71.04.G3 (standard)	

Parameter		Specification	Remarks
Noise	Electric Field	3 V/m or less (26 MHz to 1.0 GHz) 3 V/m or less (1.4 to 2.0 GHz) 1 V/m or less (2.0 to 2.7 GHz)	
	Magnetic field	30 A/m or less (AC) 400 A/m or less (DC)	
	Static Electricity	4 kV or less (direct discharge) 8 kV or less (aerial discharge)	In accordance with IEC 61000-4-2
Vibration	Vibration	Displacement amplitude: 0.25 mm or less (1 to 14 Hz) Acceleration: 2.0 m/s2 or less (14 to 100 Hz)	
	Seismic	Acceleration: 4.9 m/s^2 (9Hz to 150Hz)	
	Transportation	For cabinets: Horizontal: 2.9 m/s2 or less Vertical: 4.9 m/s2 or less For others: Horizontal: 4.9 m/s2 or less Vertical: 9.8 m/s2 or less	
Impact	Transportation	Horizontal: 49 m/s2 or less Vertical: 98 m/s2 or less	
Altitude		2000m above sea level or less	

Table 25 – Installation Environment and Power Supply Specification for CENTUM-VP

8 COMPONENTS OF SAFETY CONTROL STATION

8.1 SAFETY CONTROL STATION

A Safety Control Station (SCS) consists of Safety Node Unit (SCU) and optionally other Node Units (NU). A SNU is basically the rack housing the PROSAFE RS CPU modules and I/O modules, while the NU houses the PROSAFE I/O modules only.

8.1.1 Safety Node Unit (CPU) (S2SC70D-FA12010)

Processor modules (model: S2SC70D) that perform control calculation in the SCS, and power supply modules are installed in the SNU. In addition, the SNU has slots for installing FIO I/O modules, ESB bus coupler modules, or optical ESB bus repeater modules.

The following figure shows an example of a duplexed configuration of the standard type SNU.

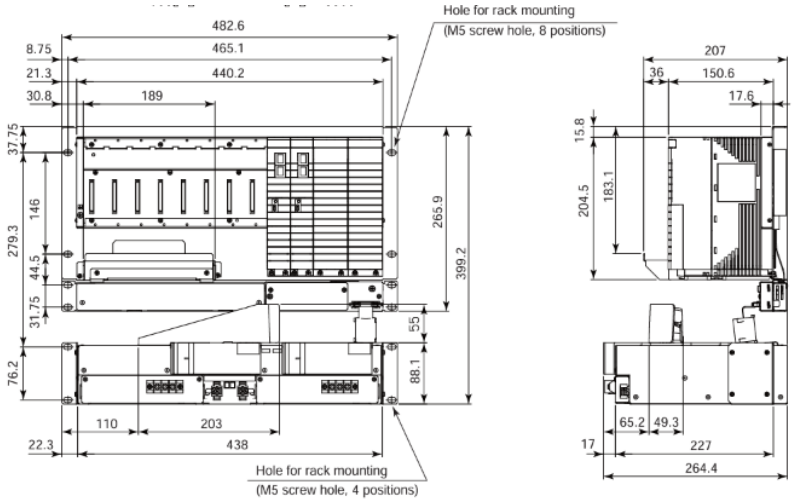


Figure 24 – Safety Node Unit (S2SC70D).

The table below shows the SAFETY NODE UNIT (S2SC70D) hardware specifications used for this project.

Item	Specifications
Make	YOKOGAWA
Model	S2SC70D
Voltage	220-240 V AC
Frequency	60 Hz
CPU unit	S2CP471 redundant
Power supply unit	SPW482 redundant (220-240 V AC)
Power consumption of unit	290 VA

Table 26 – Safety Node Unit Specification

8.1.2 Processor Module

The processor module (model: S2CP471) in dual redundant configuration is selected. This contains a MIPS R5000 processor with 128 MB memory capacity and supports Vnet/IP.

The front and rear views of processor module are illustrated in figure. Behind the front cover, batteries (Li battery) which are used to protect the processor module management information (in the storage memory) during a power failure are installed. DIP switches for setting domain number and station numbers are placed at the rear part of the processor module.

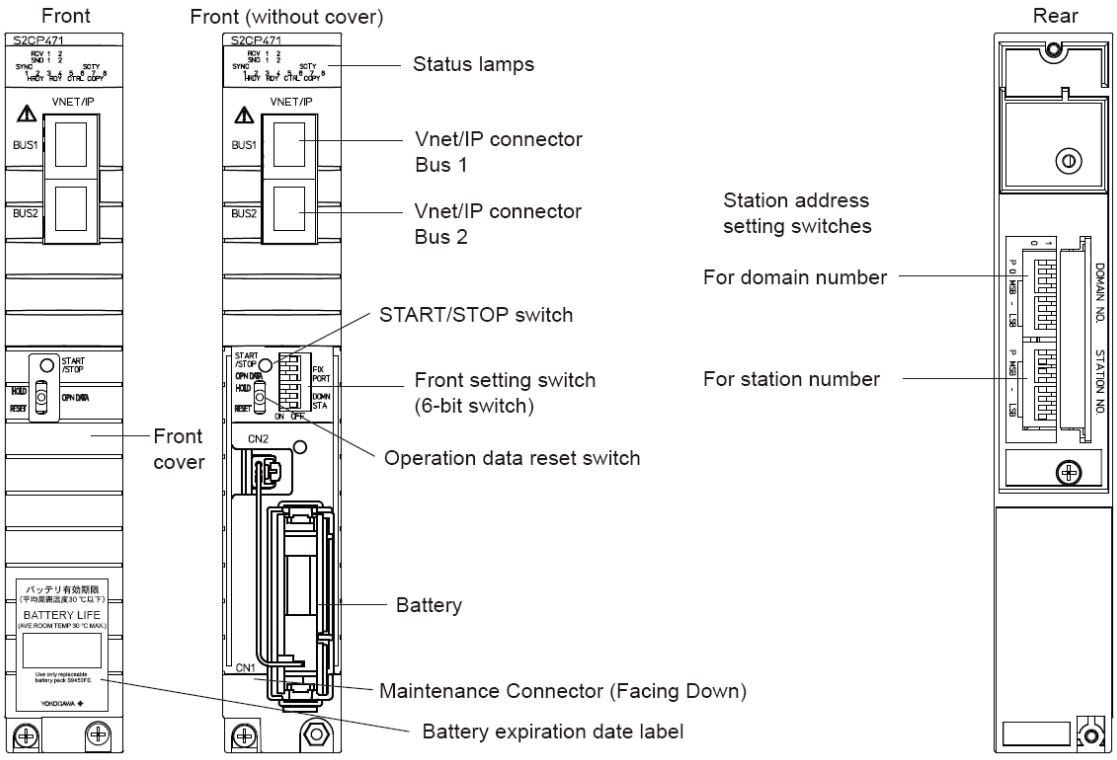


Figure 25 – Processor Module External View (S2CP471).

The SCS always performs initial cold starts when it is started up i.e. variable values maintained dynamically by the SCS are initialized. System programs and database that were downloaded off-line and changes made online are saved in flash memory (non-volatile memory) and restored at start up. The flash memory is located within the CPU module, which does not require battery back-up.

When the SCS is started up, the system diagnostic information and the SOE data log information will be saved in memory with the battery backup, which may remain without being initialized. This battery back-up memory can store data for approximately 300 hours even if the power supply to the SCS fails. System issues diagnostic alarm for battery fault. The batter fault does not harm CPU performance and the same can be replaced online.

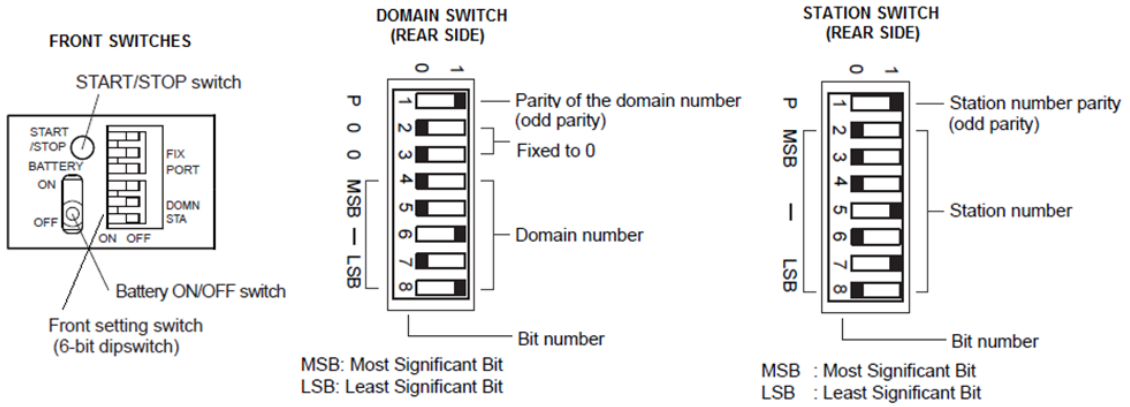


Figure 26 – Processor Module - Front & Rear Switches.

START/STOP Switch

This maintenance switch is used for forcing the processor module CPU stop or restart. If this switch is pressed when the processor module is still operating, the CPU will stop. If this switch is pressed when the processor module is not operating, the CPU will restart. This switch is located inside a hole next to the START/STOP sign. The switch can be operated using a non-conductive slender bar of around 1 to 2 mm diameter.

Battery ON/OFF switch

When this switch is on, battery backup is activated for protecting the processor module management information (in the storage memory) during power failure.

- ON: Enables the backup. Select this position during normal operation.
- OFF: Disables the backup.

Front setting switch (6-bit DIP switch)

- PORT: Port for maintenance (In normal operations, set to OFF position).
- DOMN: Indicates on STATUS LED the domain number that was set to the processor module, if this switch is ON. (In normal operation, set to OFF position).
- STA: Indicates on STATUS LED the station number that was set to the processor module, if this switch is ON. (In normal operation, set to OFF position).
- FIX: for Vnet/IP communications Negotiation (Default: OFF)
- ON: Force
- OFF: Auto

Domain Switch (Rear side)

A domain stands for a range of stations connected on Vnet/IP. Set the domain number to a value between 1 and 31. To set a domain number, set the DIP switches as shown in Figure above. Bits 2 and 3 must always be set to zero.

Station Switch (Rear side)

Set the station number to a value from 1 to 64. To set a station number, set the DIP switches as shown in Figure below.

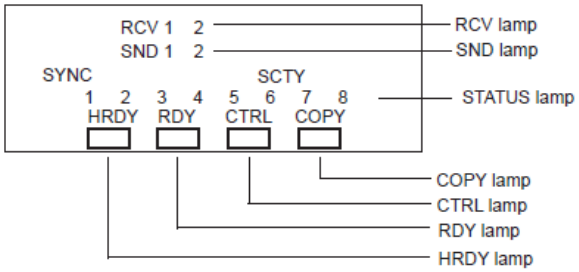


Figure 27 – Processor Module – status LEDs.

8.1.3 Power Supply Module (For Safety Node Unit)

A power supply module (Model: SPW482) is connected to a 220 to 240 VAC main source and supplies insulated +5 V and +24 V to each installed I/O module through the back plane. Redundant power supply modules are mounted on both CPU nodes(SNU) and I/O nodes(NU) of an SCS.

The SCS monitors the power supply status at regular intervals and, if an error occurs, it notifies the fact the user via the status display window of the EWS and CI server as well as through a diagnostic information message.

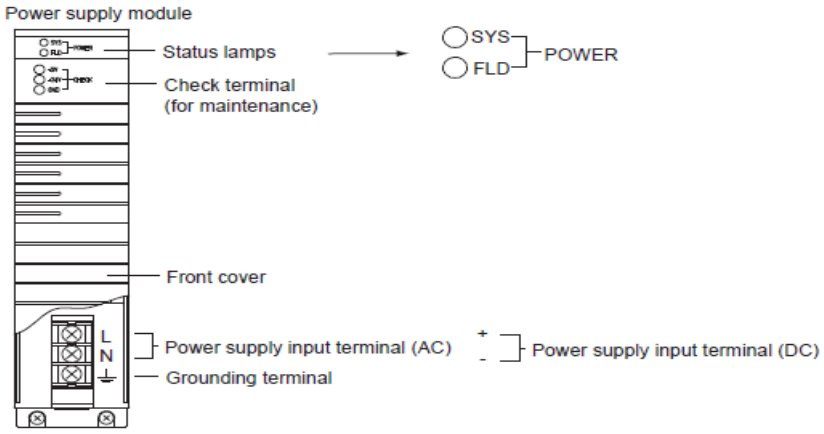


Figure 28 – Power Supply Module.

8.1.4 ESB Bus Coupler Module (SEC401-S1)

ESB Bus Coupler Module connects Safety Node Units(SNU) and Node units(NU) via an ESB bus cable. Two ESB Bus Coupler Modules are mounted on the Safety Node Unit.

Specification:

- Function : ESB bus master interface function
- Number of connectable units : 9 units maximum (*1)
- Transmission speed : 128 Mbps (I/O module data transmission)
- Transmission distance : 10 m maximum
- Current consumption : 0.5 A
- Weight : Approx. 0.24 kg

The ESB Bus Coupler Module is mounted on the seventh and eighth slots of the Safety Node Unit.

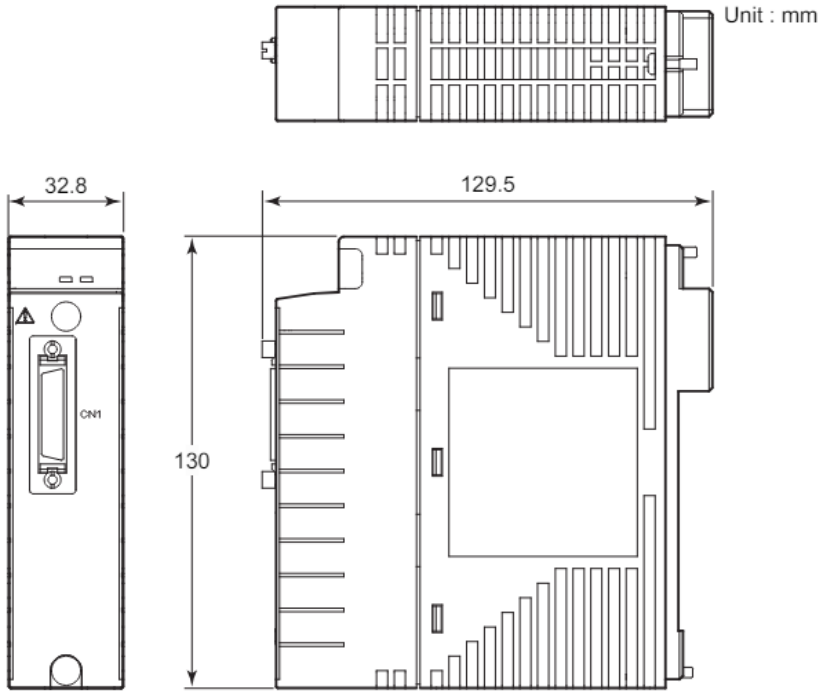


Figure 29 – ESB Bus Coupler Module (SEC401-S1).

8.1.5 Node Unit (SNB10D-425/CU2N)

The Node Unit (NU) is connected to the Safety Node Unit (SNU). The node unit has an interface function to transmit analog input signals and contact signals from the field to the Safety Node Unit via an ESB bus. It also has a function to supply power to I/O modules. The Node Unit(NU) is mounted with power supply modules, ESB bus interface modules, optical ESB bus repeater modules, and I/O modules.

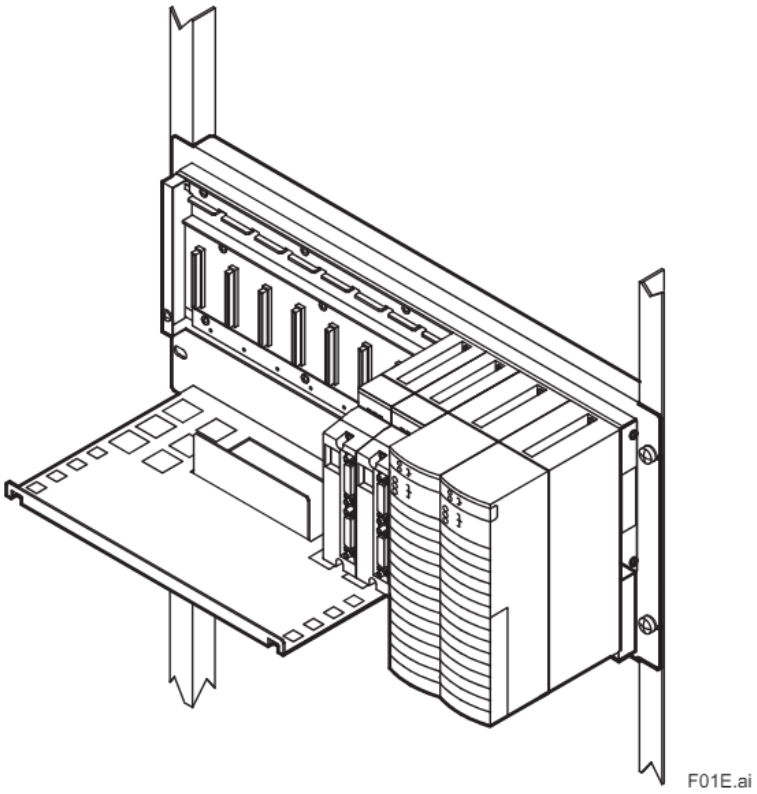


Figure 30 –Node Unit (SNB10D-425/CU2N).

8.2 IO MODULES FIO

8.2.1 Analog Input Module (SAI143-H63)

The Analog I/O modules that can be mounted on the Safety node unit and the Node Unit. This module inputs 4 to 20mA from the field. This module has HART communication function available. One HART device is connectable for each channel. Each channel is equipped with a power supply function to the HART device. Each module has only one HART modem and is communicable concurrently with only one HART device.

The following table shows the technical specification for Analog Input Module (SAI143-H63).

Item	Specifications
Model	SAI143 (*1)
Safety Integrity Level	SIL 3
Number of input channels	16 channels, module isolation (*5)
Rated input range	4 to 20 mA
Permissible input range	0 to 25 mA
Input impedance during Power-ON	$250\ \Omega + \frac{\text{Voltage drop in the input protection circuit inside the module}}{\text{Current value}}$ (*6)
Input impedance during Power-OFF	500 kΩ minimum
Rated accuracy	SAI143-S : ±16 µA (Input range 1 to 23 mA) SAI143-H : ±16 µA (Input range 0.05 to 23 mA) (*3) (*4)
Data update frequency	40 ms
Temperature drift	±16 µA/10 °C
Transmitter power supply	16.15 V minimum (at 20 mA) 26.4 V maximum (at 0 mA) (Output current limit: 25 mA)
2/4-wire setting	Individual channel setting Changed by setting pins
Withstand voltage	1.5 kV AC between input signal and system for 1 minute (*2)
Maximum current consumption	5 V system: 320 mA, 24 V system: 550 mA
Weight	Approx. 0.34 kg (For pressure clamp terminal block or MIL cable) Approx. 0.39 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (KS1)
HART communication	Available (SAI143-H)
Transmitter power supply ON/OFF function (*7)	Available in 2-wire setting, for all 16 channels at the same time.

*1: No Zener barriers can be connected to this module. An isolation barrier should be used when an intrinsic safety instrumented system is used.
*2: 500 V AC when dedicated signal cable is used.
*3: ±32 µA (input range under 0.05 mA) (Style code S3 or later)
*4: Rated accuracy of style code S3 or later is ±16 µA (Input range 0.05 to 23 mA).
Rated accuracy of style code S2 or earlier is ±16 µA (Input range 1 to 23 mA).
*5: When SAI143-S□3 or SAI143-H□C is used in the ambient temperature more than 60°C, number of input channels which a user can use is restricted. Refer to "ProSafe-RS Outline of I/O Modules (for FIO)" (GS 32P06K60-01EN).
*6: The maximum voltage drop in the input protection circuit is 0.45 V. The module input impedance varies from 272.5 Ω (20 mA) to 362.5 Ω (4 mA).
*7: This function enables to reset the alarm state of Fire and Gas devices by turning off the transmitter power supplied from this module in 2-wire setting.
Supported by R4.03.00 or later and style code S4 or later.

Table 27 – Analog Input Module Specification (SAI143-H63)

HART Communication Specification

Function	Description
Communication mode	Serial half duplex, start-stop synchronization, 1 start/ 8 bit/ odd parity/ 1 stop
Applicable standard	HART Protocol Revision 5.7 (*1)
Transmission speed	1200 ±2 bps
Modulation technique	Binary phase-continuous FSK 1: 1200 Hz ±1 %, 0: 2200 Hz ±1%
Frame length	5 to 267 bytes Contents of max. 267 bytes: Delimiter: 1 Address: 5 Command: 1 Byte count: 1 Data: 255 (includes two bytes of response code) Check byte: 1
Frame detection	3 byte header byte-count carrier (ON/OFF) Preamble: 5 to 20 bytes
Error detection coding	Longitudinal/vertical parity
Response time	Max. 28 characters (256.7 ms)
No response timer	33 characters (305 ms) for primary, 41 characters (380 ms) for secondary
Bus monitor	8 characters (75 ms)
Response window	20 ms

*1: The HART 5, 6, and 7 devices can be connected but applying the HART protocol 5.7 function.

Table 28 – HART Communication Specification.

8.2.2 Digital IO Modules (DI - SDV144-S63 and DO - SDV541-S63)

Digital Input Module (SDV144-S63)

The Digital Input modules that can be installed in the Safety Node Unit and Node Units. The signal input shall be a dry contact. The state of each digital input is visible on the card front through a special LED. The digital input channels shall be equipped with filter suitable to discard signals having duration of less than a specific time. Relays suitable for safety operations shall be installed in the termination cabinets suitable for interfacing with the field voltage level.

Item	Specifications
Safety Integrity Level	SIL 3
Model	SDV144
Number of inputs	16 channels, module isolation (*3)
Input signal	No-voltage contact ON: 1 kΩ maximum OFF: 100 kΩ minimum
Input current	6 mA ± 20 % (External power supply, 24 V DC at 0 Ω input)
Contact rating	24 V DC +20 % / -10 % (*4), 10 mA or greater
External power supply	24 V DC +20 % / -10 % (*3) (*4) Current capacity: 200 mA
Instantaneous maximum permissible input voltage	30.0 V DC
Input response time	40 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between input signal and system for 1 minute, 16-input line collectively connected (*5)
Current consumption	290 mA maximum (5 V DC) 140 mA maximum (24 V DC)
Weight	Approx. 0.36 kg (For pressure clamp terminal block or MIL cable) Approx. 0.41 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (AKB331)

*1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
*2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
*3: Number of input channels which a user can use and external power supply are restricted in case of SDV144-S□C. Refer to "ProSafe-RS Outline of I/O Modules (for FIO)" (GS 32P06K60-01EN).
*4: The contact rating and the external power supply of SDV144 style code S1, S2 and S3 are 24 V DC ± 5 %.
*5: When connecting SDV144 and SED4D terminal board using the dedicated signal cable, the withstand voltage is 500 V AC (between input signal lines and system). If MIL connector cables are used, the withstand voltage depends on their cable's electrical specifications.

Table 29 – Digital Input Module Specification (SDV144-S63).

If SDV144 field wiring diagnostic functions are used, the following wiring check adapter should be installed for individual channels in the vicinity of the field equipment:

- SCB100 (for defective open circuit detection while accepting off signals) (*1)
- SCB110 (for defective short-circuit detection while accepting on signals) (*2)

*1: Input signals are normally off while in normal operation.

*2: Input signals are normally on while in normal operation.

When the input signals are normally off while in normal operation, connect the SCB100 in parallel with the contact output of the field equipment as given below.

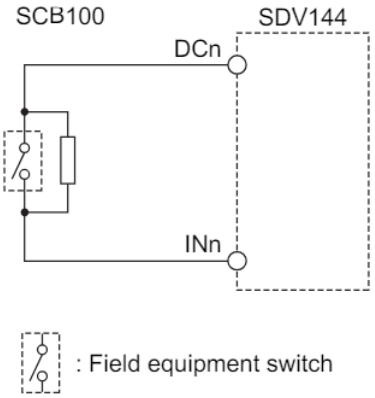


Figure 31 – Typical DI Circuit for SCB100.

When the input signals are normally on while in normal operation, connect the SCB110 in series with the contact output of the field equipment (take care about the polarity taking note of the polarity).

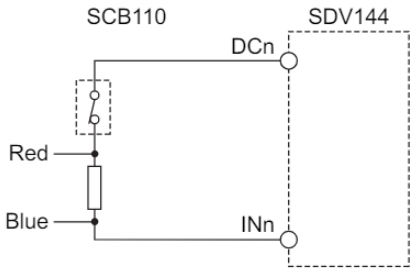


Figure 32 – Typical DI Circuit for SCB110.

When checking for both defective short and open circuits, connect the SCB100 and SCB110 in parallel and series with the contact outputs of the field equipment respectively, as given below.

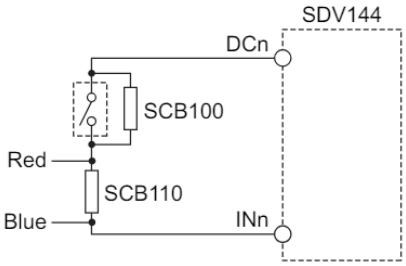


Figure 33 – Typical DI Circuit for both SCB100 and SCB110.

Digital Output Module (SDV541-S63)

The Digital output modules that can be installed in the Safety Node Unit and Node Units. Outputs shall be without common wiring. Relays suitable for safety operations shall be installed in the termination cabinets suitable for interfacing with the field voltage level for driving solenoid valves, motors, pumps, and compressors. Digital output modules shall support line monitoring if the safety status require energizing.

Item	Specifications
Model	SDV541
Safety Integrity Level	SIL 3
Number of outputs	16 channels, module isolation (*3)
Output voltage	24 V DC
Output voltage drop	1 V maximum
External power supply rating	24 V DC, 3.4 A minimum
External power supply	24 V DC + 20 % / -10 % (*4) Current capacity: 3.4 A
Maximum leak current at output off status	1.6 mA
Output format	Current source
Maximum load current	0.2 A/output line (3.2 A in total output line) (*3) (*5)
Minimum load current	35 mA
Load resistance range	120 to 685 Ω (*6)
Output response time	30 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between output signal lines and system for 1 minute, 16-point input lines collectively connected (negative lines) (*7)
Current consumption	300 mA maximum (5 V DC) 150 mA maximum (24 V DC)
Weight	Approx. 0.29 kg (For pressure clamp terminal block or MIL cable) Approx. 0.31 kg (With dedicated signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (AKB331, AKB651)

*1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
*2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
*3: Number of output channels which a user can use and maximum load current are restricted in case of SDV541-S□C. Refer to "ProSafe-RS Outline of I/O Modules (for FIO)" (GS 32P06K60-01EN).
*4: External power supply of SDV541 style code S1 is 24 V DC ± 5%.
*5: Do not exceed this value, including the case of inrush/variation of the load current.
*6: Resistance value of the load for both ON and OFF state, including the field wiring resistance.
*7: When connecting SDV541 and SED4D terminal board using AKB331 dedicated signal cable, the withstand voltage is 500 V AC (between output signal lines and system). If MIL connector cables are used, the withstand voltage depends on their cable's electrical specifications.

Table 30 – Digital Output Module Specification (SDV541-S63).

8.2.3 Node cables

Cables used in the ProSafe-RS/ProSafe-RS Lite system.

Dedicated Signal Cable for Analog Modules

KS1 Cable (40-40 pins)

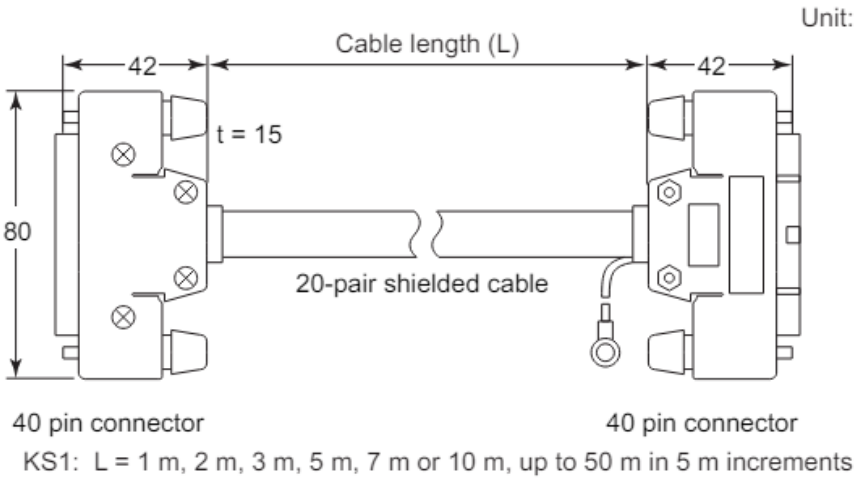


Figure 34 – Cable (KS1-10/HF) for Analog Module

Dedicated Signal Cable for Digital Modules

AKB331 Signal Cable (50-50 pins)

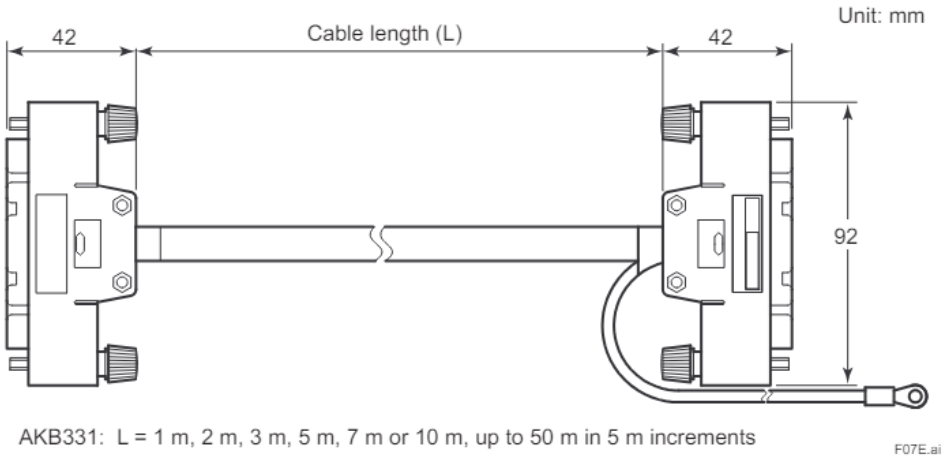


Figure 35 – Cable (AKB331-M010/HF) for Digital Module.

TB for Analog DIN mount type

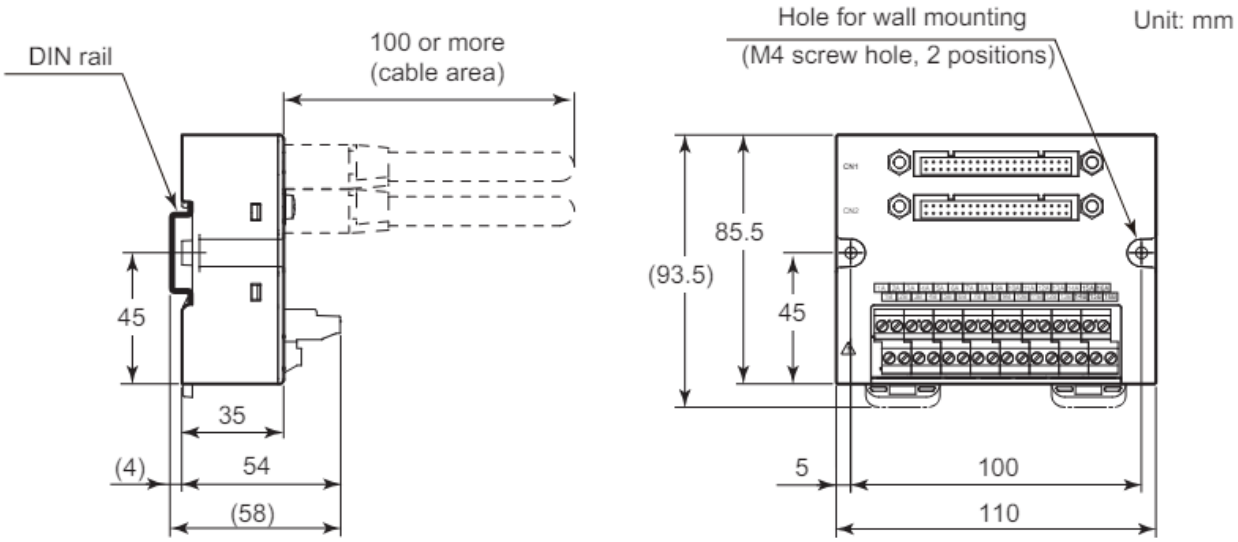


Figure 36 – TB (SBA4D-06) for Analog Module

TB for Digital DIN mount type

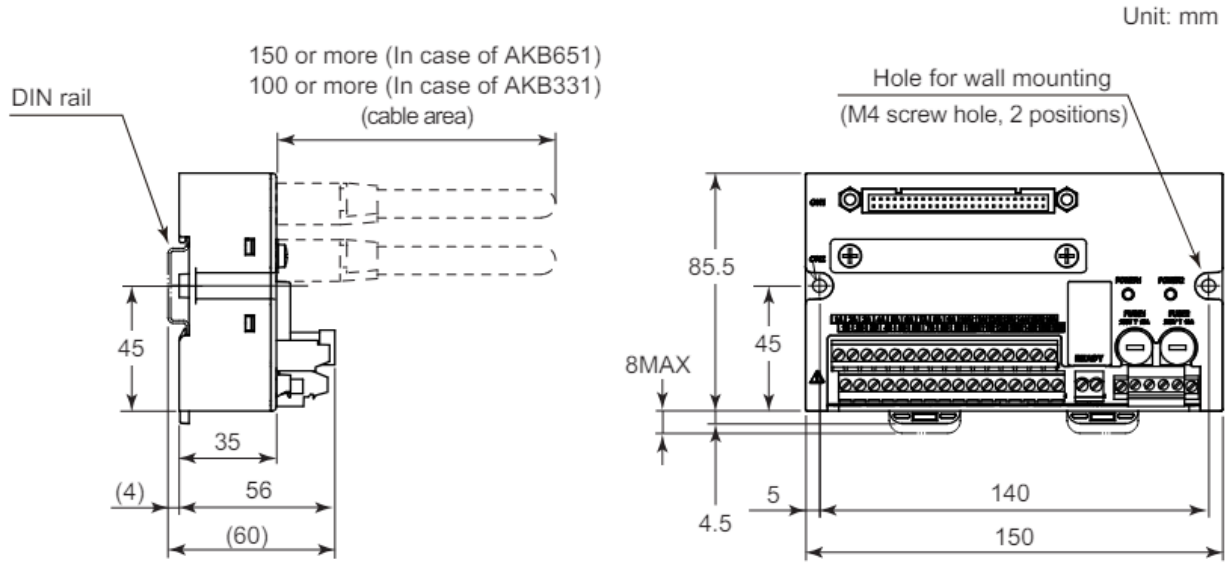


Figure 37 – TB (SBD4D-06) for Digital Module

ESB cable

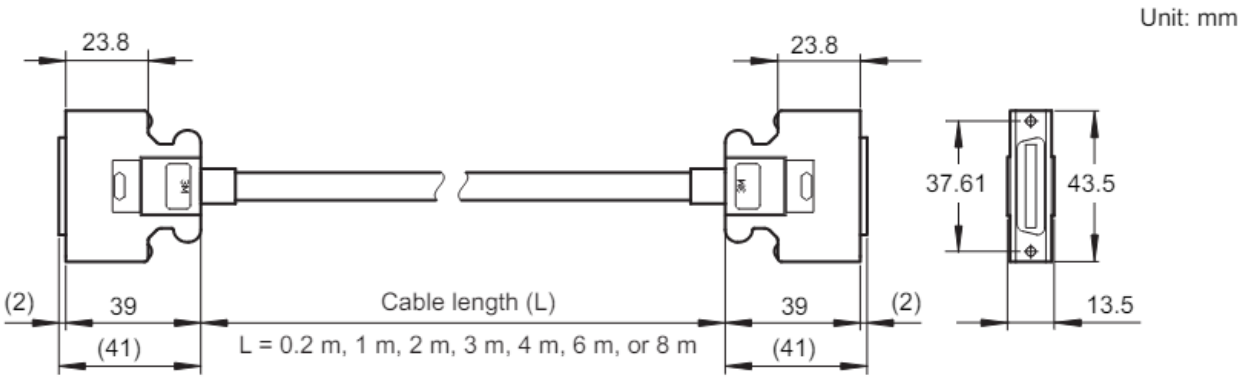


Figure 38 – YCB301 ESB Bus Cable

8.3 INSTALLATION ENVIRONMENT AND POWER SUPPLY SPECIFICATION FOR SIS

Table below lists the general installation environment and power supply specifications for the FGS & SIS.

Parameter		Specification
Temperature (Avoid Direct sunlight)	Normal Operation	-20 to 70°C (Wide Range Temperature type SNU)
	Transportation/ Storage	-40 to 85°C
Humidity (no condensation)	Normal Operation	5 to 95 %RH (non-condensing)
	Transportation/ Storage	5 to 95 %RH (non-condensing)
Temperature Fluctuation	Normal Operation	Within ±10°C/h
	Transportation/ Storage	Within ±20°C/h
Power Source	Voltage Range	220-240VAC ±10%
		24V DC ±10% (including ripple)
	Frequency	50/60 ±3Hz
	Distortion Factor	10% or less
	Crest Factor	For 220VAC system: 258VAC or larger
	Momentary Failure	20 ms or less (when receiving the rated AC voltage)

Parameter		Specification
	DC Power Supply Ripple Rate	1% P-P maximum
Withstanding Voltage		1500VAC for 1 minute (for 220 to 240 AC) Between power & ground terminals
Insulation resistance		20 MΩ at 500VDC (Between power & ground terminals)
Grounding		Apply the grounding system which is defined by the rules and standards of the country or the region.
Dust		Maximum of 0.3mg/m3
Corrosive gas		ANSI/ISA S71.04G3 (standard)
Noise	Electric Field	10V/m maximum (80MHz to 1GHz)
	Static Electricity	4 kV or less (direct discharge), 8 kV or less (aerial discharge),
Vibration	Continuous vibration	Amplitude: 1.75mm (5Hz to 9Hz) Acceleration: 4.9 m/s2 (9Hz to 150Hz)
	Non-Continuous vibration	Amplitude: 3.5mm (5Hz to 9Hz) Acceleration: 9.8m/s2 (9Hz to 150Hz)
	Seismic	Acceleration: 4.9 m/s2 (9Hz to 150Hz)
	Transportation	Horizontal 4.9m/s2, Vertical 9.8m/s2 (in packed condition)
Impact		147 m/s2, 11ms
Altitude		2000m above sea level or less

Table 31 – Installation Environment and Power Supply Specification for ProSafe-RS

For further details refer ProSafe-RS installation environment (TI 32P01J10-01EN).

8.4 IO INTERFACE COMPONENTS

8.4.1 Barriers

Depending upon the area classification, the SIS and FGS I/O signals could be IS or Non-IS. For IS classified signals, external IS barriers shall be used.

All barriers for analog IS signals shall be installed in the Base Plate for Barrier for F-I/O installed in IS F-IO cabinet.

Suitable SIL rated Barrier shall be used to meet the design SIF SIL requirement. All IS barriers selected for use in this project are rated for minimum SIL2 applications.

Sl No.	Signal Type	Description	Barrier Model	Barrier Terminal Board	SIL Rating
1.	Analog input (2-wire)	4 - 20mA	HiC2025 (P&F)	HiCTB16-YRS-RRB-KS-CC-AI16	SIL2 Capable (HFT=0)

Table 32 – AI Barrier.

8.4.2 Interposing Relay

Safety Relays shall be used for replication of SIS/FGS system inputs or outputs when solid-state isolation devices are incapable of meeting signal isolation specifications.

These Interposing relays will be introduced in the loop whenever a volt free contact (VFC) output is required for interfacing with other systems/applications. These relays will be installed in Marshalling cabinets.

When using relays, line monitoring function shall be available up to the first interface point with mode (i.e., the relay) from the SIS/FGS IO module.

Below are the Specification of Interposing Relay:

Make	Pepperl+Fuchs
Model	KFD0-RSH-1.4S.PS2
Current consumption	45 ... 50 mA
Power consumption	< 1.5 W
Contact Rating	253 V AC/5 A; 30 V DC/5 A.

Table 33 – Interposing Relay Specification.

9 ENGINEERING STATION (EWS)

9.1 ENGINEERING PC

The EWS PCs common for CENTUM VP and PROSAFE RS are of the rack-mounted type and will be installed in the Server/Network Cabinets located in ITER and OER. These EWSs make use of KVM zero client solution to connect between PC and KVM. The following type of EWSs for CENTUM VP and PROSAFE RS will be provided:

- 2 no. of EWS PCS+SIS/FGS with single (1) screen
- One PCS/SIS/FGS Server in ITER to maintain centralized SIS project database.
- Another PCS/SIS/FGS Server in OER with RDP (Remote Desktop Protocol)

The EWS will be of standard 24" screen type. This EWS will also contain a mouse/keyboard and will be equipped with backup software and Anti-Virus Scan software.

The activities that can be carried out on EWS are –

- PCS Application Backup/ Safety logics database is placed here.
- Modifications to any logic shall be performed in EWS through necessary permissions and permits.
- Online and Offline downloads to FCS/SCS controllers.

9.2 CONTROL BUS INTERFACE CARD (VNET/IP)

EWS is connected to Safety Control Stations (SCSs) and Field control station (FCSs)via the Vnet/IP control bus interface card (VI702) installed in the EWS. A control bus interface card is a communication card that is installed in PC/AT-compatible PCs.

A dedicated Vnet/IP interface card model VI702 (for PCI express slot) is installed in each EWS located at ITER and OER. There are two ports, BUS1 and BUS2 ports on the card. Both ports support control communication and open communication.

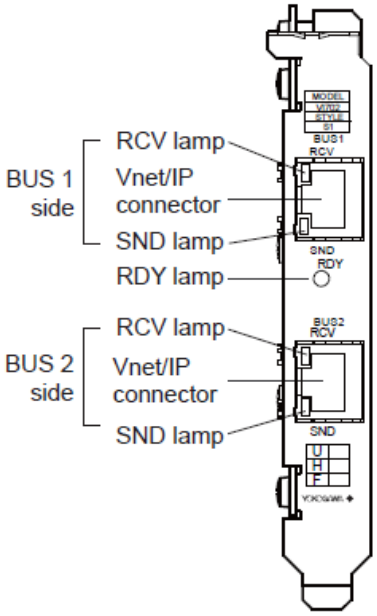


Figure 39 – Vnet/IP Interface card (VI702)

9.3 SEQUENCE OF EVENTS

SOE (Sequence of Events Recorder) is a function for recording events detected by an SCS so that these can be used in analysis. With SOE, changes in analog inputs/outputs, discrete inputs/outputs and application logics can be collected/saved as event information. Collected event information is displayed in the SOE Viewer. Moreover, a function to synchronize to the standard time is provided in order to maintain the accuracy of the time stamps attached to the events. Sequence of Events

Time stamped in the SIS System as follows:

- Time stamp resolution of events collected by a discrete input module is 1millisecond.
- Other events (e.g. analog trip events, voted trip events, digital output events) are collected by CPU module and their time stamp resolution is equivalent to SCS scan time. This is to ensure the sequence of events captured for the actual trip functions which is executed in application logic.

Sequence of Events Recording includes:

- Trip initiators (analog/discrete trip inputs)
- Shutdown outputs (analog/discrete outputs)
- Manual trip inputs (Shutdown push buttons)
- Maintenance override status
- Operation override status
- I/O forced status

- Manual operations (logic resets, equipment reset, first up reset, acknowledge, lamp
- test operated via OWS & console.)
- Voting alarm, first out alarm, cabinet alarms,
- Diagnostic alarms,

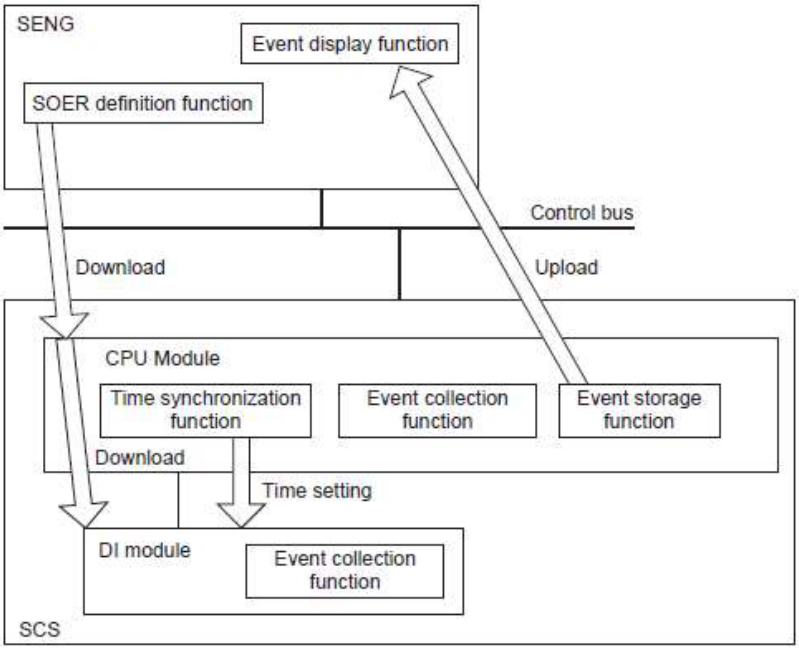


Figure 40 – SOE Function

Event information is stored in the SOE event information storage memory of an SCS. There are two types of files in which event information can be stored; an event log file and trip signal files. An event log file stores the latest event information. In the trip signal file, events before and after each trip signal are saved.

SCS creates only one event Log file. SCS always stores the latest information in the event log file. SCS event log file can store up to a maximum of 15000 Events. If the number of events exceeds maximum events, the older events are deleted and overwritten by new events based on 'first in first out' (FIFO) sequence.

SCS creates a trip file if a trip event is detected. SCS creates only 2 trip file if more than one trip event is detected. Each trip signal file stores 1500 events in total; the last 500 events generated before trip event occurred and 1000 events generated after trip event occurred. The trip signal file includes the trip Event. Safety OPC Server collects the Sequence of Events (time stamped in safety system) from SCS via Vnet/. The Safety SOE OPC Server buffers (log) the Sequence of Event locally and passes them to the OPC Client ALMS. SOE viewer is a standard function of the EWS to display events and diagnostics information acquired via the SOER function.

SOE View shall be available in EWS0164 Serve with required software license Via remote access from REWS0163(Remote EWS) of OER.

10 COMPUTERS & NETWORK COMPONENTS

10.1 EWS/SENG SERVER

An EWS (EWS0164) is a station with engineering functions that performs CENTUM, Prosafe-RS system configuration and maintenance management. A Vnet/IP interface card is required to connect to Vnet/IP Communication network.

In Server Cabinet ATEN CL1008M shall be installed and EWS shall be connected to LCD KVM switch.

Remote desktop shall be enabled in EWS/SENG.

Global PC, YG4SY04 Rack Server shall be supplied for ENG/SENG station. (RAID 1 Configuration)

(RAID 1 Configuration, 2 x 600GB HDD, Single partition)

Item	Make	Model
Rack Server	Yokogawa- DELL	GP4SY-04XX240S1900E/GR1/RAIL/ARM
Vnet/IP Interface card -	Yokogawa	VI702

Refer to below listed General Specifications for more details

- GS 30A01D05-01EN, Global PC with kitting Services
- GS 33J50C10-01EN, Vnet/IP Interface Card
- ATEN CL1008M KVM Extender datasheet

10.2 EWS/SENG CLIENT

An EWS/SENG Client (REWS0163) is a station to connect using RDP to EWS016 for doing CentumVP/ProSafe-RS configuration and maintenance activities from OER or Remote. REWS0163 shall be connected with PIN network.

Global PC, YG4SY04 Rack Server shall be supplied for ENG/SENG station.

(RAID 1 Configuration, 2 x 600GB HDD, Single partition)

Item	Make	Model
Rack Server	Yokogawa- DELL	GP2SY-02BB210W1019E/DPW1/RAIL/ARM
Vnet/IP Interface card -	Yokogawa	VI702

In Server Cabinet ATEN CL1008M shall be installed and EWS shall be connected to LCD KVM switch.

REWS0163 shall be used to connect remotely with EWS/SENG(EWS0164).

Refer to below listed General Specifications for more details

- GS 30A01D05-01EN, Global PC with kitting Services
- GS 30A01D05-01EN, Global PC Rack Server

10.3 IAMSSVR

A IAMSSVR is a station on which Plant Resource Manager is installed. PRM is a software package for managing field devices and equipment online. It allows for reducing a plant's total cost of ownership (TCO) by using device management tools to manage device status and maintenance information. A Vnet/IP interface card is required to connect to Vnet/IP Communication network.

IAMS Shall be connected with ATEN KVM switch. This Rack Server is installed in a server cabinet.

Global PC, YG4SY04 Rack Server shall be supplied for PRM station. (RAID 1 Configuration)

(RAID 1 Configuration, 2 x 600GB HDD, Single partition)

Item	Make	Model
Rack Server	Yokogawa- DELL	GP4SY-04XX240S1900E/GR1/RAIL/ARM
Vnet/IP Interface card -	Yokogawa	VI702

Refer to below listed General Specifications for more details

- GS 30A01D05-01EN, Global PC with kitting Services
- GS 33J50C10-01EN, Vnet/IP Interface Card
- ATEN CL1008M KVM Extender datasheet

10.4 CI SERVER

A CISVR01/CISVR02 is a station with engineering functions that performs CI SERVER CORE (SCADA) system configuration and maintenance management. A Vnet/IP interface card is required to connect to Vnet/IP Communication network,It shall have additional Ethernet ports to connect to Third Party OPC UA Server. CISVR01/CISVR02 are redundant Server and redundancy is managed by CI Server Software configuration(HAC).

In Server Cabinet ATEN CL1008M shall be installed and CI Core Servers (CISVR01/CISVR02) shall be connected to LCD KVM switch.

Remote desktop shall be enabled in CI Servers(CISVR01/CISVR02).

Global PC, YG4SY04 Rack Server shall be supplied for ENG/SENG station. (RAID 1 Configuration)

(RAID 1 Configuration, 2 x 1800GB HDD, Single partition)

Item	Make	Model
Rack Server	Yokogawa- DELL	GP4SY-04XX250S1900E/GR1/RAIL/ARM
Vnet/IP Interface card -	Yokogawa	VI702

Refer to below listed General Specifications for more details

- GS 30A01D05-01EN, Global PC with kitting Services
- GS 33J50C10-01EN, Vnet/IP Interface Card
- ATEN CL1008M KVM Extender datasheet

10.5 CI PORTAL SERVERS

CIPOSVR01/CIPOVR02/ CIPOSVR03 are a stations On CI Portal, the data in the CI Server database can be added, deleted, and modified by using the engineering module. In addition, since BUS Service and database Service are running on CI Portal, using Quickload on CI Portal enables more convenient engineering such as batch modification of databases.

CIPOSVR01 shall be used as Engineering Work station located at OER.

CIPOVR02/ CIPOSVR03 shall act as redundant servers for CI View Operator Work stations to provide data using HAC configuration.

CI Portal has one USER Service client license respectively by default. This allows the operator interface to be opened in CI Portal, or in CI View via Remote Connect.

CI View (OWS) can select which CIPOVR02/ CIPOSVR03 to select as Server to fetch the data.

In Server Cabinet ATEN CL1008M shall be installed and CI Portal Servers (CIPOSVR01/CIPOVR02/ CIPOSVR03) shall be connected to LCD KVM switch.

Remote desktop shall be enabled in CI Servers (CIPOSVR01/CIPOVR02/ CIPOSVR03).

Global PC, YG4SY04 Rack Server shall be supplied for ENG/SENG station. (RAID 1 Configuration)

(RAID 1 Configuration, 2 x 600GB HDD, Single partition)

Item	Make	Model
Rack Server	Yokogawa- DELL	GP4SY-04XX240S1900E/GR1/RAIL/ARM

Refer to below listed General Specifications for more details

- GS 30A01D05-01EN, Global PC with kitting Services
- ATEN CL1008M KVM Extender datasheet

10.6 CI CIEW

On CI View (CIPO04, CIPO05), software called Remote Connect can be used to perform operator interface, edit module, and engineering module as Java applications.

CI Portal has one USER Service client license respectively by default. This allows the operator interface to be opened in CI Portal, or in CI View via Remote Connect.

CIPO04/CIPO05 are Operator Workstation planned to be located in CCR (currently placed in OER, shall refer to CIPOSVR02/ CIPOSVR03 which ever is active Portal Server.

Item	Make	Model
Desktop	Yokogawa- DELL	Dell OptiPlex XE4

Intel Core i7 3.40GHz or higher, 8 GB or more RAM with suitable OS for Google Chrome 112/ internet Explorer 112.

10.7 AV SERVER/WSUS SERVER/DOMAIN CONTROLLER/NMS SERVER/BR SERVER

AV Server (AVSVR), WSUS Server (WSUSSVR), Domain Controllers (DCSVR01, DCSVR02), NMS and Backup recovery (BCKSVR) Server shall have similar hardware configuration based on application requirements Software shall be installed. Dell PowerEdge R450 Rac Server with Latest Windows Server OS compatible with required software application.

The backup recovery server shall have Raid 5 with 40 TB minimum sizing configuration with suitable size hard disk to meet the project specification.

AV Server (AVSVR), WSUS Server (WSUSSVR), Domain Controllers (DCSVR01, DCSVR02), NMS shall have following specification

Category	Description
Base	PowerEdge R450 Server
FRONT STORAGE	Chassis with up to 8x2.5" Drives
Chassis Configuration	2.5" Chassis with up to 8 Hard Drives (SAS/SATA) 1 CPU
Processor	Intel® Xeon® Silver 4309Y 2.8G, 8C/16T, 10.4GT/s, 12M Cache, Turbo, HT (105W) DDR4-2666
Memory Capacity	16GB RDIMM, 3200MT/s, Dual Rank
Bundle	Smart Selection PowerEdge R450
RAID Configuration	C3, RAID 1 for 2 HDDs or SSDs (Matchi ng Type/Speed/Capacity)
Hard Drives	(2) 600GB Hard Drive SAS ISE 12Gbps 10k 512n 2.5in Hot-Plug
Embedded Systems	iDRAC9, Enterprise 15G

Power Supply	Dual, Hot-Plug, Power Supply Fully Redundant (1+1), 700W MM HLAC (ONLY F OR 200-240Vac) Titanium
Power Cords	Rack Power Cord 2M (C13/C14 10A)
Power Cords	(2) Italian Spare Power Cord 220V
Operating System	Windows Server 2022 Standard,16CORE, FI, No Med, No CAL, Multi Language
OS Media Kits	Windows Server 2022 Standard,16CORE, DF Recovery Image, Multi Lang, (Downgrade not included)
OS Media Kits	Windows Server 2022 Standard,16CORE, Media Kit, Multi Lang, (Downgrade not included)

10.8 NETWORK COMPONENTS

10.8.1 Network Switches

The Hirschmann BOBCAT Switch is the first of its kind to enable real-time communication using TSN. To effectively support the increasing real-time communication requirements in industrial settings, a strong Ethernet network backbone is essential. These compact managed switches allow for expanded bandwidth capabilities by adjusting your SFPs from 1 to 2.5 Gigabit – requiring no change to the appliance.

Based on number of port Switch model is selected in standard dual power and standard operating temperature is selected.

Following models shall be selected based on application requirements

a. BRS BRS40-00169999-SFCY99HHSPAXX.X.XX
b. BRS40-0024OOOO-SFCY99HHSEAXX.X.XX
c. BRS40-0012OOOO-EFCY99HHSEAXX.X.XX

Please refer attached data sheet for your reference.

10.8.2 Firewall

Based on number of ports and application requirement following firewall shall be used in this project

a. FG-40 F
b. FG-80 F
c. FG-100 F

Please refer attached data sheet for your reference

Cabinet Description and Arrangements

Enclosures/Cabinets are provided to house various components in a logical arrangement convenient for operation and maintenance. The cabinets can be classified in the following categories:

- System Cabinet: Individual cabinet containing PCS/SIS/FGS Controllers with Node Units for controller.
- FIO NIS Marshalling Cabinet: Individual Cabinet containing FIO Terminal Boards, Power supplies for Digital Signals & field terminal blocks.
- FIO IS Marshalling Cabinet: Individual Cabinet containing Isolated Barriers, Barrier Boards, FIO Terminal Boards, Power supplies for Digital Signals & field terminal blocks.
- Combined Server/Network Cabinet: Individual cabinet containing ICSS/CI Servers with KVM and containing Ethernet switches, FO Converters & Firewall.

10.9 CABINET GENERAL SPECIFICATIONS

All ICSS cabinets will be of standard modular design of size 800Wx800Dx2000H mm plus a 100-mm plinth, Server Cabinets for ITER will be 800Wx1000Dx2000H plus 100-mm plinth and Server Cabinets for OER will be 800Wx1200Dx2000H plus 100-mm plinth.

The cabinets will be constructed of sheet steel and have Double leaf doors with only front access and for Network or Server cabinet with Single Leaf Perforated doors along with complete accessories like Lock with handle, door limit switches with LED lights for illumination and dual fans for ventilation. The top cover is fitted with eye bolts 4 numbers for lifting and movement. The door stay is provided for the cabinets for 130° opening. The lights are operated by means of door switches. The filters are installed at the upper part of the door. Door mounted fans are installed in each cabinet as applicable and is detailed in below section. Server Cabinet doors are perforated type for horizontal cooling via Server built-in forced draft fans.

Cabinet doors will be equipped with an A4 drawing metal pocket installed inside. The doors will have a door handle with a push button and lock insert. The handles are provided on the right side of the door as per the Auger Standard. The key lock inserts are common for all Cabinets. The cabinets are provided with an Instrument ground bar and Safety ground bar for earthing the components.

All cabinets shall be supplied with suitable anti-vibration mountings. The Anti-vibration mountings shall be suitable to hold equipment securely and protect the equipment from high frequency, low movement vibrations. The equipment shall be able to continue to operate correctly during and after being subjected to high frequency, low movement vibrations. The cabinet shall be group-assembled and positioned in the factory to maximize accessibility of equipment and walkways for personnel.

The PCS and SIS related functions of the Safety System shall be provided with 30 minutes of Uninterruptible

Power Supply (UPS) power and the FGS-related functions of the Safety System shall be provided with 8 hours of UPS power, as defined by the project's Basis for Design. COMPANY shall advise to EPC CONTRACTOR if the autonomy times are to be optimized further.

For cable entry, MCTs will be provided for all cabinets with Cable entries from top.

Following are cabinet specifications:

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PCS

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP <1>	■ MIRROR OF JUNCTION BOX	☐ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE <1>	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

C - PAINTING

C1	REFERENCE SPECIFICATIONS		■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR	TYPE	☐ SMOOTH	■ PEEL TYPE	
		COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH		■ AS EXTERIOR		
C4	INTERIOR		■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES		■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	1,2kW <1>	1,2kW <1>	0,6kW <1>
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION	■ LED (230Vac - 50Hz) <1>		
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT	■ YES		
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT	■ YES		
D7	SERVICE SOCKET	■ YES		

B - MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 800 mm x 2100 mm (L x D x H) (NOTE B1)		
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55	
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm	
B4	CABLE ENTRY	■ TOP	☐ BOTTOM	
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS	■ MCT <1>
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR	
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE	
B8	BASE PLINTH	■ SEPARATE PIECES		
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP		
B10	APPROXIMATIVE WEIGHT	500 Kg <1>		

E - NAMEPLATES

.		EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

SIS/FGS

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP <1>	■ MIRROR OF JUNCTION BOX	☐ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE <1>	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

C - PAINTING

C1	REFERENCE SPECIFICATIONS		■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR	TYPE	☐ SMOOTH	■ PEEL TYPE	
		COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH		■ AS EXTERIOR		
C4	INTERIOR		■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES		■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	1,2Kw <1>	1,2Kw <1>	0,6Kw <1>
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION	■ LED (230Vac - 50Hz) <1>		
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT	■ YES		
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT	■ YES		
D7	SERVICE SOCKET	■ YES		

B - MECHANICAL DATA

B1	OVERALL DIMENSION	SIS 800 mm x 800 mm x 2100 mm (L x D x H) (NOTE B1) FGS 2400 mm x 800 mm x 2100mm (L x D x H) <1>		
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55	
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm	
B4	CABLE ENTRY	■ TOP	☐ BOTTOM	
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS	■ MCT <1>
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR	
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE	
B8	BASE PLINTH	■ SEPARATE PIECES		
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP		
B10	APPROXIMATIVE WEIGHT	SIS 250Kg <1> FGS 800 Kg		

E - NAMEPLATES

.		EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

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ITER Server Cabinet

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐ .....
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT	
A5	OPERATING TEMPERATURE	+5°C TO +45 °C	
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING	
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT
A8	TERMINAL STRIP <1>	■ MIRROR OF JUNCTION BOX	☐ NOT MIRROR OF JUNCTION BOX
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED ☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE <1>
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1	
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY	
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304 ☐ STAINLESS STEEL AISI 316

B - MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 1000mm x 2100mm (L x D x H) 800 mm x 800 mm x 2100 mm (L x D x H) (NOTE B1)	
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm
B4	CABLE ENTRY	■ TOP	☐ BOTTOM
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS ■ MCTs <1>
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE
B8	BASE PLINTH	■ SEPARATE PIECES	
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP	
B10	APPROXIMATIVE WEIGHT	400 Kg for each panel	

C - PAINTING

C1	REFERENCE SPECIFICATIONS	■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR TYPE	☐ SMOOTH	■ PEEL TYPE	
	EXTERIOR COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH	■ AS EXTERIOR		
C4	INTERIOR	■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES	■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	T.B.D.	T.B.D.	T.B.D.
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION	■ FLUORESCENT (230Vac - 50Hz)		
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT	■ YES		
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT	■ YES		
D7	SERVICE SOCKET	■ YES		

E - NAMEPLATES

		EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

OER Server Cabinet

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐ .....
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT	
A5	OPERATING TEMPERATURE	+5°C TO +45 °C	
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING	
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT
A8	TERMINAL STRIP	☐ MIRROR OF JUNCTION BOX	■ NOT MIRROR OF JUNCTION BOX
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED ☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE <1>
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1	
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY	
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304 ☐ STAINLESS STEEL AISI 316

B-MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 1200mm x 2100mm (L x D x H) 800 mm x 1200mm x 2100mm (L x D x H) (NOTE B1)	
B2	PROTECTION DEGREE	■ IP 20	☐ IP 55
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm
B4	CABLE ENTRY	☐ TOP	■ BOTTOM
B5	CABLE ENTRY FIXING	■ REMOVABLE PLATES	☐ CLAMPS ☐ CABLE GLAND
B6	ACCESSIBILITY	☐ FRONT ONLY	■ FRONT / REAR
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE
B8	BASE PLINTH	■ SEPARATE PIECES	
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP	
B10	APPROXIMATIVE WEIGHT	400 Kg for each panel	

C - PAINTING

C1	REFERENCE SPECIFICATIONS	■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR TYPE	☐ SMOOTH	■ PEEL TYPE	
	EXTERIOR COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH	■ AS EXTERIOR		
C4	INTERIOR	■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES	■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	T.B.D.	T.B.D.	T.B.D.
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION	■ FLUORESCENT (230Vac - 50Hz)		
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT	■ YES		
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT	■ YES		
D7	SERVICE SOCKET	■ YES		

E - NAMEPLATES

		EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

EMCS Cabinet

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐ .....
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT	
A5	OPERATING TEMPERATURE	+5°C TO +45 °C	
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING	
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT
A8	TERMINAL STRIP	☐ MIRROR OF JUNCTION BOX	■ NOT MIRROR OF JUNCTION BOX
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED ☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE <1>
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1	
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY	
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304 ☐ STAINLESS STEEL AISI 316

C - PAINTING

C1	REFERENCE SPECIFICATIONS	■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR TYPE	☐ SMOOTH	■ PEEL TYPE	
	EXTERIOR COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH	■ AS EXTERIOR		
C4	INTERIOR	■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES	■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	0,7kW <1>	0,7kW <1>	0,6kW <1>
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION		■ FLUORESCENT (230Vac - 50Hz)	
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT		■ YES	
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT		■ YES	
D7	SERVICE SOCKET		■ YES	

B - MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 800 mm x 2100 mm (L x D x H)	
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm
B4	CABLE ENTRY	■ TOP	☐ BOTTOM
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS ■ MCT <1>
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE
B8	BASE PLINTH	■ SEPARATE PIECES	
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP	
B10	APPROXIMATIVE WEIGHT	250 Kg	

E - NAMEPLATES

.	.	EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

Table 34 – Cabinet General Specification.

10.10 CABINET TYPES AND COUNT

Type of Cabinet	Cabinet Description	Cabinet Name	ITER Qty	OER Qty
PCS System Cabinet FIO	PCS SYSTEM CABINET	B400-PCS-001	1	
PCS Marshalling Cabinet FIO NIS	PCS MARSHALLING CABINET	B400-PCS-002	1	
FGS System Cabinet FIO	FGS SYSTEM CABINET	B400-FGS -001	1	
FGS Marshalling Cabinet FIO NIS	FGS MARSHALLING CABINET	B400-FGS-002	1	
FGS Marshalling Cabinet FIO IS	FGS MARSHALLING CABINET	B400-FGS-003	1	
SIS Marshalling Cabinet FIO/Marshalling	SIS SYSTEM AND MARSHALLING CABINET	B400-SIS-001	1	
Network Cabinet	NETWORK CABINET	B400-NET-001	1	
Server Cabinet	SERVER CABINET	B400-SVR-001	1	
Network Cabinet	NETWORK CABINET	HKN-WPO1-BLPH-NET-01		1
Server Cabinet	SERVER CABINET	HKN-WPO1-BLPH-SRV-01		1
EMCS Cabinet	EMCS CABINET	B400-EMCS-001	1	
		Total Qty	9	2

Table 35 – Cabinet Type and Count.

10.10.1 PCS System Cabinet

The System Cabinet (SC) is designed to accommodate the following PCS hardware:

- Field Node Unit (FNU)
- Node Unit (NU)
- Communication Modules, ESB Bus Coupler Modules.
- Input/Output Modules

The system cabinets located at ITER shall be of the following specification.

The FNU is mounted at the topmost part of the cabinet. The NUs are mounted below the FNU. NUs are mounted at the front of the cabinet depending on the number of NUs provided. A maximum of 5 node units can be installed in one cabinet. Two double pole isolators are provided at the bottom of the cabinet to receive two independent 230V AC single-phase supplies from redundant UPS. The AC power is distributed to FNU and NU by power distribution units (PDU) installed in the cabinet. One double pole isolator re provided at the bottom of the cabinet to receive independent 230VAC single phase supplies for NON-UPS.

Front -mounted fans ensure the temperature in System Cabinets is within limits. Fans and light are connected to the non-UPS feeder. The airflow of each fans will be monitored by an Air Flow Switch (AFS). The alarm contacts of these AFS' are connected in series. In case any of these AFS' detect a fault, an Air flow fail alarm is generated.

PCS System cabinets will be provided with alarms configured to PCS Digital inputs which includes Fan Failure, MCB Power Failure, PSU and Temperature, etc.

A thermostat is installed at the top to monitor the cabinet temperature and generate a high temperature alarm if pre-set value of 35 deg C is exceeded.

The System cabinets will be equipped with Instrument Ground Bar and Safety Ground bars at the bottom on the front side of the enclosure.

The Power distributions will be provided from Power distribution board cabinet typically as per below table for different Systems:

Feeder Details	System type
Feeder-1 UPS-1A 230V AC	PCS System Cabinets
Feeder-2 UPS-1B 230V AC	PCS System Cabinets
Utility Non -UPS Feeder (Cabinet lights & Utility Socket) 230V AC	PCS System Cabinets

Table 36 – PCS Power Distribution UPS & Non-UPS.

10.10.2 SIS & FGS System Cabinet

The System Cabinet (SIS and FGS) is designed to accommodate the following SCS hardware:

- Duplex Safety Node Unit (SNU)
- Node Unit (NU)
- ESB Bus Coupler Module
- Input/Output Modules

The SIS and FGS System cabinet will be located in ITER.

The SNU is mounted at the topmost part of the cabinet. The SNUs are mounted below the SNU. NUs are mounted at the front of the cabinet depending on the number of NUs provided. A maximum of 5 node units can be installed in one cabinet. Two double pole isolators are provided at the bottom of the cabinet to receive two independent 230V AC single-phase supplies from redundant UPS. The AC power is distributed to SNU and NU by power distribution units (PDU) installed in the cabinet. One double pole isolator re provided at the bottom of the cabinet to receive independent 230VAC single phase supplies for NON-UPS.

Front -mounted fans ensure the temperature in System Cabinets is within limits. Fans and light are connected to the non-UPS feeder. The airflow of each fans will be monitored by an Air Flow Switch (AFS). The alarm

contacts of these AFS' are connected in series. In case any of these AFS' detect a fault, an Air flow fail alarm is generated.

SIS/FGS System cabinets will be provided with alarms configured to PCS Digital inputs which includes Fan Failure, MCB Power Failure, PSU and Temperature, etc.

Two way programming enable/disable key switch shall be installed which is used to control the security level.

The System cabinets will be equipped with Instrument Ground Bar and Safety Ground bars at the bottom on the front side of the enclosure.

The Power distributions will be provided from Power distribution board cabinet typically as per below table for different Systems:

Feeder Details	System type
Feeder-1 UPS-1A 230V AC	SIS/FGS System Cabinets
Feeder-2 UPS-1B 230V AC	SIS/FGS System Cabinets
Utility Non -UPS Feeder (Cabinet lights & Utility Socket) 230V AC	SIS/FGS System Cabinets

Table 37 – SIS/FGS Power Distribution UPS & Non-UPS.

10.10.3 FIO NIS Marshalling Cabinet

PCS, SIS and FGS Marshalling Cabinets (MC) are used for marshalling the field I/O signals. Analog & Digital Non-IS Signals are the IO types that enter the marshalling cabinet.

Marshalling cabinets will have two incoming double pole Isolators of 32A for 230V AC redundant UPS incoming power supply. All Marshalling cabinets are provided with redundant 24V DC power supply units for System and Field power. Earth leakage monitor (ELM) is provided to detect any earth leakage/ground fault on 24 VDC PSU.

Terminal boards, power supplies and relays are mounted on mounting plates. System cables connect terminal boards to corresponding I/O module in the System Cabinet. Cable trays are provided in the cabinet to support the system cables.

The terminals will be numbered to match the terminal numbering in the junction box. A name plate will be provided for each block of terminals corresponding to the field junction box. The name plate will include the row number. A PVC cable duct adjacent to the terminal row serves to run the cable inside the cabinet will be provided.

Depending on the heat dissipation requirement, fans will be provided in front of the cabinet to circulate air inside the cabinet to ensure cabinet temperature is within the specified limit of the components in the cabinet.

A thermostat is installed at the top to monitor the cabinet temperature and generate a high temperature alarm if pre-set value of 35 deg C is exceeded.

PCS, SIS/FGS Marshalling cabinets will be provided with alarms configured to PCS Digital inputs which includes Fan Failure, MCB Power Failure, PSU and Temperature, etc.

The Marshalling cabinets with NIS will be equipped with Instrument Ground Bar and Safety Ground bars at the bottom on front side of the enclosure.

The Power distributions will be provided from Power distribution board cabinet typically as per below table for different Systems:

Feeder Details	System type
Feeder-1 UPS-1A 230V AC	Marshalling Cabinets
Feeder-2 UPS-1B 230V AC	Marshalling Cabinets
Utility Non -UPS Feeder (Cabinet lights & Utility Socket) 230V AC	Marshalling Cabinets

Table 38 – NIS Marshalling Power Distribution UPS & Non-UPS.

10.10.4 FIO IS Marshalling Cabinet

PCS, SIS and FGS Marshalling Cabinets (MC) are used for marshalling the field I/O signals. Analog & Digital IS Signals are the IO types that enter the marshalling cabinet.

Marshalling cabinets will have two incoming double pole Isolators of 32A for 230V AC redundant UPS incoming power supply. All Marshalling cabinets are provided with redundant 24V DC power supply units for System and Field power. Earth leakage monitor (ELM) is provided to detect any earth leakage/ground fault on 24 VDC PSU.

Terminal boards, power supplies and relays are mounted on mounting plates. System cables connect terminal boards to corresponding I/O module in the System Cabinet. Cable trays are provided in the cabinet to support the system cables.

In IS Marshalling cabinet Isolators and Barriers are installed.

The terminals will be numbered to match the terminal numbering in the junction box. A name plate will be provided for each block of terminals corresponding to the field junction box. The name plate will include the row number. A PVC cable duct adjacent to the terminal row serves to run the cable inside the cabinet will be provided.

Depending on the heat dissipation requirement, fans will be provided in front of the cabinet to circulate air inside the cabinet to ensure cabinet temperature is within the specified limit of the components in the cabinet.

A thermostat is installed at the top to monitor the cabinet temperature and generate a high temperature alarm if pre-set value of 35 deg C is exceeded.

PCS, SIS/FGS Marshalling cabinets will be provided with alarms configured to PCS Digital inputs through inter-panel to FIO NIS cabinets which includes Fan Failure, MCB Power Failure, PSU Fault and Temperature etc.

The Marshalling cabinets with IS will be equipped with Instrument Ground Bar, Safety Ground bars and Intrinsically Safe Ground bar at the bottom on front side of the enclosure.

The Power distributions will be provided from Power distribution board cabinet typically as per below table for different Systems:

Feeder Details	System type
Feeder-1 UPS-1A 230V AC	Marshalling Cabinets
Feeder-2 UPS-1B 230V AC	Marshalling Cabinets
Utility Non -UPS Feeder (Cabinet lights & Utility Socket) 230V AC	Marshalling Cabinets

Table 39 – IS Marshalling Power Distribution UPS & Non-UPS.

10.10.5 Server / Network Cabinet

A typical Server/Network cabinet is designed to accommodate the following hardware:

- Server/Rack type Stations /Storage/ Management switches etc.
- KVM Station
- Circuit Breakers
- Layer 2 Ethernet Switches for V-Net/IP, 3rd Party Interface and other networks.
- Firewall / FO converters.
- Cable Managers for Proper cable Management.
- Circuit Breakers

All rack mounted servers will be equipped with the appropriate wire management arm hardware to facilitate easy extraction of the server from the server cabinet for maintenance tasks. KVM shall be used to connect the keyboard, mouse and the monitor to the servers mounted inside the cabinets. These Cabinets will have Front perforated Doors. The fans in the cabinet will be powered by 230 VAC,50 Hz. Door mounted fans with air filter at bottom and louvers with filters on top shall be provided.

Server/Network cabinets will be provided with alarms configured to PCS Digital inputs which includes Fan Failure, Power Failure and Temperature, etc.

The Server/Network cabinets will be equipped with Instrument Ground Bar at the bottom on the front & rear inside of the enclosure.

The Power distributions will be provided from Power distribution board cabinet typically as per below table for different Systems:

Feeder Details	System type
Feeder-1 UPS-1A 230V AC	Server/Network Cabinets
Feeder-2 UPS-1B 230V AC	Server/Network Cabinets
Utility Non -UPS Feeder (Cabinet lights & Utility Socket) 230V AC	Server/Network Cabinets

Table 40 – Marshalling Power Distribution UPS & Non-UPS.

10.10.6 EMCS Cabinet

The EMCS Cabinet is designed to accommodate the following hardware:

- SEL-3555 Real-Time Automation Controller (RTAC)
- Input/Output Modules

The EMCS cabinet located at ITER shall be of the following specification.

The RTAC is mounted on 19" swing frame.

Two double pole isolators are provided at the bottom of the cabinet to receive two independent 230V AC single-phase supplies from redundant UPS. The AC power is distributed to FNU and NU by power distribution units (PDU) installed in the cabinet. One double pole isolator re provided at the bottom of the cabinet to receive independent 230VAC single phase supplies for NON-UPS.

Front -mounted fans ensure the temperature in System Cabinets is within limits. Fans and light are connected to the non-UPS feeder. The airflow of each fans will be monitored by an Air Flow Switch (AFS). The alarm contacts of these AFS' are connected in series. In case any of these AFS' detect a fault, an Air flow fail alarm is generated.

EMCS cabinet will be provided with alarms configured to Digital inputs which includes Fan Failure, MCB Power Failure, PSU and Temperature, etc.

A thermostat is installed at the top to monitor the cabinet temperature and generate a high temperature alarm if pre-set value of 35 deg C is exceeded.

The cabinet will be equipped with Instrument Ground Bar and Safety Ground bars at the bottom on the front side of the enclosure.

The Power distributions will be provided from Power distribution board cabinet typically as per below table for different Systems:

Feeder Details	System type
Feeder-1 UPS-1A 230V AC	EMCS Cabinet
Feeder-2 UPS-1B 230V AC	EMCS Cabinet
Utility Non -UPS Feeder (Cabinet lights & Utility Socket) 230V AC	EMCS System Cabinet

Table 41 – EMCS Power Distribution UPS & Non-UPS.

10.11 CABINET ALARM

All cabinets with active components will be provided with cabinet alarms. Depending on the type of cabinet, the cabinet alarm will include the following alarm types which will be individually wired to marshalling cabinets.

Alarm Types	Cabinet Types					
	Indoor					
	PCS System	SIS/FGS System	Marshalling	EMCS	Network	Server
Panel High Temperature Alarm	Y	Y	-	Y	Y	Y
Panel Power supply & Diodes failure	Y	Y	-	Y	Y	
Panel Ventilation Fan Fault	Y	Y	-	Y	Y	-
Panel Cumulative Breaker Fault	Y	Y	-	Y	Y	Y
Security Key Switch	-	Y	-		-	-

Table 42 – Cabinet Alarm.

10.12 NAMEPLATE DETAILS

10.12.1 Cabinet Nameplate

All individual panels, both front and rear, will be provided with nameplates showing panel identification number.

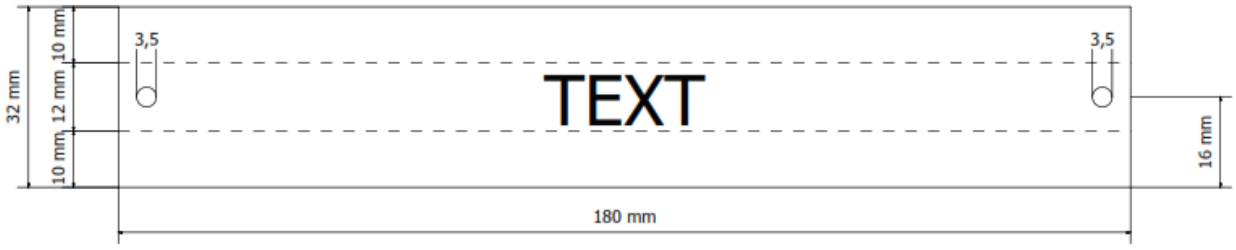


Figure 41 – Cabinet Nameplate

Item	Description
Material	Traffolyte, 3 mm Thick
Text Colour	Black (White for FGS/SIS)
Background Color	White (Red for FGS/SIS)
Text Type	Arial
Text Alignment	Centred
Fixing	Bolted with M3 Screw

Table 43 – Cabinet Nameplate Specification.

10.12.2 Component Nameplate

Nameplates are also provided to identify the controller nodes, Node Units, termination boards, power supply units, relays and other related panel components mounted inside the panel so as to assist operating and maintenance personnel.

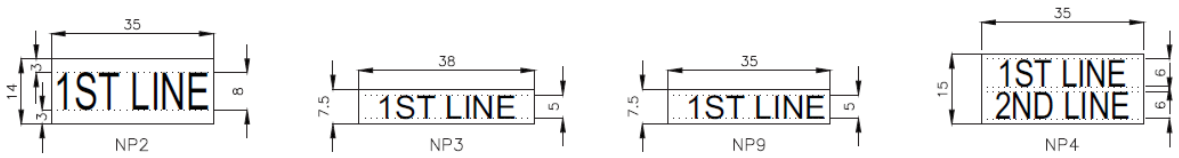


Figure 42 – Component Nameplate

Item	Description
Material	Traffolyte, 1.6 mm Thick
Text Colour	Black
Background Color	White
Text Type	Arial Narrow Font
Text Alignment	Centred
Fixing	Adhesive

Table 44 – Component Nameplate Specification.

11 GROUNDING PHILOSOPHY

This section identifies aspects affecting personnel safety and proper functioning of instruments and instrument systems. Cabinets will be earthed through a dedicated Grounding System which is connected to the electrical earth at one point only. The following earth types are provided inside the cabinets:

- Protective Earth (PE) (Non isolated from the panel inside cabinet)
- Instrument Earth (IE) (Isolated from the panel inside cabinet).
- Intrinsically Safe Earth (ISE) (Isolated from the panel inside cabinet)

Protective Earthing is for the safety of the equipment and the personnel likely to operate on the system. For instrumentation related to the PCS, SIS and FGS, the clean earth system is designated as the Instrument earth. Functional Grounding cables and PCS system power supply shall be connected to the Instrument Grounding Bar inside the cabinets.

11.1 CONNECTION TO PROTECTIVE EARTHING

Each cabinet Protective Earthing bar has an earth bolt for connection to the plant Safety Grounding system. All metallic equipment within the cabinet (including the cabinet frames, doors, and side panels excluding the plinth) are connected to the respective cabinet Protective Earth bar in a 'star' connection.

All connections to Protective Earth bar shall be via ring type cable lugs. The color of the cables shall be green with yellow trace. Each cabinet is fitted with 1 Protective Earth bar, front section of the cabinet. The Protective Earth bars of all the cabinets are connected to the Protective Grounding system.

11.2 CONNECTION TO INSTRUMENT EARTHING

Each cabinet's Instrument Earthing bar has an earth bolt for connection to the plant Instrument Earthing system. All Instrument Earthing bars are isolated from the cabinet structure and the Safety Grounding.

All connection to Instrument Earthing bars shall be via ring type cable lugs. The Color of the cables (within the cabinet) shall be green. Each cabinet is fitted with 1 Instrument Earthing bar, front section of the cabinet. The Instrument Earth bars of all the cabinets are connected to the Instrument Grounding system.

All system cabinets and Marshalling cabinets shall have dedicated instrument earth bars for connection to the system earth. All earth cables within the cabinet are connected to the respective cabinet instrument Earth bar in a 'star' connection. All connections to the Instrument Earth bar shall be via ring type cable lugs. The color of the cables shall be green.

11.3 CONNECTION TO INTRINSICALLY SAFE EARTHING

Each IS cabinet's Instrument Earthing bar has an earth bolt for connection to the plant Instrument Earthing system. The Safety Grounding Screens of instrument signal cables shall be connected to the cabinet Intrinsically Safe Earthing bar in a 'star' connection.

Screens shall be insulated from cable armoring, instrument enclosures and metal structures. Screens shall be earthed at one point only based on the following.

- For screened cables between the field and the cabinet, the screen shall be earthed at cabinet side. The screen shall be insulated at the field instrument side.
- For screened cables running between two cabinets, the 'star' connection requires the screen to be earthed at one cabinet only (screen shall be earthed where the power for the loop is generated).
- For screened serial communication lines between third party systems and PCS, the screen shall be earthed at PCS side only.

All connection to Intrinsically Safe Earthing bars shall be via ring type cable lugs. The Colour of the cables (within the cabinet) shall be White. Each IS Marshalling cabinet is fitted with 1 Intrinsically Safe Earthing bar, front section of the cabinet. The Intrinsically Safe Earth bars of all the cabinets are connected to the Instrument Grounding system.

All IS Marshalling cabinets shall have dedicated Intrinsically Safe earth bars for connection to the system earth. All earth cables within the cabinet are connected to the respective cabinet instrument Earth bar in a ‘star’ connection. All connections to the Intrinsically Safe Earth bar shall be via ring type cable lugs. The colour of the cables shall be white.

12 WIRING MATERIAL AND WIRE COLOUR CODES

12.1 TERMINALS

All instrument signal terminals for terminating the field signals will be DIN rail mounted. For 230VAC, Feed through Terminal Blocks will be used for AC Line & AC Neutral connections. For 24VDC Power Distribution, fused type terminals will be used for DC "+" & Feed through Terminal Blocks will be used for DC "-". The fuse block terminals shall have blown fuse indication.

Items	Details
WDU Feed through series / WTR Disconnect series / WSI Fuse series	Weidmuller Terminals

Table 45 – Terminal Block Specification.

12.2 TERMINAL IDENTIFICATION

All terminals will be individually identified. This will be achieved by using printed indents and markers supplied by the terminal manufacturer. Markers to have black lettering on a white background. Terminal groups will be identified with nameplates.

12.3 INTERNAL WIRING

Internal wiring consists of bare copper, multi stranded cables and shall be zero halogen, flame retardant complying with IEC 60332-part 3 cat. The wires connected to screw type terminals are provided with lugs. For wire sizes please refer to Cabinet Layout drawings & Typical loop Wiring Drawings.

12.4 CABLE DUCT/CABLE TRAY

Cable Ducts are categorized by signal type and voltage. Segregation is made between VAC and VDC. Appropriately sized low smoke, zero halogen ducts will be used. Duct to have 20% spare capacity. In that case maintenance and repair can be performed within the cabinet with a minimum of difficulty. Vertical and horizontal ducting will be closed with properly sized duct covers. The cabinet will be designed with separate wire ducts for routing power and signal cables. The DC power wires, and signal wires can run in the same ducts. Fiber optic patch cords will run along with DC Power Ducts. Cable tray are used in the system cabinets for routing System Cables/FO patch cords in System Cabinets.

12.5 WIRE COLOUR CODES

The insulation colour of panel internal wiring will be as follow:

Cabinet Internal Wiring Colour Code Details		
Description		Colour
230V AC	L	Brown
	N	Light Blue
	G/PE	Green and Yellow (G/Y)
24V DC	24V DC (+)	Red (RD)
	0V DC (-)	Blue (BL)
Analog Input - 2 Wire-IS	24V DC (+)	Light Blue (LB)
	0V DC (-)	Light Blue (LB)
Analog Input - 2 Wire-NIS	24V DC (+)	Black (BLK)
	0V DC (-)	White (WHT)
Analog Input - 3 Wire-NIS	24V DC (+)	Black (BLK)
	Signal	Red (RD)
	0V DC (-)	White (WHT)
Digital Input	Signal (+)	Black (BLK)
	Signal (-)	White (WHT)
Digital Output	Signal (+)	Black (BLK)
	Signal (-)	White (WHT)
Protective Earth	PE	Green and Yellow (G/Y)
Instrument Earth	IE	Green (G)
Intrinsically Safe Earth	ISE	White (WHT)

Table 46 – Wire Color Code.

12.6 WIRE MARKING

All wiring on terminal strips and components are provided with heat shrinkable flame-retardant white sleeves. The wire marker text will be black colour.

13 NAMING PHILOSOPHY

13.1 WIRED SPARE NAMING PHILOSOPHY

The wired spare tag naming philosophy followed in the project as

WSP - SCS domain& station no. - Node no. - Slot no. – Channel no.

Eg.: "WSP0110010116".

13.2 FERRULING NAMING PHILOSOPHY

Direct/Cross ferruling philosophy is followed in the project. For cables with horizontal termination, ferrules are read from Left to Right and for the Cables with Vertical termination, ferrules are read from Bottom to Top.

The labelling format is:

X	X	X	X	X	-	Y	Y	/	Z	Z	Z	Z	Z	-	Y	Y

"X" Base Plate, terminal strip/block, MCB etc., number at the end where wire is connected.

"Z" Base Plate, terminal strip/block, MCB etc., number the other end of wire is connected.

"Y" Associated terminal number of terminals to which wire is connected.

Each wire tag will have two labels. The first label (closest to the end of the wire) identifies the terminal number to which the wire is connected. The other label is the terminal number of the connection of the opposite end of the wire.

E.g.: TSA01 -1/BP01-1A

BP11-1A/TSD01 -1

CB01-4/PSU01-N

PE/MOUNTING PLATE (R) – G

SNU1-PWR(L)-L/PDU(L)-CN1

SNU1-PWR(N)-L/PDU(L)-CN1

13.3 EQUIPMENT NAMING PHILOSOPHY

Equipment naming philosophy refers to the equipment and system components used in the project which shall have a unique Naming ID for its easy identifications and trouble shooting. Example of typical names is given below

Service	Equipment type	Sequence Number	Equipment no	Description
CN	SWL2	1	CNSWL2-001	Control Network Layer 2 Switch
COM	SW	11	COMSWL2-0011	Communication Network Layer 2 Switch
DMZ	SW	1	DMZSWL2-001	Demilitarized Zone Layer 2 Switch
FOPP		1	FOPP-001	Fiber option patch panel
FW		3	FW-003	Firewall
PIN	SW	1	PINSWL2-002	Plant Information Network Layer 2 Switch
SERV	SW	3	SNSWL2-003	Service Network Layer 2 Switch
DC	SVR	1	DCSVR01	Servers
IAMS	CLT		IAMSCLT	Client

Table 47 – Equipment Naming Philosophy.

14 ATTACHMENTS

14.1 COMPONENTS OF CENTUM VP FIO SYSTEM

Attachment no	Model	Description	GS Reference
14.1.1	Field Control Station (AFV30D-A41262)	The FCS is vital for the control and automation of the plant. The FCS handles process control functions in CENTUM VP. It can perform control functions.	GS 33J60E10-01EN
14.1.2	ESB Bus Node Interface Unit (ANB10D)	The Node Interface Unit has an interface function that Communicates the field analogue I/O signals and contact I/O signals with a Field Node Unit (FNU) via an ESB as well as a function that supplies power to the I/O Modules.	GS 33J60F20-01EN
14.1.3	ESB Bus Coupler Module (EC401)	The ESB Bus Coupler Module is a communication module to connect the Field Node Unit and the Node Unit for ESB Bus via the ESB bus. This module is installed in the Field Node Unit.	GS 33J60E50-01EN
14.1.4	Enhanced Serial Bus Cable (YCB301)	This connects the Node interface unit to the FCS through the ESB bus coupler Module.	GS 33J60J10-01EN
	Cable (KS1-10/HF) for Analog Module	System Cable for Analog Module	
	Cable (AKB331-M010/HF) for Digital Module	System Cable for Digital Module	
14.1.5	Ethernet Communication Module (ALE111)	An FCS collects data from subsystems or sets data with control calculations to subsystems using the builder functions by way of Ethernet communication modules.	GS 33J60G11-01EN
14.1.6	PROFINET COMMUNCATION MODULE (A2LP131)	PROFINET Communication Module which performs as the PROFINET IO-Controller to communicate and exchange data with PROFINET IO-Devices.	GS 33J60G90-01EN

Attachment no	Model	Description	GS Reference
14.1.7	Analog Input Module (AAI143)	Analog Input module has an analog I/O function for each channel. The analog input function with 4 to 20mA.	GS 33J60F60-01EN
	Analog Output Module (AAI543)	Analog output module has an analog I/O function for each channel. The analog output function with 4 to 20mA.	
14.1.8	Digital input adaptor (ADV151)	Voltage input, dry contact input, and isolated channels (24 Vdc volt input, dry contact input).	GS 33J60F70-01EN
	Digital output adaptor (ADV551)	24 Vdc/0.5 A output, current source, and isolation (24 Vdc, current source: 0.5 A).	
14.1.9	TB (A1BA4D-06) for Analog Module	Terminal Board for Analog Module	GS 33J60H51-01EN
	TB (A1BD5D-06) for Digital Module	Terminal Board for Digital Module	
14.1.10	VI702	Vnet/IP Interface Card	GS 33J50C10-01EN

Table 48 – Components of CENTUM VP FIO

14.2 COMPONENTS OF PROSAFE-RS SYSTEM

Following are the Safety system hardware components used in HOLLANDSE KUST NOORD WIND PARK Project.

Attachment no	Model	Description	IM/GS Reference
14.2.1	Safety Control Station (S2SC70D)	A Safety Control Station (SCS) consists of Safety Node Unit (SNU) that implements safety control function by executing the application programs downloaded from the Safety Engineering Station.	GS 32P06D10-01EN
14.2.2	Safety Node Unit (SNB10D)	The Safety Node Unit has an interface function to transmit Analog input signals and contact signals from the field to the Safety Node Unit via an ESB bus. It also has a function to supply power to I/O modules.	GS 32Q06K10-31E

Attachment no	Model	Description	IM/GS Reference
14.2.3	ESB Bus Coupler Module (SEC401-S1)	ESB Bus Coupler Module connects Safety Node Units and safety node units via an ESB bus cable. This module is installed in the Safety Node Unit.	GS 32Q06L11-31E
14.2.4	Analog Input Module (SAI143-H63)	AI Module inputs 4 to 20mA from the field. This module has HART communication function available. One HART device is connectable for each channel. Each channel is equipped with a power supply function to the HART device. Each module has only one HART modem and is communicable concurrently with only one HART device.	GS 32Q06K30-31E
14.2.5	Digital Input Module (SDV144-S63)	Digital Input modules SDV144 (24 VDC, 16 channels) will process all Digital Inputs. The signal input shall be a dry contact. Relays suitable for safety operations shall be installed in the termination cabinets suitable for interfacing with the field voltage level.	GS 32Q06K40-31E
	Digital Output Module (SDV541-S63)	The SDV541 (24 VDC, 16 channels) will process all Digital Outputs. Outputs shall be without common wiring. Relays suitable for safety operations shall be installed in the termination cabinets suitable for interfacing with the field voltage level for driving solenoid valves, motors, pumps, and compressors. Digital output modules shall support line monitoring if the safety status require energizing.	
	SCB100	For Detecting disconnection failures	
	SCB110	For Detecting short-circuit failures	
14.2.6	Enhanced Serial Bus Cable (YCB301)	This connects the Node interface unit to the SCS through the ESB bus coupler Module.	GS 32Q06M10-31E

Attachment no	Model	Description	IM/GS Reference
	Signal Cable for Analog Modules (KS1-10/HF)	Analog Signal Cable for YKO System (for 40-40 Pins)	
	Signal Cable for Digital Modules (AKB331-M010/HF)	Signal Cable (50-50 pin), DIO Cable length 10m, special cable for SDV144 or SDV541 (for ProSafe RS).	
14.2.7	TB for Analog Modules (SBA4D-06)	Terminal Board for Analog (Single and dual-redundant, 16 channel x 1)	GS 32Q06L20-31E
	TB for Digital Modules (SBD4D-06)	Terminal Board for Digital (Single and dual-redundant, 16 channel x 1)	

Table 49 – Components of ProSafe-RS system

14.3 COMPONENTS OF EMCS

Attachment no	Section	Description	GS Reference
14.3.1	EMCS	Electrical Monitoring and Controlling System (EMCS) Function Design Specifications.	W240506SA1-2X

Table 50 – Components of EMCS.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.1 Field Control Station (AFV30D-A41262)
GS 33J60E10-01EN

<<Contents>> <<Index>>

General Specifications

GS 33J60E10-01EN

AFV30S, AFV30D
Field Control Unit
Duplexed Field Control Unit
(for FIO, 19-inch Rack Mountable Type)

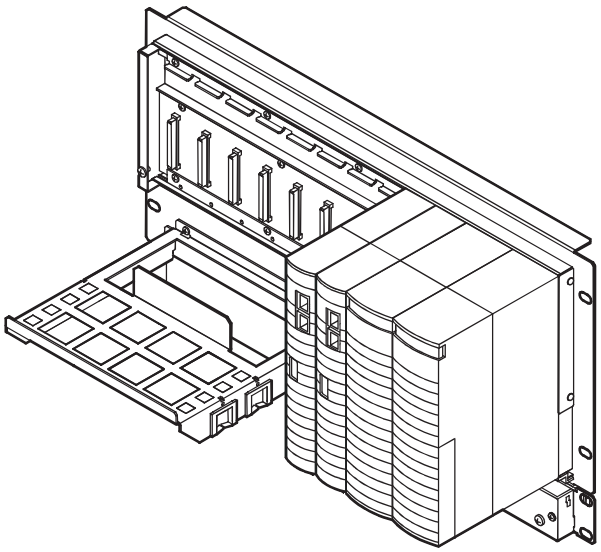
CENTUM VP

[Release 6]

■ GENERAL

This GS covers the hardware specifications of the Field Control Unit (FCU) which is the core of the control function of the Field Control Station (FCS).

AFV30☐, AFV40☐, ACB51, ANB10☐, ANB11☐ and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN).



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[19-inch Rack Mountable Type FCU]

■ STANDARD SPECIFICATIONS

For the installation specifications and the environmental conditions common to the systems, refer to "Integrated Production Control System CENTUM VP System Overview" (GS 33J01A10-01EN).

● Memory Protection During Power Failure

Battery
Battery Back-up for Main Memory: Max. 72 hours
Battery Recharge Time: Min. 48 hours

● READY Contact Output

2 terminals (NC, C)
Contact Points open during FCU failure
Contact Rating: 30 V DC, max. 0.3 A
Note: When option code /HKU is specified, a FCU fault contact is output from the House Keeping Unit (HKU).

● Communication Interface

Vnet/IP Interface: Dual-redundant

For more details, refer to "Integrated Prodction Control Systrm CENTUM VP System Overview" (GS 33J01A10-01EN)

● HKU Interface (Option)

When option code /HKU is specified, a FCU fault contact is output from the HKU. Also, the environmental conditions of the cabinet connected via the HK bus and optical ESB bus can be monitored and the operating status of the HKU can be displayed on the HIS. System alarms can also be displayed.

● No. of Node Units Connectable

Max. 13/FCU

The total number of ESB Bus Node Units (ANB10☐) and Optical ESB Bus Node Units (ANB11☐) that can be connected to FCU are 13 or less.

● Module Configuration

Power Supply Module (PW481, PW482, or PW484): 2 modules for dual-redundant configuration.
Processor Module (CP471 or CP461): 2 modules for dual-redundant configuration.
A dual-redundant configuration is enabled by using 2 identical modules with same model code (CP471 or CP461).
I/O Module (*1): Max. 8

*1: Non-standard component.

YOKOGAWA

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● Installation Restrictions

To connect the ESB Bus Node Unit (ANB10□) or Optical ESB Bus Node Unit (ANB11□) to the FCU, install the ESB Bus Coupler Module (EC401 or EC402) in slots 7 and 8 of the FCU. For the dual-redundant configuration of the processor modules, EC401 or EC402 must be installed in both slot 7 and slot 8. In case ESB Bus has a single configuration, EC401 or EC402 must be installed in slot 7 and keep slot 8 empty.

To install the optical ESB bus node unit and ESB bus node unit in a remote location, use the Optical ESB Bus Repeater Master Module (ANT401 or ANT411) to connect them with an optical fiber cable. To install the optical ESB bus repeater master module in the FCU, install a pair of modules in slots 1 to 6 in order from right to left according to the number of branches. In a single configuration, install the individual modules in slots 1, 3, and 5 in order from right to left. For details, see the “Optical ESB Bus Repeater Module” (GS 33J60F51-01EN/GS 33J60F52-01EN).

For the limitations and precautions for installing I/O modules, see “FIO System Overview” (GS 33J60A10-01EN).

● Power Supply

Specify with the Suffix Code.

Voltage: 100-120 V AC, Frequency: 50/60 Hz
Voltage: 220-240 V AC, Frequency: 50/60 Hz
Voltage: 24 V DC

● Power Consumption

100-120 V AC: 200 VA
220-240 V AC: 230 VA
24 V DC: 5.5 A

● Weight

Approx. 7.0 kg (AFV30S)
Approx. 8.0 kg (AFV30D)

● Mounting

19-inch Rack Mounting: Rack mount (M5x8 screws), Insulation bush (accessory)

● Connection

Power Supply: M4 screw terminal connection
Grounding: M4 screw terminal connection
READY Contact Output: M4 screw terminal connection
Network: Connect UTP cable (CAT5e or better) to Layer 2 switch.

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● System Configuration

This is a configuration example of an FCU and node units, and an ESB bus (including optical ESB bus) that connects them.

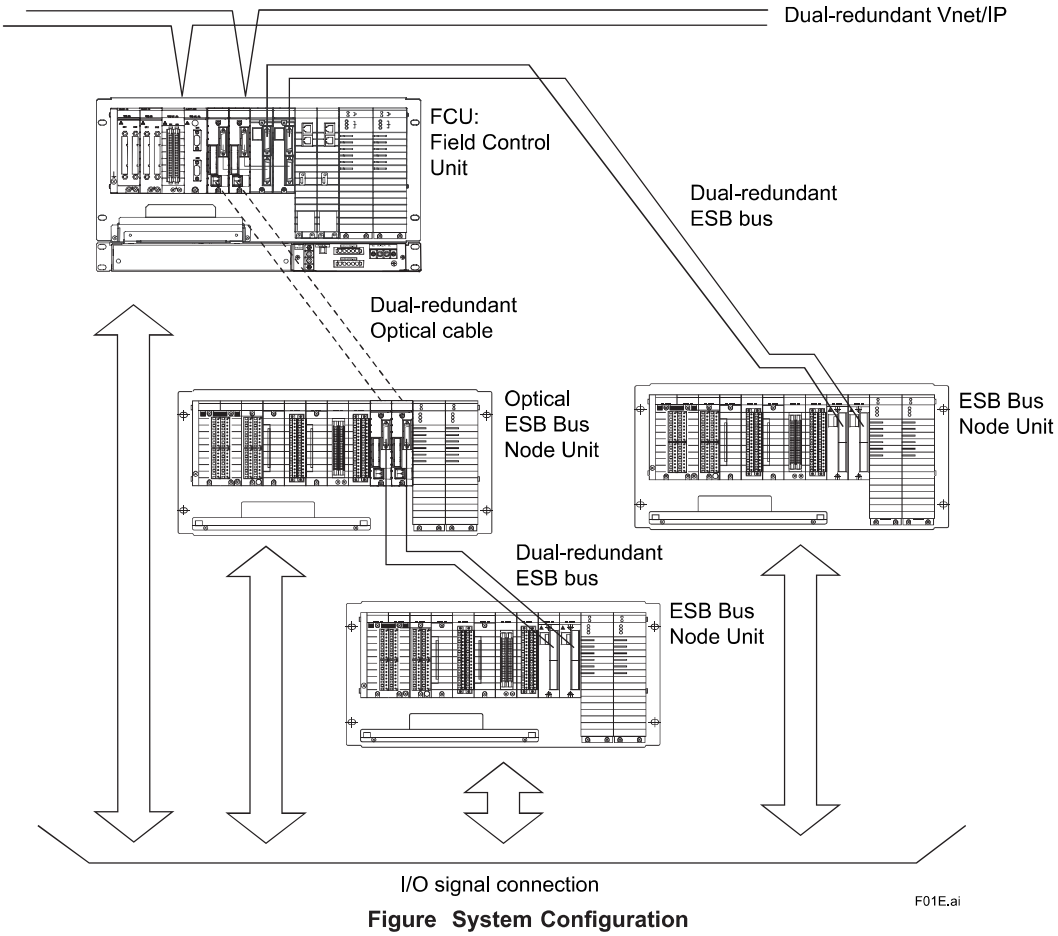

Figure System Configuration

■ LIMITATIONS OF INSTALLATION AND NOTICES FOR INSTALLATION

For installing I/O modules in AFV30S or AFV30D, the quantity and allocation are limited.
Also, when installing a node unit to the dedicated cabinet, there are limitations of installation under the ambient operating temperature conditions.
When modules with built-in barriers are installed in AFV30□, an insulating partition kit (Part No. T9083ND) must be installed.
For details, please refer to “FIO System Overview” (GS 33J60A10-01EN) and “Installation Guidance” (TI 33J01J10-01EN).

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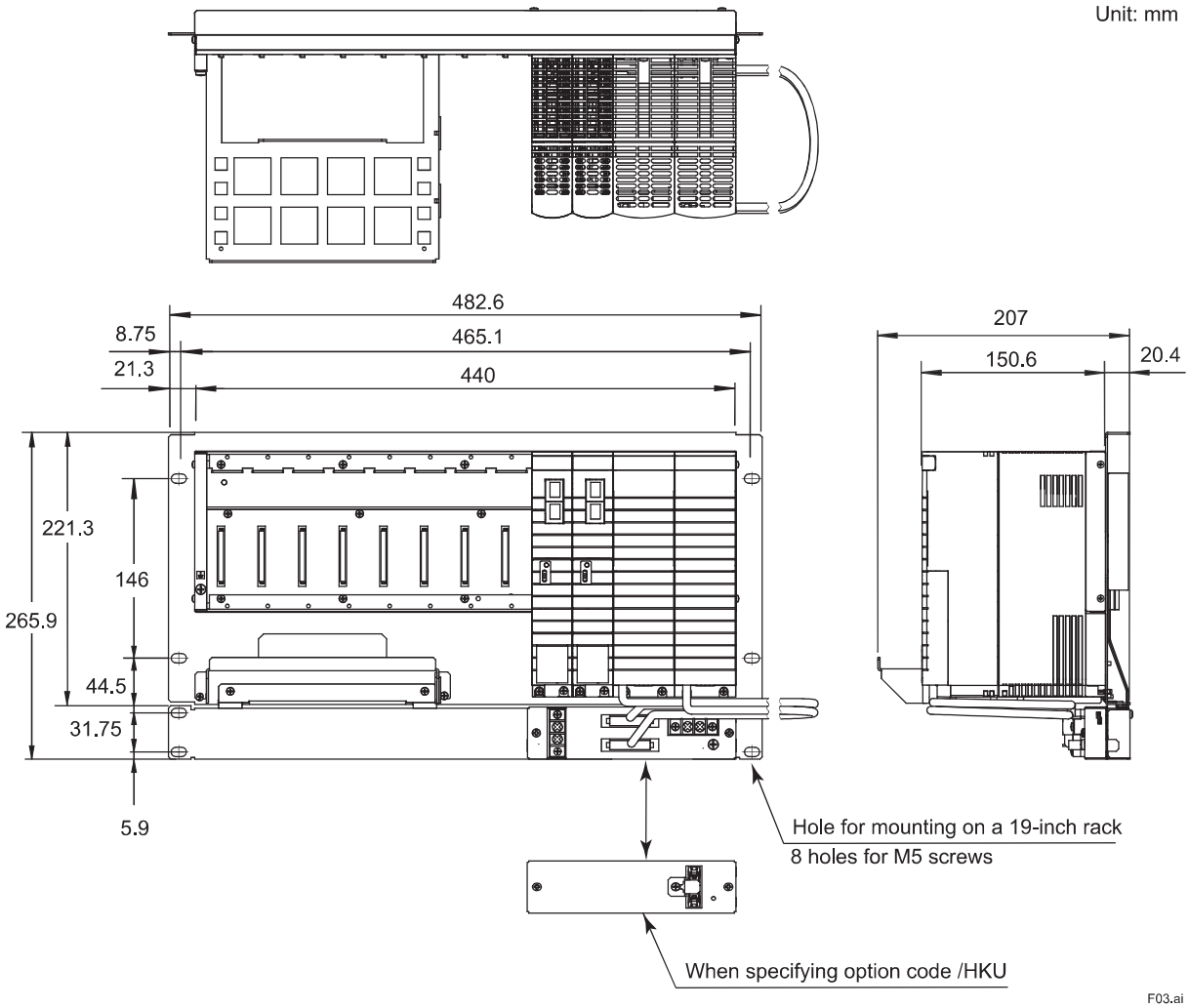
■ EXTERNAL DIMENSIONS

Unit: mm



Nominal Tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

■ SOFTWARE REQUIREMENT

A software license is required for AFV30□ separately. For details, refer to the GS “VP6F1700 Control Function for Field Control Station (for AFV30□/ AFV40□)” (GS 33J15C10-01EN) and “VP6F3100 Project I/O License” (GS 33J15A10-01EN).

■ REQUIREMENTS FOR USING SEM (SEQUENCE OF EVENTS MANAGER)

For using SEM, the hardware requires some conditions.
For details, refer to the GS “SEM Sequence of Events Manager (for FIO)” (GS 33J30D10-01EN).

■ STANDARD ACCESSORIES

The FCU is delivered with the following standard accessories.

Parts Names	Parts Numbers	Quantity	Remarks
Insulating bush	S9049PM	8	Accessory

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■ MODELS AND SUFFIX CODES

Field Control Unit

		Description
Model	AFV30S	Field Control Unit (for FIO, 19-inch Rack Mountable)
Suffix Codes	-A	Standard type (for CP471) (*1)
	-S	Standard type (for CP461) (*3)
	3	Dual-redundant Vnet/IP, single power supply
	4	Dual-redundant Vnet/IP, dual-redundant power supply
	1	Always 1
	1	100 - 120 V AC power supply (*4)
	2	220 - 240 V AC power supply (*4)
	4	24 V DC power supply (*4)
	0	Basic type (*5)
	1	With ISA Standard G3 option (*5)
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection
	1	LFS1700 Control function for field control station (for AFV30☐/AFV40☐, Vnet/IP and FIO) (*6)
	2	Always 2 (R6.01 or later)
Option Codes	/HKU	With HKU interface (*7)
	/ATDOC	Explosion Protection Manual (*8)
	/MRN	With Marine Standards (*2)

Note: The existing AFV30S-☐☐☐☐☐1 for CENTUM VP R5 can be used with CENTUM VP R6.01 or later.

*1: CP471 operates with CENTUM VP R6.01 or later version of Control Function for Field Control Station. Be sure to apply the software patch for supporting CP471 for CENTUM VP R6.01, R6.02, R6.03, and R6.04. CP471 can be combined with the style code S3 or later of ESB bus coupler module EC401. See GS 33J60E30-01EN.
*2: Select the option code "/MRN" if AFV30S with marine standard is required.
*3: Unavailable for ordering AFV30S with CP461 due to the supply ends on October 19, 2019. Existing CP461 can be replaced with CP471. Replacement from CP461 to CP471 is prohibited to perform by a user.
This replacement must be done by the service engineer authorized by Yokogawa Electric Corporation. CP471 can be combined with the style code S3 or later of ESB bus coupler module EC401. See GS 33J60E30-01EN.
*4: To meet the safety standards and EMC standards, the unit must be installed in a keyed metallic cabinet.
*5: These suffix codes are applicable to only AFV30S-S☐☐☐☐☐. They are no longer available.
*6: This suffix code is acceptable to only CENTUM VP R5.
*7: When used in combination with ACUKT☐, specify this option code "/HKU."
*8: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation for use in potentially explosive atmospheres.

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Duplexed Field Control Unit

		Description
Model	AFV30D	Duplexed Field Control Unit (for Vnet/IP and FIO, 19-inch Rack Mountable)
Suffix Codes	-A	Standard type (for CP471) (*1)
	-S	Standard type (for CP461) (*3)
	4	Dual-redundant Vnet/IP, dual-redundant power supply
	1	Always 1
	1	100 - 120 V AC power supply (*4)
	2	220 - 240 V AC power supply (*4)
	4	24 V DC power supply (*4)
	0	Basic type (*5)
	1	With ISA Standard G3 option (*5)
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection
	1	LFS1700 Control function for field control station (for AFV30☐/AFV40☐, Vnet/IP and FIO) (*6)
	2	Always 2 (R6.01 or later)
Option Codes	/HKU	With HKU interface (*7)
	/ATDOC	Explosion Protection Manual (*8)
	/MRN	With Marine Standards (*2)

Note: The existing AFV30D-☐☐☐☐☐1 for CENTUM VP R5 can be used with CENTUM VP R6.01 or later.

*1: CP471 operates with CENTUM VP R6.01 or later version of Control Function for Field Control Station. Be sure to apply the software patch for supporting CP471 for CENTUM VP R6.01, R6.02, R6.03, and R6.04. CP471 can be combined with the style code S3 or later of ESB bus coupler module EC401. See GS 33J60E30-01EN.
*2: Select the option code "/MRN" if AFV30D with marine standard is required.
*3: Unavailable for ordering AFV30D with CP461 due to the supply ends on October 19, 2019. Existing CP461 can be replaced with CP471. Replacement from CP461 to CP471 is prohibited to perform by a user.
This replacement must be done by the service engineer authorized by Yokogawa Electric Corporation. CP471 can be combined with the style code S3 or later of ESB bus coupler module EC401. See GS 33J60E30-01EN.
*4: To meet the safety standards and EMC standards, the unit must be installed in a keyed metallic cabinet.
*5: These suffix codes are applicable to only AFV30D-S☐☐☐☐☐. They are no longer available.
*6: This suffix code is acceptable to only CENTUM VP R5.
*7: When used in combination with ACUKT☐, specify this option code "/HKU."
*8: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation for use in potentially explosive atmospheres.

■ APPLICABLE STANDARDS

Refer to the GS "Integrated Production Control System CENTUM VP System Overview (GS 33J01A10-01EN)."

■ ORDERING INFORMATION

Specify model and suffix codes.
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.2 ESB Bus Node Interface Unit (ANB10D)
GS 33J60F20-01EN

<<Contents>> <<Index>>

General Specifications

ANB10S, ANB10D
ESB Bus Node Units
(for N-IO/FIO)

CENTUM VP

GS 33J60F20-01EN

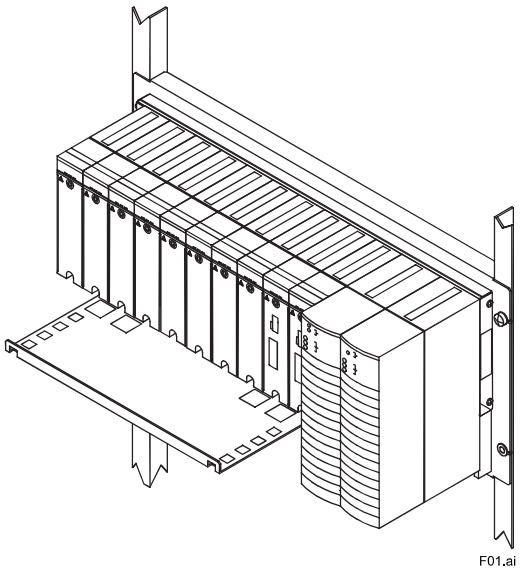
[Release 6]

■ GENERAL

The ESB Bus Node Unit has an interface function that communicates the analog I/O signals and contact I/O signals of a field with a Field Control Unit (FCU) via an ESB bus, as well as a function that supplies power to the I/O Modules.

This node units are connected to FCU via an ESB bus.

AFV30☐, AFV40☐, A2FV50☐, A2FV70☐, ACB51, ANB10☐, ANB11☐, and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN), "N-IO System Overview" (GS 33J62A10-01EN) and "Field Control Unit" (GS 33J64E10-01EN).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■ STANDARD SPECIFICATIONS

For the installation specifications and environmental conditions that are common to the systems, refer to the GS N-IO System Overview" (GS 33J62A10-01EN) and "FIO System Overview" (GS 33J60A10-01EN).

● No. of Node Units Connectable

Field Control Unit	Software licence	Total Number of ESB Bus Node Units (ANB10☐) and Optical ESB Bus Node Units (ANB11☐) Connected per FCU
A2FV50☐	Control Function for Field Control Station (VP6F1800)	Max. 8
A2FV70☐	Control Function for Field Control Station (VP6F1900)	Max. 8
AFV30☐ AFV40☐ (*1)	Control Function for Field Control Station (VP6F1700)	Max. 13

*1: Up to 11 node units per 1 cabinet can be installed in AFV40☐.

● ESB Bus Node Connection

When connecting an ESB Bus Node Unit to FCU, install ESB Bus Coupler Module (EC401 or EC402) to FCU (*1).

EC401 or EC402 must be installed in slot 7 and slot 8. To make single configuration, EC401 or EC402 must be installed in slot 7, and Slot 8 must be empty.

*1: A2FV50☐, A2FV70☐, AFV30☐, or AFV40☐.

● Power Supply

Specify with Suffix Codes
Voltage: 100-120 V AC, Frequency: 50/60 Hz
Voltage: 220-240 V AC, Frequency: 50/60 Hz
Voltage: 24 V DC

● Electric Power Consumption

100-120 V AC: 200 VA, 120 W
220-240 V AC: 230 VA, 120 W
24 V DC: 5.5 A

● Weight

Approx. 10 kg (incl. 8 I/O Modules)

YOKOGAWA

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● Mounting

19-inch Rack Mounting
Rack mount (M5 x 4 screws)
Insulation bash (accessory)

■ CONFIGURATION

● Module configuration

Power Supply Module (PW481 or PW482 or PW484): Two modules in case of a dual-redundant configuration.
Power supply to the I/O Modules, and supply power to the transmitters.
The power supply terminals use M4 screws.
ESB Bus Interface Slave Module (SB401): Two modules in case of a dual-redundant configuration.
I/O Modules (*1): Max. 8

*1: Non-standard components.
When ANB10☐ is used with A2FV50☐ or A2FV70☐, only Communication modules (ALR111, ALR121, ALE111, ALF111, ALP121, A2LP131, and A2LP141) can be mounted.

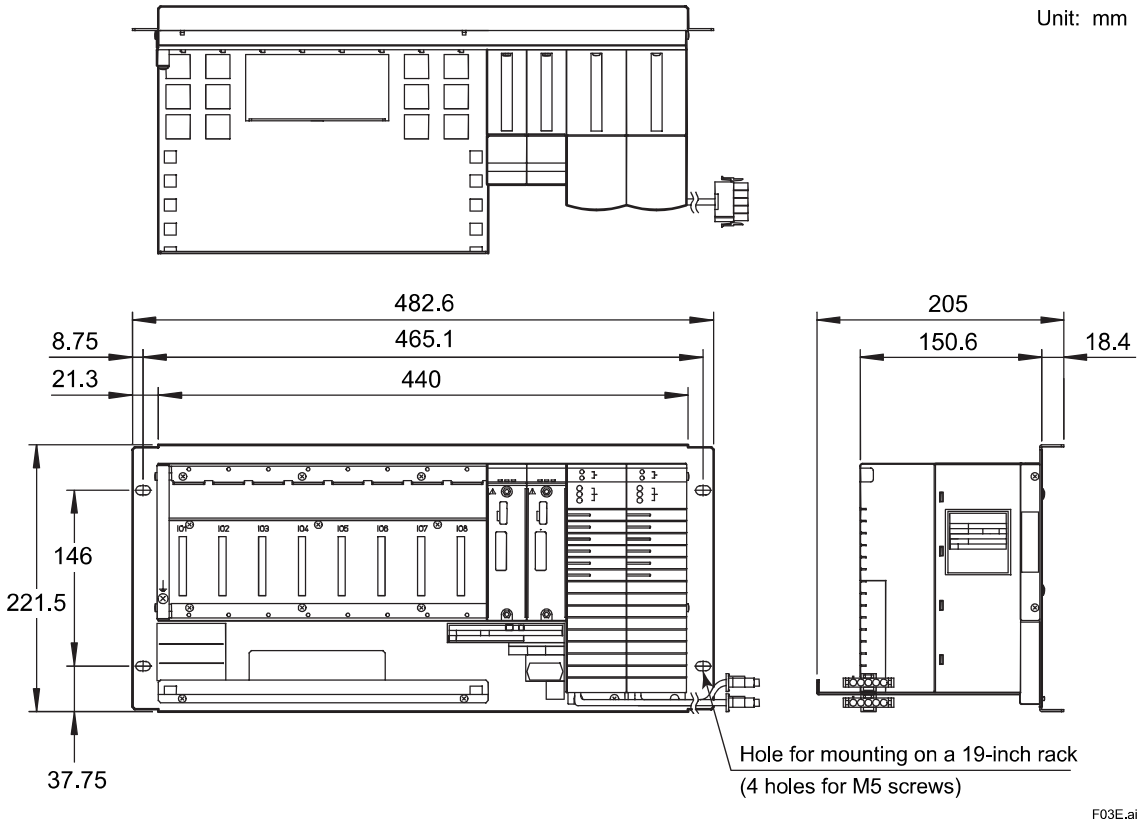
■ LIMITATIONS OF INSTALLATION AND NOTICES FOR INSTALLATION

For installing I/O modules in node unit, the quantity and allocation are limited. Also, when installing a node unit to the dedicated cabinet, there are limitations of installation under the ambient operating temperature conditions. When modules with built-in barriers are installed in any node unit, an insulating partition (Part No. T9083NA) must be installed.

For details, please refer to the GS “N-IO System Overview” (GS 33J62A10-01EN), “FIO System Overview” (GS 33J60A10-01EN), and “Installation Guidance” (TI 33J01J10-01EN).

■ EXTERNAL DIMENSIONS

Unit: mm



Note: The above drawings are for ANB10D.

Nominal tolerances :
Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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■ MODELS AND SUFFIX CODES

Node Unit for Single ESB Bus

		Description
Model	ANB10S	Node Unit for Single ESB Bus
Suffix Codes	-3	Single power supply
	-4	Dual-redundant power supply
	1	100 - 120 V AC power supply
	2	220 - 240 V AC power supply
	4	24 V DC power supply
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option, temperature (-20 ºC to 70 ºC) option, and no explosion protection (*1)
	7	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option, temperature (-20 ºC to 70 ºC) option, and explosion protection (*1)
	G	With ISA Standard G3 option and explosion protection
Option Codes	/CU1N	Connector Unit for ESB Bus [part No.: S9562FA]
	/CU1T	Connector Unit with Terminator for ESB Bus [part No.: S9564FA]
	/ATDOC	Explosion Protection Manual (*2)

Node Unit for Dual-Redundant ESB Bus

		Description
Model	ANB10D	Node Unit for Dual-Redundant ESB Bus
Suffix Codes	-4	Dual-redundant power supply
	1	100 - 120 V AC power supply
	2	220 - 240 V AC power supply
	4	24 V DC power supply
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option, temperature (-20 ºC to 70 ºC) option, and no explosion protection (*1)
	7	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option, temperature (-20 ºC to 70 ºC) option, and explosion protection (*1)
	G	With ISA Standard G3 option and explosion protection
Option Codes	/CU2N	Connector Unit for ESB Bus [part No.: S9562FA (2 pieces)]
	/CU2T	Connector Unit with Terminator for ESB Bus [part No.: S9564FA (2 pieces)]
	/ATDOC	Explosion Protection Manual (*2)

Note: The existing ANB10□-□□□/NDEL for CENTUM VP R5 or earlier can be used with CENTUM VP R6.01 or later.
*1: Only if ANB10□ is connected to the Optical ESB Bus Node Unit (ANB11□), "ISA Standard G3 option and temperature (-20 to 70 ºC) option" can be selected.
*2: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation for use in potentially explosive atmospheres.

Dummy Cover

		Description
Model	ADCV01	Dummy Cover (for I/O Module)
	ADCV02	Dummy Cover (for Power Supply Module)

Insulating Partition

		Description
Part No.	T9083NA	Insulating Partition

Note: When mounting an FIO module with built-in barrier to a node unit, place this part to the 8th slot.

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■ ACCESSORIES AND SPARE PARTS

Parts Names	Parts Numbers	Quantity	Remarks
Insulating bush	S9049PM	4	Accessory

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview (GS 33J01A10-01EN).”

■ ORDERING INFORMATION

Specify the model and suffix codes.
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.3 ESB Bus Coupler Module (EC401)
GS 33J60E50-01EN

<<Contents>> <<Index>>

General Specifications

EC401
ESB Bus Coupler Module
(for N-IO/FIO, 1-Port)

CENTUM VP

GS 33J60E50-01EN

[Release 6]

■ GENERAL

The ESB Bus Coupler Module is a communication module to connect the Field Control Unit and the Node Unit for ESB Bus via the ESB bus.

This module can be installed in the Field Control Unit for FIO (AFV30S, AFV30D, AFV40S, AFV40D, A2FV50S, A2FV50D, A2FV70S, A2FV70D).

By installing two modules in the Field Control Unit for FIO, dual-redundant ESB bus can be configured.

AFV30□, AFV40□, A2FV50□, A2FV70□, ACB51, ANB10□, ANB11□ and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN), "N-IO System Overview" (GS 33J62A10-01EN) and "Field Control Unit" (GS 33J64E10-01EN).

■ STANDARD SPECIFICATIONS

Function: ESB bus interface function
Number of connectable units: Max. 9 units (*1)
Transmission speed: 128 Mbps (I/O module data transmission)
Transmission distance: Max. 10 m
Current consumption: 0.5 A
Weight: Approx. 0.24 kg

*1: The number of ANB10S, ANB10D, ANT401, ANT411, and ANT421 which can be connected to EC401 is up to 9.

If ESB bus is non- redundant, the ESB Bus Coupler Module needs to be installed in the 7th slot of AFV30S, AFV30D, AFV40S, AFV40D, A2FV50S, A2FV50D, A2FV70S, A2FV70D, and slot 8th must be covered by a dummy module.

And when ESB bus is dual-redundant, the modules need to be installed in both the 7th and 8th slots.

Only the style code S3 or later of EC401 can be combined with the processor module CP471.

■ REQUIREMENTS FOR USING SEM (Sequence of Events Manager)

To use SEM for Vnet/IP, EC401 should be style 2 or later. (Style No. is indicated on the component tag)

For details, refer to the GS "SEM Sequence of Events Manager" (GS 33J30D10-01EN).

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2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan

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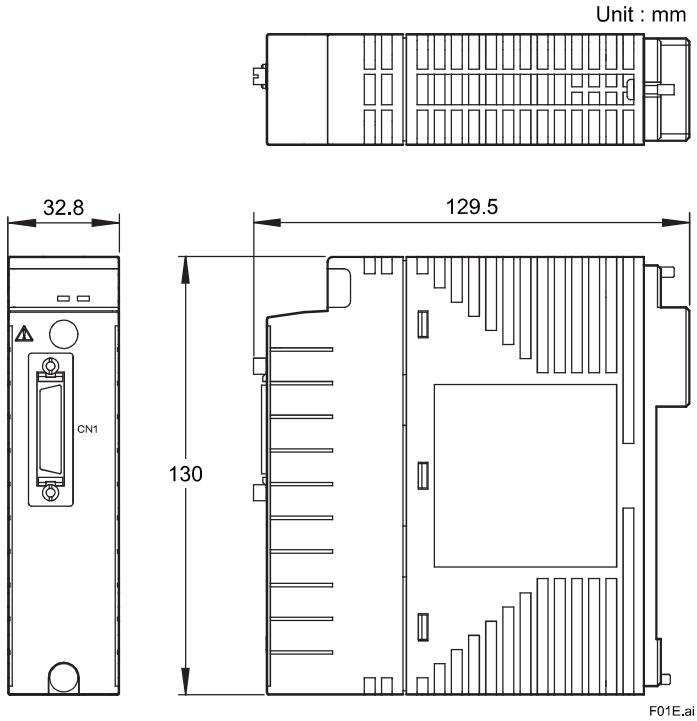
6th Edition Jan. 22, 2021 (YK)

■ EXTERNAL DIMENSION

Unit : mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

■ MODEL AND SUFFIX CODES

ESB Bus Coupler Module (for N-IO/FIO, 1-Port)

		Description
Model	EC401	ESB Bus Coupler Module (for N-IO/FIO, 1-Port)
Suffix Codes	-5	Standard type with no explosion protection
	-E	Standard type with explosion protection
	0	Basic type
	1	With ISA Standard G3 option

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify the model and suffix code(s).
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.4 Enhanced Serial Bus Cable (YCB301) , Cable (KS1-10/HF) for Analog Module, & Cable (AKB331-M010/HF) for Digital Module

GS 33J60J10-01EN

<<Contents>> <<Index>>

General Specifications

Cables (for FIO)

CENTUM VP

GS 33J60J10-01EN

[Release 6]

■ GENERAL

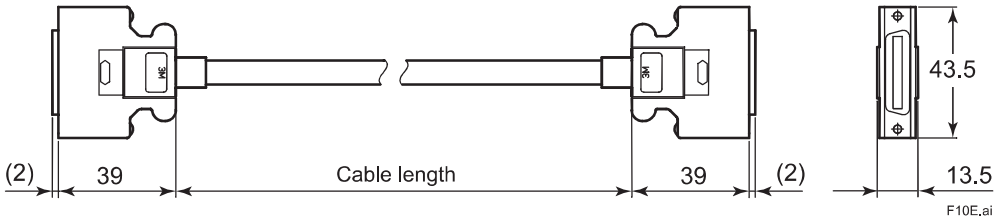
This General Specification (GS) covers the specifications of cables which are network cables (ESB bus and HK bus), signal cables and communication cables of the CENTUM VP.

■ EXTERNAL DIMENSIONS, MODELS AND SUFFIX CODES

● Bus Cables and Terminators

YCB301 ESB Bus Cable (36-36 pins)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	YCB301	ESB Bus Cable (36-36 pins) (*1)
Suffix Codes	-C020	Cable length 20 cm
	-C100	Cable length 1 m
	-C200	Cable length 2 m
	-C300	Cable length 3 m
	-C400	Cable length 4 m
	-C600	Cable length 6 m
	-C800	Cable length 8 m

*1 : YCB301-C020 (cable length 20cm) is used when connecting vertically adjacent ESB bus node units.
Or use it to connect multiple adjacent bus modules in an FCU, FIO node unit, or Optical ESB Bus Repeater Unit.

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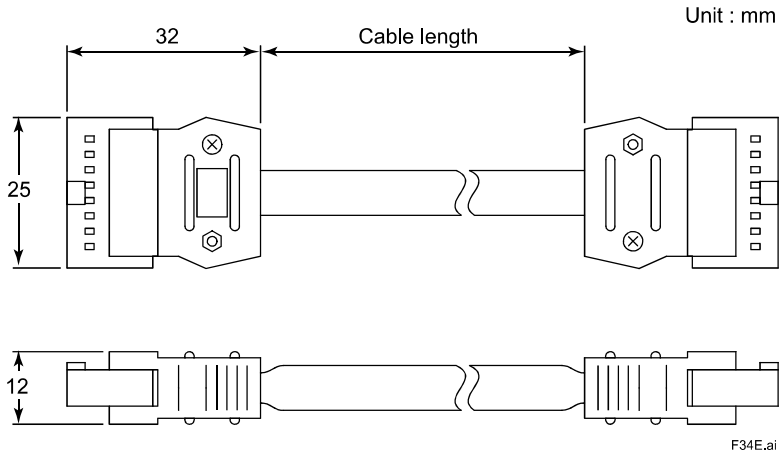
AKBHKU HK Bus Cable



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKBHKU	HK Bus Cable
Suffix Codes	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length 10 m
	-20	Cable length 20 m
	-30	Cable length 30 m
	-40	Cable length 40 m
	-50	Cable length 50 m

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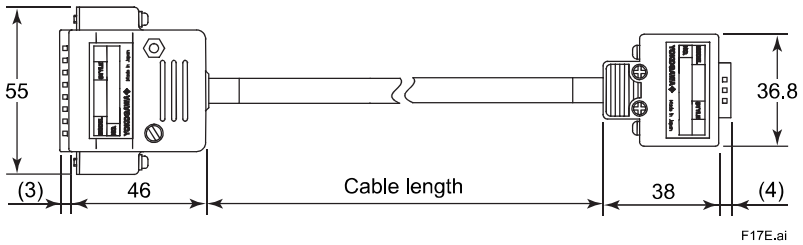
● Cables

AKB135 RS-232C Modem Cable for Start-Stop Synchronous Communication
AKB136 RS-232C Null Modem Cable for Start-Stop Synchronous Communication

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB135	RS-232C Modem Cable for Start-Stop Synchronous Communication (D-sub 9 - D-sub 25 male pins)
Suffix Codes	-M002	Cable length 2 m
	-M005	Cable length 5 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m

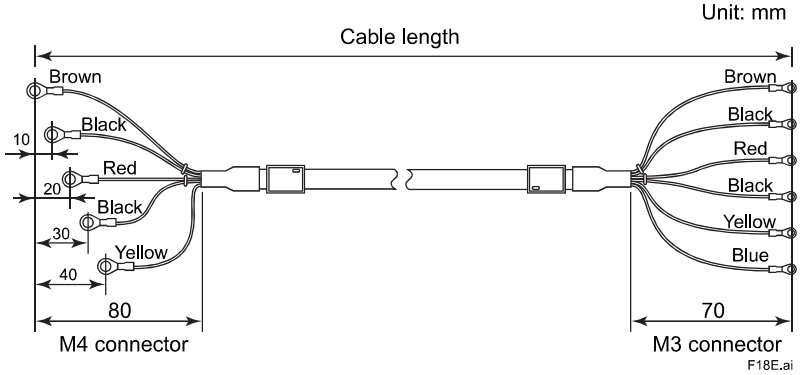
Note: Use under the temperature environment (0 to 50 ˚C).

		Description
Model	AKB136	RS-232C Null Modem Cable for Start-Stop Synchronous Communication (D-sub 9 - D-sub 25 male pins)
Suffix Codes	-M002	Cable length 2 m
	-M005	Cable length 5 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m

Note: Use under the temperature environment (0 to 50 ˚C).

AKB161 RS-422/RS-485 Cable (Crimp terminal M4-M3)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB161	RS-422/RS-485 Cable (Crimp terminal M4-M3)
Suffix Code	-M□□□	Enter Cable length in □□□ every 5 m. Max. cable length 100 m (Suffix code: -M100).

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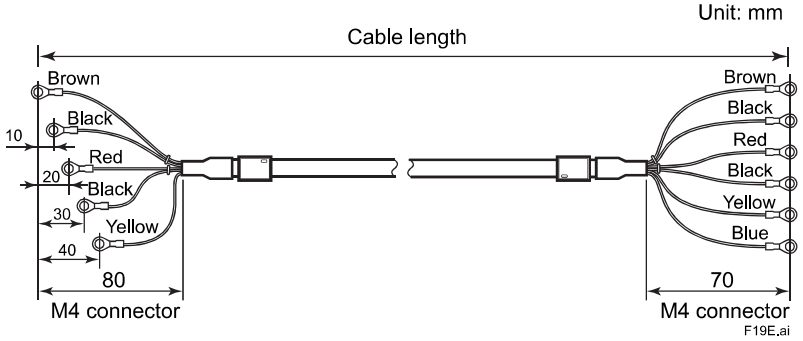
AKB162 RS-422/RS-485 Cable (Crimp terminal M4-M4)

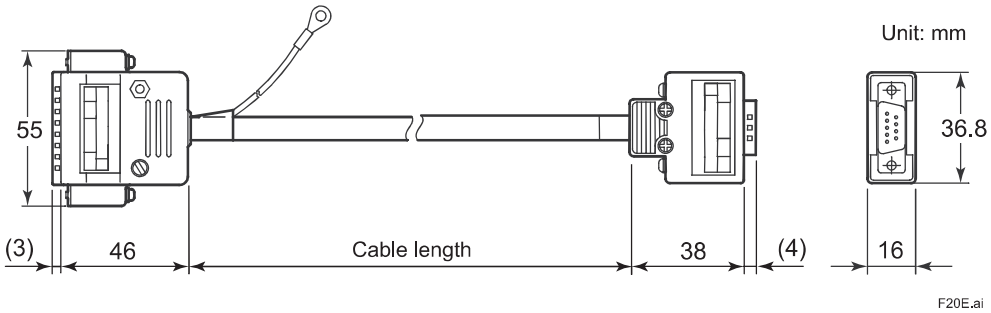


Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB162	RS-422/RS-485 Cable (Crimp terminal M4-M4)
Suffix Code	-M□□□	Enter Cable length in □□□ every 5 m. Max. cable length 100 m (Suffix code: -M100).

AKB131 For Connecting RS Circuit Isolated Devices RS-232C Modem Cable for Start-Stop Synchronous Communication

AKB132 For Connecting RS Circuit Isolated Devices RS-232C Null Modem Cable for Start-Stop Synchronous Communication



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB131	For Connecting RS Circuit Isolated Devices RS-232C Modem Cable for Start-Stop Synchronous Communication (D-sub 9 - D-sub 25 male pins)
Suffix Codes	-M002	Cable length 2 m
	-M005	Cable length 5 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m

Note: Use under the temperature environment (0 to 50 ˚C).

		Description
Model	AKB132	For Connecting RS Circuit Isolated Devices RS-232C Null Modem Cable for Start-Stop Synchronous Communication (D-sub 9 - D-sub 25 male pins)
Suffix Codes	-M002	Cable length 2 m
	-M005	Cable length 5 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m

Note: Use under the temperature environment (0 to 50 ˚C).

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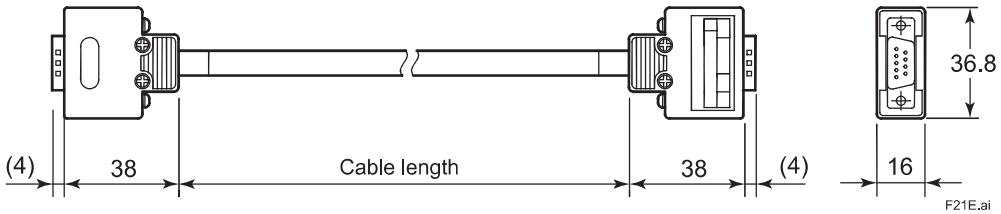
AKB133, AKB134 RS-232C Null Modem Cable for Start-Stop Synchronous Communication

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB133	RS-232C Null Modem Cable for Start-Stop Synchronous Communication (D-sub 9 - D-sub 9 male pins)
Suffix Codes	-M002	Cable length 2 m
	-M005	Cable length 5 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m

Note: Use under the temperature environment (0 to 50 ˚C).

		Description
Model	AKB134	RS-232C Null Modem Cable for Start-Stop Synchronous Communication (D-sub 9 - D-sub 9 female pins)
Suffix Codes	-M002	Cable length 2 m
	-M005	Cable length 5 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m

Note: Use under the temperature environment (0 to 50 ˚C).

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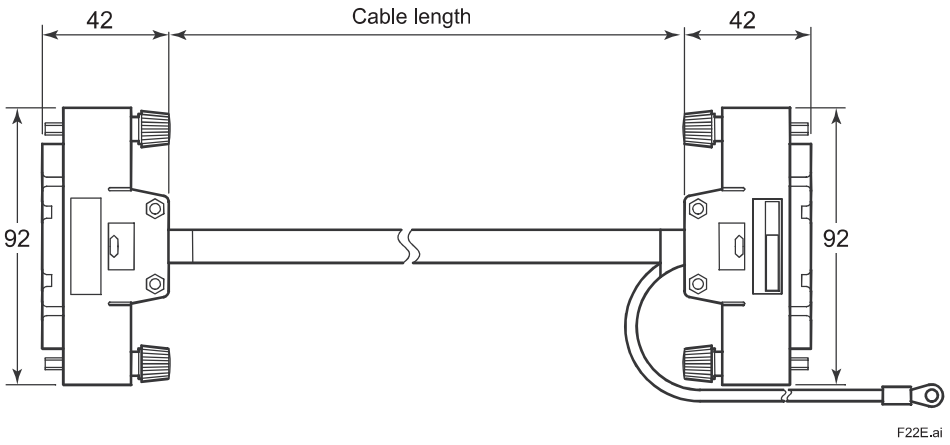
AKB331, AKB335 Signal Cable (50-50 pins)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB331	Signal Cable (50-50 pins)
Suffix Code	-M001	Cable length 1 m
	-M002	Cable length 2 m
	-M003	Cable length 3 m
	-M005	Cable length 5 m
	-M007	Cable length 7 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m
	-M020	Cable length 20 m
	-M025	Cable length 25 m
	-M030	Cable length 30 m
	-M035	Cable length 35 m
	-M040	Cable length 40 m
	-M045	Cable length 45 m
	-M050	Cable length 50 m

Note: Use under the temperature environment (-20 to 70 ˚C).

		Description
Model	AKB335	Signal Cable (50-50 pins)
Suffix Code	-M002	Cable length 2 m
	-M005	Cable length 5 m

Note: Use under the temperature environment (-20 to 70 ˚C).

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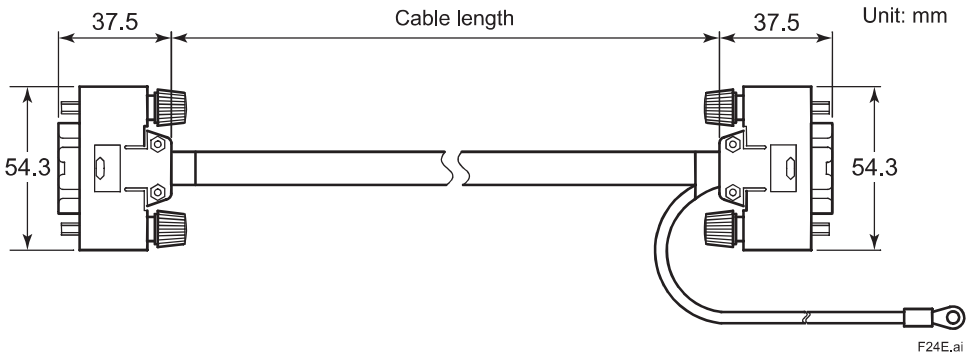
AKB336 Signal Cable (20-20 pins)



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB336	Signal Cable (20-20 pins)
Suffix Code	-M001	Cable length 1 m
	-M002	Cable length 2 m
	-M003	Cable length 3 m
	-M005	Cable length 5 m
	-M007	Cable length 7 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m
	-M020	Cable length 20 m
	-M025	Cable length 25 m
	-M030	Cable length 30 m

Note: Use under the temperature environment (-20 to 70 ˚C).

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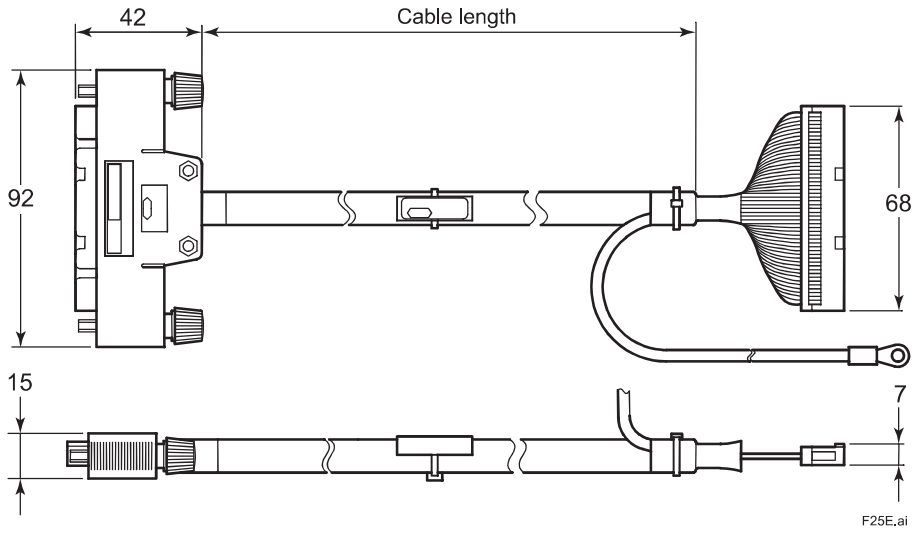
AKB337 Signal Cable (50-50 pins)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB337	Signal Cable (50-50 pins)
Suffix Code	-M001	Cable length 1 m
	-M002	Cable length 2 m
	-M003	Cable length 3 m
	-M005	Cable length 5 m
	-M007	Cable length 7 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m
	-M020	Cable length 20 m
	-M025	Cable length 25 m
	-M030	Cable length 30 m
	-M035	Cable length 35 m
	-M040	Cable length 40 m
	-M045	Cable length 45 m
	-M050	Cable length 50 m

Note: Use under the temperature environment (-20 to 70 ˚C).

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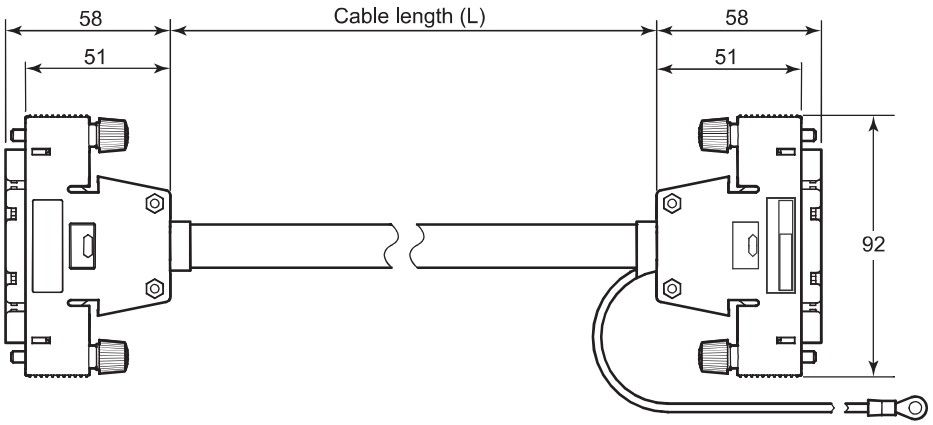
AKB651 Signal Cable (50-50 pins)

Unit: mm



AKB651: L = 1 m, 2 m, 3 m, 5 m, 7 m or 10 m, up to 30 m in 5 m increments F09E.ai

Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	AKB651	Signal Cable (50-50 pins)
Suffix Code	-M001	Cable length 1 m
	-M002	Cable length 2 m
	-M003	Cable length 3 m
	-M005	Cable length 5 m
	-M007	Cable length 7 m
	-M010	Cable length 10 m
	-M015	Cable length 15 m
	-M020	Cable length 20 m
	-M025	Cable length 25 m
	-M030	Cable length 30 m

Note: Use under the temperature environment (-20 to 70 ˚C).

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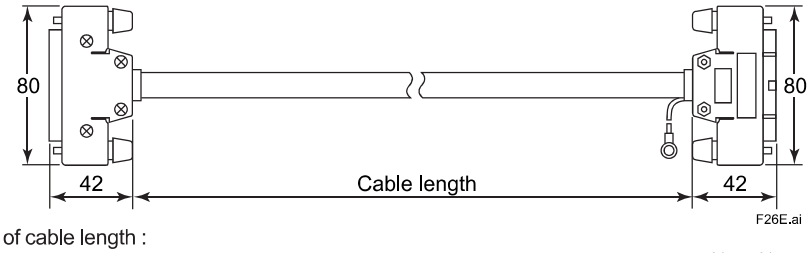
KS1, KS2 Signal Cable (40-40 pins)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	KS1	Signal Cable (40-40 pins)
Suffix Code	-01	Cable length 1 m
	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length up to 10 m
	-15	Cable length 15 m
	-20	Cable length 20 m
	-25	Cable length 25 m
	-30	Cable length 30 m
	-35	Cable length 35 m
	-40	Cable length 40 m
	-45	Cable length 45 m
	-50	Cable length 50 m
Style Code	*B	Style B

Note: Use under the temperature environment (-20 to 70 ˚C). “Cable length up to 10 m” means the customer can specify the cable length but the cable length cannot exceed 10 meters.

		Description
Model	KS2	Signal Cable (40-40 pins)
Suffix Code	-01	Cable length 1 m
	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length up to 10 m
	-15	Cable length 15 m
	-20	Cable length 20 m
	-25	Cable length 25 m
	-30	Cable length 30 m
	-35	Cable length 35 m
	-40	Cable length 40 m
	-45	Cable length 45 m
	-50	Cable length 50 m
Style Code	*B	Style B

Note: Use under the temperature environment (-20 to 70 ˚C). “Cable length up to 10 m” means the customer can specify the cable length but the cable length cannot exceed 10 meters.

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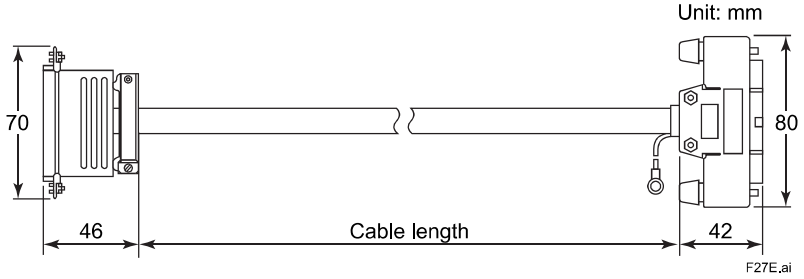
KS3 Signal Cable (40-37 pins)



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	KS3	Signal Cable (40-37 pins)
Suffix Code	-01	Cable length 1 m
	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length up to 10 m
	-15	Cable length 15 m
	-20	Cable length 20 m
	-25	Cable length 25 m
	-30	Cable length 30 m
	-35	Cable length 35 m
	-40	Cable length 40 m
	-45	Cable length 45 m
	-50	Cable length 50 m
Style Code	*A	Style A

Note: Use under the temperature environment (-20 to 60 ˚C).
“Cable length up to 10 m” means the customer can specify the cable length but the cable length cannot exceed 10 meters.

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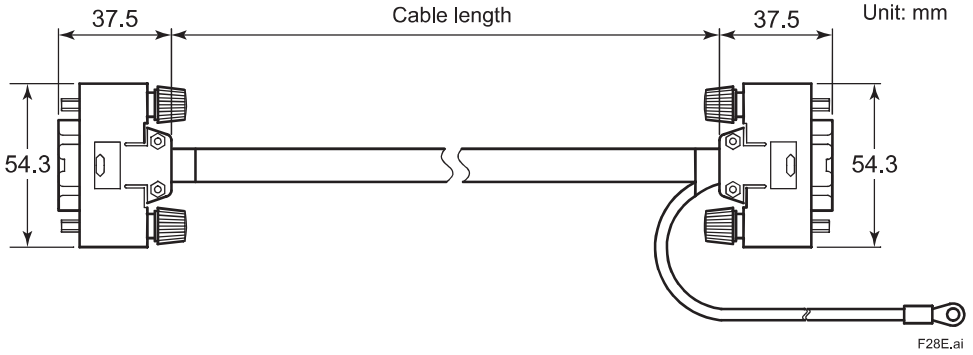
KS4 Signal Cable (20-20 pins)



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	KS4	Signal Cable (20-20 pins)
Suffix Code	-01	Cable length 1 m
	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length up to 10 m
	-15	Cable length 15 m
	-20	Cable length 20 m
	-25	Cable length 25 m
	-30	Cable length 30 m
	-35	Cable length 35 m
	-40	Cable length 40 m
	-45	Cable length 45 m
	-50	Cable length 50 m
Style Code	*A	Style A

Note: “Cable length up to 10 m” means the customer can specify the cable length but the cable length cannot exceed 10 meters.

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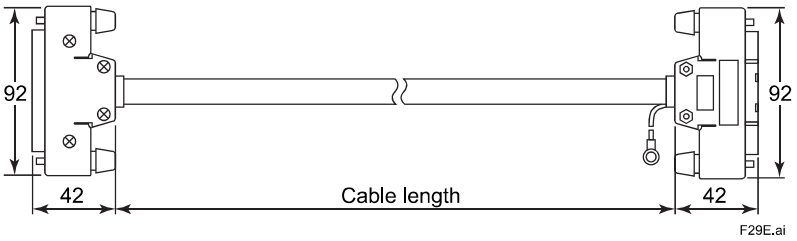
KS8, KS9 Signal Cable (50-50 pins)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	KS8	Signal Cable (50-50 pins)
Suffix Code	-02	Cable length 2 m
	-05	Cable length 5 m
Style Code	*B	Style B

Note: Use under the temperature environment (-20 to 70 ˚C).

		Description
Model	KS9	Signal Cable (50-50 pins)
Suffix Code	-01	Cable length 1 m
	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length up to 10 m
	-15	Cable length 15 m
	-20	Cable length 20 m
	-25	Cable length 25 m
	-30	Cable length 30 m
	-35	Cable length 35 m
	-40	Cable length 40 m
	-45	Cable length 45 m
	-50	Cable length 50 m
Style Code	*B	Style B

Note: Use under the temperature environment (-20 to 70 ˚C).
“Cable length up to 10 m” means the customer can specify the cable length but the cable length cannot exceed 10 meters.

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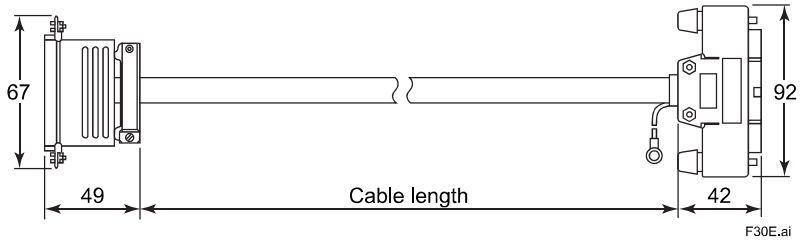
KS10 Signal Cable (50-50 pins)

Unit: mm



Nominal tolerances of cable length :
When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

		Description
Model	KS10	Signal Cable (50-50 pins)
Suffix Code	-01	Cable length 1 m
	-02	Cable length 2 m
	-03	Cable length 3 m
	-05	Cable length 5 m
	-07	Cable length 7 m
	-10	Cable length up to 10 m
	-15	Cable length 15 m
	-20	Cable length 20 m
	-25	Cable length 25 m
	-30	Cable length 30 m
	-35	Cable length 35 m
	-40	Cable length 40 m
	-45	Cable length 45 m
	-50	Cable length 50 m
Style Code	*A	Style A

Note: Use under the temperature environment (-20 to 60 ˚C).
“Cable length up to 10 m” means the customer can specify the cable length but the cable length cannot exceed 10 meters.

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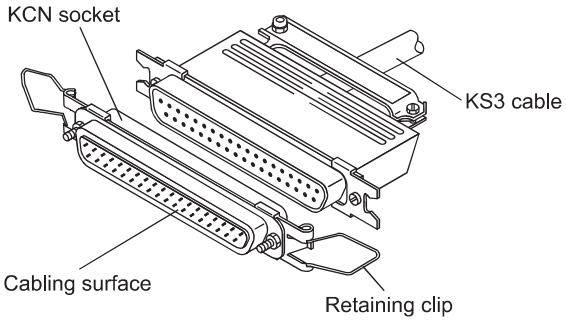
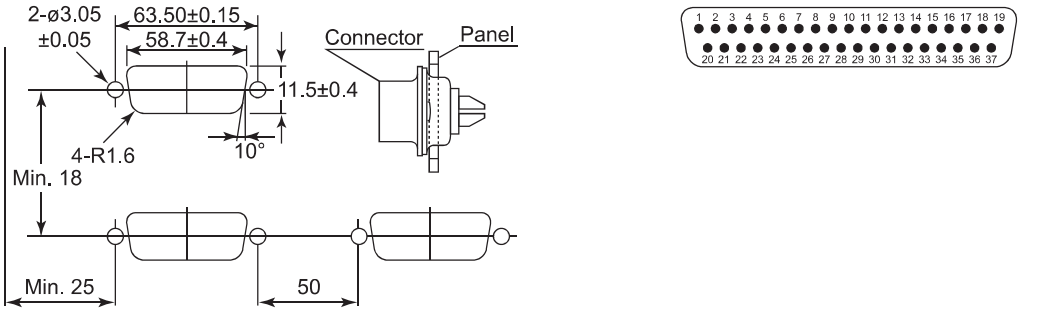
KCN Socket (Used with KS3 Cable)



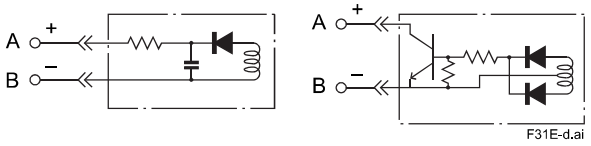
• Panel Cutout • Side View • Pin Number Allocation (Connection Surface)

Unit: mm



• Specifications
Number of Signals: 16
Terminal Type: Solder terminal
Wiring: AWG #20, #22, #24 (cross sectional areas 0.2 to 0.5 mm^2)
Terminal Block Connection: TE16
Cable Used to Connect I/O Cards: KS3 cable
Output Specifications:
Voltage: Max. 60 V DC
Current: Max. 0.2 A

Input terminals: Output terminals:



For inductive load, connect a protection circuit (RC circuit for AC, diode for DC) for noise in parallel with loads.

		Description
Model	KCN	Socket (Used with KS3 Cable)
Style Code	*A	Style A

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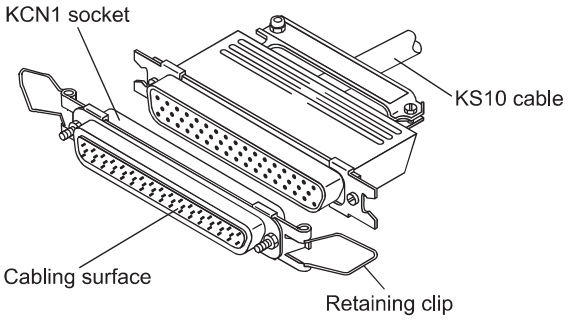
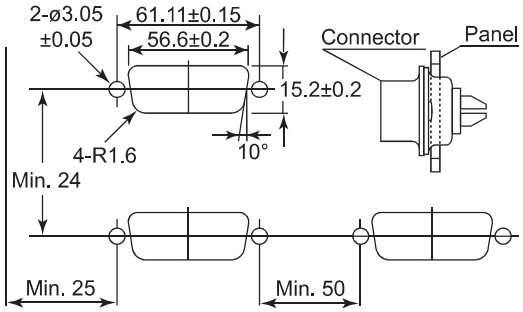
KCN1 Socket (Used with KS10 Cable)



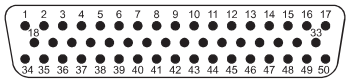
• Panel Cutout



• Side View

Unit: mm

• Pin Number Allocation (Connection Surface)

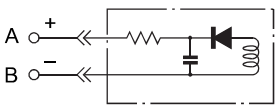


F32E.ai

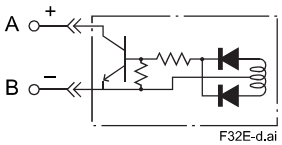
• Specifications

Number of Signals: 32
Terminal Type: Solder terminal
Wiring: AWG #20, #22, #24 (cross sectional areas 0.2 to 0.5 mm^2)
Terminal Block Connection: TE32
Cable Used to Connect I/O Cards: KS10 cable
Output Specifications:
Voltage: Max. 60 V DC
Current: Max. 0.2 A

Input terminals:



Output terminals:



F32E-d.ai

For inductive load, connect a protection circuit (RC circuit for AC, diode for DC) for noise in parallel with loads.

		Description
Model	KCN1	Socket (Used with KS10 Cable)
Style Code	*A	Style A

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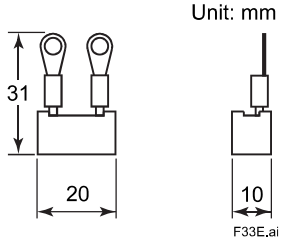
YCB138 Fieldbus Terminator



		Description
Model	YCB138	Fieldbus Terminator

■ MINIMUM BENDING RADIUS OF CABLE

Item	ESB bus	HK bus	SIGNAL CABLE
Minimum bending radius (mm)	80	50	(*1)

*1: Refer to the Installation Guidance (TI 33J01J10-01EN) for details.

■ ORDERING INFORMATION

Specify models, suffix codes, option codes, and style codes when ordering.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.5 Ethernet Communication Module (ALE111)
GS 33J60G11-01EN

<<Contents>> <<Index>>

General Specifications

ALE111
Ethernet Communication Module
(for N-IO/FIO)

CENTUM VP

GS 33J60G11-01EN

[Release 6]

■ GENERAL

This document describes about Model ALE111 Ethernet Communication Module (for N-IO/FIO) that a field control station (FCS) uses to perform Ethernet communication with subsystems such as FA-M3. This Ethernet communication module can be mounted on field control units (AFV30☐, AFV40☐, A2FV50☐, and A2FV70☐), ESB bus node unit (ANB10☐) and optical ESB bus node unit (ANB11☐).

AFV30☐, AFV40☐, A2FV50☐, A2FV70☐, ACB51, ANB10☐, ANB11☐, and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN), "N-IO System Overview" (GS 33J62A10-01EN) and "Field Control Unit" (GS 33J64E10-01EN).

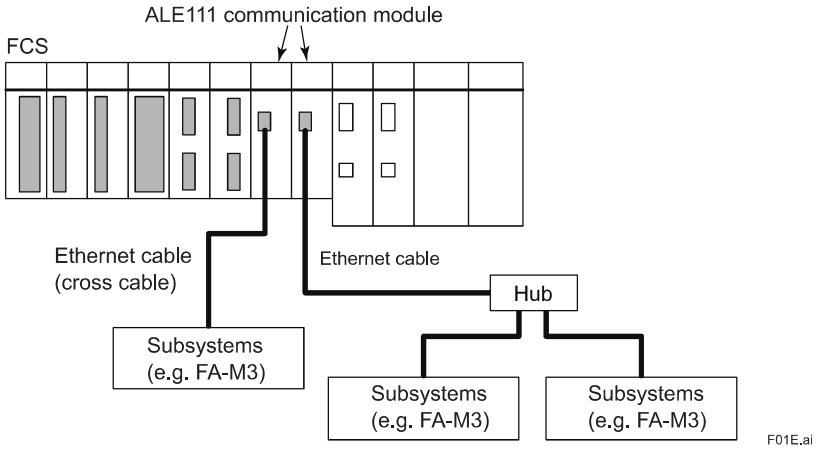

Figure A Configuration Sample of Ethernet Communication Module

■ STANDARD SPECIFICATIONS

The Ethernet communication module (ALE111) hardware specifications are as shown below.

Table Ethernet communication module hardware specifications

Item	Specifications
Physical layer interface	IEEE802.3 10BASE-T
Connection method	Point-to-point
Connector	RJ-45
Transmission method	Half-duplex
Transmission speed	10 Mbps
Transmission route	100 ohm twisted-pair cable (not shielded)
Transmission distance	1 segment, 100 m (in between FCS and subsystems, or HUB and subsystems)
Installation method	Mounted on ANB10☐, ANB11☐, AFV30☐, AFV40☐, A2FV50☐, or A2FV70☐
No. of ports	One port
Media access control	CSMA/CD
Communication functions	Communications with FA-M3, Modbus, MELSEC, YFGW, DARWIN/DAQSTATION/SMARTDAC+, and PLC-5/SLC500
Current consumption	0.5 A
Weight	Approx. 0.30 kg

An FCS collects data from subsystems or sets data with control calculations to subsystems using the builder functions by way of Ethernet communication modules. Only one communication function is established for each communication module, and multiple communication functions cannot be performed.

YOKOGAWA

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■ OPERATING ENVIRONMENT

Hardware Requirements

The Ethernet communication module runs on the following FCS.

AFV30S, AFV30D, AFV40S, AFV40D, A2FV50S, A2FV50D, A2FV70S, S2FV70D

Software Requirements

The Ethernet communication module runs on the control functions of the following FCS.

VP6F1700 Control Function for Field Control Station:	for AFV30☐/AFV40☐
VP6F1800 Control Function for Field Control Station:	for A2FV50☐
VP6F1900 Control Function for Field Control Station:	for A2FV70☐
VP6F8100 Compressor Control for FCS:	for A2FV50☐ (*1)

*1: The model for ordering is A2FVX1.

Engineering Requirements

Works on VP6E5100 Standard Builder Function.

■ INSTALLATION ENVIRONMENT

VF6F1700 Control Function for Field Control Station (for AFV30☐/AFV40☐)

No. of ALR111, ALR121, ALE111, ALP111, ALP121, A2LP131, A2LP141, AGS813, and AGP813 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation) (*1)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1) (*2)
I/O data capacity for communication	1000 word/ALE111
No. of communication definition	128 definitions/ALE111
No. of communication functions	Max. 8 types/FCS (*1) (*3)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication function)

*1: ALP111 and ALP121 cannot be mounted on the same FCS together.
*2: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP111, ALP121, A2LP131, A2LP141, AGS813, and AGP813 modules.
*3: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP111, ALP121, A2LP131, and A2LP141. Note that multiple communication functions cannot be performed on a single ALE111 module.

VP6F1800 Control Function for Field Control Station (for A2FV50☐)

No. of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1)
I/O data capacity for communication	1000 word/ALE111
No. of communication definition	128 definitions/ALE111
No. of communication functions	Max. 8 types/FCS (*2)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication function)

*1: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP121, A2LP131, and A2LP141 modules.
*2: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141. Note that multiple communication functions cannot be performed on a single ALE111 module.

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VP6F1900 Control Function for Field Control Station (for A2FV70☐)

No. of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1)
I/O data capacity for communication	1000 word/ALE111
No. of communication definition	128 definitions/ALE111
No. of communication functions	Max. 8 types/FCS (*2)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication function)

*1: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP121, A2LP131, and A2LP141 modules.
*2: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141. Note that multiple communication functions cannot be performed on a single ALE111 module.

VP6F8100 Compressor Control for FCS (forA2FV50☐) (*1)

No. of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation)
No. of ALF111 modeles	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max 64 modules/FCS (*2)
I/O data capacity for communication	1000 words/ALE111
No. of communication definitions	128 definitions/ALE111
No. of communication functions	Max. 8 types/FCS (*3)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication functions)

*1: The model for ordering is A2FVX1.
*2: This is sum of ALR111, ALR121, ALE111, ALF111, ALP121,A2LP131, A2LP141, AGS813, and AGP813 modules.
*3: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141. Note that multiple communication functions cannot be performed on a single ALE111 module.

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■ SUBSYSTEM COMMUNICATIONS

The Ethernet communication module communicates with subsystems at the specified intervals and stores the subsystem data in the communication modules' I/O image. FCS accesses the communication module asynchronously from them, and refers to or sets the I/O image. This enables FCS to use the subsystem data through the I/O terminals of the function block in the same way as the general analog and digital I/O signals.

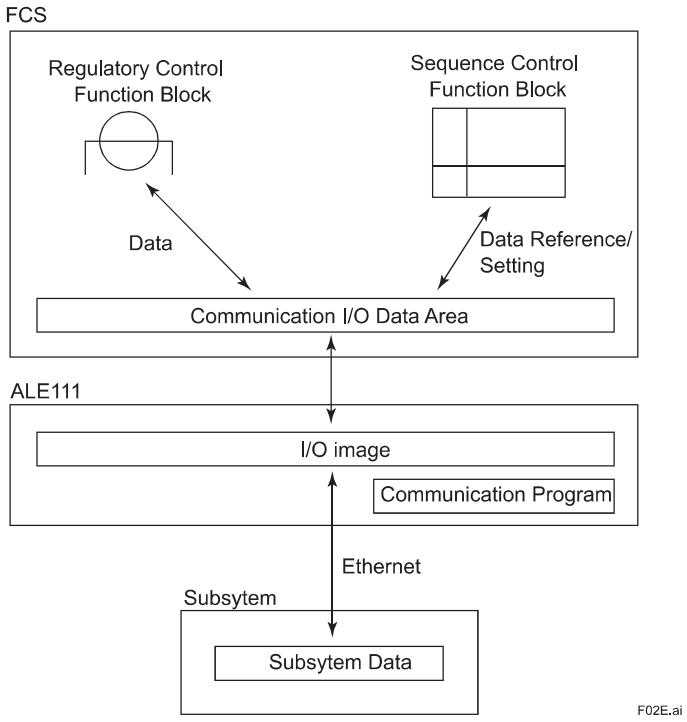

Figure Flow of Data in a Subsystem

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■ COMMUNICATION FUNCTIONS

● FA-M3 Communication

Connected device :FA-M3 Ethernet interface module: F3LE01-5T, F3LE01-0T, F3LE11-0T, F3LE12-0T, F3LE01-1T, F3LE11-1T, F3LE12-1T
Sequence CPU Module (*1): F3SP66, F3SP67, F3SP71, F3SP76
Connection method : Ethernet connection via a hub. Or, with a 10BASE-T connection, a crossover cable can also be used for a peer-to-peer connection without a hub.
Applicable device : FA-M3 CPU module: F3SP21, F3SP25, F3SP35, F3SP28, F3SP38, F3SP53, F3SP58
FA-M3 CPU module (with network functions): F3SP66, F3SP67, F3SP71, F3SP76
No. of subsystem stations: Max. 30 stations/ALE111
Communication protocol: TCP/IP

*1: CENTUM VP Release 5.03 or later version supports these devices.

Table List of Applicable Devices

Device type	Device name	Communication capacity (per communication)	Read	Write
Bit device	Input relay	256 words (4096 points) (*1) (*3)	Y	Y
	Output relay		Y	Y
	Internal relay		Y	Y
	Shared relay		Y	Y
	Link relay		Y	Y
	Special relay		Y	Y
	Time up relay		Y	Y
	Count-up relay		Y	Y
Word device	Decrementing timer current value	256 words (*2) (*3)	Y	Y
	Incrementing timer current value		Y	Y
	Timer set value		Y	Y
	Decrementing counter current value		Y	Y
	Incrementing timer current value		Y	Y
	Counter set value		Y	Y
	Data register		Y	Y
	Link register		Y	Y
	Shared register		Y	Y
	File register		Y	Y
	Index register		Y	Y
	Special register		Y	Y
	Cash register (*4)		N	N

Y: Applicable
N: Not applicable
*1: Communication capacity is 16 words (256 points) for FA-M3 CPU F3SP21, F3SP25, and F3SP35.
*2: Communication capacity is 64 words for FA-M3 CPU F3SP21, F3SP25, and F3SP35.
*3: Due to the limitation of FA-M3 F3LE01-5T Ethernet interface module, an attempt to write words exceeding the 249 word will cause an error.
*4: This device is for F3SP71 and F3SP76.

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● Modbus Communication

Connected device:
FCN: NFCP100
FCJ: NFJT100
GC1000 Mark II, GC8000 (*1)
FA-M3: F3SP71-4N, F3SP76-7N
Quantum: 140NOE77100
Premium: TSXETY410

Connection method:
Ethernet connection via a hub. Or, with a 10BASE-T connection, a crossover cable can also be used for a peer-to-peer connection without a hub.

Applicable devices:
By Yokogawa – STARDOM FCN and FCJ, GC1000 Mark II, GC8000, FA-M3
By Schneider Electric – Modicon Quantum, Premium

Transmission protocol:
Conforms to OPEN Modbus/TCP SPECIFICATION Release 1.0, 29 March 1999 Andy Swales Schneider Electric protocol

No. of subsystem stations: Max. 30 stations/ALE111

Communication protocol: TCP/IP

*1: CENTUM VP Release 5.03 or later version supports this device.

Table List of Applicable Devices

Device type	Device name	Communication capacity (per communication)	Read	Write
Bit device	Coil	Read: 125 words Write: 50 words	Y (*1)	Y
	Input Relay		Y	N
Word device	Input register	Read: 125 words Write: 100 words	Y	N
	Maintenance register		Y (*1)	Y
Other device	Specific coil (*2)	1 word	Y	N
	Communication status		Y	N

Y: Applicable N: Not applicable
*1: This device may not be able to read some function codes.
*2: This device is not supported by GC1000 Mark II, GC8000 and FA-M3.

● MELSEC Communication

Connected device:
- Q Series built-in Ethernet port CPU (10BASE-T, 100BASE-TX)
  Q03UDE, Q04UDEH, Q06UDEH, Q10UDEH, Q13UDEH, Q20UDEH, Q26UDEH, 50UDEH, Q100UDEH
- iQ-R Series built-in Ethernet port CPU (10BASE-T, 100BASE-TX)
  R08PCPU, R16PCPU, R32PCPU, R120PCPU
- Ethernet interface module
  A Series:
  AJ71E71-S3 (10BASE-2/5), A1SJ71E71-B2-S3 (10BASE-2), A1SJ71E71-B5-S3 (10BASE-5), AJ71E71N-B2 (10BASE-2), AJ71E71N-B5 (10BASE-5), AJ71E71N-T (10BASE-T), AJ71E71N3-T (10BASE-T), A1SJ71E71N-B2 (10BASE-2), A1SJ71E71N-B5 (10BASE-5), A1SJ71E71N-T (10BASE-T), A1SJ71E71N3-T (10BASE-T)
  QnA Series:
  AJ71QE71 (10BASE-2/5), AJ71QE71-B5 (10BASE-5), A1SJ71QE71-B2 (10BASE-2), A1SJ71QE71-B5 (10BASE-5), AJ71QE71N-B2 (10BASE-2) AJ71QE71N-B5 (10BASE-5), AJ71QE71N-T (10BASE-T), AJ71QE71N3-T (10BASE-T), A1SJ71QE71N-B2 (10BASE-2), A1SJ71QE71N-B5 (10BASE-5), A1SJ71QE71N-T (10BASE-T), A1SJ71QE71N3-T (10BASE-T)
  Q Series:
  QJ71E71 (10BASE-T/5), QJ71E71-B2 (10BASE-2), QJ71E71-B5 (10BASE-5), QJ71E71-100 (10BASE-T, 100BASE-TX)
  iQ-R Series:
  RJ71EN71 (10BASE-T, 100BASE-TX, 1000BASE-T)

Connection method: Ethernet connection via a hub. The communication via MELSECNET is not accessible.

Applicable devices: Q series built-in Ethernet port CPU and iQ-R series built-in Ethernet port CPU and the A, QnA, Q series, and iQ-R series that can be used with the above Ethernet interface modules. (*1)

Transmission protocol:
A series: A-compatible 1E frame
QnA, Q series (except Ethernet port of the built-in Ethernet port CPU):
QnA-compatible 3E frame, A-compatible 1E frame (*2)
Q series (Ethernet port of the built-in Ethernet port CPU): QnA-compatible 3E frame
iQ-R series: QnA-compatible 3E frame

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No. of subsystem stations: Max. 30 stations/ALE111
Communication protocol: TCP/IP

*1: For the communication using A series and QnA series Ethernet interface module, a ladder program is required for MELSEC side for Ethernet interface module parameters setting, etc. For details, please refer to the MELSEC's instruction manual(s).
*2: Both the A-compatible 1E frame and the QnA-compatible 3E frame can be used at the same time by each communication receiver.

Table List of Applicable Devices

Device type	Device name	Communication capacity (per communication)	Read	Write
Bit device	Input/output relay	For A-compatible 1E frame: 128 words (2048 points) For QnA-compatible 3E frame: 960 words (15360 points) (*2)	Y	Y
	Link input (*1)		Y	Y
	Link output (*1)		Y	Y
	Internal relay		Y	Y
	Latch relay (*1)		Y	Y
	Step relay (*1)		Y	Y
	Edge relay		Y	Y
	Annunciator		Y	Y
	Link relay		Y	Y
	Special link relay		Y	Y
	Special relay		Y	Y
	Timer (contact, coil)		Y	Y
	Integration timer (contact, coil)		Y	Y
	Counter (contact, coil)		Y	Y
Word device	Data register	For A-compatible 1E frame: 256 words For QnA-compatible 3E frame: 960 words (*2)	Y	Y
	Link register		Y	Y
	Timer (current value)		Y	Y
	Integrating timer (current value) (*1)		Y	Y
	Counter (current value)		Y	Y
	File register (*3)		Y	Y (*4)
	Special register		Y	Y
	Special link register (*1)		Y	Y
	Index register (*1)		Y	Y

Y: Applicable
N: Not applicable
*1: It is possible to communicate by using QnA-compatible 3E frame.
*2: As for QnA-compatible 3E frame, the maximum data capacity per communication changes by the combination of the MELSEC CPU and the interface modules. Please confirm MELSEC specifications for more details.
*3: As for Q Series, QnA Series CPU, and iQ-R series it is possible to communicate only with the QnA-compatible 3E frame.
*4: As for Q Series, QnA Series CPU, or iQ-R series it is not possible to write to the EEPROM file register.

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● YFGW Communication

Connected device: Field wireless gateway
YFGW410 Field wireless management station
YFGW710 Field wireless integrated gateway
Max. No. of connected device:
4 units of Field wireless gateway per ALE111 (*1) (*2)
Max. No. of connected ALE111:
4 modules (8 modules for dual-redundant configuration) per Field wireless gateway (*1) (*2)
No. of maximum field wireless devices to be connected: 128 units/ALE111
2000 units/FCS (For FCS models AFV30□/AFV40□) (*3)
1000 units/FCS (For all the FCS models except AFV30□/AFV40□) (*3)
Transmission protocol: Modbus/TCP
Communication Capacity: Max. read 125 words/communication, Max. write 123 words/communication
No. of subsystem stations:
Max. 128 stations/ALE111
(For CENTUM VP R5.02 or later with FCS's main memory 32 Mbyte and more)
Max. 30 stations/ALE111
(For CENTUM VP R5.02 or later with FCS's main memory 16 Mbyte, and for CENTUM VP R5.01 or earlier regardless FCS's main memory size)
CPU loading:
Within +/- 10% per 2000 field wireless devices (For FCS models AFV30□/AFV40□)
Within +/- 10% per 1000 field wireless devices (For all the FCS models except AFV30□/AFV40□)
Data acquisition cycle:
Within 1 second per 2000 field wireless devices (For FCS models AFV30□/AFV40□) (*4)
Within 1 second per 1000 field wireless devices (For all the FCS models except AFV30□/AFV40□) (*4)
Dual-redundant configuration:
Dual-redundant network configuration only (YFGW410)
Ethernet communication module dual-redundant configuration only (YFGW710)

*1: In a single configuration where only one module of ALE111 exists in the subsystem network, up to four units of YFGW410 and/or YFGW710 can be connected. In case there are multiple numbers of ALE111 module exist in the subsystem network, only one unit of either YFGW410 or YFGW710 can be connected.
*2: In a dual-redundant configuration where redundant ALE111 modules (max. 8 modules) exist, only one of either one unit of YFGW710 or redundant (2 units) YFGW410 can be connected. In case ALE111 modules are set in dual-redundant configuration, a single (one unit) YFGW410 cannot be connected.
*3: In case one communication definition (4 word) per field wireless device.
*4: This is the data acquisition cycle from field wireless integrated gateway. The data update period of the field wireless devices depends on the transmission cycle of each device.

Table List of Applicable Devices

Object	Attribute	Read	Write
AI (analog input)	PV (Process data)	Y	N
DI (digital input) (*1)	PV_B (Process data)	Y	N
AO (analog output) (*1)	OP (Process data)	N	Y
DO (digital output) (*1)	OP_B (Process data)	N	Y
AO (analog output) (*1)	Readback (Read back)	Y	N
DO (digital output) (*1)	Readback_B (Read back)	Y	N
UAPMO (User Application Management Object)	DIAG_STATUS (Device diagnosis information)	Y	N
–	GW_STATUS (*1) (Status of Field Wireless Management Station)	Y	N
–	BBR_STATUS (*1) (Status of Field Wireless Access Point)	Y	N
–	DEV_STATUS (*1) (Status of Wireless Field Device)	Y	N

Y: Applicable
N: Not applicable
*1: These devices are for YFGW410.

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● DARWIN/DAQSTATION/SMARTDAC+ Communication

Connected device: Ethernet communication module DT300-41 (DARWIN) (STYLE S8 or later)
(DAQSTATION and SMARTDAC+ must be equipped with Ethernet in the main unit)
Connection method: Ethernet communication via a hub. A crossover cable can also be used for a connection without a hub.
Applicable devices:
DARWIN: DA100, DC100, DR231, DR232, DR241, DR242 (STYLE S8 or later)
DAQSTATION: DX100, DX200
SMARTDAC+ (*1): GX10 (*2), GX20 (*2), GP10 (*2), GP20 (*2), GM10
No. of subsystem stations: Max. 30 stations/ALE111
Communication protocol: TCP/IP

*1: For the communication with SMARTDAC+, it is possible to access the devices via DARWIN-compatible communication mode.

*2: The communication can be established with GX10/GX20/GP10/GP20 Release 2 (Version 2.01.01) or later.

Table List of Applicable Devices

Data name	Communication capacity (per communication)	Read	Write
Alarm status	DARWIN/SMARTDAC+: 60 words DAQSTATION: 30 words	Y	N
Measurement data	DARWIN/SMARTDAC+: 60 words DAQSTATION: 30 words	Y	N
Calculation data	DARWIN/SMARTDAC+: 120 words DAQSTATION: 60 words	Y (*1)	N

Y: Applicable
N: Not applicable
*1: This package supports only data import from DARWIN/DAQSTATION/SMARTDAC+. Calculation start/stop has to be handled on the DARWIN/DAQSTATION/SMARTDAC+ side.

● PLC-5/SLC500 Communication

Connected device: PLC-S/SLC500 CPU module (CPU module equipped with communication ports)
Communication method: Ethernet connection via a hub. Or, with a 10BASE-T connection, a crossover cable can also be used for a peer-to-peer connection without a hub. The communication via DH+ is not accessible.
Applicable device: PLC-5/SLC500 CPU modules
PLC-5: PLC-5/20E, PLC-5/40E, PLC-5/80E
SLC500: SLC5/05
Transmission method: CSP protocol (Not complied with CIP protocol.)
No. of subsystem stations: Max. 30 stations/ALE111
(Sum of PLC-5 and SLC500, both devices can be resided together.)
Communication protocol: TCP/IP

Table List of Applicable Devices

Device type	Device name	Communication capacity (per communication)		Read	Write
		PLC-5	SLC500		
Bit file	Output image file	12 words (192 points)	–	Y (*1)	N
	Input image file	12 words (192 points)	–	Y (*1)	N
	Status file	8 words (128 points)	8 words (128 points)	Y	N
	Bit file	600 words (600 points)	256 words (256 points)	Y	Y
Word file	Timer file	300 words (100 points)	300 words (100 points)	Y	Y
	Counter file	600 words (200 points)	600 words (200 points)	Y	Y
	Control file	600 words (200 points)	600 words (200 points)	Y	Y
	Integer file	600 words (600 points)	256 words (256 points)	Y	Y
	Floating point file	600 words (300 points)	512 words (256 points)	Y	Y

Y: Applicable
N: Not applicable
*1: Not readable by SLC500.

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■ DUAL-REDUNDANCY OF COMMINUCATION

● Functional Overview

The Ethernet communication module can be made dual-redundant by setting two ALE111 modules in the adjacent (odd- and even-numbered) slots of the same node unit. (*1)

*1: DAQSTATION cannot be made dual-redundant due to the limitation in number of subsystems that can be connected simultaneously.

● Data Input Flow

Each of the two ALE111 modules communicates with the subsystem and reads the subsystem input image data into the module. An FCS accesses the control communication module to read and use these data; however, it does not access the standby communication module. When the FCS detects a control communication module error or subsystem communication failure, the FCS switches its control to the standby module from which to read data.

● Data Output Flow

A control communication module outputs data to a subsystem. The control communication module writes data to the subsystem at the specified intervals when an FCS sets the data in it.

Meanwhile, the standby communication module re-reads and retains the output image data when it accesses the subsystem at the specified interval. This equalizes the data between the control and standby communication modules.

When an error is detected, the FCS switches its control to the stand-by module through which the FCS continues to output data to the subsystem.

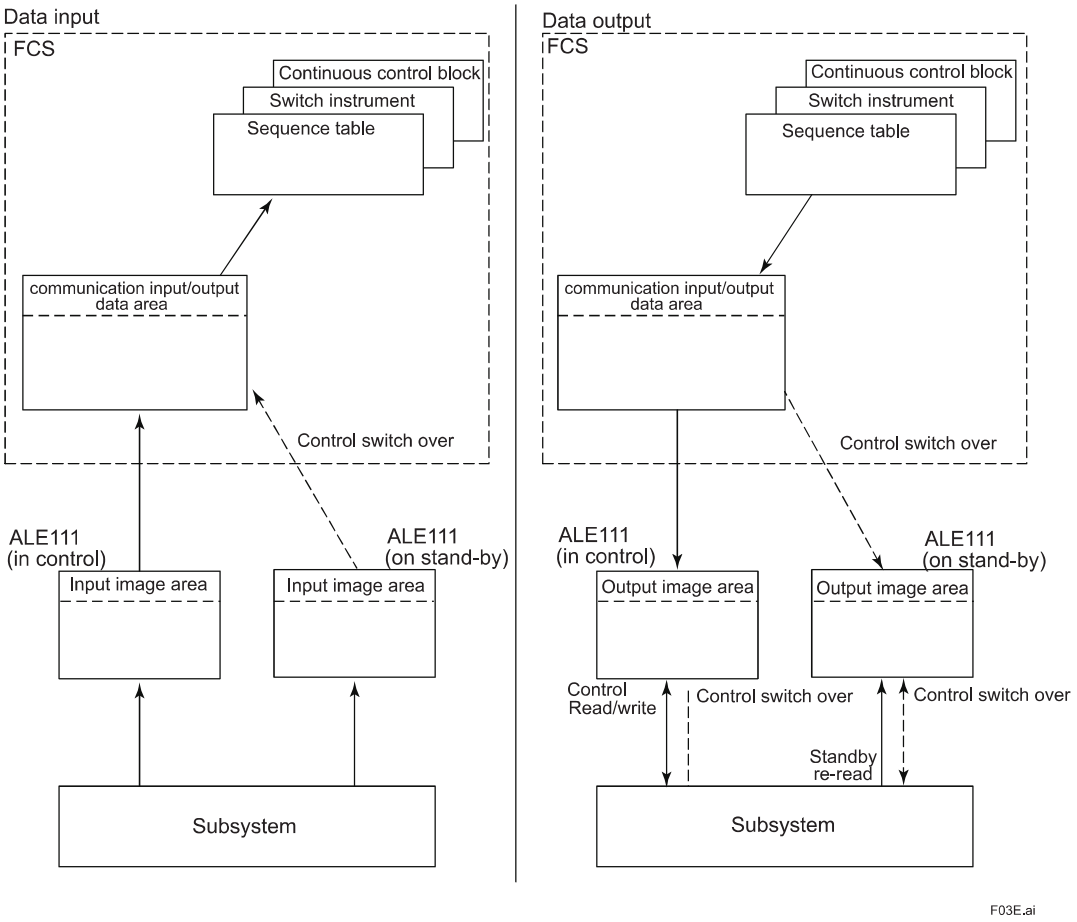

Figure Data Flow in Dual-redundant Configuration

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● Dual-redundant Configuration

There are two types in ALE111 dual-redundant configuration.

Ethernet communication module dual-redundant configuration
Insert a pair of ALE111 on an FCS to make them work in the same network domain.

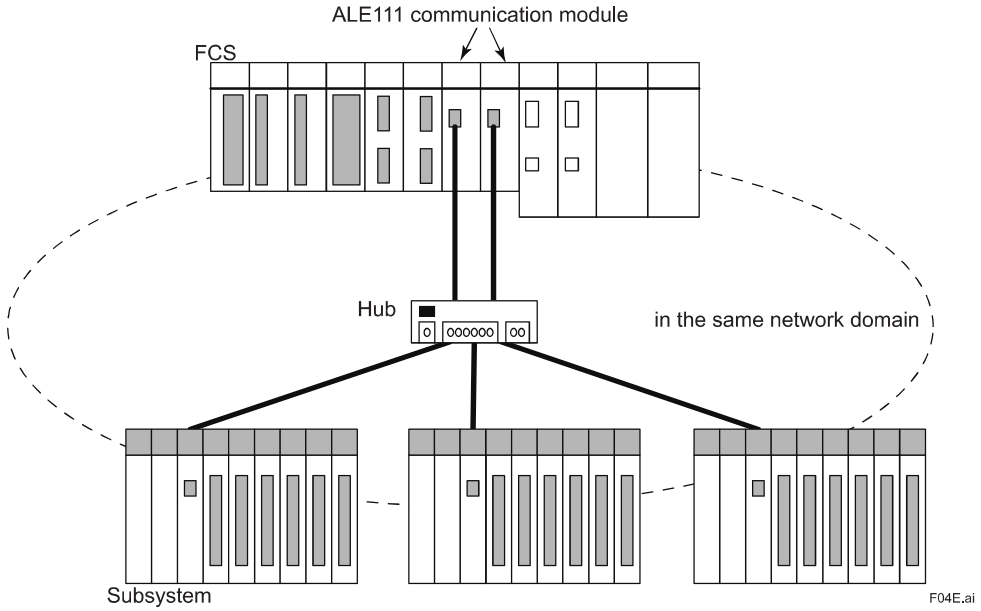

Figure Dual-redundant Configuration of the Ethernet Communication Modules (for Communication Modules Only)

Dual-redundant network configuration
Not only ALE111 modules but also the communication interface between the network and the subsystems can also be in dual-redundant configuration.(*1) By segmenting the two ALE111 network domains, the network itself can be made dual-redundant. In case that the network communication with the subsystems is done via gateways, the network domain beyond the gateway must be in the same network, and not segmented.

*1: With DARWIN, SMARTDAC+, and YFGW, the Ethernet communication module can be made dual-redundant configuration, but not the communication network itself.

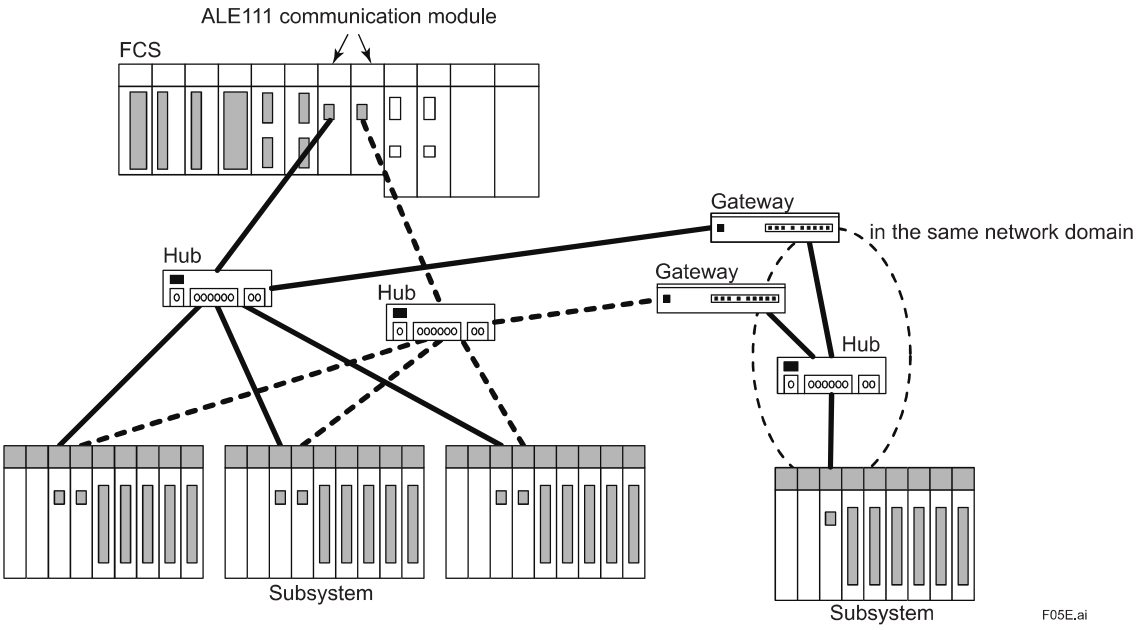

Figure Dual-redundant Configuration of the Ethernet Communication Module (Redundancy of the Network)

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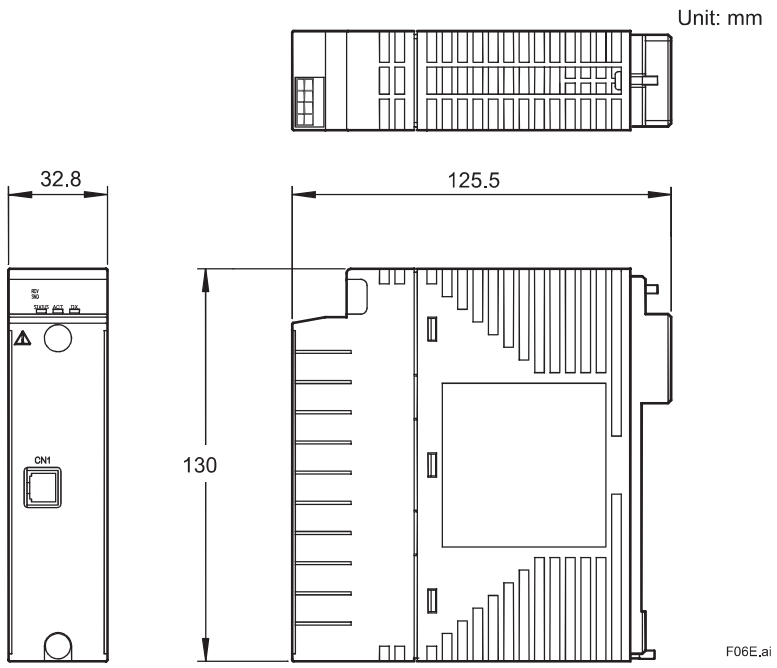
■ EXTERNAL DIMENSIONS

Unit: mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

■ MODEL AND SUFFIX CODES

Ethernet Communication Module (for N-IO/FIO)

		Description
Model	ALE111	Ethernet Communication Module (for N-IO/FIO)
Suffix Codes	-S	Standard Type
	5	With no explosion protection
	E	With explosion protection
	0	Basic Type
	1	With ISA Standard G3 option
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify model and suffix codes when ordering.
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.6 PROFINET COMMUNCATION MODULE (A2LP131)
GS 33J60G90-01EN

<<Contents>> <<Index>>

General Specifications

A2LP131
PROFINET Communication Module
(for N-IO/FIO)

CENTUM VP

GS 33J60G90-01EN

[Release 6]

■ GENERAL

*This document describes about Model A2LP131 PROFINET Communication Module (for N-IO/FIO) which performs as the PROFINET IO-Controller (*1) to communicate and exchange data with PROFINET IO-Devices (*2). A2LP131 can be mounted on following field control units (FCU). It can also be mounted on the ESB bus node unit (ANB10□) and the optical ESB bus node unit (ANB11□) which are connected to the FCU.*

Applicable FCS:
AFV30S, AFV30D, AFV40S, AFV40D, A2FV50S, A2FV50D, A2FV70S, A2FV70D

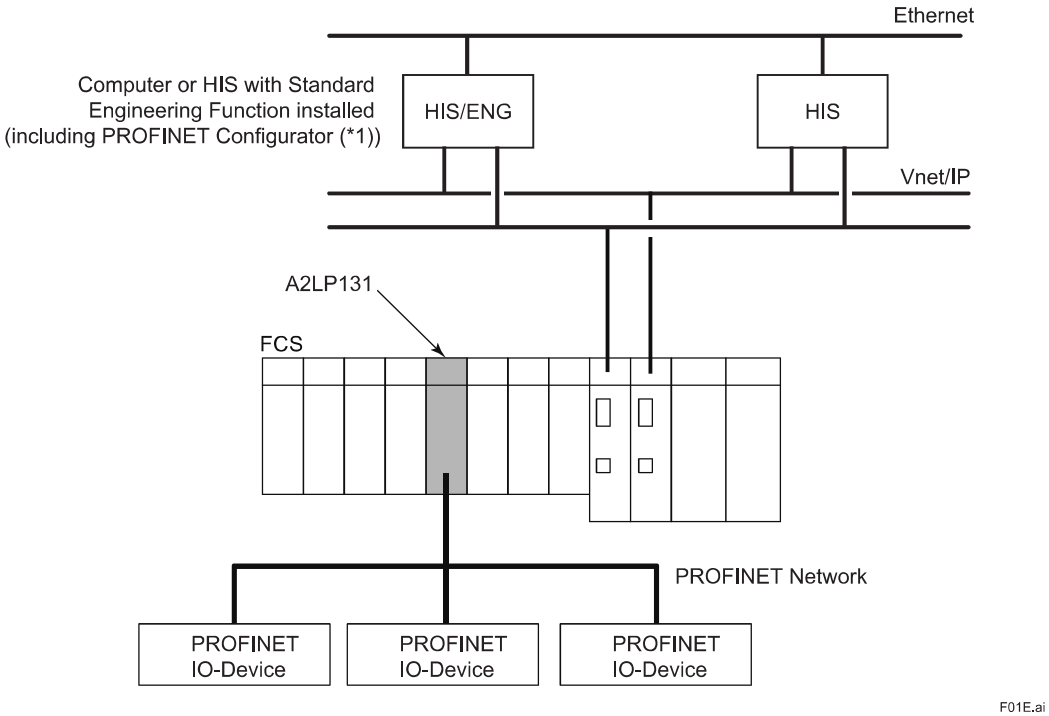
*A2LP131 has been certified by the certification body as complying with PROFINET Specification Version 2.35 CC-A (*3).*

AFV30□, AFV40□, A2FV50□, A2FV70□, ACB51, ANB10□, ANB11□, and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN), "N-IO System Overview" (GS 33J62A10-01EN) and "Field Control Unit" (GS 33J64E10-01EN).

*1: A PROFINET IO-Controller is a controller operated by a control program and is equivalent to the master device in PROFIBUS. For details, refer to the PROFIBUS Organization website.

*2: A PROFINET IO-Device is a field device that connects with the PROFINET IO-Controller and is equivalent to a slave device in PROFIBUS. For details, refer to the PROFIBUS Organization website.

*3: PROFINET has a structure in which its functions are described step-by-step as conformance classes (CC-A, CC-B, and CC-C), CC-A includes the basic PROFINET functions. A2LP131 can be connected to PROFINET IO-Device of CC-A, CC-B and CC-C.
(PROFINET IO-Devices of CC-B and CC-C can be used with a scope of CC-A functions.)
For details on CC-A, refer to the PROFIBUS Organization website.



*1: An engineering tool for PROFINET communication.

Figure System Configuration Example

■ HARDWARE SPECIFICATIONS

Hardware specifications for A2LP131 PROFINET communication module are as shown below.

Table PROFINET Communication Module Hardware Specifications

Item	Specifications
Model	**A2LP131**
Physical layer interface	IEEE 802.3 100BASE-TX
Connector	RJ-45 (*1)
Transmission speed	100 Mbps
Transmission route	2x2 twisted-pair shielded cable (symmetrical) (*1)
Transmission distance	1 segment, 100 m
Installation method	Mounted on ANB10☐, ANB11☐, AFV30☐, AFV40☐, A2FV50☐, or A2FV70☐ (*2)
No. of physical ports	One port
Maximum current consumption	0.8 A
Weight	Approx. 0.31 kg

*1: Complies with IEC61158-2 type10 (PROFINET).
*2: A2LP131 supports a single configuration with only 1 module.

■ OPERATING ENVIRONMENT

Hardware Requirements

This module runs on the following FCU.

AFV30S, AFV30D, AFV40S, AFV40D, A2FV50S, A2FV50D, A2FV70S, A2FV70D

Software requirements

This module runs on the following FCS control functions of the revision CENTUM VP R6.07 and later.

VP6F1700 Control Function for Field Control Station: for AFV30☐/AFV40☐
VP6F1800 Control Function for Field Control Station: for A2FV50☐
VP6F1900 Control Function for Field Control Station: for A2FV70☐
VP6F8100 Compressor Control for FCS : for A2FV50☐ (*1)

*1: The model for ordering is A2FVX1.

Engineering Requirements

Works on VP6E5100 Standard Engineering Function. Standard Builder Function contains PROFINET Configurator dedicated for A2LP131. Perform the engineering of the IOM definitions and communication IO definitions of A2LP131 in AD Organizer or VP Builder. In PROFINET Configurator, engineer PROFINET communication definition between A2LP131 and PROFINET IO-Device.

The PROFINET Configurator only supports the following data types for parameters.

Bit, BitArea, Integer8, Integer16, Integer32, Integer64, Unsigned8, Unsigned16, Unsigned32, Unsigned64, Float32, Float64, VisibleString, OctetString

Note that A2LP131 cannot be connected to PROFINET module that supports any other data type. If multiple PROFINET modules are mounted on PROFINET IO-Device, configure with PROFINET modules that support only the above data types.

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■ INSTALLATION ENVIRONMENT

VP6F1700 Control Function for Field Control Station (for AFV30□/AFV40□)

No. of ALR111, ALR121, ALE111, ALP111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation) (*1)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1) (*2)
No. of ports	1 port/A2LP131
No. of connectable PROFINET IO-Devices	Max. 128 devices/A2LP131
I/O data capacity for communication	1000 words/A2LP131
No. of communication definitions	200 definitions/A2LP131
No. of communication functions	Max. 8 types/FCS (*1) (*3)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication functions)

*1: ALP111 and ALP121 cannot be mounted on the same FCS together.
*2: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP111, ALP121, A2LP131, A2LP141, AGS813, and AGP813 modules.
*3: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP111, ALP121, A2LP131, and A2LP141.

VP6F1800 Control Function for Field Control Station (for A2FV50□)

No. of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1)
No. of ports	1 port/A2LP131
No. of connectable PROFINET IO-Devices	Max. 128 devices/A2LP131
I/O data capacity for communication	1000 words/A2LP131
No. of communication definitions	200 definitions/A2LP131
No. of communication functions	Max. 8 types/FCS (*2)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication functions)

*1: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP121, A2LP131, and A2LP141 modules.
*2: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141.

VP6F1900 Control Function for Field Control Station (for A2FV70□)

No. of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1)
No. of ports	1 port/A2LP131
No. of connectable PROFINET IO-Devices	Max. 128 devices/A2LP131
I/O data capacity for communication	1000 words/A2LP131
No. of communication definitions	200 definitions/A2LP131
No. of communication functions	Max. 8 types/FCS (*2)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication functions)

*1: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP121, A2LP131, and A2LP141 modules.
*2: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141.

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VP6F8100 Compressor Control for FCS (forA2FV50□) (*1)

No. of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*2)
No. of ports	1 port / A2LP131
No. of connectable PROFINET IO-Devices	Max. 128 devices/A2LP131
I/O data capacity for communication	1000 words/A2LP131
No. of communication definitions	200 definitions/A2LP131
No. of communication functions	Max. 8 types/FCS (*3)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication functions)

*1: The model for ordering is A2FVX1.
*2: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP121,A2LP131, A2LP141, AGS813, and AGP813 modules.
*3: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP121, A2LP131, and A2LP141.

■ PROFINET COMMUNICATION SPECIFICATIONS

● Communication with PROFINET IO-Devices

A2LP131 exchanges data with PROFINET IO-Devices and receives the alarms from PROFINET IO-Devices.The PROFINET I/O-Devices data is stored in the communication modules' I/O Image area. FCU accesses this module, refers to the data stored in the I/O Image of the module, and stores the data in the communication I/O data area. Also, FCU accesses this module and sets the data set in the communication I/O data area by the functional block to this module's I/O Image area.
This enables FCU to use the PROFINET IO-Devices data through the I/O terminals of the function block in the same way as the general analog and digital I/O signals.
The following PROFINET data types can be assigned directly to the CENTUM VP functional block when using A2LP131.
Boolean, Integer16, Integer32, Unsigned16, Unsigned32, Float32
In addition, A2LP131 receives the alarm from PROFINET IO-Devices and sends notifications to FCU.

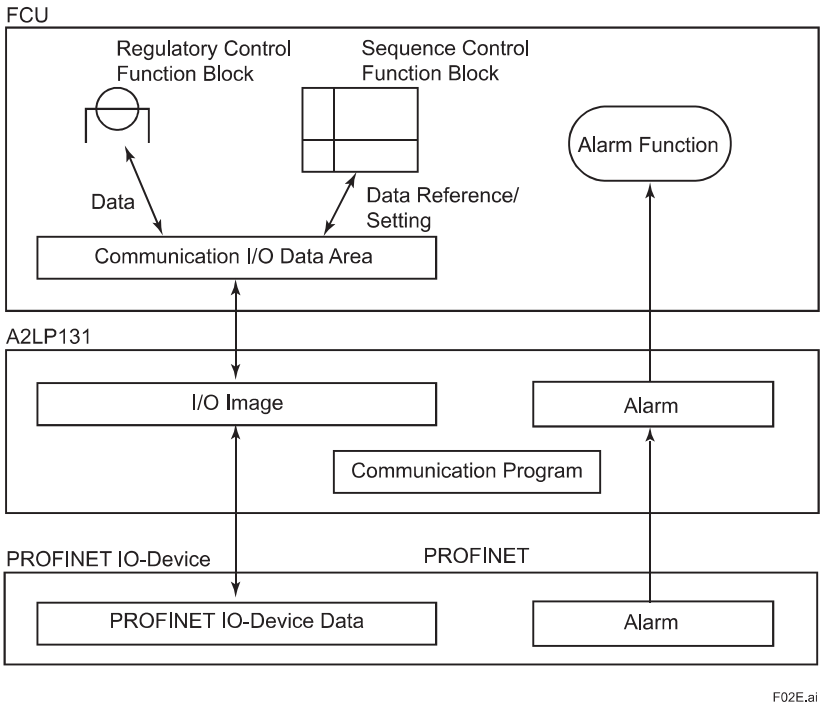

Figure Flow of PROFINET IO-Device Data

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● Communication Path Dual Redundancy

In CENTUM VP, PROFINET network communication path dual redundancy is facilitated by connecting managed switches that have the Media Redundancy Manager (MRM) function, which is compliant with Media Redundancy Protocol (MRP), and the PROFINET IO-Devices that are the media redundancy clients (MRC) in a ring topology.

Media redundancy is a redundancy specification of PROFINET. For details, refer to the PROFIBUS Organization website. In CENTUM VP, dual redundancy of the communication path is achieved by making the PROFINET network a ring configuration. Consequently, even if communication with one communication path becomes impossible, communication can be continued by using the other communication path.

A2LP131 is placed outside of the media redundancy ring topology.

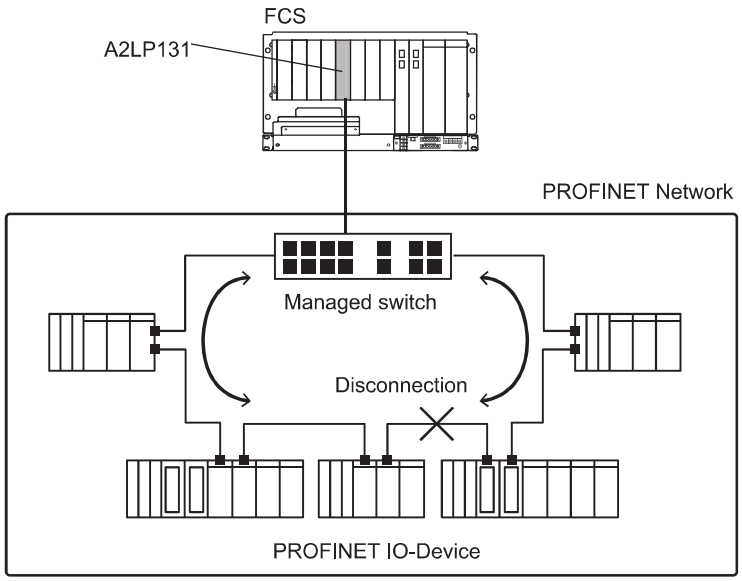

Figure Figure PROFINET Network Communication Path Dual Redundancy

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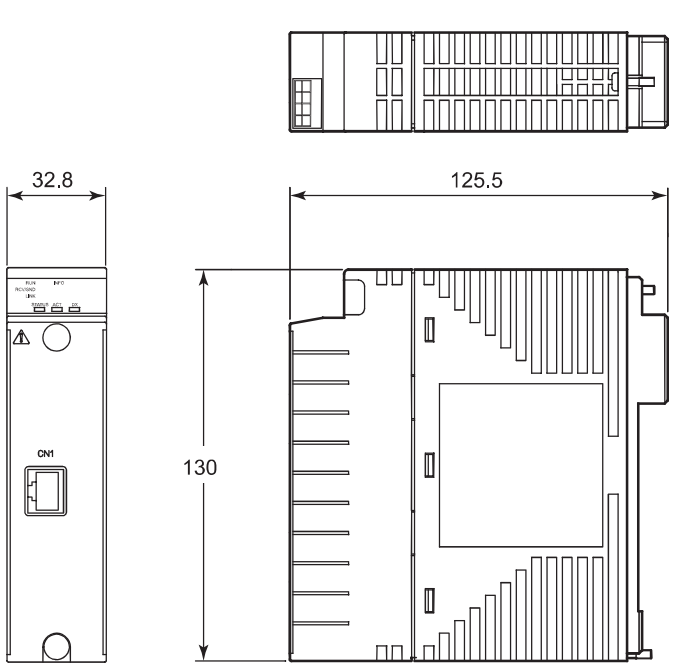
■ External dimensions

Unit: mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

■ MODEL AND SUFFIX CODES

PROFINET Communication Module (for N-IO/FIO)

		Description
Model	A2LP131	PROFINET Communication Module (for N-IO/FIO)
Suffix Codes	-S	Standard type
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify model and suffix codes when ordering.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.7 Analog Input Module (AAI143) & Analog Output Module (AAI543)

GS 33J60F60-01EN

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General Specifications

Analog I/O Modules (for FIO)

CENTUM VP

GS 33J60F60-01EN

[Release 6]

■ GENERAL

This document describes about hardware specifications of Analog I/O Modules (for FIO) to be installed in the ESB bus node units (ANB10S and ANB10D), Optical ESB bus node units (ANB11S and ANB11D), and field control units (for FIO) (AFV30S, AFV30D, AFV40S, AFV40D, AFV10S, AFV10D).

These analog I/O modules function as signal converters; by inputting field analog signals into these modules, it converts them to internal data for field control stations (FCS), or the FCS's internal data to analog signals for outputs.

AFV30□, AFV40□, ACB51, ANB10□, ANB11□ and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN).

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■ STANDARD SPECIFICATIONS

● Current/Voltage Input Modules (Non-Isolated)

These modules provide 16 inputs of mainly 4 to 20 mA DC or 1 to 5 V DC standardized signals from 2-wire/4-wire transmitters.

They can be used in dual-redundant configuration.

Items		Specifications		
Model		AAI141 (*1)	AAV141	AAB141(*1) (*4)
Number of input channels		16, non-isolated	16, non-isolated (differential input)	16, non-isolated When the voltage input is selected the differential input is applied.
Input signal		4 to 20 mA DC	1 to 5 V DC (allowable common mode voltage ± 1 V or less)	Voltage input : 1to 5 V DC (allowable common mode voltage ±1 V or less) Current input : 4 to 20 mA DC(*5)
Allowable input current/voltage		27 mA	±7.5 V	Voltage input : ±7.5 V Current input : 25 mA
Withstanding voltage		—		
Input resistance	Power ON	400 Ω (at 20 mA) to 1000 Ω (at 4 mA) (*2)	1 MΩ or larger	Voltage input : 1 MΩ or larger Current input : 290 Ω (at 20 mA) to 450 Ω (at 4 mA) (*6)
	Power OFF	500 kΩ or larger	340 kΩ or larger	Voltage input : 340 kΩ or larger Current input : 500 kΩ or larger
Accuracy		±16 μA	±4 mV	Voltage input : ±4 mV Current input : ±16 μA
Data update period		10 ms		
Step response time		100 ms		
Transmitter power supply		14.8 V or higher (at 20 mA) (*3) 26.4 V or less (at 0 mA) (output current limit: 27 mA)	—	
Setting of 2-wire or 4-wire transmitter		For each channel by setting pin	—	
Drift due to ambient temperature change		±16 μA/10 °C	±4 mV/10 °C	±0.1 %/10 °C
Maximum current consumption		310 mA (5 V DC), 450 mA (24 V DC)	350 mA (5 V DC)	480 mA (5 V DC), 120 mA (24 V DC)
Weight		Approx. 0.20 kg	Approx. 0.20 kg	Approx. 0.30 kg
External connection		Pressure clamp terminal, KS cable, MIL connector cable		KS cable
HART communication		Available	—	Available (at current input)

*1: A Zener barrier is not allowed to be connected with this module. Use an isolation barrier when the module is used in intrinsically safe application.

*2: The module input resistance viewed from the terminals depends on the current strength as calculated as below:

$$250\ \Omega + \frac{\text{voltage drop in the input protection circuit}}{\text{current value}}$$

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*3: This voltage is generated between the connecting terminals for 2-wire transmitters for this module. When calculating the minimum operating voltage for transmitters, consider to allow margins for voltage drop in external wiring.

*4: This module can be used only with the following AFV10□, AFV30□, or AFV40□.

*5: Input mode for each channel is selectable by software.

*6: The module input resistance viewed from the terminals depends on the current strength as calculated as below:

$$250\ \Omega + \frac{\text{voltage drop in the input protection circuit}}{\text{current value}}$$

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● Current/Voltage I/O Modules (Non-Isolated)

These modules provide 8 inputs and 8 outputs to support up to 8 loops. They can be used in dual-redundant configuration.

Items		Specifications					
Model		AAI841 (*1)		AAB841 (*5)		AAB842 (*5) (*6)	
Number of I/O channels		8-channel input/8-channel output, non-isolated		8-channel input/8-channel output, non-isolated (differential input)		8-channel input/8-channel output, non-isolated When the voltage input is selected the differential input is applied.	
I/O signal		Input: 4 to 20 mA	Output: 4 to 20 mA	Input: 1 to 5 V (allowable common mode voltage ±1 V or less)	Output: 4 to 20 mA	Input (*7) Voltage input: 1 to 5 V DC (allowable common mode voltage ±1 V or less) Current input: 4 to 20 mA DC	Output: 4 to 20 mA
Allowable input current/ voltage		25 mA	—	±7.5 V	—	Voltage input : ±7.5 V Current input : 25 mA	—
Withstanding voltage		—					
Input resistance	Power ON	400 Ω (at 20 mA) to 1000 Ω (at 4 mA) (*2)	—	1 MΩ or larger	—	Voltage input: 1 MΩ or larger Current input: 290 Ω (at 20 mA) to 450 Ω (at 4 mA) (*2)	—
	Power OFF	500 kΩ or larger	—	340 kΩ or larger	—	Voltage input: 340 kΩ or larger Current input: 500 kΩ or larger	—
Allowable load resistance		—	0 to 750 Ω (*3)	—	0 to 750 Ω	—	0 to 750 Ω (*4)
Circuit-open detection		—	Less than 0.65 mA	—	Less than 0.65 mA	—	Less than 0.65 mA
Accuracy		Input: ±16 μA	output: ±48 μA	Input: ±4 mV	output: ±48 μA	Voltage input : ±4 mV Current input : ±16 μA	±48 μA
Data update period		10 ms					
Input step response time		100 ms					
Output step response time		40 ms					
Transmitter power supply		14.8 V or higher (at 20 mA) 26.4 V or less (at 0 mA) (*4)		—			
Setting of 2-wire or 4-wire transmitter		For each channel by setting pin		—			
Temperature drift		±0.1 %/10 °C					
Maximum current consumption		310 mA (5 V DC), 500 mA (24 V DC)		310 mA (5 V DC), 250 mA (24 V DC)		410 mA (5 V DC), 290 mA (24 V DC)	
Weight		Approx. 0.30 kg					
External connection		Pressure clamp terminal, KS cable, MIL connector cable				KS cable	
HART communication		Available		—		Available (at Current input and output)	

*1: A Zener barrier is not allowed to be connected with this module. Use an isolation barrier when the module is used in intrinsically safe application.

*2: The module input resistance viewed from the terminals depends on the current strength as calculated as below:

$$250\ \Omega + \frac{\text{voltage drop in the input protection circuit}}{\text{current value}}$$

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*3: When this module is used in the ambient temperature of 60 to 70 ºC by being installed in a node unit that conforms to the temperature environment, the allowable load resistance is 200 to 750 Ω.

*4: This voltage is generated between the connecting terminals for 2-wire transmitters for this module. When calculating the minimum operating voltage for transmitters, consider to allow margins for voltage drop in external wiring.

*5: A Zener barrier is not allowed to be connected with this module for current output. Use an isolation barrier when the module is used in intrinsically safe application.

*6: A Zener barrier is not allowed to be connected with this module for current input. Use an isolation barrier when the module is used in intrinsically safe application. And this module can be used only with the following AFV10☐, AFV30☐, or AFV40☐.

*7: Input mode for each channel is selectable by software.

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● Current Input Module (Isolated)

This module provides 16 inputs of 4 to 20 mA signal. It can be used in dual-redundant configuration.

Items		Specifications
Model		AAI143 (*1)
Number of input channels		16, isolated
Input signal		4 to 20 mA
Allowable input current		24 mA
Withstanding voltage		Between input and system: 1500 V AC, for 1 minute (*3)
Input resistance	Power ON	270 Ω (20 mA) to 350 Ω (4 mA) (*2)
	Power OFF	500 kΩ or larger
Accuracy		±16 μA
Data update period		10 ms
Transmitter power supply		19.0 V or higher (at 20 mA) 25.5 V or less (at 0 mA) (output current limit: 25 mA) (*4)
Setting of 2-wire or 4-wire transmitter		For each channel by setting pin
Drift due to ambient temperature change		±16 μA/10 ˚C
Maximum current consumption		230 mA (5 V DC), 540 mA (24 V DC)
Weight		Approx. 0.30 kg
External communication		Pressure clamp terminal, MIL connector cable, dedicated cable (KS1)
HART communication		Available

*1: A Zener barrier is not allowed to be connected with this module. Use an isolation barrier when the module is used in intrinsically safe application.

*2: The module input resistance viewed from the terminals depends on the current strength as calculated as below:

$$250\ \Omega + \frac{\text{voltage drop in the input protection circuit}}{\text{current value}}$$

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*3: When the dedicated cable is used, the withstanding voltage is 500 V AC (between the input signal and the system). When the ML connector cable is used, the withstanding voltage depends on the electrical specifications of the cable.

*4: This voltage is generated between the connecting terminals for 2-wire transmitters for this module. When calculating the minimum operating voltage for transmitters, consider to allow margins for voltage drop in external wiring.

● Current Output Module (Isolated)

This module provides 16 outputs of 4 – 20 mA signal. It can be used in dual-redundant configuration. (*1)

Items	Specifications	
Model	AAI543-□5□/-□E□	AAI543-□6□/-□F□ (*2)
Number of output channels	16, isolated, standard switch-over response in redundant configuration (*3)	16, isolated, fast switch-over response in redundant configuration (*3)
Output signal	4 to 20 mA	
Withstanding voltage	Between output and system: 1500 V AC, for 1 minute (*4)	
Allowable load resistance	0 to 750 Ω	
Circuit-open detection	Less than 0.65 mA	
Accuracy	±48 μA	
Data update period	10 ms	
Drift due to ambient temperature change	±16 μA/10 ˚C	
Maximum current consumption	230 mA (5 V DC), 540 mA (24 V DC)	
Weight	Approx. 0.40 kg	
External communication	Pressure clamp terminal, MIL connector cable, dedicated cable (KS1)	
HART communication	Available	

*1: A dual-redundant configuration is enabled by using two identical modules with the same switch-over response (standard or fast).

*2: When AAI543-□6□/-□F□ is installed in a node unit that conforms to the temperature environment, use it in the ambient temperature within 0 to 60 ºC range.

*3: When a switch over from control to stand-by module takes place in the dual-redundant configuration, the maximum period of time when the field output falls below 4 mA is 100 ms for AAI543-□5□/-□E□ (standard switch-over response) and 2 ms for AAI543-□6□/-□F□ (fast switch-over response). In case of connecting fast response type field devices, use AAI543-□6□/-□F□ (fast switch-over response) in the dual-redundant configuration.

*4: When the dedicated cable is used, the withstanding voltage is 500 V AC (between the input signal and the system). When the ML connector cable is used, the withstanding voltage depends on the electrical specifications of the cable.

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● Voltage Input Module (Isolated)

This module is for 16 inputs of 1 to 5 V or -10 to 10 V signal. It can be used in dual-redundant configuration.

Items		Specifications	
Model		AAV144	
Number of input channels		16, isolated	
Input signal		1 to 5 V	-10 to 10 V
Switching input signals		Input signals can be set together for CH1 to CH16	
Allowable input voltage		±30 V	
Withstanding isolated voltage		Between input and system: 1500 V AC withstanding voltage, for 1 minute (*1)	
Input resistance	Power ON	1 MΩ	
	Power OFF	200 kΩ	
Accuracy		±4 mV	±20 mV
Data update period		10 ms	
Drift due to ambient temperature change		±4 mV/10 ˚C	±20 mV/10 ˚C
Maximum current consumption		500 mA (5 V DC)	
Weight		Approx. 0.20 kg	
External communication		Pressure clamp terminal, MIL connector cable, dedicated cable (KS1)	

*1: When the dedicated cable is used, the withstanding voltage is 500 V AC (between the input signal and the system). When the ML connector cable is used, the withstanding voltage depends on the electrical specifications of the cable.

● Voltage Output Module (Isolated)

This module is for 16 outputs of -10 to 10V signal. It can be used in dual-redundant configuration.

Items	Specifications
Model	AAV544
Number of output channels	16, isolated
Output signal	-10 to 10 V
Withstanding voltage	Between output and system: 1500 V AC withstanding voltage, for 1 minute (*1)
Allowable load resistance	5 kΩ or larger
Accuracy	The larger of ±12 mV or ±0.3 % FS
Data update period	10 ms
Drift due to ambient temperature change	The larger of ±0.1 %/10 ˚C or ±10 mV/10 ˚C
Maximum current consumption	860 mA (5 V DC)
Weight	Approx. 0.20 kg
External communication	Pressure clamp terminal, MIL connector cable, dedicated cable (KS1/KS2)

*1: When the dedicated cable is used, the withstanding voltage is 500 V AC (between the input signal and the system). When the ML connector cable is used, the withstanding voltage depends on the electrical specifications of the cable.

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● Current Input Module and Current I/O Module (Isolated Channels)

The current input module receives signal of 4 to 20 mA, and the current I/O module sends and receives signals of 4 to 20 mA. These modules are isolated between the field and the system as well as in between each channel. They can be used in dual-redundant configuration.

Items		Specifications		
Model		AAI135 (*1)	AAI835 (*1)	
Number of I/O channels		8-channel input, isolated channels	4-channel input/4-channel output, isolated channels	
I/O signal		4 to 20 mA	Input: 4 to 20 mA	Output: 4 to 20 mA
Allowable input current		25 mA	25 mA	—
Withstanding voltage		Between input and system: 500 V AC, for 1 minute Between input channels: 500 V AC, for 1 minute (*2)	Between input/output and system: 500 V AC, for 1 minute Between input/output channels: 500 V AC, for 1 minute (*2)	
Input resistance	Power ON	290 Ω (at 20 mA) to 450 Ω (at 4 mA) (*3)		
	Power OFF	500 kΩ or larger		
Allowable load resistance		—	—	0 to 750 Ω
Circuit-open detection		—	—	Less than 0.65 mA
Accuracy		±16 μA	Input: ±16 μA	Output: ±48 μA
Data update period		10 ms		
Transmitter power supply		15.0 V or higher (at 20 mA) 29.3 V or less (at 0 mA) (*4)	15.0 V or higher (at 20 mA) 29.3 V or less (at 0 mA) (*4)	—
Temperature drift		±16 μA/10 °C		
Maximum current consumption		360 mA (5 V DC), 450 mA (24 V DC)	360 mA (5 V DC), 450 mA (24 V DC)	
Weight		Approx. 0.30 kg		
External connection		Pressure clamp terminal, MIL connector cable, dedicated cable (KS1)		
HART communication		Available	Available	

*1: A Zener barrier is not allowed to be connected with this module. Use an isolation barrier when the module is used in intrinsically safe applications.

*2: When the ML connector cable is used, the withstanding voltage depends on the electrical specifications of the cable.

*3: The module input resistance viewed from the terminals depends on the current strength as calculated as below:

$$250\ \Omega + \frac{\text{voltage drop in the input protection circuit}}{\text{current value}}$$

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*4: This voltage is generated between the connecting terminals for 2-wire transmitters for this module. When calculating the minimum operating voltage for transmitters, consider to allow margins for voltage drop in external wiring.

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● TC/RTD Input Modules (Isolated Channels)

These modules receive signals from mV, thermocouple (TC), RTD, and potentiometer (POT), and they are isolated between the field and the system as well as in between each channel. They can be used in dual-redundant configuration.

Items		Specifications	
Model		AAT145	AAR145
Number of input channels		16, isolated channels	16, isolated channels
Input signal		TC: JIS C1602, IEC 60584-1 (ITS-90) Type J, K, E, B (*1), R, S, T, N mV: -100 to 150 mV, -20 to 80 mV	RTD: JIS C1604, IEC 60751 (ITS-90) Pt100 (3-wire type) POT: Total resistance 100 Ω to 10 kΩ Span resistance: 50 % or larger of total resistance
Switching input signals		TC/mV can be set individually for CH1 to CH16.	RTD/POT can be selected individually for CH1 to CH16.
Allowable input voltage		±5 V	±5 V
Withstanding voltage		Between input and system: 500 V AC (for single card: 1500 V AC), For 1 minute Between input channels: 200 V AC, For 1 minute	
Input resistance	Power ON	1 MΩ or larger	
	Power OFF	1 MΩ or larger	
Accuracy		±40 μV	RTD: ±150 mΩ POT: ±0.2 %/FS
Allowable total resistance of signal source plus wiring		1000 Ω or less	150 Ω or less (wiring resistance per wire) (*2)
Effect of allowable signal source resistance (1000 Ω)		±20 μV	—
Reference junction compensation accuracy		±1 °C (*3) (*4)	—
Measurement current		—	RTD: 1 mA
Data update period		1 s	
Burn-out		All channels can be set together. Setting: not available/available (UP/DOWN) Detection time: 60 s	
Temperature drift		±80 μV/10 °C	RTD: ±0.3 Ω/10 °C POT: ±0.4 %/10 °C
Maximum current consumption		350 mA (5 V DC)	350 mA (5 V DC)
Weight		Approx. 0.30 kg	
External connection		Dedicated cable (KS1)	Dedicated cable (KS8/AKB335)

*1: Type B does not carry out temperature compensation and temperature under 44 ºC is not measurable.
*2: Wiring resistance for the signal cables of IN□A and IN□C must be identical.
*3: This figure varies depending on the installation conditions.
When the measured temperature is below 0 ºC, multiply the following coefficient (K) with the above value.

$$K = \frac{\text{Thermoelectromotive force per degree at 0 °C}}{\text{Thermoelectromotive force per degree at measured temperature}}$$

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*4: The reference junction compensation accuracy varies depending on the ambient temperature of the terminal board (AET4D).

By the Terminal Board Only

Temperature Environment	Reference Junction Compensation Accuracy
-20 to 0 ˚C	±1.5 ˚C
0 to 30 ˚C	±1.0 ˚C
30 to 70 ˚C	±1.5 ˚C

Installing in the Standard Cabinet

Temperature Environment	Reference Junction Compensation Accuracy
0 to 30 ˚C	±1.0 ˚C
30 to 50 ˚C	±1.5 ˚C

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● Pulse Input Module (Isolated Channels)

This module receives contact ON/OFF, voltage pulse, and current pulse signals. It is isolated between the field and the system as well as in between each channel, and can be used in dual-redundant configuration.

Items	Specifications
Model	**AAP135**
Number of input channels	8, isolated channels
Input signal (*3)	2-wire type: Contact ON/OFF, voltage pulse, current pulse (possible to supply transmitter power supply) 3-wire type: Power-supply-type voltage pulse
Input frequency	0 to 10 kHz (*4)
Withstanding voltage	Between input and system: 500 V AC, for 1 minute Between channels: 500 V AC, for 1 minute (*1)
Minimum input pulse width	40 µs (*4)
Input signal level	Contact input Open/close levels of relay contact and transistor contact Open: 100 kΩ or larger, Close: 200 Ω or less Contact capacity When supplying 12 V DC: 15 V DC 15 mA or higher When supplying 24 V DC: 30 V DC 30 mA or higher Voltage/current pulse input (Current input is converted to voltage.) VH (high level): 3 to 24 V DC VL (low level): -1 to 8 V DC VH-VL (swing value): 3 V or higher Signal source resistance: 1 kΩ or less
Shunt resistance	Can be selected from none/200/500/1000 Ω. (Open when power is OFF and for the standby side in a dual-redundant configuration)
Pull-up resistance	68 kΩ (12 V DC or 24 V DC)
Filter	Filter for eliminating chattering can be set. (*2)
Data update period	2 ms
Transmitter power supply	Can select 24 V DC/12 V DC. Limiter value 12 V DC ±10 %: 40 mA, 24 V DC ±10 %: 30 mA
Maximum current consumption	300 mA (5 V DC), 400 mA (24 V DC)
Weight	Approx. 0.30 kg
External connection	Pressure clamp terminal, KS cable, MIL connector cable

*1: When the ML connector cable is used, the withstanding voltage depends on the electrical specifications of the cable.
*2: When the pulse input signal is a dry contact (e. g. mechanical relay) up to 10 Hz, chattering can be eliminated.
*3: Connection methods with field devices vary by the input signals. Refer to “Installation Guidance” (TI 33J01J10-01EN) for details.
*4: In case no-voltage contact signals are received in between the terminals B and C, the input frequency and the minimum input pulse width are as shown below:

Configuration	Input frequency	Minimum input pulse width (contact off time)
Single	0 - 800 Hz	625 us
Duplexed	0 - 600 Hz	833 us

The input frequency and the minimum input pulse width may vary by the influence of capacitance of the field devices and wires.
Single configuration: 0 - 800 Hz, 625 us @ 1000 pF; 0 - 350 Hz, 1.43 ms @ 10000 pF; 0 - 180 Hz, 2.78 ms @ 30000 pF
Duplexed configuration: 0 - 600 Hz, 833 us @ 1000 pF; 0 - 340 Hz, 1.47 ms @ 10000 pF; 0 - 180 Hz, 2.78 ms @ 30000 pF

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● Pulse Input Module Compatible with PM1

This module counts pulses by receiving 16-channel pulse train signal from pulse train input signal conditioner cards.

Items	Specifications
Model	AAP149
Number of input channels	16, non-isolated
Input signal	Transistor contact (open collector)
Input frequency	0 to 6 kHz
Withstanding voltage	—
Pulse detection edge	Trailing edge
Data update period	2 ms
Maximum current consumption	400 mA (5 V DC)
Weight	Approx. 0.30 kg
External connection	Dedicated cable (KS2)

● Pulse Input Module/Analog Output Module Compatible with PAC

This module receives 8-channel pulse train signal and outputs 4 to 20mA signal. It can be used in dual-redundant configuration.

Items	Specifications	
Model	AAP849	
Number of I/O channels	8-channel input /8-channel output, non-isolated	
I/O signal	Input: transistor contact (open collector)	Output: 4 to 20 mA
Input frequency	0 to 12 kHz	—
Pulse detection edge	Trailing edge	—
Allowable load resistance	—	0 to 750 Ω
Circuit-open detection	—	Less than 0.65 mA
Accuracy	—	±48 μA
Data update period	1 ms	10 ms
Output step response time	—	40 ms
Temperature drift	—	±16 μA/10 °C
Maximum current consumption	310 mA (5 V DC), 250 mA (24 V DC)	—
Weight	Approx. 0.30 kg	
External connection	Dedicated cable (KS1)	

■ OPERATING ENVIRONMENT

Hardware Requirements

The analog I/O modules run on the following FCS.

AFV30S, AFV30D, AFV40S, AFV40D

Software Requirements

The analog I/O modules run on the control functions of the following FCS.

VP6F1700 Control Function for Field Control Station: for AFV30□/AFV40□

Engineering Requirements

Works on VP6E5100 Standard Builder Function.

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■ ANALOG I/O MODULE (WITH HART COMMUNICATION)

The analog I/O module (with HART communication function) connected to a transmitter or a valve positioner receives HART variable (*1) in addition to exchange analog input/output data by 4 – 20 mA signal with field control stations (FCS). There are 8 types of analog I/O modules (with HART communication function).

*1: HART variable can be read by HART Command #3.

There are 8 types of analog I/O modules (with HART communication function).

Model	Model Name	Function
AAI141-H	Analog Input Module (Current Input)	16-channel, 4 to 20 mA, non-isolated
AAB141-H	Analog Input Module (Voltage/current Input)	16-channel, 1 to 5 V/4 to 20 mA, non-isolated
AAI841-H	Analog I/O Module (Current I/O)	8-channel input/8-channel output, 4 to 20 mA, non-isolated
AAB842-H	Analog I/O Module (Voltage/current Input, Current Output)	8-channel input/8-channel output, 1 to 5 V/4 to 20 mA input, 4 to 20 mA output, non-isolated
AAI135-H	Analog Input Module (Current Input)	8-channel, 4 to 20 mA, isolated channels
AAI835-H	Analog I/O Module (Current I/O)	4-channel input/4-channel output, 4 to 20 mA, isolated channels
AAI143-H	Analog Input Module (Current Input)	16-channel, 4 to 20 mA, isolated
AAI543-H	Analog Output Module (Current Output)	16-channel, 4 to 20 mA, isolated

● Communication with HART Devices

The analog I/O modules (with HART communication function) communicate with field devices and store analog data and HART variables in the Input/Output image area in the communication module. An FCS refers to and sets the Input/Output image by accessing the analog I/O modules (with HART communication function). The FCS utilizes the field device data via I/O terminals of the function block in the same way as other analog/digital I/O signals.

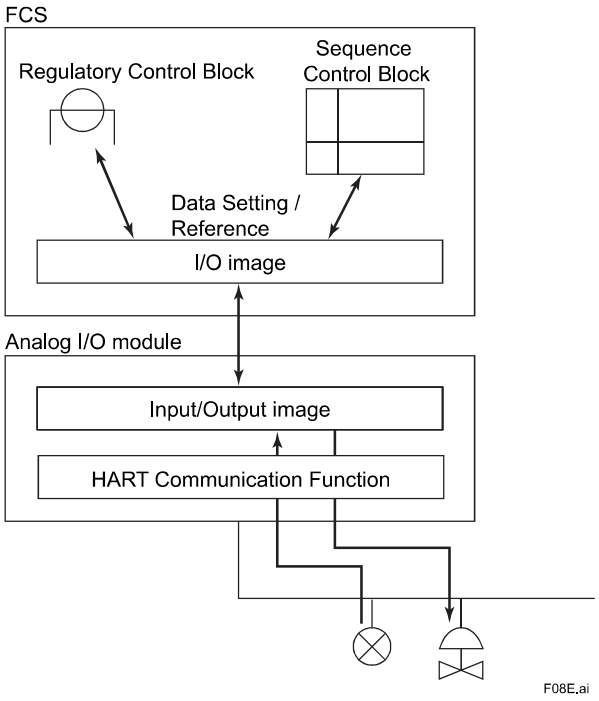

Figure Process Data Flow of HART Communications

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● HART Communication Functional Specifications

The analog I/O modules (with HART communication function) are equipped with HART modems and eable HART communication (*1) by directly connecting the HART devices to he modules.

No. of HART devices: Max. 16 devices/module
HART variables: Max. 32 points/module
HART variables can be treated as ordinary process input data via %Z terminal connection.
HART multidrop connection (*2): Max. 5 devices/channel
HART variables data refresh cycle time :
1 second/device (When maximum of 16 devices are connected, it is 17 seconds per ESB bus connection.)

*1: HART communication refers to HART variable communicaiton, on-demand communication, and hand held terminal (HHT) communication.
*2: It is possible to connect only input devices. This connection does not support analog data value nor burst function.

● HART Communication Specifications

Table HART Communication Specifications

Function	Description
Communication mode	Serial half duplex, start-stop synchronization, 1 start/ 8 bit/ odd parity/ 1 stop
Applicable standard	HART Protocol Revision 5.7 (*1)
Transmission speed	1200 ±2 bps
Modulation technique	Binary phase-continuous FSK 1: 1200 Hz ±1 %, 0: 2200 Hz ±1%
Frame length	5 to 267 bytes Contents of max. 267 bytes: Delimiter: 1 Address: 5 Command: 1 Byte count: 1 Data: 255 (includes two bytes of response code) Check byte: 1
Frame detection	3 byte header byte-count carrier (ON/OFF) Preamble: 5 to 20 bytes
Error detection coding	Longitudinal/vertical parity
Response time	Max. 28 characters (256.7 ms)
No response timer	33 characters (305 ms) for primary, 41 characters (380 ms) for secondary
Bus monitor	8 characters (75 ms)
Response window	20 ms

*1: The HART 5, 6, and 7 devices can be connected but applying the HART protocol 5.7 function.

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● HART Communication System Configuration

The analog I/O modules (with HART communication function) can be configured dual-redundant by placing the two modules in the adjacent slots (odd number and even number slots) on the same node unit.

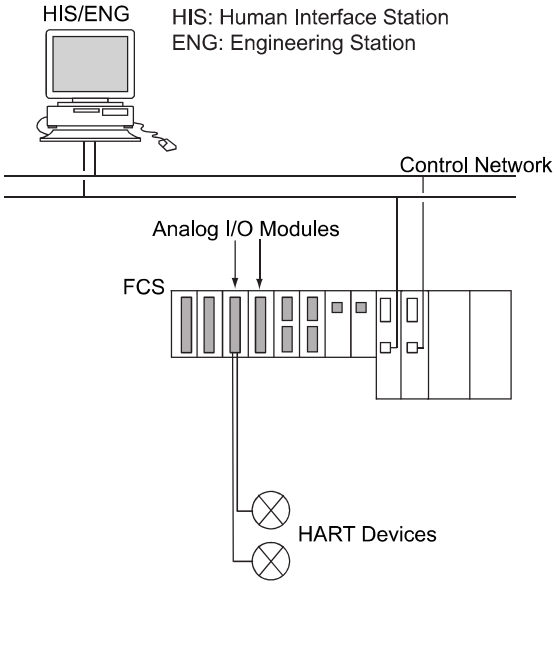

Figure HART Communication System Configuration (Dual-redundant)

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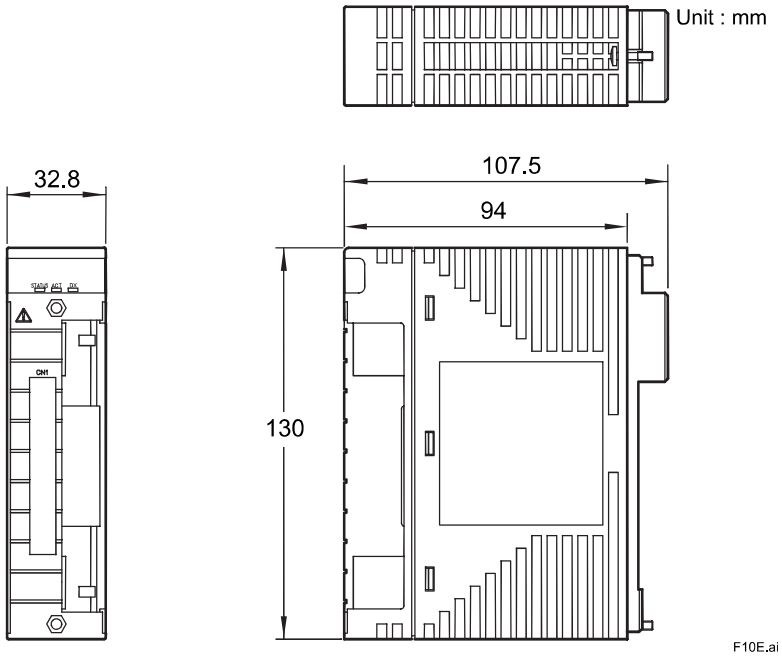
■ EXTERNAL DIMENSIONS

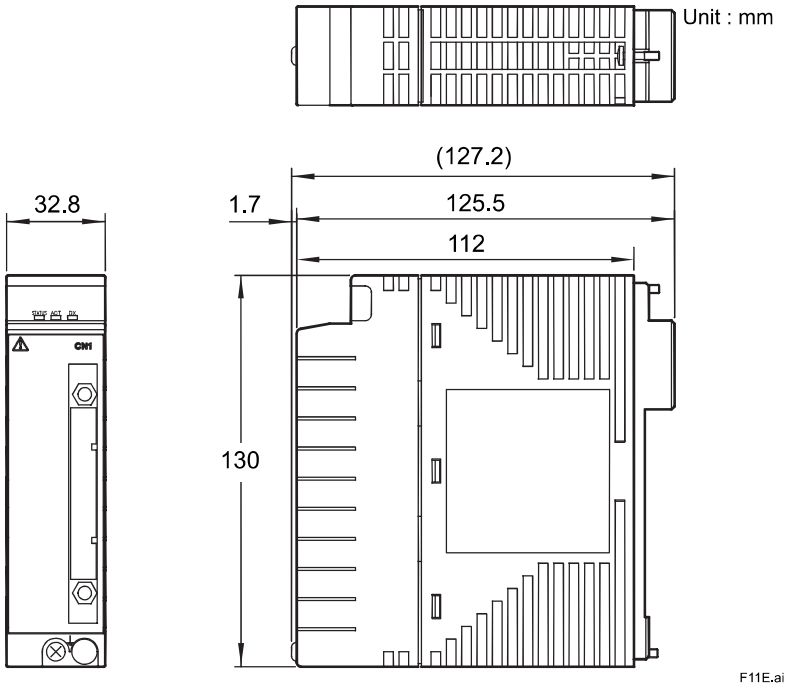
● AAI141, AAV141, AAV144, AAI841, AAB841, AAV544, AAI143, AAI543, AAI135, AAI835, AAP135, AAB141, AAB842



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

● AAT145, AAP849



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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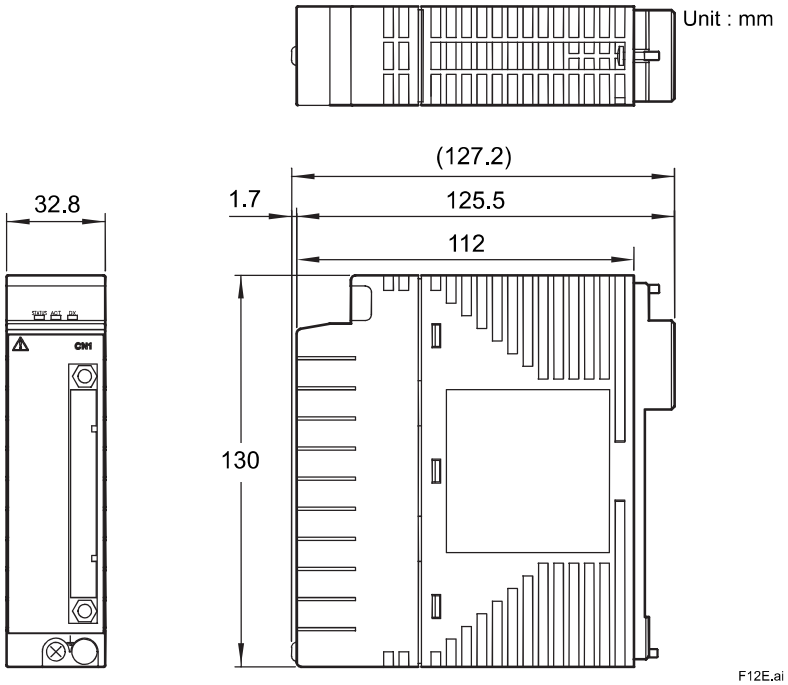
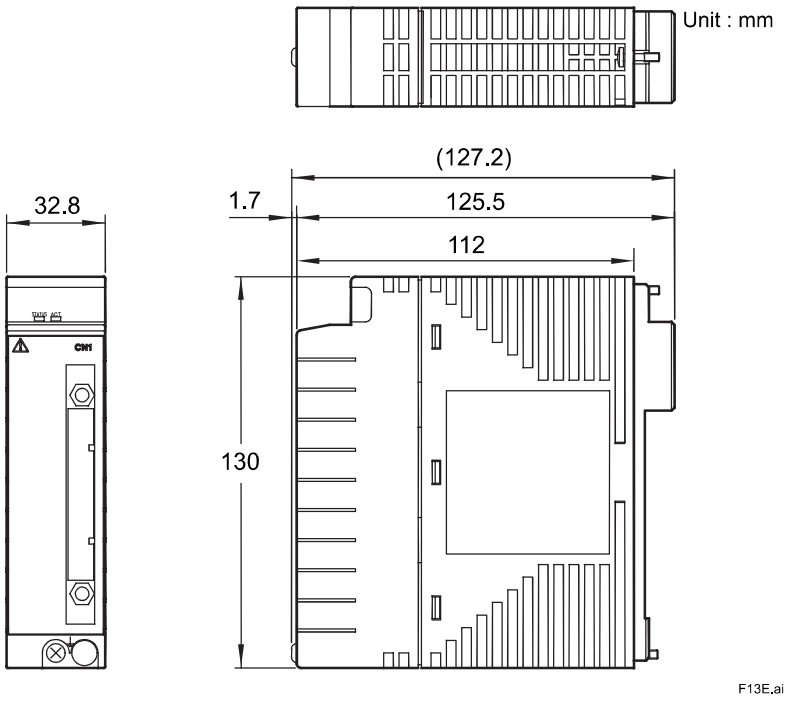
● AAR145



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

● AAP149



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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■ MODEL AND SUFFIX CODES

		Description
Model	AAI141	Analog Input Module (4 to 20 mA, 16-channel, Non-Isolated)
Suffix Codes	-S	Standard type
	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block for Analog [Model: ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block for Analog (surge absorber) [Model: ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block for Analog [Model: ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block for Analog (surge absorber) [Model: ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

		Description
Model	AAV141	Analog Input Module (1 to 5 V, 16-channel, Non-Isolated)
Suffix Codes	-S	Standard type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block for Analog [Model: ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block for Analog (surge absorber) [Model: ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block for Analog [Model: ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block for Analog (surge absorber) [Model: ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

		Description
Model	AAB141	Analog Input Module (1 to 5 V/4 to 20 mA, 16-channel, Non-Isolated)
Suffix Codes	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]

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		Description
Model	AAI841	Analog I/O Module (4 to 20 mA input , 4 to 20 mA output, 8-channel input/8-channel output, Non-Isolated)
Suffix Codes	-S	Standard type
	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model : ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block for Analog [Model : ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block for Analog (surge absorber) [Model : ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block for Analog [Model : ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block for Analog (surge absorber) [Model : ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model : ACCC01]

		Description
Model	AAB841	Analog I/O Module (1 to 5 V input, 4 to 20 mA output, 8-channel input/8-channel output, Non-Isolated)
Suffix Codes	-S	Standard type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model : ATK4A-00]
	/M4A00	With MAC2 Compatible Adapter [Model : ATM4A-00]
	/V4A00	With VM2 Compatible Adapter [Model : ATV4A-00] (*1)
	/A4S00	With Pressure Clamp Terminal Block for Analog [Model : ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block for Analog (surge absorber) [Model : ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block for Analog [Model : ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block for Analog (surge absorber) [Model : ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model : ACCC01]

*1: When using this adapter, 4 to 20 mA output (8-channel) of AAB841 varies to 1 to 5 V output.

		Description
Model	AAB842	Analog I/O Module (1 to 5 V/4 to 20 mA input, 4 to 20 mA output, 8-channel input/8-channel output, Non-Isolated)
Suffix Codes	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/M4A00	With MAC2 Compatible Adapter [Model : ATM4A-00]
	/V4A00	With VM2 Compatible Adapter [Model : ATV4A-00] (*1)

*1: When using this adapter, 4 to 20 mA output (8-channel) of AAB842 varies to 1 to 5 V output.

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		Description
Model	AAI143	Analog Input Module (4 to 20 mA, 16-channel, Isolated)
Suffix Codes	-S	Standard type
	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter (For connecting AEA4D Terminal Board) [Model: ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block [Model: ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block (surge absorber) [Model: ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block [Model: ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block (surge absorber) [Model: ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

		Description
Model	AAI543	Analog Output Module (4 to 20 mA, 16-channel, Isolated)
Suffix Codes	-S	Standard type
	-H	With digital communication (HART protocol)
	5	Standard switch-over response in redundant configuration with no explosion protection(*1)
	6	Fast switch-over response in redundant configuration with no explosion protection(*2)
	E	Standard switch-over response in redundant configuration with explosion protection(*1)
	F	Fast switch-over response in redundant configuration with explosion protection(*2)
	0	Basic type
	1	With ISA Standard G3 option
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter (For connecting AEA4D Terminal Board) [Model: ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block [Model: ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block (surge absorber) [Model: ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block [Model: ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block (surge absorber) [Model: ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

*1: If “standard switch-over response in redundant configuration” is selected, “basic type” or “with ISA Standard G3 option and temperature (-20 to 70 °C) option” may be specified.
*2: If “fast switch-over response in redundant configuration” is selected, “basic type” or “with ISA Standard G3 option” may be specified.

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		Description
Model	AAV144	Analog Input Module (-10 to +10 V, 16-channel, Isolated)
Suffix Codes	-S	Standard type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block for Analog [Model: ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block for Analog (surge absorber) [Model: ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block for Analog [Model: ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block for Analog (surge absorber) [Model: ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

		Description
Model	AAV544	Analog Output Module (-10 to +10 V, 16-channel, Isolated)
Suffix Codes	-S	Standard Type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/K4A00	With KS Cable Interface Adapter [Model : ATK4A-00]
	/A4S00	With Pressure Clamp Terminal Block for Analog [Model : ATA4S-00]
	/A4S10	With Pressure Clamp Terminal Block for Analog (surge absorber) [Model : ATA4S-10]
	/A4D00	With Dual Pressure Clamp Terminal Block for Analog [Model : ATA4D-00]
	/A4D10	With Dual Pressure Clamp Terminal Block for Analog (surge absorber) [Model : ATA4D-10]
	/CCC01	With Connector Cover for MIL Cable [Model : ACCC01]

		Description
Model	AAI135	Analog Input Module (4 to 20 mA, 8-channel, Isolated channels)
Suffix Codes	-S	Standard type
	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/13A00	With KS Cable Interface Adapter [Model: ATI3A-00]
	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]
	/13S00	With Pressure Clamp Terminal Block for Isolated Analog [Model: ATI3S-00]
	/13S10	With Pressure Clamp Terminal Block for Isolated Analog (surge absorber) [Model: ATI3S-10]
	/13D00	With Dual Pressure Clamp Terminal Block for Isolated Analog [Model: ATI3D-00]
	/13D10	With Dual Pressure Clamp Terminal Block for Isolated Analog (surge absorber) [Model: ATI3D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

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		Description
Model	AAI835	Analog I/O Module (4 to 20 mA, 4-channel input/4-channel output, Isolated channels)
Suffix Codes	-S	Standard type
	-H	With digital communication (HART protocol)
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/B3A00	With KS Cable Interface Adapter [Model: ATB3A-00]
	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]
	/13S00	With Pressure Clamp Terminal Block for Isolated Analog [Model: ATI3S-00]
	/13S10	With Pressure Clamp Terminal Block for Isolated Analog (surge absorber) [Model: ATI3S-10]
	/13D00	With Dual Pressure Clamp Terminal Block for Isolated Analog [Model: ATI3D-00]
	/13D10	With Dual Pressure Clamp Terminal Block for Isolated Analog (surge absorber) [Model: ATI3D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

		Description
Model	AAT145	TC/mV Input Module (16-channel, Isolated channels)
Suffix Codes	-S	Standard type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option

		Description
Model	AAR145	RTD/POT Input Module (16-channel, Isolated channels)
Suffix Codes	-S	Standard type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option

		Description
Model	AAP135	Pulse Input Module (8-channel, Pulse count, 0 to 10 kHz, Isolated channels)
Suffix Codes	-S	Standard type
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/13A00	With KS Cable Interface Adapter [Model: ATI3A-00]
	/K4A00	With KS Cable Interface Adapter [Model: ATK4A-00]
	/13S00	With Pressure Clamp Terminal Block for Pulse [Model: ATI3S-00]
	/13S10	With Pressure Clamp Terminal Block for Pulse (surge absorber) [Model: ATI3S-10]
	/13D00	With Dual Pressure Clamp Terminal Block for Pulse [Model: ATI3D-00]
	/13D10	With Dual Pressure Clamp Terminal Block for Pulse (surge absorber) [Model: ATI3D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

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		Description
Model	AAP149	Pulse Input Module PM1 compatible (16-channel, Pulse count, 0 to 6 kHz, Non-Isolated)
Suffix Codes	-S	Standard type
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

		Description
Model	AAP849	Pulse Input Module/ Analog Output Module for compatible PAC (Pulse count Input, 4 to 20 mA output, 8-channel input / 8-channel output, Non-Isolated)
Suffix Codes	-S	Standard type
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify the model and suffix codes.
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 2/05/2025 Rev: 05

Attachment 15.1.8 Digital input adaptor (ADV151) & Digital output adaptor (ADV551)

GS 33J60F70-01EN

<<Contents>> <<Index>>

General Specifications

Digital I/O Modules (for FIO)

CENTUM VP

GS 33J60F70-01EN

[Release 6]

■ GENERAL

This GS covers the hardware specifications of the Digital I/O Modules (FIO) that can be installed in the ESB Bus Node Unit (ANB10S, ANB10D), Optical ESB Bus Node Unit (ANB11S, ANB11D), and the Field Control Unit (AFV30S, AFV30D, AFV40S, AFV40D).

AFV30□, AFV40□, ACB51, ANB10□, ANB11□ and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN).

■ STANDARD SPECIFICATIONS

● Digital Input Modules

The Digital Input Modules receive 32-channel or 64-channel 24 V DC ON/OFF signals.

The ADV151 and ADV161 can be used in dual redundant configuration.

Item		Specifications	
Model		ADV151-P/ADV151-E (*1)	ADV161
Number of input channels		32	64
Rated input voltage (*2)		24 V DC (sink/source)	24 V DC (sink/source)
Input ON voltage		18 to 26.4 V DC	20 to 26.4 V DC
Input OFF voltage		5.0 V DC or less	5.0 V DC or less
Input current (at rated input voltage)		4.1 mA±20 % / channel	2.5 mA±20 % / channel
Maximum allowable input voltage		30.0 V DC	30.0 V DC
Withstanding voltage		Between input signal and system: 2 kV AC, For 1 minute Between commons: 500 V AC, For 1 minute, common every 16-channel (*3)	
Functions			
	Status input	Function for detecting ON/OFF status	Function for detecting ON/OFF status
	Pushbutton input	Function for counting the pushbutton edges (*4)	Function for counting the pushbutton edges
	SOE input	Function for capturing the SOE data (*5)	—
Input response time		8 ms or less (for status input)	
Minimum ON detection time		20 ms (for pushbutton input)	
Maximum ON/OFF cycle		25 Hz (for pushbutton input)	
Maximum current consumption		500 mA (5 V DC)	550 mA (5 V DC)
Weight		Approx. 0.30 kg	Approx. 0.30 kg
External connection		Pressure clamp terminal, Dedicated cable (AKB331), MIL connector cable	Dedicated cable (AKB337), MIL connector cable

*1: ADV151-E cannot be installed in the ER Bus Node Unit.
*2: ADV151 and ADV161 are common every 16-channel. All voltage input signals to be connected (24 V DC) must be in the same polarity.
*3: The withstanding voltage for using a dedicated cable is 500 V AC (between input signal and system).
The withstanding voltage for using MIL connector cable depends on the electrical specifications of its cable.
*4: Only ADV151-P supports this function.
*5: Only ADV151-E supports this function.

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● Digital Output Modules

The Digital Output Modules output 32-channel or 64-channel transistor contact signals.
The ADV551 and ADV561 can be used in dual redundant configuration.

Item		Specifications	
Model		ADV551	ADV561
Number of output channels		32	64
Rated applied voltage		24 V DC	24 V DC
External power supply rating		24 V DC, 50 mA	24 V DC, 100 mA
External power supply voltage range		20.4 to 26.4 V DC	20.4 to 26.4 V DC
Output ON voltage maximum value		2 V DC	2 V DC
Leak current maximum value when output OFF		0.1 mA	0.1 mA
Output format		Current sink	Current sink
Maximum load current (*1)		100 mA/channel, 26.4 V	100 mA/channel, 26.4 V
Withstanding voltage		Between output signal and system: 2 kV AC, For 1 minute Between commons: 500 V AC, For 1 minute, common minus (–) side every 16-channel (*2)	
Functions			
	Status input	ON/OFF status output function	ON/OFF status output function
	Pushbutton input	One-shot pulse width output function	One-shot pulse width output function
	SOE input	Time-proportioning ON/OFF	Time-proportioning ON/OFF
Output response time		3 ms or less (for status output) 10 ms or less (for mixed status and pulse outputs)	
Pulse width		8 ms to 7200 s	
Pulse width resolution		8 ms, but ON/OFF delay of maximum 1 ms is added	
Maximum current consumption		700 mA (5 V DC) 60 mA (external power supply)	780 mA (5 V DC) 120 mA (external power supply)
Weight		Approx. 0.20 kg	Approx. 0.30 kg
External connection		Pressure clamp terminal, Dedicated cable (AKB331), MIL connector cable	Dedicated cable (AKB337), MIL connector cable

*1: Connect a diode when driving DC relay.
*2: The withstanding voltage for using a dedicated cable is 500 V AC (between output signal and system).
The withstanding voltage for using MIL connector cable depends on the electrical specifications of its cable.

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● Digital I/O Modules (CENTUM-ST Compatible)

The Digital I/O Modules (CENTUM-ST Compatible) receive contact or voltage status signals from the field, and/or output status signals to the field via transistor contacts.

Item	Specifications		
Model	**ADV859**	**ADV159**	**ADV559**
Number of I/O channels	16-channel input, 16-channel output	32-channel input	32-channel output
Signal isolation	Isolated channels	Isolated channels	Isolated channels
Input signal	Contact input: OFF signal 100 kΩ or more ON signal 200 Ω or less Minimum current value when contact is short-circuited: 1.25 mA Voltage input: OFF signal 4.5 to 25 V DC ON signal ±1 V DC, 200 Ω or less		—
Input contact rating	5 V DC, 20 mA or more		—
Pushbutton input function	Not supported	Supported	—
Input response time	8 ms (for status input)	8 ms (for status input)	—
Minimum ON detection time	—	20 ms (for pushbutton input)	—
Maximum ON/OFF cycle	—	25 Hz (for pushbutton input)	—
Output signal	Transistor contact	—	Transistor contact
Output contact rating	Inductive load, resistive load: 30 V DC, 100 mA (*1)	—	Inductive load, resistive load: 30 V DC, 100 mA (*1)
Output response time	16 ms or less	—	16 ms or less
Pulse width	8 ms to 7200 s	—	8 ms to 7200 s
Pulse width resolution	8 ms, add max. 1ms for ON/OFF delay time	—	8 ms, add max. 1ms for ON/OFF delay time
Maximum current consumption	450 mA (5 V DC)	330 mA (5 V DC)	570 mA (5 V DC)
Weight	Approx. 0.30 kg	Approx. 0.40 kg	Approx. 0.30 kg
External connection	Dedicated cable (KS2)	Dedicated cable (KS2)	Dedicated cable (KS2)
Compatible card	ST2 compatible	ST3 compatible	ST4 compatible

*1: Connect a diode when driving DC relay.

Item	Specifications		
Model	**ADV869**	**ADV169**	**ADV569**
Number of I/O channels	32-channel input, 32-channel output	64-channel input	64-channel output
Signal isolation	Common every 16-channel	Common every 16-channel	Common every 16-channel
Input signal	Contact input: OFF signal 100 kΩ or more ON signal 200 Ω or less Minimum current value when contact is short-circuited: 1.25 mA Voltage input: OFF signal 4.5 to 25 V DC ON signal ±1 V DC, 200 Ω or less		—
Input contact rating	5 V DC, 20 mA or more		—
Pushbutton input function	Not supported	Not supported	—
Input response time	8 ms (for status input)	8 ms (for status input)	—
Output signal	Transistor contact	—	Transistor contact
Output contact rating	Inductive load, resistive load: 30 V DC, 100 mA (*1)	—	Inductive load, resistive load: 30 V DC, 100 mA (*1)
Output response time	16 ms or less	—	16 ms or less
Pulse width	8 ms to 7200 s	—	8 ms to 7200 s
Pulse width resolution	8 ms, add max. 1 ms for ON/OFF delay time	—	8 ms, add max. 1 ms for ON/OFF delay time
Maximum current consumption	800 mA (5 V DC)	800 mA (5 V DC)	800 mA (5 V DC)
Weight	Approx. 0.30 kg	Approx. 0.30 kg	Approx. 0.30 kg
External connection	Dedicated cable (KS9)	Dedicated cable (KS9)	Dedicated cable (KS9)
Compatible card	ST5 compatible	ST6 compatible	ST7 compatible

*1: Connect a diode when driving DC relay.

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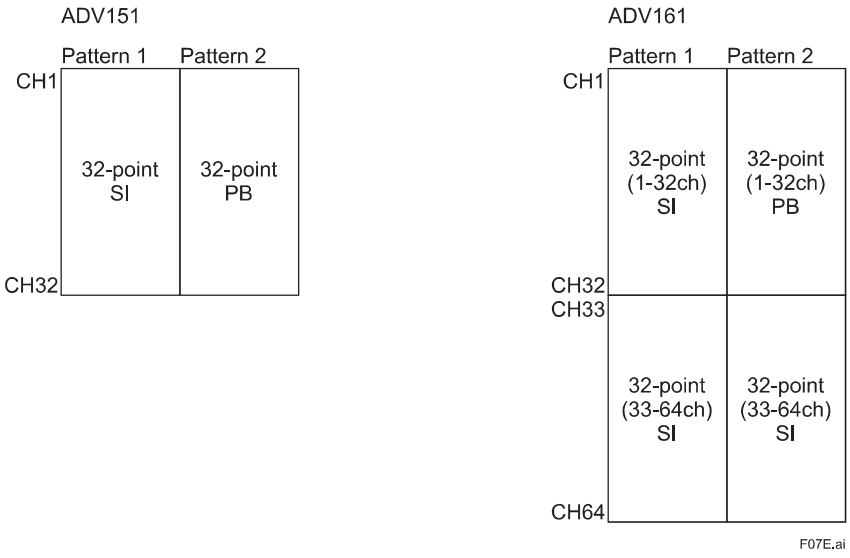
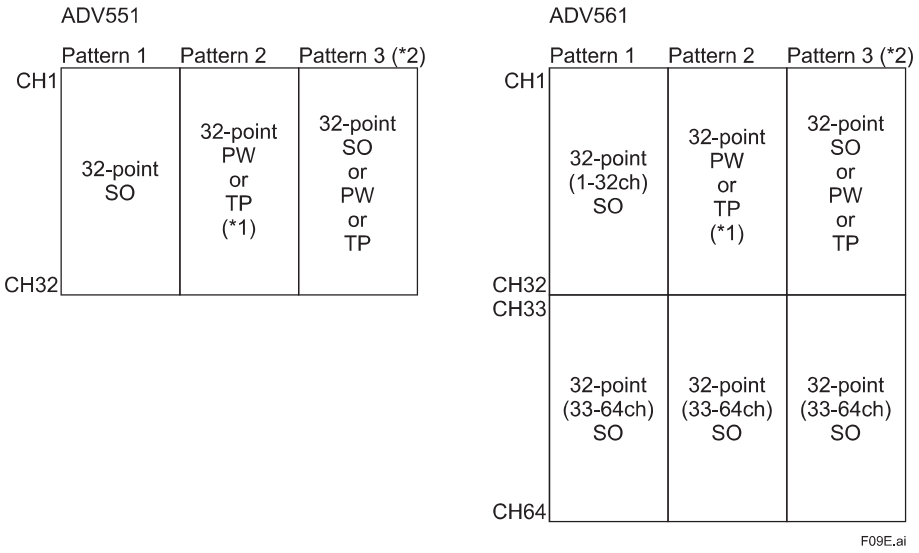
● Function Assignment in Digital Modules

Select the patterns for assigning functions channel-by-channel in digital modules.
The following table lists the correspondence between the module types and point modes.

Table: Correspondence Between the Module Types and Point Modes

Point Mode	Module Type
SI	Status input
PB	Pushbutton input
SO	Status output
PW	Pulse width output
TP	Time-proportioning ON/OFF output





*1: If an odd-numbered terminal is specified as PW or TP, the next terminal cannot be specified as a different type.
*2: This pattern applies only for direct-connected nodes. Dual redundancy is not possible.

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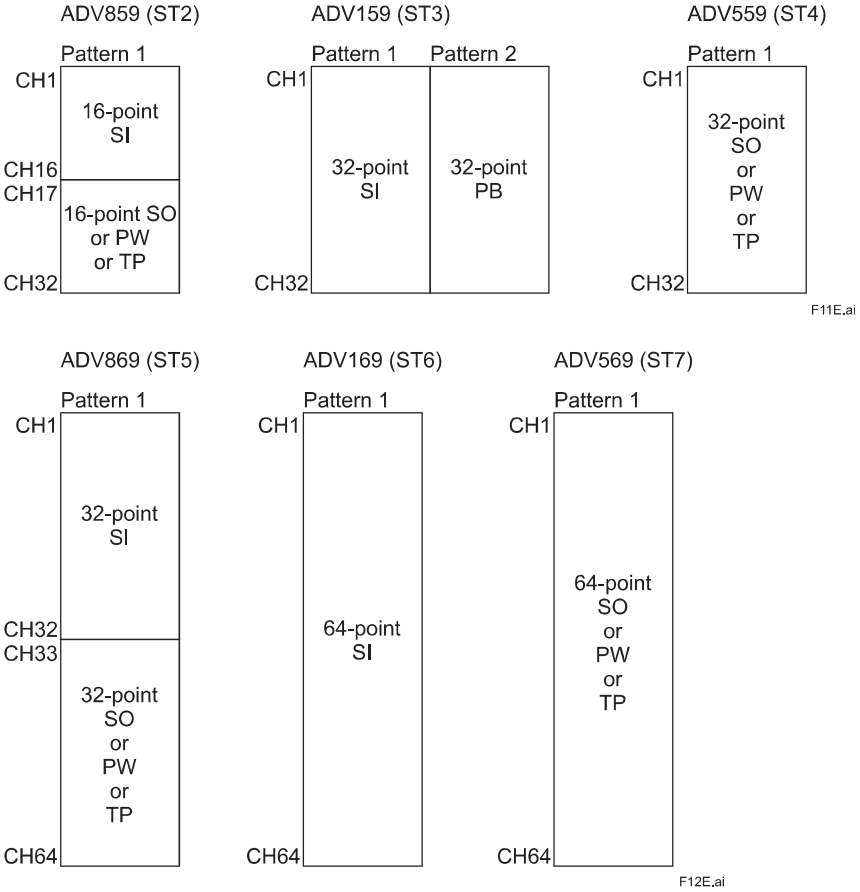

For PW (pulse width output), use two contiguous terminal numbers; the first of these must be odd-numbered. If both PW and TP (time-proportioning ON/OFF output) are used together, successive pairs of terminals must be either PW or TP terminals, as shown in the example below.

Example:

Terminals 1 and 2	PW (one PW output, two contiguous terminal nos.)
Terminals 3 and 4	TP (two outputs, two contiguous terminal nos.)
Terminals 5 and 6	TP (two outputs, two contiguous terminal nos.)
⋮	⋮
Terminals 15 and 16	PW (one PW output, two contiguous terminal nos.)

For PW output, use two contiguous terminal numbers; the first of these must be odd-numbered. Also if SO and TP terminals are used together with PW, individual terminals that are not PW can be either SO or TP terminals.

Example:

Terminals 1 and 2	PW (one PW output, two contiguous terminal nos.)
Terminal 3	TP or SO
Terminal 4	TP or SO
⋮	⋮
Terminal 16	TP or SO

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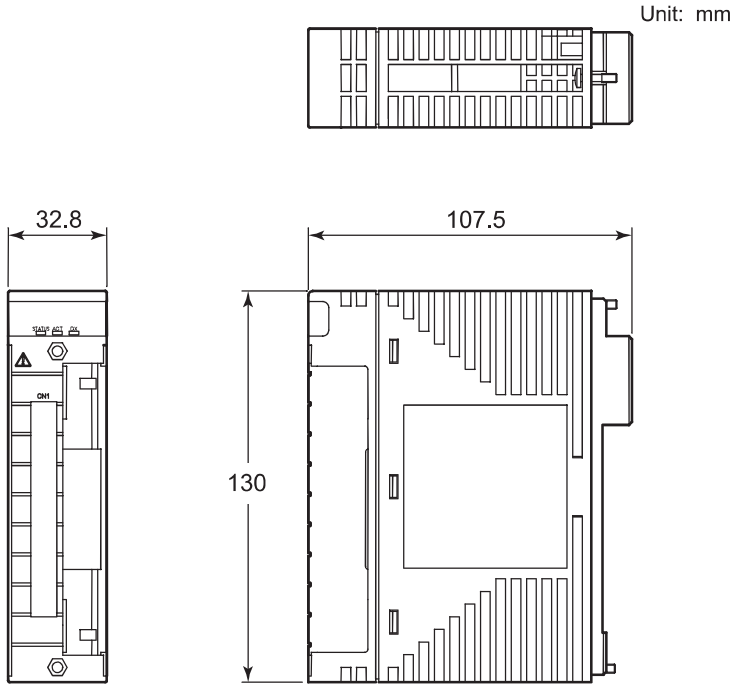
■ EXTERNAL DIMENSIONS

● ADV151, ADV551 Digital I/O Module

Unit: mm

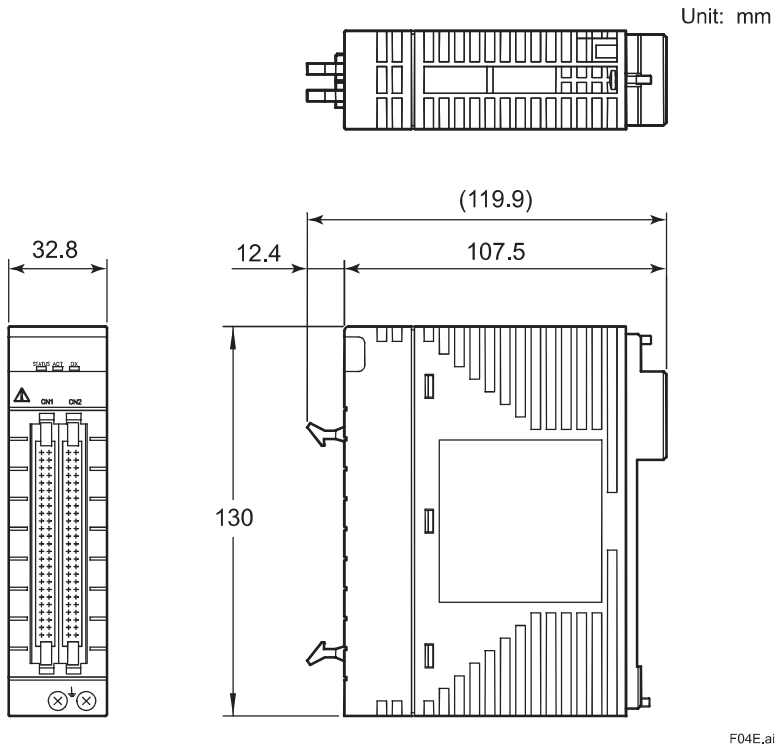


Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

● ADV161, ADV561 Digital I/O Module

Unit: mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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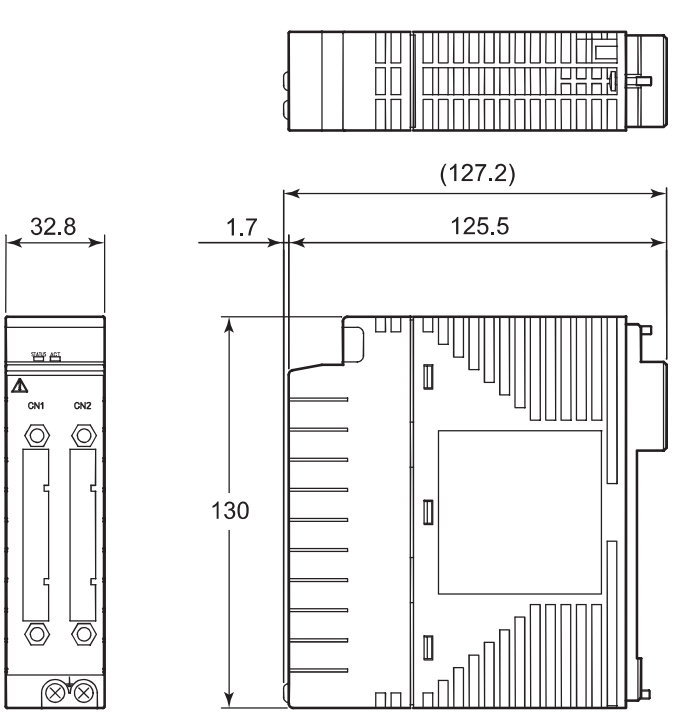
● ADV859, ADV159, ADV559 Digital I/O Module for Compatible ST

Unit: mm



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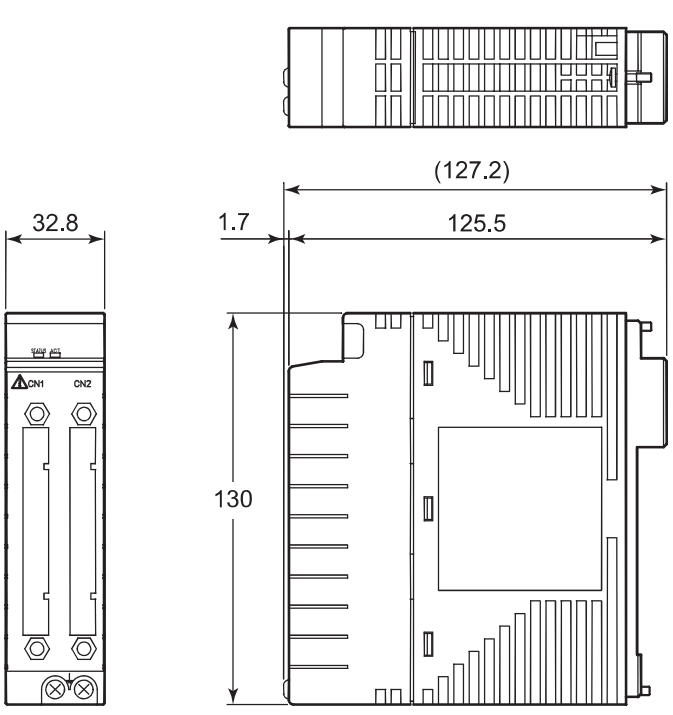
Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

● ADV869, ADV169, ADV569 Digital I/O Module for Compatible ST

Unit: mm



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Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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■ MODELS AND SUFFIX CODES

Digital Input Module

		Description
Model	ADV151	Digital Input Module (32-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pushbutton input
	-E	With SOE capture (*1)
	5	Without status display; with no explosion protection
	6	With status display; with no explosion protection
	E	Without status display; with explosion protection
	F	With status display; with explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/D5A00	With KS Cable Interface Adapter for 32-channel digital [Model: ATD5A-00]
	/B5S00	With Pressure Clamp Terminal Block for Digital Input [Model: ATB5S-00]
	/B5S10	With Pressure Clamp Terminal Block for Digital Input (surge absorber) [Model: ATB5S-10]
	/B5D00	With Dual Pressure Clamp Terminal Block for Digital Input [Model: ATB5D-00]
	/B5D10	With Dual Pressure Clamp Terminal Block for Digital Input (surge absorber) [Model: ATB5D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

*1: Please refer to GS 33J30D10-01EN when using it.

		Description
Model	ADV161	Digital Input Module (64-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pushbutton input
	5	Without status display; with no explosion protection
	E	Without status display; with explosion protection
	0	Basic type
	1	With ISA Standard G3 option

Digital Output Module

		Description
Model	ADV551	Digital Output Module (32-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pulse width output function/time-proportional output function
	5	Without status display; with no explosion protection
	6	With status display; with no explosion protection
	E	Without status display; with explosion protection
	F	With status display; with explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/D5A00	With KS Cable Interface Adapter for 32-channel Digital [Model : ATD5A-00]
	/D5S00	With Pressure Clamp Terminal Block for Digital Output [Model : ATD5S-00]
	/D5S10	With Pressure Clamp Terminal Block for Digital Output (surge absorber) [Model : ATD5S-10]
	/D5D00	With Dual Pressure Clamp Terminal Block for Digital Output [Model : ATD5D-00]
	/D5D10	With Dual Pressure Clamp Terminal Block for Digital Output (surge absorber) [Model : ATD5D-10]
	/CCC01	With Connector Cover for MIL Cable [Model : ACCC01]

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		Description
Model	ADV561	Digital Output Module (64-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pulse width output function/time-proportional output function
	5	Without status display; with no explosion protection
	E	Without status display; with explosion protection
	0	Basic type
	1	With ISA Standard G3 option

Digital I/O Module

		Description
Model	ADV859	Digital I/O Module for Compatible ST2 (16-channel input/16-channel output, Isolated channels)
Suffix Codes	-P	With pulse width function/time-proportional output function
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

		Description
Model	ADV159	Digital Input Module for Compatible ST3 (32-channel, Isolated channels)
Suffix Codes	-P	With pushbutton input
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

		Description
Model	ADV559	Digital Output Module for Compatible ST4 (32-channel output, Isolated channels)
Suffix Codes	-P	With pulse width function/time-proportional output function
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

		Description
Model	ADV869	Digital I/O Module for Compatible ST5 (32-channel input/32-channel output, Isolated, Common Minus Side Every 16-channel)
Suffix Codes	-P	With pulse width function/time-proportional output function
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

		Description
Model	ADV169	Digital Input Module for Compatible ST6 (64-channel, Isolated, Common Minus Side Every 16-channel)
Suffix Codes	-P	Standard type
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

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		Description
Model	ADV569	Digital Output Module for Compatible ST7 (64-channel output, Isolated, Common Minus Side Every 16-channel)
Suffix Codes	-P	With pulse width function/time-proportional output function
	0	Always 0
	0	Basic type
	1	With ISA Standard G3 option

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify the model and suffix codes.
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.9 TB (A1BA4D-06) for Analog Module & TB (A1BD5D-06) for Digital Module

GS 33J60H51-01EN

<<Contents>> <<Index>>

General Specifications

Terminal Boards (for FIO)

CENTUM VP

GS 33J60H51-01EN

[Release 6]

■ GENERAL

This document describes the specifications of terminal boards with DIN rail type used for FIOs of CENTUM VP systems.

■ STANDARD SPECIFICATIONS

About the installation and environmental conditions of the Terminal board, refer to “Safety Precautions” of “CENTUM VP installation Guidance (TI 33J01J10-01EN),” which is common with the Terminal board.

Model	Description	Points	Terminals	Modules Connected	Connection Adapter	Connection Cable	Weight	Specifications
A1BA4D	For analog signals (single and dual-redundant modules)	8 pts x 1	Pressure clamp	AAI135 (*1) AAI835 (*1) AAP135 (*1)	ATK4A	KS1	Approx. 0.30 kg	Insulation resistance: 10 MΩ or greater at 500 V DC Withstanding voltage: 500 V AC for 1 minute (*4)
		16 pts x 1	Pressure clamp	AAI141 AAV141 AAV144 AAB841 AAI841 AAV544 AAI143 AAI543				
A1BT4D	For thermocouple (single and dual-redundant modules)	16 pts x 1	Pressure clamp	AAT145	— (*3)	KS1	Approx. 0.30 kg	Insulation resistance: 10 MΩ or greater at 200 V DC Withstanding voltage: 200 V AC for 1 minute (*4)
A1BR4D	For resistance temperature detectors (single and dual-redundant modules)	16 pts x 1	Pressure clamp	AAR145	— (*3)	AKB335	Approx. 0.30 kg	Insulation resistance: 10 MΩ or greater at 200 V DC Withstanding voltage: 200 V AC for 1 minute (*4)
A1BD5D (*6) (*7)	For digital signals (single and dual-redundant modules)	32 pts x 1	Pressure clamp	ADV151 ADV551	ATD5A	AKB331	Approx. 0.70 kg	Insulation resistance: 10 MΩ or greater at 500 V DC Withstanding voltage: 2.0 k V AC for 1 minute (*5)
				ADV161 (*2) ADV561 (*2)	— (*3)	AKB337		

Note: Be sure to leave the connector caps on connectors that are not used, in order to protect the connector pins and prevent dust from accumulating on them.

*1: For the combination of AAI135/AAI835/AAP135; ATK4A; A1BA4D, either 2-Wire Transmitter 2-Wire Input (transmitter power supply type) or 4-Wire Transmitter 2-Wire Input (without transmitter power supply) can be selected for each input channel.
*2: Two units of A1BD5D and two units of AKB337 are required for ADV161 or ADV561.
*3: A cable can be connected directly to the I/O module without using an adapter.
*4: Between channels
*5: Between power terminal and READY terminal
*6: The READY contact rating shows below.
125 V AC or less and 0.3 A or less
60 V DC or less and 1 A or less
*7: External supply voltage shows below.
24 V DC ±10 %

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■ CABLES

● A1BA4D, A1BD5D, A1BR4D

Applicable Cables

Refer to the TI "CENTUM VP Installation Guidance" (TI 33J01J10-01EN), and use the proper cable appropriate for its installation environment.

Temperature rating of Cables

Models	Cables	Temperature rating of Cables
A1BA4D, A1BR4D	Signal Cables	An ambient temperature plus 10 °C or more
A1BD5D	Signal Cables (including READY terminal)	An ambient temperature plus 10 °C or more
	Input Power Cables	An ambient temperature plus 20 °C or more

Recommended Wire nominal cross sectional area

• Pressure clamp terminals
Without a sleeve: 0.5 to 2 mm^2 (AWG20 to 14)

Cable Termination Process when Pressure Clamp Terminals are Used

• Without a Sleeve

Wire nominal cross sectional area (mm^2)	Peel-off length (mm)
0.5 to 2.5 (AWG20 to 14)	7

• With a Sleeve
It is recommended to use any one of the following sleeves.
Sleeve without insulating cover (DIN 46 228/1) Sleeve with insulating cover (DIN 46 228/4)

Cable nominal cross sectional area (mm^2)	When using a sleeve with insulating cover			When using a sleeve without insulating cover	
	Peel-off length (mm)	Sleeve dimensions (mm)		Peel-off length (mm)	Sleeve dimensions (mm)
		Total length	Contact section length		Total length
0.5	10	14	8	6	6
0.75	10	14	8	6	6
1.0	10	14	8	6	6
1.5	10	14	8	7	7
2.5	10	14	8	7	7

● A1BT4D

Applicable Cables

Refer to the TI "CENTUM VP Installation Guidance" (TI 33J01J10-01EN), and use the proper cable appropriate for its installation environment.

Temperature rating of Cables

Models	Cables	Temperature rating of Cables
A1BT4D	Signal Cables	An ambient temperature plus 10 °C or more

Recommended Wire nominal cross sectional area

• Pressure clamp terminals
Without a sleeve: 0.5 to 2 mm^2 (AWG20 to 14)
With a sleeve: 0.5 to 1.5 mm^2 (AWG20 to 16)

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Cable Termination Process when Pressure Clamp Terminals are Used

• Without a Sleeve

Wire nominal cross sectional area (mm^2)	Peel-off length (mm)
0.5 to 2 (AWG20 to 14)	11

• With a Sleeve

It is recommended to use any one of the following sleeves.

Sleeve without insulating cover (DIN 46 228/1) Sleeve with insulating cover (DIN 46 228/4)

Cable nominal cross sectional area (mm^2)	When using a sleeve with insulating cover			When using a sleeve without insulating cover	
	Peel-off length (mm)	Sleeve dimensions (mm)		Peel-off length (mm)	Sleeve dimensions (mm)
		Total length	Contact section length		Total length
0.5	12	16	10	10	10
0.75	12	16	10	10	10
1.0	12	16	10	10	10
1.25 to 1.5	12	16	10	10	10

■ TERMINAL BLOCK AND CONNECTOR CONNECTION SPECIFICATIONS

Please refer to the specifications shown below to connect signal cables with a proper terminal since some Analog I/O modules require to select a proper terminal dependent on the devices to be connected.

Models	Cable Connection Pris	Input Type		
AAI141 AAI143 AAI841 (*1)	IN□A	2-wire transmitter input +	Current input -	—
	IN□B	2-wire transmitter input - (setting pin: 2-wire input)	Current input + (setting pin: 4-wire input)	
AAI135 AAI835	IN□A	2-wire transmitter input +	—	—
	IN□B	2-wire transmitter input -	Current input +	
	IN□C	—	Current input -	
AAR145 (*2)	IN□A	RTD input A	POT input, 100 %	—
	IN□B	RTD input B	POT input, 0 %	
	IN□C	RTD input B	POT input, variable	
AAP135	IN□A	2-wire power supply (power)	–	3-wire power supply power supply
	IN□B	2-wire power supply (signal)	2-wire (voltage, contact) +	3-wire power supply +
	IN□C	—	2-wire (voltage, contact) -	3-wire power supply -

□ is channel number.

*1: When power of models AAI141, AAI143, AAI841, AAI135 and AAI835 is off or abnormal, current input loop is in the open state.
Do not use current signals with other receiving devices.When in use, also use an extarnal receiver resistance, in the voltage mode (Shunt resistant module part no.: A1080RZ 250 ohm).

*2: Wiring resistance for the signal cables of IN□A and IN□B must be identical.

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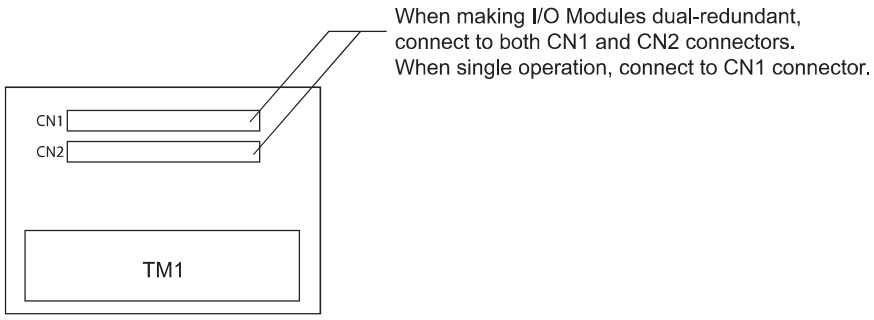
■ TERMINAL BOARDS

The terminal N.C. in the figure is an unused terminal; wiring is not required.

● A1BA4D



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When connecting AAI141 or AAI143

TM1

Signal name	IN1A	IN2A	IN3A	IN4A	IN5A	IN6A	IN7A	IN8A	IN9A	IN10A	IN11A	IN12A	IN13A	IN14A	IN15A	IN16A
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	IN1B	IN2B	IN3B	IN4B	IN5B	IN6B	IN7B	IN8B	IN9B	IN10B	IN11B	IN12B	IN13B	IN14B	IN15B	IN16B

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When connecting AAV141 or AAV144

TM1

Signal name	IN1+	IN2+	IN3+	IN4+	IN5+	IN6+	IN7+	IN8+	IN9+	IN10+	IN11+	IN12+	IN13+	IN14+	IN15+	IN16+
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	IN1-	IN2-	IN3-	IN4-	IN5-	IN6-	IN7-	IN8-	IN9-	IN10-	IN11-	IN12-	IN13-	IN14-	IN15-	IN16-

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When connecting AAI543 or AAV544

TM1

Signal name	OUT1+	OUT2+	OUT3+	OUT4+	OUT5+	OUT6+	OUT7+	OUT8+	OUT9+	OUT10+	OUT11+	OUT12+	OUT13+	OUT14+	OUT15+	OUT16+
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	OUT1-	OUT2-	OUT3-	OUT4-	OUT5-	OUT6-	OUT7-	OUT8-	OUT9-	OUT10-	OUT11-	OUT12-	OUT13-	OUT14-	OUT15-	OUT16-

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When connecting AAI841

TM1

Signal name	IN1A	IN2A	IN3A	IN4A	IN5A	IN6A	IN7A	IN8A	OUT1+	OUT2+	OUT3+	OUT4+	OUT5+	OUT6+	OUT7+	OUT8+
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	IN1B	IN2B	IN3B	IN4B	IN5B	IN6B	IN7B	IN8B	OUT1-	OUT2-	OUT3-	OUT4-	OUT5-	OUT6-	OUT7-	OUT8-

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When connecting AAB841

TM1

Signal name	IN1+	IN2+	IN3+	IN4+	IN5+	IN6+	IN7+	IN8+	OUT1+	OUT2+	OUT3+	OUT4+	OUT5+	OUT6+	OUT7+	OUT8+
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	IN1-	IN2-	IN3-	IN4-	IN5-	IN6-	IN7-	IN8-	OUT1-	OUT2-	OUT3-	OUT4-	OUT5-	OUT6-	OUT7-	OUT8-

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When connecting AAI135 or AAP135

TM1

Signal name	IN1A	IN1B	IN2A	IN2B	IN3A	IN3B	IN4A	IN4B	IN5A	IN5B	IN6A	IN6B	IN7A	IN7B	IN8A	IN8B
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	N.C.	IN1C	N.C.	IN2C	N.C.	IN3C	N.C	IN4C	N.C.	IN5C	N.C.	IN6C	N.C.	IN7C	N.C.	IN8C

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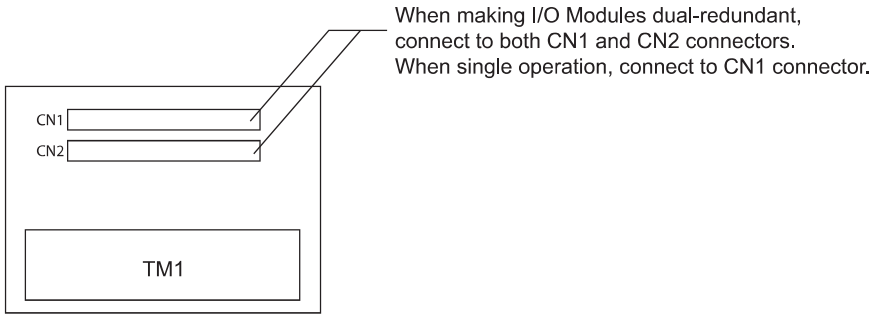
When connecting AAI835

TM1

Signal name	IN1A	IN1B	IN2A	IN2B	IN3A	IN3B	IN4A	IN4B	N.C.	OUT1+	N.C.	OUT2+	N.C.	OUT3+	N.C.	OUT4+
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B
Signal name	N.C.	IN1C	N.C.	IN2C	N.C.	IN3C	N.C	IN4C	N.C.	OUT1-	N.C.	OUT2-	N.C.	OUT3-	N.C.	OUT4-

F08E.ai

● A1BT4D



F09E.ai

When connecting AAT145

TM1

Signal name	IN1+	IN2+	IN3+	IN4+	IN5+	IN6+	IN7+	IN8+	IN9+	IN10+	IN11+	IN12+	IN13+	IN14+	IN15+	IN16+	N.C.	N.C.
Terminal No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A	16A	17A	18A
	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	11B	12B	13B	14B	15B	16B	17B	18B
Signal name	IN1-	IN2-	IN3-	IN4-	IN5-	IN6-	IN7-	IN8-	IN9-	IN10-	IN11-	IN12-	IN13-	IN14-	IN15-	IN16-	N.C.	N.C.

F10E.ai

Note: The A1BT4D has built-in RJC1 to RJC4.

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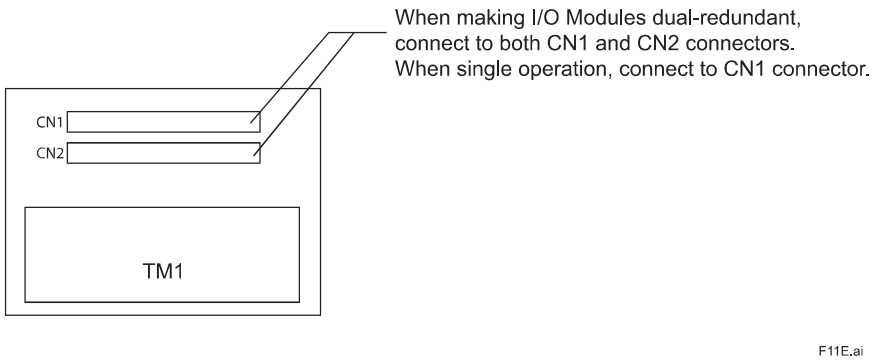
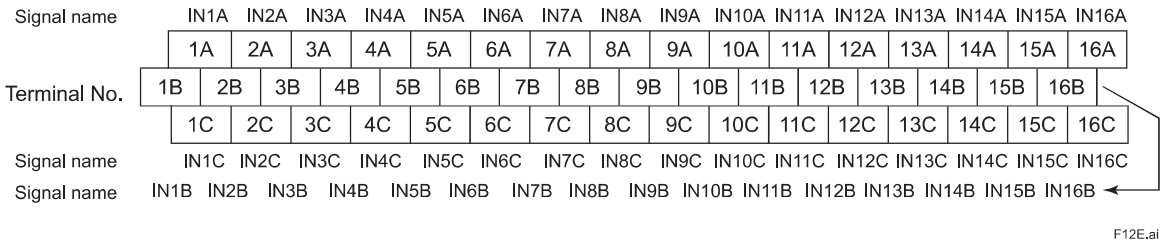
● A1BR4D



F11E.ai

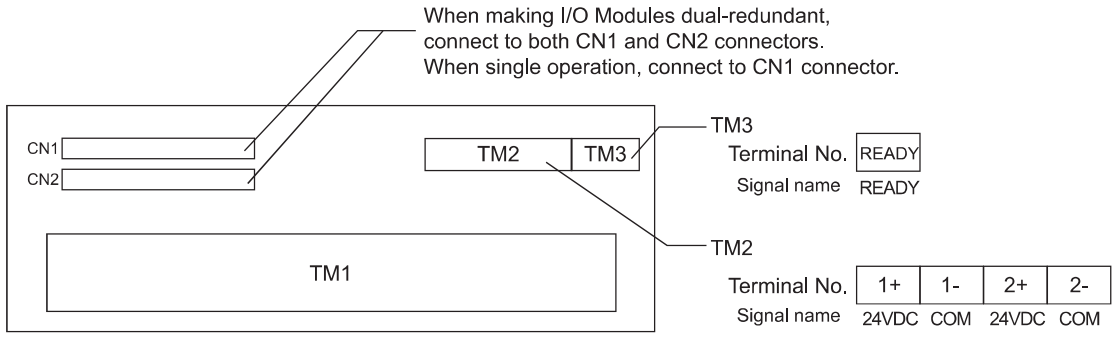
When connecting AAR145

TM1



F12E.ai

● A1BD5D



F13E.ai

Input type of Digital Input Module

Model name	Signal name	Input Type	
ADV151 ADV161	VP24☐	Dry contact input connection+	—
	IN☐	Dry contact input connection-	voltage input connection+
	COM☐	—	voltage input connection-

☐ is channel number

Output type of Digital Input Module

Model name	Signal name	Output Type	
ADV551 ADV561	VP24☐	voltage output connection+	—
	OUT☐	voltage output connection-	transistor output connection+
	COM☐	—	transistor output connection-

☐ is channel number

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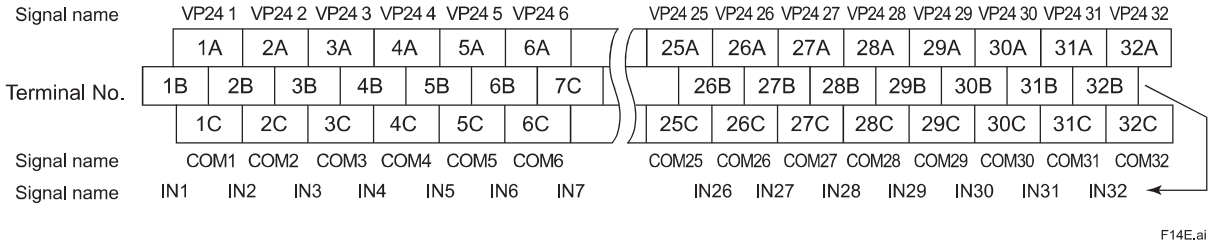
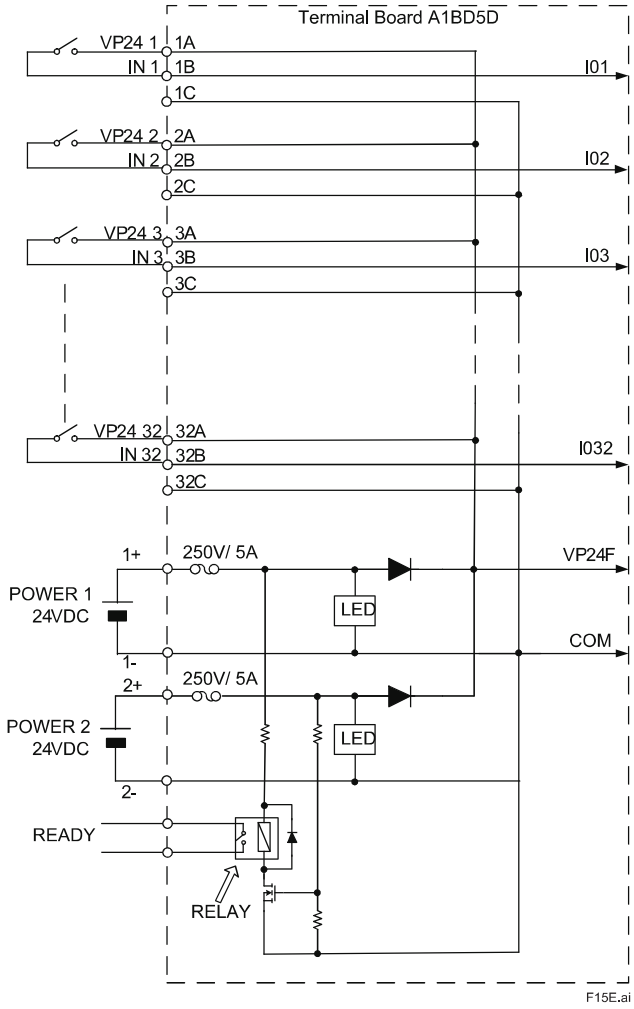
When connecting ADV151

TM1



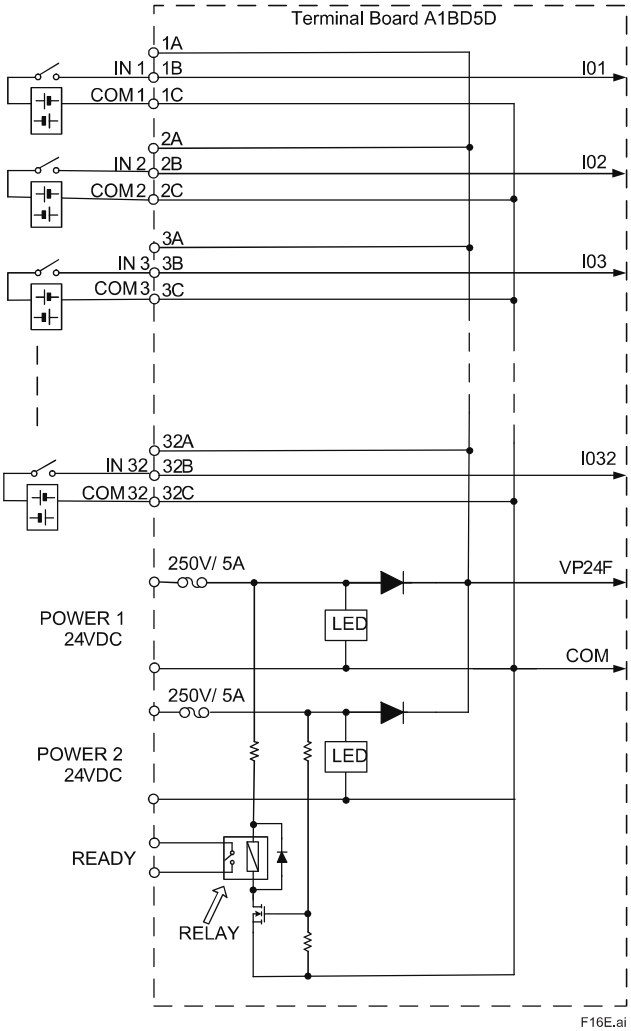
F14E.ai

Dry contact input connection



F15E.ai

Voltage input connection



F16E.ai

Note: All voltage input connect signals must be the same polarity.
Note: External power supply Power 1 and Power 2 are not need for connection.

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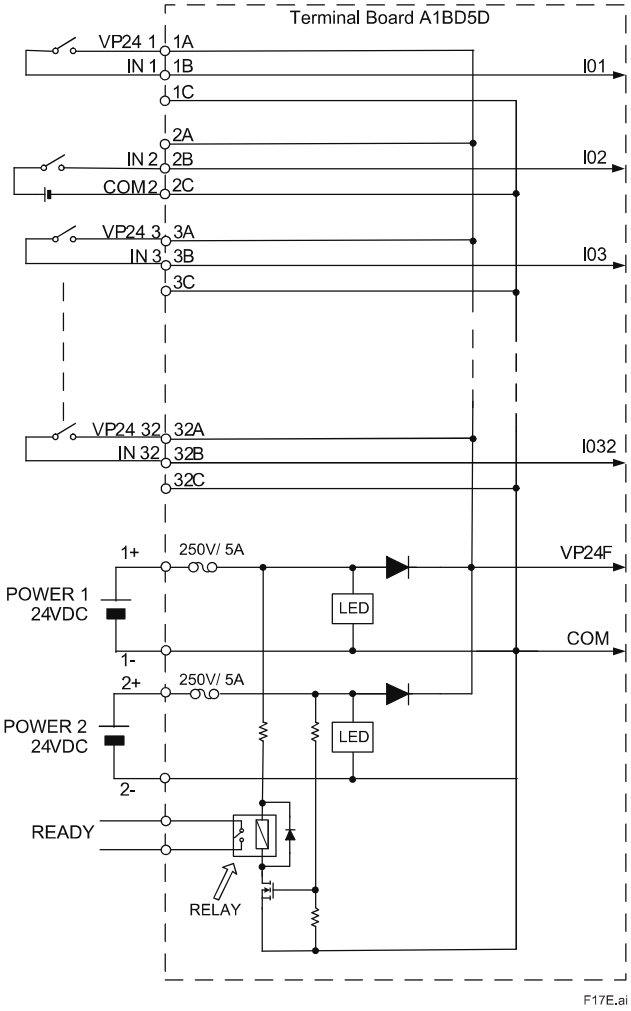
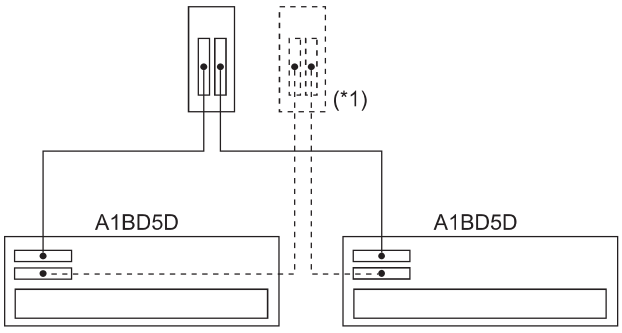
Mixture of dry contact input connection and voltage input connection



Note: When a dry contact input connection and voltage input connection are intermingled, please unify the polarity of the voltage input signals with an external power supply (Power 1, Power 2).

When connecting ADV161



Note: When connecting ADV161 with a terminal board, two units of A1BD5D are required.
*1: The dashed line indicates for dual-redundant configuration.

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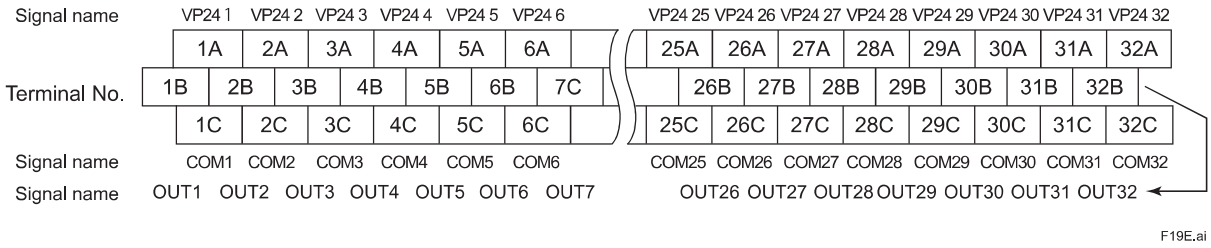
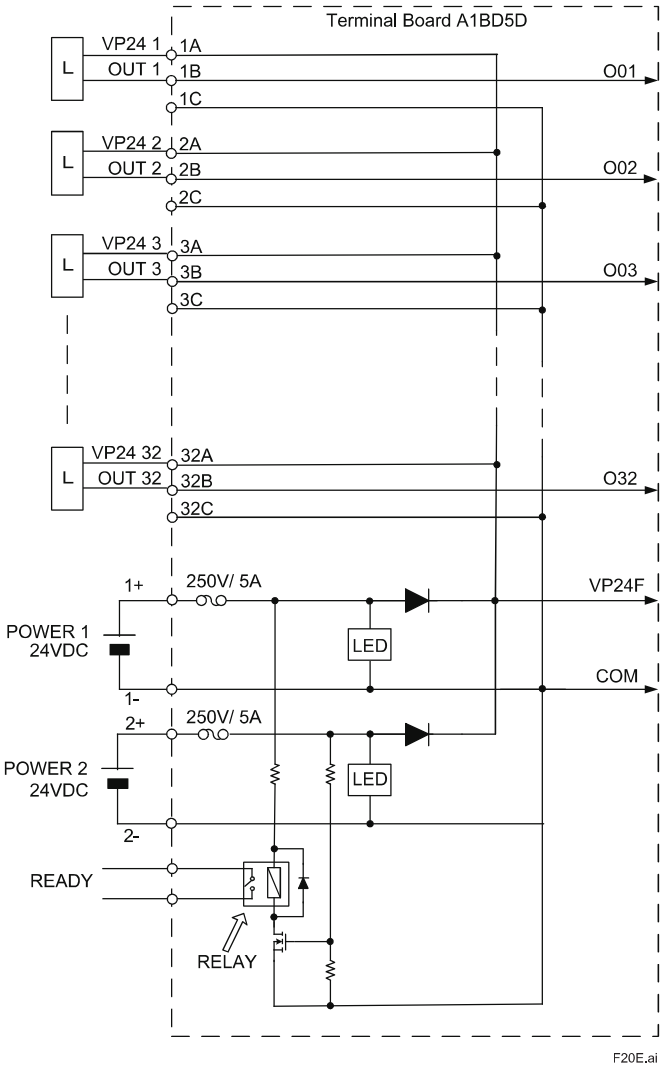
When connecting ADV551

TM1



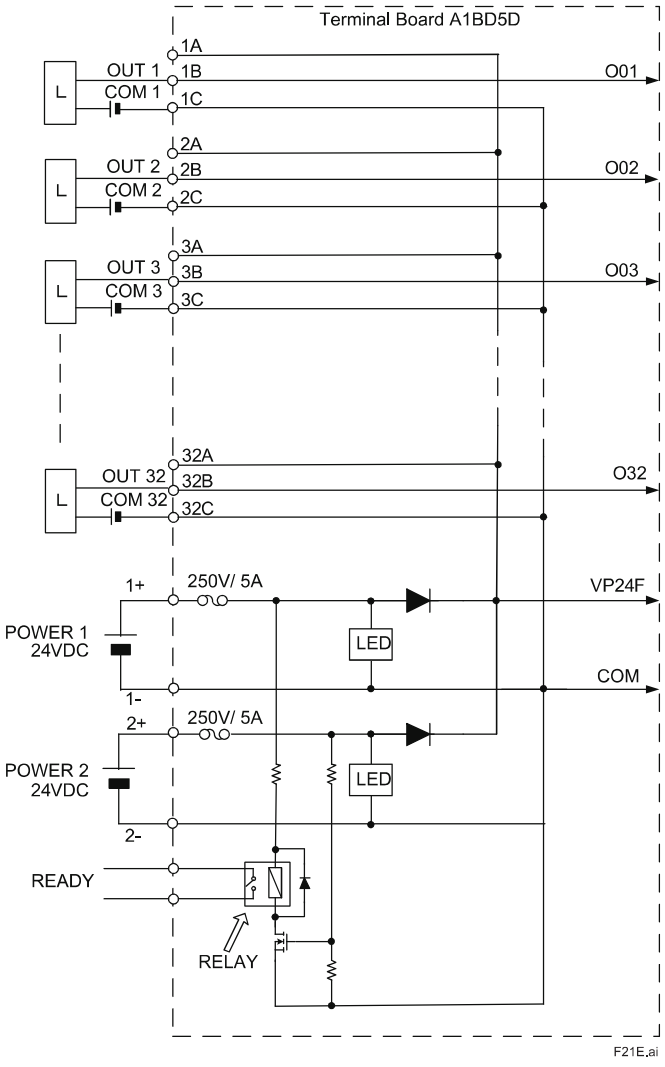
F19E.ai

Voltage output connection



F20E.ai

Transistor output connection



F21E.ai

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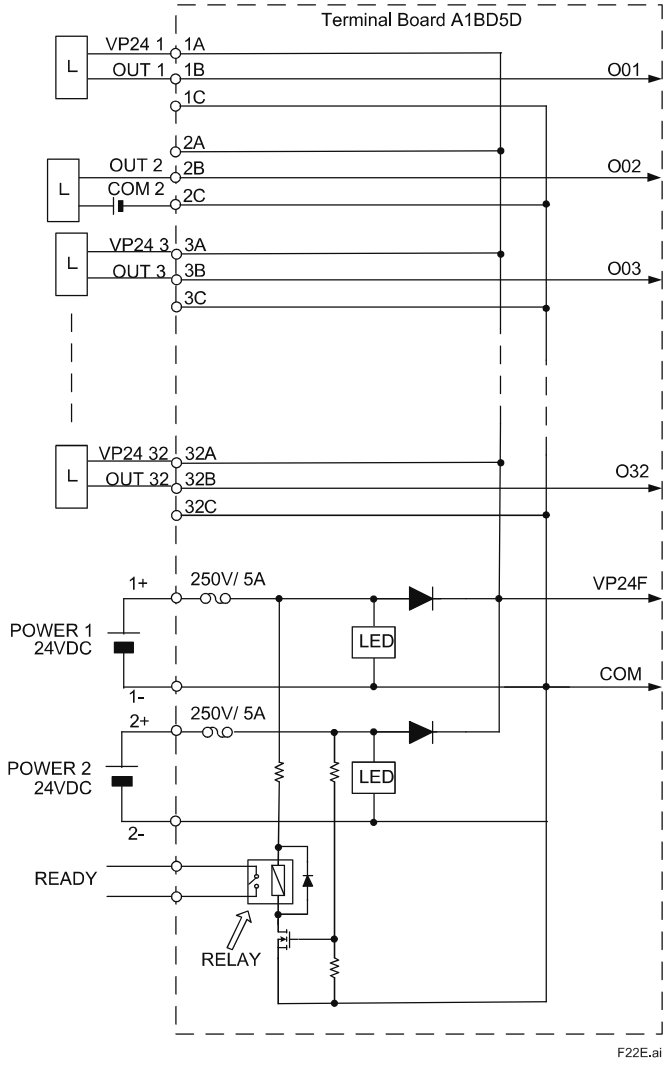
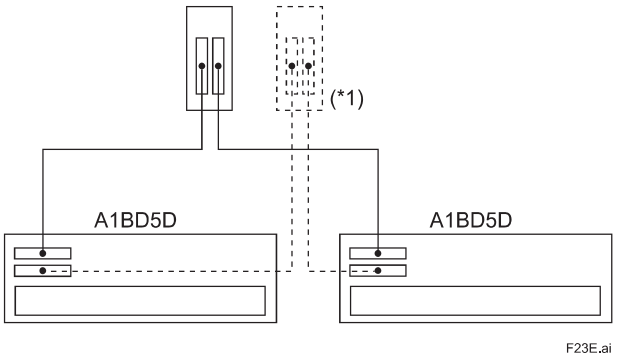
Mixture of voltage output connection and transistor output connection



When connecting ADV561



Note: When connecting ADV561 with a terminal board, two units of A1BD5D are required.
*1: The dashed line indicates for dual-redundant configuration.

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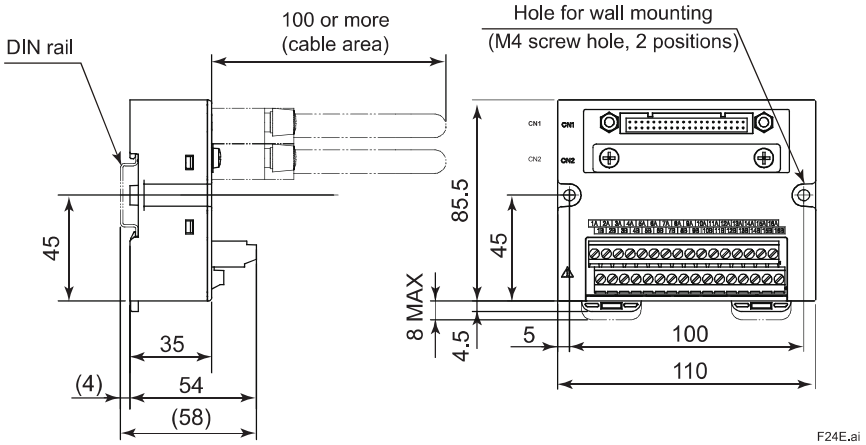
■ EXTERNAL DIMENSIONS

● Terminal Boards

A1BA4D

Unit: mm



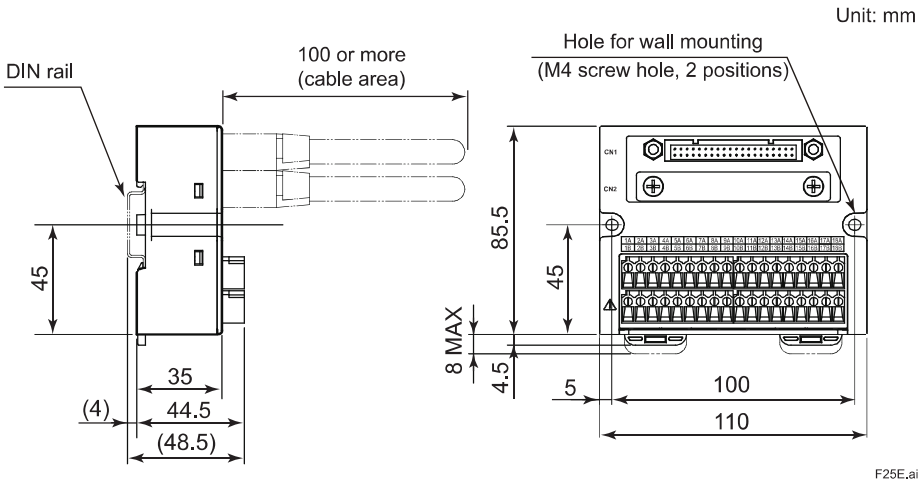
Nominal Tolerances :

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 1.5 mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

A1BT4D

Unit: mm



Nominal Tolerances :

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 1.5 mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

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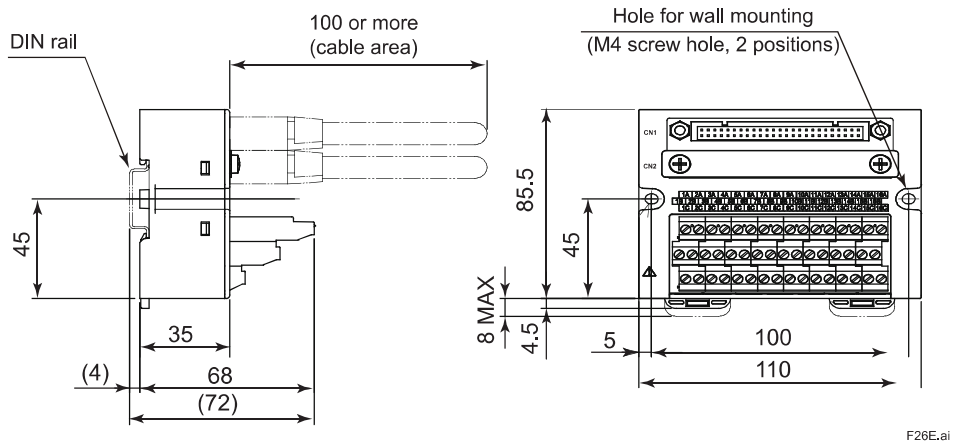
A1BR4D

Unit: mm



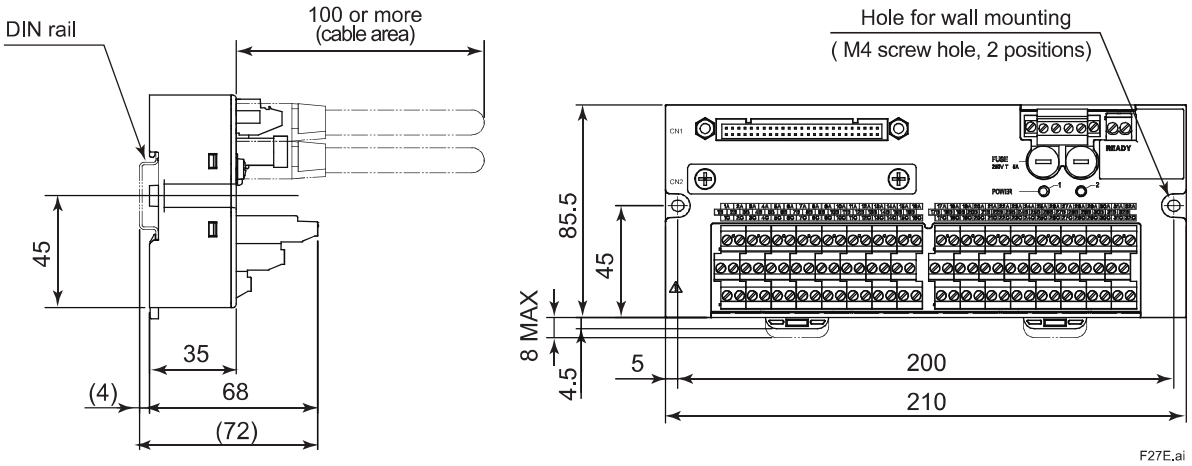
Nominal Tolerances :

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 1.5 mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

A1BD5D

Unit: mm



Nominal Tolerances :

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 1.5 mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

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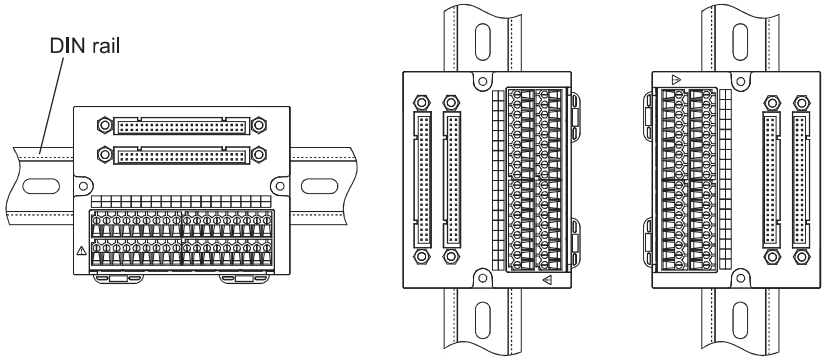
■ PRECAUTIONS DURING INSTALLATION

● Terminal board installation direction

Install the terminal board in the direction shown in the following figure.



F28E.ai

● Cautions for mounting

Prevent the terminal board from being influenced by the ambient temperature in order to keep the reference junction compensation accuracy, as detailed conditions are shown below.

The reference junction compensation accuracy is specified when the ambient temperature is stable.

When the temperature fluctuates, the accuracy may vary until it becomes stable.

Mounting a terminal board by itself

Install all the heat sources above the terminal board or terminal board wiring.

Provide a heat shield in case installation of the heat sources below or sideway of the terminal board is unavoidable.

Installing terminal board in a cabinet

Install all the heat sources above the terminal board or terminal board wiring when those are mounted in a cabinet.

Provide a heat shield in case installation of the heat sources below or sideway of the terminal board is unavoidable.

■ REPLACEMENT PARTS ON TERMINAL BOARD

The following table shows the replacement parts on terminal board.

Model	Part Name	Part Number (*1)	Remark
A1BD5D	Fuse	A1513EF	250 V/5 A

*1: Parts must be purchased and replaced in accordance with the laws and regulations of each country or region.

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■ MODELS AND SUFFIX CODES

Terminal Board for Analog (single and dual-redundant)

		Description
Model	A1BA4D	Terminal Board for Analog (single and dual-redundant, 16-channel x 1 or 8-channel x 1, DIN rail mount type)
Suffix Codes	-0	Always 0
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection

Terminal Board for Thermocouple (single and dual-redundant)

		Description
Model	A1BT4D	Terminal Board for Thermocouple (single and dual-redundant, 16-channel x 1, DIN rail mount type)
Suffix Codes	-0	Always 0
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection

Terminal Board for Resistance Temperature Detectors (single and dual-redundant)

		Description
Model	A1BR4D	Terminal Board for RTD input (single and dual-redundant, 16-channel x 1, DIN rail mount type)
Suffix Codes	-0	Always 0
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection

Terminal Board for Digital (single and dual-redundant)

		Description
Model	A1BD5D	Terminal Board for Digital (single and dual-redundant, 32-channel x 1, DIN rail mount type)
Suffix Codes	-0	Always 0
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify model and suffix codes.

For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.1.10 VI702

GS 33J50C10-01EN

<<Contents>> <<Index>>

General Specifications

Model VI702
Vnet/IP Interface Card

CENTUM VP

GS 33J50C10-01EN

[Release 6]

■ GENERAL

By installing the control bus interface card into the PCI Express slot of the PC/AT compatible computer, the computer is connected to Vnet/IP.

■ FUNCTION

Interface between the PCI Express and Vnet/IP

■ STANDARD SPECIFICATIONS

Communication Speed
1 Gbps Full Duplex

Connection Specifications
Cable: CAT5e (Enhanced Category 5 cable), UTP
Transmission: 1000BASE-T compliance
Connector: RJ45 connector
Max. distance: 100 m (Distance between VI702 and Layer 2 switch)

PCI Express Specifications
Applicable revision:
PCI Express CEM Specification 1.0a x1, 2.5 GT/s signaling
This card can be installed in a PCI Express slot (x1 to x16).
This card cannot be installed in a PCI slot.

Voltage
Power supply voltage: 3.3 V ± 9 %

Current Consumption
Max. 2.5 A

Weight
Approx. 0.18 kg

■ PARTS NAME AND FUNCTIONS

RDY lamp
Lights when it diaghoses the card as normal.

RCV lamp
Lights when it detects signals on a control bus.

SND lamp
Lights when it sends signals to a control bus.

Ethernet connector
Connects a CAT5e (Enhanced Category 5 cable)

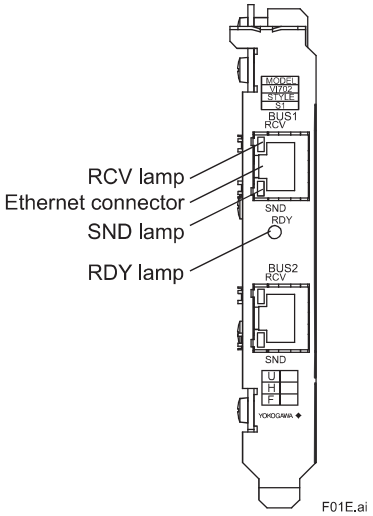

Figure Vnet/IP Interface Card (Front)

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Tel.: 81-422-52-5634 Fax.: 81-422-52-9802

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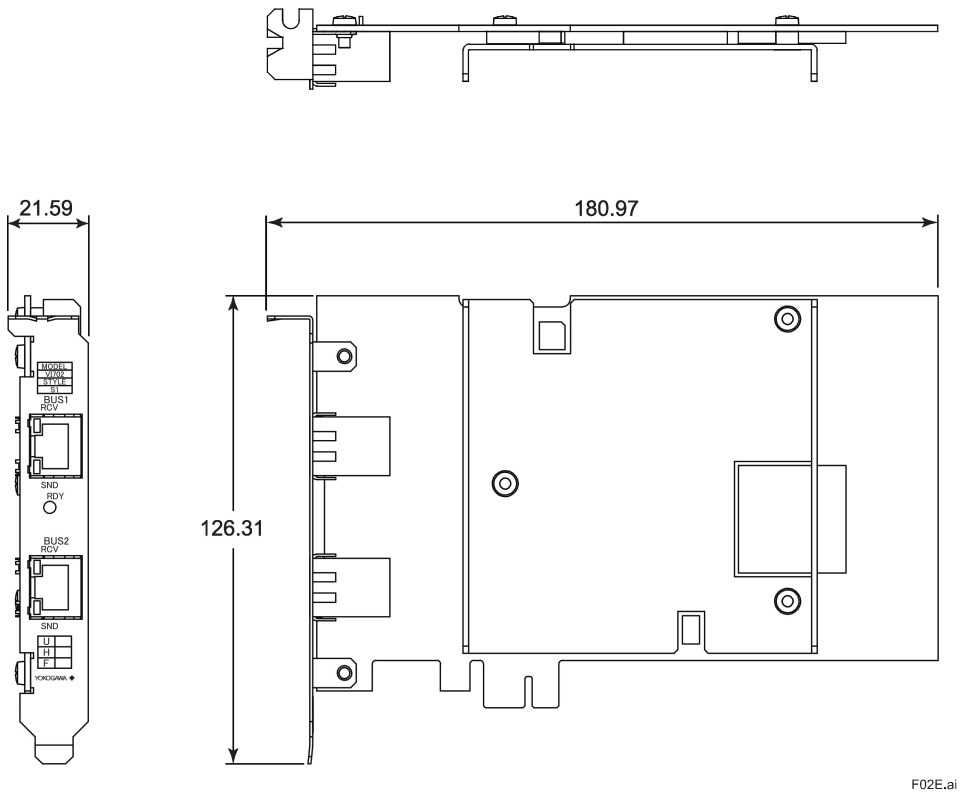
1st Edition Feb. 1, 2015 (YK)

■ EXTERNAL DIMENSIONS

Unit : mm



Nominal Tolerances :

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 1.5 mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

■ MODEL AND SUFFIX CODE

		Description
Model	VI702	Vnet/IP Interface Card

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify model.

■ TRADEMARKS

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.1 Safety Control Station (S2SC70D)
GS 32P06D10-01EN

<<Contents>> <<Index>>

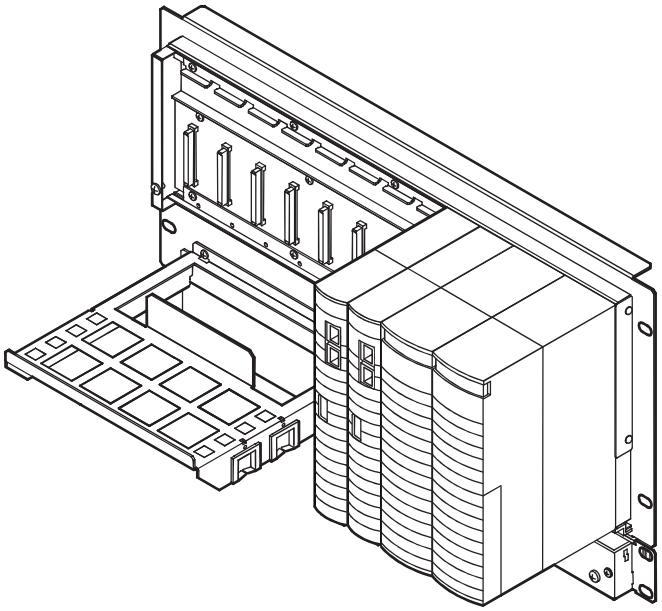
General Specifications

GS 32P06D10-01EN

ProSafe-RS
S2SC70S, S2SC70D
Safety Control Unit, Duplexed Safety Control Unit
(for N-IO/FIO, Rack Mountable Type)

■ GENERAL

This General Specifications (GS) provides the hardware specifications of the safety control unit, which are intelligent parts of the safety control station (SCS). This product supports both N-IO and FIO.



F01E.ai

■ HARDWARE SPECIFICATIONS

For the criteria for the installation environment, refer to “ProSafe-RS Safety Instrumented System Overview (for Vnet/IP)” (GS 32P01B10-01EN).

● Safety Integrity Level

SIL 3

● Module Configuration

Power Supply Module (SPW481, SPW482 or SPW484): 2 modules
Processor Module (S2CP471 or SCP461 style S2 or later): 2 modules for dual-redundant configuration. (*1)

*1: A dual-redundant configuration is enabled by using 2 identical modules with same model code (S2CP471 or SCP461).

● Memory Protection at Power Failured

Application program is stored in the flash memory. Processor module operation data is stored in NVRAM (nonvolatile memory).

● Temperature Adaptability

A fan unit is provided for high temperature use where the safety control units (S2SC70S-F/S2SC70D-F) ambient temperature exceeds 40 °C.

● Control Network

Vnet/IP interface: Dual-redundant

● No. of Node Units Connectable

In order to extend the number of I/O channels, S2SC70☐ allows N-IO nodes and safety node units to be connected to it. The number of individual nodes that can be connected is as follows.

N-IO node (*1): Max. 32/ SCS
Safety Node Unit (SNB10D): Max. 13/ SCS

*1: For details, refer to the GS “ProSafe-RS Outline of I/O Modules (for N-IO)” (GS 32P06F10-01EN).

● Installation Restrictions for Node Units

N-IO Node

An N-IO node is connected via an N-ESB bus or optical ESB bus. A node connection via the N-ESB bus needs an N-ESB bus coupler module (S2EN402 or S2EN404).

A node connection via the optical ESB bus needs an ESB bus coupler module (SEC401 or SEC402) and an ESB bus optical repeater module (SNT401 or SNT411).

Safety Node Unit (SNB10D)

A safety node unit is connected via an ESB bus or optical ESB bus. A safety node unit connection via the ESB bus needs an ESB bus coupler module (SEC401 or SEC402). A safety node unit connection via the optical ESB bus needs an ESB bus coupler module (SEC401 or SEC402) and an ESB bus optical repeater module (SNT401 or SNT411).

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan

GS 32P06D10-01EN
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● Installation Restrictions for Bus Interface Module

N-ESB Bus Coupler Modules (S2EN402 or S2EN404) shall be installed in an odd-numbered slot and the adjacent slot on the right of slots 1 to 8 according to the number of branches.

A pair of ESB Bus Coupler Modules (SEC401 or SEC402) shall be installed in slots 7 and 8.

A pair of Optical ESB Bus Repeater Master Modules (SNT401 or SNT411) shall be installed in an odd-numbered slot and the adjacent slot on the right of slots 1 to 6 according to the number of branches.

For details, refer to the GS of each module.

● Installation Restrictions

Up to eight I/O modules (for FIO) can be installed to a S2SC70☐.

For the I/O module (for FIO) installation limitations and notes, refer to “ProSafe-RS Outline of I/O Modules” (GS 32P06K60-01EN).

● Power Requirements

Specify suffix codes.
Voltage: 100 to 120 V AC, 50 or 60 Hz
Voltage: 220 to 240 V AC, 50 or 60 Hz
Voltage: 24 V DC

● Power Consumption

- S2SC70S-S /S2SC70D-S
  - 100 to 120 V AC model: 200 VA
  - 200 to 240 V AC model: 230 VA
  - 24 V DC model: 5.5 A
- S2SC70S-F/S2SC70D-F
  - 100 to 120 V AC model: 240 VA
  - 200 to 240 V AC model: 290 VA
  - 24 V DC model: 7.0 A

● Battery

- S2CP471
  Part No. : S9450FE
  Battery’s recommended replacement period: Three years under the average ambient temperature of 30 °C or less.
- SCP461
  Part No. : S9185FA
  Battery’s recommended replacement period: Three years under the average ambient temperature of 30 °C or less.

● Weight

S2SC70S-S: Approx. 7.9 kg
S2SC70S-F: Approx. 13 kg
S2SC70D-S: Approx. 8.5 kg
S2SC70D-F: Approx. 13 kg

● Mounting

Rack mounting: Rack mount
(S2SC70☐-S, M5x8 screws)
(S2SC70☐-F, M5x12 screws)
Insulation bush (accessory)

● Connection

Power Supply: M4 screw terminal connection
Grounding: M4 screw terminal connection

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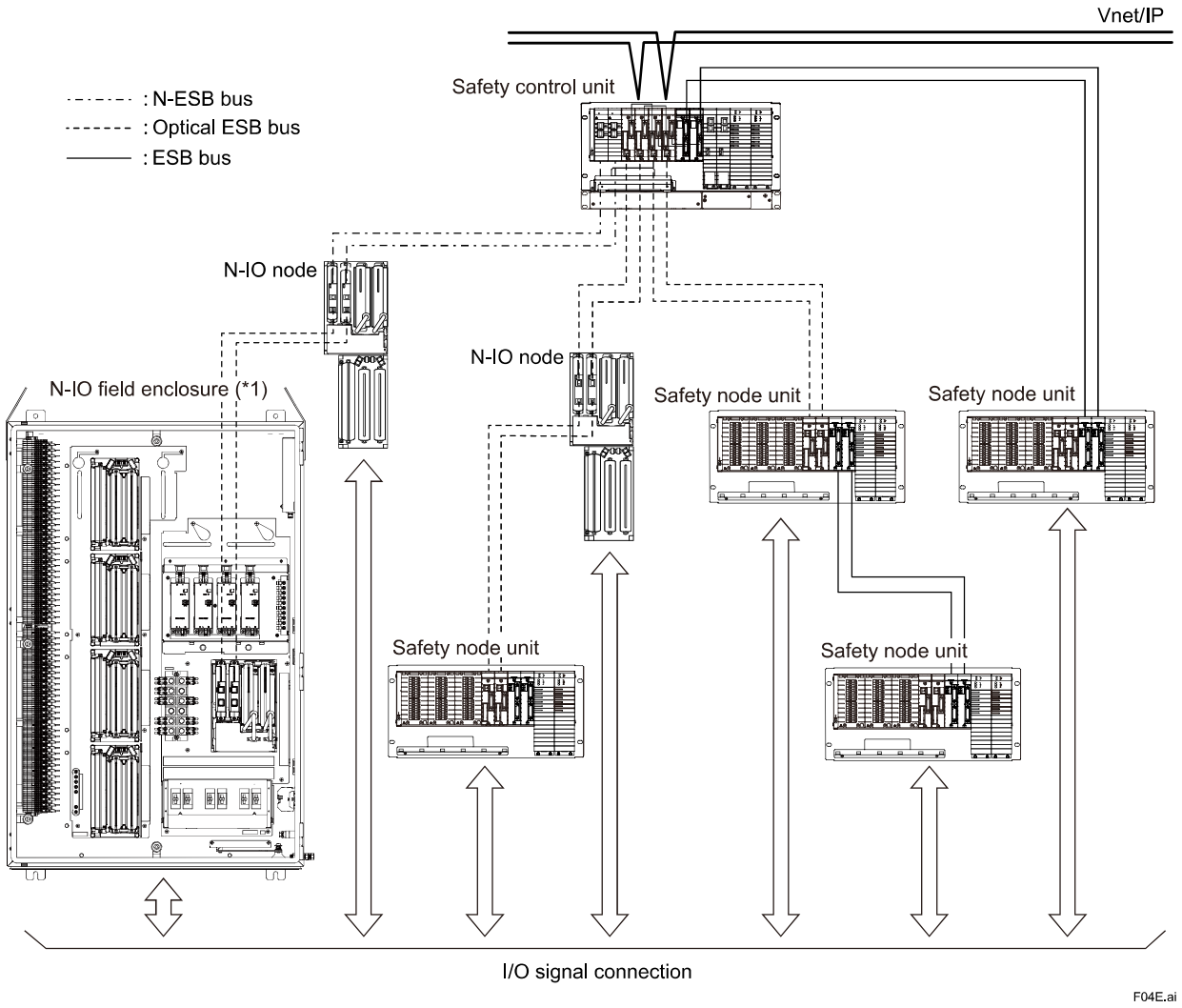
The following shows a configuration example of ProaSafe-RS system of S2SC70□, N-IO node and safety node units.



*1: For details, refer to the GS “N-IO field enclosure” (GS 32P06Q10-01EN)

Figure Safety Control Station (SCS) System Configuration

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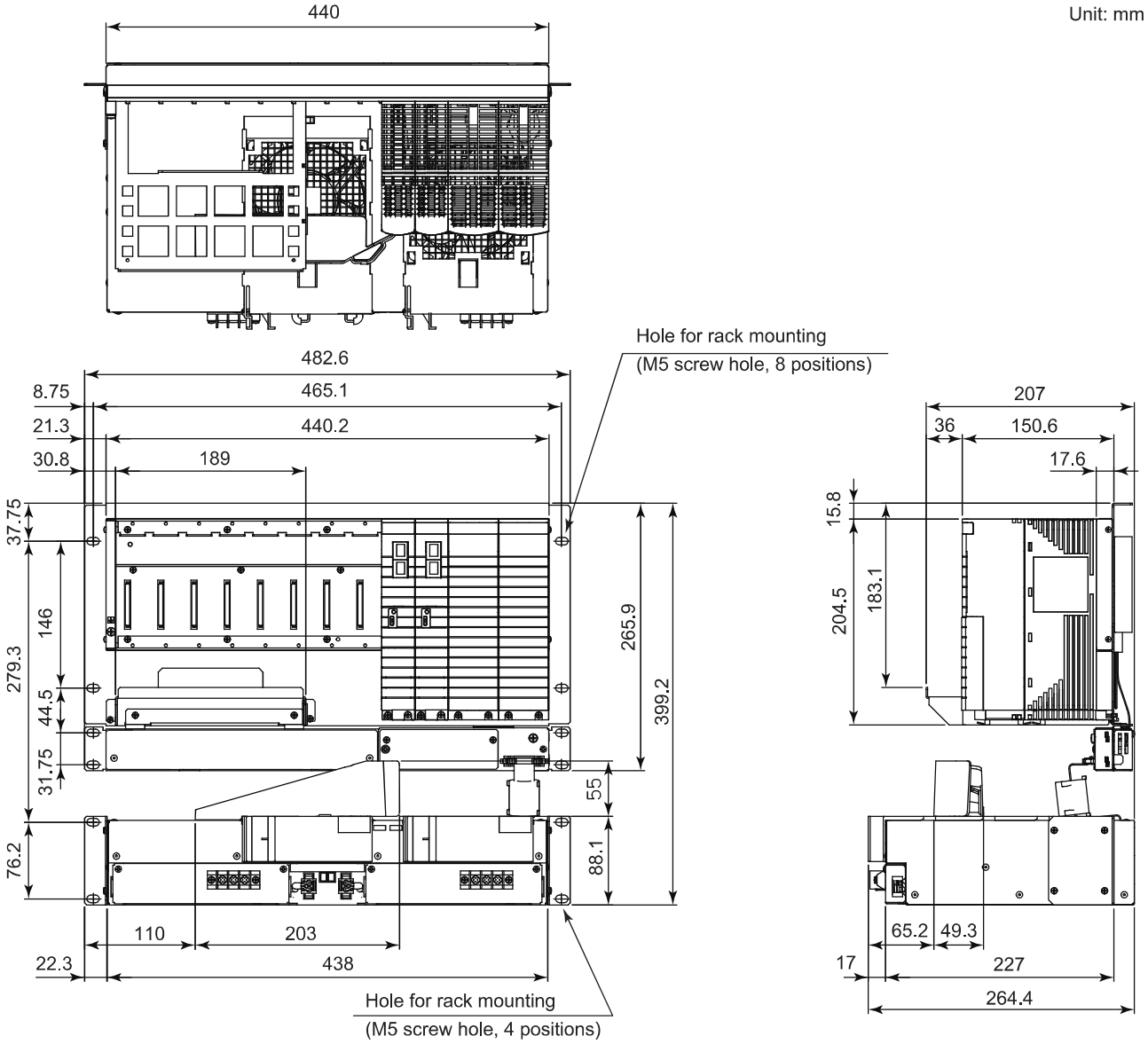
■ EXTERNAL DIMENSIONS

Unit: mm



Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

■ SOFTWARE

A software licenses are required for S2SC70S and S2SC70D separately. For details, refer to the GS “Safety Control Function (for S2SC70☐), Safety Control Function for SCS Simulator (for S2SC70☐)” (GS 32P03B30-01EN) and “Project I/O License” (GS 32P03A10-01EN).

■ STANDARD ACCESSORIES

S2SC70S and S2SC70D are delivered with the following standard accessories.

Parts Names	Parts Numbers	Description	Quantity	Remarks
Insulating bush	S9049PM	S2SC70S-S / S2SC70D-S	8	Accessories
		S2SC70S-F / S2SC70D-F	12	

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■ MODEL AND SUFFIX CODES

Safety Control Unit

		Description
Model	S2SC70S	Safety Control Unit (for N-IO/FIO, Rack Mountable Type) (*1)
Suffix Codes	-S	Standard type (-20 to 40 °C)
	-F	wide range temperature (-20 to 70 °C) type (with Fan unit and ISA Standard G3)
	A	S2CP471, Dual-redundant Vnet/IP, dual-redundant power supply (*2)
	4	SCP461, Dual-redundant Vnet/IP, dual-redundant power supply (*3)
	1	Always 1
	1	100 - 120 V AC power supply
	2	220 - 240 V AC power supply
	4	24 V DC power supply
	0	With no explosion protection
	1	With explosion protection
	1	With ISA Standard G3
	0	Always 0
Option Code	/ATDOC	Explosion Protection Manual (*4)

*1: Supports ProSafe-RS R4.01 or later.
*2: When S2SC70S that is mounted with S2CP471 is used with ProSafe-RS R4.01, R4.02, R4.03, or R4.04, be sure to apply the software patch for supporting S2CP471.
*3: Shipped with SCP461. Also S2CP471 is usable. Replacing from SCP461 to S2CP471 by a user is prohibited. Replacement work must be done by the service engineer authorized by Yokogawa Electric Corporation. See GS 32P06D20-01EN.
*4: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation when any components are used for explosion protection.

Duplexed Safety Control Unit

		Description
Model	S2SC70D	Duplexed Safety Control Unit (for N-IO/FIO, Rack Mountable Type) (*1)
Suffix Codes	-S	Standard type (-20 to 40 °C)
	-F	wide range temperature (-20 to 70 °C) type (with Fan unit and ISA Standard G3)
	A	S2CP471, Dual-redundant Vnet/IP, dual-redundant power supply (*2)
	4	SCP461, Dual-redundant Vnet/IP, dual-redundant power supply (*3)
	1	Always 1
	1	100 - 120 V AC power supply
	2	220 - 240 V AC power supply
	4	24 V DC power supply
	0	With no explosion protection
	1	With explosion protection
	1	With ISA Standard G3
	0	Always 0
Option Code	/ATDOC	Explosion Protection Manual (*4)

*1: Supports ProSafe-RS R4.01 or later.
*2: When S2SC70D that is mounted with S2CP471 is used with ProSafe-RS R4.01, R4.02, R4.03, or R4.04, be sure to apply the software patch for supporting S2CP471.
*3: Shipped with a pair of SCP461. Also a pair of S2CP471 is usable. Replacing from SCP461 to S2CP471 by a user is prohibited. Replacement work must be done by the service engineer authorized by Yokogawa Electric Corporation. See GS 32P06D20-01EN.
*4: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation when any components are used for explosion protection.

■ CONFORMITY STANDARDS

Refer to the GS "Standards compliant models" (GS 32P01B60-01EN).

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■ ORDERING INFORMATION

Specify the model, suffix code(s), and option code(s).
For selecting the right products for explosion protection, please refer to the TI “Explosion Protection” (TI 32S01J30-01E) without fail.

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Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.2 Safety Node Unit (SNB10D)
GS 32Q06K10-31E

<<Contents>> <<Index>>

General Specifications

ProSafe-RS
SNB10D
Safety Node Unit (Rack Mountable Type)

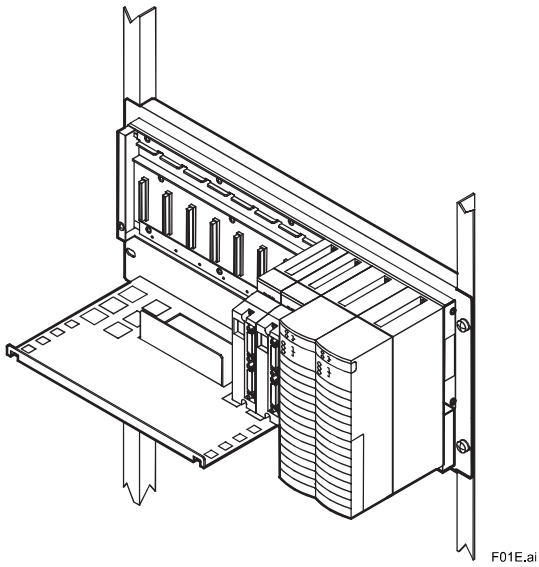
GS 32Q06K10-31E

■ GENERAL

This GS describes the hardware specifications of the safety node unit (SNB10D). The safety node unit is connected to the safety control unit. The safety node unit has an interface function to transmit analog input signals and contact signals from the field to the safety control unit via an ESB bus. It also has a function to supply power to I/O modules.

The safety node unit is mounted with power supply modules, ESB bus interface modules, optical ESB bus repeater modules, and I/O modules.

For details on the I/O modules, refer to the general specifications (GS 32Q06K30-31E and GS 32Q06K40-31E).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■ STANDARD SPECIFICATIONS

For the installation environment requirements that are common throughout the system, refer to the general specifications, “ProSafe-RS Safety Instrumented System Overview” (GS 32P01B10-01EN).

- **Safety Integrity Level**

  SIL 3

- **Power Supply Voltage**

  The power supply voltage is specified in the suffix codes.
  Voltage: 100 to 120 V AC and 50/60 Hz frequency
  Voltage: 220 to 240 V AC and 50/60 Hz frequency
  Voltage: 24 V DC

- **Power Consumption**

  100 to 120 V AC specification: 200 VA
  220 to 240 V AC specification: 230 VA
  24 V DC specification: 5.5 A

- **Weight**

  Approx. 5.9 kg

- **Mounting Method**

  Rack mounting: Rack mount with four M5 screws
  Insulation bushes (accessories) are used.

- **Conformity Standards**

  Refer to “Standards Compliant Models” (GS 32P01B60-01EN).

■ CONFIGURATION

- **Module Configuration**

  Power supply module: Supplies power to I/O module (two modules)
  The power supply terminal uses M4 screws.
  ESB bus interface module (SSB401): two modules

■ RESTRICTIONS AND CAUTIONS FOR MOUNTING

Regarding the mounting of I/O modules on the safety node unit, there are restrictions in terms of quantity and slot position. For details, refer to the “■ Node Unit Mounting Restrictions” of “Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).

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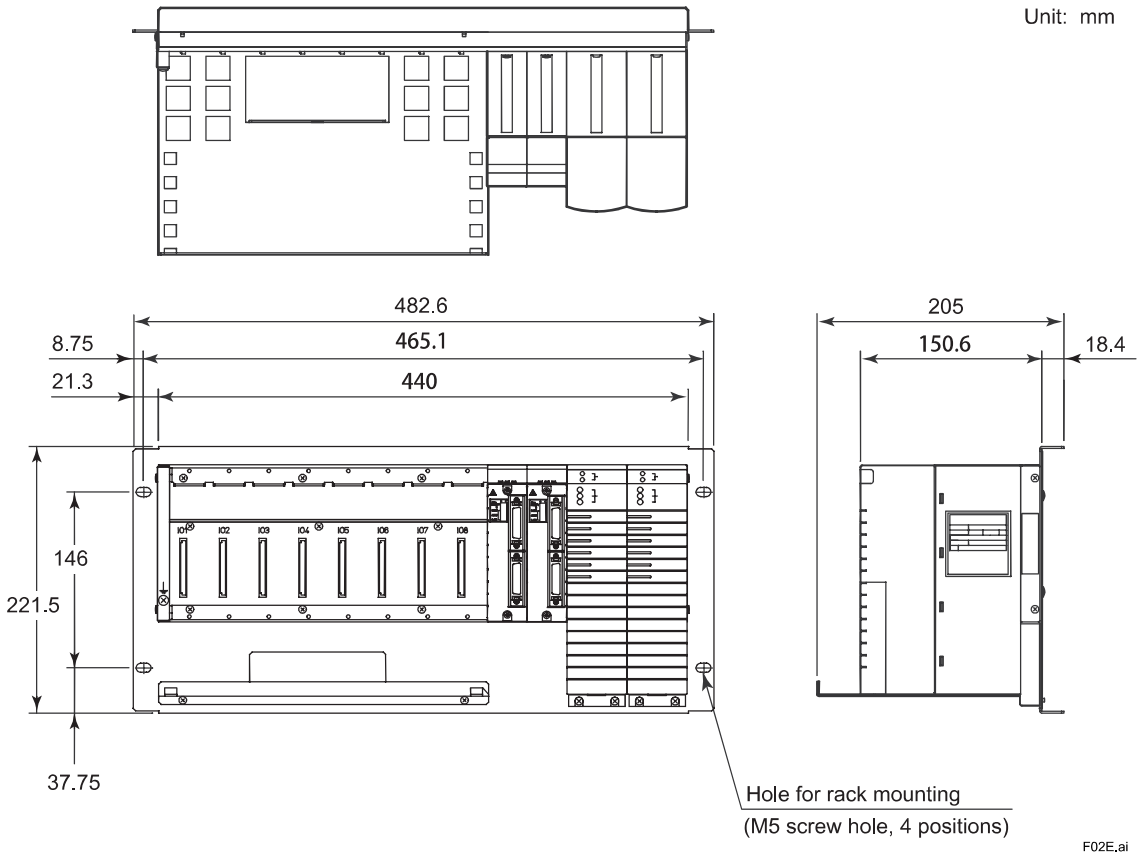
■ EXTERNAL DIMENSIONS

● SNB10D Safety Node Unit

Unit: mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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■ MODEL AND SUFFIX CODES

Safety node unit

		Description
Model	SNB10D	Safety Node Unit (Rack Mountable Type)
	–4	Dual-redundant power supply (R4.01 or later)
	1	100 to 120 V AC power supply
	2	220 to 240 V AC power supply
	4	24 V DC power supply
	5	ISA Standard G3 and temperature (-20 to 70 ˚C) with no explosion protection
	E	ISA Standard G3 and temperature (-20 to 70 ˚C) with explosion protection
Option Codes	/CU2N	Connector Unit for ESB Bus [Part number: S9342FA]
	/CU2T	Connector Unit with Terminator for ESB Bus [Part number: S9343FA]
	/ATDOC	Explosion Protection Manual

Note: Install the 19-inch rack mountable type devices in a keyed metallic cabinet to conform to the safety standards, the EMC conformity standards and the explosion protection standards.
Note: Please use 1 m or longer YCB301 ESB bus cable to connect SNB10D with a safety control unit .
Note: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation for use in potentially explosive atmospheres.

Dummy cover

		Description
Model	SDCV01	Dummy cover (for I/O modules)

Note: Be sure to mount a dummy cover on a slot that is not mounted with an I/O module.

■ STANDARD ACCESSORIES

The safety node unit is supplied with the following accessory.

Accessory	Part number	Description	Quantity	Remark
Insulating bushing	S9049PM	SNB10D	4	Accessory

■ ORDERING INFORMATION

Specify the model and suffix codes.
For selecting the right products for explosion protection, please refer to the TI "Explosion Protection" (TI 32S01J30-01E) without fail.

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Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.3 ESB Bus Coupler Module (SEC401-S1)

GS 32Q06L11-31E

<<Contents>> <<Index>>

General Specifications

ProSafe-RS
SEC401
ESB Bus Coupler Module

GS 32Q06L11-31E

■ GENERAL

ESB Bus Coupler Module connects safety control units and safety node units via an ESB bus cable.
Two ESB Bus Coupler Modules are mounted on the safety control unit (S2SC70□, SSC60□, or SSC50□).

■ STANDARD SPECIFICATIONS

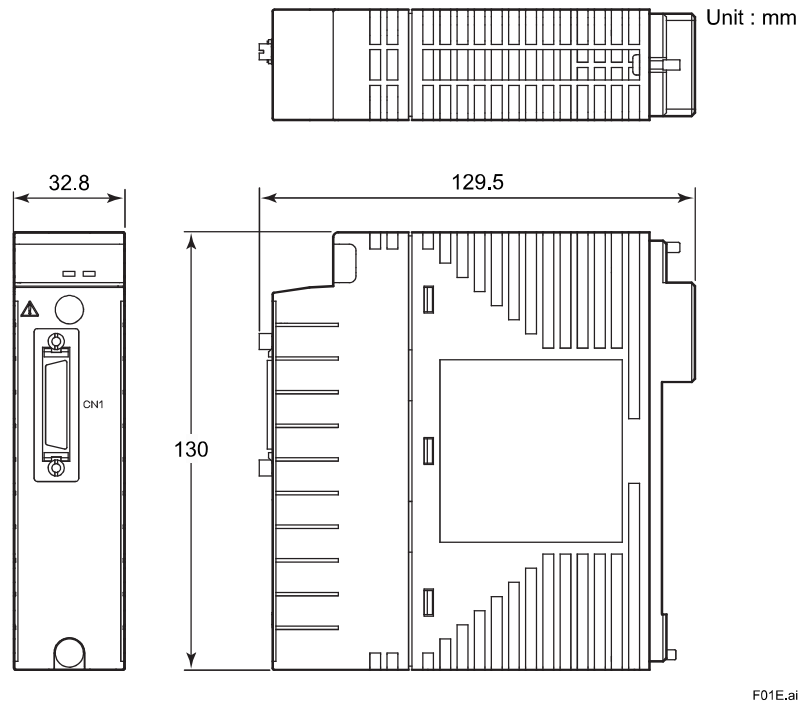
Function:	ESB bus master interface function
Number of connectable units:	9 units maximum (*1)
Transmission speed:	128 Mbps (I/O module data transmission)
Transmission distance:	10 m maximum
Current consumption:	0.5 A
Weight:	Approx. 0.24 kg

The ESB Bus Coupler Module is mounted on the seventh and eighth slots of the safety control unit.

*1: The number of SNB10D and SNT4□□ which can be connected to SEC401 is up to 9.

■ EXTERNAL DIMENSIONS

SEC401 ESB Bus Coupler Module



Nominal Tolerances:
When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 1.5 mm.
When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

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■ MODEL AND SUFFIX CODES

		Description
Model	SEC401	ESB Bus Coupler Module
Suffix Codes	-5	Standard type with no explosion protection
	-E	Standard type with explosion protection
	1	With ISA Standard G3

■ CONFORMITY STANDARDS

Refer to “Standards Compliant Models” (GS 32P01B60-01EN).

■ ORDERING INFORMATION

Specify the model and suffix code(s).
For selecting the right products for explosion protection, please refer to TI 32S01J30-01E without fail.

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Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.4 Analog Input Module (SAI143-H63)
GS 32Q06K30-31E

<<Contents>> <<Index>>

General Specifications

ProSafe-RS
Analog I/O Modules (for FIO)

GS 32Q06K30-31E

■ GENERAL

This GS describes the hardware specifications of the analog I/O modules that can be mounted on the safety node unit and the safety control unit.

■ STANDARD SPECIFICATIONS

● **Current Input Module**

This module inputs 4 to 20 mA signals from the field.

The SAI143 can be made dual redundant.

Item	Specifications
Model	SAI143 (*1)
Safety Integrity Level	SIL 3
Number of input channels	16 channels, module isolation (*5)
Rated input range	4 to 20 mA
Permissible input range	0 to 25 mA
Input impedance during Power-ON	$250\ \Omega + \frac{\text{Voltage drop in the input protection circuit inside the module}}{\text{Current value}}$ (*6)
Input impedance during Power-OFF	500 kΩ minimum
Rated accuracy	SAI143-S : ±16 μA (Input range 1 to 23 mA) SAI143-H : ±16 μA (Input range 0.05 to 23 mA) (*3) (*4)
Data update frequency	40 ms
Temperature drift	±16 μA/10 °C
Transmitter power supply	16.15 V minimum (at 20 mA) 26.4 V maximum (at 0 mA) (Output current limit: 25 mA)
2/4-wire setting	Individual channel setting Changed by setting pins
Withstand voltage	1.5 kV AC between input signal and system for 1 minute (*2)
Maximum current consumption	5 V system: 320 mA, 24 V system: 550 mA
Weight	Approx. 0.34 kg (For pressure clamp terminal block or MIL cable) Approx. 0.39 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (KS1)
HART communication	Available (SAI143-H)
Transmitter power supply ON/OFF function (*7)	Available in 2-wire setting, for all 16 channels at the same time.

*1: No Zener barriers can be connected to this module. An isolation barrier should be used when an intrinsic safety instrumented system is used.
*2: 500 V AC when dedicated signal cable is used.
*3: ±32 μA (input range under 0.05 mA) (Style code S3 or later)
*4: Rated accuracy of style code S3 or later is ±16 μA (Input range 0.05 to 23 mA).
Rated accuracy of style code S2 or earlier is ±16 μA (Input range 1 to 23 mA).
*5: When SAI143-S□3 or SAI143-H□C is used in the ambient temperature more than 60°C, number of input channels which a user can use is restricted. Refer to “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).
*6: The maximum voltage drop in the input protection circuit is 0.45 V. The module input impedance varies from 272.5 Ω (20 mA) to 362.5 Ω (4 mA).
*7: This function enables to reset the alarm state of Fire and Gas devices by turning off the transmitter power supplied from this module in 2-wire setting.
Supported by R4.03.00 or later and style code S4 or later.

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● Voltage Input Module

This module inputs 1 to 5 V/1 to 10 V signals from the field.
The SAV144 can be made dual redundant.

Item	Specifications
Model	SAV144
Safety Integrity Level	SIL 3
Number of input channels	16 channels, module isolation
Rated input range	1 to 5 V/1 to 10 V
Permissible input range	±30 V
Input impedance during Power-ON	1 MΩ
Input impedance during Power-OFF	100 kΩ
Rated accuracy	1 to 5 V: ±4 mV 1 to 10 V: ±9 mV
Data update frequency	40 ms
Temperature drift	1 to 5 V: ±4 mV/10 °C 1 to 10 V: ±9 mV/10 °C
Withstand voltage	1.5 kV AC between input signal and system for 1 minute (*1)
Maximum current consumption	5 V system: 300 mA 24 V system: 140 mA
Weight	Approx. 0.24 kg (For pressure clamp terminal block or MIL cable) Approx. 0.29 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (KS1)

*1: 500 V AC when dedicated signal cable is used.

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● TC/mV Input Module

This module receives signals from mV and thermocouple (TC). The SAT145 can be made dual redundant.

Item	Specifications
Model	SAT145
Safety Integrity Level	SIL 3
Number of input channels	16 channels, Isolated Channels
Input signal	TC: JIS C 1602, IEC 60584-1 (ITS-90) J: -210 to 1200 °C K: -270 to 1372 °C E: -270 to 1000 °C T: -270 to 400 °C S: -50 to 1767 °C R: -50 to 1767 °C N: -270 to 1300 °C B: 42 to 1820 °C
	mV -100 to 150 mV, -20 to 80 mV, -5 to 25 mV
Switching input signals	TC/mV can be set individually for CH1 to CH16.
Permissible input range	± 5 V
Withstand voltage (*1)	Between input and system: 1500 V AC for 1 minute Between channels: 200 V AC for 1 minute
Input impedance	At least 1 MΩ during Power-ON At least 1 MΩ during Power-OFF
Accuracy	TC ± 40 μV mV ± 40 μV
Allowable total resistance of signal source plus wiring	1000 Ω or less
Effect of allowable signal source resistance (1000 Ω)	± 20 μV (*2)
Reference junction compensation accuracy (*3) (*4)	-20 to 0 °C ± 1.5 °C 0 to 30 °C ± 1.0 °C 30 to 70 °C ± 1.5 °C
Temperature drift	± 40 μV / 10 °C
Data update period	150 ms
Burn-out	Individual channel setting Setting: Burnout upscale/Burnout downscale Detection time: 1.5 s
Ambient temperature (during operation)	-20 to 70 °C
Maximum current consumption	5 V system: 400 mA 24 V system: 200 mA
Weight	Approx. 0.47 kg
External connection	Dedicated signal cable (AKB331)

*1: Use AKB331 of style code S3 or later.
*2: In dual redundant configuration, this effect is ± 40 μV.
*3: Reference junction compensation accuracy is specified on combination with SBT4D.
It varies depending on the temperature environment of SBT4D.
These values indicate Reference junction compensation accuracy against the ambient temperature of terminal board.
*4: This accuracy changes due to the installation condition.
If measured temperature is lower than 0 °C, multiply the above value by the following coefficient (K):

$$K=\frac{\text{Thermoelctromotive force per degree at 0 °C}}{\text{Thermoelectromotive force per degree at measured temperature}}$$

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● RTD Input Module

This module inputs RTD signals from the field. The SAR145 can be made dual redundant.

Item	Specifications
Model	SAR145
Safety Integrity Level	SIL 3
Number of input channels	16 channels, Isolated Channels
Input signal (*5)	RTD (3 wires) JIS C 1604, IEC 60751 (ITS-90) (*3): Pt100, Pt50, Pt200, Pt500, Pt1000 DIN 43760-1987: Ni100 Minco: Ni120
Withstand voltage	Between input and system: 1500 V AC for 1 minute Between channels: 200 V AC for 1 minute
Accuracy (*1) (*2)	800 Ω range to 400 Ω: ± 160 mΩ to 800 Ω: ± 180 mΩ 4000 Ω range to 2000 Ω: ± 900 mΩ to 4000 Ω: ± 1700 mΩ
Allowable resistance of wiring	150 Ω or less (wiring resistance per wire) (*4)
Measurement current	800 Ω range: 0.5 mA 4000 Ω range: 0.1 mA
Temperature drift	800 Ω range to 400 Ω: ± 150 mΩ / 10 °C to 800 Ω: ± 300 mΩ / 10 °C 4000 Ω range to 2000 Ω: ± 750 mΩ / 10 °C to 4000 Ω: ± 1500 mΩ / 10 °C
Data update period	150 ms
Burn-out	Individual channel setting Setting: Burnout upscale/Burnout downscale Detection time: 1.5 s
Ambient temperature (during operation)	-20 to + 70 °C
Maximum current consumption	5 V system: 500 mA 24 V system: 200 mA
Weight	Approx. 0.47 kg
External connection	Dedicated signal cable (AKB611)

*1: Include the tolerance which is caused by dedicated signal cable AKB611(up to 5 m).
In case of the cable length of AKB611 is more than 5 m, 15 mΩ shall be added to the accuracy per each 5 m.
*2: These values apply for the case when the resistance of field wiring line A and line B are the same value.
If the difference of resistance between line A and line B happens, the different value among them needs to be added.
*3: SAR145 also supports JIS C 1604: 1989 JPt100.
*4: Wiring resistance for signal cable of INnA, INnB and INnC must be identical.
*5: When connecting the RTD modules, use the resisters composed of the passive parts. If an instrument that simulates resistance electronically is connected, it may cause error between reading and actual values. Do not connect voltage signal to the modules.

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● Current Output Module

This module outputs 4 to 20 mA signals to the field.
The SAI533 can be made dual redundant.

Item	Specifications
Model	SAI533
Safety Integrity Level	SIL 3
Number of output channels	8 channels, module isolation (*2)
Rated output range	4 to 20 mA
Maximum range of guaranteed precision	1.25 to 23 mA
Output range	1.25 to 23 mA
Allowable load resistance @ rated range	230 to 600 Ω
Accuracy	±48 μA
Data update frequency	40 ms
Temperature drift	±16 μA/10 °C
Withstand voltage	1.5 kV AC between output signal and system for 1 minute (*1)
Maximum current consumption	5 V system: 320 mA 24 V system: 300 mA
Weight	Approx. 0.26 kg (For pressure clamp terminal block or MIL cable) Approx. 0.33 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (KS1)
HART communication	Available

*1: 500 V AC when dedicated signal cable is used.
*2: When SAI533-H□3 is used in the ambient temperature more than 60°C, number of output channels which a user can use is restricted. Refer to “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).

■ HART COMMUNICATION

Analog I/O module with HART communication on ProSafe-RS allows Plant Resource Manager (PRM) to manage the HART communication devices connected to input and output modules on SCS. Also, the analog output module allows PRM client to conduct Partial Stroke Test (PST) on HART-supported valve positioner equipped with the PST function.

The HART communication functions on ProSafe-RS are interference-free and have no impact on the safety functions on SCS.

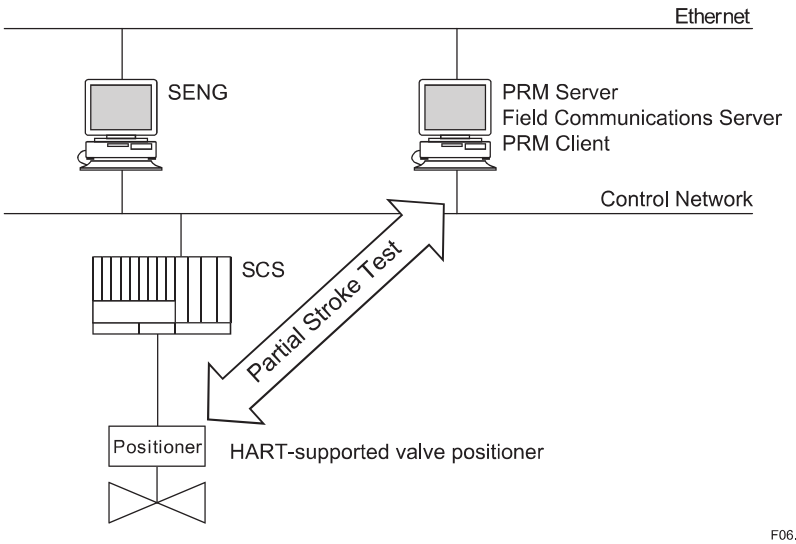

Figure Example of the HART Communication Function System Configuration

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● Analog I/O Modules for HART Communication Function

The following table shows analog I/O modules for HART communication function available to ProSafe-RS.

Model	Module	Description
SAI143-H	Analog Input module (Current input)	4 to 20 mA, 16 channels, module isolation
SAI533-H	Analog Output module (Current output)	4 to 20 mA, 8 channels, module isolation

One HART device is connectable for each channel. Each channel is equipped with a power supply function to the HART device.

Each module has only one HART modem and is communicable concurrently with only one HART device.

● HART Communication Specifications

Table HART Communication Specifications

Function	Description
Communication mode	Serial half duplex, start-stop synchronization, 1 start/ 8 bit/ odd parity/ 1 stop
Applicable standard	HART Protocol Revision 5.7 (*1)
Transmission speed	1200 ±2 bps
Modulation technique	Binary phase-continuous FSK 1: 1200 Hz ±1 %, 0: 2200 Hz ±1%
Frame length	5 to 267 bytes Contents of max. 267 bytes: Delimiter: 1 Address: 5 Command: 1 Byte count: 1 Data: 255 (includes two bytes of response code) Check byte: 1
Frame detection	3 byte header byte-count carrier (ON/OFF) Preamble: 5 to 20 bytes
Error detection coding	Longitudinal/vertical parity
Response time	Max. 28 characters (256.7 ms)
No response timer	33 characters (305 ms) for primary, 41 characters (380 ms) for secondary
Bus monitor	8 characters (75 ms)
Response window	20 ms

*1: The HART 5, 6, and 7 devices can be connected but applying the HART protocol 5.7 function.

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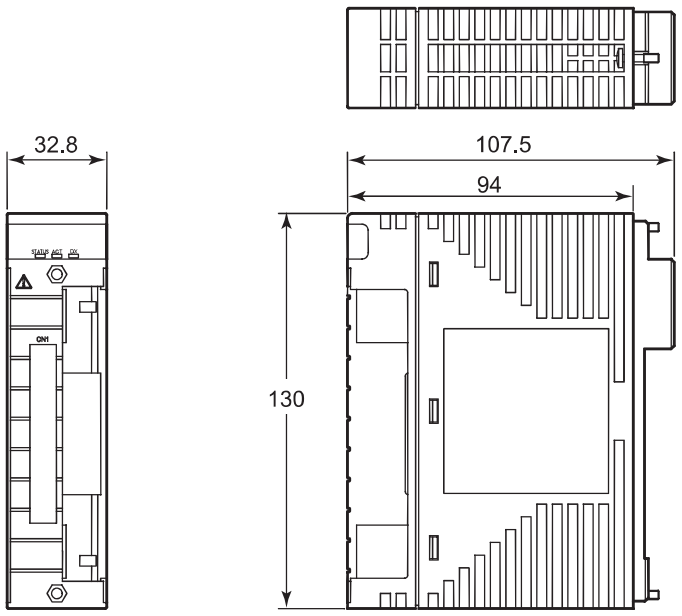
■ EXTERNAL DIMENSIONS

● SAI143, SAV144 and SAI533 Analog Input/Output Modules

For pressure clamp and MIL cable

Unit : mm

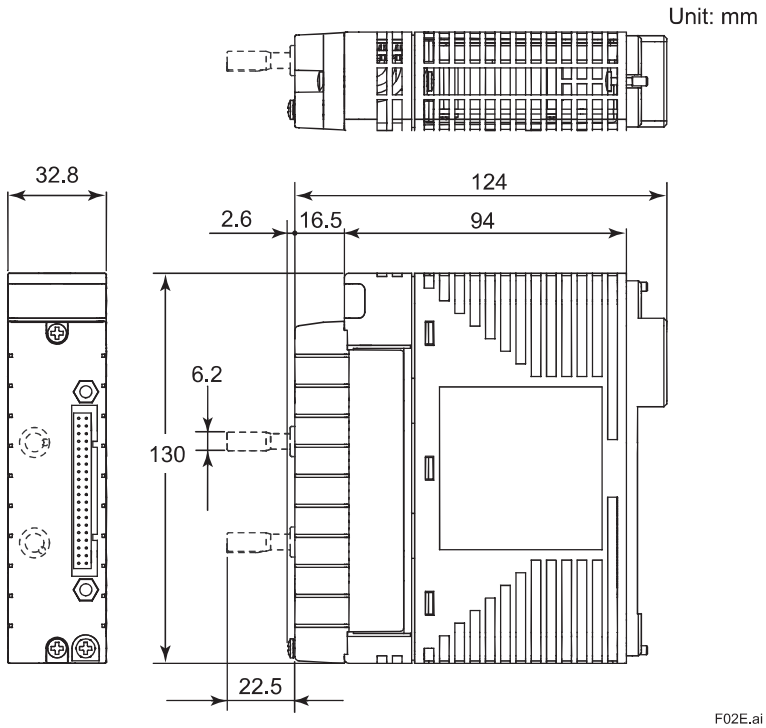


Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

With signal cable interface adapter

Unit: mm



Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

Note: Dash line expresses prevention pin of false insertion. This pin is added if option code /PRP is specified.

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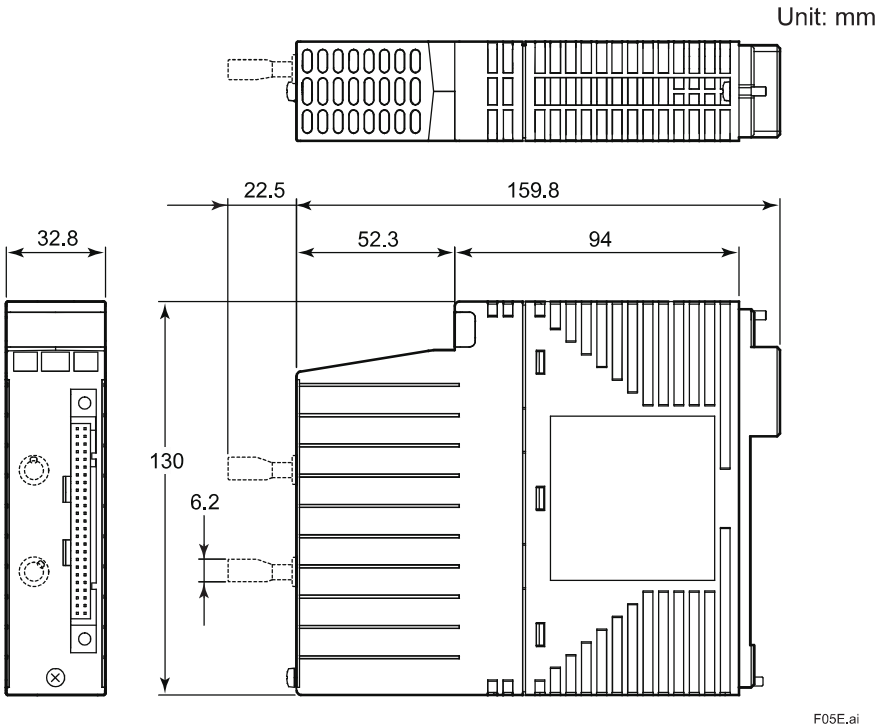
● SAT145, SAR145 Analog Input Modules

With signal cable interface adapter

Unit: mm



Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

Note: Dash line expresses prevention pin of false insertion. This pin is added if option code /PRP is specified.

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■ MODEL AND SUFFIX CODES

		Description
Model	SAI143	Analog Input Module (4 to 20 mA, 16 channels, module isolation)
Suffix Codes	-S	Standard type
	-H	With HART communication [Release: R1.02.00] (*1)
	5	For pressure clamp terminal block or MIL cable with no explosion protection
	6	With signal cable interface adapter and no explosion protection (*2)
	E	For pressure clamp terminal block or MIL cable with explosion protection
	F	With signal cable interface adapter and explosion protection (*2)
	3	With ISA Standard G3 and temperature (-20 to 70 ºC)
	C	With ISA Standard G3 and high-density installation (-20 to 70 ºC) (*5)
Option Codes	/A4S00	With pressure clamp terminal block for analog [Model: STA4S-00]
	/A4S10	With pressure clamp terminal block for analog (with surge absorber) [Model: STA4S-10]
	/A4D00	With dual-redundant pressure clamp terminal block for analog (*3) [Model: STA4D-00]
	/A4D10	With dual-redundant pressure clamp terminal block for analog (with surge absorber) (*3) [Part name: STA4D-10]
	/PRP	With prevention pin of false insertion (*4)
	/CCC01	With connector cover for MIL cable (for flat ribbon cable) [Model: SCCC01]

*1: For dual-redundant pressure clamp terminal block, please do not use STA4D-□0 S1.
*2: When selecting SAI143-□6□ or -□F□, you can not choose the option code of pressure clamp terminal block and MIL cable connector.
*3: When using this module in a dual-redundant configuration, order an additional module with the same specifications but without option codes.
*4: When SAI143-□6□ or -□F□ is selected, you can choose the option code for prevention pin of false insertion. A mechanism to prevent wrong type I/O module insertion is supported with signal cable. The signal cable used with this I/O module must have option code /SAI143.
*5: Suffix code for “With ISA Standard G3 and high-density installation” is available in case of SAI143-H□C. This is not available in case of SAI143-S.

		Description
Model	SAV144	Analog input module (1 to 5 V/1 to 10 V, 16 channels, module isolation)
Suffix Codes	-S	Standard type
	5	For pressure clamp terminal block or MIL cable with no explosion protection
	6	With signal cable interface adapter and no explosion protection (*1)
	E	For pressure clamp terminal block or MIL cable with explosion protection
	F	With signal cable interface adapter and explosion protection (*1)
	3	With ISA Standard G3 and temperature (-20 to 70 ºC)
Option Codes	/A4S00	With pressure clamp terminal block for analog [Model: STA4S-00]
	/A4S10	With pressure clamp terminal block for analog (with surge absorber) [Model: STA4S-10]
	/A4D00	With dual-redundant pressure clamp terminal block for analog (*2) [Model: STA4D-00]
	/A4D10	With dual-redundant pressure clamp terminal block for analog (with surge absorber) (*2) [Part name: STA4D-10]
	/PRP	With prevention pin of false insertion (*3)
	/CCC01	With connector cover for MIL cable (for flat ribbon cable) [Model: SCCC01]

*1: When selecting SAV144-S63 or -SF3, you can not choose the option code of pressure clamp terminal block and MIL cable connector.
*2: When using this module in a dual-redundant configuration, order an additional module with the same specifications but without option codes.
*3: When SAV144-S63 or -SF3 is selected, you can choose the option code for prevention pin of false insertion. A mechanism to prevent wrong type I/O module insertion is supported with signal cable. The signal cable used with this I/O module must have option code /SAV144.

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		Description
Model	SAT145	TC/mV Input Module (16 channels, Isolated Channels)
Suffix Codes	-S	Standard type
	6	With signal cable interface adapter and no explosion protection
	F	With signal cable interface adapter and explosion protection
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
Option Codes	/PRP	With prevention pin of false insertion (*1)

*1: The signal cable used with this I/O module must have option code /SAT14.

		Description
Model	SAR145	RTD Input Module (16 channels, Isolated Channels)
Suffix Codes	-S	Standard type
	6	With signal cable interface adapter and no explosion protection
	F	With signal cable interface adapter and explosion protection
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
Option Codes	/PRP	With prevention pin of false insertion (*1)

*1: The signal cable used with this I/O module must have option code /SAR14.

		Description
Model	SAI533	Analog Output Module (4 to 20 mA, 8 channels, module isolation)
Suffix Codes	-H	With HART communication
	5	For pressure clamp terminal block or MIL cable with no explosion protection
	6	With signal cable interface adapter and no explosion protection (*1)
	E	For pressure clamp terminal block or MIL cable with explosion protection
	F	With signal cable interface adapter and explosion protection (*1)
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
Option Codes	/A4S00	With pressure clamp terminal block for analog [Model: STA4S-00]
	/A4S10	With pressure clamp terminal block for analog (with surge absorber) [Model: STA4S-10]
	/A4D00	With dual-redundant pressure clamp terminal block for analog (*2) [Model: STA4D-00]
	/A4D10	With dual-redundant pressure clamp terminal block for analog (with surge absorber) (*2) [Model: STA4D-10]
	/PRP	With prevention pin of false insertion (*3)
	/CCC01	With connector cover for MIL cable (for flat ribbon cable) [Model: SCCC01]

*1: When selecting SAI533-H63 or -HF3, you can not choose the option code of pressure clamp terminal block and MIL cable connector.
*2: When using this module in a dual-redundant configuration, order an additional module with the same specifications but without option codes.
*3: When SAI533-H63 or -HF3 is selected, you can choose the option code for prevention pin of false insertion.
A mechanism to prevent wrong type I/O module insertion is supported with signal cable. The signal cable used with this I/O module must have option code /SAI533.

■ CONFORMITY STANDARDS

Refer to “Standards Compliant Models” (GS 32P01B60-01EN).

■ ORDERING INFORMATION

Specify the model and suffix codes.

For selecting the right products for explosion protection, please refer to TI 32S01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.5 Digital Input Module (SDV144-S63)
GS 32Q06K40-31E

<<Contents>> <<Index>>

General Specifications

ProSafe-RS
Digital I/O Modules (for FIO)

GS 32Q06K40-31E

GENERAL

This GS provides the hardware specifications of the digital I/O modules that can be installed in the Safety Node Unit and Safety Control Units.

STANDARD SPECIFICATIONS

Input Module

Input modules accept contact signals from the field. SDV144 can be made dual-redundant.

Item	Specifications
Safety Integrity Level	SIL 3
Model	SDV144
Number of inputs	16 channels, module isolation (*3)
Input signal	No-voltage contact ON: 1 kΩ maximum OFF: 100 kΩ minimum
Input current	6 mA ± 20 % (External power supply, 24 V DC at 0 Ω input)
Contact rating	24 V DC +20 % / -10 % (*4), 10 mA or greater
External power supply	24 V DC +20 % / -10 % (*3) (*4) Current capacity: 200 mA
Instantaneous maximum permissible input voltage	30.0 V DC
Input response time	40 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between input signal and system for 1 minute, 16-input line collectively connected (*5)
Current consumption	290 mA maximum (5 V DC) 140 mA maximum (24 V DC)
Weight	Approx. 0.36 kg (For pressure clamp terminal block or MIL cable) Approx. 0.41 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (AKB331)

*1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
*2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
*3: Number of input channels which a user can use and external power supply are restricted in case of SDV144-S□C. Refer to “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).
*4: The contact rating and the external power supply of SDV144 style code S1, S2 and S3 are 24 V DC ± 5 %.
*5: When connecting SDV144 and SED4D terminal board using the dedicated signal cable, the withstand voltage is 500 V AC (between input signal lines and system). If MIL connector cables are used, the withstand voltage depends on their cable’s electrical specifications.

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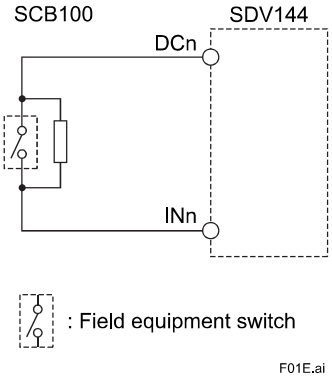
If SDV144 field wiring diagnostic functions are used, the following wiring check adapter should be installed for individual channels in the vicinity of the field equipment:

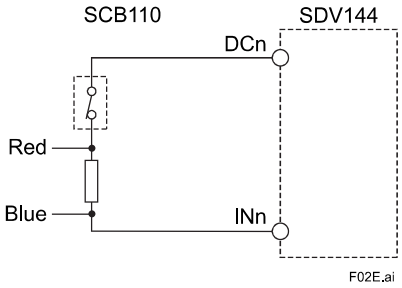
- SCB100 (for defective open circuit detection while accepting off signals) (*1)
- SCB110 (for defective short-circuit detection while accepting on signals) (*2)

*1: Input signals are normally off while in normal operation.
*2: Input signals are normally on while in normal operation.

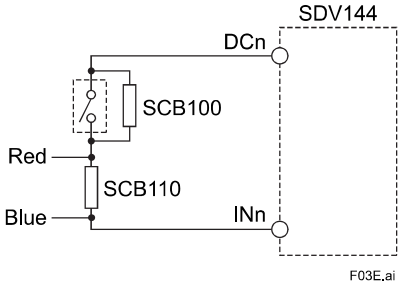
When the input signals are normally off while in normal operation, connect the SCB100 in parallel with the contact output of the field equipment as given below.



When the input signals are normally on while in normal operation, connect the SCB110 in series with the contact output of the field equipment (take care about the polarity taking note of the polarity).



When checking for both defective short and open circuits, connect the SCB100 and SCB110 in parallel and series with the contact outputs of the field equipment respectively, as given below.



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● Output Module

Output modules output on/off status signals to field equipment.

The output modules can be made dual-redundant respectively. They incorporate field wiring diagnostic functions, so they require no wiring check adapter.

Item	Specifications
Model	SDV531
Safety Integrity Level	SIL 3
Number of outputs	8 channels, module isolation (*3)
Output voltage	24 V DC
Output voltage drop	1 V maximum
External power supply rating	24 V DC, 5 A minimum
External power supply	24 V DC +20 %/–10 % (*4) Current capacity: 5 A
Maximum leak current at output off status	1.6 mA
Output format	Current source
Maximum load current	0.6 A/output line (4.8 A in total output lines) (*3) (*5)
Minimum load current	35 mA
Load resistance range	40 to 685 Ω (*6)
Output response time	30 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between output signal lines and system for 1 minute, 8-point input lines collectively connected (negative lines) (*7)
Current consumption	280 mA maximum (5 V DC) 140 mA maximum (24 V DC)
Weight	Approx. 0.28 kg (For pressure clamp terminal block or MIL cable) Approx. 0.34 kg (With dedicated signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (AKB331, AKB651 (*8))

*1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.

*2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.

*3: Number of output channels which a user can use and maximum load current are restricted in case of SDV531-L□C. Refer to “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).

*4: External power supply of SDV531-S style code S1 and S2 is 24 V DC ± 5%.

*5: Do not exceed this value, including the case of inrush/variation of the load current.

*6: Resistance value of the load for both ON and OFF state, including the field wiring resistance.

*7: When connecting SDV531 and SED4D terminal board using AKB331 dedicated signal cable, the withstand voltage is 500 V AC (between output signal lines and system). If MIL connector cables are used, the withstand voltage depends on their cable’s electrical specifications.

*8: AKB651 can be used for connection with SDV531-L only.

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Item	Specifications
Model	SDV541
Safety Integrity Level	SIL 3
Number of outputs	16 channels, module isolation (*3)
Output voltage	24 V DC
Output voltage drop	1 V maximum
External power supply rating	24 V DC, 3.4 A minimum
External power supply	24 V DC + 20 % / -10 % (*4) Current capacity: 3.4 A
Maximum leak current at output off status	1.6 mA
Output format	Current source
Maximum load current	0.2 A/output line (3.2 A in total output line) (*3) (*5)
Minimum load current	35 mA
Load resistance range	120 to 685 Ω (*6)
Output response time	30 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between output signal lines and system for 1 minute, 16-point input lines collectively connected (negative lines) (*7)
Current consumption	300 mA maximum (5 V DC) 150 mA maximum (24 V DC)
Weight	Approx. 0.29 kg (For pressure clamp terminal block or MIL cable) Approx. 0.31 kg (With dedicated signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (AKB331, AKB651)

*1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
*2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
*3: Number of output channels which a user can use and maximum load current are restricted in case of SDV541-S□C. Refer to “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).
*4: External power supply of SDV541 style code S1 is 24 V DC ± 5%.
*5: Do not exceed this value, including the case of inrush/variation of the load current.
*6: Resistance value of the load for both ON and OFF state, including the field wiring resistance.
*7: When connecting SDV541 and SED4D terminal board using AKB331 dedicated signal cable, the withstand voltage is 500 V AC (between output signal lines and system). If MIL connector cables are used, the withstand voltage depends on their cable’s electrical specifications.

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Item	Specifications
Model	SDV521
Safety Integrity Level	SIL 3
Number of outputs	4 channels, module isolation (*4)
Output voltage	24 V DC
Output voltage drop	1 V maximum
External power supply rating	24 V DC, 10 A minimum
External power supply	24 V DC +20 %/–10 % Current capacity: 8.2 A (*5)
Maximum leak current at output off status	1.6 mA
Output format	Current source
Maximum load current	2 A/output line (8 A in total output lines) (*4)
Minimum load current	100 mA
Load resistance range	12 to 240 Ω (*6)
Maximum lamp load (*1)	1 A/output line
Output response time	30 ms maximum
Withstand voltage (*2) (*3)	2 kV AC between output signal lines and system for 1 minute, 4-point input lines collectively connected (negative lines)
Current consumption	280 mA maximum (5 V DC) 140 mA maximum (24 V DC)
Weight	Approx. 0.36 kg
External connection	Dedicated signal cable (AKB651)

*1: This is the maximum rated load current in the case of a filament lamp. The inrush current of a filament lamp is acceptable up to 10 times of this value.
*2: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
*3: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
*4: Number of output channels which a user can use and maximum load current are restricted in case of SDV521-S□C. Refer to “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).
*5: Required capacity when all the channels are loaded with rated load. Please use external source with the capacity most appropriate for load to be applied.
(When it is probable to get inrush load, use power source with the inrush current added.)
*6: Resistance value of the load for both ON and OFF state, including the field wiring resistance.

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Item	Specifications
Model	SDV526 (*1) (*2) (*3) (*4)
Safety Integrity Level	SIL 3
Number of outputs	4 channels, module isolation
Output voltage	100 to 120 V AC
Output voltage drop	1.3 V AC + 0.01 V AC/m minimum 2.5 V AC + 0.04 V AC/m maximum (*5)
External power supply rating	100 to 120 V AC (*6)
External power supply	100 to 120 V AC +10 %/–15 %
Maximum leak current at output off status	2 mA
Output format	Current source (common N side)
Maximum load current	0.5 A/output line
Minimum load current	0.1 A/output line
Load resistance range	5 kΩ (*7)
Output response time	60 ms
Withstand voltage	1500 V AC between output signal lines and system for 1 minute
Current consumption	500 mA maximum (5 V DC) 50 mA maximum (24 V DC)
Weight	Approx. 0.36 kg
External connection	Dedicated signal cable (AKB652) (*8)

*1: SDV526 is not capable to of detecting the following faults.
- short circuit between channels
- output short circuit while output signals are off

*2: When the application logic is designed to continuously change the output state to ON and OFF alternately, at least one of the following conditions must be met.
- every ON state must be kept 1,000ms or longer
- every OFF state must be kept 1,000ms or longer

*3: Acceptable reverse electromotive voltage for output channel is 450 V, 1 ms (The reverse electromotive voltage is caused by the connection with inductive load such as relays or solenoid valves.)

*4: Supported by R2.02.00 or later.

*5: It depends on the length of AKB652.

*6: In order to comply with safety standards, the external power supply connected to the terminal board is supplied from a secondary circuit. The secondary circuit is insulated by a transformer and the primary circuit is MAINS CIRCUITS of overvoltage category II up to 300 V. The insulation must be REINFORCED INSULATION or DOUBLE INSULATION.

*7: Resistance value of the load for OFF state, including the field wiring resistance.

*8: For dual-redundant configuration, two AKB652 cables with the same length should be used.

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Item	Specifications
Model	SDV53A (*3)
Safety Integrity Level	SIL 3
Number of outputs	8 channels, module isolation
Output voltage	48 V DC
Output voltage drop	1 V maximum
External power supply rating	48 V DC, 5 A minimum
External power supply	48 V DC +20 %/–10 % Current capacity: 5 A (*4)
Maximum leak current at output off status	3.2 mA
Output format	Current source
Maximum load current	0.6 A/output line (4.8 A in total output lines) (*5)
Minimum load current	100 mA
Load resistance range	80 to 480 Ω (*6)
Output response time	36 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between output signal lines and system for 1 minute, 8-point input lines collectively connected (negative lines)
Current consumption	290 mA maximum (5 V DC) 150 mA maximum (24 V DC)
Weight	Approx. 0.46 kg
External connection	Dedicated signal cable (AKB331, AKB651)

*1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
*2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
*3: R2.03 or later
*4: Required capacity when all the channels are loaded with rated load. Please use external source with the capacity most appropriate for load to be applied.
(When it is probable to get inrush load, use power source with the inrush current added.)
*5: 0.3 A for filament lamp under the specified conditions. When rush current is over 3 A, the module cannot be connected.
*6: Resistance value of the load for both ON and OFF state, including the field wiring resistance.

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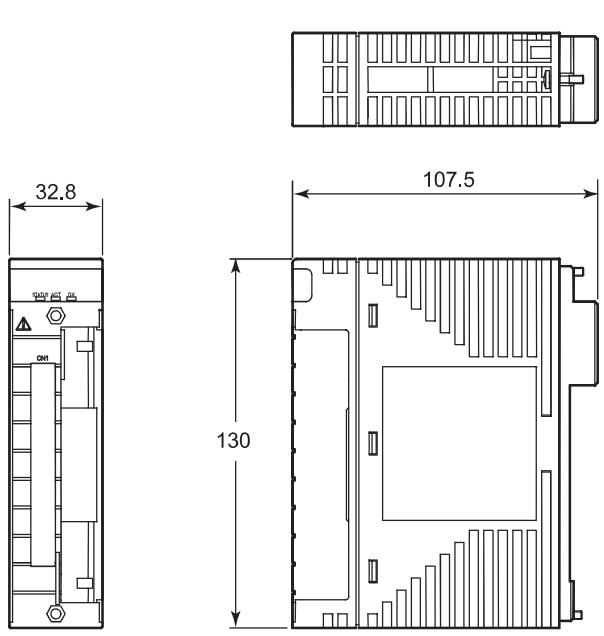
■ EXTERNAL DIMENSIONS

● SDV144 Digital Input Module

For pressure clamp and MIL cable

Unit: mm



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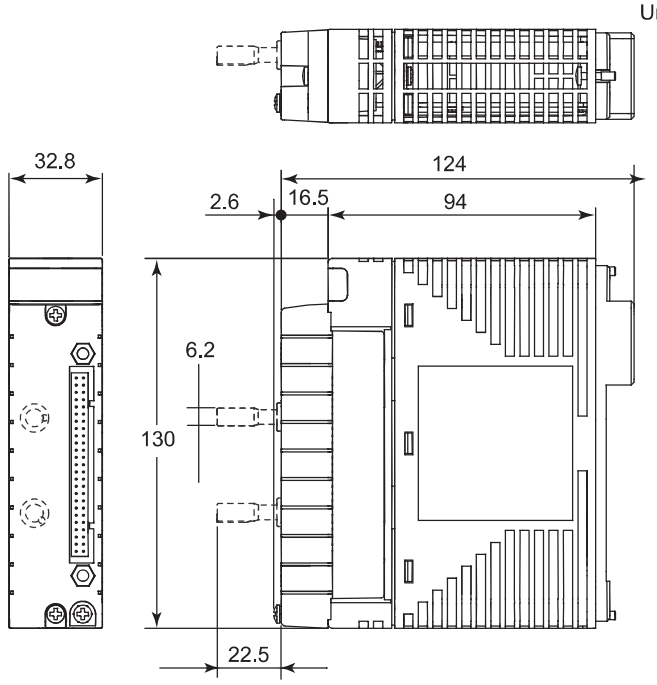
Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

With signal cable interface adapter

Unit: mm



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Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

Note: Dash line expresses prevention pin of false insertion. This pin is added if option code /PRP is specified

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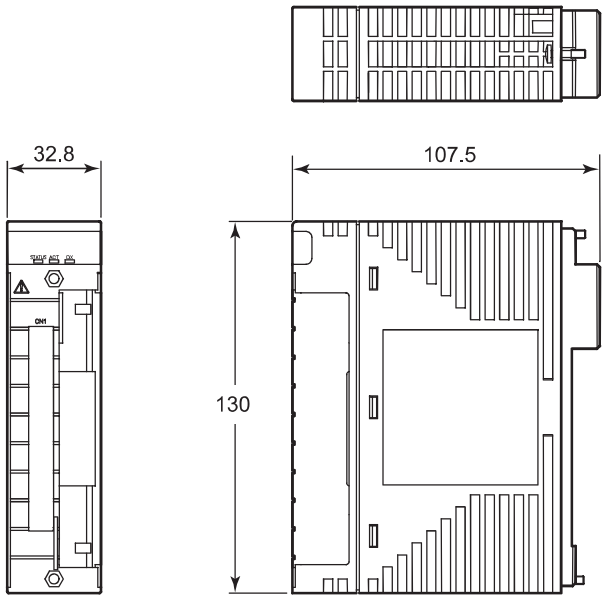
● SDV531 and SDV541 Digital Output Module

For pressure clamp and MIL cable

Unit: mm

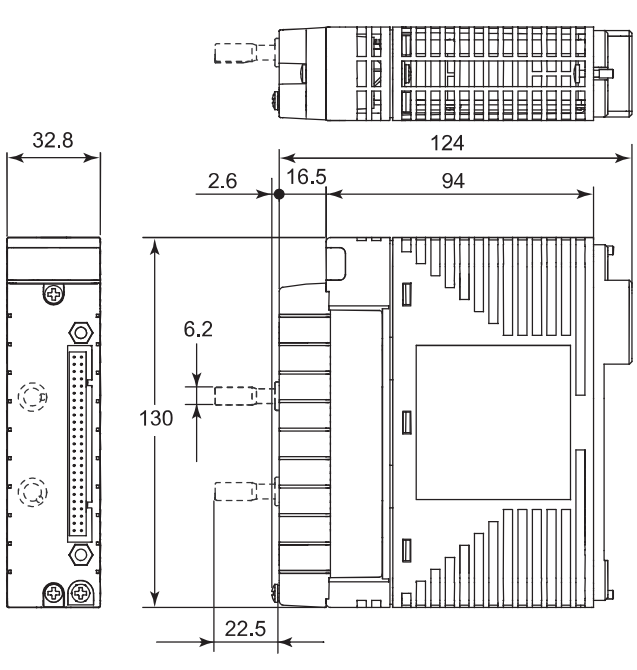


Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

With signal cable interface adapter

Unit: mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

Note: Dash line expresses prevention pin of false insertion. This pin is added if option code /PRP is specified

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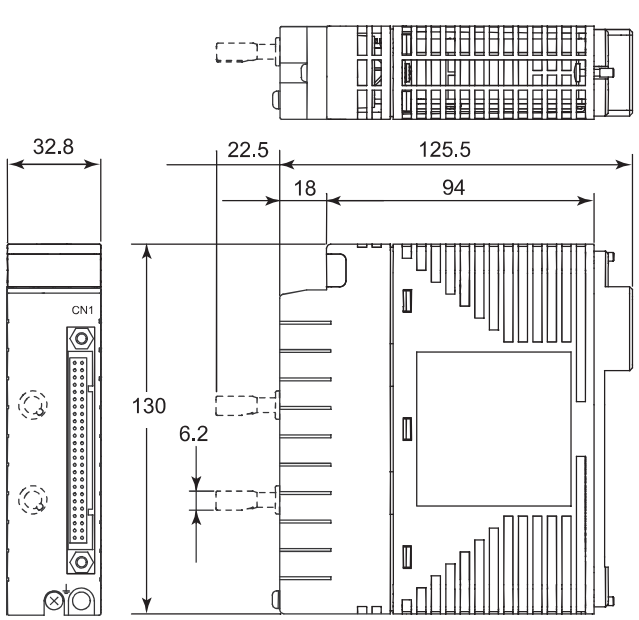
● SDV521 Digital Output Module

Unit: mm



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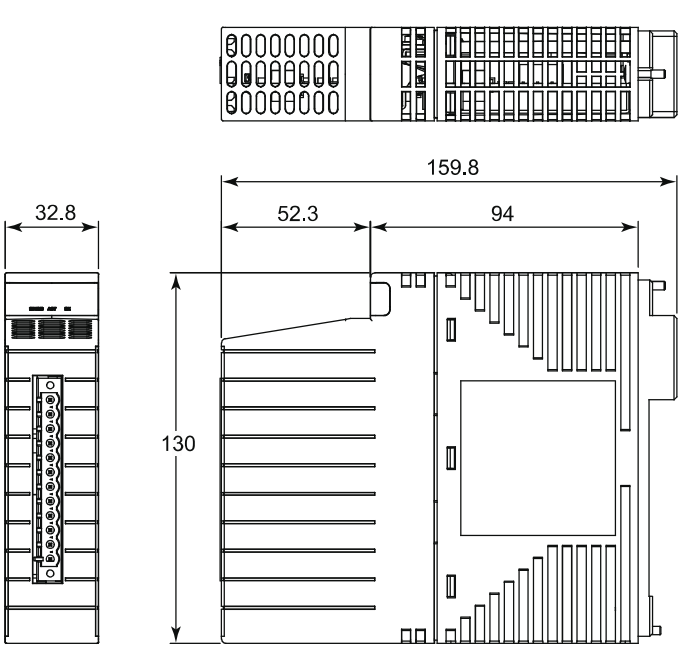
Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

Note: Dash line expresses prevention pin of false insertion.

● SDV526 Digital Output Module

Unit: mm



F10E.ai

Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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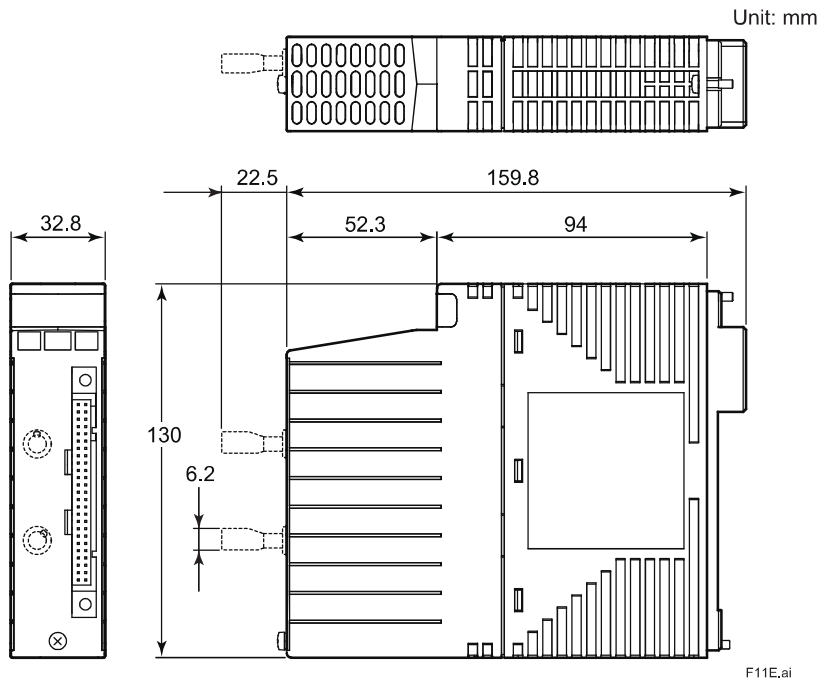
● SDV53A Digital Output Module

Unit: mm



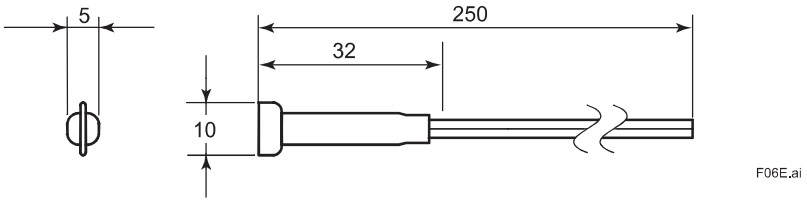
Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

● SCB100 and SCB110 Wiring Check Adapter

Unit: mm



Nominal tolerances :

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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■ MODEL AND SUFFIX CODES

Digital Input Module

		Description
Model	SDV144	Digital Input Module (24 V DC, 16 channels, module isolation)
Suffix Codes	-S	Standard type
	5	For pressure clamp terminal block or MIL cable with no explosion protection
	6	With signal cable interface adapter and no explosion protection (*1)
	E	For pressure clamp terminal block or MIL cable with explosion protection
	F	With signal cable interface adapter and explosion protection (*1)
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
	C	With ISA Standard G3 and high-density installation (-20 to 70 °C)
Option Codes	/B4S00	With pressure clamp terminal block for digital input (without surge absorber) [Model: STB4S-00]
	/B4S10	With pressure clamp terminal block for digital input (with surge absorber) [Model: STB4S-10]
	/B4D00	With dual-redundant pressure clamp terminal block for digital input (without surge absorber) (*2) [Model: STB4D-00]
	/B4D10	With dual-redundant pressure clamp terminal block for digital input (with surge absorber) (*2) [Model: STB4D-10]
	/PRP	With prevention pin of false insertion (*3)
	/CCC01	With connector cover for MIL cable (for flat ribbon cable) [Model: SCCC01]
	/CCC02	With connector cover for MIL cable (for discrete wire) [Model: SCCC02]

*1: When SDV144-S6☐ or -SF☐ is selected, you cannot choose the option code for a pressure clamp terminal block and MIL cable connector.
*2: When this module is used in dual-redundant configuration, order an additional module with the same specification but without option codes.
*3: When SDV144-S6☐ or -SF☐ is selected, you can choose the option code for prevention pin of false insertion.
A mechanism to prevent wrong type I/O module insertion is supported with signal cable. The signal cable used with this I/O module must have option code /SDV144.

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Digital Output Module

		Description
Model	SDV531	Digital output module (24 V DC, 8 channels, module isolation)
Suffix Codes	-L	Long distance type
	-S	Standard type
	5	For pressure clamp terminal block or MIL cable with no explosion protection
	6	With signal cable interface adapter and no explosion protection (*1)
	E	For pressure clamp terminal block or MIL cable with explosion protection
	F	With signal cable interface adapter and explosion protection (*1)
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
	C	With ISA Standard G3 and high-density installation (-20 to 70 ºC) (*4)
Option Codes	/B4S00	With pressure clamp terminal block for digital output (without surge absorber) [Model: STB4S-00]
	/B4S10	With pressure clamp terminal block for digital output (with surge absorber) [Model: STB4S-10]
	/B4D00	With dual-redundant pressure clamp terminal block for digital output (without surge absorber) (*2) [Model: STB4D-00]
	/B4D10	With dual-redundant pressure clamp terminal block for digital output (with surge absorber) (*2) [Model: STB4D-10]
	/PRP	With prevention pin of false insertion (*3)
	/CCC01	With connector cover for MIL cable (for flat ribbon cable) [Model: SCCC01]
	/CCC02	With connector cover for MIL cable (for discrete wire) [Model: SCCC02]

*1: When SDV531-□6□ or -□F□ is selected, you cannot choose the option code for a pressure clamp terminal block and MIL cable connector.
*2: When this module is used in dual-redundant configuration, order an additional module with the same specification but without option codes.
*3: When SDV531-□6□ or -□F□ is selected, you can choose the option code for prevention pin of false insertion.
A mechanism to prevent wrong type I/O module insertion is supported with signal cable. The signal cable used with this I/O module must have option code /SDV531, /SDV53L or /DV53L.
*4: Suffix Code for “With ISA Standard G3 and high-density installation” is available in case of SDV531-L□C. This is not available in case of SDV531-S.

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		Description
Model	SDV541	Digital Output Module (24 V DC, 16 channels, module isolation)
Suffix Codes	-S	Standard type
	5	For pressure clamp terminal block or MIL cable with no explosion protection
	6	With signal cable interface adapter and no explosion protection (*1)
	E	For pressure clamp terminal block or MIL cable with explosion protection
	F	With signal cable interface adapter and explosion protection (*1)
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
	C	With ISA Standard G3 and high-density installation (-20 to 70 °C)
Option Codes	/B4S00	With pressure clamp terminal block for digital output (without surge absorber) [Model: STB4S-00]
	/B4S10	With pressure clamp terminal block for digital output (with surge absorber) [Model: STB4S-10]
	/B4D00	With dual-redundant pressure clamp terminal block for digital output (without surge absorber) (*2) [Model: STB4D-00]
	/B4D10	With dual-redundant pressure clamp terminal block for digital output (with surge absorber) (*2) [Model: STB4D-10]
	/PRP	With prevention pin of false insertion (*3)
	/CCC01	With connector cover for MIL cable (for flat ribbon cable) [Model: SCCC01]
	/CCC02	With connector cover for MIL cable (for discrete wire cable) [Model: SCCC02]

*1: When SDV541-S6☐ or -SF☐ is selected, you cannot choose the option code for a pressure clamp terminal block and MIL cable connector.
*2: When this module is used in dual-redundant configuration, order an additional module with the same specification but without option codes.
*3: When SDV541-S6☐ or -SF☐ is selected, you can choose the option code for prevention pin of false insertion. A mechanism to prevent wrong type I/O module insertion is supported with signal cable. The signal cable used with this I/O module must have option code /SDV541 or /DV541.

		Description
Model	SDV521	Digital Output Module (24 V DC/2 A, 4 channels, module isolation)
Suffix Codes	-S	Standard type
	6	With signal cable interface adapter and no explosion protection
	F	With signal cable interface adapter and explosion protection
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
	C	With ISA Standard G3 and high-density installation (-20 to 70 °C)
Option Codes	/PRP	With prevention pin of false insertion (*1)

*1: The signal cable used with this I/O module must have option code /SDV521.

		Description
Model	SDV526	Digital Output Module (4 channels, module isolation)
Suffix Codes	-S	Standard type (*1)
	3	With signal cable interface adapter
	3	With ISA Standard G3 and temperature (-20 to 70 °C)

*1: with prevention of false insertion

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		Description
Model	SDV53A	Digital Output Module (48 V DC, 8 channels, module isolation)
Suffix Codes	-S	Standard type
	6	With signal cable interface adapter and no explosion protection
	F	With signal cable interface adapter and explosion protection
	3	With ISA Standard G3 and temperature (-20 to 70 °C)
Option Codes	/PRP	With prevention pin of false insertion (*1)

*1: The signal cable used with this I/O module must have option code /SDV53A or /DV53A.

Wiring Check Adapter

		Description
Model	SCB100	Wiring Check Adapter for Digital Input (for defective open circuit detection while accepting off signals with ISA Standard G3) (*1)
Suffix Codes	-S	Standard type
	0	Always 0

*1: Eight pcs/set

		Description
Model	SCB110	Wiring Check Adapter for Digital Input (for defective short-circuited detection while accepting on signals with ISA Standard G3) (*1)
Suffix Codes	-S	Standard type
	0	Always 0

*1: Eight pcs/set

■ STANDARD ACCESSORIES

The fuse for SDV144 style code S1, S2 and S3 are replaceable.

SDV144 style code S4 contains the fuse but it is not replaceable.

Accessory	Part number	Quantity	Remark
Fuse	A1327EF	1	Mounted

■ CONFORMITY STANDARDS

Refer to “Standards Compliant Models” (GS 32P01B60-01EN).

■ ORDERING INFORMATION

Specify the model and suffix codes when ordering.

For selecting the right products for explosion protection, please refer to the TI “Explosion Protection” (TI 32S01J30-01E) without fail.

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.6 Enhanced Serial Bus Cable (YCB301)
GS 32Q06M10-31E

<<Contents>> <<Index>>

General Specifications

ProSafe-RS/ProSafe-RS Lite
Cables

GS 32Q06M10-31E

GENERAL

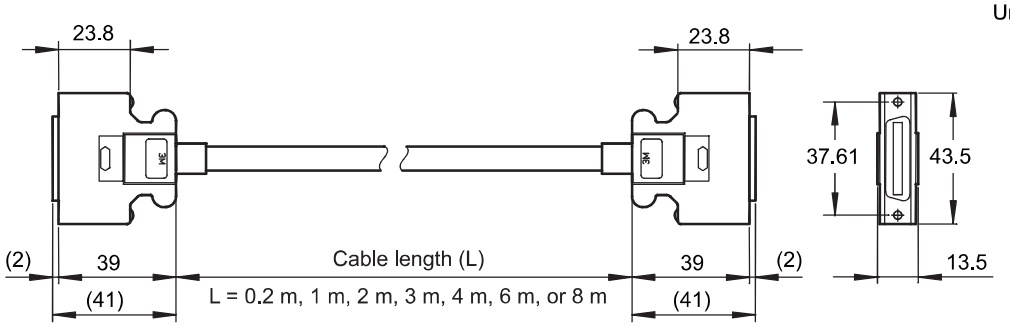
This GS provides the specifications for cables used in the ProSafe-RS/ProSafe-RS Lite system.

DIMENSIONS

Cables

YCB301 ESB Bus Cable

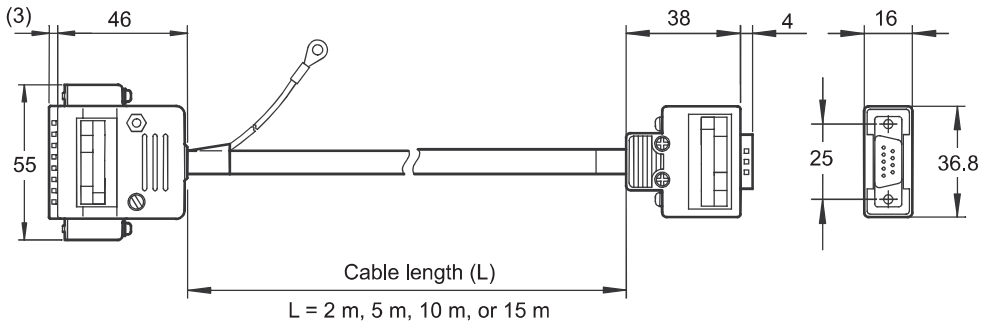
Unit: mm



F01E.ai

AKB131, AKB132, AKB135, AKB136 RS-232C Cables for Start-Stop Asynchronous Communications (for ALR111 Communications Module)

Unit: mm



F04E.ai

Note: An FG connection wire is attached to the other side connector of the AKB131 and AKB132 cables.

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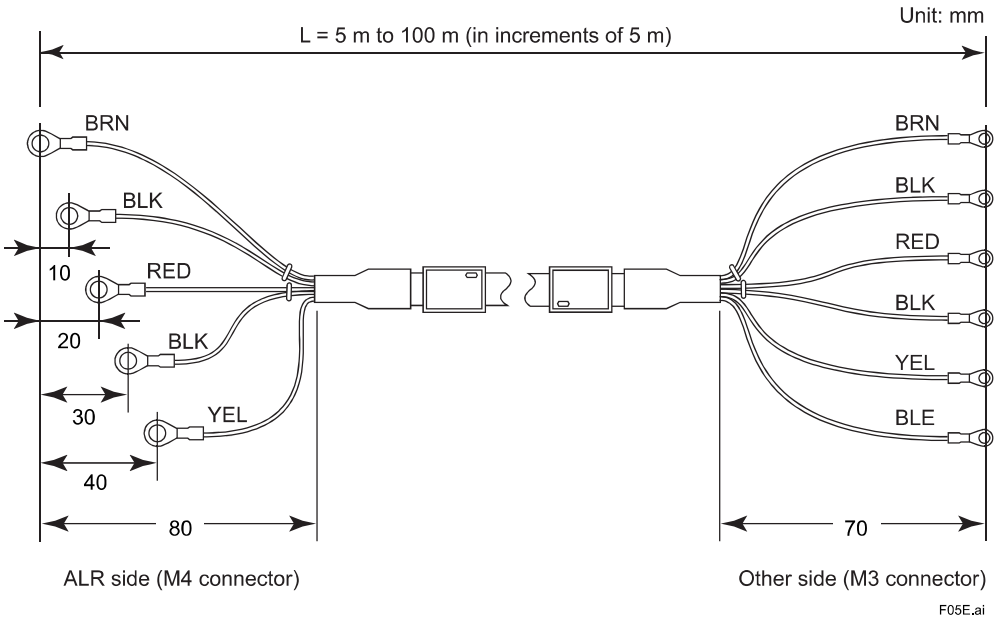
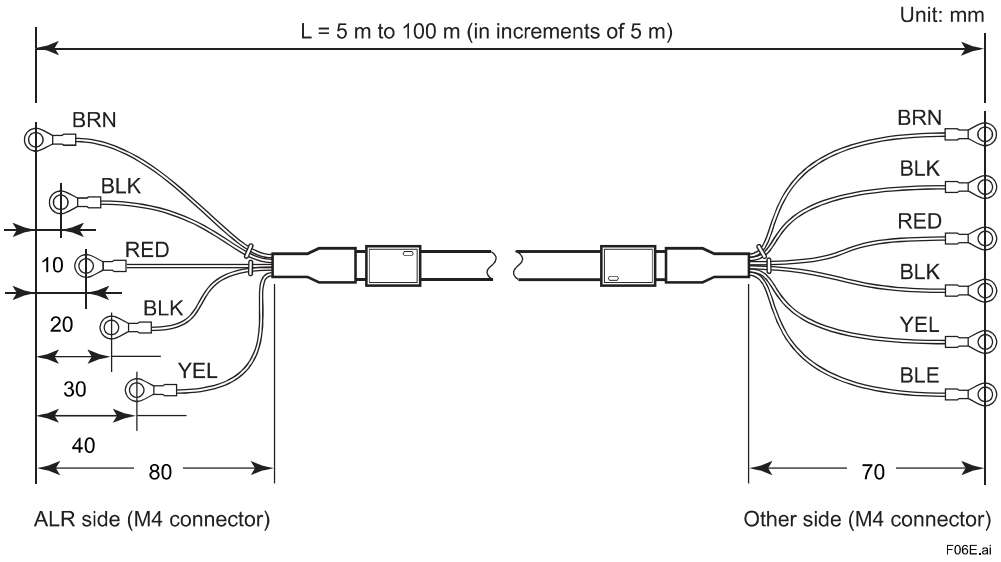
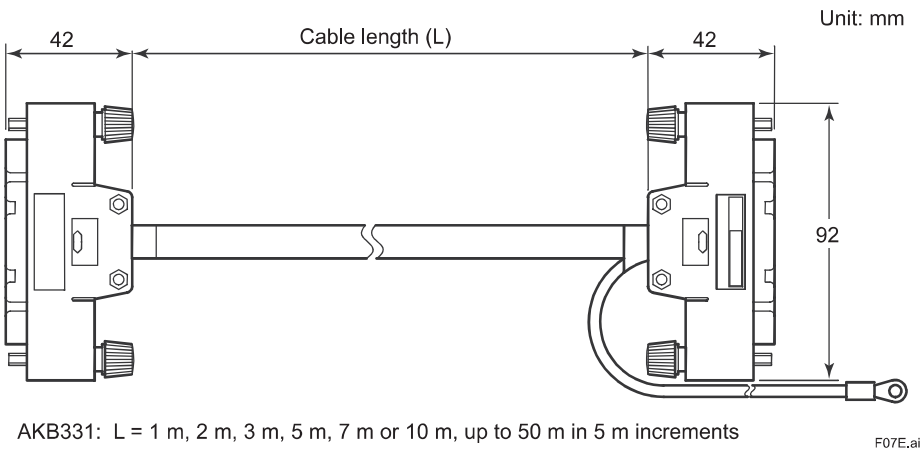
AKB161 RS-422/RS-485 Cable (for ALR121 Communications Module)



AKB162 RS-422/RS-485 Cable (for ALR121 Communications Module)



AKB331 Signal Cable (50-50 pins)



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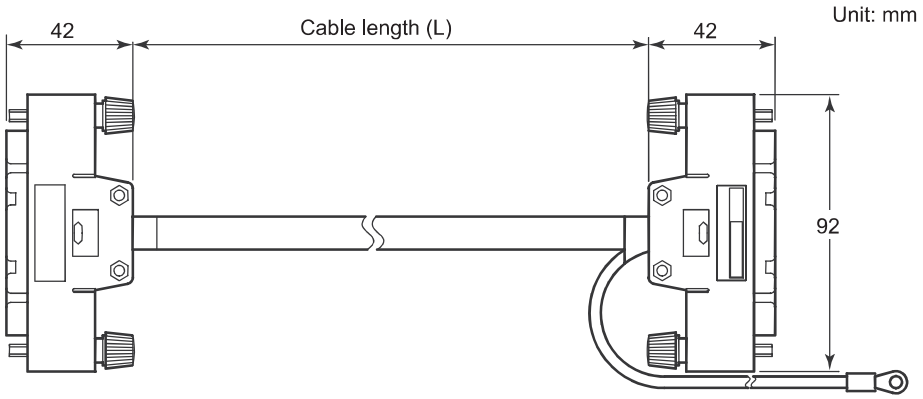
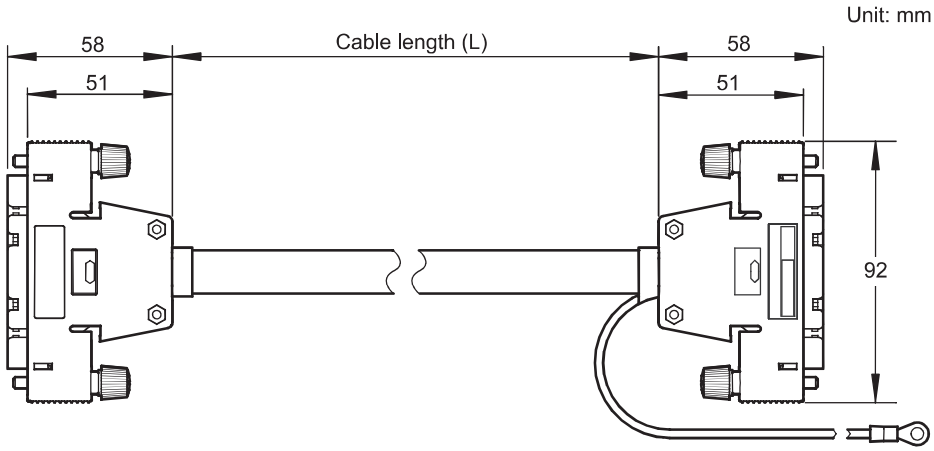
AKB611 Signal Cable (50-50 pins)



AKB6111: L = 2 m, 5 m

F17E.ai

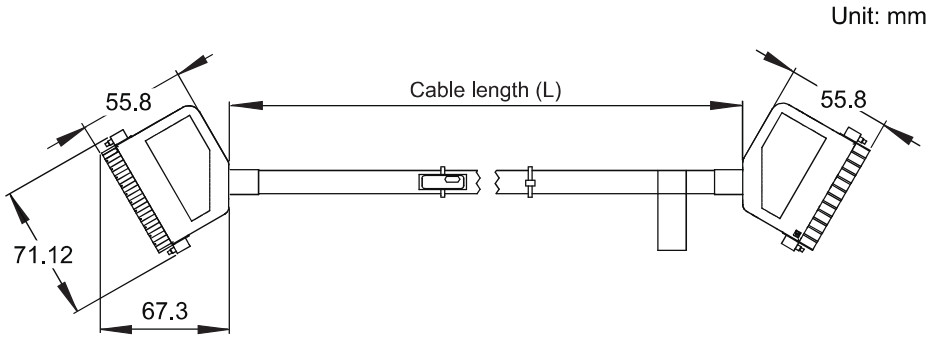
AKB651 Signal Cable (50-50 pins)



AKB651: L = 1 m, 2 m, 3 m, 5 m, 7 m or 10 m, up to 30 m in 5 m increments

F15E.ai

AKB652 Signal Cable (12 pins)



AKB652: L = 1 m, 2 m, 3 m, 5 m, 7 m, 10 m, 15 m, 20 m, 25 m, or 30 m

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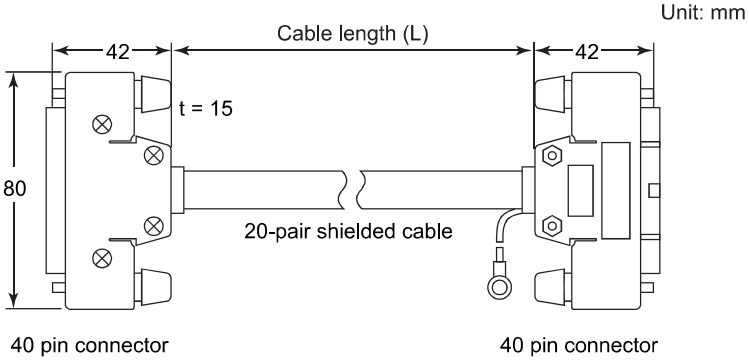
KS1 Cable (40-40 pins)



KS1: L = 1 m, 2 m, 3 m, 5 m, 7 m or 10 m, up to 50 m in 5 m increments

F08E.ai

Nominal tolerances:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominaltolerance is ± 1.5 mm.
The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

Nominal tolerances of cable length:

When the reference dimension is less than or equal to 3000 mm, its nominal tolerance is +5%, -0%.
When the reference dimension is over 3000 mm, its nominal tolerance is +3% or +1m(whichever is smaller), -0%.

■ MODEL AND SUFFIX CODES

EBS Bus Cable

		Description
Model	YCB301	ESB Bus Cable
Suffix Codes	-C020	Length: 20 cm
	-C100	Length: 1 m
	-C200	Length: 2 m
	-C300	Length: 3 m
	-C400	Length: 4 m
	-C600	Length: 6 m
	-C800	Length: 8 m

RS-232C Modem Cable (for connection between ALR111 and modem)

		Description
Model	AKB131	For connecting RS circuit isolated devices; RS-232C modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and modem)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

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RS-232C Null Modem Cable (for connection between ALR111 and RS-232C device)

		Description
Model	AKB132	RS-232C null modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and RS-232C device)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

RS-232C Modem Cable (for connection between ALR111 and modem)

		Description
Model	AKB135	RS-232C modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and modem)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

RS-232C Null Modem Cable (for connection between ALR111 and RS-232C device)

		Description
Model	AKB136	RS-232C null modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and RS-232C device)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

Signal Cables

		Description
Model	AKB161	RS-422/RS-485 Cable Used between ALM side (M4 terminal) and other side (M3 terminal)
Suffix Code	-M □□□	Enter multiples of 5 in the □□□ (the cable comes in 5-m increments). Maximum length: 100 m (suffix code: -M100)

		Description
Model	AKB162	RS-422/RS-485 Cable Used between ALR side (M4 terminal) and other side (M4 terminal)
Suffix Code	-M □□□	Enter multiples of 5 in the □□□ (the cable comes in 5-m increments). Maximum length: 100 m (suffix code: -M100)

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		Description
Model	AKB331	Signal Cable (50-50 pins) (for connection between SDV144/L1DV144, SDV531/L1DV531, SDV53A/L1DV53A, SDV541/L1DV541, or SAT145/L1AT145 and Terminal Board)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M003	Length: 3 m
	-M005	Length: 5 m
	-M007	Length: 7 m
	-M010	Length: 10 m
	-M015	Length: 15 m
	-M020	Length: 20 m
	-M025	Length: 25 m
	-M030	Length: 30 m
	-M035	Length: 35 m
	-M040	Length: 40 m
	-M045	Length: 45 m
	-M050	Length: 50 m
Option Codes	/SDV144	Special cable for SDV144/L1DV144
	/SDV53L	Special cable for SDV531-L/L1DV531
	/SDV53A	Special cable for SDV53A/L1DV53A
	/SDV541	Special cable for SDV541/L1DV541
	/SAT14	Special cable for SAT145/L1AT145

Note: When connecting AKB331 with SDV531, SDV53A or SDV541, check if the cable length of AKB331 is proper or not, referring to “Terminal Board is connected” of “■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS” in “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).

Note: When connecting AKB331 with L1DV531, L1DV53A or L1DV541, check if the cable length of AKB331 is proper or not, referring to “Terminal Board is connected” of “■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS” in “ProSafe-RS Lite Outline of I/O Modules” (GS 32P56K60-01EN).

Note: A mechanism to prevent wrong type I/O module insertion is supported. When you select option code /SDV144, /SDV53L, /SDV53A, /SDV541 and /SAT14, the same model I/O module with /PRP prevention pin of false insertion option can be used. For example, AKB331-M003/SDV144 can be used only with SDV144 or L1DV144 that have /PRP prevention pin of false insertion option.

		Description
Model	AKB611	Signal Cable (for connections between SAR145/L1AR145 and Terminal Board)
Suffix Code	-M002	Cable length : 2 m
	-M005	Cable length : 5 m
Option Code	/SAR14	Special cable for SAR145 /L1AR145

Note: A mechanism to prevent wrong type I/O module insertion is supported.
When you select option code /SAR14, SAR145 or L1AR145 with /PRP prevention pin of false insertion option can be used.

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		Description
Model	AKB651	Signal Cable (50-50 pins) (for connections between SDV521/L1DV521,SDV531/L1DV531, SDV53A/ L1DV53A, or SDV541/L1DV541 and Terminal Board)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M003	Length: 3 m
	-M005	Length: 5 m
	-M007	Length: 7 m
	-M010	Length: 10 m
	-M015	Length: 15 m
	-M020	Length: 20 m
	-M025	Length: 25m
	-M030	Length: 30 m
Option Codes	/SDV521	Special cable for SDV521/L1DV521
	/DV53L	Special cable for SDV531-L/L1DV531
	/DV53A	Special cable for SDV53A/L1DV53A
	/DV541	Special cable for SDV541/L1DV541

Note: When connecting AKB651 with SDV521, SDV531-L, SDV53A or SDV541, check if the cable length of AKB651 is proper or not, referring to “Terminal Board is connected” of “■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS” in “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).

Note: When connecting AKB651 with L1DV521, L1DV531, L1DV53A or L1DV541, check if the cable length of AKB651 is proper or not, referring to “Terminal Board is connected” of “■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS”in “ProSafe-RS Lite Outline of I/O Modules ” (GS 32P56K60-01EN).

Note: A mechanism to prevent wrong type I/O module insertion is supported. When you select option code /SDV521, /DV53L, /DV53A and /DV541, the same model I/O module with /PRP prevention pin of false insertion option can be used. For example, AKB651-M003/DV53L can be used only with SDV531-L or L1DV531 that have /PRP prevention pin of false insertion option.

		Description
Model	AKB652	Signal Cable (for connections between SDV526/L1DV526 and Terminal Board)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M003	Length: 3 m
	-M005	Length: 5 m
	-M007	Length: 7 m
	-M010	Length: 10 m
	-M015	Length: 15 m
	-M020	Length: 20 m
	-M025	Length: 25 m
	-M030	Length: 30 m
Option Code	/SDV526	Special cable for SDV526/L1DV526

Note: When connecting AKB652 with SDV526, check if the cable length of AKB652 is proper or not, referring to “Terminal Board is connected” of “■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS” in “ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32P06K60-01EN).

Note: When connecting AKB652 with L1DV526, check if the cable length of AKB652 is proper or not, referring to “Terminal Board is connected” of “■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS”in “ProSafe-RS Lite Outline of I/O Modules” (GS 32P56K60-01EN).

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		Description
Model	KS1	Signal Cable (40-40 pins) (for connections between SAI143/L1AI143, SAV144/L1AV144, or SAI533/L1AI533 and Terminal Board)
Suffix Codes	-01	Length: 1 m
	-02	Length: 2 m
	-03	Length: 3 m
	-05	Length: 5 m
	-07	Length: 7 m
	-10	Length: up to 10 m (*1)
	-15	Length: 15 m
	-20	Length: 20 m
	-25	Length: 25 m
	-30	Length: 30 m
	-35	Length: 35 m
	-40	Length: 40 m
	-45	Length: 45 m
	-50	Length: 50 m
Style Code	*B	Style B
Option Codes	/SAI143	Special cable for SAI143/L1AI143
	/SAI533	Special cable for SAI533/L1AI533
	/SAV144	Special cable for SAV144/L1AV144

*1: "Length: up to 10 m" means the customer can specify the cable length that is not exceeding the 10 meters. For example, 8 m or 9 m can be specified when KS1-10*B is selected.

Note: A mechanism to prevent wrong type I/O module insertion is supported. When you select option code /SAI143, /SAI533 and /SAV144, the same model I/O module with /PRP prevention pin of false insertion option can be used. For example, KS1-03/SAI143 can be used only with SAI143/L1AI143 that have /PRP prevention pin of false insertion option.

■ CONFORMITY STANDARDS

Refer to "Standards Compliant Models" (GS 32P01B60-01EN).

■ ORDERING INFORMATION

Specify the model, suffix code(s), and option code(s).

■ TRADEMARK ACKNOWLEDGMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.2.7 TB for Analog Modules (SBA4D-06)

GS 32Q06L20-31E

<<Contents>> <<Index>>

General Specifications

ProSafe-RS/ProSafe-RS Lite
Terminal Boards/Relay Boards

GS 32Q06L20-31E

■ GENERAL

This GS describes the hardware specifications of the terminal boards used for the ProSafe-RS/ProSafe-RS Lite system.

■ STANDARD SPECIFICATIONS

● Terminal Board

19-inch Rack Mountable Type

Application	Model	Number of connection channels	Terminal	SIL (*1)	Connection module (*2)	Connection cable	Weight	Withstand voltage	Insulation resistance
For analog signals (single/ dual-redundant configuration)	SEA4D	16 channels x 2	M4 screw	SIL3	SAI143/ L1AI143	KS1	1.5 kg	500 V AC (for 1 minute) (*6)	100 MΩ minimum (500 V DC)
					SAV144/ L1AV144	KS1			
					SAI533/ L1AI533	KS1			
For digital signals (single/ dual-redundant configuration)	SED2D	4 channels x 4	M4 screw	SIL3	SDV521/ L1DV521	AKB651	2.3 kg	2000 V AC (for 1 minute) (*6)	100 MΩ minimum (500 V DC)
	SED3D	8 channels x 4	M4 screw	SIL3	SDV53A/ L1DV53A	AKB331 (*4)	2.0 kg	2000 V AC (for 1 minute) (*6)	
	SED4D	16 channels x 2 (*3)	M4 screw	SIL3	SDV144/ L1DV144	AKB331	1.5 kg	500 V AC (for 1 minute) (*6)	
					SDV531-S	AKB331			
					SDV531-L/ L1DV531-L	AKB331			
					SDV541/ L1DV541	AKB331			
	SWD2D (*5)	4 channels x 4	M4 screw	SIL3	SDV526/ L1DV526	AKB652	2.9 kg	1500 V AC (for 1 minute) (*6)	

Note: Connector covers must be mounted on connectors that do not have cables connected to them, to protect them from dust, and also to protect the connector pins.

*1: SIL (Safety Integrity level) of the terminal board alone.
*2: When connecting terminal boards with input/output modules, refer to following GS.
"ProSafe-RS Field Device Connection (for FIO)" (GS 32Q06J10-31E)
"ProSafe-RS Lite Field Device Connection" (GS 32P56J10-01EN)
*3: 8 channels × 2 for SDV531/L1DV531 connection
*4: Use AKB331 of style code S3 or later.
*5: Contact rating between ALM terminals when any fuse is blown
Meet all the following requirements.
Rated output voltage: 125 V AC or less, 125 V DC or less
Rated output current: 0.3 A or less
Rated power: 25 VA or less
*6: Between each signal terminal, and between all signal terminals and grounding terminal

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DIN Rail Mount Type

Application	Model	Number of connection channels	Terminal	SIL (*1)	Connection module (*2)	Connection cable	Weight	Withstand voltage	Insulation resistance
For analog signals (single/ dual-redundant configuration)	SBA4D	16 channels x 1	Pressure clamp	SIL3	SAI143/ L1AI143	KS1	0.2 kg	NA	NA
					SAV144/ L1AV144	KS1			
					SAI533/ L1AI533	KS1			
	S1BB4D (*3) (*4)	16 channels x 1	Pressure clamp	SIL3	SAI143/ L1AI143	KS1	0.5 kg	2000 V AC (for 1 minute) (*5)	20 MΩ minimum (500 V DC)
	SBT4D	16 channels x 1	Pressure clamp	SIL3	SAT145/ L1AT145	AKB331	0.3 kg	200 V AC (for 1 minute) (*6)	10 MΩ minimum (200 V DC)
	SBR4D	16 channels x 1	Pressure clamp	SIL3	SAR145/ L1AR145	AKB611	0.3 kg		
For digital signals (single/ dual-redundant configuration)	SBD2D (*3)	4 channels x 1	Pressure clamp	SIL3	SDV521/ L1DV521	AKB651	0.3 kg	2000 V AC (for 1 minute) (*5)	10 MΩ minimum (500 V DC)
	SBD3D (*3)	8 channels x 1	Pressure clamp	SIL3	SDV531-L/ L1DV531-L	AKB331 (*7), AKB651	0.3 kg	2000 V AC (for 1 minute) (*5)	
					SDV531-S	AKB331 (*7)			
					SDV53A/ L1DV53A	AKB331 (*7), AKB651			
	SBD4D (*3)	16 channels x 1	Pressure clamp	SIL3	SDV144/ L1DV144	AKB331 (*7)	0.3 kg	2000 V AC (for 1 minute) (*5)	
					SDV541/ L1DV541	AKB331 (*7), AKB651			

Note: Connector covers must be mounted on connectors that do not have cables connected to them, to protect them from dust, and also to protect the connector pins.

*1: SIL (Safety Integrity level) of the terminal board alone.
*2: When connecting terminal boards with input/output modules, refer to following GS.
"ProSafe-RS Field Device Connection (for FIO)" (GS 32Q06J10-31E)
"ProSafe-RS Lite Field Device Connection" (GS 32P56J10-01EN)
*3: The READY contact rating shows below.
125 V AC or less and 0.3 A or less
60 V DC or less and 1 A or less
*4: Rated power supply current for field devices is 0.35 A per channel. Inrush current must be 0.7 A or less for the first 2 seconds.
*5: Between power terminal and READY terminal
*6: Between channels
*7: Use AKB331 of style code S3 or later.

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● Relay Board

19-inch Rack Mountable Type

Item	Specifications	
Model	SRM53D	SRM54D
Safety integrity level	SIL 2 (*1)	SIL 2 (*1)
Type of input/output and number of I/O channels	Contact output/8 channels x 2 (dry contact outputs)	Contact output/16 channels x 1 (dry contact outputs)
Terminals	M4 screws, 16 poles x 2 (outputs) M4 screws, 2 poles x 1 (power)	
Connection module	SDV531/L1DV531, SDV144 /L1DV144 (read-back) (*2) Dual-redundant possible	SDV541/L1DV541, SDV144/L1DV144 (read-back) (*2) Dual-redundant possible
External connection	Dedicated signal cable AKB331	
Withstanding voltage	Between field device terminals and case: 2 kV for 1 minute Between 24 V power terminal and case: 500 V for 1 minute Between 24 V power terminal and field device terminals: 2.5 kV for 1 minute	
Insulation resistance	10 MΩ minimum (500 V DC)	
External supply voltage/current	24 V DC +5 %, -3.1 % (*3) Up to 1500 mA (24 V DC)	24 V DC +5 %, -1.2 % (*3) Up to 1500 mA (24 V DC)
Rated output voltage/current (current/channel)	250 V AC / 2 A 125 V DC / 0.4 A 30 V DC / 2 A	
Ambient temperature (during operation)	-20 to 70 °C	
Ambient humidity (both during operation and in transit/storage conditions)	5 to 85 % RH	
Weight	2.7 kg	

*1: SRM53D, SRM54D complies with SIL2 when used as DTS (De-energized-To-Safe) outputs under “low demand mode of operation” (the frequency of demands is no greater than one per year), which is defined in the IEC 61508.

*2: When connecting relay boards with output modules, refer to following GS.
“ProSafe-RS Field Device Connection (for FIO)” (GS 32Q06J10-31E)
“ProSafe-RS Lite Field Device Connection” (GS 32P56J10-01EN)

*3: This is the tolerance of the external supply voltage when the signal cable of 10 m (AKB331-M010) is used. The voltage loss of the external power supply varies with the length of the signal cable. For details, refer to following GS.
“ProSafe-RS Outline of I/O Modules (for FIO)” (GS 32Q06K20-31E)
“ProSafe-RS Lite Outline of I/O Modules” (GS 32P56K20-01EN)
Moreover, the maximum length of the signal cable (AKB331) used for connecting to the relay board is 20 m.

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DIN Rail Mount Type

Item	Specifications
Model	SBM54D (*1)
Safety integrity level	SIL 2 (*2)
Type of input/output and number of I/O channels	Contact output/16 channels x 1 (dry contact outputs)
Terminals	Pressure clamp
Connection module (*3)	SDV541/L1DV541 (*4) Dual-redundant possible
External connection	Dedicated signal cable AKB331
Withstanding voltage	Between field device terminal and case: 2 kV for 1 minute Between 24 V power terminal and case: 2 kV for 1 minute Between 24 V power terminal and field device terminals: 2.5 kV for 1 minute Between READY terminal and case: 2 kV for 1 minute Between READY terminal and 24 V power terminal: 2 kV for 1 minute Between READY terminal and field device terminals: 2.5 kV for 1 minute
Insulation resistance	10 MΩ minimum (500 V DC)
External supply voltage/current	24 V DC +20 %, -10% Up to 500 mA (24 V DC)
Rated output voltage/current (current/channel)	30 V DC/4 A 240 V AC/4 A
Ambient temperature (during operation)	-20 to 70 °C
Ambient humidity (both during operation and in transit/storage conditions)	5 to 85 % RH
Weight	0.6 kg

*1: Dual power supply is available.
In case of power supply is normal operation, LED keeps ON. In the other case LED turns OFF.
The READY contact outputs the condition which power supply and all fuses is normal operation.
The READY contact rating shows below.
125 V AC or less and 0.3 A or less
60 V DC or less and 1 A or less

*2: SBM54D style code S3 or later complies with SIL2 when used as DTS (De-energized-To-Safe) outputs under “low demand mode of operation” (the frequency of demands is no greater than one per year), which is defined in the IEC 61508.

*3: When connecting relay boards with output modules, refer to following GS.
“ProSafe-RS Field Device Connection (for FIO)” (GS 32Q06J10-31E)
“ProSafe-RS Lite Field Device Connection” (GS 32P56J10-01EN)

*4: The style code and firmware revision numbers of SDV541 must be used following revision or later.
SDV541 S3, F1: 1 F2: 1

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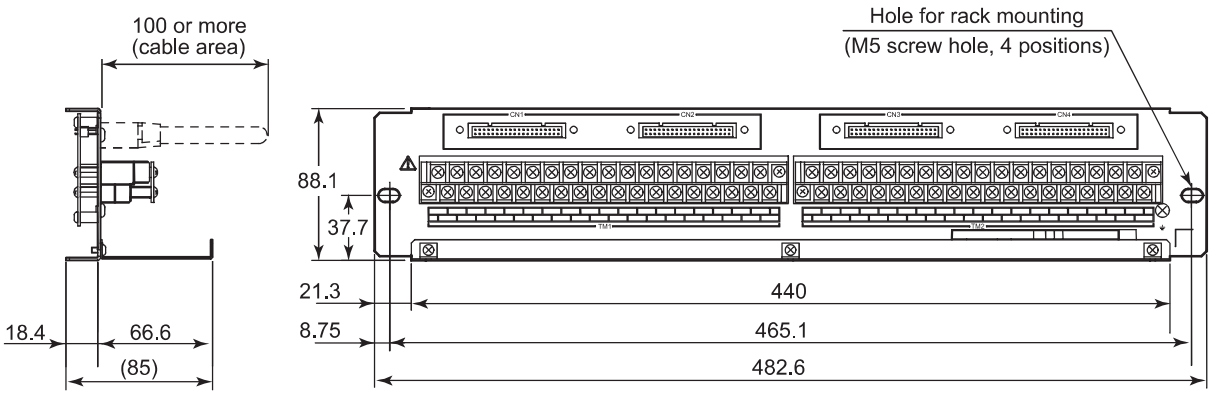
■ EXTERNAL DIMENSIONS

● Terminal Boards

SEA4D

Unit: mm



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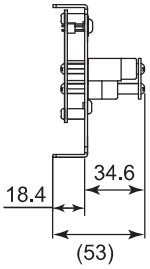

F01E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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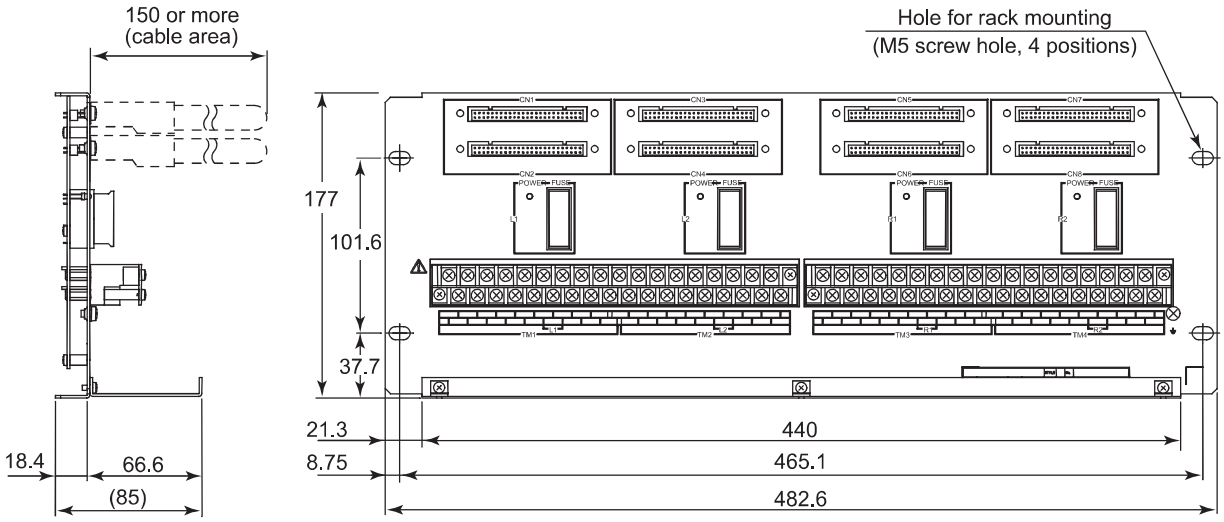
SED2D

Unit: mm



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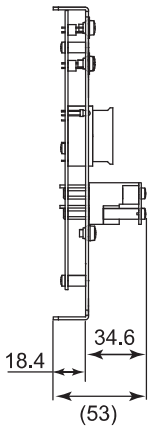

F07E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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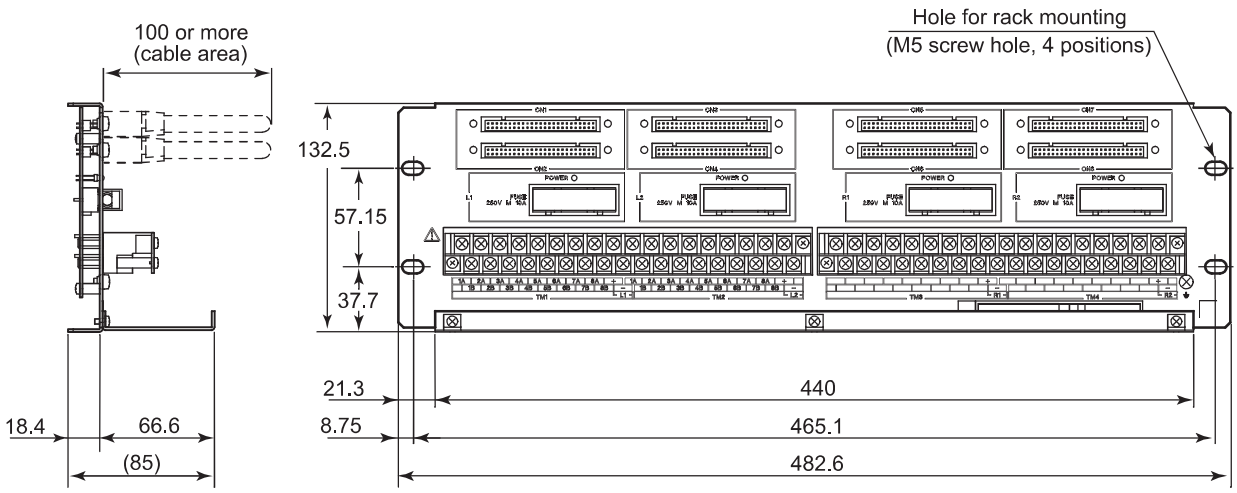
SED3D

Unit: mm



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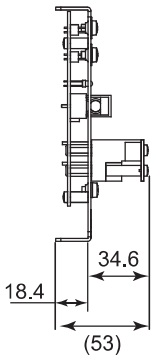

F09E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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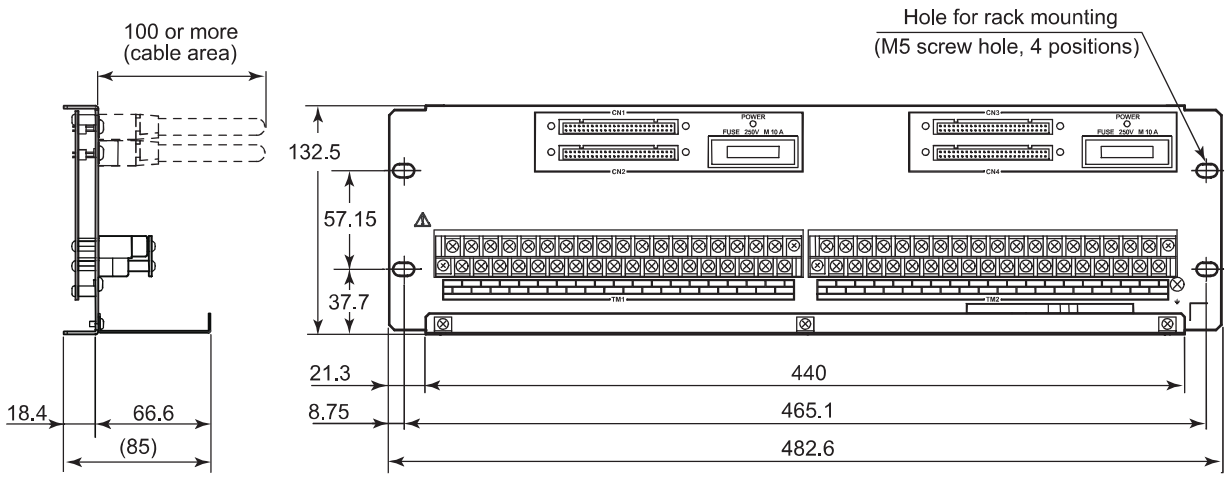
SED4D

Unit: mm



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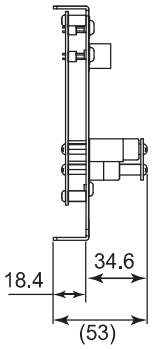

F02E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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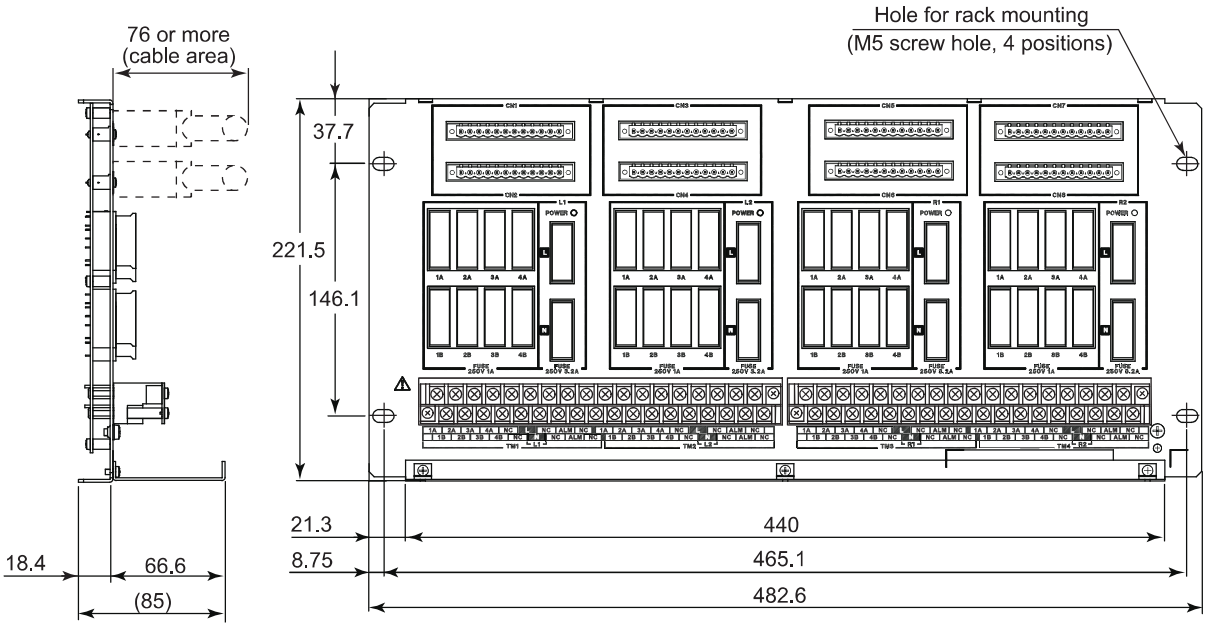
SWD2D

Unit: mm



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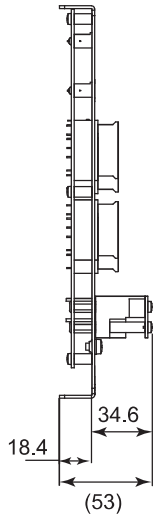

F08E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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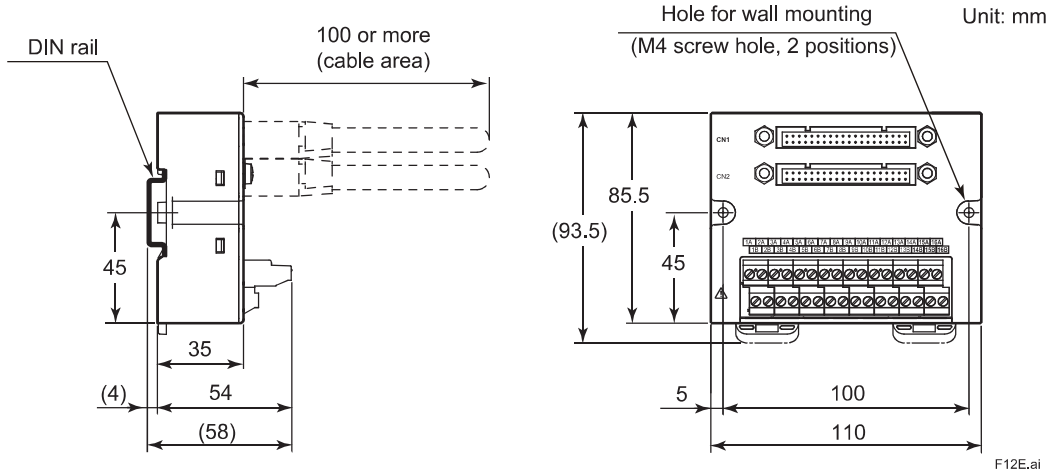
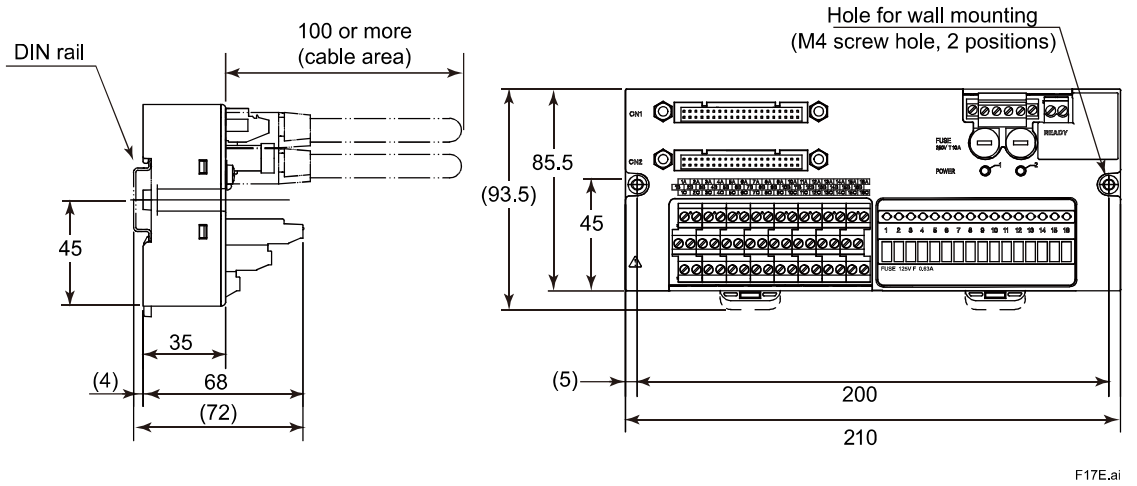
SBA4D



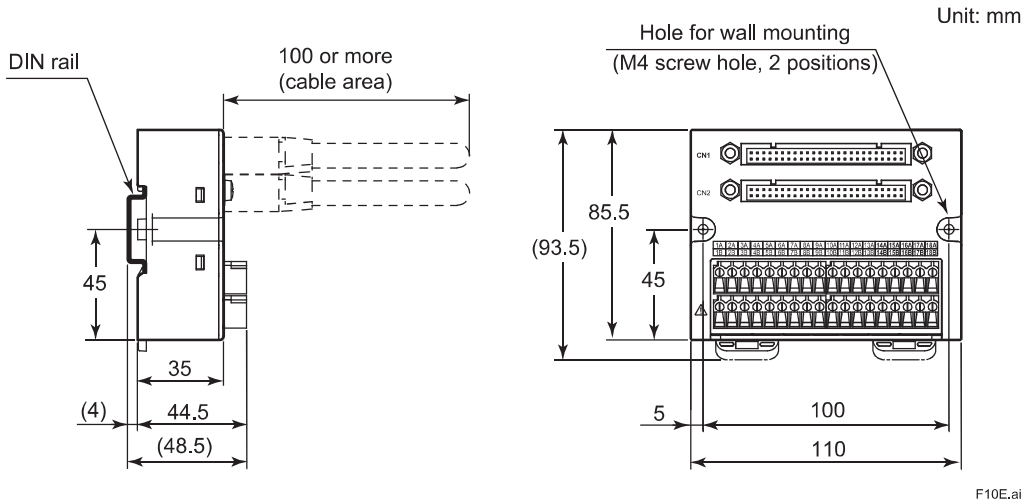
S1BB4D

Unit: mm



SBT4D

Unit: mm



Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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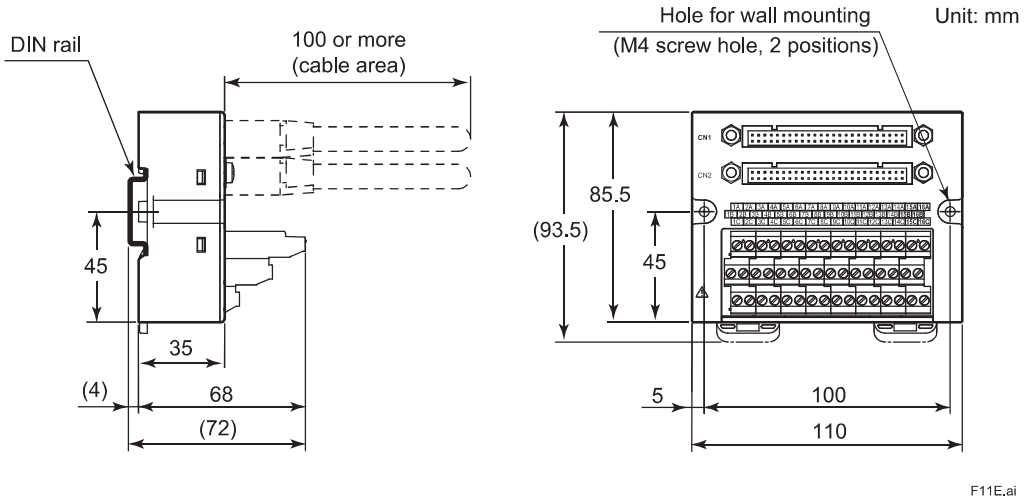
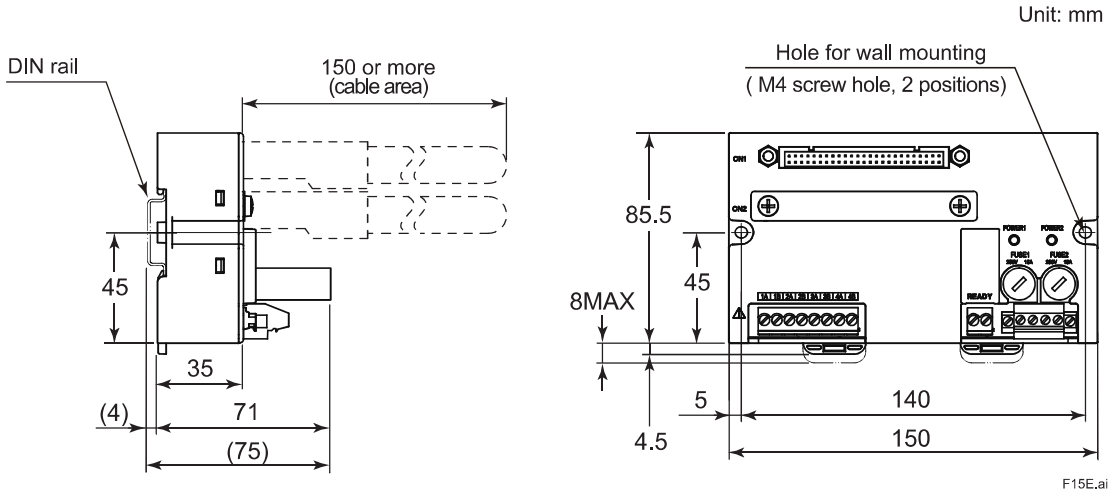
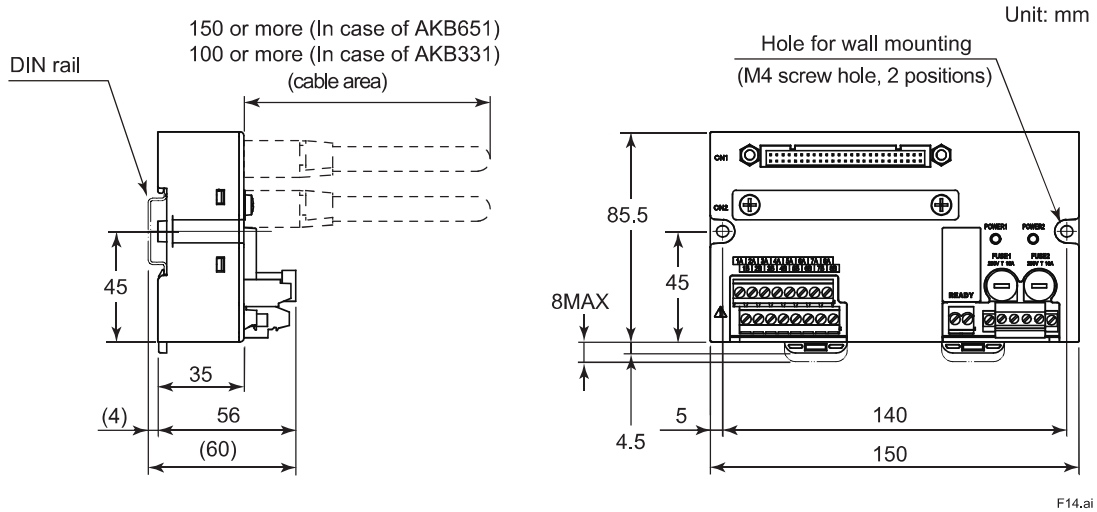
SBR4D



SBD2D



SBD3D



Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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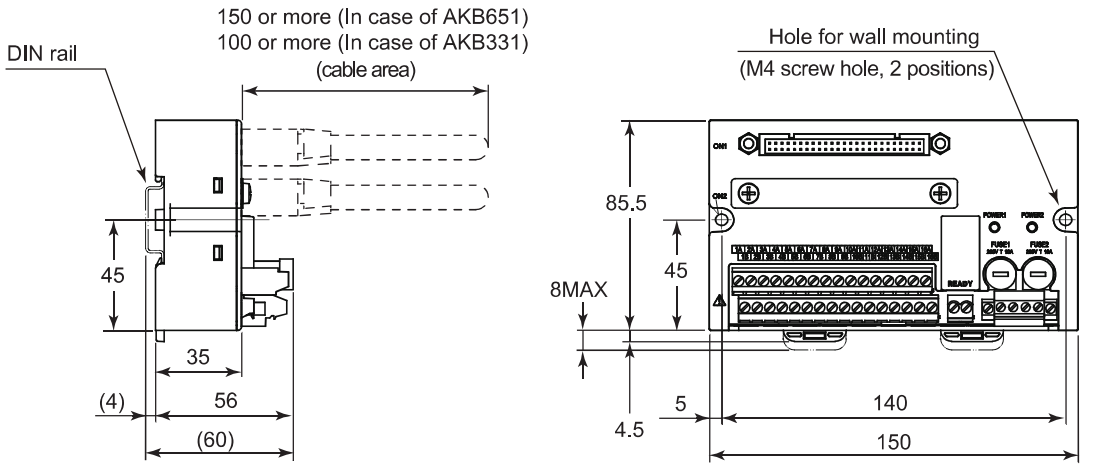
SBD4D

Unit: mm



Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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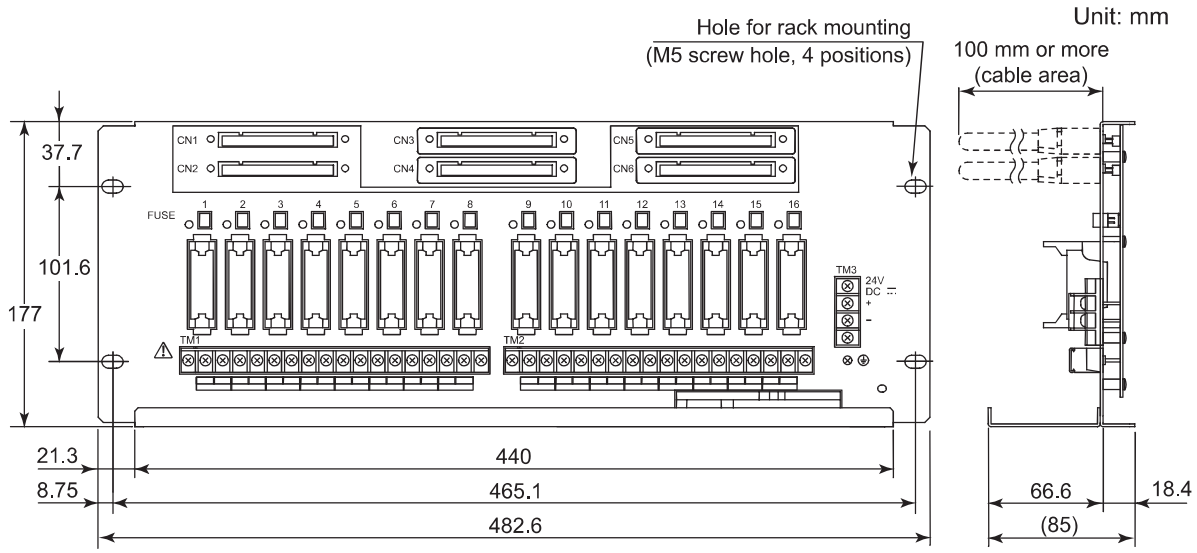
● Relay Board

SRM53D

Other than /BR4



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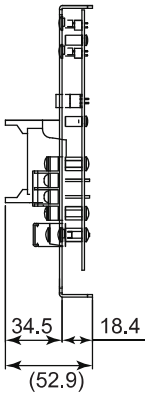

F03E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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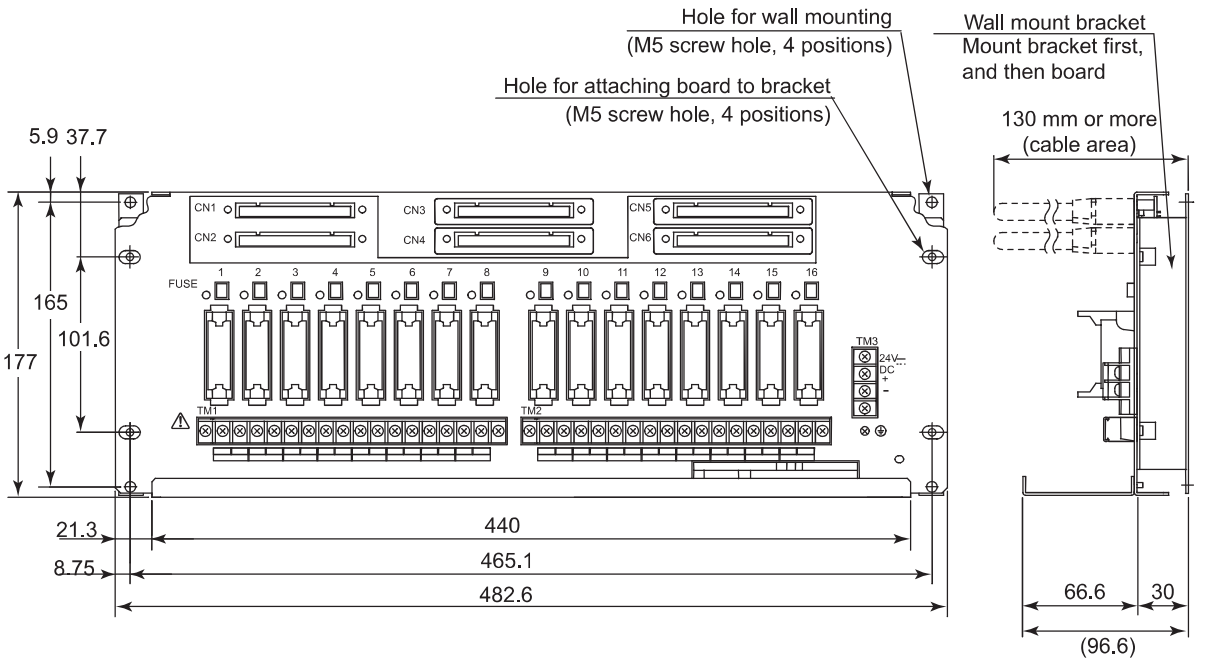
For /BR4

Unit: mm



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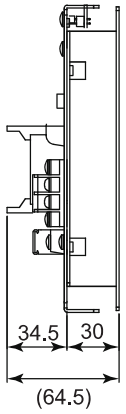

F04E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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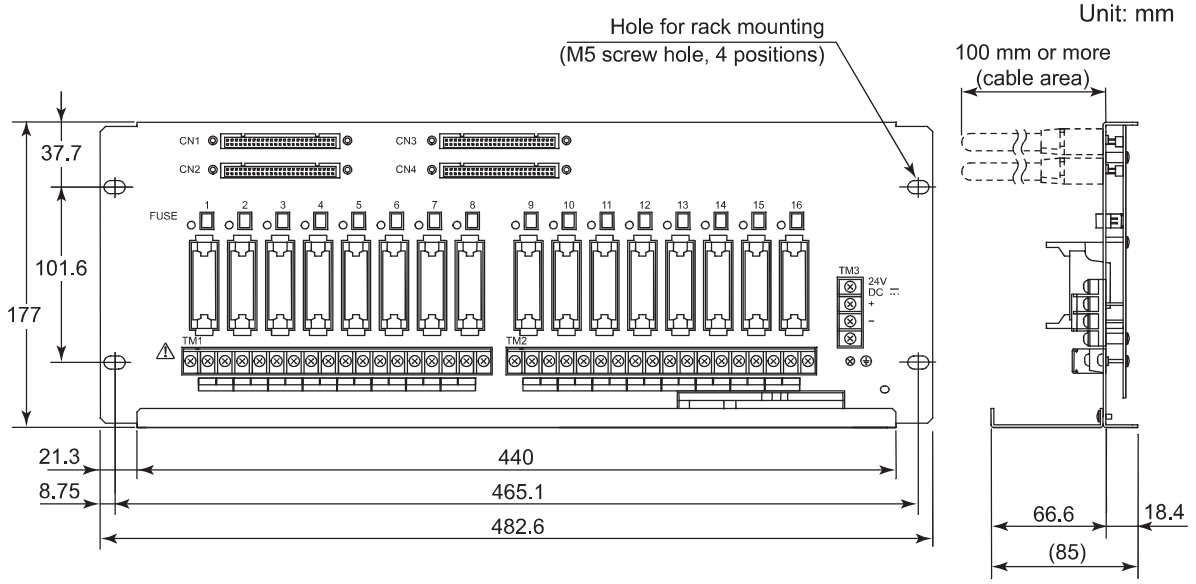
SRM54D

Other than /BR4

Unit: mm



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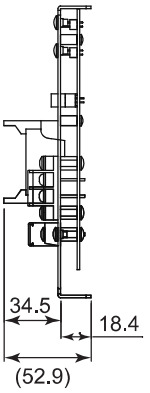

F05E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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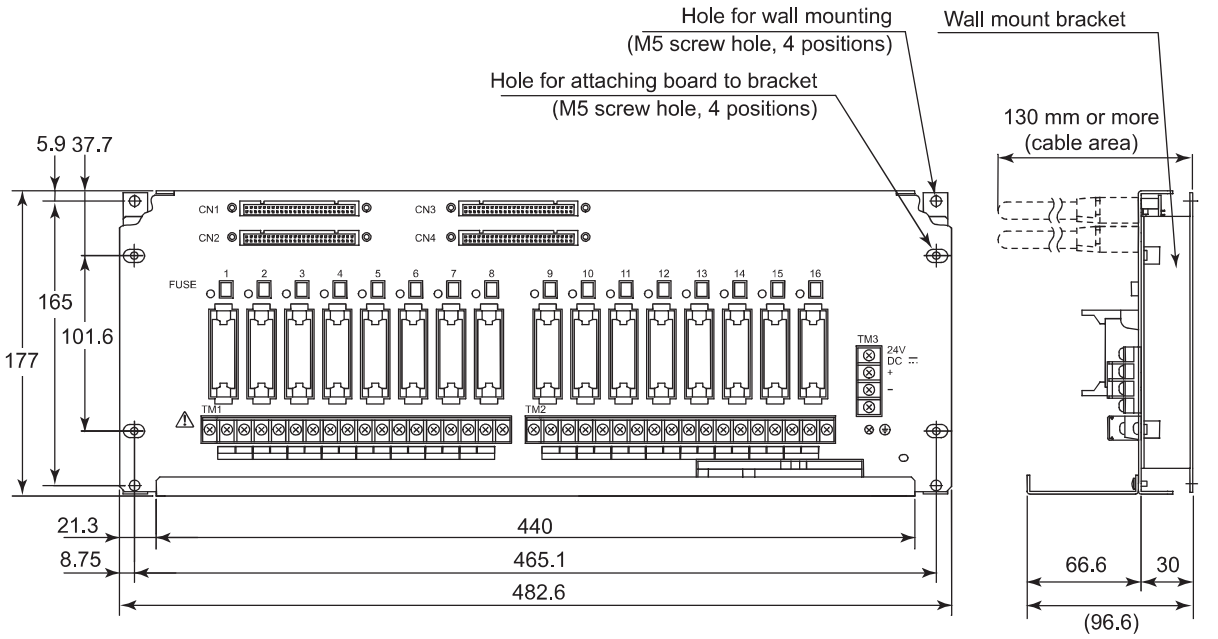
For /BR4

Unit: mm



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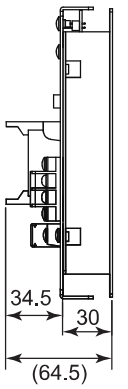

F06E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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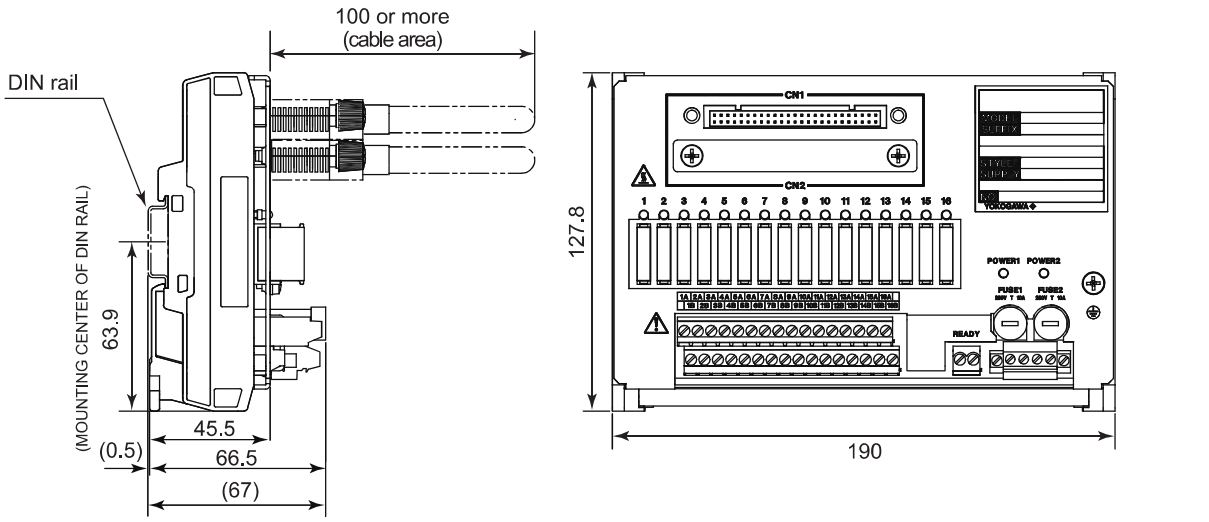
SBM54D

Unit: mm



F16E.ai

Nominal tolerance:

Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.

The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

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■ MODEL AND SUFFIX CODES

Analog terminal board for single/dual-redundant configuration

		Description
Model	SEA4D	Analog Terminal Board (Single and Dual-Redundant, 16 channels x 2)
Suffix Codes	-0	Without surge absorber
	-1	With surge absorber
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection
Option Code	/NTRY	Without cable tray

		Description
Model	SBA4D	Terminal Board for Analog: DIN rail mount type (Single and Dual-redundant, 16 channels x 1)
Suffix Codes	-0	Always 0
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

		Description
Model	S1BB4D	Terminal Board for Analog Input, 3-wire : DIN rail mount type
Suffix Codes	-0	Always 0
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

		Description
Model	SBT4D	Terminal Board for TC/mV: DIN rail mount type (Single and Dual-redundant, 16 channels x 1)
Suffix Codes	-0	Without surge absorber
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

		Description
Model	SBR4D	Terminal Board for RTD Input: DIN rail mount type (Single and Dual-redundant, 16 channels x 1)
Suffix Codes	-0	Without surge absorber
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

Digital terminal board for single/dual-redundant configuration

		Description
Model	SED2D	Digital Terminal Board (Single and Dual-Redundant, 4 channels x 4)
Suffix Codes	-0	Without surge absorber
	-1	With surge absorber
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection
Option Code	/NTRY	Without cable tray

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		Description
Model	SED3D	Digital Terminal Board (Single and Dual-Redundant, 8 channels x 4)
Suffix Codes	-A	For 48 V DC output, without surge absorber
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection
Option Code	/NTRY	Without cable tray

		Description
Model	SED4D	Digital Terminal Board (Single and Dual-Redundant, 16 channels x 2)
Suffix Codes	-0	Without surge absorber
	-1	With surge absorber
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection
Option Code	/NTRY	Without cable tray

		Description
Model	SWD2D	Digital Terminal Board (Single and Dual-Redundant, 100 to 120 V AC, 4 channels x 4)
Suffix Codes	-2	For 100 to 120 V AC output
	1	With ISA Standard G3
Option Code	/NTRY	Without cable tray

		Description
Model	SBD2D	Terminal Board for Digital Output: DIN rail mount type (Single and Dual-redundant, 4 channels x 1, for SDV521/L1DV521)
Suffix Codes	-0	Always 0
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

		Description
Model	SBD3D	Terminal Board for Digital Output: DIN rail mount type (Single and Dual-redundant, 8 channels x 1, for SDV53☐/L1DV53☐)
Suffix Codes	-0	24 V DC (for SDV531/L1DV531)
	-A	48 V DC (for SDV53A/L1DV53A)
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

		Description
Model	SBD4D	Terminal Board for Digital: DIN rail mount type (Single and Dual-redundant, 16 channels x 1, for SDV144/L1DV144 and SDV541/L1DV541)
Suffix Codes	-0	Always 0
	6	With ISA Standard G3 and no explosion protection
	F	With ISA Standard G3 and explosion protection

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Single or dual-redundant relay board with digital output

		Description
Model	SRM53D	Relay Board (8 × 2 Dry Contact Output)
Suffix Codes	-0	Always 0
	0	19-inch Rack mountable
	0	Basic
Option Codes	/BR4	Wall-mount bracket
	/NTRY	Without cable tray

		Description
Model	SRM54D	Relay Board (16 × 1 Dry Contact Output)
Suffix Codes	-0	Always 0
	0	19-inch Rack mountable
	0	Basic
Option Codes	/BR4	Wall-mount bracket
	/NTRY	Without cable tray

		Description
Model	SBM54D	Relay Board for Digital Output: DIN rail mount type (Single and Dual-redundant, 16 channels x 1, for SDV541/L1DV541)
Suffix Codes	-0	Always 0
	0	Always 0
	0	Standard type

■ CONFORMITY STANDARDS

Refer to “Standards Compliant Models (GS 32P01B60-01EN).”

■ ORDERING INFORMATION

Specify the model, suffix code(s), and option code(s).

For selecting the right products for explosion protection, please refer to TI 32S01J30-01E without fail.

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PAS Hardware Functional Design Specification (FDS-HW)	Date: 22/05/2025 Rev: 05

Attachment 15.3.1 Electrical Monitoring and Controlling System (EMCS) Function Design Specifications.

W240506SA1-2X

WiSNAM SCADA System

for Crosswind – BLPH - HW EMCS - Data Sheets

Prepared for Yokogawa

YOKOGAWA

Document ID: W240506SA1-2X

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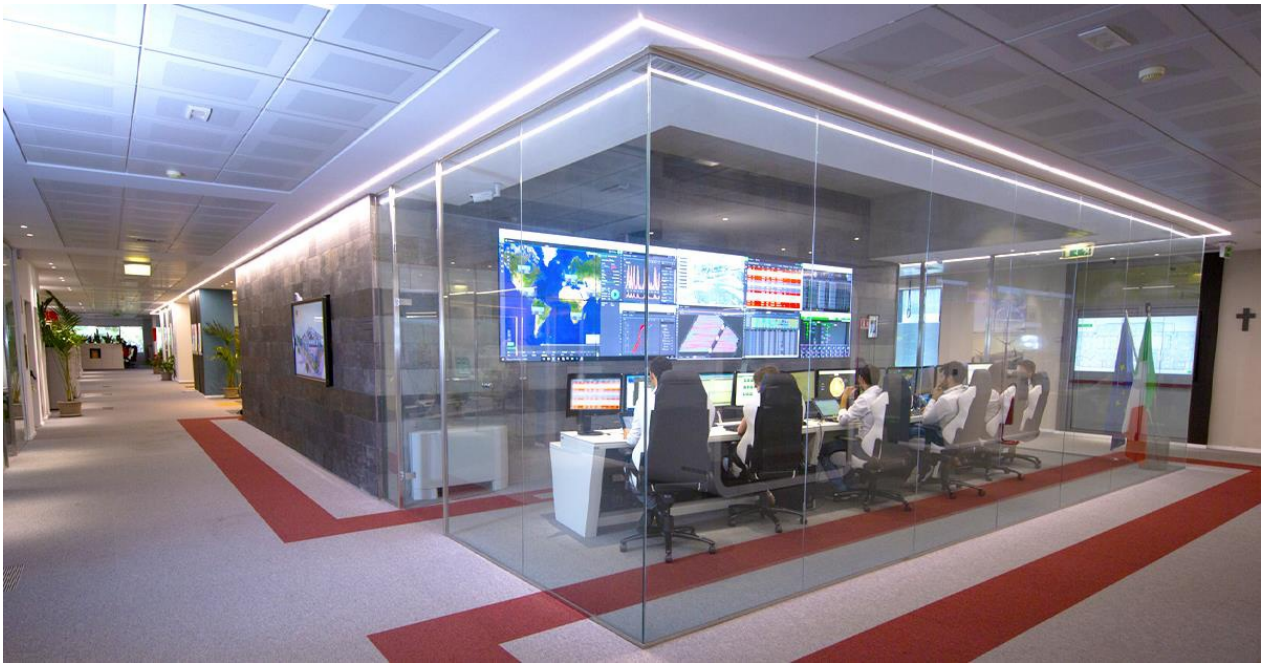

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Prepared By	Approved By
_____	_____
Syed Ali Project Manager	Andrea de Leonardis General Manager

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SEL 2240 – AXION:

Rugged Digital I/O, Analog I/O, Current and Voltage Measurements, and Control for Your Toughest Applications



The SEL Axion® is a fully integrated modular digital I/O, analog I/O, current and voltage measurement, and control solution suitable for many utility and industrial applications. It combines the communications, built-in security, and IEC 61131 logic engine of the SEL Real-Time Automation Controller (RTAC) family with a durable suite of I/O modules that provide high-speed, deterministic, control performance over an EtherCAT® backplane.

Major Features and Benefits

- High-Speed and High-Accuracy DC Analog Control. The Axion DC Analog Output module provides high accuracy current and voltage control signals for low-level self-wetted (sourcing) control applications.
- Proportional Integral Derivative (PID) Control. The PID function block provides advanced closed-loop control for analog set points commonly used in generator and process control.
- Top of Second Synchronized Measurements. When connected to IRIG, synchronize the measurement. This enables Axions in geographically dispersed locations to run algorithms on voltage and current measurements and provide time-aligned data from Axion modules.
- Protection Against Malware and Other Cybersecurity Threats. Protect your RTAC system with exe-GUARD®, which uses advanced cryptographic algorithms to authorize the execution of any program or service on the system. Any tasks not approved by the whitelist are blocked from operation.
- RTU and PLC in a Single System. Employ the Axion's I/O, SCADA communications, and control logic support in many industrial and utility applications.
- Simple Setup With ACSELERATOR RTAC® SEL-5033 Software. Use standard device templates to build a system, including I/O modules, quickly.
- Flexible I/O Selections. Choose a custom mix of digital and analog I/O modules that suit the application. Include hundreds of points in a single panel, all connected to a deterministic EtherCAT backplane.
- Advanced User Authentication and System Security. Enforce LDAP user accounts to maintain security

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perimeter integrity. Apply corporate logging and port control policies to comply with NERC/CIP requirements.

- Deterministic I/O Performance. Update connected I/O at a deterministic frequency; all inputs provide 1 ms Sequential Events Recorder (SER) time stamps.
- More than SCADA. Go beyond SCADA by using the Axion industry-standard communications protocols to enable multiple SCADA connections, as well as distributed control networks, among many stations.
- Networking Options. Implement I/O networks that use optional fiber-optic cables to provide outstanding signal isolation and flexibility in module placement.
- Standard IEC 61131-3 Logic Design. Create innovative logic solutions directly in ACSELERATOR RTAC by using editor tools such as Ladder Diagram, Tag Processor, Structured Text, or Continuous Function Chart.

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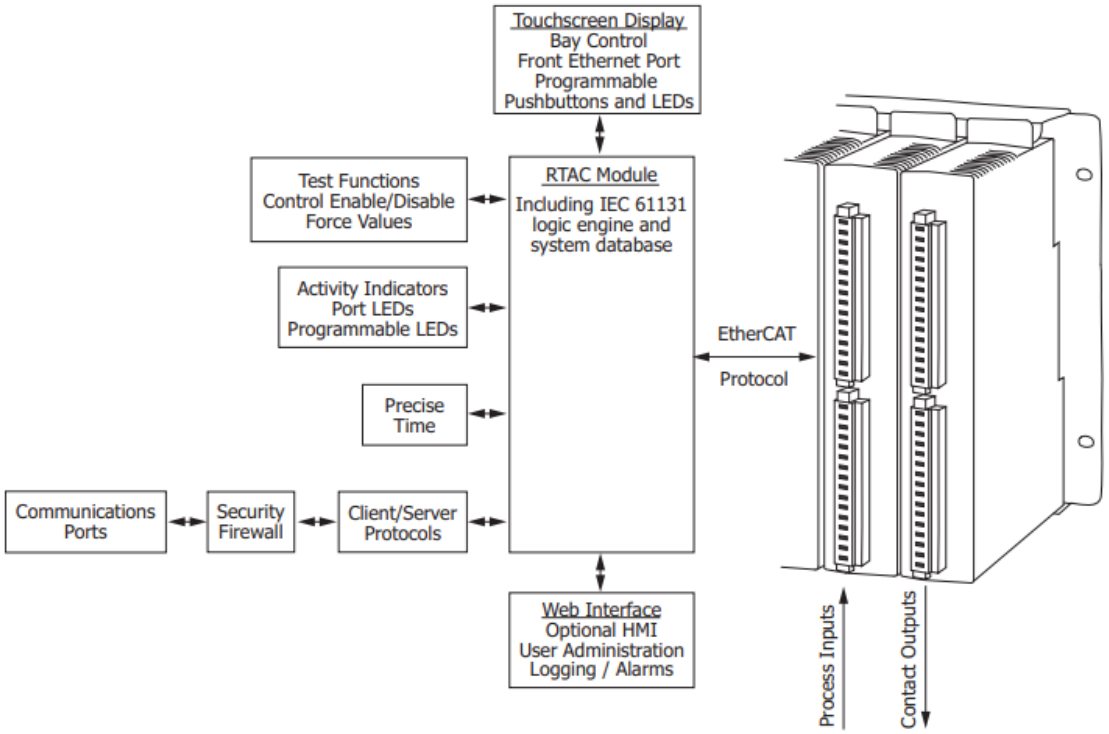
Functional Diagram Overview





Module Installed in Chassis / Backplane

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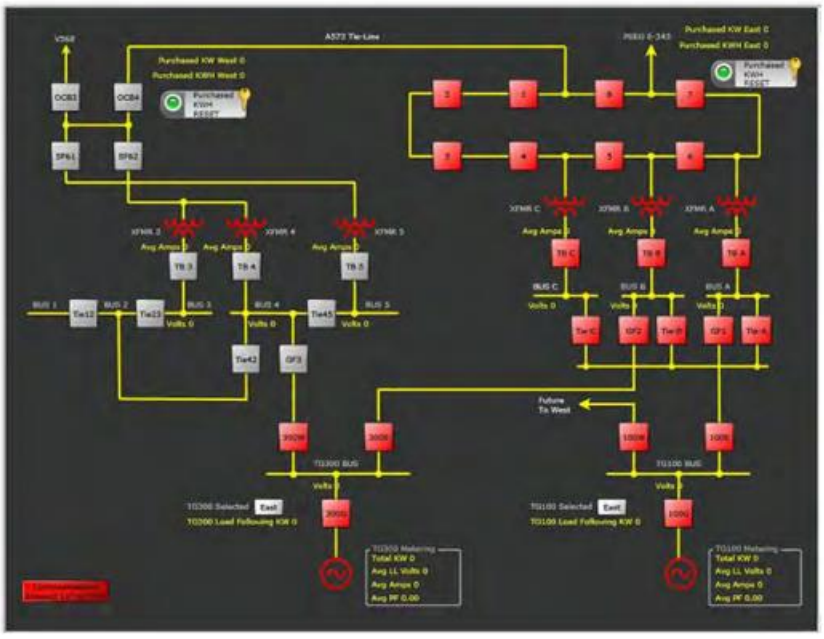
RTU & PLC Functionality

The Axion is both a remote terminal unit (RTU) and ultra-rugged programmable logic controller (PLC). All the modules are rated from –40°C to +85°C and can optionally include conformal coating. The system is designed to be flexible; use the right combination of modules and nodes, in almost any arrangement, to suit the job. The RTACs also support multiple SCADA/HMI channels. For high speed communication, use Ether-CAT fieldbus connections to I/O modules or optional IEC 61850 GOOSE messaging with station IEDs. Poll data sets and reports from other IEDs with optional IEC 61850 MMS client. With the Axion, there is need no optional hardware or software to have the programmable logic engine required for many applications. Each RTAC includes an IEC 61131 logic engine that ships preconfigured to provide access for all system tags, intelligent electronic device (IED) and I/O data, diagnostics, alarms, security events, and communications statistics. The RTAC provides unified tag mapping between protocols and programmable logic that simplifies developing applications, simply use any necessary IED and I/O data, calculated values, and system tags in deterministic logic for the control of critical applications. Management of the task processing sequence and solve rate in the RTAC is similar to that for traditional PACs.



Powerful Monitoring Functions Using the Web-Based HMI

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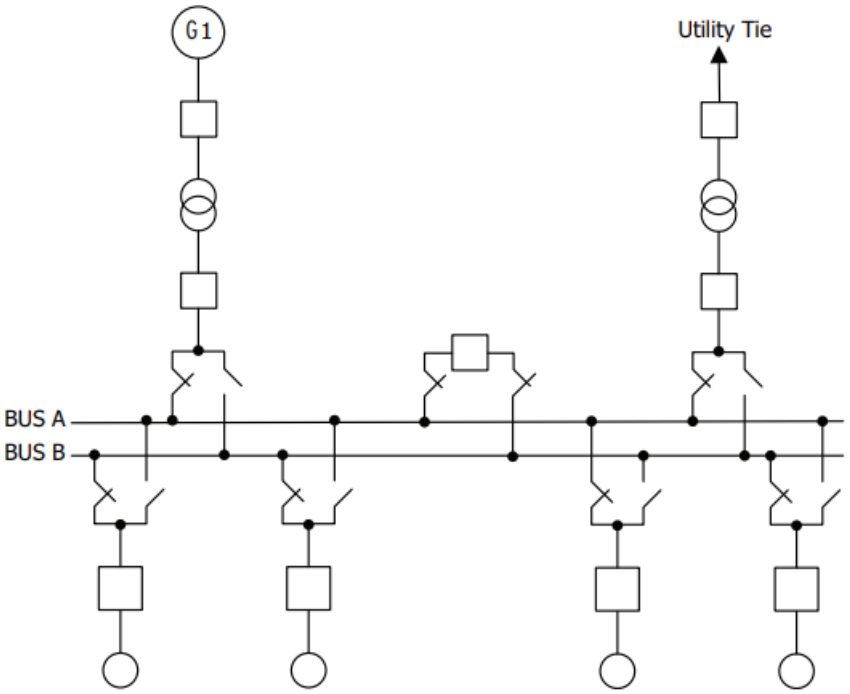

Load-Shedding Topology

Ethernet Network Topologies:

The SEL-2243 Power Couplers provide not only hotpluggable power supplies, but also fast EtherCAT connections to remote SEL-2240 nodes. The power couplers create EtherCAT links in star network topology, sequential network topology, or a combination of both. Star-configured topologies still use the sequential message format inherent to EtherCAT design and offer greater flexibility than wired sequential network topologies in creating a network to match your physical system. Refer to Appendix C in the ACSELERATOR RTAC SEL-5033 Software Instruction Manual for detailed information on EtherCAT. Apply single or dual power couplers in each Axion node based on connection or redundancy requirements. Figure illustrates a star topology for four remote SEL-2240 nodes with single power couplers in the remote nodes and dual couplers in the RTAC master.

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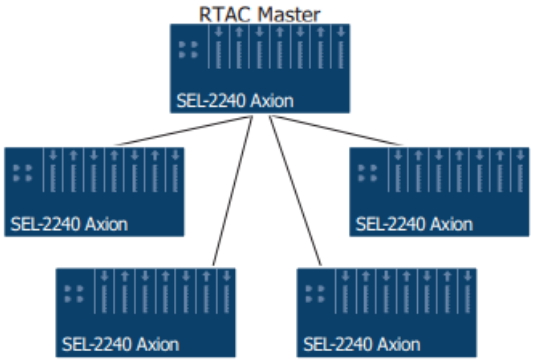

EtherCAT Star Network Topology

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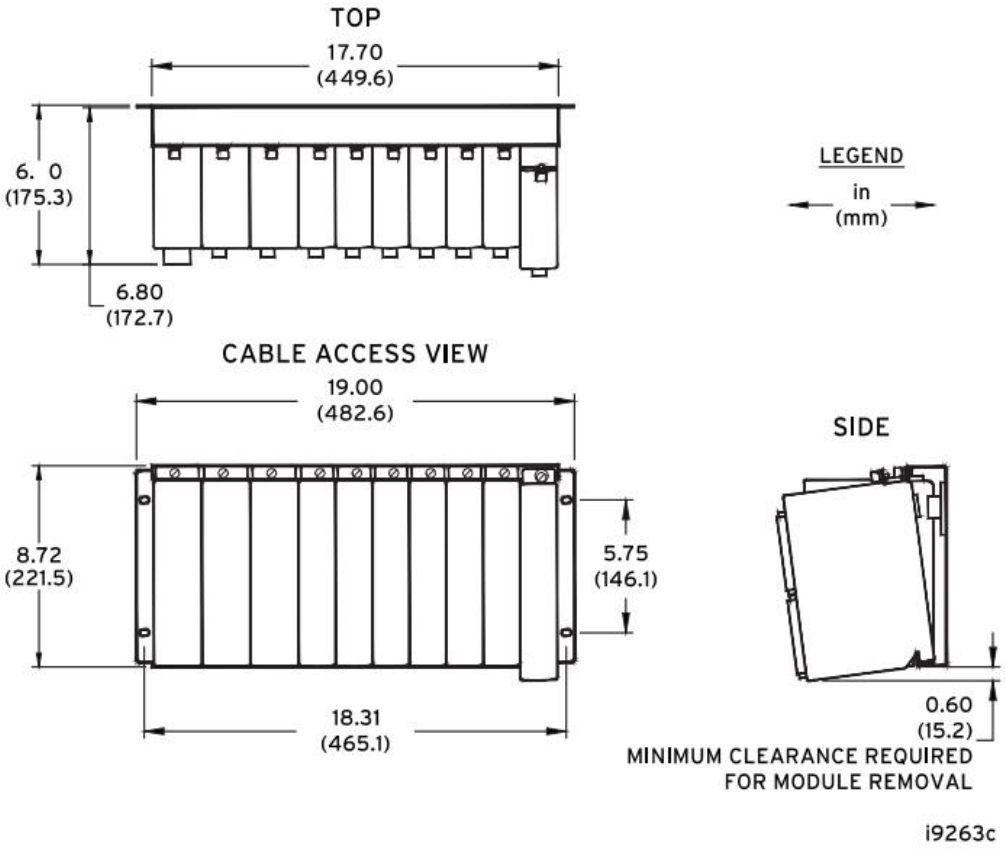
Rack / Surface Mount Chassis



SEL-2240 Dimensions for 10-Slot Rack- and Surface-Mount Chassis

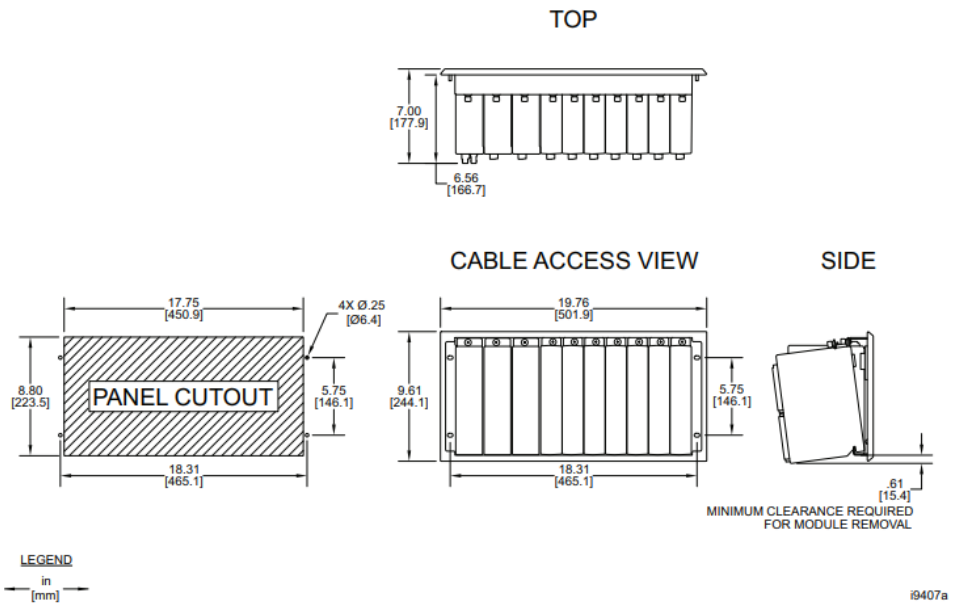


Figure 52 SEL-2240 Dimensions for 10-Slot Panel-Mount Chassis

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I/O Modules

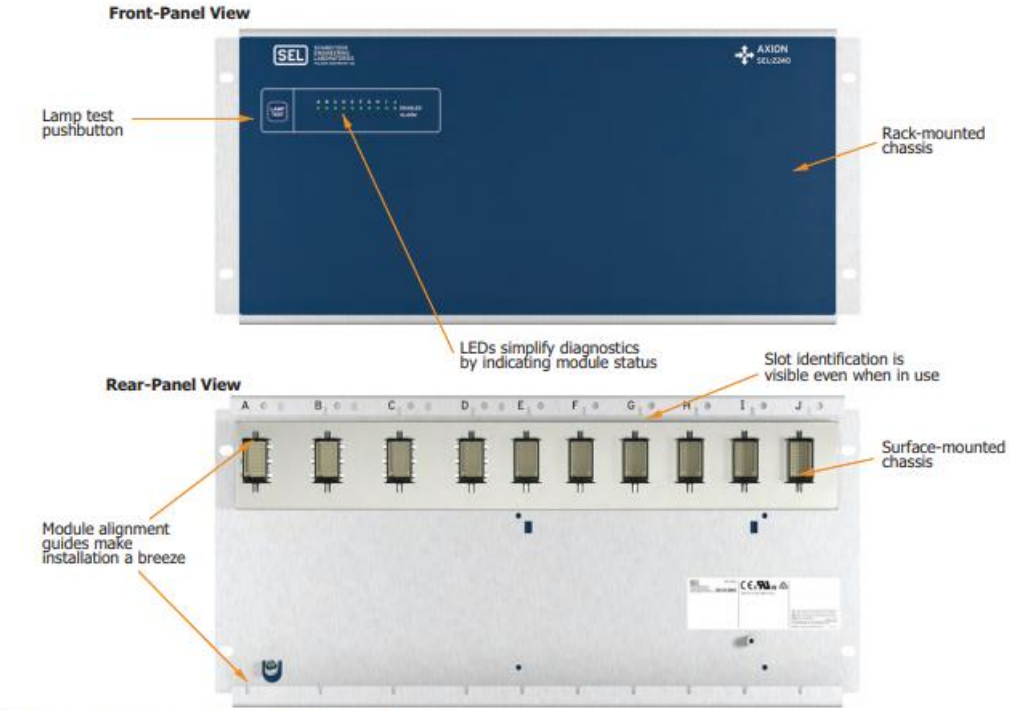

Figure 21 SEL-2242 10-Slot Chassis/Backplane

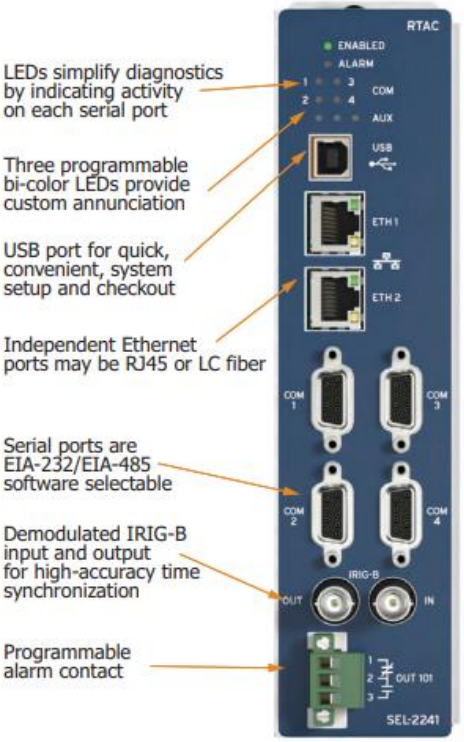

Figure 24 SEL-2241 RTAC Terminal-Side View

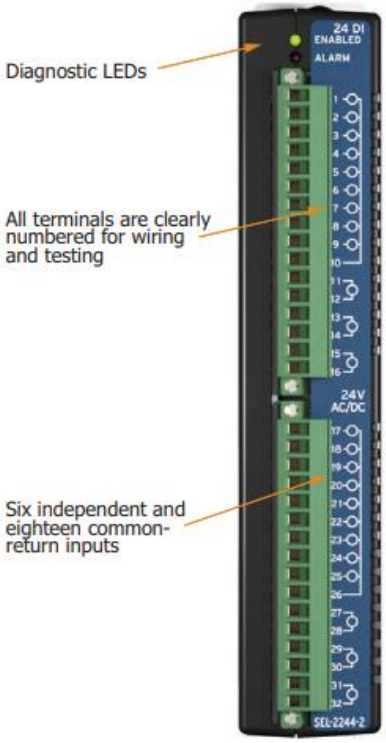

Figure 26 SEL-2244-2 Digital Input Module Terminal-Side View

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Figure 25 SEL-2243 Power Coupler Terminal-Side View

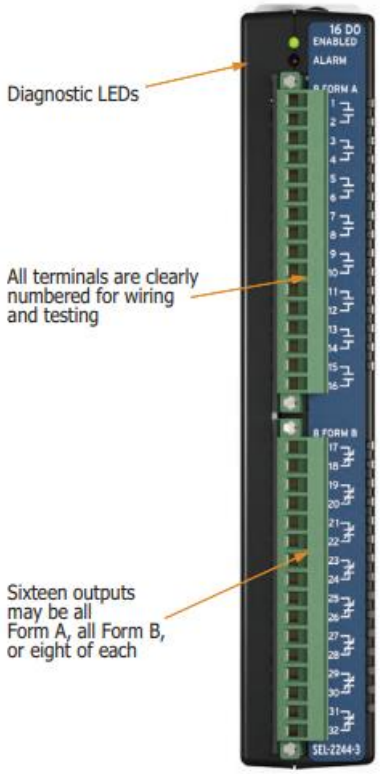

Figure 27 SEL-2244-3 Standard Current Digital Output Module Terminal-Side View

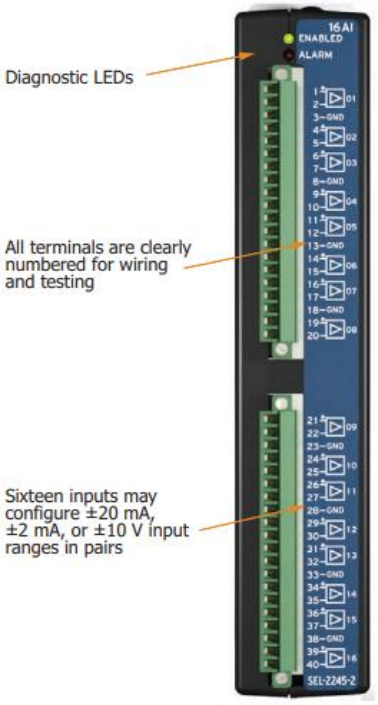

Figure 29 SEL-2245-2 DC Analog Input Module Terminal-Side View

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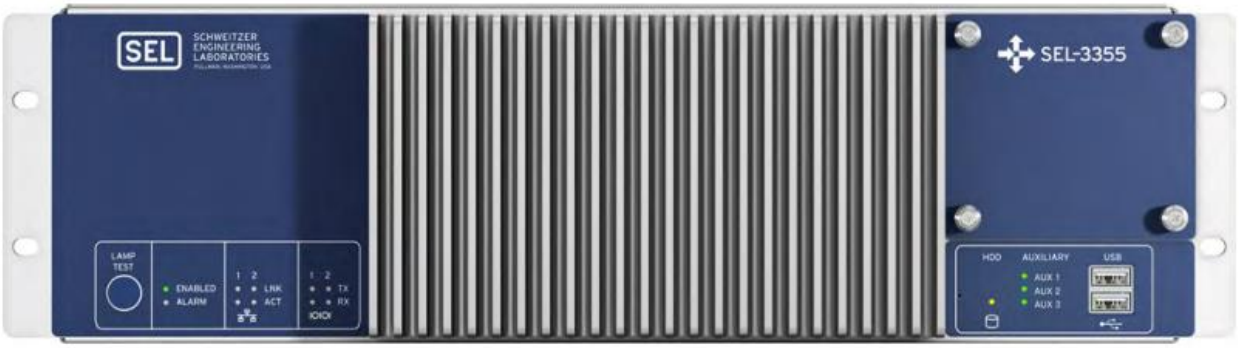
SEL – 3355 Automation Controller

Improve Reliability, Availability, and Serviceability With a Rugged Automation Controller



The SEL-3355 Automation Controller uses a high-performance x86-64 architecture processor to support modern operating systems like Microsoft Windows and Linux. The extremely rugged SEL hardware of the SEL-3355 enables you to use your choice of automation controller operating system and software in very harsh environments not suitable for general purpose computers.

Integrate the SEL-3355 in computing applications that demand high performance, reliability, and low maintenance in extreme, harsh environments. The SEL-3355 offers a mean time between failure (MTBF) of at least ten times that of typical industrial computers by: eliminating all moving parts, including rotating hard drives and fans; using high-quality solid-state drives; and using error-correcting memory technology. By eliminating vent holes, the SEL-3355 significantly reduces dust buildup and foreign contaminants. Dual modular, hot-swappable, ac/dc power supplies eliminate the need for external inverters and enhance system reliability, availability, and serviceability. You can install software from SEL and third-party software vendors to customize the SEL-3355 for your specific applications. Every SEL-3355 comes with the unprecedented ten-year, worldwide SEL warranty.

Major Features and Benefits

- **x86-64 Architecture With Intel Core i7 Performance**. The SEL-3355 uses the Intel Core i7 microprocessor architecture to deliver very high performance and broad operating system and software compatibility. Multiple processor cores and Intel Hyper-Threading Technology enable you to run multiple time-critical applications simultaneously. Choose between 2.5 GHz dual-core and 2.1 GHz quad-core CPU options.
- **Wide Power Supply Range**. The SEL-3355 supports two load-sharing, hot-swappable power supply modules, enabling you to power the SEL-3355 from two independent power sources for maximum availability and without inverters.
- **More and Faster Mass Storage**. The SEL-3355 supports four, hot-swappable, 2.5" solid-state Serial Advanced Technology Attachment (SATA) drives easily accessible from the front panel. The integrated SATA controller has support for Redundant Arrays of Independent Disks (RAID) to maximize data availability and improve storage performance. High-performance, industrial-rated solid-state drives (SSD) are available as ordering options.
- **Increased Reliability**. The SEL-3355 is designed and built to operate reliably in harsh environments, conforming to IEEE C37.90 and IEC 60255 Protective Relay Standards and IEEE 1613 Standard Environmental and Testing Requirements for Communication Networking Devices in Electric Power Substations. The automation controller-platform meets or exceeds specifications for vibration, electrostatic discharge, fast transient, radiated emissions, dielectric strength, and pulse magnetic field disturbances.

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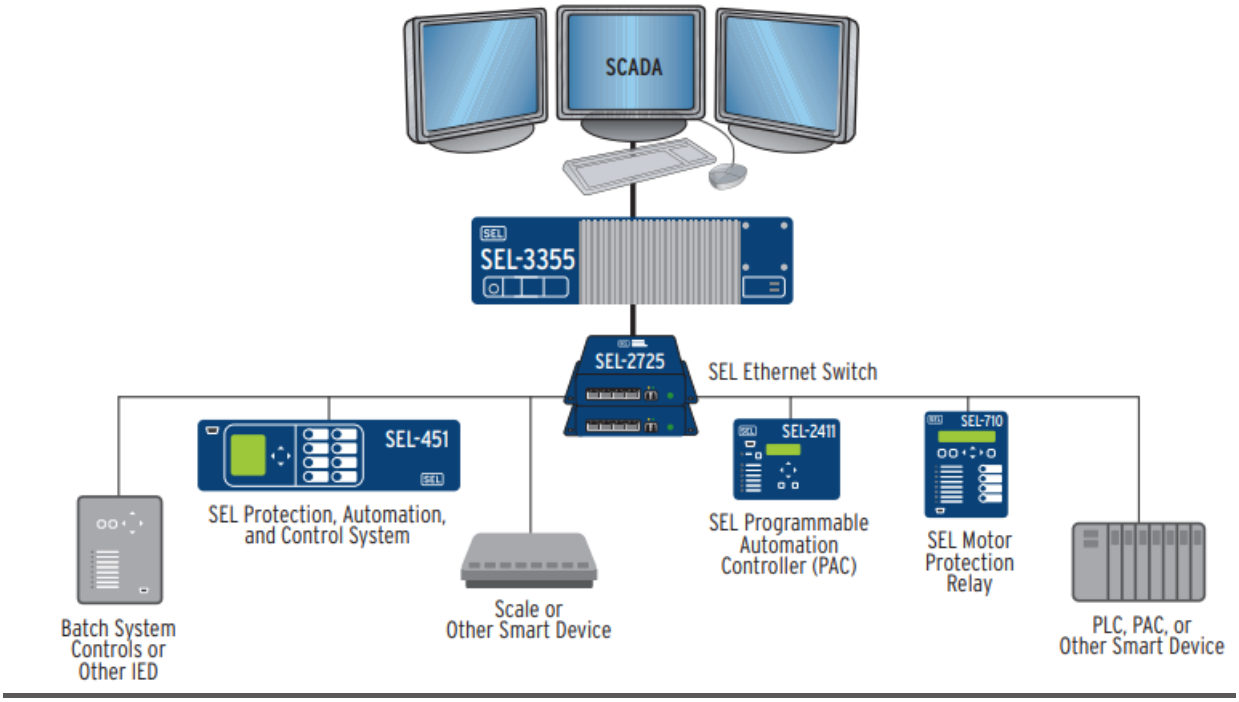
- **Increased Serviceability**. Error-correcting code (ECC) system memory can be field upgraded to 16 GB. An easily accessible front-panel drive bay enables field upgrade or replacement of SATA drives. RAID technology and hot-swappable drives allow for replacement or adding storage capacity without taking the automation controller system out of service. Add capabilities with field-serviceable PCIe expansion cards. Achieve a new level of remediation and repair capabilities with Intel vPro technology for local and remote monitoring and repair.

Functional Diagram Overview



Watchdog Functionality

An embedded controller provides an extra level of automation controller system reliability. One function of the embedded controller is to restart the automation controller if there is an operating system problem or a problem with specific software services running on the operating system.

SEL System Monitor

SEL System Monitor software monitors system performance and component health. Alerts for alarm conditions are issued on configurable thresholds. Example thresholds include CPU usage, free disk space, and available system memory.

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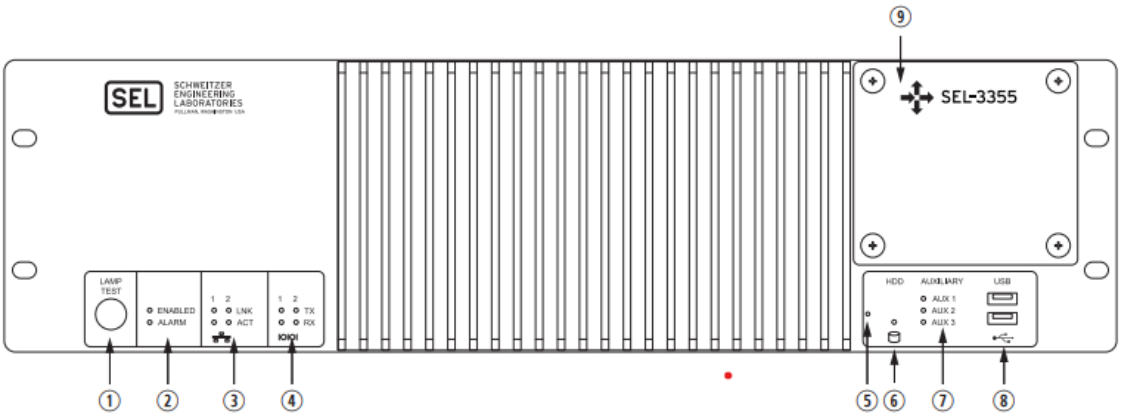
EIA-232/EIA-485/EIA-422 Ports

The SEL-3355 automation controller platform comes standard with two built-in EIA-232 DB-9 ports and, optionally, as many as 24 rear-panel EIA-232/422/485 ports with RJ45 format connectors by using the SEL-3390S8 PCIe serial expansion card. Serial expansion communications ports are software selectable to function as standard EIA-232/422/485 ports with +5 V power.

Diagram & Dimensions



① **LAMP TEST** Button. Press and hold to test front-panel LEDs. Can be programmed to be an on/off or reset button.
② **ENABLED** and **ALARM** LEDs provide operational status. A green ENABLED LED indicates normal operation. The ALARM LED illuminates red when a nonoptimal system condition exists.
③ **ETHERNET** Status Indicators. Link (LNK) indicates that the port is connected, and activity (ACT) indicates when data are being transmitted and received.
④ **SERIAL** Status indicators. Transmit (TX) and receive (RX) LEDs indicate activity on serial ports.
⑤ **PINHOLE** Button. Provide reset and power functions, and requires a push-pin to prevent accidental use.
⑥ **HDD** Activity Indicator. Illuminates when SATA drives are accessed.
⑦ **AUXILIARY** Status Indicators. Three programmable, bicolor LEDs for your custom application.
⑧ **USB** Ports. Two easily accessible ports to connect USB 2.0 peripherals.
⑨ **SATA** Drive Bay. Removable cover plate enables easy access to SATA drives from the front panel.

SEL – 3355 Front Panel Diagram

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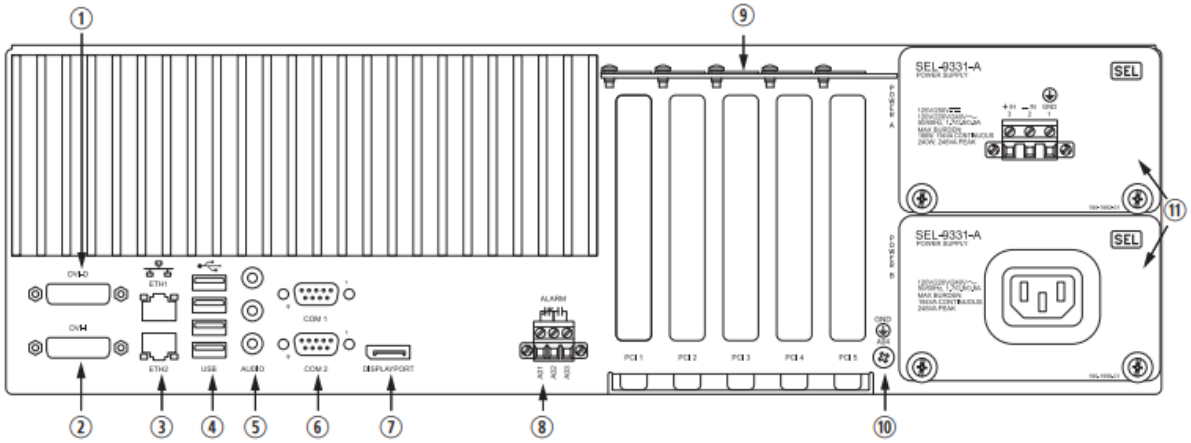

① **DVI-D**. Connect digital monitors by using native DVI or an HDMI adapter.
② **DVI-I**. Connect either digital or analog monitors by using native DVI, an HDMI adapter, or a VGA adapter.
③ **ETH1** and **ETH2**. Onboard independent Gigabit Ethernet interfaces.
④ **USB** Ports. Connect as many as four USB 2.0 peripherals at the rear panel.
⑤ **AUDIO** Ports. Line Input (blue), Line Output (green), and Microphone Input (pink).
⑥ **COM1** and **COM2**. Standard EIA-232 serial ports with configurable +5 Vdc power on Pin 1.
⑦ **DISPLAYPORT**. Connect new digital monitors supporting the DisplayPort interface.
⑧ **ALARM**. The Form C alarm contact output can be wired either normally closed or normally open.
⑨ **PCI** Expansion Slots. Install SEL or third-party PCI or PCI Express expansion cards for additional network, serial, or other application-specific I/O.
⑩ **Earth Ground** Terminal Screw. The earth ground connection for the SEL-3355.
⑪ **POWER** supply modules. The rated input voltage is clearly marked on the chassis near the terminals.

SEL – 3355 Rear Panel Diagram

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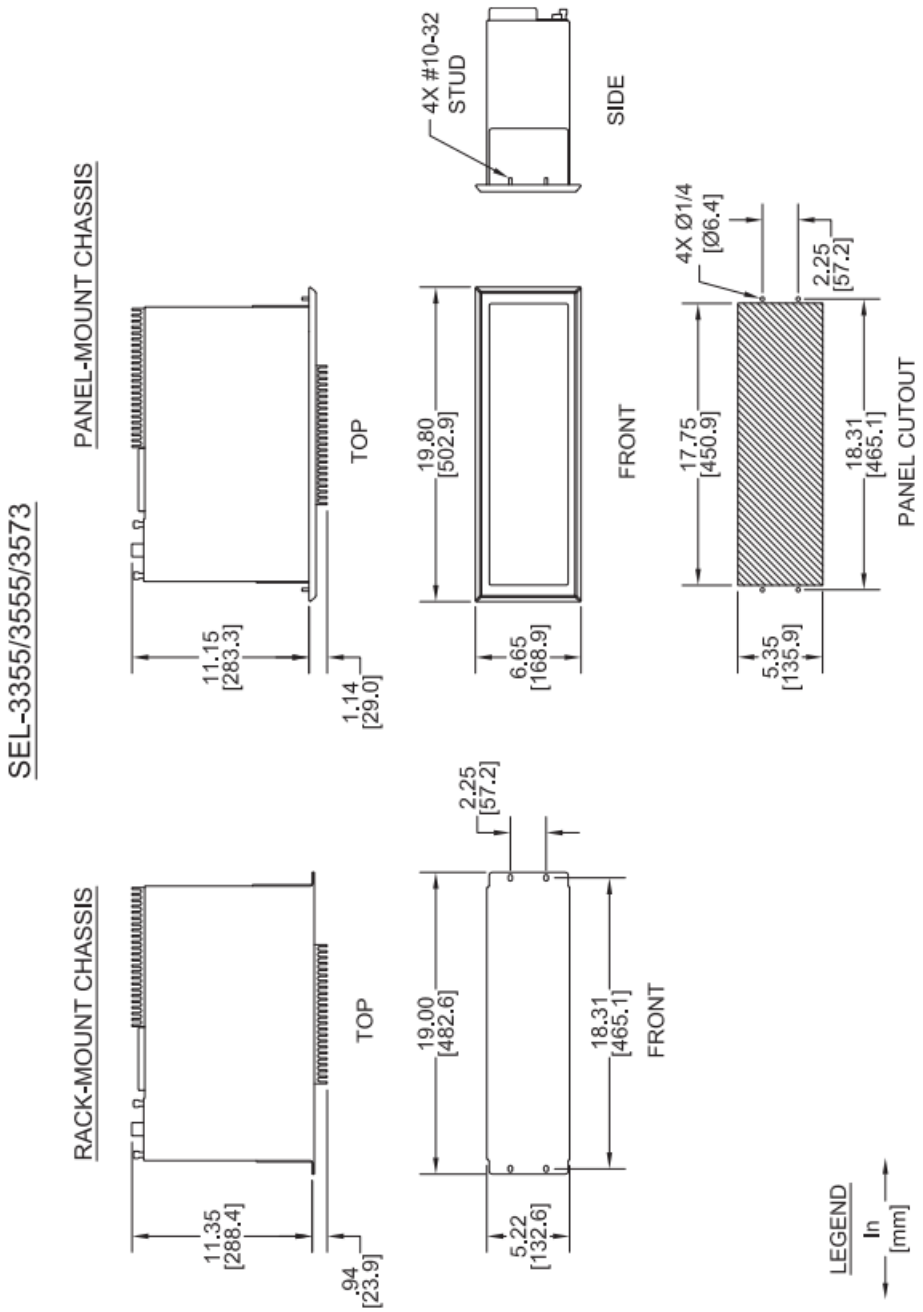

Dimensions for Rack & Panel Mount Models

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Power Consumption (Watts)[a]			
Component	**Minimum**	**Typical**	**Maximum**
Base System (Dual-Core CPU, 1 PSU, 4 GB RAM, 1 SATA Drive):	25 W	35 W	50 W
Additional Consumption From Optional Components			
Quad-Core CPU:	+2 W	+5 W	+13 W
2nd Power Supply:	+10 W	+10 W	+13 W
2nd RAM Module (4–8 GB):	+2 W	+2 W	+3 W
Additional SATA Drives, each:	+1 W	+2 W	+3 W
SEL-3390E4 Ethernet Card	+6 W	+8 W	+10 W
SEL-3390S8 Serial Card	+4 W	+5 W	+7 W
Chipset Heater[b]			
cold startup (<5°C [41°F]):	N/A	N/A	+90 W
continuous operation (0°C [32°F]):	0 W	+5 W	+10 W
continuous operation (–40°C [–40°F]):	0 W	+20 W	+40 W

[a] Minimum: 0% load on all components; minimum power consumption started and idle.
Typical: 25–50% load on all components; good indication of most application loads.
Maximum: 100% load on all components; generally cannot be reached in normal applications.
[b] Chipset heaters operate at low temperatures to keep the CPU and PCH within specified operating limits.

Table 2 Peripheral Connection Current Limits

Connection	Current Limit
DVI-I and DVI-D	0.2 A, +5 Vdc, 1 W total for both
DisplayPort	0.6 A, +3.3 Vdc, 2 W
COM 1 and COM 2	0.5 A, +5 Vdc, 2.5 W each
USB Ports	0.8 A, +5 Vdc, 4 W each

System Power Consumption

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RTAC SEL 3555 Real Time Automation Controller



The SEL-3555 Real-Time Automation Controller (RTAC) is a powerful automation platform that combines the best features of the high-performance x86-64 architecture, embedded microcomputer, embedded real-time operating system, and secure communications framework with IEC 61131-3 PLC programmability.

Major Features and Benefits

- **Multiple Device Functions**. Use a single SEL-3555 RTAC as a protocol gateway, RTU, logic processor, PAC, engineering port server, event processor, and system-wide SER logger/viewer
- **Standard IEC 61131-3 Logic Design**. Create innovative logic solutions directly in ACSELERATOR RTAC by using any of the editor tools: Tag Processor, Structured Text, Ladder Logic, or Continuous Function Chart.
- **IEC 61850.** Integrate high-speed control schemes between the RTAC and relays with IEC 61850 GOOSE peer-to-peer messaging. Poll and send data sets and reports from other IEDs with IEC 61850 MMS client/server.
- **Redundant Power Supply**. Apply redundant power support with two load-sharing, hotswappable power supply modules, enabling you to power the SEL-3555 RTAC from two independent power sources for maximum availability and without inverters..
- **Synchrophasor** Technology. Use the IEEE C37.118 client protocol to integrate synchrophasor messages from relays or PMUs in your system. These messages can be used for logic and control in the station or converted to DNP3 or other protocol for SCADA usage.
- **Integrated Security Management**. Comply with NERC/CIP user authentication, logging, and port control requirements.
- **User Security**. Assign individual user and rolebased account authentication and strong passwords. Use Lightweight Directory Access Protocol (LDAP) for central user authentication.
- **Flexible Protocol Conversion**. Apply any available client or server protocol on any serial or Ethernet port. Each serial port on the expansion card can be used in software-selectable EIA-232 or EIA-485. The two rear Ethernet ports can optionally be copper or fiber-optic connectors.

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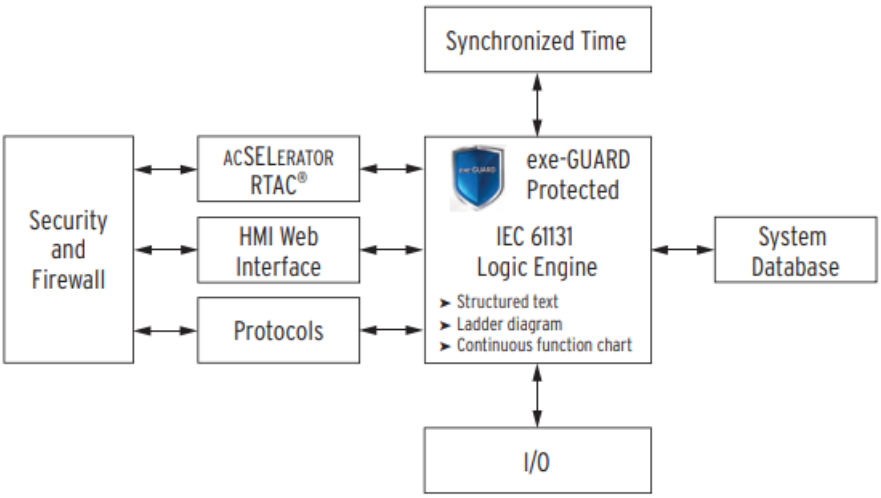
Functional Diagram Overview



IEC 61131 Logic Engine

As depicted in the functional diagram, each RTAC includes an IEC 61131 logic engine that is preconfigured to have access for all system tags, IED data, diagnostics, alarms, security events, and communications statistics for use integrating your system. The system has no functional separation between those tags mapped for communications protocols and those used in programmable logic. This architecture greatly simplifies system configuration effort because no additional selection is required to identify tags used by the logic engine. You simply use any needed IED data, calculated values, and system tags in deterministic logic for the control of critical applications. Management of the task-processing sequence and solve rate in the RTAC is similar to that for traditional PLCs or PACs. The fastest processing rate is 4 ms for the main task and 1 ms for the automation task. Optimize the processor utilization by setting the processing rate no faster than necessary for your application. Task processing in the logic engine includes protocol I/O, system management, and any custom logic programs you create using Structured Text (ST), Ladder Logic Diagram (LD), or Continuous Function Charts (CFC). CFC programs are a type of IEC 61131-3 Function Block Diagram (FBD) that provide more programming flexibility than standard FBDs. The ACSELERATOR RTAC software includes the IEC 61131-3 and Tag Processor editors you will use to manage any protocol information and custom logic needed for your system.

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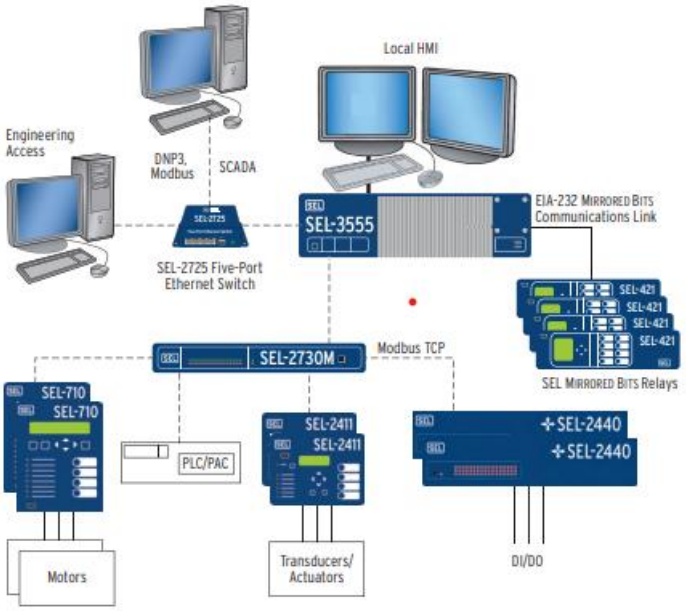
Real-Time Control and Logic Processing

The built-in logic processor provides highspeed control and transfer of signals from SEL MIRRORED BITS devices, or other protocols. The RTAC can serve as the system controller and SCADA gateway to eliminate costly equipment (such as breakers, interposing relays, and wiring) while also reducing engineering and labor costs. The intuitive ACSELERATOR RTAC software provides simple setup of analog and binary tags from any device in the system. Integrated tools scale values and create logic in a flexible IEC 61131-3 configuration environment. You can take advantage of multiprotocol support to collect SCADA information, process control commands, and use NTP time synchronization through a single communications link to each Ethernet device.



Data Concentration and Protocol Conversion

Configure each serial or Ethernet port to use any of the client, server, or peer-to-peer protocols available for the RTAC. For example, when you use IEEE C37.118 protocol to receive synchrophasor messages, you can map analog or Boolean tags and time stamps to DNP3 and send the data to SCADA very efficiently. You can also map data to IEC 61850 GOOSE messages for high-speed control schemes. Additionally, when you need to define relay connections in a primary/backup arrangement, use the Tag Processor to map relay tags so that the master stations will receive power system information only from the active relay.

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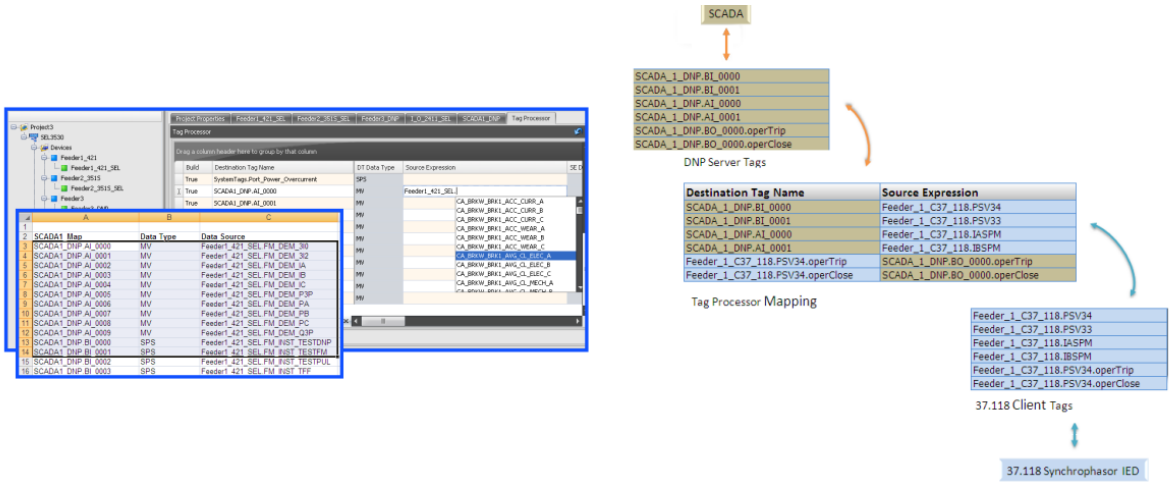
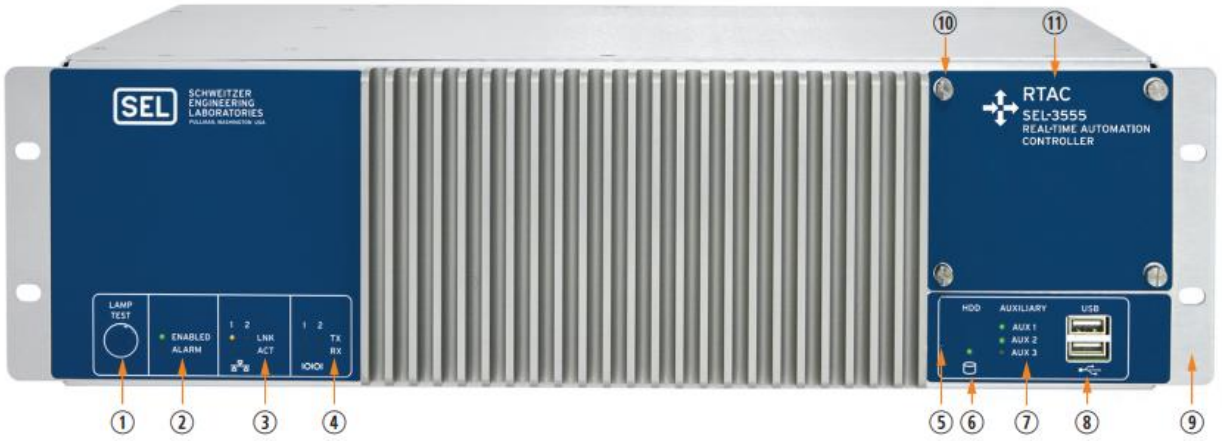


Map source & destination tags, Synchrophasor data map seamlessly into SCADA Connections

Panel Features & Dimension Chassis



① LEDs may all be tested by holding down the **LAMP TEST** button.
② **ENABLED** LED provides operational status. Green indicates normal operation, and red indicates that the system is halted or booting, or that an alarm condition has occurred. The **ALARM** LED indicates a non-optimal system condition exists. The **ALARM** LED illuminates red whenever the alarm contact operates.
③ **LINK** and **ACT** LEDs indicate link status and network activity for each Ethernet port.
④ Transmit (**TX**) and Receive (**RX**) LEDs indicate activity on serial ports.
⑤ Reset pinhole may also be configured as a power button in the BIOS.
⑥ See SATA drive activity at a glance with the **HDD** LED indicator.
⑦ Program three bicolor **AUXILIARY** LEDs for your custom application.
⑧ Attach mouse and keyboard to any of the USB ports.
⑨ Rugged enclosure withstands EMI, RFI, shock, and vibration.
⑩ Easily access removable solid-state drive behind the front panel.
⑪ High contrast, white-on-blue lettering is highly legible even in dark areas.

Front Panel

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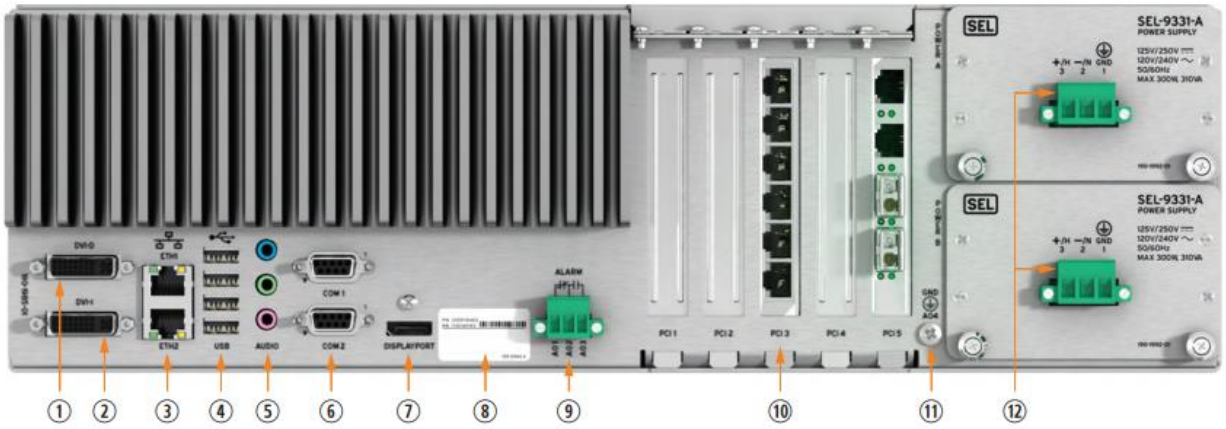
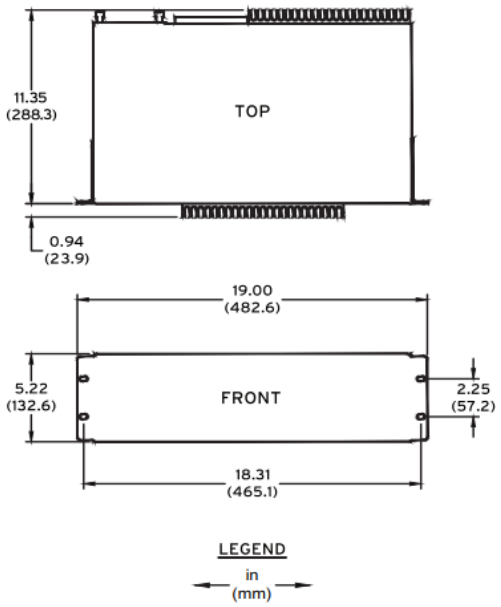


① Connect digital displays to the DVI-D video port.
② Connect digital or analog (VGA) displays to the DVI-I video port.
③ Network with two high-speed gigabit Ethernet ports. Ports may be bonded for redundancy or used individually.
④ Use any of the four USB 2.0 ports for keyboard and mouse connections.
⑤ Audio output.
⑥ Two built-in EIA-232 ports are BIOS configurable for +5 Vdc port power.
⑦ Connect monitors by using the DisplayPort technology video port to leverage higher performance features than any other digital interface.
⑧ Serial number label.
⑨ Wire a Form C alarm contact output either normally closed or normally open. The **ALARM** LED on the front provides indication of the alarm contact state.
⑩ Use SEL rugged PCI Express expansion cards for additional networking, serial, and IRIG-B input*. One six-port serial expansion card included standard.
⑪ Attach chassis to ground.
⑫ Choose single or dual power supplies, and attach power from independent sources for even higher availability. Supplies load share and are hot-swappable for maximum online serviceability.

*IRIG-B input only available through PCI expansion cards.

Rear Panel

Rack-Mount Chassis



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Panel-Mount Chassis

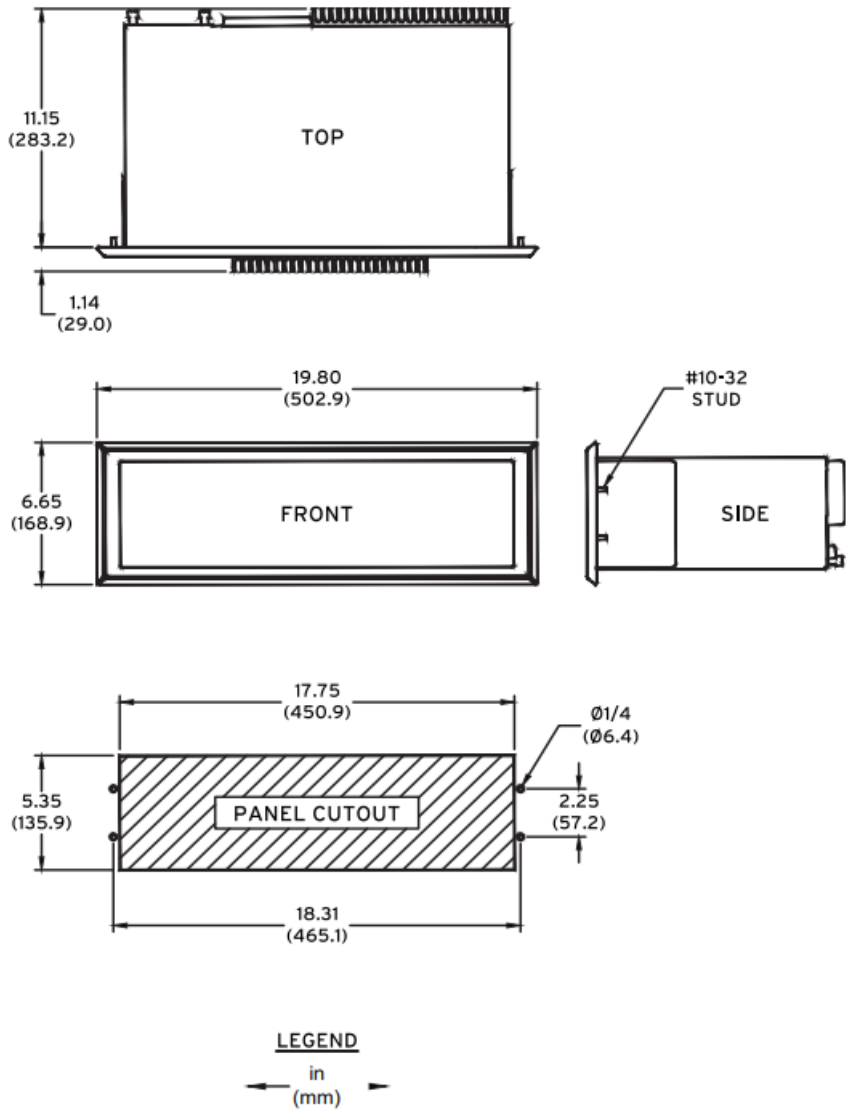

Table 1 System Power Consumption

Power Consumption (Watts)[a]			
Component	**Minimum**	**Typical**	**Maximum**
Base System (Dual-Core CPU, 1 PSU, 8 GB RAM, 30 GB SSD, 1 serial card):	31 W	42 W	60 W
Additional Consumption From Optional Components			
Quad-Core CPU:	+2 W	+5 W	+13 W
2nd Power Supply:	+10 W	+10 W	+13 W
SEL-3390E4 Ethernet Card:	+6 W	+8 W	+10 W
SEL-3390S8 Serial Card:	+4 W	+5 W	+7 W
Chipset Heater[b]			
cold startup (<5°C [41°F]):	N/A	N/A	+90 W
continuous operation (0°C [32°F]):	0 W	+5 W	+10 W
continuous operation (–40°C [–40°F]):	0 W	+20 W	+40 W

[a] Minimum: 0% load on all components; minimum power consumption started and idle. Typical: 25-50% load on all components; good indication of most application loads. Maximum: 100% load on all components; generally cannot be reached in normal applications.
[b] Chipset heaters operate at low temperatures to keep the CPU and PCH within specified operating limits.

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SEL – 700G Family of Generator & Intertie Protection Relays

Basic to Comprehensive Protection



SEL-700G0, SEL-700G1

Small, Medium, and Large Generators

Intertie Protection



SEL-700GT

Intertie and Generator

Basic Dual-Feeder Overcurrent Protection



SEL-700GW

Wind Generator

Major Features and Benefits

- IEC 61850 simulation mode, local/remote control authority, and functional naming support for easy commissioning and control.
- Rapid Spanning Tree Protocol (RSTP) provides faster recovery in response to network changes and failures in switched mode applications.
- Disconnect control from the Bay Screens application.
- Three-position disconnects for increased safety.
- IEEE 1588-2008 firmware-based Precision Time Protocol (PTP) provides ease of integration.
- EtherNet/IP provides ease of integration for industrial automation applications.
- Visualization of system parameters and synchronization of your generator to your system with built-in Synchroscope/ Auto Synchronizer applications on the touchscreen display.

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Protection Features

AC Analog Inputs The SEL-700G has between 6 and 14 analog inputs, depending on the model and options selected. All analog inputs are recorded for event reporting and oscillography.

Table 1 Current (ACI) and Voltage (AVI) Card Selection for SEL-700G Models

Model	Description	Slot Z Card (MOT Digits)	Slot Z Inputs	Slot E Card (MOT Digits)	Slot E Inputs
700G0	Basic generator protection	4 ACI/3 AVI (81, 82, 85, 86)	IAX, IBX, ICX, IN, VAX, VBX, VCX	(OX)	
700G0+	Basic generator protection plus (see *Table 2* for additional protection elements)	4 ACI/3 AVI (81, 82, 85, 86)	IAX, IBX, ICX, IN, VAX, VBX, VCX	2 AVI (74)	VS, VN
700G1	Full generator protection	4 ACI/3 AVI (81, 82, 85, 86)	IAX, IBX, ICX, IN, VAX, VBX, VCX	3 ACIE (73, 77)	IAY, IBY, ICY
700G1+	Full generator protection plus (see *Table 2* for additional protection elements)	4 ACI/3 AVI (81, 82, 85, 86)	IAX, IBX, ICX, IN, VAX, VBX, VCX	3 ACI/2 AVI (72, 76)	IAY, IBY, ICY, VS, VN
700GT	Intertie protection	1 ACI (84, 88)	IN	3 ACI/4 AVI (71, 75)	IAY, IBY, ICY, VS, VAY, VBY, VCY
700GT+	Intertie and generator protection	4 ACI/3 AVI (81, 82, 85, 86)	IAX, IBX, ICX, IN, VAX, VBX, VCX	3 ACI/4 AV (71, 75)	IAY, IBY, ICY, VS, VAY, VBY, VCY
700GW	Basic wind generator protection	3 ACIZ (83, 87)	IAX, IBX, ICX	3 ACIE (73, 77)	IAY, IBY, ICY

Current & Voltage inputs for the different models available. Current inputs are 1 A or 5 A nominal rating and voltage rating and voltage inputs are 300 v continuous rating.

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The SEL-700G offers an extensive variety of protection features, depending on the model and options selected. *Table 2* shows the protection features available in the different models.

Table 2 SEL-700G Protection Elements (Sheet 1 of 3)

Protection Elements		Basic Generator Protection	Basic With			Intertie Protection	Intertie and Generator Protection	Wind Generator Protection
			21C, 25, 64G, 78	21C, 78, 87	21C, 25, 64G, 78, 87			
		700G0	700G0+	700G1	700G1+	700GT	700GT+	700GW
87	Phase Differential			X	X			
87N	Ground Differential	X	X	X	X		X	
REF	Restricted Earth Fault	X	X	X	X		X	
64G	100% Stator Ground		X		X			
64F	Field Ground	X	X	X	X		X	X
40	Loss of Field	X	X	X	X		X	
49T	Thermal Overload	X	X	X	X		X	
49RTD	RTDs	X	X	X	X	X	X	X
46	Current Unbalance	X	X	X	X		X	
24	Volts/Hz	X	X	X	X		X	
78	Out of Step		X	X	X			
78VS	Vector Shift	X	X	X	X	X	X	
INAD	Inadvertent Energization	X	X	X	X		X	
21C	Compensator Distance		X	X	X			
51C	Voltage-Controlled TOC	X	X	X	X		X	
51V	Voltage-Restrained TOC	X	X	X	X		X	
51PX	Phase Time-Overcurrent							X

IEC 61850 Test Mode Test Mode

Allows you to test an in-service relay without accidentally operating control output contacts. Test Mode includes five different modes:

On: In On mode, the relay operates as normal; it reports IEC 61850 Mode/Behavior status as On and processes all inputs and outputs as normal. If the quality of the subscribed GOOSE messages satisfies the GOOSE processing, the relay processes the received GOOSE messages as valid.

Blocked: This mode is similar to On mode, except that the device does not trip any physical contact output.

Test: In Test mode, the relay processes valid incoming test signals and normal messages and operates physical contact outputs, if the outputs are triggered.

Test/Blocked: This is similar to Test mode, except that the device does not trip any physical contact outputs.

Off: The device does not process any incoming data or control commands (except commands to change the mode). All protection logic is disabled and all data quality is marked as invalid.

Simulation: In this mode, the relay continues to process normal GOOSE messages until a simulated GOOSE message is received for a subscription. Once a simulated GOOSE message is received, only simulated GOOSE messages are processed for that subscription. The simulated mode only terminates when LPHDSIM is returned to FALSE. When the relay is not in simulation mode, only normal GOOSE messages are processed for all subscriptions.

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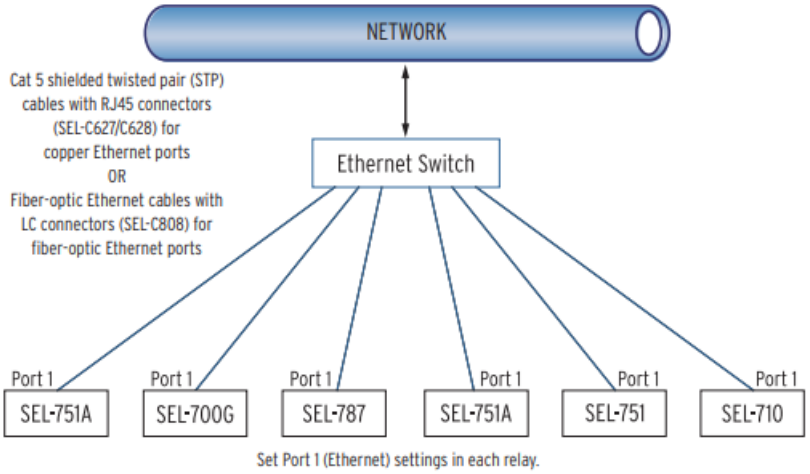
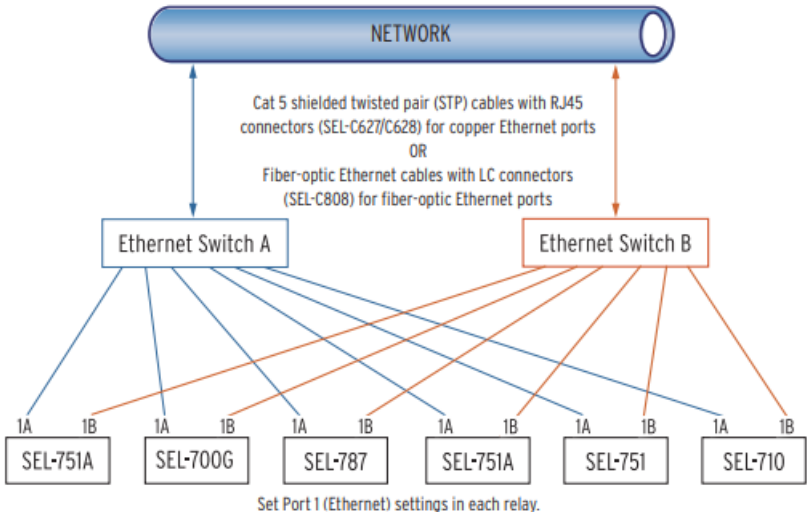
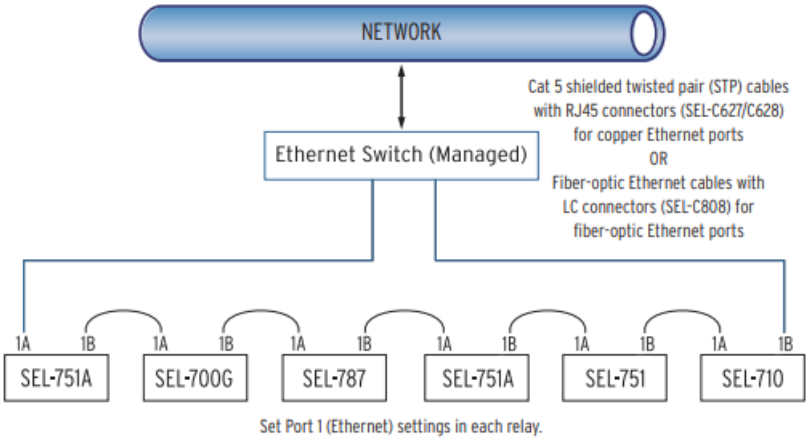
Ethernet Network Architectures







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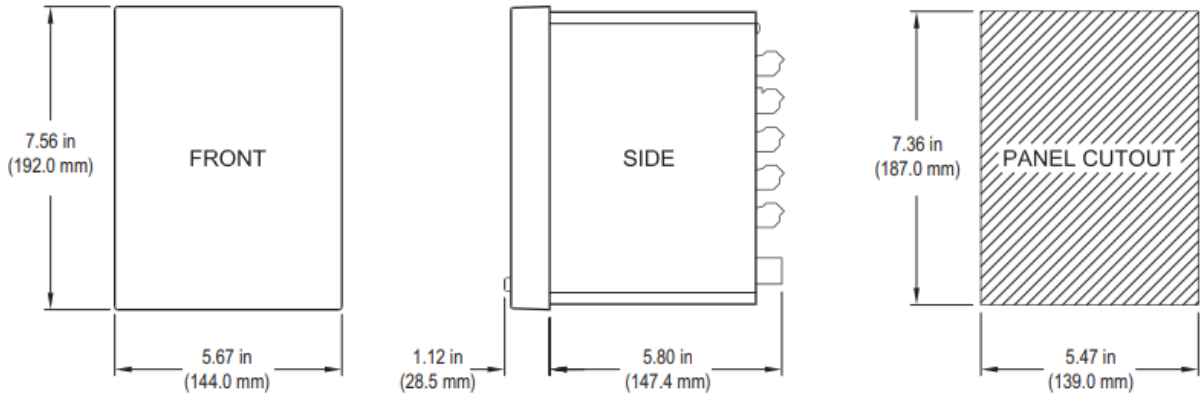
Relay Dimension



Dimensions for Rack and Panel Mount Models

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Moxa – 5103T

1-port Modbus RTU/ASCII/TCP/EtherNet/IP-to-PROFINET gateways.

Major Features and Benefits

- Converts Modbus, or EtherNet/IP to PROFINET.
- Support PROFINET IO device.
- Supports Modbus RTU/ASCII/TCP master/ Client and Slave/Server.
- Supports EtherNet/IP Adapter.
- Effortless configuration via web-based wizard.
- Built-in Ethernet cascading for easy wiring.
- Embedded traffic monitoring/diagnostic information for easy troubleshooting.
- MicroSD card for configuration backup/duplication and event logs.
- Status monitoring and fault protection for easy maintenance.
- Serial port with 2 kV isolation protection.
- -40 to 75°C wide operating temperature models available.
- Supports redundant dual DC power inputs and 1 relay output.
- Security features based on IEC 62443.

Security functions

Authentication : Local Database

Encryption : HTTPS,AES-128,AES-256,SHA-256

Security Protocols : SNMPv3, SNMPv2c Trap, HTTPS (TLS1.3)

Console Port : RS-232 (TxD, RxD,GND),8-pin RJ45 (115200,n , 8, 1)

Connector : DB9 male

Baudrate : 50bps to 921.6 kbps.

Isolation : 2kV (built-in).

Operating Temperature : MGate 5103-T: -40 to 75°C (-40 to 167°F).

EMS : IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m
IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV
IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV
IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m
IEC 61000-4-8 PFMF

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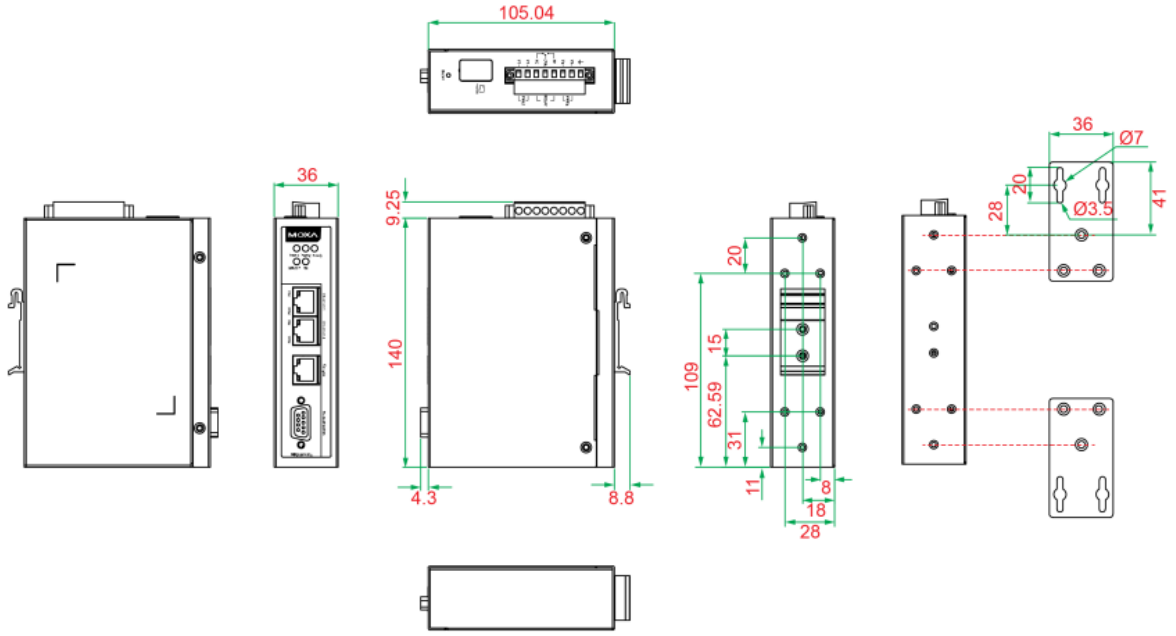
Dimension

Unit: mm



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PCS HOLDS LIST

S No.	Description
1	
2	
3	
4	
5	
6	
7	

SIS/FGS HOLDS LIST

S No.	Description
1	
2	
3	
4	

CI SERVER HOLDS LIST

S No.	Description

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Appendix-1 SIS Typical Test Report_ R01

Appendix-2 FGS Typical Test Report_ R01

Appendix-3 List of Supported Devices

Appendix-4 PRM user groups and Account configuration

Appendix-5 HMI Graphic Symbols

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

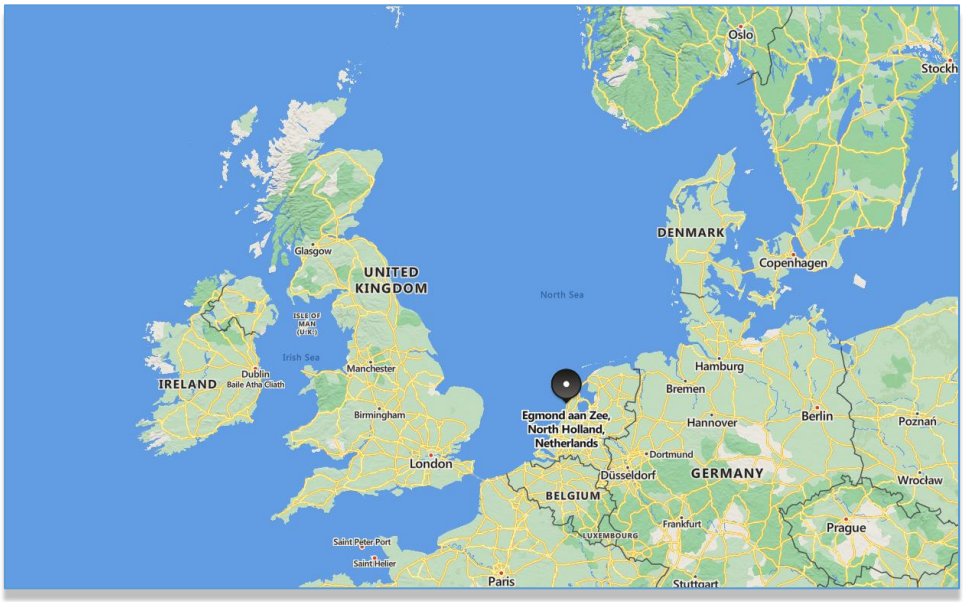


Figure 1 – HOLLANDSE KUST NOORD WIND PARK Location Map

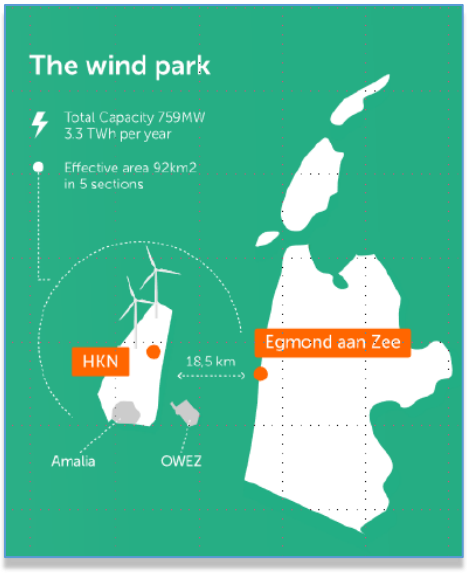


Figure 2 – Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

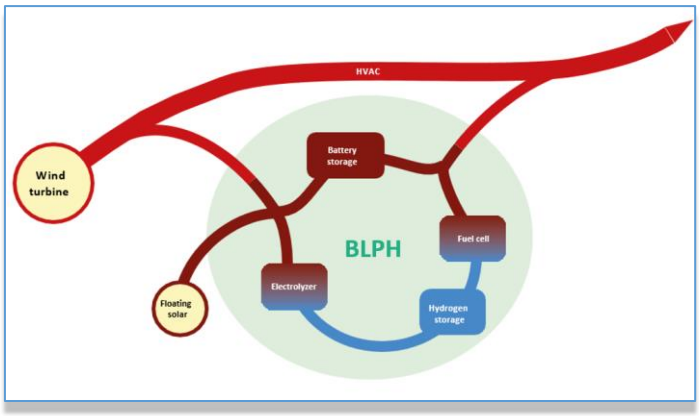


Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting

wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

2 DOCUMENT SCOPE

The purpose of the of the document is to provide the Functional design specification of CI Server, PCS, SIS/FGS software for Hollandse Kust Noord Wind Park project realized using Yokogawa CI Server, Centum VP and Prosafe RS System.

The Content of this document are limited to the scope and design specification aspects.

The Functional Design Specification (FDS) covers the conceptual system design of:

- CI Server, PCS, SIS & FGS functional requirements and Tag naming philosophy.
- Software and License.
- SIS/FGS System Design Philosophies such as Overrides, Reset, First up
- Application Program Specification
- Interface to Yokogawa CI Server
- Interface to 3 party subsystems
- Security Management of SCS
- Sequence of Events (SOE) Facilities
- Time Synchronization
- Displaying Diagnostic Information
- Typical list of this project.

This document shall be further updated during execution phase to confirm as final design.

2.1 REFERENCES

2.1.1 Project Reference Documents

Doc. No.	Description
K559-2254-IC-SPE-001	System specification for Main Automation Contractor
K559-2254-IC-PHI-001	Control System Philosophy
K559-2254-IC-REP-003	Cyber Security Assessment
K559-2254-EL-LST-001	BLPH Control Alarm and Monitoring Table

Table 1 – Project Reference Documents

2.1.2 Yokogawa Standard Product Reference Document

Sl No	Document Title	Document Number
Instruction Manuals (IM):		

Sl No	Document Title	Document Number
1	ProSafe-RS User's Guide	IM 32P01B10-01EN
2	Engineering Guide Vol.1	IM 32P01C10-01EN
3	Engineering Guide Vol.2	IM 32P01C20-01EN
4	Installation Guide	IM 32P01C50-01EN
5	License Management Guide	IM 32P01C60-01EN
6	ProSafe-RS Security Guide	IM 32P01C70-01EN
7	Safety Manual	IM 32P01S10-01EN
8	Messages Reference Manual	IM 32P02B10-01EN
9	Engineer's Reference Manual	IM 32P04B10-01EN
10	POU Reference Manual	IM 32P03B20-01EN
General Specification (GS):		
1	ProSafe-RS Safety Instrumented System Overview (for Vnet/IP)	GS 32P01B10-01EN
2	ProSafe-RS Safety Control Function (for S2SC70X), Safety Control Function for SCS Simulator (for S2SC70X)	GS 32P03B30-01EN
3	ProSafe-RS / ProSafe-RS Lite Electronic Instruction Manual	GS 32P01W10-01EN
4	ProSafe-RS / ProSafe-RS Lite Project ID License	GS 32P01B50-01EN
5	ProSafe-RS Project I/O License	GS 32P03A10-01EN
6	ProSafe-RS / ProSafe-RS Lite I/O List Engineering Package	GS 32P04C20-01EN
7	ProSafe-RS / ProSafe-RS Lite CENTUM VP Integration Package	GS 32P04D10-01EN
Technical Instruction (TI):		
1	Safety Instrumented System ProSafe-RS System Overview	TI 32P01A10-01EN
2	ProSafe-RS Installation Guidance	TI 32P01J10-01EN
3	Security Standard of System Product	TI 33Y01B30-01E

2.1.3 Yokogawa Project Document

Doc. No.	Description
1724000594-IN-LIS-00003	Bill of Material
1724000594-IN-LIS-00004	PCS and Safety System IO List (HW and SW)
1724000594-IN-LIS-00005	EMCS IO List (HW and SW)
1724000594-IN-CA-00006	Power Consumption and Heat Dissipation
1724000594-IN-LIS-00007	Systems Cables List
1724000594-IN-RE-00008	Safety Controller loading estimation

1724000594-IN-DA-00009	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00010	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00011	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00012	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00013	EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-PM-PL-00014	Project Execution Plan (PEP)
1724000594-IN-DD-00015	System Architecture
1724000594-IN-DG-00016	Network Connection Diagram
1724000594-IN-SP-00017	PAS Hardware Functional Design Specification (FDS-HW)
1724000594-IN-SP-00019	EMCS Software Functional Design Specification (FDS-SW)
1724000594-IN-RE-00043	Cyber Security Settings (NSS FDS)
1724000594-IN-DG-00020	PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00021	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00022	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00023	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00024	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00025	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00026	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00027	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DD-00028	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-PL-00029	Logic diagrams print out PCS
1724000594-QC-PRO-00030	Logic diagrams print out SIS and FGS
1724000594-QC-PRO-00031	Logic diagrams print out EMCS
1724000594-QC-PRO-00032	HMI screens print out

1724000594-IN-LIS-00003	Safety Validation Plan (SVP)
1724000594-IN-LIS-00004	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-LIS-00005	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-CA-00006	Site Acceptance Test (SAT) PROCEDURE
1724000594-IN-MAN-00037	INSTALLATION, OPERATING AND MAINTENANCE MANUAL (IOM)

Table 2 – Yokogawa Reference Documents.

2.2 DEFINITIONS AND ABBREVIATIONS

ALE	Yokogawa Ethernet Communication Module
AMS	Alarm Management System
ATEX	Appareils destinés à être utilisés en ATmosphères EXplosibles (Equipment intended for use in explosive atmospheres)
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
CAMS	Consolidated Alarm Management Software
CAP	Critical Action Panel
CAPEX	Capital Expenditure
CAT	Category
CCN	Central Control Network
CCR	Central Control Room
Centum VP	Yokogawa's DCS Product
PCS	Process Control System
CI	Collaborative Information
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
DCS	Distributed Control System
DEM	Design Engineering Manual
DEP	Design and Engineering Practice
DOCUMENT NAME	Document Title
EMCS	Electrical Monitoring and Control System
EN	Engineering Notice

EPC	Engineering, Procurement Construction
EWS	Engineering Workstation
Ex	Explosion Proof
FC	Fuel Cell
FCS	Field Control Station
FEED	Front End Engineering Design
FEED CONTRACTOR	Organisation contracted directly by COMPANY to provide engineering, design, or other services.
FGS	Fire & Gas System
FO	Fibre Optic
FTP	File Transfer Protocol
GPS	Global Positional Satellite
GSD	General Station Description
HART	Highway Addressable Remote Transducer
HAZOP	Hazardous Operability Study
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA.
IACS	Industrial Automation and Control Systems
IAMS	Instrument Asset Management System
IEC	International Electrotechnical Commission
IP PROTECTION	Ingress Protection
IS	Intrinsically Safe
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
KVM	Keyboard Video Mouse
LV	Low Voltage
MAC	Main Automation Contractor
MCC	Motor Control Centre
MQTT	Message Queuing Telemetry Transport

MRC	Media Redundancy Clients
MRM	Media Redundancy Manager
MRP	Media Redundancy Protocol
NA	Not Applicable
NAMUR	Normenarbeitsgemeinschaft für Mess- und Regeltechnik in der chemischen Industrie
OHVS	Offshore High Voltage Station
OER	Onshore Equipment Room
OPC	OLE (Object Linking Embedded) for Process Control
P&ID	Piping and Instrument Diagram
PAS	Process Automation, is the term used to describe all functionality required for the monitoring and controlling of all process, safety and fire and gas systems selected for the project.
PCS	Process Control System
PIN	Plant Information Network
PRM	Plant Resource Manager
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
PV FARM	Photo Voltaic
PURCHASER	The organisation placing a purchase order for the supply of equipment or services for the Project. The Purchaser could be the COMPANY or the Contractor or some other party appointed by the COMPANY or Contractor.
SCADA	Supervisory Control and Data Acquisition
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
SQL	Structured Query Language
TCP/IP	Transmission Control Protocol/Internet Protocol
TQ	Technical Query
UCP	Unit Control Panel
UPS	Uninterruptible Power Supply

VENDOR	Manufacturer/Supplier of equipment and services to perform the duties specified by the Purchaser.
Vnet/IP	Yokogawa Virtual Network
WSUS	Window Security Update Services

Table 3 – Definitions and Abbreviations

3 APPLICABLE CODES, STANDARDS, AND REGULATIONS

3.1 GENERAL

The equipment shall be designed, manufactured, tested, and delivered in accordance with this philosophy and the Project documents, codes, standards, and regulations listed below. It is the MACs responsibility to ensure complete compliance in their design, inclusive of all sub-suppliers. The normative documents listed below contain requirements that, through reference in this text, constitute the requirements of this Project. Latest editions of all referenced documents shall apply.

SYSTEM SECURITY REQUIREMENTS (CWHKN-PMT-PJA-PLN-00009) shall be referred as CW specification document to protect Operational Technology (OT) against unauthorized access or modification and to ensure availability of operational processes. It defines provides core practices for implementing controls and requirements for Suppliers and Third Parties to be used during procurement and contracting of new services as well as during ongoing execution of services in the OT environment are defined in requirements. In SYSTEM SECURITY REQUIREMENTS (CWHKN-PMT-PJA-PLN-00009) document are based on the ISA / IEC 62443 (formerly known as ISA - 99) Series of Standards on Industrial Automation and Control Systems (IACS) Security.

The following requirements shall apply as a minimum with the design being fit for purpose as detailed in this specification.

The project shall apply relevant standards and codes in the following order:

1. Regulations
2. Selected DEM-1 and DEM-2 requirements.
3. Industry Codes and Standards.

The applicable industry codes and standards are detailed in sections 3.2, 3.3 and 3.4.

3.2 REGULATIONS

Document Name	Document Title
1999/92/EC	ATEX 153 Workplace Directive
2011/65/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment
2014/30/EU	Electromagnetic Compatibility (EMC) Directive
2014/34/EU	ATEX Directive
2014/35/EU	Low Voltage Directive
94/9/EC	Equipment intended for use in Potentially Explosive Atmospheres
99/92/EC	Minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres

Table 4 – Applicable Regulations

3.3 APPLICABLE DESIGN ENGINEERING PRACTICES

Design Engineering Practices (DEP) have a limited rollout on BLPH.

3.3.1 Fully Applicable DEP

The following DEP are identified as being fully applicable to the project.

Document Name	Document Title
DEP 32.01.20.12	Industrial Automation and Control Systems (IACS) Security
DEP 30.00.60.15	Humans Factors Engineering – Control Room Design
DEP 33.64.10.32	Electrical Network Monitoring and Control System for Global Application
DEP 37.76.10.10	HVAC for Offshore Installations (Amendments/Supplements to ISO 15138)

Table 5 – Applicable DEPs

DEP 32.01.20.12 shall be applied to the project in full, in conjunction with IEC 62443, for the cybersecurity design.

DEP 30.00.60.15 shall be applied to the project for the design of the Control Room.

The functional requirements of DEP 33.64.10.32 shall be adhered to by MAC to ensure safe and effective operation of all relevant electrical equipment.

DEP 37.76.10.10 and ISO 15138 shall apply for offshore equipment rooms, i.e., the ITER.

3.3.2 DEM-1 Process Safety Only DEP

The following DEPs shall have the DEM-1 'Process Safety' requirements applied to the project.

Document Name	Document Title
DEP 32.30.20.11	Fire, Gas and Smoke Detections
DEP 32.80.10.10	Safety Instrumented Systems
DEP 32.80.10.14	Alarm Management (Amendment/Supplements to IEC 62682)
DEP 62.10.08.11	Inspection and Function Testing of Instruments

Table 6 – Applicable DEPs

3.4 INDUSTRY STANDARDS

Document Name	Document Title
EN 1127	Explosive Atmospheres, Explosion Prevention and Protection, Basic Concepts and Methodology

ISO 11801	Information technology – Generic cabling for customer premises
EN 61131	Programmable Controllers
IEC 60079	Installation & Maintenance of Electrical apparatus for use in Potential explosive atmosphere
IEC 60331	Fire resisting characteristics for electrical cables (all parts)
IEC 60332	Tests on electric cables under fire conditions
IEC 60364	Low-voltage Electrical Installations
IEC 60529	Degrees of Protection Provided by Enclosures (IP Code)
IEC 61158	Industrial communication networks
IEC 61508	Functional safety of electrical/electronic/programmable electronic safety-related systems
IEC 61511	Functional Safety – Safety Instrumented Systems for the Process Industry Sector – Framework, Definitions, System, Hardware, and Application Programming Requirements
IEC 61850	Communication Networks and Systems for Power Utility Automation
IEC 62305	Protection Against lightning
IEC 62443	Cyber Security for Industrial Automation and Control Systems
IEC 62682	Management of Alarm Systems for the Process Industries
ISO 15138	Petroleum and natural gas industries - Offshore production installations - Heating, ventilation and air-conditioning
ISO 14001	Environmental Management System
ISO 9001	Certifications of Quality Management System

Table 7 – Industry Standards

4 PCS COMPONENTS

4.1 HUMAN INTERFACE STATION (HIS)

HIS is an Operator Workstation computer and it is mainly used for control, operation, and monitoring of the plant process. Aside from displaying process graphics and other related displays, this workstation also shows process variables, control parameters and equipment status per System. HIS alerts the operator with necessary alarms with capability to acknowledge and receive messages required for plant operation.

In this project EWS shall have HIS functionality with necessary license. Centum VP screens shall not be provided, whereas SCADA OWS shall have Graphics for Operation and Monitoring. PCS/SIS standard function blocks Faceplates shall be accessible in CentumVP HIS (in this project EWS).

4.2 PCS ENGINEERING WORKSTATION (EWS)

PCS EWS is mainly used for system engineering activities via AD Suite such as configuration and building functions, overall system component definition, building control strategies and graphic displays as well as for system maintenance.

Module less Engineering shall be followed.

4.3 FIELD CONTROL STATION (FCS)

The Field Control Station (FCS) is where the control configuration of the system is downloaded and running. The FCS has its F-IO that interface to the process. F-IO gathers I/O signals and measurements from the field and processes these inputs and subsequently perform control functions based on approved and downloaded control strategies. The online configuration residing in the FCS sends desired outputs to the field final control elements such as valves, relays, etc. based on control algorithm performed or as an input to another control strategy within the database for further processing.

In addition to the control functions, FCS also provides the required interface to another subsystem through FIO MODBUS TCP/IP and PROFINET.

5 PROCESS CONTROL FUNCTIONS

Process control functions for this project shall be listed below with category of control functions (typical & complex control loop, process interlock/shutdown, equipment module, unit supervision and others).

Process Unit/Area	Control Function	Assigned FCS	Category						Remark
			Typical Control Loop	Complex Control Loop	Interlock or PSD	Equipment Module	Unit Supervision	Others	
PCS	x	FCS0101	x	x				x	Safety System for Emergency Shutdown, EMCS for Electrical Monitoring and Control

Table 8 – List of Process Control Functions

5.1 COMMON SPECIFICATIONS FOR CONTROL FUNCTIONS AND SETTINGS

Shall be defined the common specifications for FCS common properties, I/O modules properties, input processing, output processing, alarm processing, control calculation processing, parameter settings, etc.

5.2 CATEGORY OF FCS FUNCTIONS USED FOR CONTROL

Control functions will be designed and implemented by using various functions (function blocks, programs, etc.) in FCS.

5.2.1 Typical Control Loop

Typical control loops are commonly used for regulatory control functions where applicable and Yokogawa I/O list relates the type of typical control loops with tags.

5.2.2 Complex Control Loop

Complex control loops that are not part of Software Typical shall be designed by referring to customer design inputs such as control narratives.

5.2.3 Interlock or Process Shutdown (PSD) Logic

If interlock or process shutdown logic is implemented in FCS, it shall be designed by referring to customer design inputs such as control narratives.

5.2.4 Equipment Module and Unit Supervision

Process units or equipment requiring unit control may involve sequential control in addition to regulatory control. Unit control may include start-up / shutdown sequence for unit or equipment. It shall be designed by referring to customer design inputs such as control narratives.

5.2.5 Others

Custom function blocks may be required to meet the customer specifications. However, use of custom function blocks should be minimized due to maintenance reason. Custom function blocks may not be functioning when the system version of FCS is upgraded, and re-engineering may be required in this case. If custom function blocks are used, sufficient documentation shall be available in the project to ensure proper support.

5.3 PROJECT I/O LICENSE

A Project IO license is required from CENTUM VP R6 to determine the number of logical I/O points that can be used in a single project. The number of usable logical I/O points in a project is determined by the number of Project I/O licenses assigned to that project. Project I/O License is required for all types of I/O such as process I/O, fieldbus I/O, and communication I/O.

Types of I/O	Counting	Remarks
Process I/O	1 point = 1 channel of one I/O Module or one redundant pair of I/O Modules defined in the project database	Points are counted per I/O Module (or redundant pair of I/O Modules). e.g. An I/O Module with 16 Channels = 16 points.
Communication I/O	Ehternet TCP/IP, Profibus-DP, Profinet-250	In this project 1 no. Modbus TCP/IP and 1 no. Profinet module is used = IO points 500.

Table 9 – Counting the number of I/O

A Project I/O License (VP6F3100) is required for every 200 logical I/O points. Place an order for the number of licenses to match the number of logical I/O points to be used in a project.

The number of logical I/O points is checked at creating an I/O module, downloading communication I/O builder, FCS offline downloading.

Software Packages are standard packages available to configure a PCS control system as per project requirement.

S.No	PCS Software Description	Model	Make	ITER	OER	CCR	Total
1	Software Media for Centum VP R6	VP6CKM-V11	Yokogawa	1	0	0	1
2	Product Maintenance License	SV2CPML-V1107-S1112	Yokogawa	1	0	0	1
3	Certificate of Product Maintenance License	SS2CPMLM-V1107-S1112	Yokogawa	1	0	0	1
4	Project ID License	VP6CPJT-V11N01	Yokogawa	1	0	0	1
5	Standard Operation/Monitoring Function (For New installation)	VP6H1100-V11N01	Yokogawa	1	0	0	1
6	Control Drawing Status Display Package (For New installation)	VP6H4410-V11N01	Yokogawa	1	0	0	1

7	Logic Chart Status Display Package	VP6H4420-V11N01	Yokogawa	1	0	0	1
8	Automatic Design Suite & Standard Engineering Function	VP6E51AD-V11N01	Yokogawa	1	0	0	1
9	Graphic Builder	VP6E5150-V11	Yokogawa	1	0	0	1
10	Self-documentation Package (For New installation)	VP6E5490-V11N01	Yokogawa	1	0	0	1
11	Centum VP Instruction Manual	VP6C5495-V11	Yokogawa	1	0	0	1
12	Project I/O License	VP6F3100-V11	Yokogawa	4	0	0	4
13	Microsoft Excel Software	MS Excel	Microsoft	1	1	0	2
14	PRM License	PM4SSET-V11N1000	Yokogawa	1	0	0	1
15	Project ID License for PRM R4	PM4CPJT-V11	Yokogawa	1	0	0	1
16	CI Server Software Media	CS2CKM-D11	Yokogawa	1	0	0	1
17	CI Server User's Manual Media	CS2CKM2-C11	Yokogawa	1	0	0	1
18	CI Server Software License	CS2CLC-L11/FCA02/SCA02/CB02/CD02/PTL03/VER01/DEP02/ADH02	Yokogawa	1	0	0	1
19	Product Maintenance License - CI Server	SV2CPMLC-V1100-S1112/C01	Yokogawa	1	0	0	1
20	End Point Security License (Initial) - For applicable products	LS1SN001-E01/AV	Yokogawa	4	3	3	10
21	End Point Security License (Initial) - For other products	LS1SN001-E01/AVX	Yokogawa	0	7	0	7

Table 10 –PCS Software List

5.4 CENTUM VP SOFTWARE LICENSE INSTALLATION AND VALIDATION

This section explains license management process when building license project for first time. License installation and validation task is performed on Engineering workstation and on all the other workstation only validation and acceptance of license is performed where Centum software is installed.

Following are the steps to be performed on engineering workstation and operator workstation.

- Create a license project. When creating a license project, specify the name of the project.
- Read the license key file from the license key media and register the available licenses.
- Add and specify the stations whose licenses need to be distributed.
- Assign available licenses to each station i.e. EWS, OWS, FCS etc.
- Distribute licenses to assigned stations through network.
- After successful distribution accept the licenses to activate respective software packages

6 COMMON CONTROL FUNCTIONS

6.1 COMMON PROJECT PROPERTIES

There are a set of common properties that need to be defined for the project. These properties need to be assigned from the System View while creating a new CENTUM VP project.

Setting Item	Yokogawa Default	*Project Setting*	Remarks
	Name and Position Tab		
Project	PJT01	BLPH-CW1	Name of the project. Max. of 8 alphanumeric characters.
Position	C:\CENTUMVP\ENG\BkProject/	C:\CENTUMVP\ENG\BkProject/	Project Position in the Hard Disk.
Project Comment	Null	BLPH CROSSWIND	Comment on project. Max. of 32 alphanumeric characters.
Alias of Project	Null	-	Optional. Max. of 8 alphanumeric characters.
User Authentication : Use Windows user names as HIS user names	Unchecked	Checked	Check for single sign-in. Otherwise Uncheck.
	Outline		
Model	Read-only	Read-only	CENTUM VP
User	Null	BLPH	
Organization	Null	Crosswind	
Project Information	Null	BLPH	
	Constant		
Domain Number	01	01	It just shows the default domain number. Actual domain number of a new station shall be manually set according to the project system configuration when creating the station.
	Detailed Setting		
Manually Register Engineering Unit Symbol	Unchecked	Checked	EU symbol shall be registered manually. Automatic registration is not possible.
Manually Register Switch Position Label	Unchecked	Checked	Switch Position Label shall be registered manually. Automatic registration is not possible.

Setting Item	Yokogawa Default	*Project Setting*	Remarks
Plant Hierarchy : Start Number	1	See Remarks	Use the default value unless it is already used by another project. For example, this value is required to change when CENTUM CS is at upper level and CENTUM VP is at lower level.
Plant Hierarchy : Maximum Number of Use	32767	See Remarks	Use the default value.
Plant Hierarchy : Number of in use (Number of custom facilities)	Read-only	Read-only	Number of plant hierarchies that are running in project (Number of plant hierarchies displayed in the plant hierarchy viewer)
Display FF-PID in same style as PID.	Unchecked	Unchecked	Gain, Reset, and Rate for FF-PID shall be represented as P, I and D respectively.
Do not allow online change of alarm detection setting.	Unchecked	Unchecked	Online change of alarm detection setting is allowed.
Enable Advanced Features of Editing Header & Footer for Self-Documentation	Checked	Checked	
Show Guideline for aligning I/O area on FCS builder	Unchecked	Unchecked	
Define Tag Name Hierarchies.	Unchecked	Unchecked	For Hierarchically Handling Tag Name, this option is Checked
Enable Sheet link on HIS	Unchecked	Checked	
Apply same permission level of PV to CPV	Checked	Checked	To apply same operation and monitoring authorities for CPV and PV, this option is Checked
Prohibit setting SV to a value beyond the range of SVL and SVH	Unchecked	Checked	When this option is checked, the value of SV can be prohibited beyond the range of SVL and SVH
Hide the information related to disabled alarms on HIS	Unchecked	Unchecked	
Change the shape of tag marks and alarm marks for each alarm priority	Unchecked	Unchecked	

Table 11 – Common Project Database Properties

6.2 FCS COMMON CONFIGURATION SUMMARY

The following table summarizes the common settings that decide the FCS behavior. All FCSs in this project shall use the settings below:

Configuration Builder	Setting Item	Yokogawa Default	Project Setting	Comment
STNDEF	FCS Start Condition	MAN	TIME	
	Momentary Power Failure Tolerant Time	2 Sec	2 Sec	
	Node Momentary Power Failure Tolerant Time	2 Sec	2 Sec	
	Digital Filter Coefficient 1	0.5	0.5	
	Digital Filter Coefficient 2	0.75	0.75	
	Digital Filter Coefficient 3	0.875	0.875	
	Self-Station : Buffer Size	0	1024	
	Station Scan Transmission	No Scan Transmission	See Comment column	Shall be enabled based on the inter FCS transmission requirement.
	Wind Up Time	60 Sec	60 Sec	
	SEBOL/User-C Ratio	100 %	100 %	
	Interval of Repeated Warning Alarm	600 Sec	600 Sec	
	Alarm Mask for Initial Cold Start	Yes	Yes	
	Inter-station data link communication period	1 Sec	1 Sec	
	Re-transmission skip when inter-station data link error occurs	60 Sec	60 Sec	
	Switch ALF111 modules upon communication errors	Valid	Valid	
	Notification message for status change of batch operations	No	No	
	Function block tracks output module during OOP	Yes	No	
	Color to indicate abnormal subsystem communication	Green/Yellow	Red	
	Enable XL-HKU for Cabinet Address (2) to (4)	No	No	

Configuration Builder	Setting Item	Yokogawa Default	Project Setting	Comment
	I/O Communication Bandwidth Limit Value (SOE)	500	500	
	I/O Communication Bandwidth Limit Value (Device Data Communication)	1000	1000	
CONSTANT tab in FCS Properties	Fast Scan	Not applied	Apply by checking Box (For set value, see Comment)	200 msec
	Medium-Speed Scan Period	Not applied	Apply by checking Box & set value at 500 msec	500 msec
	MC Block Pulse Width	2 Sec	3 Sec	The default value may be too small for e.g. a pulse output used for subsystem communication output.
	MC Block Serial Startup Interval	0 Sec	2 Sec	
	MLD-SW AUT/CAS	CAS	AUT	
	SEBOL "Drive" Statement Action Type	1	3	
	Options	None selected	Add DIOENH (For other options, see Comment)	
	IOM Online updating	"IOP occurs in connected blocks" not applied	"IOP occurs in connected blocks" not applied	
	PID Pulse Width Output: CENTUM-V Compatible MV Display	Unchecked	Unchecked	Used only for CENTUM-V to CENTUM VP migration projects
	PI-HLD Action after hold – CENTUM-XL Compatible	Unchecked	Checked	Used only for CENTUM-XL to CENTUM VP migration projects

Configuration Builder	Setting Item	Yokogawa Default	Project Setting	Comment
	CENTUM-XL Compatible Sequence Tables	Unchecked	Checked	Used only for CENTUM-XL to CENTUM VP migration projects
	Then/Else has Higher Precedence	Unchecked	Checked	Used only for CENTUM-XL to CENTUM VP migration projects
	dPV/dCPV O/P from SUB becomes 0 after IOP	Not applied	Apply by checking the box	
	Accept Batch-End during EMST	Checked	Checked	
CONSTANT2 tab in FCS Properties	SS-DUAL PV update during deviation alarm	Not applied	Not applied	
	Alarm Notify Action when all AOF released	Not applied	Not applied	
	Specify Reference Station Tag List	None selected	See Comment	Required only in case of Multiple Project Connection
	Annunciator Message with Data	Annunciator Message Head Number : 0 Printing Message Head Number : 0	Annunciator Message Head Number : 0 Printing Message Head Number : 0	
	Increase Number of System Common Switches	Enabled	Enabled	Increases number of system common switches from 200 to 400.
	Preset MV Valid Immediately	Preset MV valid at next scan	Preset MV valid at next scan	Options : 1, Preset MV valid by Preset Switch(for systems compliant to CENTUM-V & CENTUM-XL) 2, Preset MV valid at next scan
	MV of Switch/MC Instrument follows its CSV change	Not applied	Not applied	

Configuration Builder	Setting Item	Yokogawa Default	Project Setting	Comment
CONSTANT3 tab in FCS Properties	TM/CTS/CTP blocks hold PALM after CTUP	Not applied	Not applied	
	Raised %AN sends out alarm when AOF released	Not applied	Apply by checking the box	
	Suppress OOP alarms during online maintenance of ALP121 and dual redundant ALP111	Not applied	Not applied	
	CENTUM-XL compatible IOP reactions	Not applied	Apply by checking the box	
	Suppress system alarm when CALCU error occurs	Not applied	Apply by checking the box	
	Use HKU of System Cabinet	Not applied	Not applied	
	Initiate process alarm when CAL is set or released	Not applied	Not applied	
	Allow to change function block to PRD mode while CAL is on (XL compatible)	Not applied	Apply by checking the box	Used only for CENTUM-XL to CENTUM VP migration projects
	LC64-E Starts with its internal status interact when FCS performs an initial start [Except Offline download]	Not applied	Apply by checking the box	
	Enable output limiter in PRD mode (XL compatible)	Not applied	Not applied	Used only for CENTUM-XL to CENTUM VP migration projects
	Pass calculation block's input QST status to CPV	Not applied	Not applied	
	CENTUM-XL compatible IOP reactions: Main input	Unchecked	Unchecked	Used only for CENTUM-XL to CENTUM VP migration projects
	CENTUM-XL compatible IOP reactions: Sub inputs and tag data referenced in the expressions of CALCU	Not applied	Apply by checking the box	
	Set PV of %Z to zero upon failure of a DI module	Unchecked	Unchecked	Used only for CENTUM-XL to CENTUM VP migration projects

Configuration Builder	Setting Item	Yokogawa Default	Project Setting	Comment
	Sebol Group Assignment Statement- Adhere to the order specified in the variable list during data setting	Not applied	Apply by checking the box	

Table 12 – FCS Common Configuration

6.3 FIO NODE PROPERTIES

All FIO nodes in this project shall use the settings below:

Setting Item	Yokogawa Default	*Project Setting*	Comment
Node Type	ESB Bus/Optical ESB Bus	ESB Bus/Optical ESB Bus	ER Bus option not available for FFCS-C/V type FCS.
Node number	1	See Comment column	Select node number as per the system configuration
Power supply unit	Dual redundant power supply with 80W	Dual redundant power supply with 80W	
Optical ESB Bus: Use Optical ESB Bus	No	No	Select Yes when optical ESB bus repeater is used.
Optical ESB Bus: Distance from FCU	5km	See Comment column	Select the maximum distance between FCU and the Node unit in the range of 0km to 50km.
Optical ESB Bus: Slave Module	ANT5x2	See Comment column	Select ANT5x2 or SB401 as per the system configuration
Component Number	Blank	Blank	Optional Entry : Component Number of the node unit
Node Comment	Blank	Blank	Optional Entry: Comment of the node unit

Table 13 – FIO Node Properties

6.4 FCS FUNCTION BLOCKS INITIALIZATION

When the FCS starts up, as a standard, the block mode of function blocks is initialized as follows:

Function block with output to the field or subsystem: MAN

Other function blocks: Last Saved Values

6.5 INPUT PROCESSING

6.5.1 Input Signal Conversion

The input signal conversion shall be configured in accordance with each applicable typical.

Linearization shall be performed either in smart transmitter or PCS as per the project specification. In accordance with this guideline, the input signal conversion can be defined as shown in the following tables.

Transmitter Type	Description	Input Signal Processing	Comments
Flow	DP Flowmeter	SQRT with x% for low flow cut off	Transmitter or PCS, as defined in project specification. Both Square root and low cut-off shall be performed in the same location
	Mechanical Flowmeter	BTHPUL	With Pulse Rate
	Vortex Flowmeter	LINEAR	
	Magnetic Flowmeter	LINEAR	
	Coriolis Flowmeter	LINEAR	With Density
	Ultrasonic Flowmeter	LINEAR	
	Others	As per the transmitter vendor's specification	
Level		LINEAR	If not sure, refer line chart
Pressure		LINEAR	
Temperature		LINEAR	Depends on sensor type, but linearization shall be done in transmitter / I/O module.
Analyzer		LINEAR	
Electric Current		LINEAR	

Table 14 – Input Signal Conversion Table for Conventional I/O

In case of input from a subsystem using an interface such as Modbus, input signal conversion may be required when using 16-bit integer data format. Input signal conversion is configured as SUBSYS in the function block with appropriate data conversion bias and data conversion gain. For a subsystem interface using 32-bit floating data type format, input signal conversion may not be required.

The computational expression for the communication input conversion is shown below.

- PV = GAIN * IN + BIAS
- Where, IN – Subsystem input value
- GAIN – Data conversion gain
- BIAS – Data conversion bias

Data Item	Yokogawa Default	*Project Setting*	Comments
Data Conversion Gain	1.000	Depends on PCS display scale and subsystem communication data value range	
Data Conversion Bias	0.000		

Data Item	Yokogawa Default	*Project Setting*	Comments
Input High Limit Detection Set Value	106.25		Equivalent to 21 mA for detecting IOP+, Subject to change as per project requirement.
Input Low Limit Detection Set Value	-6.25		Equivalent to 3 mA for detecting IOP-, Subject to change as per project requirement.

Table 15 – Input Signal Conversion Table for Subsystem I/O Communication:

6.5.2 Input filtering.

Digital Filter is a function to remove the noise from the process input signal.

The digital filter is defined for each regulatory control block or calculation block connected to analog input in "Input Signal Filtering" on the Control Logic Editor (*1). Input Signal Filtering: None, Auto, 1, 2, and 3. Default is Auto.

Auto: If the IN terminal is connected to I/O module including communication module, "Digital Filter Coefficient 1" is used. If the IN terminal is connected to neither communication module nor I/O module, no filtering process is performed.

None: No Filtering process is performed.

1, 2, and 3: Selected respective Digital Filter Coefficient is used; Digital Filter Coefficient can be set in FCS constant.

Note *1: If you don't use AD Suite, use Function Block Detail Builder.

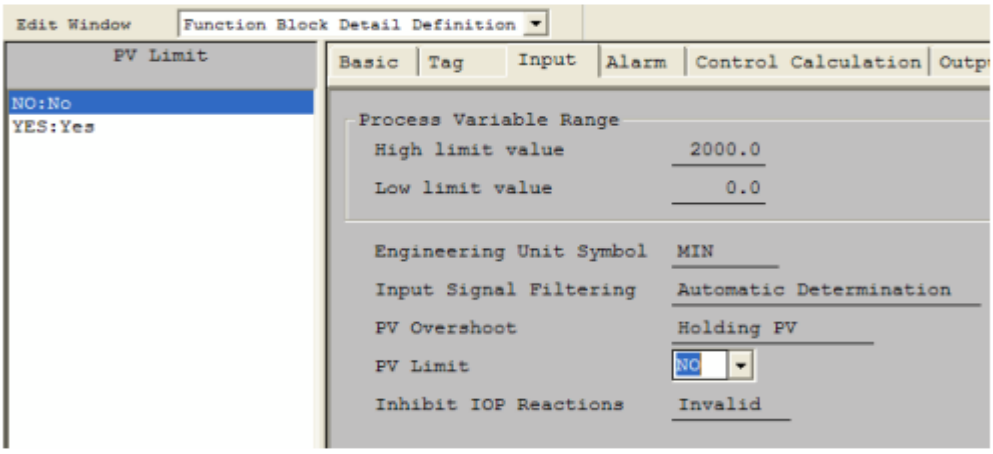


Figure 4 – Example of an Input filtering.

6.5.3 Bad Data Status Detection

The behaviour of function blocks when bad status is detected is described below:

1. Input open (IOP) alarm is generated when this alarm is enabled.

2. Analog input processes such as square root extraction, pulse input conversion, digital filters and totalizer functions are disabled.
3. The process value before IOP alarm occurrence is latched as a process variable (PV) according to the settings for holding last good value in the function blocks. The presence of an IOP alarm is the operator's indication that this value is to be unreliable.
4. In regulatory control blocks that have the MAN fallback function, MAN fallback is activated, and the block mode is switched to "MAN" mode.

The input open detection check for analog signals determines whether the input values read by an I/O module are out of the range of high and low limit input open detection setpoint values. The high and low limit input open detection setpoint values are configured in the IO module. Refer to the section 6.11.1

The input open detection for calculated input values in arithmetic calculation blocks shall be configured with the general principle that an IOP condition is propagated throughout the connected tags unless otherwise specified.

In the case of subsystem communication inputs, bad data status detection is based on the communication healthiness between the subsystem and PCS & based on the data values read from the subsystem.

Note: The calculation block's input QST status is passed to CPV. This feature can be enabled in FCS Properties.

6.5.4 Totalization

Input totalization shall be disabled unless otherwise specified- (e.g., presence of a P&ID tag with function code FQ). For regulatory control blocks, totalization is specified. In case of a bad PV status or IOP+, IOP- alarm detection by the function block, the totalizer function is stopped. Below a configurable low input cut value, totalization is not executed. The totalizer can be reset with or without operator intervention.

6.5.5 Decimal Point Settings

Scale high/low limit value can be set maximum 7 digits including sign and decimal point. Table below lists the general rule for the decimal point setting for this project.

Span	Decimal Point	Example
0 to <10	X.XXX	0.200 KPA
10 to <100	XX.XX	50.00 °C
100 to <1000	XXX.X	100.0 %
>=1000	XXXX	2000 M3/H
Totalizer	XXXXX	50000 t

Table 16 – Decimal Point Settings

6.6 OUTPUT PROCESSING

6.6.1 AFO versus AFC Control Valves

To provide the operator with a consistent display and operation, all control valves will be represented in the same way. Therefore, the closed valve position as MV=0% is indicated at the bottom of the faceplate scale, whereas the open position as MV=100% is indicated at the top of the faceplate scale.

To follow this guideline, hard-wired analog outputs shall be configured in the IOM settings depending on AFC or AFO with disabling MV Reverse Display in the function block.

The setting in IOM for AFC/AFO control valves is as follows:

Control Valve Type	IOM Set Details	Output Current
AFC	Direct Output (1*)	100% MV: 20mA, 0% MV:4mA
AFO	Reverse Output	100% MV: 4mA, 0% MV:20mA

Table 17 – IOM Setting for Non-FF Control Valves

Note *1: Direct output is the default system settings.

For hardwired valve positioner, fully open/Tightly-shut setting in the function block shall be enabled in order to close the valve fully and tightly. If the valve positioner is HART smart type, sufficient mA output at low scale for HART communication shall be set.

Table 18 – Fully-open/Tightly-shut setting

Data Item	Default Setting	Project Setting (for HART smart positioner)
Output Signal Conversion: Output Value for Full-open	106.25 (%)	101.00 (%)
Output Signal Conversion: Output Value for Tight-Shut	-17.19 (%)	-1.00 (%)
Output Signal Conversion: Fully-open/Tightly-shut	Yes	Yes

6.6.2 Output Conversion

The output signal conversion shall be configured depending upon the requirement.

In case of output to a subsystem using an interface such as Modbus, output signal conversion may be required when using 16-bit integer data format. Output signal conversion is configured as SUBSYS in the PCS output block with appropriate data conversion bias and data conversion gain, thus converting the PCS 0 to 100% output to Modbus counts. For a subsystem interface using 32-bit floating data type format, output signal conversion may not be required.

The computational expression for the communication output conversion is shown below.

- OUT = (1/GAIN) * (MV-BIAS)
- Where, OUT – Subsystem output value
- GAIN – Data conversion gain
- BIAS – Data conversion bias

6.6.3 Output Clamp

The positional-type control output actions are always applied to PID control computation. This will cause the occurrence of reset windup (integral saturation) by setting limits to the integral term in PID control computation. To mitigate reset windup during the clamped state, reset limit functions shall be configured to react appropriately in taking account of tracking the output clamp status to the upstream function block.

" Limit Output in Direction when clamped" shall be turned off in all blocks immediately upstream of MLD-SW blocks. This prevents clamping on the upstream blocks when the downstream MLD-SW block is clamped, a situation which would lead to a state in which the output would be limited to a value above 0% or below 100%. For other function blocks, this setting is enabled or disabled based on the application.

6.6.4 Output Tracking

This function is standard for cascaded PID controllers and does not need any special configuration. If a calculation block is used between the primary and the secondary controllers, a back calculation (for bump less transfer) must be implemented unless specified otherwise in the control narrative.

Note: The function block output (MV) tracks the output module during OOP. The enabling of this feature is done in the FCS Constants of the FCS Builder in System View.

6.7 ALARM PROCESSING

All PCS function block alarms are configured as active and set as per alarm setpoints in I/O database. If alarm setpoints are not specified in I/O database, those alarms are set to high/low PV range limits to preventing unnecessary alarms.

The hysteresis of every alarm detection function shall be configured as the following table.

Transmitter Type	Hysteresis Settings
Flow	2 %
Level	2 %
Pressure (Liquid)	2 %
Pressure (Gas)	2 %
Temperature	2% or 4 °F (2 °C) whichever is less

Table 19 – Alarm Hysteresis Setting

The deviation alarm thresholds shall be configured as the following table:

Transmitter Type	Deviation Alarm Settings
Flow	10 % of span
Level	5 % of span
Pressure	2 % of span
Temperature	2 °C or 4 °F

Table 20 – Deviation Alarm Setting

6.8 CONTROL CALCULATION PROCESSING

Control calculation processing is the collection of functions associated with function block execution timing and calculation algorithms.

6.8.1 Scan Period

For all function blocks, the scan period shall be selected as Basic scan (1000 msec) except specified otherwise.

In case of fast scan (50 or 100 msec) applications such as compressor surge control, speed control, etc., High Speed-Read option of the related I/O modules shall also be enabled in I/O module properties. To reduce the load in the FCS these fast scan I/O points are put together in the same I/O modules as much as possible.

6.8.2 Control Period

By default, the regulatory control blocks in the FCS shall be configured to employ the control period of 1000 msec. Therefore, the fixed control period shall be selected, and its period shall be set to 1000 msec except the blocks that are defined as high-speed or medium-speed scan.

Blocks configured with high-speed or medium-speed scan should be configured with control period set to “automatic determination” so that the control period is set to the scan period.

6.8.3 PID Controller Control Action

The EPC Contractor shall provide the control action of the PID controllers in the instrument database or the control narrative.

6.8.4 PID Control Algorithm

By default, the PID controller block shall use the algorithm of "PV derivative type PID control (PI-D)". In case of an override controller in the auto selector control typical, the PID controller shall use the "PV proportional and derivative type PID control (I-PD)" algorithm. Any other exceptions are specified within the typical loop description of control narratives.

6.8.5 Measurement Tracking

Measurement tracking shall be enabled for “MAN mode”, “AUT and CND mode” and “CAS and CND mode” by default. Exceptions will be specified per typical, or by the EPC for classes of controllers.

6.8.6 Reset Limit Function (Anti-Reset Windup)

In PID control computation, the integral action is represented by integrated value of deviation time, When the output is already limited (control computation exceeded the manipulated high-limit or low-limit setpoint (MH, ML) and deviation prolongs, the integral term in PID control computation becomes saturated due to continuous integral action. This condition resulted to “reset windup (integral saturation).” When this situation happens, the control result tends to overshoot thus, process becomes unstable. In order to avoid such condition, the PID output must be set to positional-type in the PID block details and use the reset limit function.

The reset limit values via RLV1 and RLV2 terminal are input data having the same engineering unit and scale range as those of the manipulated output value (MV). These limit values exert directly on the integral term

of the output value (MV). By correcting the computational Manipulated Output Value of the PID, its final output is limited to "RLV1-RLV2" thus, providing anti-reset windup functionality to the PID.

6.9 SETPOINT VALUE LIMITER

The setpoint value limiter function limits the setpoint value (SV) within a range between the setpoint high limit (SVH) and setpoint low limit (SVL).

The action of the setpoint value limiter in automatic (AUT) or manual (MAN) mode varies depending on whether the setpoint value (SV) can be set to a value beyond the range between SVH and SVL or not. This setting can be changed from the option of [Prohibit setting SV to a value beyond the range of SVL and SVH] on the properties sheet of the project.

When the option of [Prohibit setting SV to a value beyond the range of SVL and SVH] is checked, the setpoint value limiter performs the following actions:

1. When try to set a setpoint value (SV) greater than the setpoint high limit (SVH):

   An error message will be displayed and the value beyond the setpoint high limit becomes invalid, the previous setpoint value will be held.

2. When try to set a setpoint value (SV) smaller than the setpoint low limit (SVL):

   An error message will be displayed and the value beyond the setpoint low limit becomes invalid, the previous setpoint value will be held.

When the option of [Prohibit setting SV to a value beyond the range of SVL and SVH] is not checked, the setpoint value limiter performs the following actions:

1. When a setpoint value (SV) greater than the setpoint high limit (SVH) is set:

   An acknowledgment dialog box appears to prompt for the operator's confirmation. When confirms, the operator can set a value greater than the setpoint high limit (SVH) as the setpoint value.

2. When a setpoint value (SV) smaller than the setpoint low limit (SVL) is set:

   An acknowledgment dialog box appears to prompt for the operator's confirmation. When confirms, the operator can set a value smaller than the setpoint low limit (SVL) as the setpoint value.

However, when try to set a setpoint value (SV) to a value beyond the range between the process high alarm setpoint (PH) and the process low alarm setpoint (PL), the setpoint value limiter performs the following actions regardless of if the option of [Prohibit setting SV to a value beyond the range of SVL and SVH] is checked or unchecked:

1. When try to set a setpoint value (SV) greater than the process high alarm setpoint (PH):

   An acknowledgment dialog box appears to prompt for the operator's confirmation. When confirmed, the operator can set a value greater than the process high alarm setpoint (PH) as the setpoint value.

2. When try to set a setpoint value (SV) smaller than the process low alarm setpoint (PL):

   An acknowledgment dialog box appears to prompt for the operator's confirmation. When confirmed, the operator can set a value smaller than the process low alarm setpoint (PL) as the setpoint value.

When the function block is in remote cascade (RCAS) mode and the setpoint value (SV) is defined to automatically follow the remote setpoint value (RSV) received from the supervisory system computer and the option of [Prohibit setting SV to a value beyond the range of SVL and SVH] is checked, the setpoint value limiter performs the following actions:

1. The value exceeds the setpoint high limit (SVH) is forced to be equal to the setpoint high limit (SVH).
2. The value smaller than the setpoint low limit (SVL) is forced to be equal to the setpoint low limit (SVL).

Note1: When integrated to the multiple projects and these setting are different from the project, the operation of the setting SV on HIS follow to the setting of the project belonging to FCS.

6.10 P, I AND D PARAMETER SETTINGS

The set parameters of the PID control algorithms in CENTUM VP:

- Proportional band (P): 0 to 1000 %.
- Integral time (I): 0.1 to 10000 seconds.
- Derivative time (D): 0 to 10000 seconds.

For each individual controller the P, I, and D default tuning parameters are specified to make startup easier. The recommended P, I, and D parameter settings are defined as follows:

PID controller type	P (%)	I (Sec)	D (Sec)
Flow	333	30	0
Pressure (Liquid)	143	30	0
Pressure (Gas)	50	300	0
Level	100	600	0
Temperature	33	600	0
Analyzer	333	2400	0
Others	250	20	0

Table 21 – PID Parameter Setting

Note: These above are the standard tuning parameter settings. Actual tuning values will be configured during commissioning only.

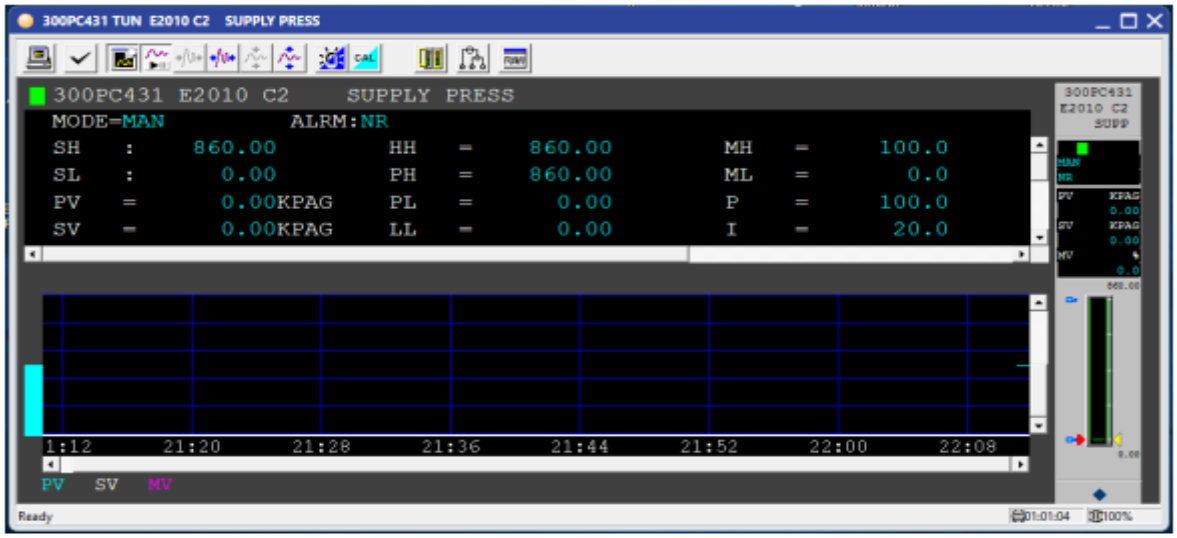


Figure 5 – P, I AND D PARAMETER SETTINGS.

6.11 I/O MODULE SETTINGS

To perform the process input/output function, it is necessary to define process inputs/outputs in I/O Modules. Settings vary with different types of I/O modules. The following sections only explain the main settings applicable to this project.

All settings are generated according to the I/O database unless otherwise specified.

Note: Enable "High Speed Read" for reading data of I/O units at high speed, if an I/O module contains I/O channels connected to high-speed scan control loops. By default, this setting is disabled.

6.11.1 Analog I/O Settings

In case of conventional (4-20mA) analog inputs, high and low input open detection setpoints shall be configured based on the transmitter type. If the transmitter conforms to NAMUR NE 43 standards, then, the input open detection high & low limits shall be set as per transmitter manufacturer specifications between saturation and fault limits. By default, these settings are specified as 3.7 mA (-1.875%) and 20.8 mA (105.0%). In case of non-NAMUR transmitters, the input open detection low limit shall be set as 3 mA (-6.25%) and the input open detection high limit shall be set as 21 mA (106.25 %), that are Yokogawa Default Settings, except as directed otherwise by the EPC.

Setting Item	Selectable Parameter	Remarks
Service comment	A string of up to 40 alphanumeric characters	
Details setting	Pulse Input: No terminal resistance, 200, 500, 1000 Ohm.	Default "No Terminal resistance". To be defined as per input device requirements.
	Output: Direct / Reverse	Default "Direct". Select "Reverse" for AFO valve
P&ID tag name	A string of up to 16 alphanumeric characters	

Setting Item	Selectable Parameter	Remarks
Label	Up to 13 user defined alphanumeric characters	
IOP detection (IOPE)	Yes/No	Default "Yes" [High limit: 106.3, Low limit: -6.3]
Transmitter power supply (VTTSEL)	12 or 24 VDC	For pulse input modules. Default "12"
OOP detection (OOPE)	Yes/No	Default "Yes
Burnout specification (BOEN)	Yes/No. If Yes, Upscale/Downscale	Only "Yes" for Thermocouple signals. Default burnout is "Upscale

Table 22 – Analog I/O Setting

Thermocouple or RTD type shall be configured as a part of the IO Settings. No additional configuration is required in the function blocks for signal conversion since the detailed settings in thermocouple or RTD IO module provide the conversion from physical measurement to temperature.

HART I/O Settings

Setting Item	Selectable Parameter	Remarks
Channel	01 to 16 or 01 to 08 (depend on I/O model)	Set the physical channel number of the I/O module
Data Type	PV, SV, TV or FV	
Polling Address	1 to 63	If multi-drop connections

Table 23 – HART I/O Settings

6.11.2 Digital I/O Settings

Setting Item	Selectable Parameter	Remarks
P&ID tag name	A string of up to 16 alphanumeric characters	
Tag Name	A string of up to 12 alphanumeric characters	
Tag comment	A string of up to 12X2 alphanumeric characters	This is used for service description
Switch position label	As per HMI definition	Default "ON/OFF"
Tag mark	As per HMI definition	Default "2"
Security level	As per HMI definition	Default "4"

Table 24 – Digital I/O Setting

Signal Status Definition

The hardwired digital I/O signal status to PCS system shall generally follow the following definition unless specified otherwise:

Process Status	Relay Contact for Status	Relay Contact for Command	PCS I/O Signal Status	Annunciator Signal Status
Alarm / Normal	CO / CC	N/A	0 / 1	1 / 0
Open / Close Command	N/A	CC / CO	1 / 0	N/A
Open / Not Open State	CC / CO	N/A	1 / 0	N/A
Close / Not Close State	CC / CO	N/A	1 / 0	N/A
Run / Stop State	CC / CO	N/A	1 / 0	N/A
Start / Not Start Command	N/A	CC / CO on energization of relay	1 / 0	N/A
Stop / Not Stop Command	N/A	CC / CO on energization of relay	1 / 0	N/A

Table 25 – Signal Status Definition

Note: CO – Contact Open; CC – Contact Closed

6.11.3 Subsystem Communication I/O Settings

In BLPH project MODBUS TCP-IP and Profinet communication protocol are being used for subsystem integration with PCS.

6.12 SYSTEM FUNCTION BLOCKS

The System diagnostics related function blocks are available from controller type FFCS-C/V. The system function blocks can be used by projects for displaying FCS running status and internal resources on HIS graphic views.

The system function blocks provide the following information.

- CPU Load Information
- Communication Load Information
- IO Load Information
- SEBOL related information

The data of the system function blocks can be configured to view on graphic or trend views on HIS. The system function blocks will be automatically generated when an FCS is created on System View. Users defined tag names cannot be configured for system function blocks.

For displaying the data of the system function blocks on HIS, the syntax for designating the data item is as follows.

- BLnnnnSddmm01.<DataItem>

Where, nnnn is block number, "S" is fixed text, dd is domain number and mm is station number.

The block numbering of system function blocks is as follows;

- %BL0001 – CPU Load Information
- %BL0002 – Communication Load Information
- %BL0003 – I/O Load Information
- %BL0004 – SEBOL Related Information

The system function blocks can be used in the same manner as using the other types of function blocks for displaying the FCS running statuses and internal resource information.

6.12.1 Overview of function blocks

The following table contains a list of the commonly used function blocks in the system.

Note: Following table shall be updated during detailed engineering.

BLOCK NAME	FUNCTION	DESCRIPTION
AS-H	Auto-selector High (Output)	Selects the higher value from 2 or 3 inputs and transfers it to the output.
AS-L	Auto-selector Low (Output)	Selects the lower value from 2 or 3 inputs and transfers it to the output.
AVE	Averaging	Calculate average value for certain input value
CALCU	Calculation	Perform calculation, change alarm levels, etc.
CI	Code input	The CI block is used to read the contact input or internal switch as a binary code or binary coded decimal and display the integer value indicated by the code as the input code value
CO	Code output	The CO block is used to convert the integer value which is set as the setting code value (PV) from the operation and monitoring functions or other function block into the code pattern for output to the contact output or internal switch.
LC64-E	Logic chart	Provides implementation of logic in a logic chart format.
MC-2/3 MC-2E/3E	Motor Control Unit	Contains within one function block most of the functions used in relation with motors and/or motorized valves. MC-2 for 2 position motor control (Stop/Run) and MC-3 for 3 position motor control (Forward/Stop/Reverse)
MLD	Manual Loader	Output an analogue value as set by the operator to the field.
MLD-SW	Cascade/Auto/Manual Station	Basically, same as MLD, but can be cascaded with other function blocks, where it then provides tracking functions. Used for output to valves in a split range configuration and to provide SV ramping in cascade configurations.
NOT	Negation	Negates the input.
PID-STC	PID Controller with Self Tuning Function	This function block is used to automatically adjust PID parameters (P, I, D)

BLOCK NAME	FUNCTION	DESCRIPTION
FF-AI, FF-AO	Foundation Fieldbus Function blocks	These function blocks are used to connect the FF instruments to FCS.
PVI	Input Indicator	Displays an analogue value received from the field directly via I/O modules, from subsystems, or calculation variables within the system.
PVI-DV	Input Indicator with Deviation Alarm	Same as PVI. The additional set point value enables deviations to be monitored and alarmed.
RL	Relational Expression	The RL block is used to judge the numerical relationship or the logical product of two data.
SEBOL	Sequence and Batch Oriented Language	Programming language for process control. Use for sequence control or complex calculation.
S(I)(O)-XX	Switch Instrument	Indication of digital inputs in combination with digital outputs to control discrete devices like valves and motors. Various types are available to support up to 2 inputs and 2 outputs.
SPLIT	Split Range	Split the output of a controller into two outputs with a range conversion function
SS-M	Medium Selector (Process value)	Select the medium value from 3 inputs.
ST16	Sequence table	Provides implementation of logic functions in a table format.
SW-33	3 poles, 3 position switch	3 poles selection between 3 positions.
TM	Timer	It measures time in the unit of seconds or minutes.
VELLIM	Velocity Limiter block	The VELLIM outputs a change per unit time by limiting it within the velocity limits

Table 26 – Function blocks

6.12.2 Data Items

The following table contains a list of common data items that exist in the Yokogawa CENTUM VP system. Most function blocks contain only a limited selection of these data items. On the other hand, some function blocks contain specific data items that are not identified in this table.

DATA ITEM	FUNCTION	DESCRIPTION
PV	Process Value	Input value to the function block. Can be from the field or from another block.
MV	Manipulated Value	Output value from the function block. Can go to the field or to another block.
SV	Set Value	Set-point value indicating the required/expected process value.
FV	Feedback Value	Analogue input value to the MC-2/3 function block.
MODE	Block mode	Functioning mode of the function block: can be MAN, AUT, CAS, etc.
ALM	Alarm status	Alarm status of the function block: NR, HI, LO, IOP, OOP, etc.
DV	Deviation Value	Deviation between SV and PV.

DATA ITEM	FUNCTION	DESCRIPTION
HH	High-high alarm limit	When PV goes over the HH value, a high-high alarm (HH) is triggered.
PH	High alarm limit	When PV goes over the PH value, a high alarm (HI) is triggered.
LL	Low-low alarm limit	When PV goes under the LL value, a low-low (LL) alarm is triggered.
PL	Low alarm limit	When PV goes under the PL value, a low (LO) alarm is triggered.
VL	Velocity alarm limit	When the PV rate of change goes over the VL alarm, a velocity alarm (VEL+, VEL-) is triggered.
DL	Deviation alarm limit	When DV goes over the DL value, a deviation (DV+, DV-) alarm is triggered.
MH	MV high alarm limit	When MV goes over the MH value, an output high alarm (MHI) alarm is triggered.
ML	MV low alarm limit	When MV goes under the ML value, an output low alarm (MLO) alarm is triggered.
P	Proportional band	P setting for the PID algorithm (%).
I	Integral time	I setting for the PID algorithm (s).
D	Derivative time	D setting for the PID algorithm (s).
SH	Scale high	High value of the PV scale.
SL	Scale low	Low value of the PV scale.
ANSP	Answerback set point	When for an MC-2/3 function block with analogue input only, if FV is less than ANSP, PV is set to 0. Else PV is set to 2.
MTM	Answerback timer	If the answerback does not follow the output within the period specified by MTM,

Table 27 – Data Item

6.12.3 Alarm Status

The following table contains a list of the most common alarm status which is available in the Yokogawa CENTUM VP control system. Most function blocks contain only a limited selection of these alarms. On the other hand, some function blocks contain specific alarms that are not identified in this table.

SYMBOL	NAME	DESCRIPTION
ANS+	ON Answerback Error	Answerback does not match the command in time (open/start)
ANS-	OFF Answerback Error	Answerback does not match the command in time (close/stop)
DV+	Deviation Alarm +	The deviation between PV and SV has exceeded the deviation alarm limit (DL) in the positive direction (PV-SV > DL). For MVC, this alarm occurs when the CUSUM value exceeds the limit. DV+ stands for "high deviation" because this alarm results when CUSUM value exceeds the alarm limit.
DV-	Deviation Alarm -	The deviation between PV and SV has exceeded the deviation alarm limit (DL) in the negative direction (SV-PV > DL).
HH	High-high Alarm	The PV has risen above the high-high alarm limit (HH).
LL	Low-low Alarm	The PV has fallen below the low-low alarm limit (LL).
HI	High Alarm	The PV has risen above the high alarm limit (PH).
INT	Interlock Alarm	The interlock input of the function block has become active.
IOP	High Input Open Alarm	The input value to the function block cannot be read due to a failure or connection error at the input module (high input).
IOP-	Low Input Open Alarm	The input value to the function block cannot be read due to a failure or connection error at the input module (low input).

SYMBOL	NAME	DESCRIPTION
LO	Low Alarm	The PV has fallen below the low alarm limit (PL).
MHI	Output High Alarm	The output has almost risen above the output high alarm limit (MH). The actual value is limited to MH.
MLO	Output Low Alarm	The output has almost fallen below the output low alarm limit (ML). The actual value is limited to ML.
NR	Normal	No alarm conditions exist.
OOP	Output Open Alarm	Output value from the function block cannot be transferred to the field due to failure or connection error at the output module.
PERR	Undefined Answerback	Both open/close feedback inputs are active at the same time.
TRIP	Thermal Trip Alarm	The trip input of the function block has become active.
VEL+	Velocity Alarm +	The PV rate of change over a certain period has exceeded the velocity alarm limit (VL) in positive direction (ΔPV > DL) is triggered.
VEL-	Velocity Alarm -	The PV rate of change over a certain period has exceeded the velocity alarm limit (VL) in negative direction (ΔPV < -DL) is triggered.
CNF	Connection Status Failure Alarm	Data status is bad due to device or Card I/O abnormality.

Table 28 – Alarm Status

6.13 SIGNAL ISOLATION METHODS FOR MAINTENANCE

As a part of standard maintenance procedure, the following steps should be followed to isolate I/O signals from the control system when they are invalid (e.g., during calibration). The objectives of this signal isolation exercise are:

- Prevent a faulty signal from adversely affecting closed loop control, operator decision making, and reporting functions on the business network.
- Allow technicians to view the affected transmitter values for troubleshooting purposes.
- Allow the operator access to final control elements.

For both Fieldbus and conventional (4~20mA) devices:

An individual with supervisor or engineering authority places the field-connected function block in "CAL" (Calibration) mode.

In CAL mode, the block's PV holds its last value until manually changed by an operator. If that block is a controller, any control mode other than MAN is disallowed. An operator can adjust final control elements in manual mode, and a technician can view the raw process value by clicking on the RAW button in the tuning window of that block.

Because ExaOPC is configured to mark function blocks in CAL mode with UNCERTAIN data quality, any advanced control or business user is made aware that the function block's data quality is degraded. However,

be aware that CAL status is not automatically propagated to other downstream PCS blocks, such as calculations or selectors. For example, a compensated flow controller will not be forced to manual mode when the raw flow signal is placed in CAL mode. Also, a signal selector could select a block in CAL mode.

If it is necessary to mark a transmitter signal as BAD, then the related function block must be placed in O/S mode, thus causing an IOP condition within all downstream blocks. Please note that, with the function block in O/S mode, it is not possible to read the raw transmitter value in the PCS, and it is not possible to adjust that block's output.

6.14 MISCELLANEOUS ENGINEERING PRACTICES

6.14.1 Engineering Units

In case of incomplete engineering ranges and/or engineering units, the engineering unit of that function blocks shall be assigned to "TBA". This helps in filtering all incomplete tags.

6.14.2 Operator Switches

Common switches have no upper equipment name. Without the upper equipment name, it is not possible to restrict the operation range of the common switches. Either all the operators will get access to all of the common switches in an FCS, or no operators will get access to the common switches. Therefore Common switches (%SW) are NOT used for any operator soft switches (e.g., interlock bypass switches, selection between operating modes, alarm suppression enable/disable switches).

Instead, annunciator tags or function blocks (SO-1, SO-2, PBS5C, etc.) can be used for operator soft switches. The choice of annunciator tag vs. function block depends upon the required status on FCS restart: an annunciator tag always starts up in state 0, while a function block retains its last position.

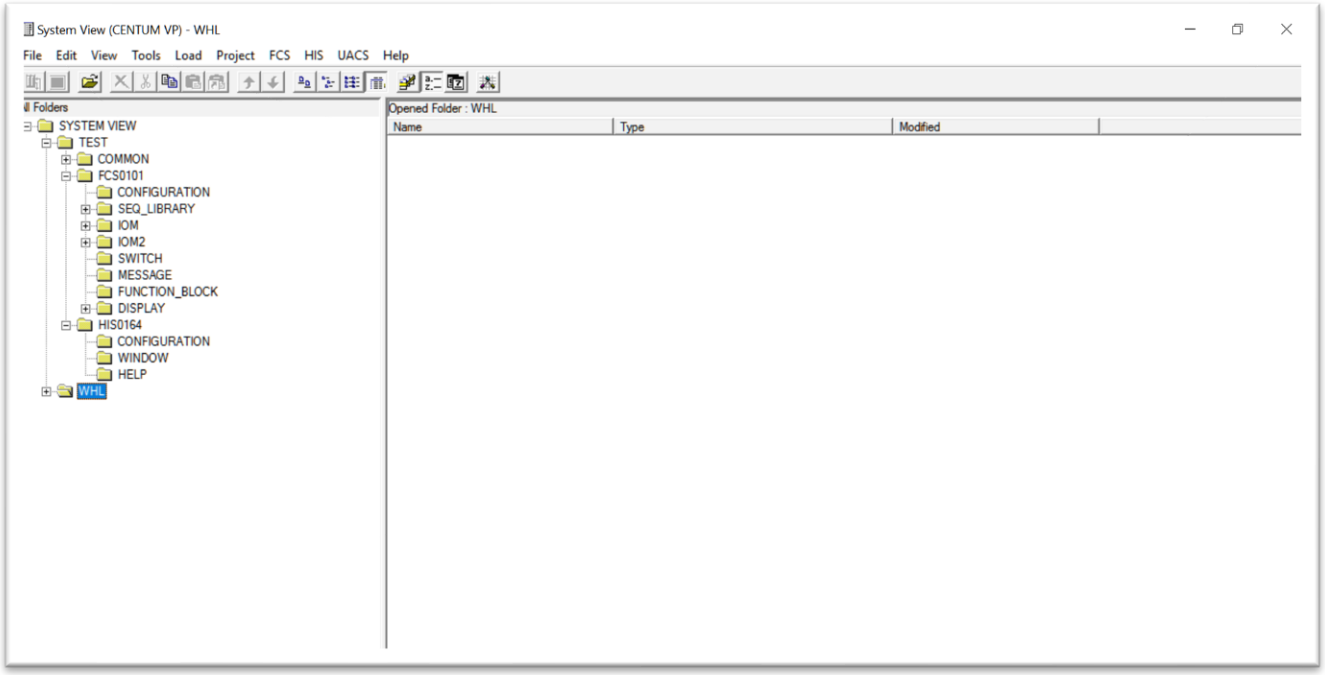


Figure 6 – VP Builder.

7 PCS CONTROL APPLICATIONS

This section describes the design philosophy for PCS control applications.

7.1 GENERAL FCS CONFIGURATION GUIDELINE

7.1.1 FCS Template Database

The FCS template database defines a maximum configurable quantity for each category of function blocks, tags, SFC sequences, etc.

Note: In this project, based on Project requirement general purpose FFCS-V: VP6F1700-V11C01 is used.

There are the following standard FCS (for FFCS-C/V) template databases.

- General-Purpose (Default)
  FFCS-C : VP6F1800-V11C01 (FCS model with Standard Type suffix code) is required.
  FFCS-V : VP6F1700-V11C01 (FCS model with Standard Type suffix code) is required.
- Extended Type
  FFCS-C : VP6F1800-V11C02 (FCS model with Extended Type suffix code) is required.
  FFCS-V : VP6F1700-V11C02 (FCS model with Extended Type suffix code) is required.
- Large Type
  FFCS-C : VP6F1800-V11C03 (FCS model with Large Type suffix code) is required.
  FFCS-V : VP6F1700-V11C03 (FCS model with Large Type suffix code) is required.

Care should be taken that the function block quantity within each category does not exceed the maximum number when assigning I/O tags in a control station.

7.1.2 FCS Resource Information

Using General Purpose FCS template for this project and it is located in Custom Folder of CentumVP Project Database.

Station Common

Category	Maximum Number	Used	Maximum Amount	Capacity	Load Ratio(%)
SEBOL User Function	210	0	430080B	0B	0
SFC Sequence	630	6	5160960B	125184B	2
Unit Procedure	60	0	122880B	0B	0
Tag-List(I/O,Switch)	18000	927	-----	-----	5
FCS-C/Option Area	-----	-----	320KB	64KB	20

Function Block

Category	Maximum Number	Used	Load Ratio(%)
Regulatory Control Blocks / Calculation Blocks	1500	295	19
Sequence	150	53	35
General-Purpose Calculations	310	19	6
SFC Blocks	40	6	15
Operation	200	0	0
Switch Instruments	800	34	4
Sequence Elements 1	500	45	9
Faceplate Blocks	120	10	8
Logic Operation Blocks	100	0	0
Sequence Elements 2	100	10	10
Batch Data	100	0	0
Sequence [M-Size]	100	0	0
Sequence [L-Size]	100	0	0
Unit Operation	0	0	0
Unit Instruments	10	0	0
Total Number of Function Blocks	4130	472	11
Tag-List(Block,Annunciator)	7000	660	9
Inter-station data links	512	1	1
Foundation Fieldbus faceplate	1500	0	0

I/O point
Logical I/O Calculation:Method-2

Category	Number of I/O	Number of logical I/O
Process I/O	256	256
Communication I/O		750
Total		1006

I/O license usage
Standard Engineering Function : 906/Unlimited
Project I/O License : 906/ 20000

Table 29 – FCS Resource Information.

7.1.3 Estimating Required Quantity of Functional Blocks

The quantity of each category of function blocks should be counted to select the required number of FCSs. Once the hard and soft I/O assignment has been finished, the FCS loading calculation will be done during the design, implementation, and testing phases. The FCS loading calculation (depending on CPU load calculation and the maximum number of blocks.

7.1.4 Controller I/O Cards

A PCS field controller (FCS) with model AFV30D is capable of handling multiple I/O types by using universal type I/O module. It consists of redundant Field Control Unit (FCU) and maximum of 32 local/remote nodes. Each node allows install up to 8 N-ESB bus coupler module or communication cards. Each N-ESB bus

coupler module allows install up to 16 Node Interface Unit (NIU) and each NIU allows install up to 6 universal type I/O module. Each universal type I/O module could connect to 16 I/O points.

7.1.5 FCS Application Capacity

The following table lists the application capacity of FCS (AFV30D) with different types of databases:

Note: In this project, we are using Model C01 Standard type.

Item		AFV30□/AFV40□		
		VP6F1700-V1□C01 (Standard)	VP6F1700-V1□C02 (Expanded)	VP6F1700-V1□C03 (Large)
No. of Tags	Elements per FCS (*1)	18000	18000	18000
	Function blocks (*2)	3500	3500	7000
Process I/O	Analog I/O points	1760	1760	1760
	Contact I/O points	4096	4096	4096
Communication I/O (*3)	Data volume (in 16-bit units)	8000	8000	8000
Internal Switches	Common switches	9000	9000	9000
	Global switches	256	256	256
Message Outputs	Annunciator messages	2000	2000	2000
	Print messages	2000	2000	2000
	Operator guide messages	1000	1000	1000
	Sequence message request	200	200	200
	Event messages	1000	1000	1000
Control Functions	Control drawings	200	200 (300/400/500) (*4)	
1 second Trend	Acquisition points	1024	1024	1024
ADL Points	Number of accesses to other stations	512	512	512

Table 30 – Application Capacity

7.1.6 CPU Idle Time

An FCS performs many tasks which include Message Sending, Trend Communication, I/O processing, Control function, System Diagnostic, External communication, and external communication with HIS and ExaOPC which are consuming CPU processing time.

The performance of FCS is measured by the idle time (non-processing time) in seconds in one-minute period. The load will be measured during FAT.

The FCS load is affected by the number of I/O cards installed, function blocks used, trend points and external communication points. FCS CPU load will be estimated / calculated based on the above factors.

7.1.7 Control Drawing Assignment

The application software within an FCS is organized in control drawings. Each FCS contains 200 control drawings, in which all function blocks are defined, as default. The control drawings shall follow the structure below and should only be modified when additional space is required for a specific area:

- DR0001 initialization
- DR0005 inter-FCS communication inputs

- DR0010 ~ DR0020 used for alarm suppression (if any)
- DR0021 ~ DR0100 used for control functions for typical loops generation.
- DR0101 ~ DR0140 used for Subsystem communication (if any)
- DR0141 ~ DR0160 used for control functions for complex loops.
- DR0161 ~ DR0198 used for sequences (if any)
- DR0199 inter-FCS communication outputs
- DR0200 used for idle time measurement.

Control drawings will be sorted by unit number, typical loop and loop name with, as a default, two empty control drawings between different typical loops. In case more drawings are needed the number of empty drawings between the different typical loops can be reduced.

Note: Control drawings in FCS (FFCS-C/V) can be expanded up to 500 with Node Expansion Package, but it is recommended to keep 200 (default), If numbers of control drawings in FCSs are increased, maximum number of FCSs are decreased due to limitation of Plant Hierarchy names.

7.1.8 Control Drawing General Settings

The control drawings contain function blocks and process I/O references, which together form a specific control function. The I/O references or PIO block shall contain either a label (for analogue signals) or a tag name (for digital signals).

General Control Drawing Setting

The setting for each control drawing shall be as indicated in the following table:

Setting Item	Remarks
Control drawing format	1600 x 1072
Control drawing grid size	4

Table 31 – Control Drawing General Settings

7.1.9 Software I/O Definition

Software inputs/outputs are virtual inputs/outputs provided by the FCS system software. They are often referred as "Internal switches" used for the purpose of data exchange and software manipulation between function blocks and control stations in the process control network. Two types of internal switches are defined namely: Common and Global switches.

Common Switches

Common switches are internal switches defined by the configuration design engineer to aid and develop the FCS application software efficiently. The logical state of these switches is used exclusively in the FCS which owns them and cannot be shared by other FCSs in the process control network.

9000 common switches are available in one FCS (FFCS-V) ranging from element number %SW0001 to %SW9000. 9999 common switches are available in one FCS (FFCS-C) ranging from element number

%SW0001 to %SW9999. For ease of maintenance and software trouble shooting the design engineer allocates the switches in a structured manner. A typical structured common switch allocation is shown in Table below.

Common Switch Range	Function
%SW0001 - 1000	FCS Common
%SW1001 - 2000	Unit #1
%SW2001 - 3000	Unit #2
%SW3001 - 4000	Unit #3
%SW4001 - 8000	Reserved for future
%SW8001 - 9000	Reserved by system

Table 32 – Typical Common Switch Allocation in a FCS (FFCS-V)

Common Switch Range	Function
%SW0001 - 1000	FCS Common
%SW1001 - 2000	FCS Common
%SW2001 - 3000	Reserved for future
%SW3001 - 4000	Reserved for future
%SW4001 - 8000	Reserved for future
%SW8001 - 9999	Reserved by system

Table 33 – Typical Common Switch Allocation in a FCS (FFCS-C)

Global Switches

Global switches are internal switches used to transfer signals from SCS to PCS and vice versa. It is defined by the configuration design engineer to share logical data generated in one FCS with other FCSs in the same domain.

256 global switches are defined in one FCS ranging from element number %GS001 to %GS256. For ease of maintenance and software trouble shooting the design engineer will choose to allocate the switches in a structured manner as common switches.

When a global switch is used in logic, its data status should be also monitored in logic for handling the abnormal situation. If the data status of the global switch is "BAD", the PV value of the global switch will stay at the last received value.

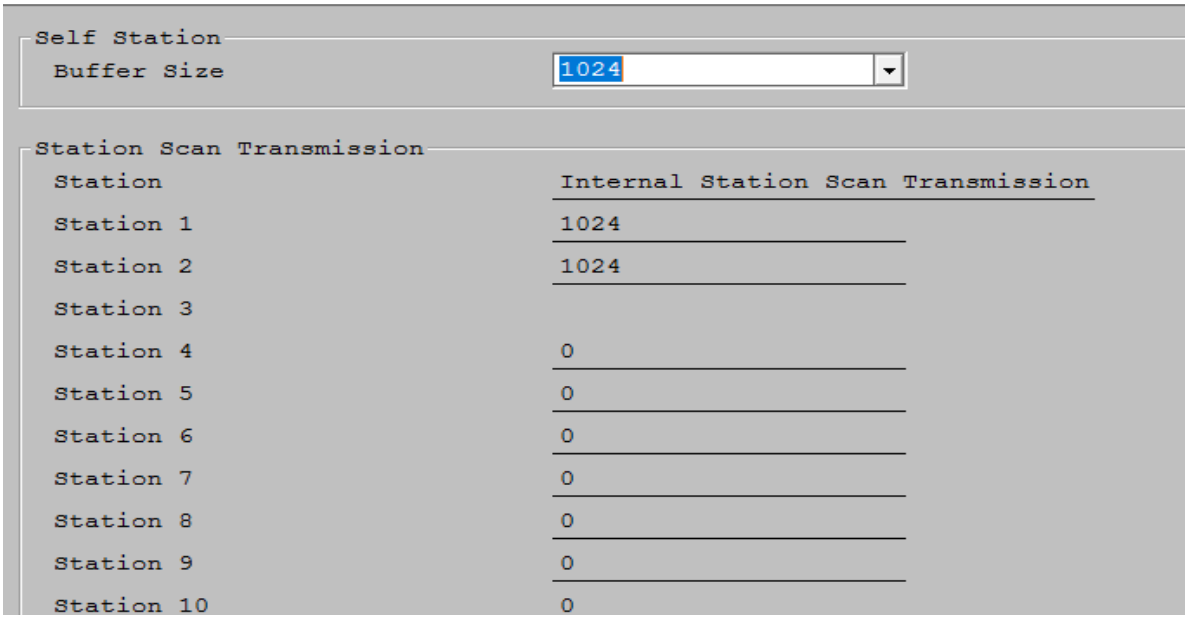


Figure 7 – Scan Transmission Settings

Annunciator Message

These are custom messages generated in one FCS configured by the control design engineer for the purpose of alarm annunciation to alert the operator. 2000 Annunciator Messages can be defined in one FCS (FFCS-C/V) and they are assigned from %AN0001 to %AN2000.

Operator Guidance Message

Operator guidance message outputs an alert to an operator in real-time situations. The operator guidance message is normally used by sequence or batch control.

Printer Message

Printout message outputs the data corresponding to an event that occurred in the process. This is mainly used to record the event that occurred in a process by printing them on paper as well as logging them into a file. The printout message cannot be displayed in the process alarm view.

The printout message is generally not used unless otherwise specified.

7.2 PHILOSOPHY OF DESIGNING CONTROL APPLICATIONS

Module-based engineering should be used when designing control application, and Global Class Module shall be used as many as possible to establish implementation standardization within the project to achieve consistency of deliverables created by project members.

7.2.1 Module-based engineering

Module-based engineering is an approach that subdivides a system into smaller parts (modules) which can be independently created, tested, and accepted before they are used to drive multiple functionalities.

There are two types of modules for control application design: Class module and application module.

Note: Module based engineering is not applicable for this project.

7.2.2 Complex Control Loop Design

When complex control loops are newly designed for the project, the following items need to be taken into consideration in addition to the general guidelines described earlier in this document.

- How to deal with alarm & data status propagation, including other station data.
- Output tracking & bumpless transfer.
- Connecting user-defined data items (SFC & Unit) with regulatory control function blocks.
- Possible modes of operation including crippled mode.
- Block number order (scan order).
- Loop dynamics including terminal-to-terminal response time, reset limiter, etc.

7.2.3 Sequence Control Design

Philosophy of Sequence Design

A policy to design the sequence control should be defined with regard to usage of various function blocks. There are the following two areas where the policy shall apply.

1. To define the structure of the sequence
   - States transition
   - Procedure
2. To configure the execution sequence
   - Condition and action for devices and/or equipment (pump, valve, flow, pressure, temperature, etc.)

Structure of the sequence

There are two methods to define the structure of the sequence as follows.

A. Using SFC block (_SFCPB)

   The standard states transition matrix is only available. If it cannot meet the project requirement, use the method 1A).

B. Using sequence table (ST16)

There is no standard states transition. It shall be manually designed always.

The following table provides a decision matrix to select the method.

Structure of Sequence	1A) SFC block (_SFCPB)	1B) Sequence table
Viewing format	SFC (Sequential Function Chart)	Sequence Table

Structure of Sequence	1A) SFC block (_SFCPB)	1B) Sequence table
Sequence consisting of multiple operations (used for batch sequence)	Not Recommended	Not Recommended
Sequence consisting of multiple operations (used for continuous control)	Not Recommended	Not Recommended
Sequence consisting of single operation	*Recommended*	Applicable

Table 34 – Decision Matrix to Select Function Blocks in Sequence Structure

Execution sequence

To configure the execution sequence, there are three methods.

Using SEBOL

Using sequence table (ST16)

Using logic chart (LC64)

The following table provides a decision matrix to select the method.

Type of Sequence	SEBOL	Sequence table	Logic chart
Step sequence	Recommended	Applicable	Not recommended
Monitoring sequence used as status change such as stopping the sequence	Applicable	Applicable	*Recommended*
Monitoring sequence used for other purposes	Recommended	Applicable	Applicable
(Other FCS data access)	No additional blocks*1	Global switch or Area out connection block required	Global switch or Area out connection block required

Table 35 – Decision Matrix to Select Function Blocks/Programs in Execution Sequence

*1: Performance shall be considered.

Initialization Sequence Design

Initialization for function blocks needs to be properly designed for proper functioning of continuous and sequence control functions. The following items shall be considered as minimum.

- Desired block mode and switch position of the connected function blocks
- Stating of specific SFC blocks
- MV preset value of the function blocks that are connected to field outputs
- Start mode of unit instrument
- Block mode of ST16
- Step number of ST16

7.2.4 Interlock or Process Shutdown Logic Design

Consistent implementation within the project shall also apply to interlock or process shutdown (PSD) logic design.

Recommended Function Block

Recommended function block to implement an interlock or process shutdown logic is LC64-E.

Interlock Condition Signal

When a digital status or an analog value comparison is used as a condition in the logic diagram, use the following guideline.

Digital status

An annunciator message (%AN) is used for a digital alarm and an SI-1 block is used for a non-alarm digital status. Use these as the condition in the logic diagram.

Analog value comparison

When an analog value comparison is required, prepare an additional PVI block where the comparison value is entered in its PH or PL, and use ALRM of the PVI block as the condition in the logic diagram. This is for considering the ease of testing, reviewing, and maintenance. This additional PVI block will have the Logging alarm priority because this does not require an alarm notification.

Point of Design for Interlock Logic

Interlock (PSD) logic may affect the other control functions and it may be used as a start condition, halt condition, unit shutdown condition, etc.

The following table summarizes a point of design for such logic.

Point of view	Method	Point of design
How to reset	Auto reset by process condition	Need to decide how to reset the output from the logic.
	Manual reset	
Action from/to the main sequence	Action to the main sequence	When the interlock logic stops or halts the main sequence, consider how to restart the sequence. • Restarting the sequence is possible anytime regardless of interlock status • Restarting the sequence is only possible when the interlock is reset
	Action from the main sequence	Avoid a situation of simultaneous device manipulation by both the main sequence and interlock logic. • The interlock logic overrides an action from the main sequence by e.g., connecting the output of the interlock logic with the standard interlock connection terminal of a function block. • The main sequence manipulates the function block only when it is not interlocked.
Action type of interlock logic to the main sequence	One-shot action	This is the case that the interlock acts on the main sequence one-shot. This pattern is recommended.
	One-shot action + Operation prohibition	This is the case of the above pattern plus operation prohibition. As a means of operation prohibition, an operation mark may be used.
	Always	This is the case that the interlock always acts on the main sequence. This pattern shall not be used.
Notification to operator	Annunciator message (This may be implemented only when the requirement permits.)	Need to decide if it is held until recovery or automatically reset after a few seconds.
	Operation guidance message (This may be implemented only when the requirement permits.)	Must be always one-shot notification.
	Display	Graphic link parts shall be designed to show the interlock state.

Table 36 – Point of Design for Interlock Logic

7.2.5 SEBOL

SEBOL is useful to configure the process data access, sequence control and calculation processing. There are two types of SEBOL from the execution timing point of view.

- Periodic SEBOL (for FFCS-C/V only)

  Periodic SEBOL executes the codes in one second unless interrupted by codes or system.

- Timeshare SEBOL

  Timeshare SEBOL executes the maximum 20 lines * N times in 1 second when CPU idle time allows.

The following table provides a decision matrix to select the method.

Usage or process	Periodic	Timeshare	Remarks
Calculation processing exceeding CALCU capability	Recommended	Not Recommended	Remark-A)
Other station data access	Recommended	Applicable	Remark-B)
Monitoring (Every second execution)	Recommended	Not Recommended	Remarks-A,B,)
Monitoring (every few second execution)	Recommended	Applicable	Remarks-A,B,)
High speed execution (less than 1sec)	N/A	N/A	Use ST16, LC64, or CALCU

Table 37 – Decision Matrix to Select SEBOL Types

Some limitations and considerations will apply in each case.

A) Periodic SEBOL is executed in 1 second for all processing until interrupted by the system (e.g., wait until, drive, delay statement). Timeshare SEBOL is executed in CPU idle time. When there is not enough CPU idle time in the basic scan period, timeshare SEBOL will be executed in the next basic scan if CPU idle time allows.

B) Periodic SEBOL may affect the CPU load when the quantity of execution lines is too many. Do not create an infinite looping program.

C) Accessing the other FCS data is treated as interruption in periodic SEBOL. Some coding technique (e.g., using a group assignment statement for reading data and copying them to local variables) may be required.

Use the System Function Block to monitor SEBOL information. (For FFCS-C/V only).

7.3 PEER-TO-PEER COMMUNICATION

The peer-to-peer communication among FCSs shall be limited as much as possible. Therefore, FCSs and I/O in them shall be allocated to avoid the peer-to-peer communication as much as possible. In case that this is required, loading estimation shall be made more carefully.

7.3.1 Peer-to-peer Communication Methods

There are following three methods to implement peer-to-peer communication among FCSs; global switch, area data link (ADL) function block, and SEBOL program.

Global switches are effective for digital data communication (up to 256 bits for each FCS) with easy configuration requiring no function blocks. Data transmission delay can be ignored because global switches are exchanged among FCSs at every 100msec, but it can only be used within the same Vnet/IP domain.

ADL's can be used for both the digital and analog data communication and can be used across the different Vnet/IP domains, but additional function blocks are required in receiving FCS. ADL's communication is executed at every second as default setting.

SEBOL programs in SFC or Operation blocks can provide the similar function as the ADL's, using a controller model FFCS-C/V, a periodic SEBOL program is available that is executed in the basic function block scan (one second) and it thus provides every second communication cycle.

In the ADL method, all communication tags and loop connections shall be manually configured on control drawings, but connection can be easily identified on control drawings.

SEBOL programs can be a sequence library so that easy configuration (re-usability) will be available. SEBOL program codes can be re-used in FCSs as they are where program code changes are not required at all.

If many inter-station communications is required, use of the periodic SEBOL method will provide a more value than the ADL method from a perspective of implementation time.

Peer to peer communication between FCS and SCS (safety controller) is also possible by the same methods if safety system (ProSafe-RS System) is integrated with PCS (CENTUM VP System). In this project PCS system & Safety systems are integrated (integrated control and safety system)

7.4 TIME SYNCHRONIZATION

Time Synchronization is required for accurate and consistent time stamping for all event occurrences. Network time synchronization is accomplished by using Network Time Protocol (NTP).

The Vnet/IP Network Time synchronization sets the clock time on every Vnet/IP stations. To ensure consistent time stamping all over the plant, all stations including PCS, ESD and FGS connected to Vnet/IP will be utilizing the Simple Network Time Protocol (SNTP) connected to NTP server.

In a Vnet/IP system, the Vnet/IP clock is the standard. All the stations within a domain allow the time synchronization service program to check for time difference between the Vnet/IP master clock and the computer's clock and adjust the computer's clock when necessary.

7.5 PHILOSOPHY OF APPLICATION TESTING

7.5.1 Application Testing

Application testing is to ensure that the implemented applications function in accordance with the master design document; project functional design documents that have been developed during basic design phase for typical loops and detailed design phase for complex loops/logics/sequences. Those documents shall be approved by a customer prior to the tests.

General Workflow

Testing of project-specific typical software loops

Since the modular design approach is one of the key aspects of the project execution and test strategy, Yokogawa will aim to maximize utilization of the global class module as they do not require dynamic check. When the project-specific typical software loops are designed and implemented, they are subject to rigorous testing, to minimize the probability of errors being propagated. The test includes:

- Full functional test, including all normal and abnormal operating scenarios
- Alarm and event generation
- I/O parameter settings
- Validation of interface with other function blocks
- Verification of the function block documentation, including all the above aspects and any constraints that may apply to the application of the function block

After sign-off by the customer, the approved "typical software loops" become the basis for bulk generation of software configuration, are stored in the project's typical loops library and are subject to rigorous and systematic change management. Replicated typical software loops do not need further dynamic functional testing. During the internal tests and FAT the focus is on correct tag names and interconnections.

Verification of software configuration replicated from typical software loops

Software configuration which can be replicated from the approved typical software loops can be generated in bulk. Testing of such software configuration includes verification of function block parameter settings against I/O definition. The correctness of the software typical used by Yokogawa from the approved typical loops library shall be verified first if in line with control narratives and then with I/O definition supplied by customer.

Next, the tag-specific function block parameter definition shall be verified. Common tag parameter derived from customer, such as Tag name, Service Description, Instrument Range and Engineering Unit etc., will be verified visually through the faceplate or printed system configuration (PCS Self-Documents). Depending on typical loop used, specific function block parameters will additionally be verified (e.g., Alarm Settings, Control Action Direction for PID controllers).

Testing of software configuration for specific loops

Logic, control sequence and algorithm that are specifically defined in the control narrative will be fully tested. Where specified, test of inter-system trips/interlocks will be carried out in an integrated method (e.g., integrated test of ESD trip with the PCS Motor Trip functionality). In general, test procedures shall prescribe all perceived loop-specific tests.

All defects or inconsistencies identified during testing of the sequences or identified with the associated project documentation are entered into Punch-list. The resolution activities are also recorded such that a full audit trail from the original fault through the subsequent recovery actions is established.

Testing Method

Depending upon situations (re-using GES modules, project-specific modules, complexity, etc.), a type of testing method, i.e., static (paper) check or dynamic check, will be selected.

The static (paper) check is used for verifying the static configurations such as tag name, tag comment, instrument range, engineering unit, etc.

The dynamic check is used for verifying complex control functions, project-specific re-usable modules, and/or GES re-usable modules modified by the project.

Application testing will be categorized as below:

1. Individual test

- Control applications that are implemented by re-using the GES typical control loops.
  - ➢ In case that GES typical control loops are re-used as they are
    Perform the static (paper) check for static configurations.

  In case that GES typical control loops are used with functional modifications
    Perform the thorough dynamic check using actual FCS hardware or simulator, including abnormal situation testing.
- Project-specific control applications
  - ➢ Perform the thorough dynamic check using actual FCS hardware or simulator, including abnormal situation testing.
  - ➢ If the same control application is used for the other loops, perform the static (paper) check for replicated objects.

2. Integrated test

Perform the following dynamic checks.

- ➢ With using the test function or dynamic process simulation models (if available), verify PCS control functions, OWS (CI Portal view) and alarm solutions, and Safety functions for a selected process unit including abnormal situation testing.
- ➢ Controller tuning may be performed where appropriate.
- ➢ With following the plant operation procedure (if available), verify that plant start-up and shutdown or other sequential operations are executed as per the master design document, and check effects caused by abnormal situation, e.g. equipment or device failures and recovery from them.
- ➢ Verify integration with 3rd-party systems (including response time)
- ➢ Verify other hardware and/or system if applicable.
- ➢ Verify that spare capacity for application resources for each FCS meets project specification.
- ➢ Verify FCS performance and network loading.

Testing method is summarized as below:

Type	Objects suitable for this testing	General procedure
Static (Paper) check	Objects of which their correctness can be verified through static comparison of objects with master documents. • Detailed specification data for function blocks	Check definitions or gaps between test objects and the master document by self-documentation or any other electronic files.
Dynamic check	Objects that require dynamic verifications by simulating process inputs, changing operation modes, changing values of function blocks, and confirming expected outputs and/or results.	Run the application and check functionality based on the master document.

Table 38 – Type of Testing Method Table

For static & dynamic checks follow project FAT test procedures.

Dynamic check is further classified as below:

Test case	Point of view	Objects suitable for this testing
Normal path testing	Verify that test objects behave as described in the design document.	All objects such as • Complex loop • Calculation • Sequence control • Logic
Abnormal situation testing	List abnormal situations as many as possible and verify that test objects behave as described in the test procedure per listed abnormal situation cases.	• All objects listed above • Internal and external interfaces.
Operation and interface testing (Integrated test)	• With executing several functional components at the same time, verify that test objects behave as described in the test procedure. • Perform irregular operations such as trying illegal operations, repeatedly pushing keyboards, repeating opening/closing many views, and so on, and confirm the system still functions as expected.	Testing is focused on • Executing several modules, complex loop, logic, and sequence control at the same time. • Operator interaction from HMI. • Internal communications from HMI, OPC, and other FCS/SCS. • Interfaces with external components.

Table 39 – Test Cases in Dynamic Check

7.5.2 Criteria for Design

The following criteria of testing will apply.

Static (Paper) Check

Test criteria for static (paper) check are summarized in the table below:

Test object	Criteria
Simple property data defined in I/O database • Tag name, • Comment or description, • Instrument range, • Engineering unit, • Input/output processing spec, • Alarm level, security level, • Control parameters, • etc.	Verify that configured data are identical with those in the master I/O database.
Replicated loop / module / sequence / logic	Verify the replicated configurations are identical with those in the original configurations. Exceptions apply to tag names, descriptions, ranges, etc. Extract such gaps between replicated object and original one, and verify gaps are acceptable.

Table 40 – Test Cases in Dynamic Check

Dynamic Check

Dynamic tests are the functional tests performed to meet the functional requirements specified in the control narratives supplied by the EPC, FAT Procedure document shall BE used for testing the complex/sequence logics generated based on design inputs supplied by EPC (Control narratives, IO List and C&E).

7.5.3 Test Plan

Note- Refer Doc No 1724000594-QC-ITP-00002 (Inspection and Test Plan Structure) for detailed plan.

8 VNET/IP CONTROL NETWORK

The network directly related to Process Control is Vnet/IP.

8.1 VNET/IP COMMUNICATION SPECIFICATIONS

The Vnet/IP control network protocol for process automation, developed by Yokogawa has been unanimously accepted by the International Electro Technical Commission (IEC) as a part of international standard IEC 61784-2 Ed.1.0.

The Vnet/IP plant control network protocol is based on 1 Gbps high-speed Ethernet and features both the openness of Ethernet and the reliability/real-time capability required in plant control, concurrent with Yokogawa's development of the Vnet/IP control network protocol.

Vnet/IP was accepted by the IEC for publication as Publicly Available Specification (PAS) No. IEC/PCS 62405/Ed.1 in April 2005. This was an important step in the direction of being accepted as an international standard. PAS is a mechanism for popularizing new technologies in fields where technological advances occur quite rapidly, allowing for the public disclosure of specifications before the IEC officially certifies the technologies as international standards.

General specifications:

- Topology: Star topology
- Transmission speed: 1 Gbps for Yokogawa Hardware, 100 Mbps for general Ethernet equipment.
- Access control: Full duplex
- Scale: 64 stations per domain
- Bus configuration: Redundant
- Control communication: Functionally compatible with Vnet
- Open communication: TCP/IP
- Network equipment: Commercially available & with proven high reliability switching hubs and routers.
- Cables: CAT6 or higher UTP cables or single-mode fiber optic cables

8.2 VNET/IP ADDRESS

The following Vnet/IP address assignment philosophy has taken into consideration for future expansion and to ensure numbering and design consistency.

8.2.1 IP Address for Control Communications

An IP address for control communications can be automatically set, ranging from 1 to 129 from domain and station numbers. Domain and station numbers are set with a DIP switch for each device. Domain numbers should not overlap in Vnet/IP system. In addition, the time server host address is fixed at 254. Class C private address is used for V-Net/IP communication.

8.2.2 IP Address for Open Communications

IP addresses for open communications in a Vnet/IP station, as well as for general-purpose, open- based communications devices and network devices, are not automatically set. Network addresses should be set

in conformity with an address system for control communications. Addresses 1 to 128 and 254 are set aside for control communications, select from 130 to 253 as the host address for open communications.

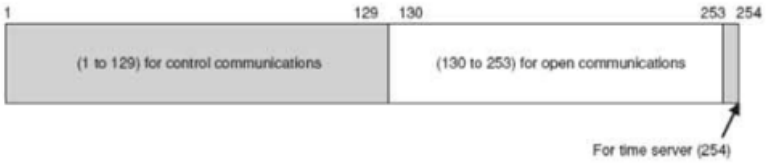


Figure 8 – IP Address Segregation

The following Vnet/IP address assignment philosophy has taken into consideration for future expansion and to ensure numbering and design consistency:

- Vnet/IP Bus1 is used for control purposes (herein called control communication) and Bus2 can connect the general-purpose Ethernet equipment (herein called open communication).
- When IP address is set on Bus1, IP address on Bus2 for control purpose is automatically set.

8.3 STATION NAMING

For stations with Vnet/IP connection, their naming convention will be as following:

Station Type	Station Name	Vnet IP BUS 1 Address	Vnet IP BUS 2 Address	Example
Station Name for EWS (PCS, SIS+FGS)	EWS ddss	Refer table 42	Refer table 42	EWS0164
Station Name for FCS	FCS ddss	*	*	FCS0101
Station Name for Others (PCS, SIS+FGS, EMCS)	STN ddss	Refer table 42	Refer table 42	EWS0163

Table 41 – Vnet/IP Station Naming

Where:

dd: is the Vnet/IP domain (01 to 16)

ss: is the Vnet/IP station number (01 to 64)

"*": Refer to 1724000594-IN-RE-00043 -Cyber Security Settings document.

8.4 IP ADDRESS ASSIGNMENT

Refer to 1724000594-IN-RE-00043 -Cyber Security Settings document.

9 TAG NAMING PHILOSOPHY

ICSS Tag Naming Philosophy Tag name in ICSS refers to the user defined character string that used to call up various control elements such as function block, I/O data, Internal Switch, etc. Each tag name will have an instrument faceplate associated to it when it is called up from the HIS. The ICSS tag name for operation shall be limited to a maximum length of 12 characters for proper display of tag name on the instrument faceplate. However, a maximum length of 16 characters will be used for internal tags. The tag name (including window name) in the whole project database shall be unique. The tag numbering convention shall consider this constraint so that it will not cause any possible duplication of tag name or window name.

9.1 PCS IO TAG

The PCS (CENTUM VP) tag here refers to tags created in PCS stations such as FCS.

1	2	3	4	5	6	7	8	9	10
P	P	M	M	M	-	N	N	N	X

- PP = Process Unit Code:
- MMM = Measured Variable Code
- NNN = Sequence number (Process : 001-499, Package: 501-999)
- X = Identical Equipment No, (A,B,C)

Examples –

IO Type	P&ID Tag Name	IOM Tag	Equipment
Analog Input	25FT-031	%%I25FT-031	Flow Transmitter
Analog Output	25FY-036	%%O25FY-036	Positioner
Digital Input	25ZSH-033	25ZSH-033	Limit Switch
Digital Input	B100TIR-001	B100TIR-001	SWGR HV/MV
Digital Output	25XY-021	25XY-021	Solenoid Valve

Table 42 – Naming Philosophy for PCS IO Tag.

9.1.1 Operator Faceplate Tag

Operator faceplate Tags are defined in P&ID, Instrument Index which are generally too long to fit into PCS system. Reduction (by removing '-'and less important characters from the tag) or conversion of the tag names is required to keep the tag name within the PCS system faceplate constraint of 12 characters. This maintains a consistent and concise tag name philosophy.

PCS Operator Faceplate Tag Name Format that is applied for the project is:

Note: For Digital alarm tag, refer to section 10.2.2

Where:

- PP = Process Unit Code:

- MM = Measured Variable Code
- NNN = Sequence number (As per design input)
- X = Identical Equipment

Examples:

P&ID Tag Name	Function Block	Operator Faceplate Tag
25PT-031B	PVI	25PI-031B
25FIC-032	PID	25FIC-032
25FY-036	MLD	25FY036-ML
25PY-055A	MLD-SW	25PY055A-ML1
25PY-055B	MLD-SW	25PY055B-ML2
B100TIR-001	Digital Input	B100TIR-001
25XY-011	MC2E-PumpA	25XY-011
25XY-012	MC2E-PumpB	25XY-012

Table 43 – Naming Philosophy for Operator Faceplate Tag.

9.1.2 PCS Internal Tag

When function blocks described on P&ID, Instrument Index cannot be directly one to one mapped to PCS function blocks, additional tags in PCS may be required to realize the control function. These tags are directly related to the loop configuration. For example, a split range function block is not shown on P&ID but PCS will configure a SPLIT function block for loop configuration. Normally tags under this category do not need operation access. Therefore, a maximum length of 16 characters will be used

PCS Tag Name Format:

MAIN LOOP TAG	–	S	S	N	N

Where:

- SS = Suffix for Internal Tag identification of function block type
- NN = Sequential Number (Always start from 01).

Examples:

P&ID Tag Name	Suffix	Function Block	PCS Internal Tag
25FIC-032	ST-16	ST16	25FIC032-ST
25FIC-032	RL	RL	25FIC032-RL
25PT-040	AN	%AN	25PI040AN
25ZSL-043	GS	%GS	25ZSL043-GS

25ZSH-043	SW	%SW	25ZSH043-SW
25ZSH-011	IL	%SW	25ZSH011-IL
50TI-002	LC	LC64	50TI002-LC
43FIC-001	CL	CALCU	43FIC001-CL
50TI-001	ADD	50TI001-AD	50TI001-AD
25PIC-040	AS	AS-H/M/L	25PIC040-AS

Table 44 – Naming Philosophy for PCS Internal Tag.

These tags are used to realize the control functions not directly described on the P&ID or in the control narrative. They may also be used for common control functions shared by multiple loops, process units or for PCS internal administrative functions.

PCS Tag Name Format

1	2	3	4	5	6	7	8	9	10	11	12	13
S	D	D	D	D	C	C	C	-	S	S	N	N

Where:

- SDDDD = S + FCS domain and station number
- CCC = Control Drawing No number
- SSNN = For Internal Tag identification of function block type.

Examples:

Controller number	Function Block	PCS Internal Tag
FCS0101	ST16	S0101ST001
FCS0101	RL	S0101RL001
FCS0101	LC	S0101LC001
FCS0101	%GS	S0101GS001
FCS0101	%SW	S0101SW001

Table 45 – Naming Philosophy for PCS Internal Tag for FCS.

9.2 THIRD PARTY COMMUNICATION TAG NAMING

ALE111 Modbus communication cards shall be used for Modbus TCP communication with PCS. CI Server shall be communicating with EMCS Server using OPC UA communication protocol. In few cases vendors provided tag names in mapping lists then same shall be used. In some of the communication packages Tag names shall be configured to meet CentumVP/CI Server HMI/Logic implementation. The following Naming philosophy shall be followed to create unique tag names.

Area	Service1	Separator	Sequence Number 1	Sequence Number 2	E.g. Tag Name	Description (24 Char)
AA	CCCC	-	MM	NN		
Area	Service	Separator		Sequence Number		
20	F3	-	0		20US-5301	Normal Mode
20	F4	-	0		20US-5302	Bypass mode

Service	Service1			Sequence Number1
	CCCC= (1) +(2) +(3)			
Type of service	(1)	(2)	(3)	MM (SEQ NUMBER NN <99) Exclude01/02/03/04/06/08/10
Tripped	XS			
Safety Fault	XZA			
Process Fault	XA			
Unspecified	U			
Analog Indicator			I	
Temperature	T			
status		S		
Flow		F		
Control/Command/ Setpoint			C	
Power	J			
LOCAL	LOC			
REMOTE	REM			
READY	RDY			
CURRENT	C			
VOLTAGE	V			
OPEN	ZSH			
CLOSE	ZSL			
SYNCH	SYN			
TEST	TST			
COUNTER	CNT			

Service	Service1			Sequence Number1
	CCCC= (1) +(2) +(3)			
ERROR CODE	ERR			
FREQUENCY	FRQ			
SPEED	SPD			
SELECT	HS			
HIGH LIMIT	HI			
HIGH LIMIT 2	HH			
LOW LIMIT	LO			
LOW LIMIT 2	LL			
START	ST			
STOP	SP			
STANDBY	STBY			
AUTO/MANUAL	AM			
AUTO	A			
MESSAGE	MSG			
Alarm/Angle			A	
CHARGE	CH			
OVERLOAD	OL			
27-1				28
27-2				29
50-1				50
50-2				52
51				51
51-1				11
51N				14
51G				15
59-1				60
59-2				61
59N				59
59N-1				58
59N-2				57
67-1				68

Service	Service1			Sequence Number1
	CCCC= (1) +(2) +(3)			
67-2				69
A1				71
A2				72
A3				73
A4				74
A5				75
A6				76
A7				77
APPARENT POWER (kVA)				16
BUCHHOLZ				32
BESS STATUS1				91
BESS STATUS2				92
BESS STATUS3				93
CT				33
FC/BATTERY1				81
FC/BATTERY2				82
FC/BATTERY3				83
FC/BATTERY4				84
FC/BATTERY5				85
FC/BATTERY6				86
General alarm				34
GPC				78
TR1/GIS1				21
TR2/GIS2				22
INTERTRIP				87
K86				86
L1				41
L1-L2				12
L2				42
L2-L3				23
L3				43

Service	Service1			Sequence Number1
	CCCC= (1) +(2) +(3)			
L3-L1				31
magnitude				37
MAINTENANCE				38
OIL PRESSURE				35
OIL TEMPERATURE				36
Phase A				44
Phase B				45
Phase C				46
Phase N				47
POWER FACTOR				19
REACTIVE POWER (kVAR)				17
REAL POWER (kW)				18
V.T. HEALTLY CIRCUIT				48
VT				49
WATCHDOG PROTECTION RELAY				39
WINDING TEMPERATURE				40
UP-200F3				53
UP-200F4				54

Table 46 – Naming Philosophy for Communication Packages where Tag names generated

Area: E.g. A2000 Electrolyzer 20

NN: Sequence Number

9.3 TAG COMMENTS

PCS/SIS/FGS Faceplates can have maximum 24 Character length Service descriptions. To achieve meaning full-Service descriptions Service comments are abbreviated in PCS/SIS and SCADA. SCADA HMI Faceplates are in line in PCS/SIS/FGS faceplates in CentumVP HMI.

Abbreviations	Descriptions
ABND	abandon

Abbreviations	Descriptions
ACK	ACKNOWLEDGE
ACT	Activation
ALM	Alarm
BAT	Battery
BRK	BREAKER
CB	Circuit Breaker
CEL	CELL
CF	CONFIRMED
CHG	CHARGING
CKT	CIRCUIT
CMD	Command
CNTRL	Control
DEPR	DEPRESSURIZATION
DEPRS	Depress.
DISC	DISCONNECT
DISTB	Distribution
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
ER	Equipment ROOM
ELEC	Electrolyser
Emg.	Emergency
EQUIP	Equipment
FC	FUEL CELL
FB	Feedback
FGS	Fire and Gas System
FLT	FAULT
FLTR	FILTERS
FR	from
FRM	FARM
FT	Flow Transmitter
HDR	Header
HI	High
HI HI	HIGH HIGH
HV	High Voltage
H2	HYDROGEN
IA	INSTRUMENT AIR
IL	Inlet
IN	INSIDE
IN.	Inhibit

Abbreviations	Descriptions
INC	INCOMING
INST	Instrument
INT	INTEGER
ISOL	ISOLATION
LO	Low
LS	Limit Switch
LT	Level transmitter
LV	Low Voltage
MOB	Man over board
MV	Medium Voltage
N2	NITROGEN
NW	Network
OL	Outlet
OPN	OPEN
PARA	PARAMETER
PCS	Process Control System
PKG	Package
PMP	Pump
POS	Position
POWER	PWR
PR	Pressure
PT	Pressure Transmitter
PV	PROCESS VALUE
PVS	Package Vent System
PWR	POWER
REC	RECIEVER
REDO	Room Emergency Door Open
RM	ROOM
RMD	Room Motion Detection
RPDO	Room Primary Door Open
RUNN	RUNNING
SR	Switchgear Room
SD	shut down
SERV	SERVICES
SIS	Safety instrumented System
SM CONF	Smoke confirmed
ST	START
STO	storage
SUP	Supply
SURG ARST	SURGE Arrester
SW	SEA WETER

Abbreviations	Descriptions
SW	Switch
SWGR	Switchgear
SWT	SEA WATER TREATMENT
SYS	System
TREAT	Treatment
TT	Temperature transmitter
TWR	Tower
Tx	Transmitter
VLV	VALVE
VNT	VENT
VSL	Vessel
WS	Wired Spare
WTR	WATER
ZSH	Open limit Switch
ZSL	Close limit Switch

Table 47 – Service description Abbreviations

10 PROJECT COMMON SETTINGS

10.1 SWITCH LABEL

The switch position labels refer to character strings displayed as labels for switches on the Motor Control instruments, the Switch instruments, the digital I/O, the Annunciator, the internal switches, the SFC blocks, the selector switch instruments, and the logic operation blocks.

128 switch position labels can be used for one project. One set consists of three labels (Label 1, Label 2 and Label 3). The label 4-character string is not displayed on the instruments with up to three switches, and also define a unique character string for each set. The switch position label can be defined with up to eight (8) alphanumeric characters.

The following table shows CENTUM VP label sets. Labels 1 and 2 cannot be changed or deleted, No.3~13 are system default. These switch labels are common across PCS and SIS so changes in switch labels are not recommended post design freeze.

No.	Label 1	Label 2	Label 3	Label 4
1				
2	ON	OFF	ON	
3	RUN	STOP	RUN	
4	OPEN	CLOSE	OPEN	
5	HIGH	MIDDLE	LOW	HIGH
6	RIGHT	MIDDLE	LEFT	RIGHT
7	DIRECT	STOP	REVERS	DIRECT
8	START	HOLD	STOP	START
9	3	2	1	0
10	STOP	PAUSE	START	STOP
11	RAISE	LOWER	RAISE	
12	RUN	PAUSE	STOP	RUN2
13	START	PAUSE	RESTART	START2
14	START	STOP	START	
15	RESET	NORMAL	RESET	
16	ALARM	NORMAL	ALARM	
17	NORMAL	FAULT	NORMAL	
18	REMOTE	LOCAL	REMOTE	
19	N_AVBL	AVBL	AVBL	
20				
21	NORMAL	TRIP	NORMAL	

No.	Label 1	Label 2	Label 3	Label 4
22				
23	SHUTDOWN	NORMAL	SHUTDOWN	
24	CLOSED	N_CLOSED	CLOSED	
25	OPENED	N_OPENED	OPENED	
26				
27				
28	START	N_START	START	
29	STOP	N_STOP	STOP	
30	MOS ON	MOS OFF	MOS ON	
31	RUN	N_RUN	RUN	
32	RESET	OFF	RESET	
33	AUTO	-	AUTO	
34	OPEN	N_OPEN	OPEN	
35	CLOSE	N_CLOSE	CLOSE	
36	RUNNING	STOPPED	RUNNING	
37	MANUAL	-	MANUAL	
38	ERROR	NORMAL	ERROR	
39	NORMAL	LOW	NORMAL	
40	N_READY	-	N_READY	
41	READY	-	READY	
42	DISABLE	ENABLE	DISABLE	
43				
44				
45				
46				
47				
48	CLOSE	NORMAL	CLOSE	
49	OPEN	NORMAL	OPEN	
50	TRIP	NORMAL	TRIP	
51	ACTIVE	NORMAL	ACTIVE	
52	CLOSE	OPEN	CLOSE	
53	BAD	GOOD	BAD	
54	LOCKED	UNLOCKED	LOCKED	
55	MUTE	UNMUTE	MUTE	

No.	Label 1	Label 2	Label 3	Label 4
56				
57	HEALTHY	BAD	HEALTHY	
58				
59	DISABLE	OFF	DISABLE	
60	BYPASS	NORMAL	BYPASS	
61	MOVING	STOP		
62				
63				
64	ACTIVE	INACTIVE	ACTIVE	
65				
66	NORMAL	SHUTDOWN	NORMAL	
67	MANUAL	MANUAL		
68	AUTO	AUTO		
69				
70	RETURN	RETURN		
71	SUPPLY	SUPPLY		
72	RET-RET	RET-RET		
73	SUP-SUP	SUP-SUP		
74	RET-SUP	RET-SUP		
75	SUP-RET	SUP-RET		
76	YES	NO		
77	MANUAL	MCS	MANUAL	

Table 48 – Switch Label configuration Tab

Standard switch labels shall be used across the project. Few Switches label for ON status sample shown below.

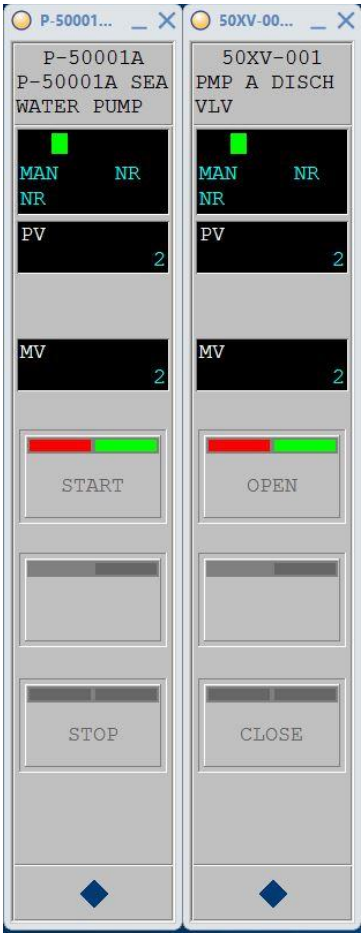


Figure 9 – Motor and Valve Faceplate Label in ON condition.



Figure 10 – Motor and Valve Faceplate Label in OFF condition.



Figure 11 – Switch Label Sample in ON condition.



Figure 12 – Switch Label Sample in OFF condition.

10.2 OPERATION MARK

Note: In this project Operation mark is not envisaged.

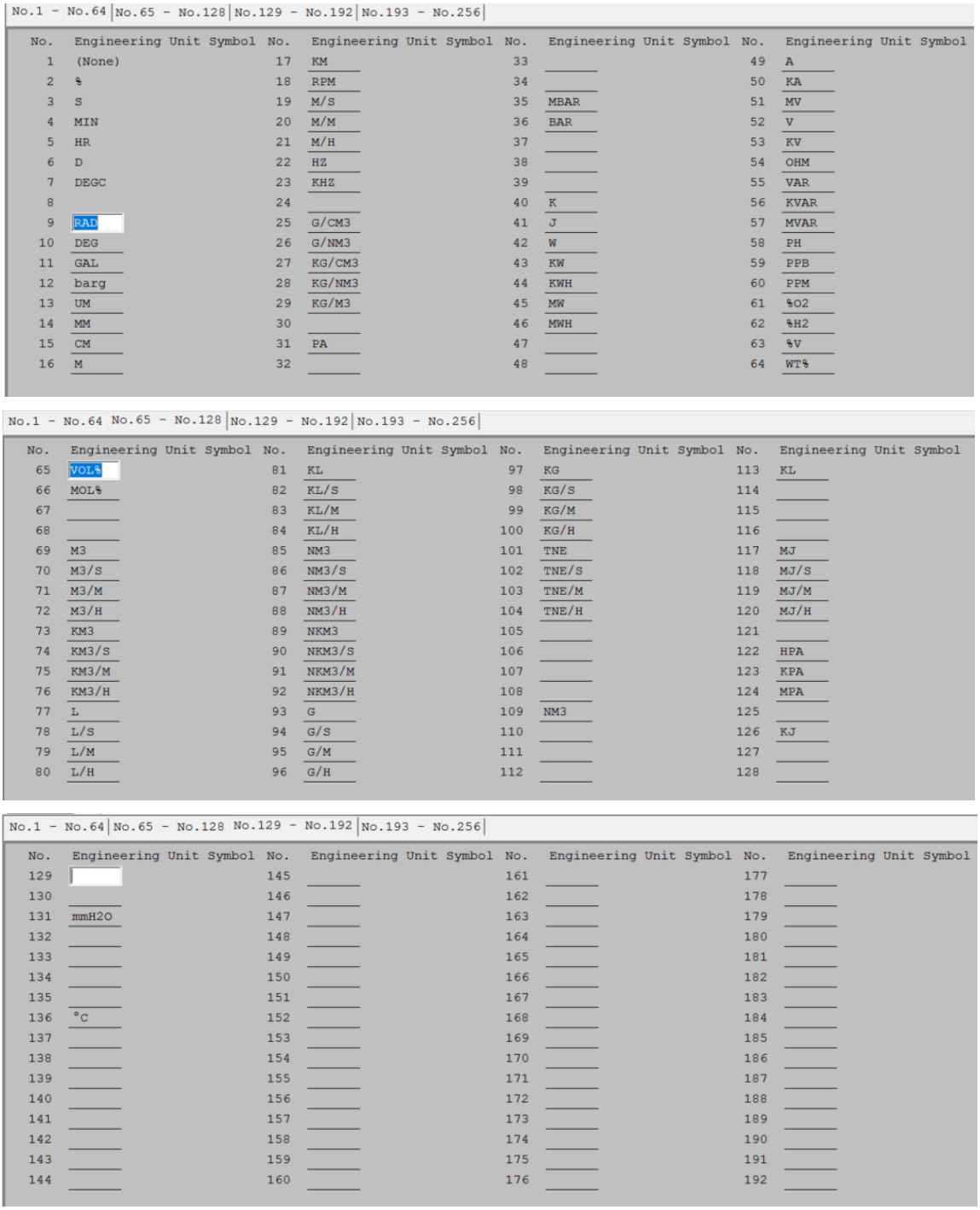
The label of the operation mark can be set using the Operation Mark Builder. Up to 8 characters can be entered as the text on the label (string). The non-defined operation mark label may be temporarily changed during the operation on the HIS Setup window. The following table defines the operation marks to be used. No. 33 thru 64 is reserved for operation mark install/remove by application software. No. 1 thru 32 is reserved for install/remove by user. The table below shows operation mark definitions. Individual projects can revise the definition to suit the project requirements.

No.	Tag Label	Color	Tag Level	Install/Remove
1	OPMARK01	White	Comment Type	All Privileges
2	OPMARK02	White	Comment Type	All Privileges
3	OPMARK03	White	Comment Type	All Privileges
4	OPMARK04	White	Comment Type	All Privileges
5	OPMARK05	White	Comment Type	All Privileges
6	OPMARK06	White	Comment Type	All Privileges
7	OPMARK07	White	Comment Type	All Privileges
8	OPMARK08	White	Comment Type	All Privileges
9	OPMARK09	White	Comment Type	All Privileges
10	OPMARK10	White	Comment Type	All Privileges

Figure 13 – Operation Mark Definitions Tab

10.3 ENGINEERING UNIT

The Engineering Unit is a unit symbol attached to a process data value used within the project. Up to 256 engineering unit symbols can be used for one project. Among the 256 symbols, the first 8 are system fixed. The rest can be user defined. One engineering unit symbol can be defined with up to six alphanumeric characters. The table below shows engineering unit definitions. Individual projects can revise the definition to suit the project requirements.



No.1 - No.64 | No.65 - No.128 | No.129 - No.192 | No.193 - No.256

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
1	(None)	17	KM	33		49	A
2	%	18	RPM	34		50	KA
3	S	19	M/S	35	MBAR	51	MV
4	MIN	20	M/M	36	BAR	52	V
5	HR	21	M/H	37		53	KV
6	D	22	HZ	38		54	OHM
7	DEGC	23	KHZ	39		55	VAR
8		24		40	K	56	KVAR
9	RAD	25	G/CM3	41	J	57	MVAR
10	DEG	26	G/NM3	42	W	58	PH
11	GAL	27	KG/CM3	43	KW	59	PPB
12	barg	28	KG/NM3	44	KWH	60	PPM
13	UM	29	KG/M3	45	MW	61	%O2
14	MM	30		46	MWH	62	%H2
15	CM	31	PA	47		63	%V
16	M	32		48		64	WT%

No.1 - No.64 | No.65 - No.128 | No.129 - No.192 | No.193 - No.256

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
65	VOL%	81	KL	97	KG	113	KL
66	MOL%	82	KL/S	98	KG/S	114	
67		83	KL/M	99	KG/M	115	
68		84	KL/H	100	KG/H	116	
69	M3	85	NM3	101	TNE	117	MJ
70	M3/S	86	NM3/S	102	TNE/S	118	MJ/S
71	M3/M	87	NM3/M	103	TNE/M	119	MJ/M
72	M3/H	88	NM3/H	104	TNE/H	120	MJ/H
73	KM3	89	NKM3	105		121	
74	KM3/S	90	NKM3/S	106		122	HPA
75	KM3/M	91	NKM3/M	107		123	KPA
76	KM3/H	92	NKM3/H	108		124	MPA
77	L	93	G	109	NM3	125	
78	L/S	94	G/S	110		126	KJ
79	L/M	95	G/M	111		127	
80	L/H	96	G/H	112		128	

No.1 - No.64 | No.65 - No.128 | No.129 - No.192 | No.193 - No.256

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
129		145		161		177	
130		146		162		178	
131	mmH2O	147		163		179	
132		148		164		180	
133		149		165		181	
134		150		166		182	
135		151		167		183	
136	°C	152		168		184	
137		153		169		185	
138		154		170		186	
139		155		171		187	
140		156		172		188	
141		157		173		189	
142		158		174		190	
143		159		175		191	
144		160		176		192	

Figure 14 – Engineering Unit Configuration Tab

10.4 PROJECT COMMON PROPERTIES - SETTINGS FOR GRAPHICS

Note: In this project, CI Portal View shall have graphics. PCS has capability of Graphics but shall not be used.

It is recommended for the engineer to follow these settings as shown below on the Project common properties during Brown filed project execution for better graphics display functions.

Graphics tab in the new project creation dialog box consists below three options for the graphic actions.

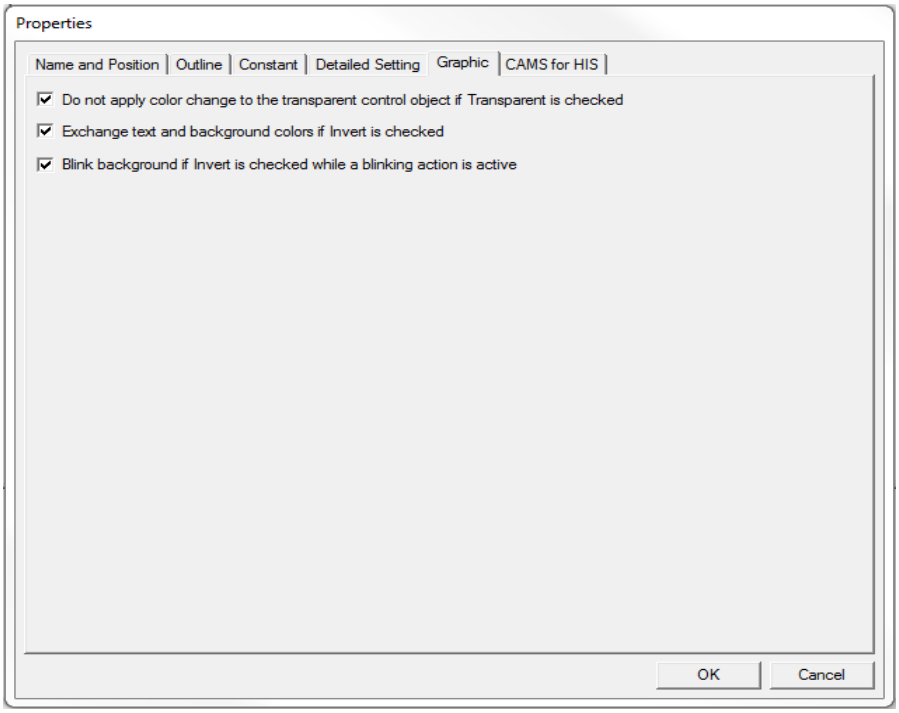


Figure 15 – Project Common Properties - Settings for Graphics

- Do not apply colour change to the transparent object if Transparent is checked.

By checking the above check box, the control with "Transparent" option specified remains transparent even if the modifier condition is met.

- Exchange text and background colours if Invert is checked.

By checking the above check box, the text and the background colours of the following are switched if the modifier condition is met.

- Text control with "Transparent" specified for its background and "Invert" specified as a modifier action.
- Data character control with "Transparent" specified for its background and "Invert" specified as a modifier action.
- Blink background if Invert is checked while a blinking action is active.

By checking the above check box, the background of the following controls blinks if the modifier condition is met.

- Text control with "Blinking" and "Invert" specified together as modifier actions.

- Data character control with “Blinking” and “Invert” specified together as modifier actions.

11 SUBSYSTEM COMMUNICATION- MODBUS TCP/IP

The Ethernet communication module communicates with subsystems at the specified intervals and stores the subsystem data in the communication modules' I/O image. FCS accesses the communication module asynchronously from them and refers to or sets the I/O image. This enables FCS to use the subsystem data through the I/O terminals of the function block in the same way as the general analog and digital I/O signals.

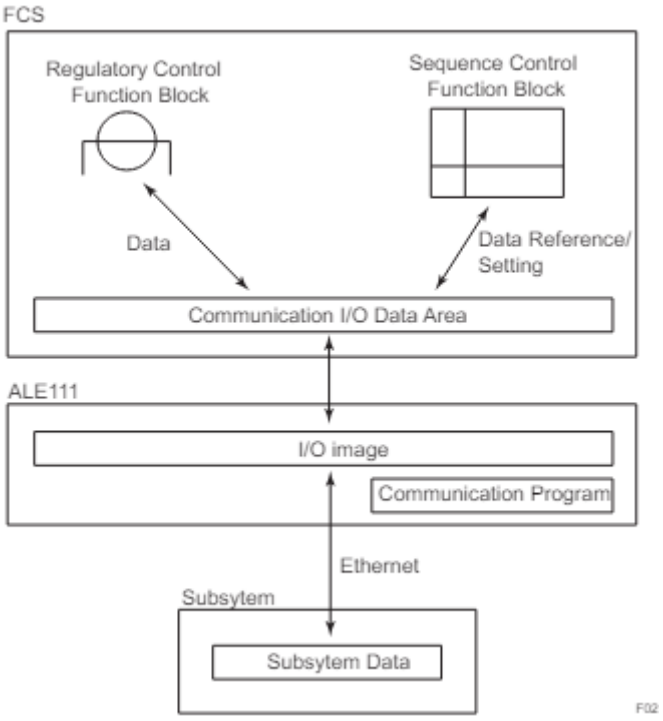


Figure 16 – Flow of data in a Subsystem.

11.1 MODBUS COMMUNICATION CARDS

FCS can communicate with a subsystem by using Ethernet TCP/IP protocol via ALE111 communication module that can be installed on Field Control Unit, ESB Bus Node Unit and Optical ESB Bus Node Unit.

11.2 OVERVIEW

For the CENTUM VP, subsystem communication package for Modbus TCP protocol is offered to allow the basic control function of the FCS to access the subsystem's data via an Ethernet communication module, in the same way as handling signals through other process input/output modules.

11.3 PCS COMMUNICATION CAPACITIES

The capacity specific to Modbus TCP interface when performing subsystem communication with Modbus TCP PLC is indicated below:

Sr. No	Item	Max Amount (For AFV30x / AFV40x / A2FV50X / A2FV70X)	Remark
1	No of Communication modules	Max 32 [16 pairs] per FCS	
2	No. of Communication I/O data	Max 8000 words / FCS	1 word = 16 bits
3	Amount of data those can be communicated with one module	Max 1000 words / Module	ALE111
4	No. of Communication ports / Module	1 port	
5	No of Subsystem for communication	Max 30 Subsystems	Total number of TCP and UDP connections
6	No. of Words per transmission	Max 125 Words (AI/O) Max 8 Words (DI/O)	
7	No of Communication definitions	Max 128 definitions / Module	

Table 49 – PCS Communication Capacity for Modbus TCP/IP

11.4 COMMUNICATION PERFORMANCE

The Communication performance for Modbus TCP protocol is dependent on the following factors:

- Number of words per transmission frame
- Number of communication definitions

Yokogawa recommends that the subsystem Communication data be with contiguous addresses & packed in units of words, to improve the efficiency of communication data acquired and set by the FCS.

Note: When more than 2 Subsystem PLC is communicating with 1 ALE Card, the network cable from each PLC COM port should directly connect to the Modbus L2 switch (PCS side) without any intermediate routers or gateways. To verify this, subsystem vendor to provide the system architecture along with subsystem design inputs.

11.5 COMMUNICATION INTERFACE

ALE111 is an Ethernet communication module that can be installed on Field Control Unit, ESB Bus Node Unit and Optical ESB Bus Node Unit.

11.6 COMMUNICATION SPECIFICATION OF ALE111

The communication specification specific to Modbus/TCP PLCs is listed in the table below:

Item	Description
Data Encoding Setting	Binary
Error Control	NA
Stations that can be communicated with	Modbus/TCP PLC Stations

Table 50 – Modbus TCP/IP Communication Specification

11.7 REDUNDANCY OF COMMUNICATION

11.7.1 Functional Overview

The Ethernet communication module, ALE111, can be made dual-redundant by setting two modules in the adjacent (odd- and even-numbered) slots of the same node unit.

Note: For this project, refer to Section 11.9 for the Interface Package List.

Note: In this Project Redundant and Non-Redundant communication is considered

11.7.2 Data Input Flow

Each of the two ALE111 modules communicates with the subsystem and reads the subsystem input data into the module. An FCS accesses the control communication module to read and use these data; however, it does not access the standby communication module. When the FCS detects a control communication module error or subsystem communication failure, the FCS switches its control to the standby module from which to read data.

11.7.3 Data Output Flow

A control communication module outputs data to a subsystem. The control communication module writes data to the subsystem at the specified intervals when an FCS sets the data in it. Meanwhile, the standby communication module re-reads and retains the output image data when it accesses the subsystem at the specified interval. This equalizes the data between the control and standby communication modules.

When an error is detected, the FCS switches its control to the stand-by module through which the FCS continues to output data to the subsystem.

11.8 CONFIGURATION SETTINGS

For this configuration, the following settings are required:

1. Set IP addresses for the ALE111 modules (Both) in the same network domain.
2. Check “Automatically Set Communication Details” in ALE111 properties.
3. Set IP addresses of the subsystems in the same network domain.

The following example shows the definition of redundant ALE modules in CENTUM VP system.

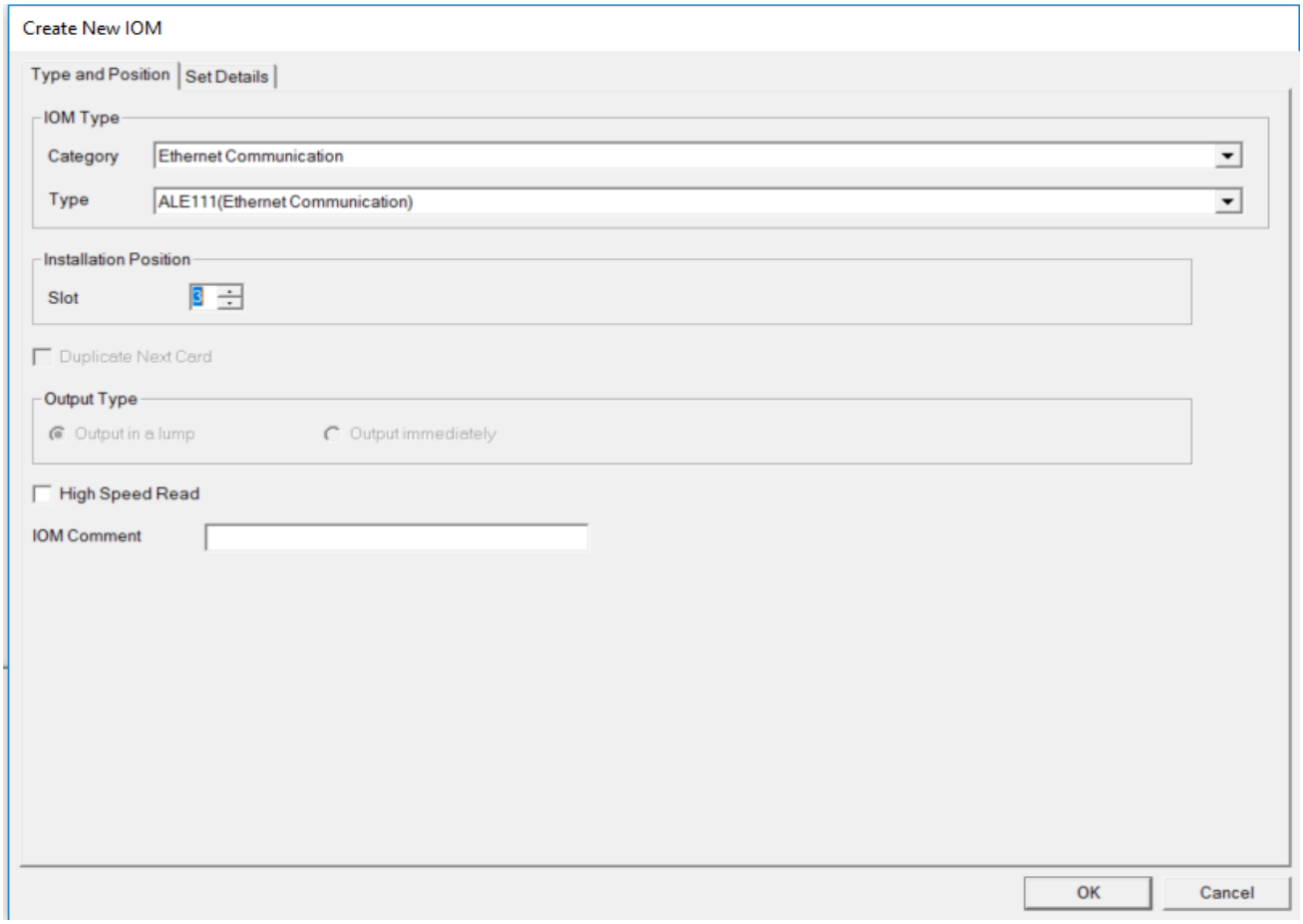


Figure 17 – Non-redundant Communication Module ALE 111 Configuration

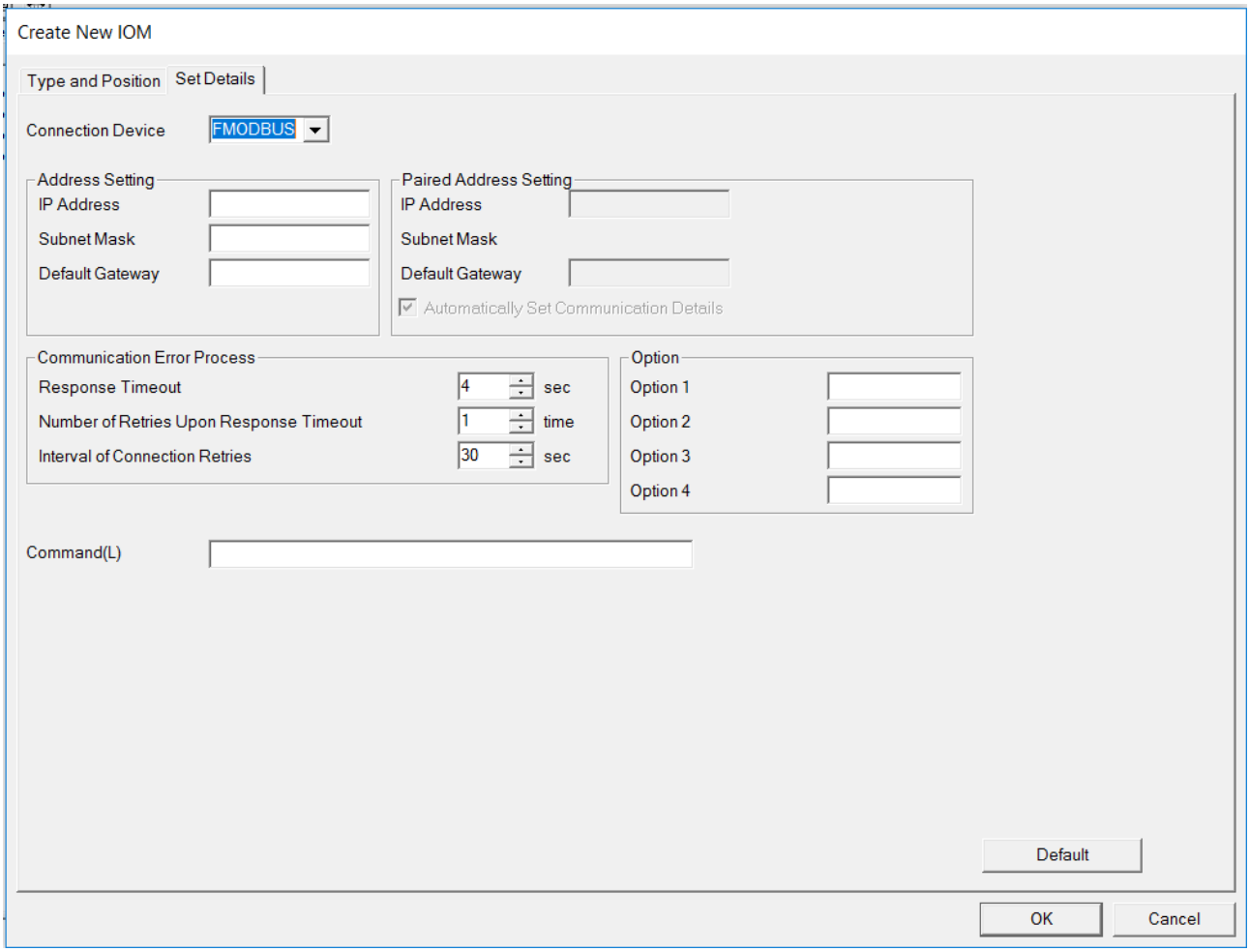


Figure 18 – Non-redundant Communication Module ALE 111 IP Setting

11.9 INTERFACE PACKAGE LIST

Modbus module shall be connected to Network switch which in turn connected will all Package PLCs

S. NO	Package Name	FCS	NODE	SLOT	PORT	Redundancy	Protocol
1	Water Treatment UCP	FCS0101	4	3	1	Non-Redundant	ALE111
2	LV Switchgear	FCS0101	3	7		Non-Redundant	ALE111
3	HVAC	FCS0101	4	3		Non-Redundant	ALE111
4	UPS	FCS0101	4	1		Redundant	ALE111
5	EMCS	FCS0101	4	1		Redundant	ALE111

Table 51 – Interface Package List- ALE111

12 SUBSYSTEM COMMUNICATION- PROFINET

This document describes Model A2LP131 PROFINET Communication Module which performs as the PROFINET IO-Controller to communicate and exchange data with PROFINET IO-Devices.

A2LP131 can be mounted on the following field control units (FCU). It can also be mounted on the ESB bus node unit (ANB10D) and the optical ESB bus node unit (ANB11D) which are connected to the FCU.

List of Applicable FCS: AFV30S, AFV30D, AFV40S, AFV40D, A2FV50S, A2FV50D, A2FV70S, A2FV70D

Note: For this project, refer to Section 12.5 for the Interface Package List.

12.1 HARDWARE SPECIFICATION

Hardware specifications for A2LP131 PROFINET communication module are as shown below.

Item	A2LP131 Specifications
Physical layer interface	IEEE 802.3 100BASE-TX
Connector	RJ-45
Transmission Speed	100 Mbps
Transmission route	2x2 twisted-pair shielded cable (symmetrical)
Transmission distance	1 segment, 100 m
No. of physical ports	One Port
Maximum current consumption	0.8 A
Weight	Approx. 0.31 kg

Table 52 – Communication Module Hardware Specifications

12.2 PROFINET COMMUNICATION SPECIFICATIONS

12.2.1 Communication with Profinet IO-Devices

A2LP131 exchanges data with PROFINET IO-Devices and receives the alarms from PROFINET IO-Devices. The PROFINET I/O-Devices data is stored in the communication modules' I/O Image area. FCU accesses this module, refers to the data stored in the I/O Image of the module, and stores the data in the communication I/O data area. Also, FCU accesses this module and sets the data set in the communication I/O data area by the functional block to this module's I/O Image area.

This enables FCU to use the PROFINET IO-Devices data through the I/O terminals of the function block in the same way as the general analog and digital I/O signals.

The following PROFINET data types can be assigned directly to the CENTUM VP functional block when using A2LP131. Boolean, Integer16, Integer32, Unsigned16, Unsigned32, Float32 In addition, A2LP131 receives the alarm from PROFINET IO-Devices and sends notifications to FCU.

Note: GSD (General Station Description) files shall be supplied by EPC.

12.2.2 Communication Path Dual Redundancy

In CENTUM VP, PROFINET network communication path dual redundancy is facilitated by connecting managed switches that have the Media Redundancy Manager (MRM) function, which is compliant with Media Redundancy Protocol (MRP), and the PROFINET IO-Devices that are the media redundancy clients (MRC) in a ring topology.

Media redundancy is a redundancy specification of PROFINET. For details, refer to the PROFIBUS Organization website. In CENTUM VP, dual redundancy of the communication path is achieved by making the PROFINET network a ring configuration. Consequently, even if communication with one communication path becomes impossible, communication can be continued by using the other communication path.

A2LP131 is placed outside of the media redundancy ring topology.

Note: In this project Dual Path Redundancy is not considered.

12.3 INSTALLATION ENVIRONMENT

No. of ALR111, ALR121, ALE111, ALP111, ALP121, A2LP131, and A2LP141 modules	Max. 32 units/FCS (Max. 16 pairs for dual-redundant operation) (*1)
No. of ALF111 modules	Max. 64 units/FCS (Max. 32 pairs for dual-redundant operation)
No. of all the communication modules	Max. 64 modules/FCS (*1) (*2)
No. of ports	1 port/A2LP131
No. of connectable PROFINET IO-Devices	Max. 128 devices/A2LP131
I/O data capacity for communication	1000 words/A2LP131
No. of communication definitions	200 definitions/A2LP131
No. of communication functions	Max. 8 types/FCS (*1) (*3)
Communication I/O data capacity	Max. 8000 words/FCS (incl. data from other communication functions)

*1: ALP111 and ALP121 cannot be mounted on the same FCS together.
*2: This is the sum of ALR111, ALR121, ALE111, ALF111, ALP111, ALP121, A2LP131, A2LP141, AGS813, and AGP813 modules.
*3: This is the sum of communication functions of ALR111, ALR121, ALE111, ALP111, ALP121, A2LP131, and A2LP141.

Table 53 – Communication Module Installation Environment.

12.4 CONFIGURATION SETTINGS

The following example shows the definition of redundant A2LP131 module in CENTUM VP system.

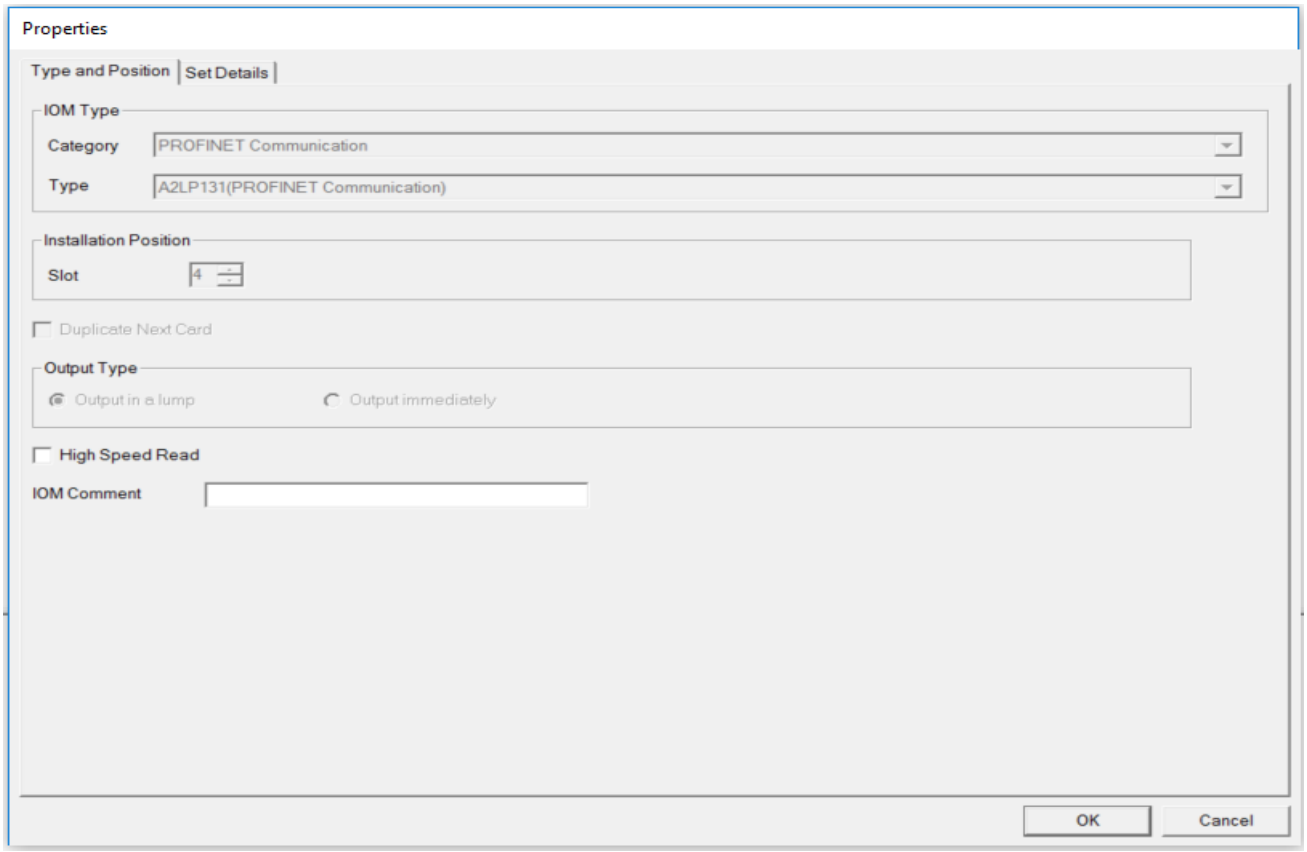


Figure 19 – Communication Module A2LP131 Configuration

12.5 INTERFACE PACKAGE LIST

PROFINET module shall be connected with Network switch and network shall be connected with PROFINET devices.

S. NO	Package Name	FCS	NODE	SLOT	PORT	Redundancy	Protocol
1	Instrument Air UCP	FCS0101	4	4	1	Non-Redundant	A2LP131
2	Nitrogen UCP	FCS0101	4	4		Non-Redundant	A2LP131

Table 54 – Interface Package List- Profinet

13 FUNCTIONAL OVERVIEW OF IAMS (PRM)

13.1 SYSTEM OVERVIEW OF IAMS

Plant Resource Manager (PRM) is Instrument Asset Management System (IAMS) in Yokogawa PCS.

Here after "IAMS" shall be referred as PRM in this Document.

PRM is a key component of YOKOGAWA Asset Excellence initiative, is a centralized asset management system that helps to reduce plant down-time and maintenance costs throughout the plant life cycle.

Being installed as part of Yokogawa ICSS (e.g. CENTUM VP, ProSafe-RS), PRM provides users with the capability to effectively configure and manage intelligent field devices such as Foundation Fieldbus H1 devices, HART devices, PROFIBUS DP and PA devices, ISA100 wireless devices and other FDT compliant devices (herein after referred to as field devices). It also provides users with various diagnostic information from field devices to help identify faults of plant assets in a proactive manner and to maximize production out of assets in the plant life cycle.

13.1.1 System Configuration

PRM consists of following software components, which have the potential to be installed on the same or separate machines. The details of the actual installation and architecture are depicted in System Architecture Drawing Doc.No.1724000594-IN-DD-00015.

Standard (required for all installations)

- PRM Client

PRM Client is a graphical user interface application used to view device information, monitor device status, and perform various operations related to device management throughout the plant life cycle. The PRM Client can be installed alone in one dedicated machine or can be installed along with the other components in the PRM system described in this section or can be installed in the HISs in CENTUM VP system. In this project PRM Server shall have PRM Client.

- PRM Server

PRM Server serves as a centralized repository which stores information collected from the field devices such as parameters, alarms and events, and diagnostic information. It also provides various tools and configuration templates to allow users to effectively manage the devices.

- PRM Field Communication Server

PRM Field Communication Server serves as a gateway to access fieldbus devices connected to Yokogawa ICSS through Control System Network. It also supports a serial link interface to HART devices through a HART multiplexer and linking/communication devices to interface with field devices such as PROFIBUS devices ISA100 wireless devices, etc. through Ethernet network. The PRM Field Communication Server dedicatedly serves one corresponding PRM Server which has the potential to be installed in the same machine or a separate machine depending on the sizing of whole PRM system.

13.1.2 Network Architecture

The following network architecture diagram shows an example of the PRM related components placed in the plant control network. Refer to System Architecture Drawing Doc. No.1724000594-IN-DD-00015 for the actual PRM software and hardware installation in this project.

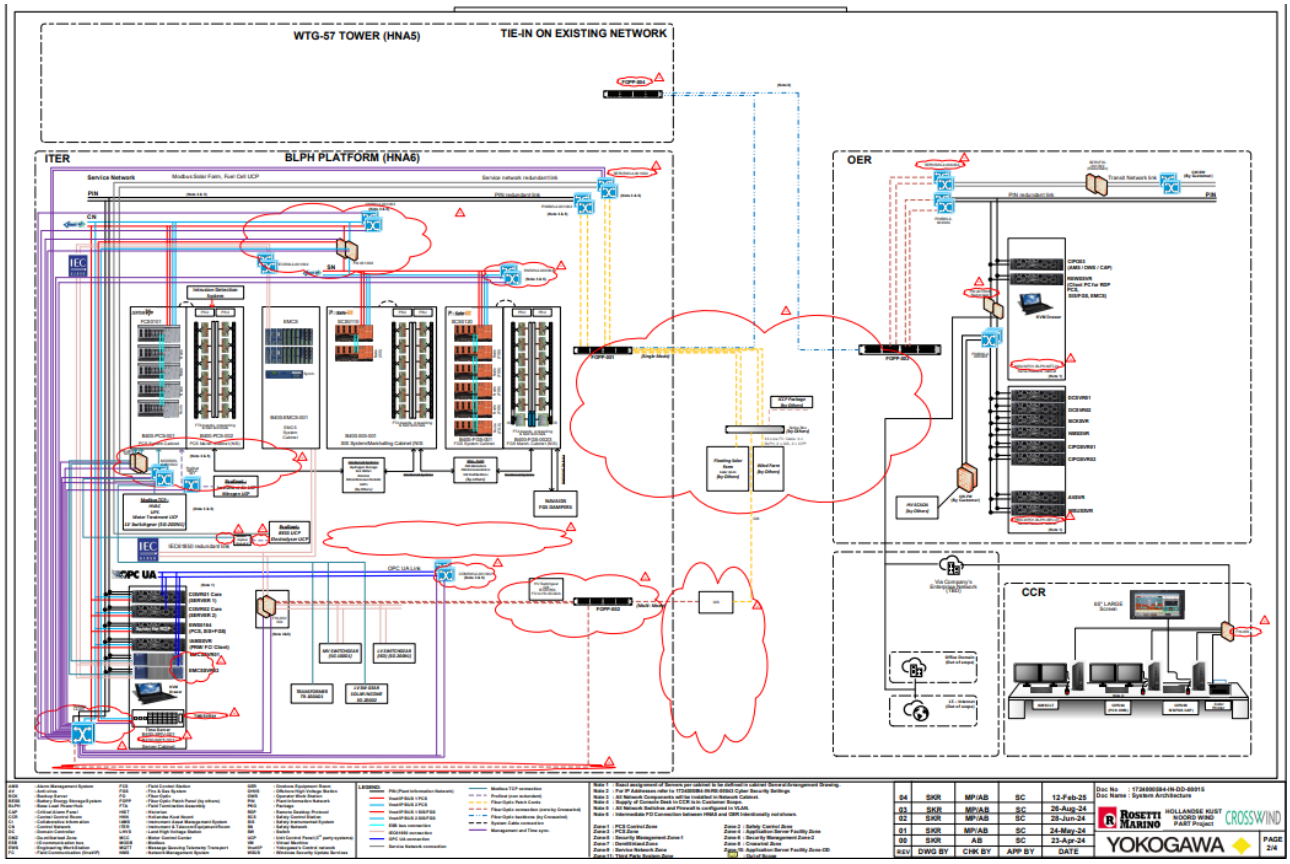


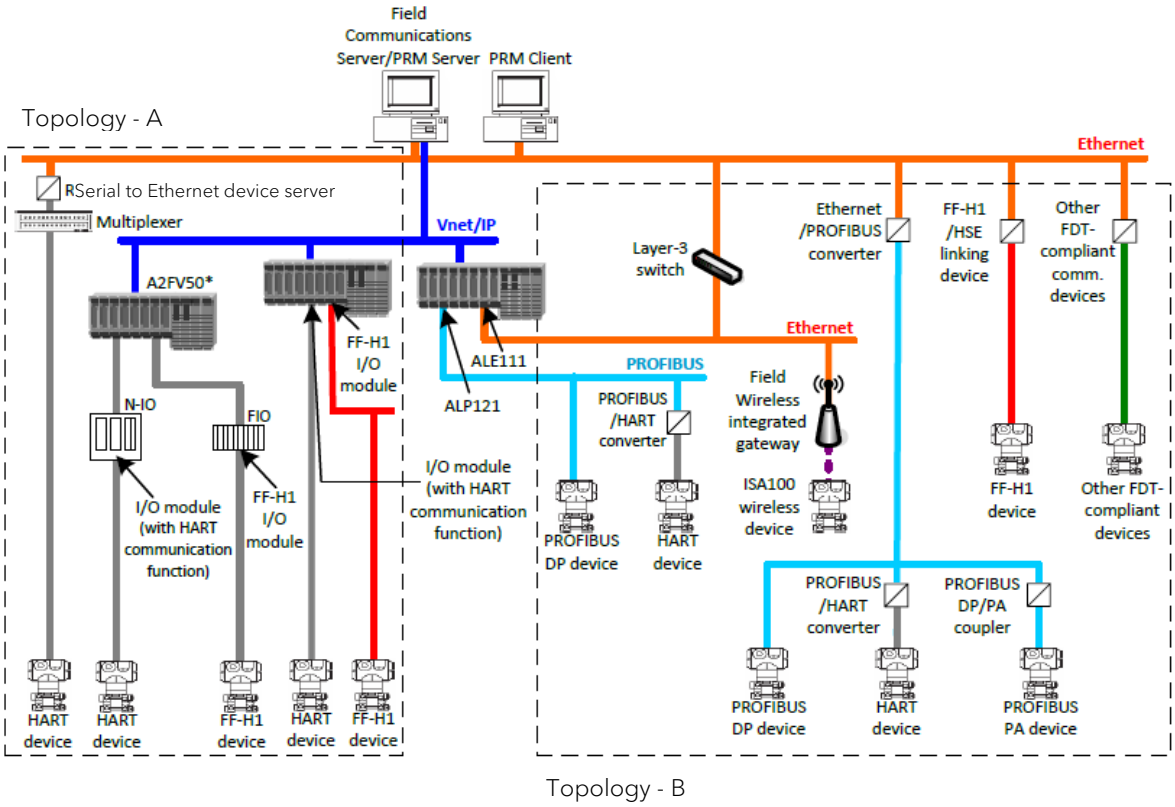
Figure 20 – Example of PRM Network Architecture

13.1.3 Field Device Network Topologies

Various types of field devices can be supported on the PRM:

- FF-H1 devices
- HART devices
- PROFIBUS PA and DP devices
- ISA100.11a devices
- Other FDT compliant devices

The topologies used for the device types above are shown in the following figure as an example:



Topology - A: PRM system collects information from devices through the control bus via host controllers or Multiplexer.

Topology - B: PRM system collects information from devices through Ethernet network.

Figure 21 – Example of Field Device Network Topologies

14 PRM STANDARD FUNCTIONS

The following table shows the main standard functions of PRM available in relation to types of supported devices. The section details the functions.

Categories	Functions	Topology - A *		Topology - B *			
		FF-H1(*5)	HART (*1)	FF-H1 on Linking Device (*5)	HART on PROFIBUS	PROFIBUS (*2)	ISA 100.11a
Basic Setup	Plug & Play	xx	xx	xx	xx	x (*3)	xx
	Device Template	xx	xx	xx	xx	xx	xx
Device Navigation	Plant View	xx	xx	xx	xx	xx	xx
	Network View	xx	xx	xx	xx	xx	xx
	Class View	xx	xx	xx	xx	xx	xx
	Signal View	xx	xx	xx	xx	xx	xx
	Custom View	xx	xx	xx	xx	xx	xx
Maintenance Alarm	Indication on Device Navigation Views	xx	xx	xx	xx	xx	xx
	Message Notification	xx	xx	xx	xx	xx	xx
Diagnosis and Adjustment	Device Viewer	xx	xx	xx	xx	NA	xx
	Parameter Manager	xx	xx	xx	xx	NA	NA
	DTM Works	xx	xx	xx	xx	xx	xx
	DD Menu	xx	NA	xx	NA	NA	NA
Maintenance Operation Assistance	Maintenance Mark	xx	xx	x	xx	xx	xx
Maintenance Information Management	Device Details	xx	xx	xx	xx	xx	xx
	Inspection Memo	xx	xx	xx	xx	xx	xx
	Inspection Schedule	xx	xx	xx	xx	xx	xx
	Parts List	xx	xx	xx	xx	xx	xx
Document Management Assistance	Document Links	xx	xx	xx	xx	xx	xx
Audit Trail Management	Parameter History	xx	xx	xx	xx	xx	xx
	Operation History	xx	xx	xx	xx	xx	xx
	Device Event Message	xx	xx	xx	xx	xx(*4)	NA
Security	PRM Groups and User Management	xx	xx	xx	xx	xx	xx
FieldMate Integration	Synchronization with FieldMate	xx	xx	xx	xx	xx	xx

Table 55 – PRM Standard Functions in relation with Types of Field Devices

xx: supported. x: partially supported. NA: not supported.

*: See section 13.1.3 for the topology of each device type.

*1: HART 5, 6, and 7 are supported on PRM.

*2: To gain full-fledged feature of each function below, it is recommended to follow the designated guideline.

Function	Guideline	Consequence of not following the Guideline
Plug & Play	The device must: • Support both DP V0 and DP V1 • Conform to PA Profile V3.02 or later	Loss of device static information (Device Details) on Plug & Play. This issue may be worked around by manually entering the same information.
Indication on Device Navigation Views	The device must: • Support both DP V0 and DP V1 • Conform to PA Profile V3.02 or later	The associated device icon always displays the "Uncertain" status shown in white.
DTM Works	The device must support both DP V0 and DP V1.	DTM Works not functional.
Device Event Message	A GSD file must be available for the device.	Loss of partial diagnostic information on Maintenance Alarm message.
	The device must: • Support both DP V0 and DP V1 • Conform to PA Profile V3.02 or later, and A GSD file of revision 3 or later must be available for the device.	Loss of partial or whole diagnostic information on Maintenance Alarm message.

Table 56 – Guideline for Profibus related functions on PRM

*3: For PROFIBUS DP (with Non-PA profile), device needs to be manually added to a FDT project before Plug & Play.

*4: PROFIBUS device event message is acquired via ALP111 or ALP121 PROFIBUS-DP Communication Module.

*5: FF Devices are not used in this project.

For general guidance on Profibus technology, visit the web site of PROFIBUS international.

14.1 BASIC SETUP FUNCTIONS

14.1.1 Plug & Play

Plug & Play is an initial setup for the PRM to recognize the devices through the PRM Field Communication Server and register them in its database. A device becomes available for the various PRM functions when it is complete with Plug & Play. In order to perform Plug & Play for the devices, communication must be established between the devices and the host system (e.g. CENTUM VP, ProSafe-RS) or associated gateway devices in advance. Also, the following setup must be completed for the PRM Field Communication Server before Plug & Play:

- Device path configuration for HART devices.
- FDT project configuration for FDT based devices.
- Installation of proper DD/CFF files and DTM files in the designated folder in the PRM.

14.1.2 Manual registration

If User need to prepare the devices before plant commissioning, then manually register the devices in PRM even if they are not connected to the field network. User also can manually register devices that cannot be registered by the other registration methods.

- The devices that you can register manually are as follows:
- Devices that use connection methods not supported by PRM.
- Conventional and static devices.

Devices that can represent and manage an asset on the site, area, process cell, or unit of the plant hierarchy

Offline devices to be connected later using device path configuration.

Manual Registration through PRM Client

Registers devices by adding it manually in the PRM Client.

Supported communication type: FF-H1, HART, ISA100, PROFIBUS, BRAIN, Modbus, Conventional device, Static device and Other.

Manual Registration through Bulk Device Import tool

- Registers multiple devices that belong to YOKOGAWA systems by importing a device registration file.

  Supported communication type: FF-H1, HART.
- Registers multiple devices that belong to Generic systems by importing a device registration file.

  Supported communication type: Conventional device.

14.1.3 Device Template

A PRM device template gives the user a static configuration template that can eliminate manual work for configuring some of the PRM features during the commissioning or maintenance activities. The template allows the user to reuse the following configuration for the field devices of the same make, model and revision:

- Device Details
- Link to the associated Plug-in applications.
- Link to the associated Parts list.
- Document link.

Once a template is configured, it will appear on the Class View as shown in Figure 25.

It should be noted that the PRM device template does not contain configurations of the device itself, i.e. device parameters.

As Number of devices are small so Device Template usage is not envisaged in this project.

14.1.4 Template for Device Parameter

Functionality:

1) Multiple device template can be created for specific vendor, device type and revision for HART device.
2) User is able to configure parameters which are related to template
3) Template can be applied and downloaded to multiple devices.

Key Benefit:

Reduce device commissioning time by preparing the common device parameter template, then bulk download to devices.

As Number of devices are small in number so Device parameter usage is not envisaged in this project.

14.1.5 Device Tag Display Extension

The device tag display extension provides with the user a means to identify a field device by an additional string in addition to its device tag or a string other than its device tag on the PRM. When duplicated device tags are expected in similar process units, this feature allows the user to register those devices by the other means in order to avoid duplicated tags in the PRM Server.

The following configuration options are available. These configurations should be determined during the basic design phase to bring consistency in configurations between the system and field devices.

- Device Tag Display Extension for HART devices

One of the following configuration options can be selected for HART devices. The additional string if used as well as the device tag should be set in each HART device prior to the commissioning phase.

- Tag (Default): Displays the physical device tag.
- Tag + Descriptor: Displays the physical device tag and the descriptor information of the device.
- Descriptor: Displays the user-defined descriptor information for the device.
- Message: Displays the user-defined message information for the device.
- Long Tag (for HART 6 and later): Displays the Long Tag parameter value for HART 6 and later devices.

The following figure shows Device Tag Display Extension Configuration dialog box on the PRM Client window.

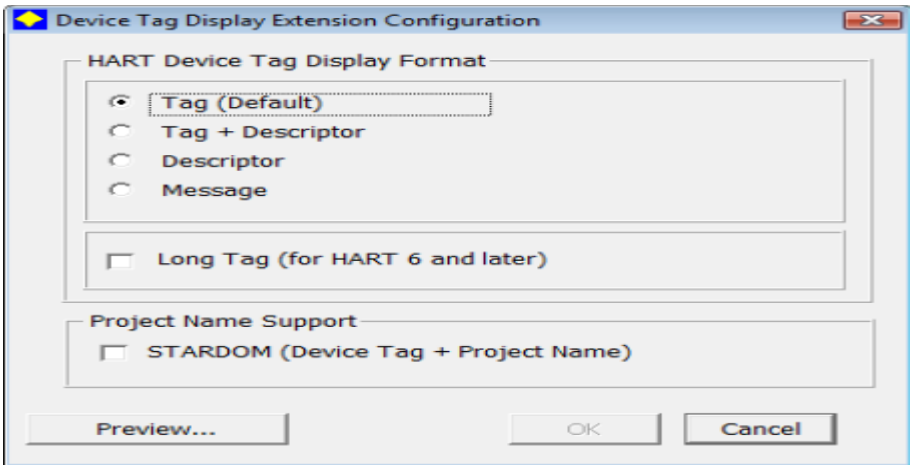


Figure 22 – Device Tag Display Extension Configuration dialog box

14.2 DEVICE NAVIGATION FUNCTIONS

The PRM Client provides the user with the following views for navigating field devices:

- Plant View
- Network View
- Class View
- Signal View
- Custom View

Once a device is complete with Plug & Play, it will appear on the views above as the device status icon and will be shown in the pre-defined color depending on its operating status (e.g. green if normal and red if abnormal). Refer to section 14.3.2 for the color-coding scheme in the PRM.

14.2.1 Plant View

The Plant view displays the devices and equipment modules of the plant in the form of a plant hierarchy structure that may include Site, Area, Process cell, Unit, Equipment modules and Control modules layers as shown in Figure 26.

Devices that are newly created, and those detected by Plug & Play initially appear in the Spare folder. User can customize the structure of the plant hierarchy tree according to the actual structure of your plant. This view also enables user to create new devices manually and delete existing devices.

The devices which are not on service will be under Out of Service folder.

PRM will allow import and export of plant hierarchy for Ease of Engineering.

Refer to section 14.16 for configuration of the plant hierarchy for this project.

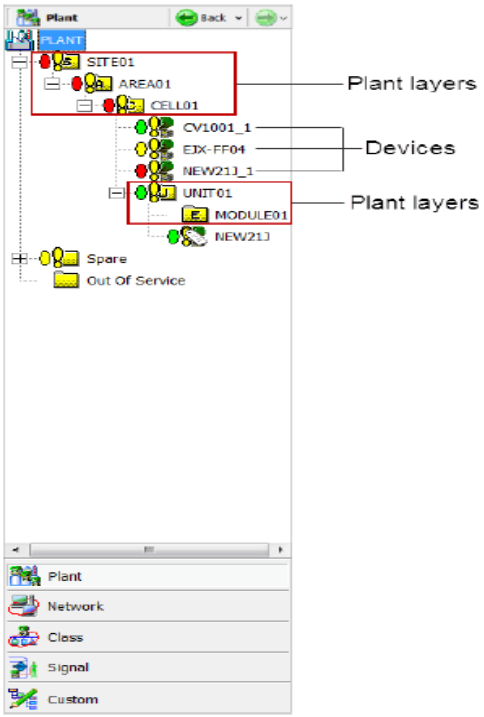


Figure 23 – Example of the Plant View

14.2.2 Network View

The Network View displays the field devices in a hierarchy determined by the location of the devices in relation with the actual hardware architecture of the system. As shown in Figure 27. The field device is shown in the relevant folder at the bottom of the hierarchy under the concerned controller and I/O module.

The initial set up for registering a field device in the PRM will be performed by executing Plug & Play on the Network View.

The information of the actual hardware architecture will be fed by configuring the device path or FDT project depending on the field device types using the PRM Setup Tool. Refer to section 14.15.4.3 for configuration of the device path and FDT project for this project.

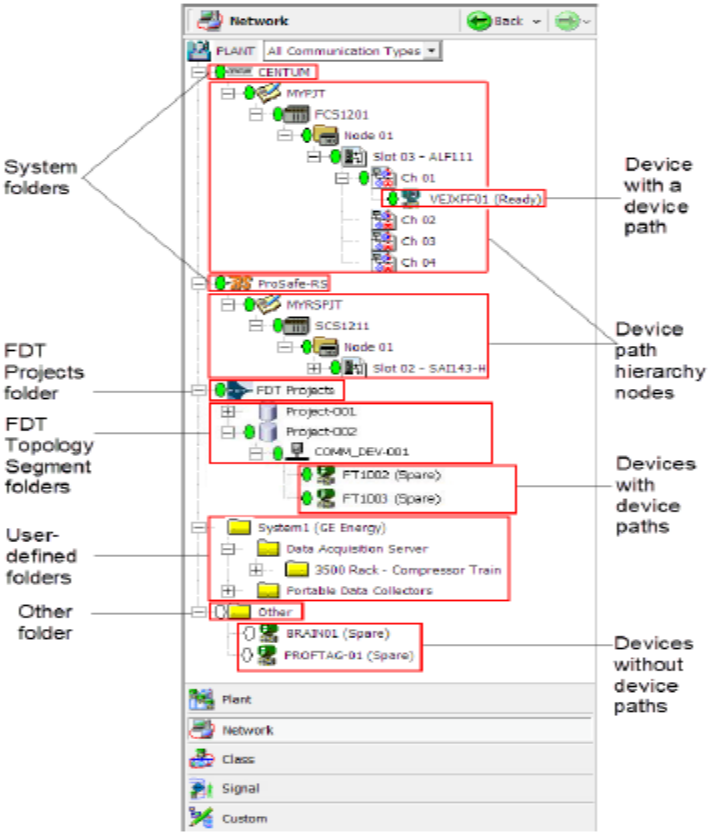


Figure 24 – Example of the Network View

14.2.3 Class View

The Class View displays the field devices in a hierarchy determined by the fixed attributes of the devices such as the communication type (Foundation Fieldbus, HART, PROFIBUS …etc.), category, vendor, model, revision and status of the devices. Each of the attributes is represented by a respective folder in a tree-like view and a field device is located at the bottom of the hierarchy as shown in figure 28.

The status of the devices falls into the following three depending on the operating status of the device on the PRM.

- On-Service
- Spare
- Off-Service

No configuration is required for the Class View.

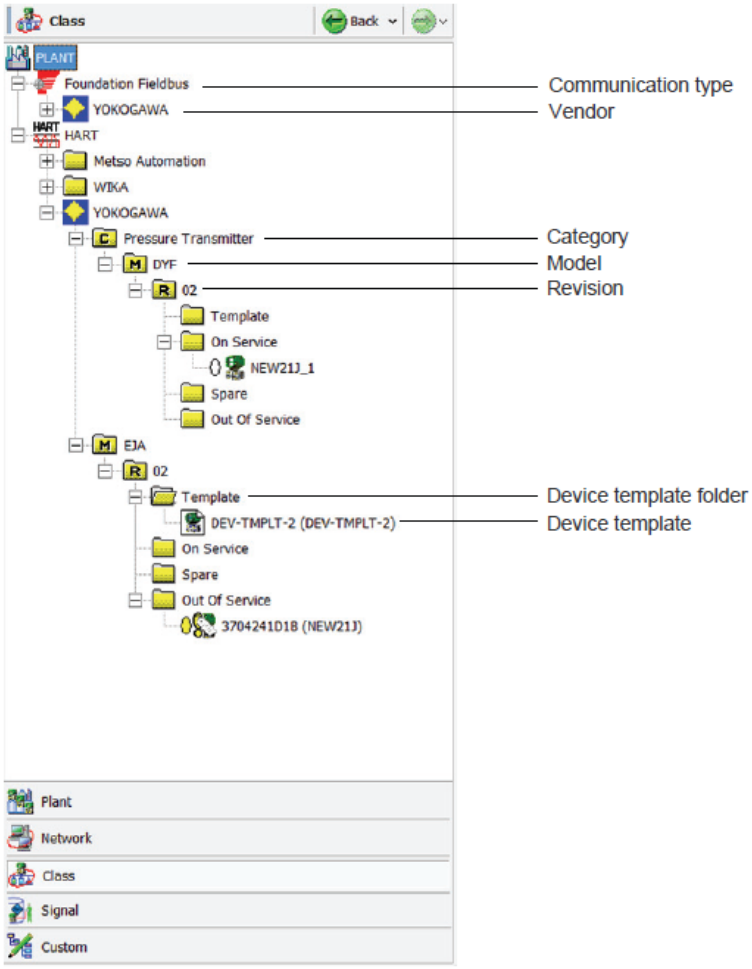


Figure 25 – Example of the Class View

14.2.4 Signal View

The Signal View displays the field devices that require the user's attention for a corrective action in certain priorities determined by NAMUR NE107. The NAMUR NE107 gives a consistent and structured approach to enable delivery of diagnostic information from an individual field device to the asset management system and allows the user to quickly respond to a failure with more meaning full information available.

The field devices are arranged on the signal view per priorities shown below.

Status Signal	Priority	Status Signal Icon	Description	Remark
Failure	1		The device is malfunctioning and must be replaced.	Sensor break, electronics failure..etc.

Check Function	2		The device has incomplete calibration or tuning.	Device not fully configured, calibrated or tuned …etc.
Out of Specification	3		The device is not operating within the specified measurement range.	Bubble formation in flow metering, Valve sticking …etc.
Maintenance Required	4		The device requires short-term or midterm maintenance because it is about to stop functioning.	Build-up of deposits …etc.
(Normal)	N/A	N/A	There is no NAMUR status applicable for field devices in Normal status.	The field devices in this status are not shown on the display.

Table 57 – NAMUR NE107 Status Classification and Description

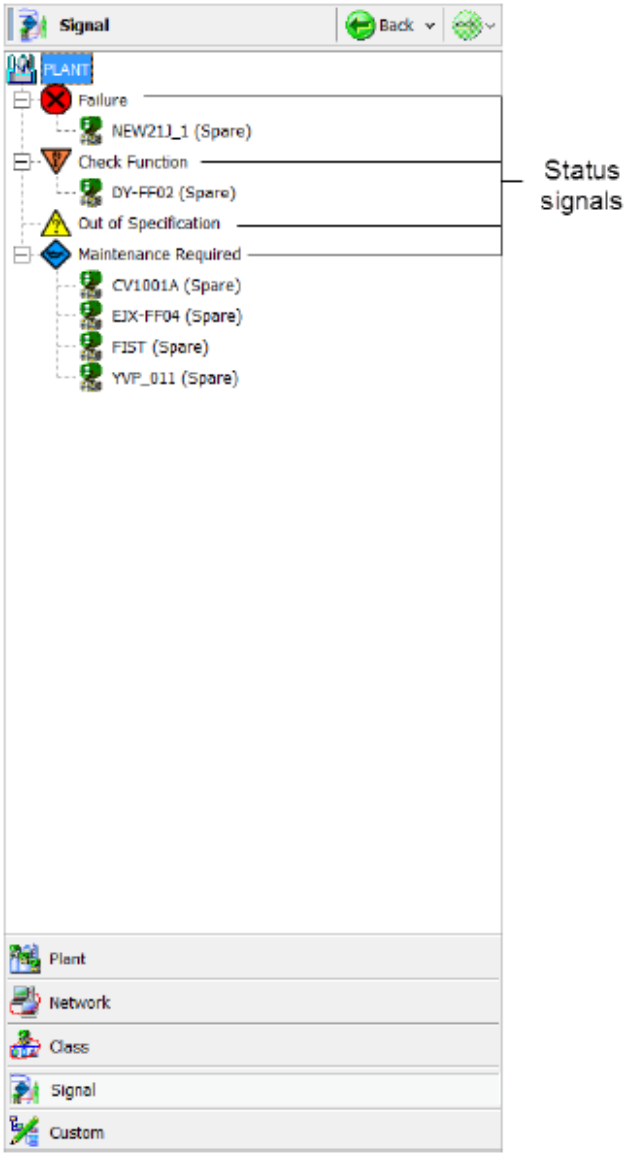


Figure 26 – Example of the Signal View

The NAMUR status signal of a field device is also displayed on other windows such as Device List window, Device Viewer window and History window.

14.2.5 Custom View

The Custom View allows the user to create folders and allocate the field devices to these folders as needed. For instance, the user can create "Need Attention" folder in Custom View and put faulty devices there for the instrument engineer for investigation.

14.3 MAINTENANCE ALARMS

The PRM receives alarms and events from various sources and process them to the meaningful asset related information, which are displayed on History window of the PRM Client and stored in the PRM database. Maintenance Alarms and events are shall not be configured to receive in OWS.

This section describes the following functions:

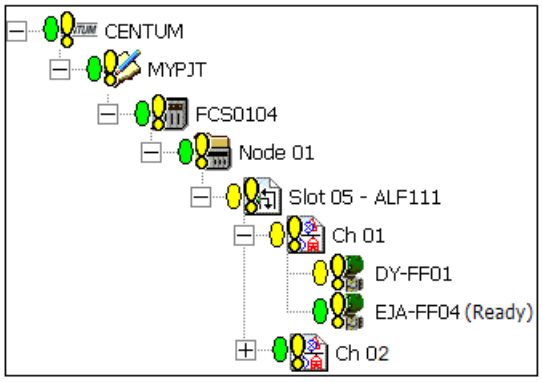
- Message Acquisition
- Device Patrol
- Message Notification

14.3.1 Message Acquisition

The message acquisition function is an OPC-AE client based standard function. By default, it works to receive alarms and events associated with the field devices through the host systems such as CENTUM VP, ProSafe-RS. Message Acquisition function shall not be configured in this project.

14.3.2 Device Patrol

The Device Patrol function is a means to poll status of the field devices via the host systems such as CENTUM VP, ProSafe-RS or via the gateway devices on the device network. The current status of each field device will be reflected to the respective device status icon with the pre-defined color as shown in the following figure.



GUID-A4A60491-7D13-4279-B4ED-477800D66E87-default-pdf.pdf

Figure 27 – Example of the Device Status Icon on the Network View

When the Device Patrol detects faulty status within a field device, it will generate an alarm (or an event depending on its criticality) and store it in the PRM database with the time stamp. History window on the PRM Client allows the user to view all logged alarms and events in the PRM database. Refer to section 14.8.2 for details of the History window.

The following table shows the color coding scheme for the device status icon:

Color	Status Value	Results	Description
White	10	Uncertain	Indicates that the device status is unknown. This status may be assigned to newly registered devices, which have not yet been scanned by Device Patrol, or to devices that use a communication type not supported by PRM.
Green	20	Normal	Indicates that the device has no errors.
Grey	30	Communication Error	Indicates an error in a communication between the Field Communications Server and the field device. This includes cases of communication errors caused by device failure.
Yellow	40	Warning	Indicates that the device is in a warning state.
Red	50	Abnormal	Indicates that the device has errors.

Table 58 – Device Status Icon Color Coding Scheme

Note: The status value indicates the priority level of each status with a larger number for higher priority. It is internally used within the PRM system.

The polling cycle for the device patrol (device patrol period) can be specified to each of the following object criticality levels that are assigned to the field devices (Note: The default object criticality for all field devices is "Low".):

- Low
- Medium
- High
- High+

The default patrol period is one hour for all criticality levels. Refer to section 7.5.1.1 for configuration of the device patrol period for this project.

14.3.3 Alarm Management Rules

The alarm management rules allow the user to add meaningful information such as a cause of the problem, corrective actions …etc. to the alarm of a particular device or suppress particular alarms based on pre-configured criteria. Configuration for the alarm management rules can be done using the Alarm Management tool. By default, no alarm management rules are implemented so that the information provided for each alarm is based on the default of each type of the fieldbus devices and that suppression is not applicable to all field devices.

14.3.4 Alarm Notification Rules

The alarm notification rules allow the user to route a particular alarm to the HIS station Configuration for the alarm notification rules can be done using the Notification Configuration tool. By default, no alarm notification rules are implemented so that alarms will not be routed to outside of the PRM system.

14.4 DIAGNOSIS AND ADJUSTMENT

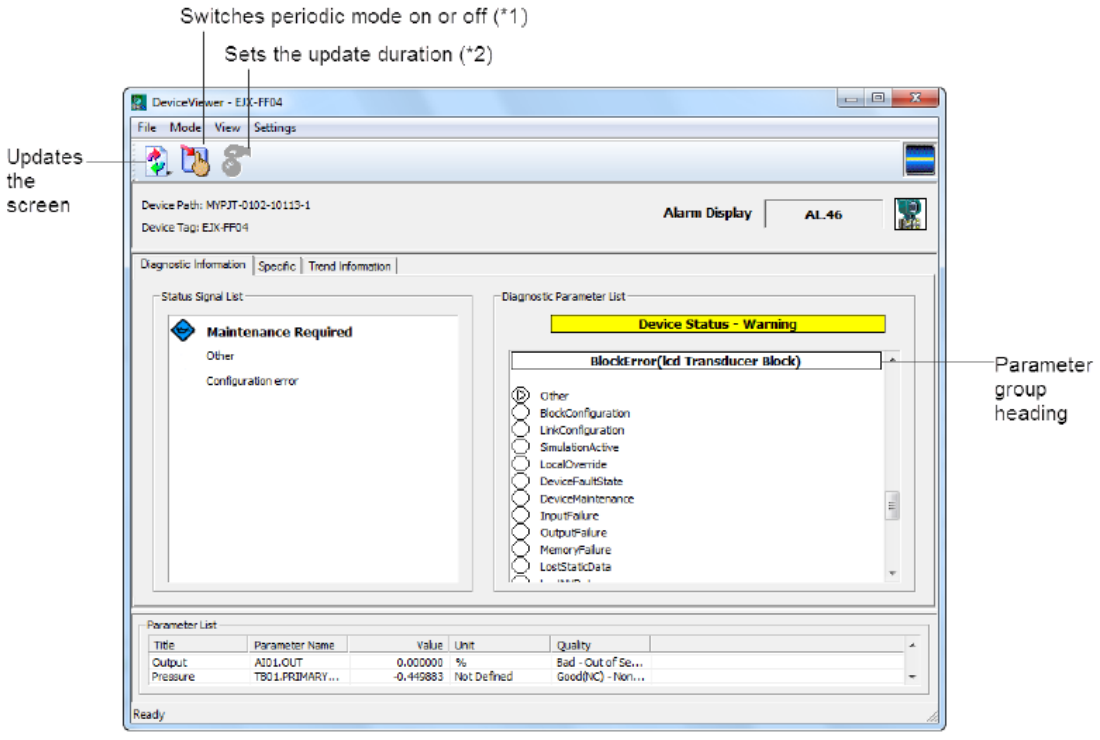
This section describes the following functions used for adjustment and diagnosis for the field devices:

- DeviceViewer
- Parameter Manager
- DTM Works
- DD Menu

14.4.1 DeviceViewer

The DeviceViewer provides the user with a means to display diagnostic alarms and key values of the field devices. The DeviceViewer may display either instrument specific diagnostic information using the associated DD file or common information depending on the DeviceViewer configuration file (xxx.cfg) provided along with the PRM software packages. Refer to Appendix-3 for details of the DeviceViewer configuration files provided for this project.

The following figures show examples of the DeviceViewer windows provided for Yokogawa EJX transmitter. Depending on how it is set up, it retrieves the information on demand or continuously in the specified update duration. If the continuous mode is selected, the values can be displayed in a form of trend graph.



1: A check mark appears next to Periodic mode in the menu bar if it is on.
2: This is only available when Periodic mode is on.

Figure 28 – Example of DeviceViewer (Diagnostic Information tab)

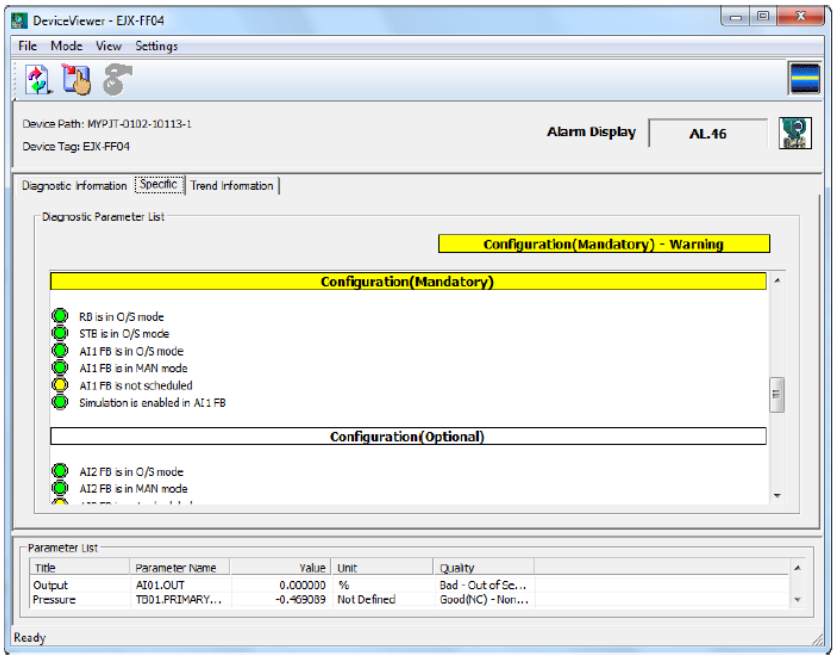


Figure 29 – Example of DeviceViewer (Specific tab)

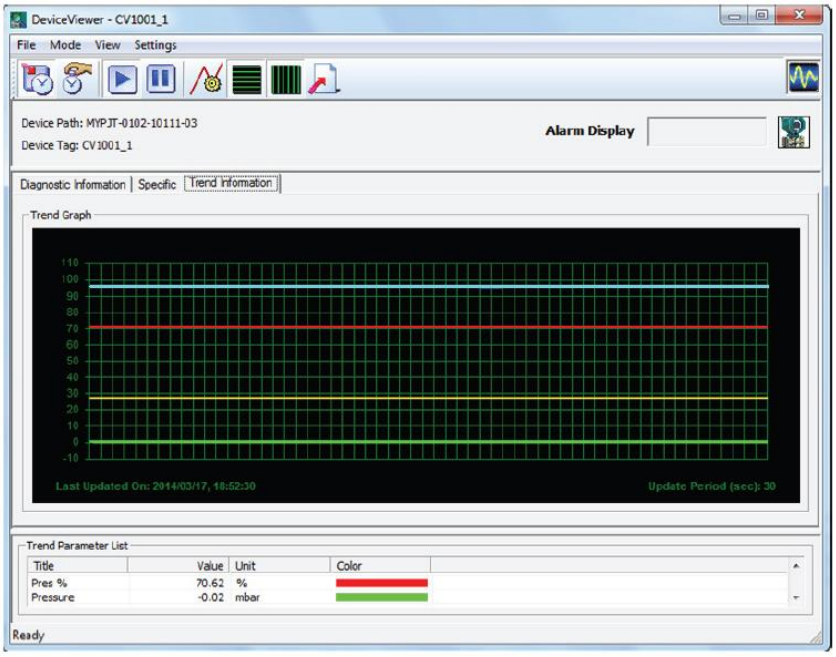


Figure 30 – Example of DeviceViewer (Trend Information tab)

The trend data shown on Trend Information tab can be saved in a CSV file with date/time stamp.

14.4.2 Parameter manager

The Parameter Manager provides the user with a means to display device parameters and adjust them through the dedicated window of the PRM Client using DD files. It allows the user to only browse a specific parameter or a group(s) of the parameters depending on the selected tab.

It also allows the user to historized the parameters captured at a certain time by saving them into the PRM database and compare them with the latest parameters retrieved from the device on the same window. The following figure shows an example of Parameter Manager Window.

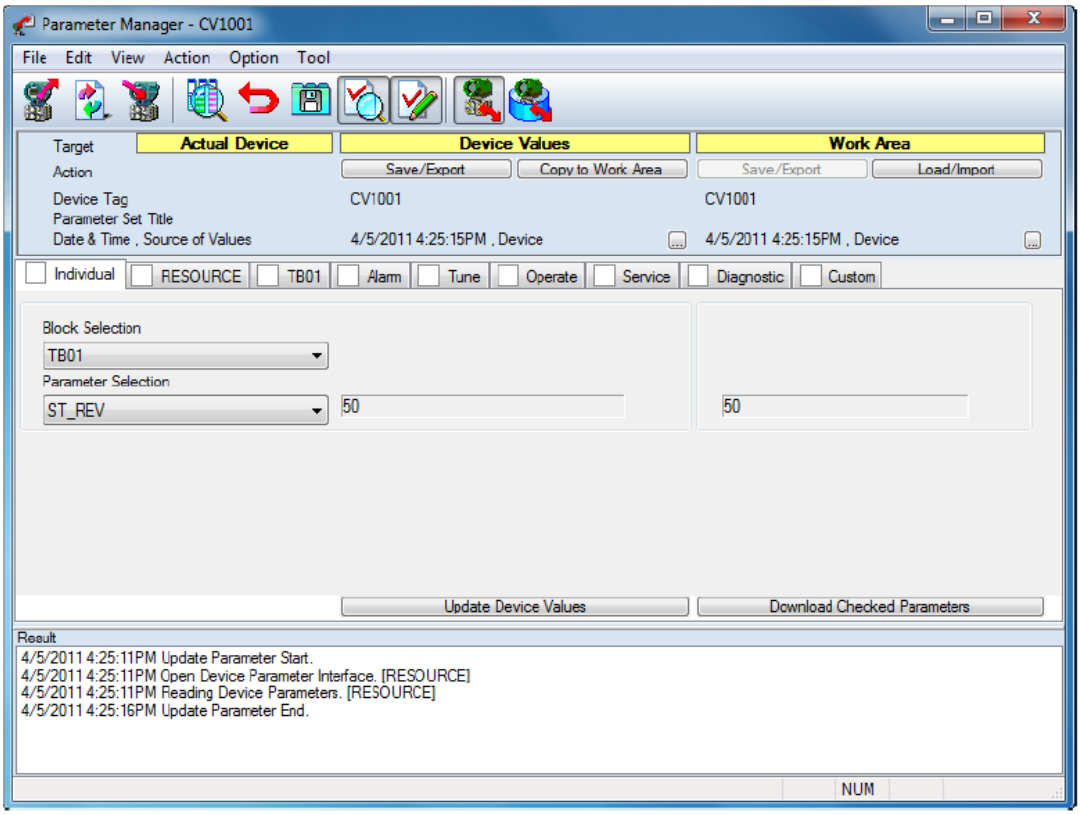


Figure 31 – Example of Parameter Manager

The user has an option to choose the Parameter Manager or the DTM Works described in the next section as the default parameter management tool on the PRM Client.

14.4.3 DTM Works

The DTM Works provides the user with the equivalent function as the Parameter Manager described in the earlier section.

The DTM Works functions based on either the device DTM files provided by the respective device vendor for a particular type of devices or the universal DTM. With the device DTM files installed, the DTM Works gives the user a comprehensive way of configuring, diagnosing and trouble-shooting a particular type of the

devices through the dedicated graphical user interface while it only gives a generic interface with the universal DTM installed.

Note: DTM files supply is not part of Yokogawa Supply.

By following the standard installation procedure, the device DTM for some of Yokogawa instruments will be available in the PRM while the universal DTM will be used instead for the remaining devices.

The user can obtain the device DTM specific to a particular device type from the respective vendor and make use of it by installing it in the specific folder.

Refer to Appendix-3 for details of the List of supported devices and Yokogawa specific DTM files and universal DTM for other vendors provided for this project.

The user has an option to choose the Parameter Manager or the DTM Works as the default parameter management tool on the PRM Client.

The following figure shows an example of the DTM Works for Yokogawa EJA (a pressure transmitter).

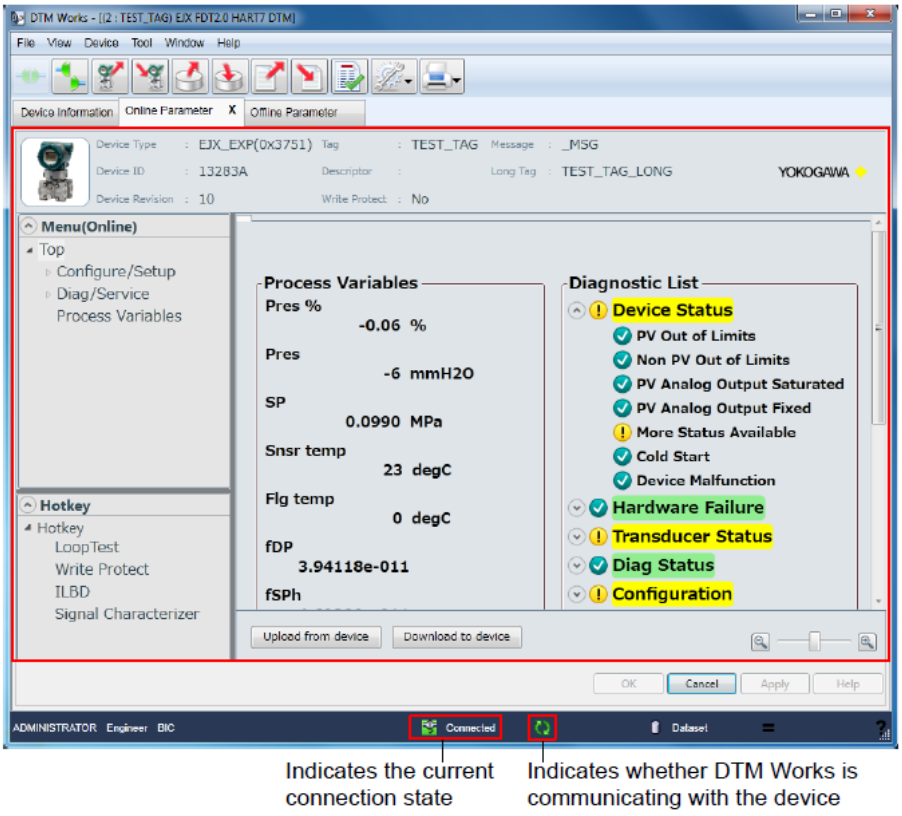


Figure 32 – Example of DTM Works

14.4.4 DD Menu

Aside from the Parameter Manager and DTM Works, the PRM also provides the DD menu for the FF devices to perform the similar function through its text-based user interface. The following figure shows an example of the DD menu for Yokogawa EJA pressure transmitter.

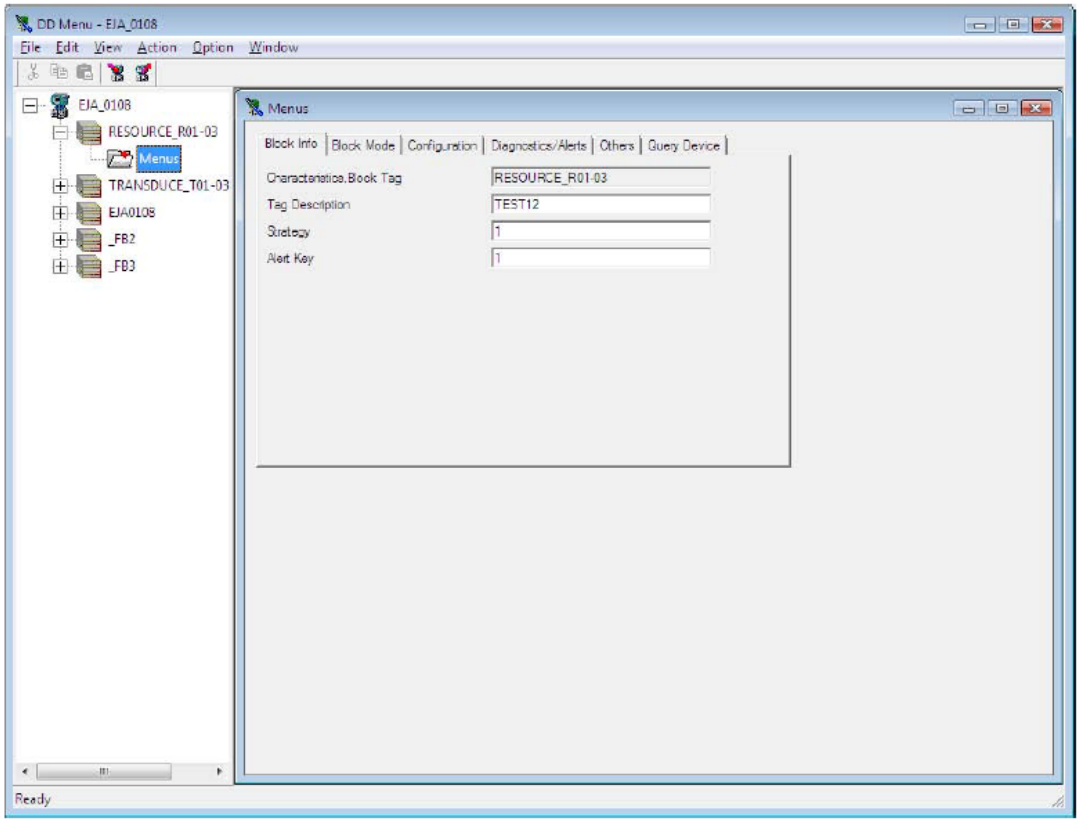


Figure 33 – Example of DD Menu

14.5 MAINTENANCE OPERATION ASSISTANCE

14.5.1 Maintenance Marks

Note: In this project Operation Mark usage is not envisaged.

As a means to assist maintenance activities for the field devices, PRM can provide the user to indicate the maintenance status of a device on the PRM Client, so called the Maintenance Mark. The Maintenance Mark allows the user to share status of the activity undergoing for a particular device with other users on the PRM Clients by having an MTMK icon overlaid on the device status icon as shown in the following example. (The red tag mark shown in the following figure is a maintenance mark.)

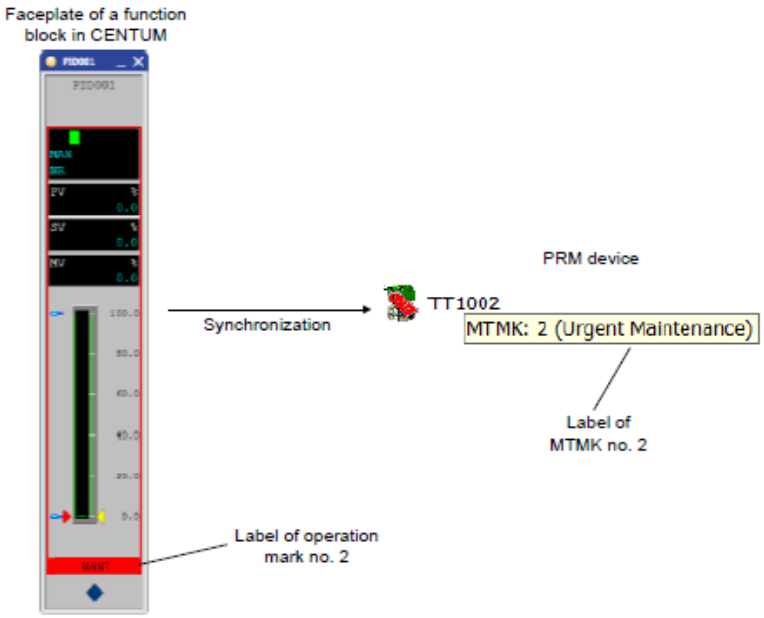


Figure 34 – Example of the Maintenance Mark

Once a Maintenance Mark is attached to a device, it either gives the user access rights to perform adjustment of the parameters for the device, or revokes the access rights or retains the access rights provided when the Maintenance Mark is not attached depending on the configuration of the maintenance mark. When the Maintenance Mark is removed, the access rights pre-defined on the PRM will be retained.

When it is configured to synchronize with a particular Operation Mark on the CENTUM VP system, the operator can initiate an action to automatically assign a pre-defined Maintenance Mark to a device on the PRM Client by attaching the Operation Mark to the respective faceplate of the control loop on the HIS in CENTUM VP system.

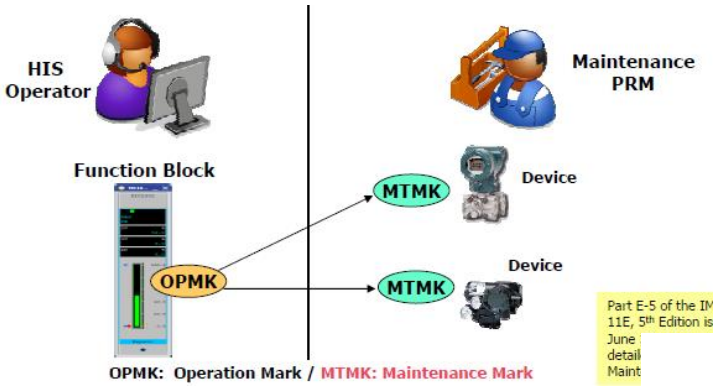


Figure 35 – Example of Operation Mark and Maintenance

14.6 MAINTENANCE INFORMATION MANAGEMENT

The PRM provides the user with the following functions to maintain the devices effectively:

- Device Details (Device Master Information)
- Inspection Memo

- Inspection Schedule
- Parts List

Configuration of the above will be left at the system default.

14.7 DOCUMENT MANAGEMENT ASSISTANCE

14.7.1 Document Links

The PRM provides the user with a means to quickly access the documents associated with the field devices (e.g. manuals, P&IDs, data sheet ...etc.) through the PRM Client using the Document Links. The documents can be stored either in the pre-defined folder in its local hard drive or centralized location over the network. The Document Links can be configured by specifying the location of folders or URL. The PRM supports PDF file format as system default document software.

14.8 AUDIT TRAIL MANAGEMENT

The PRM provides the user with a means to manage and keep track of the asset related information such as historized (saved) parameters, alarms and events of the devices and operation logs on the PRM Client. This section describes the followings available on the PRM Client as the Audit Trail Management functions:

- Parameter History
- History Window

14.8.1 Parameter History

The functions such as the Parameter Manager, DTM Works, and DD Menu (Refer to section 14.4 for details.) allow the user to save the current set of parameters in the field devices in the PRM database. It is saved with the time stamp so that the user can keep track of the changes made at any time and compare one set of the saved parameters with the other or the current set in the devices using these functions.

The saved parameters can be exported in the form of XML format.

Comparing parameter data of multiple devices

User can compare the parameters of multiple devices by using the Audit Device Parameter tool. The tool enables you to perform the following types of comparisons:

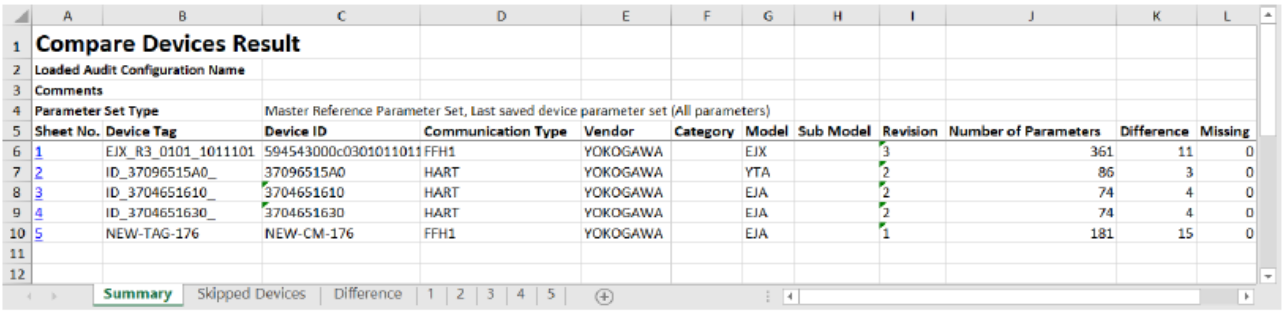
- Compare devices

This comparison enables you to compare the actual parameter data or last saved parameter set with the baseline parameter set of a device. The baseline parameter set is either the parameter set assigned with the Master Reference key, or the saved parameter set with an earlier time stamp, depending on the comparison mode that user is using. Multiple devices can be compared at the same time.

- Compare with templates

This comparison enables user to compare the actual parameter data or the last saved parameter set of multiple devices with the baseline parameter set of a device template in the same device class. The baseline parameter set is the last saved parameter set of the device template.

User can use the Audit Device Parameter tool to validate incorrect parameter values in scenarios such as setting up of a new plant, replacing of devices, or shutting down of a plant for maintenance purposes.



Compare Devices Result

Loaded Audit Configuration Name

Comments

Parameter Set Type: Master Reference Parameter Set, Last saved device parameter set (All parameters)

Sheet No.	Device Tag	Device ID	Communication Type	Vendor	Category	Model	Sub Model	Revision	Number of Parameters	Difference	Missing
1	EJX_R3_0101_1011101	594543000c0301011011	FFH1	YOKOGAWA		EJX		3	361	11	0
2	ID_37096515A0_	37096515A0	HART	YOKOGAWA		YTA		2	86	3	0
3	ID_3704651610_	3704651610	HART	YOKOGAWA		EJA		2	74	4	0
4	ID_3704651630_	3704651630	HART	YOKOGAWA		EJA		2	74	4	0
5	NEW-TAG-176	NEW-CM-176	FFH1	YOKOGAWA		EJA		1	181	15	0

Summary | Skipped Devices | Difference | 1 | 2 | 3 | 4 | 5

Figure 36 – Example of the comparison summary sheet

14.8.2 History Window

The History Window allows the user to browse alarms and events of the devices, events generated from the user actions, and system events logged in the PRM database. It comes with various tabs for the user to browse the alarms and events of a particular category of his/her interest. The Maintenance tab displays the alarms and events along with the detailed information such as the cause of the individual problems and corrective actions required. It also allows the user to acknowledge standing alarms for managing alarms on the PRM Client.

The logged alarms and events can be exported in the form of XML format.

The following figure shows an example the History Window:

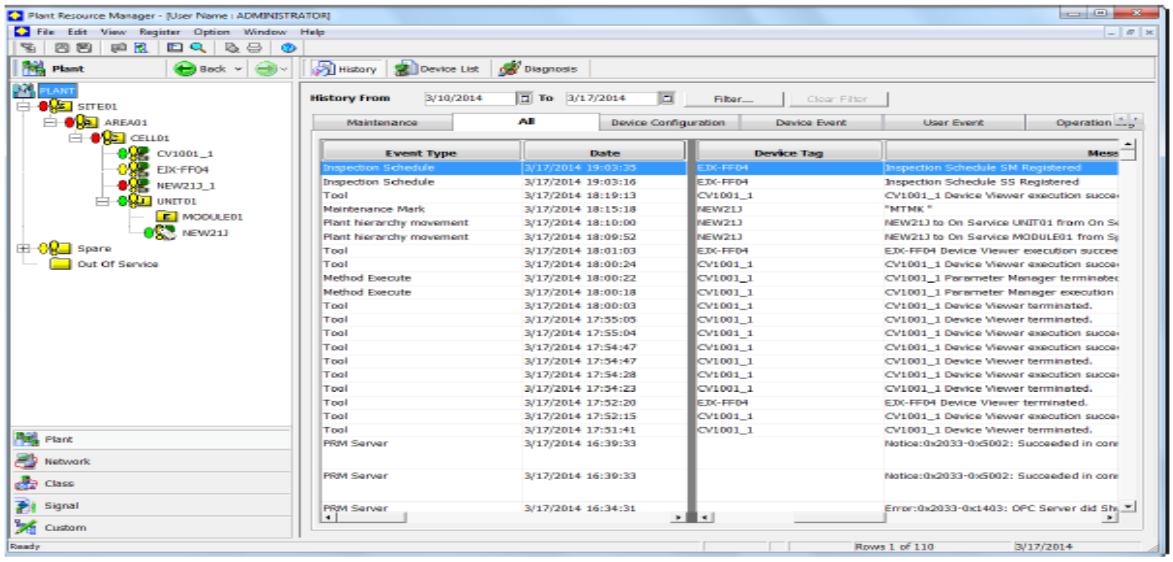


Figure 37 – Example of the History Window

14.9 SECURITY

The PRM provides the user, who performs administrative tasks, with a capability to configure user groups and accounts on the PRM applications with proper access rights depending on users' rolls and responsibilities. Once logging on a specific user account of the PRM applications, the user is granted to perform only the functions allowed under the user account.

The PRM provides two different authentication methods, namely, PRM authentication and Windows authentication. Once a user account is created in the PRM applications with the PRM authentication in use, the respective user will go through two separate authentication process of both Windows system and PRM applications by typing the respective user name and password at each authentication.

With the Windows authentication in use, on the other hand, a user account name created in the Windows environment (e.g. a user account on the domain controller on PIN or on the local computer) can be copied in the PRM applications and assigned to any PRM user group. This provides the user with only the granted access rights to the PRM applications under the Windows user name, allowing for a single sign-in process by the Windows system to meet various password complexity and expiration requirements implemented in the user's network environment.

Refer to section 14.17 for configuration of the user groups and accounts for this project.

14.10 LICENSE MANAGEMENT

PRM applies common license management to provide consistent lifecycle maintenance service for all Yokogawa System Products

PRM adopts license manager and individual Project ID the same as CENTUM VP and Prosafe-RS.

PRM requires product maintenance License (PML) to get standard software support the same as Centum VP and Prosafe -RS.

14.11 SOFTWARE REQUIREMENTS

14.11.1 Software Requirements

PRM Server- Windows Server 2016 Standard Edition (64-bit version)/ Windows Server 2019 Standard Edition (64-bit version)/ Windows Server 2022 Standard Edition (64-bit version).

PRM Client- Windows 10 IoT Enterprise Edition 2021 LTSC (64-bit version)/ Windows Server 2019 Standard Edition (64-bit version)/ Windows 10 Enterprise Edition 2021 LTSC (64-bit version)/ Windows 10 Enterprise Edition 2019 LTSC (64-bit version).

14.12 OTHER PRM OPTIONAL FUNCTIONS

This section describes optional functions available on PRM system. The use of each optional function should be considered by the individual projects. The proper licenses must be purchased depending on the necessities. Refer to the project Bill of Materials Doc No.1724000594-IN-LIS-00003 for the licenses provided for this project.

14.13 PLUG-IN APPLICATIONS

A Plug-in application is a software product that is provided by a third party device vendor to configure, adjust and diagnose a particular device type.

Note: Plug-in applications are not part of Yokogawa Supply.

14.14 FDT/DTM BASED APPLICATIONS

Field Device Tool/Device Type Manager (FDT/DTM) is a standardized program in order to reinforce the interoperability between Yokogawa FDT Frame application supported on the PRM and the DTM of third

party vendors. Recently, device vendors have developed various applications based on the FDT/DTM technology that work for their specific device types to effectively configure, adjust and diagnose the devices. Once installed, these applications allow the PRM to take advantage of those vendor specific features through the PRM Client.

PRM supports FDT/DTM applications developed in compliance with FDT 1.2 and 2.0.

Visit the website <https://www.yokogawa.com/library/documents-downloads/software/list-of-fist-completed-devices/> for the FDT/DTM applications that has been proved operable with the PRM.

Note: FDT/DTM is not part of Yokogawa supply.

14.15 PRM AND GENERIC THIRD-PARTY SYSTEMS INTEGRATION

Integrating PRM with a Generic third-party system enables user to monitor the status and view event messages of third-party devices that are registered in PRM system.

PRM environment

- An existing working installation of PRM R4.03 or later
- License for Interface Package for Generic System

Generic third-party system environment

- The generic third-party system
- OPC Data Acquisition (DA) 3.0 server
- OPC Alarms and Events (A&E) 1.10 server

Note: In this project not envisaged Generic third-party system integration to IAMS.

14.16 PROJECT SCOPE AND CONFIGURATIONS

In this project 1 PRM Server including 1 PRM Client shall be supplied and remote access to PRM Server shall be provided. The PRM Server will be installed in the Server/Network cabinet in the OER and includes KVM extender to 24" LCD screen.

Refer to the project system architecture drawing number 1724000594-IN-DD-00015 for details.

14.16.1 Minimum Hardware Requirements

PRM Server- Minimum Memory requirement is 7 GB and Minimum disk space requirement is 18 GB.

PRM Client- Minimum Memory requirement is 1 GB and Minimum disk space requirement is 2 GB.

14.16.2 Software License and Medium

Refer to the project Bill of Materials Doc. No. 1724000594-IN-LIS-00003 for the software licenses and medium provided to this project.

14.16.3 Supported Devices and Protocols

A DVD, Device Files Media (Model: PM4CDM), provided along with all PRM software packages, includes the DD, DTM and DeviceViewer configuration files for the field devices listed in Appendix-3

. These files are installed in the PRM system for this project.

The following fieldbus protocols are used in this project:

- HART protocol in CENTUM VP
- HART protocol in ProSafe-RS

14.16.4 Configurations for the Project

In projects configuration and testing of sample devices will be done during the FAT phase whereas configuration and thorough testing for all the devices will be done during SAT/Commissioning phase. Refer to the following sections for details of the configurations.

PRM Server

IAMSSVR, domain 1 and station 60 shall be located in ITER.

- Server Set (This item specifies the computer name of PRM Server components in the PRM system.)

  Plant Area: ITER

  PRM Server: IAMSSVR

  Field Communication Server: IAMSSVR

  Advanced Diagnostic Server: IAMSSVR

  Diagnosis Historian Server: IAMSSVR

  No of Field Devices: 1000
- Device Patrol (Device Patrol Period)

  Low: 1 Hour

  Medium: 1 Hour

  High: 1 Hour

  High +: 1 Hour
- Message Acquisition

  CENTUM VP/ProSafe-RS Computer Name: EWS0164

  Message Selection: Default *

  Enable event notification for HART 7 (or later) devices: Not selected

  STARDOM Computer Name: Not Applicable

  Message Selection: Default *

  * Refer to A-3 for details of this configuration.

  (Note: In order to enable the Event Notification method or Polling method described in section 14.3.1, the message number 3401 or 3403 must be selected in the Message Selection window, respectively.)
- Maintenance Mark:

  Enable Synchronization with CENTUM VP: Disabled (Default)

  Maintenance Mark configuration shall not be used.
- Alarm Management: Not configured
- Alarm Notification Configuration: Not configured
- Third-party System: Not configured

PRM Client

IAMSSVR in ITER and remote access from CCR.

- Connection (This item specifies PRM Server computer name(s) that the PRM Client can have access to.)

  Use One PRM Server: IAMSSVR

PRM Server: IAMSSVR

User Multiple PRM Servers: Not selected (Not Applicable)

- Appearance (This item specifies size of fonts and icons used on the PRM Client)

  Font Size: Medium (10 points; Default)

  Icon Size: Medium (24x24 pixels: Default)

  Use Bold characters in Device Navigator: Selected (Default)
- DTM Setup: Default (See Appendix-3 for details.)

Field Communication

IAMSSVR in ITER and remote access from CCR.

- Device Path: Configured based on the project I/O information for the CENTUM VP and ProSafe-RS systems.
- FDT Project Management: Not configured
- DD Copy Tools (This utility specifies location of the folders that contain DD/CFF files for the FF devices and DD files for HART devices.)

  C:\PRM\DD\ (for FF)

  C:\PRM\DD\HART\ (for HART)

Configuration for PST Scheduler (PST Server)

- Connection (PST Scheduler Server): Not Applicable

14.17 OTHER CONFIGURATION FOR PRM OPERATION ENVIRONMENT

- Plant Hierarchy on Plant View: Hydrogen, BESS, F&G
- Custom View: Not configured
- Parameter Tab of Customize Window (Preferred parameter tool): Always Parameter Manager
- Block setting for each type of Devices: FF devices not used
- Document Links: FF devices not used

14.18 SECURITY SETTING UTILITY

Yokogawa IT security tool provides three types of security models, Legacy model, Standard model, and Strengthened model, according to the required security strength, in order to flexibly accommodate system configuration and operation.

Security for Domain Management (Standard Model) is used.

Standard model places importance on operation of the product and collaboration with other systems (Exaopc, ProSafe-RS, and so on) to guard against "attacks over the network" and "direct attack to a system by operating on an HIS or on a computer with system builders." The Standard model does not guard against "Theft of HIS or computer with system builders or theft of data" because its threat is considered minor due to the characteristics of the product.

For more details on security models refer to IM 33J01C30-01EN CENTUM VP Security Guide.

14.19 USER GROUPS AND ACCOUNTS

Refer to Appendix-4 for PRM User groups and Account configuration template.

Baseed on opertation and maintenance requirements User groups with specified previlages shall be configured during commissioning, user list shall be accessed from Domain controller.

14.20 DEVICE TAG DISPLAY EXTENSION SETTINGS

- HART Device Tag Display Format:

  Tag (Default)

  Long tag for HART 6 and later: Not selected

- Project Name Support (for STARDOM system only):

  Device Tag + Project Name: Not selected

A. List of Supported Devices

Refer to Appendix-3 for List of Supported Devices.

B. PRM user groups and Account configuration

Refer to Appendix-4 for PRM User groups and Account configuration template.

C. PRM Message Acquisition Configuration

The following tables show default alarms and events routed from the host systems to the PRM.

Note: Following table shall be updated during detail engineering

Message Number	Description
0089	Subsystem Communication Error (SS-COM Error)
0090	Subsystem Communication Recovery
0491	HART Device Status
3001	Fieldbus Device Failure
3002	Recovery of Fieldbus Device to Normal
3101	Occurrence of a Fieldbus Device Alarm
3102	Recovery of a Fieldbus Device to Normal
3111	Occurrence of process alarm from Fieldbus Devices
3112	Recovery of Fieldbus Device from process alarm
3150	Update of Fieldbus Devices
3160	Change in Write Protection of Fieldbus Device
3171	Fieldbus Device Abnormal
3172	Fieldbus Device Recovered to Normal
3173	Fieldbus Device Detected a process alarm
3174	The process alarm detected by the Fieldbus Device recovered
3175	Fieldbus Device Update Event

Message Number	Description
3176	Enable/Disable Write Protection of Fieldbus Device
3181	Fieldbus Device Failure
3182	Fieldbus Device Recovery
3183	Error Detected by ALF111 Self-diagnosis
3401	HART device event notification
3403	I/O module detected a HART device status change
3405	Communication error when acquiring HART device status (No response)
3407	Communication error when acquiring HART device status
3408	Recovery of communication when acquiring HART device status
4031	HART Device Error
4032	HART Device Recovery
4033	HART Communication Error
4034	HART Communication Recovery
4035	HART Communication Command Error
4036	HART Communication Command Recover
4056	Switching the control rights of a PROFIBUS redundant slave device
4125	I/O module channel error occurred
4126	Recovery from I/O module channel error

Table 59 – Alarms and Events routed from CENTUM VP (ProSafe-RS) to the PRM (Default)

15 PCS SOFTWARE TYPICAL

Note: Equipments those not covered in typical logics shall be configured based in process/operational logic requirments

15.1 TYPICAL LOOP INDEX

No.	Typical Loop No	Functional Description
1	TYP001	Indication of Analog Input and Alarm
2	TYP002	Indication of Subsystem Analog Input and Alarm
3	TYP003	On/Off valve control function block
4	TYP004	Output to subsystem
5	TYP005	Indication of on/off valves of subsystem.

Table 60 – Typical Loop Index

15.2 TYP001- INDICATION OF ANALOG INPUT AND ALARM

15.2.1 Sample P&ID Image

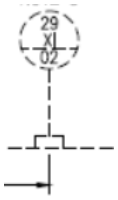


Figure 38 – P&ID representation of Analog Input and Alarm

15.2.2 Description

The Analogue input is indicated on OWS using faceplate/Graphics/Trend using the PVI function block. The value of the process variable is received from the field via FCS analog input module.

15.2.3 PCS Control Drawing

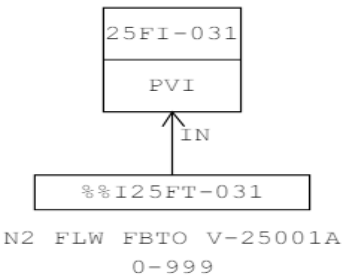


Figure 39 – Control Drawing of Analog input and Alarm.

15.2.4 Alarming Function

In the event of Input Open (IOP), the alarm "IOP" is generated by this block. All other alarms in this block are disabled by default. Alarms are enabled when associated set point values are specified in the IO List.

15.2.5 HMI Items

The following default HMI items are defined for this typical:

Access level PVI function block: 3

15.2.6 Tag Name Structure

Description	P&ID Tag name	IO Tag Name	PCS Tag Name
Input	26FT-031	%%I26FT-031	NA
Indicator Block	NA	NA	26FI-031

Table 61 – Tag Name Structure

15.3 TYP002- INDICATION OF SUBSYSTEM ANALOG INPUT AND ALARM

15.3.1 Sample P&ID Image

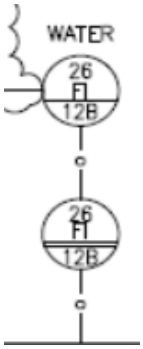


Figure 40 – P&ID representation of Subsystem Analog input and Alarm

15.3.2 Description

The value of the process variable is received from the field via Subsystem to FCS Subsystem input module. The analog input is indicated on HIS using faceplate/Graphics/Trend using the PVI function block.

15.3.3 PCS Control Drawing

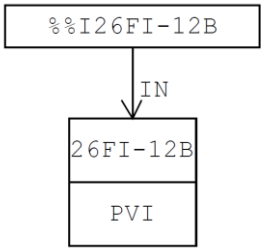


Figure 41 – Control Drawing of Subsystem Analog input and Alarm
Table 62 – Tag Name Structure

15.3.4 HMI Items

The following default HMI items are defined for this typical:

Access level PVI function block: 3

15.3.5 Tag Name Structure

Description	P&ID Tag name	IO Tag Name	PCS Tag Name
Input	26FT-12B	%%I26FT-12B	NA
Indicator Block	NA	NA	26FI-12B

Table 63 – Tag Name Structure

Note: For Gain Bias Setting, refer section 6.5.1

15.4 TYP003- ON/OFF VALVE CONTROL FUNCTION BLOCK

15.4.1 Sample P&ID Image

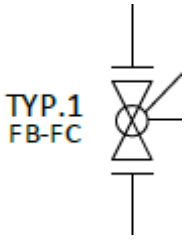


Figure 42 – P&ID representation of ON/OFF Valves

15.4.2 Description

Opened & Closed feedback are received through two different digital inputs and one digital output is used to extend open & close command. SIO-21E function block is used for PCS engineering.

15.4.3 PCS Control Drawing

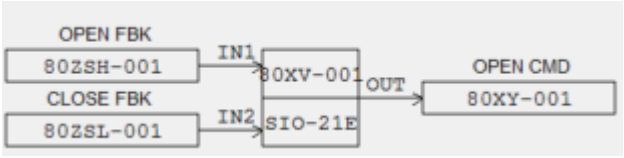


Figure 43 – Control Drawing of ON/OFF valve

Table 64 – Tag Name Structure

15.4.4 Operation & Alarming Function

Opened (IN1) & Closed (IN2) feedback, two different digital inputs are connected with the input terminals of the function block. A digital output is connected with output terminal. SIO-21E function block generates "ANS+" (Failed to Open),"ANS-"(Failed to close) & "PERR"(Concurrency alarm-both opened & closed feedback received together) alarms along with normal operation of the valve.

i) "ANS +": Open command issued but feedback is not received within a specified time, time can be set in the tunning window, parameter is "MTM".

ii) "ANS -": Close command issued but feedback is not received within a specified time, time can be set in the tunning window, parameter is "MTM".

iii) "PERR": Concurrency alarm-both opened & closed feedbacks are received together.

15.4.5 HMI Items

The following default HMI items are defined for this typical:

Access level SIO-21E function block: 3

15.4.6 Tag Name Structure

Description	P&ID Tag name	IO Tag Name	PCS Tag Name
On/Off Valve	25-XV-004	NA	25XV-004
Input	25-ZSH-004	NA	25ZSH-004
	25-ZSL-004	NA	25ZSL-004
Output	25-XY-004	NA	25XY-004

Table 65 – Tag Name Structure

15.5 TYP004-OUTPUT TO SUBSYSTEM

15.5.1 PCS Control Drawing

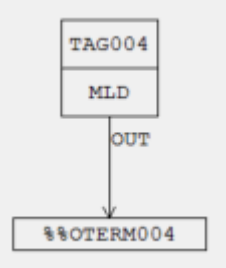


Figure 44 – Control Drawing of Subsystem Analog input and Alarm

15.5.2 Operation & Alarming Function

The function block "MLD" is used to send the Setpoint or any kind of integer/double integer or a real value to the connected subsystem. The out terminal is connected with a specific register address. In case of communication failure "OOP" alarm is generated on the function block faceplate.

15.6 TYP005- INDIACTION OF ON/OFF VALVES OF SUBSYSTEMS

15.6.1 PCS Control Drawing

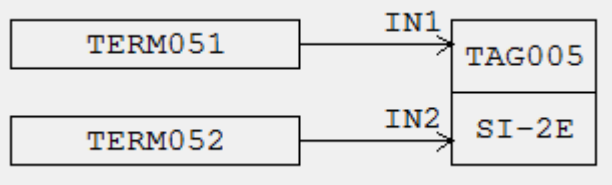


Figure 45 – Control Drawing of Subsystem Analog input and Alarm

15.6.2 Indication & Alarming Function

The function block is used for the indication of manual valves connected with subsystem. Open feedback is connected to IN1 input terminal and Closed feedback to IN2. "PERR" alarm is generated when both Opened & Closed feedbacks are received together.

16 PROCESS CONTROL LOGICS

BLPH Connection Modes logic is configured using SFC function blocks. In SFC(Sequence Flow Chart) are used for process control logics in different Modes, the outputs are issued as conditional logic mentioned the control philosophy.

16.1.1 SNAP OF SFC STEP

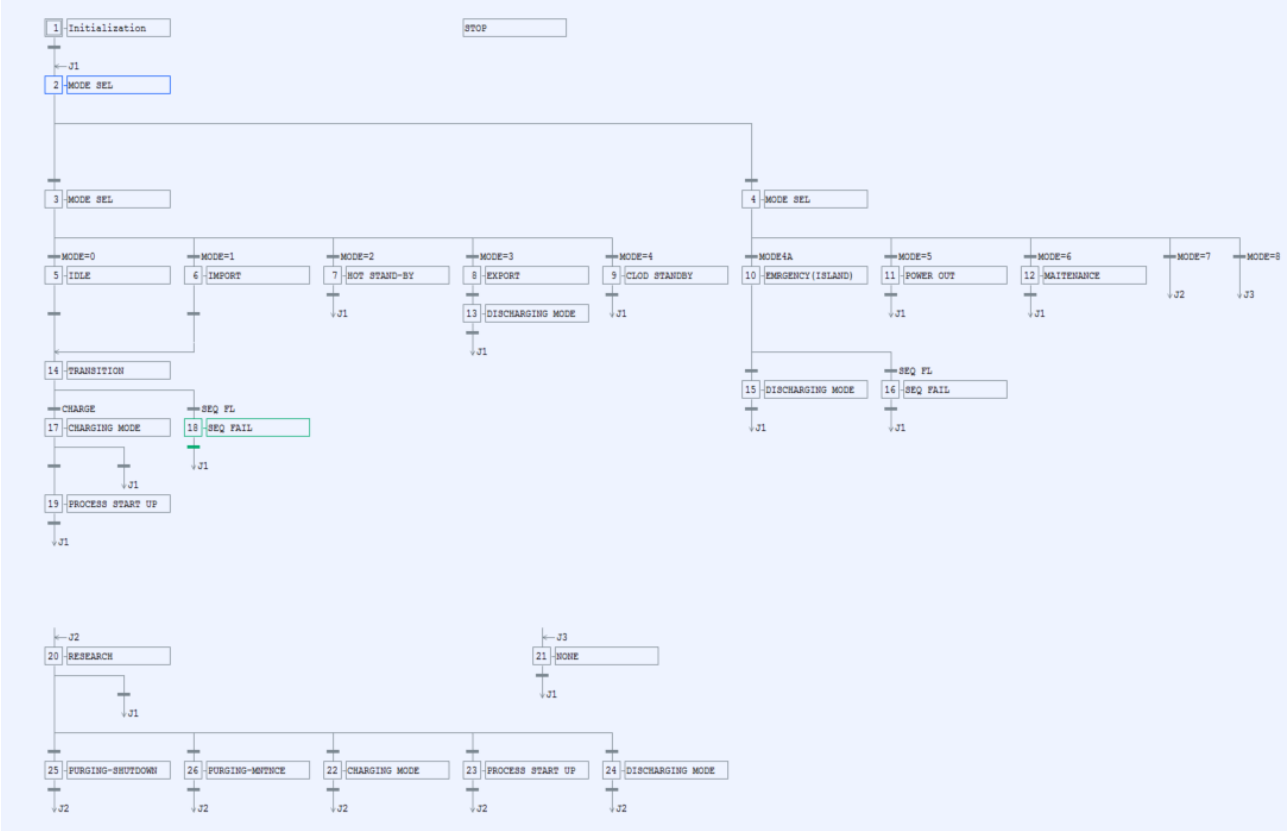


Figure 46 – Control Drawing of Subsystem Analog input and Alarm

16.1.2 SNAP OF SFC LOGIC

```
%.STATE="IDLE            "
k=0
SEQFL=0
[INTSW[1].PV,INTSW[2].PV,INTSW[3].PV=0,0,0]
INIT:
if  (TM01.BSTS=="CTUP")    then
SEQFL=1
quit
end if

!Checking permissive for staring electrolizer package-------------------------------------------------

if (%.STATUS[12]==0)   [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PERMISSIVE CONDI","TIONS FOR IDLE M","ODE IS NOT MET  ",""]
wait until (%.STATUS[12]==1)
[%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PERMISSIVE CONDI","TIONS FOR IDLE  ","MODE IS SATISFIE","D              "]

!-----PCS commands to start the Main Sea water Pump (see par. 4.1)-----------------------------------

INTSW[1].PV=1         !GROUP START COMMAND TO SEA WATER INTAKE PUMP

[%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="GROUP START COMM","AND INITIATED TO","SEA WATER INTAKE"," PUMP          "]

t[1].PH=%.DLY[1]
t[1].OP=TMSTAT
wait until    (SWP[1].PV==2 | SWP[2].PV==2 | t[1].BSTS=="CTUP")

if (SWP[1].PV==0 & SWP[2].PV==0) then
   if (TM01.BSTS<>"NR" & k==0)    TM01.OP=TMSTAT
       k=1
    goto INIT
end if
INTSW[1].PV=0
!----PCS commands to start the Water system Treatment package (delay xxx sec) (see. 4.2.4).------------

INTSW[2].PV=1
t[2].PH=%.DLY[2]
t[2].OP=TMSTAT
wait until (XV[3].PV==2 | t[2].BSTS=="CTUP")              !50-XV-031 OPEN FEEDBACK

INTSW[2].PV=0
```

Figure 47 – Control Drawing of Subsystem Analog input and Alarm

17 SIS/FGS DESIGN REQUIREMENTS

17.1 SYSTEM DESCRIPTION

The requirements for SIS / F&G must be considered as part of the overall health, safety, and environmental protection facilities for a plant installation. The fundamental requirements for SIS/F&G are specified in IEC 61508 and IEC 61511. The concepts within the standard are equally applicable where the consequences include asset or environmental loss.

17.2 GENERAL SYSTEM DESIGN REQUIREMENTS

Following general system requirements are specified for the SIS/FGS:

- The SIS/FGS is fed from dual 230Vac 50Hz UPS with a 30 minutes and 8 hours backup capacity.
- The SIS/FGS power supply unit includes 20% spare capacity.
- The SIS/FGS contains as minimum 10% installed spare IO capacity. Installed spare capacity shall include wiring between termination boards and IO modules.
- The final configuration loadings of the CPU's shall not exceed 60%. This means that the actual SCS loading shall not exceed 36 seconds during FAT and the idle time shall not be less than 60-36=24 seconds.
- The SIS/FGS system is suitable for the following environmental conditions; Temperature between -20°C and 45°C. Humidity between 5% and 95% RH Non condensing.
- The SIS/FGS time synchronization resolution is within +/- 25msec.
- The SIS/FGS design is based upon de-energize to trip(SIS) & energize to trip(FGS) principle.
- The SIS system is suited for SIL 3 applications.
- The SIS/FGS system will be designed such to meet an availability of 99.99%.
- The SIS/FGS has as a (maximum) scan rate of 300msec (SIS) and 500msec (FGS)..
- The SIS/FGS analogue IO modules are HART compatible.
- All IO modules are redundant.

The following general functions for the application are specified for the SIS/FGS PLC:

- SIS/FGS system alarms and messages at the CI view to identifying all system faults and failures.
- SIS/FGS PLC system alarms and messages at the CI view are tag based.
- SIS/FGS process alarms at the CI View are tag based.
- First failure alarms are indicated at the CI View

17.3 SAFETY CONTROL SYSTEM (SCS) SIZING REQUIREMENTS

The number and allocation of the ProSafe-RS SCS for a project is based on many factors, some of which are listed below:

SCS physical installation locations in the facility.

- Requirements for local and remote I/O nodes.
- HART functionality.
- Installed spare I/O.
- Installed spare slots.
- Number of I/O's.
- Module redundancy.
- FTA selection, location, and distribution.

Limitations:

- A maximum of 13 I/O nodes shall be installed per SCS. (along with Node extension software package).
- A maximum of 64 stations can be set up in one domain including 16 HISs.
- I/O Modules (redundant) shall be allocated depending on the summation value for each SCS/SNU.
- Ambient temperature conditions need to be considered while installing I/O nodes and the SCS in the same cabinet.
- A maximum of 2000 annunciator blocks can be programmed into one SCS. (Note 2)

18 IEC 61508

The international standard IEC 61508 defines safety integrity levels (SIL) 1 to 4. In order for a safety system to achieve a certain SIL, it has to be shown quantitatively (calculations) in various phases of a project and follow procedures. The quantitatively (calculations) and procedures will be described in a Safety Validation Plan. In here it is shown that the system will achieve the quantitative requirements associated with the relevant SIL. Furthermore, certain application specific system architectural constraints must be taken into account (e.g. redundant configuration for high availability). The complete safety loops, from sensor up to and including the final elements, must be verified this way. The ProSafe-RS in single configuration is approved for use in SIL 3 applications, hence redundancy in CPU & I/O cards is only provided for availability reasons.

Parts of the IEC 61508 requirements used for this document are the steps to be taken for the realization of the project. The relevant steps of section 2 of the IEC standard for EPC phases are shown in Error! Reference source not found.. In this figure it is assumed that Company and Contractor are responsible for step9.1 (safety requirement specification). The TYPICALS, C&E diagrams, DEP's and the IPF requirements will cover step 9.1. The other steps shall be executed during EPC Phase and are described in the Project Implementation Plan.

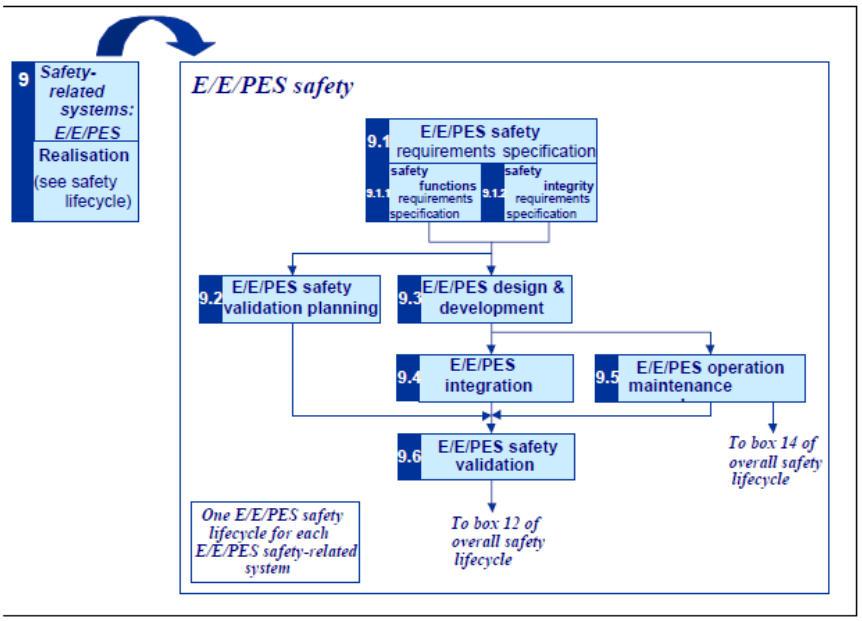


Figure 48 – Example directory.

The steps as mentioned in Figure 44 are included in the Quality Management System (QMS) of Yokogawa. Verification of all steps is done after each design phase.

19 PROSAFE-RS PROJECT CONFIGURATION

A ProSafe-RS project is a set of configuration files accessible from the Workbench Software. The files are organized in a set of folders for each SCS controller.

19.1 RS PROJECT FOLDER STRUCTURE

The project shall be stored on the EWS in the designated folder: C:\RS-Projects.

Under this folder create a folder with the project name. This folder is where the SCS controllers will be created using the Workbench Software. Additional levels of folders can be created to separate units or plants if so desired.

The Project Name folder must be given a valid name with 8 characters maximum. The following naming restrictions apply:

Folder name: Up to 8 characters, starting with an upper case alphabet character. Characters that can be used: Upper case alphabet characters, numerals, underscore, and hyphen.

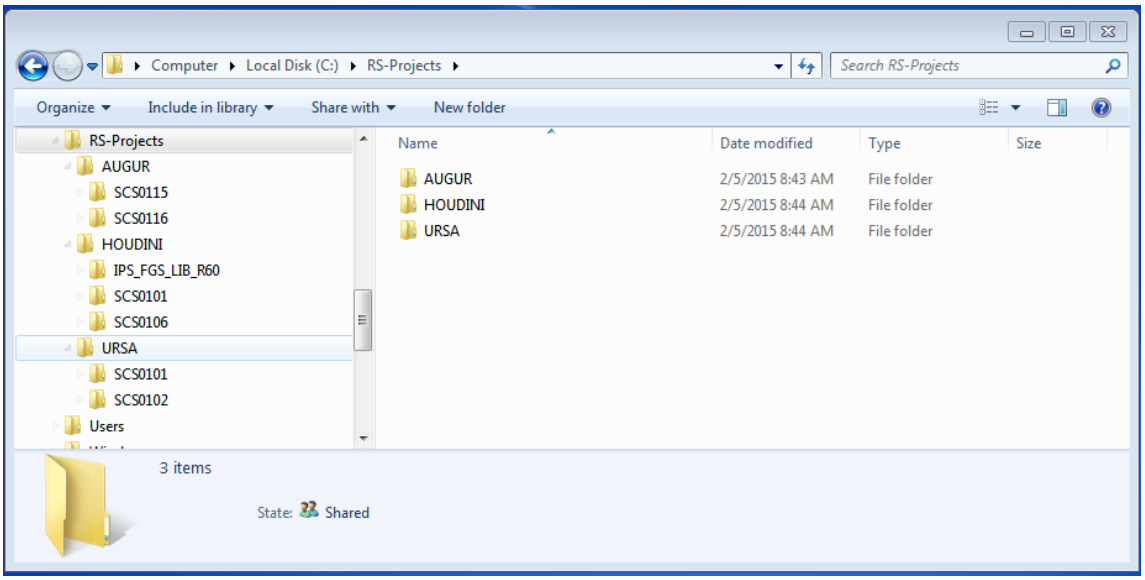


Figure 49 – Example directory

In the example, "AUGUR", "HOUDINI" and "URSA" are the project folders, "SCS0115" and "SCS0116" are folders for each SCS shown for completeness. The controller folders will be created automatically when the controller is created in the Workbench software.

NOTE: The Safety Control Station (SCS) system folder will take the format "SCSddss" where dd = domain number and ss = station number.

19.2 SCS SETUP

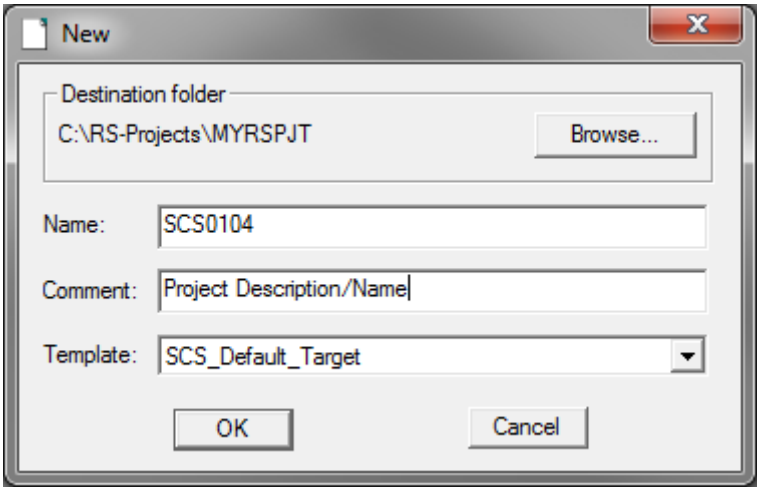


Figure 50 – New Controller Window

Use the Browse button to select the directory in which to create the SCS controller i.e. the correct project.

Name: "SCSddss" as defined in the architecture diagram.

Comment: Project name with a maximum of 24 characters. The project name appears as the caption of the workbench of the currently open project.

Template: Select SCS_Default_Target.

Select OK.

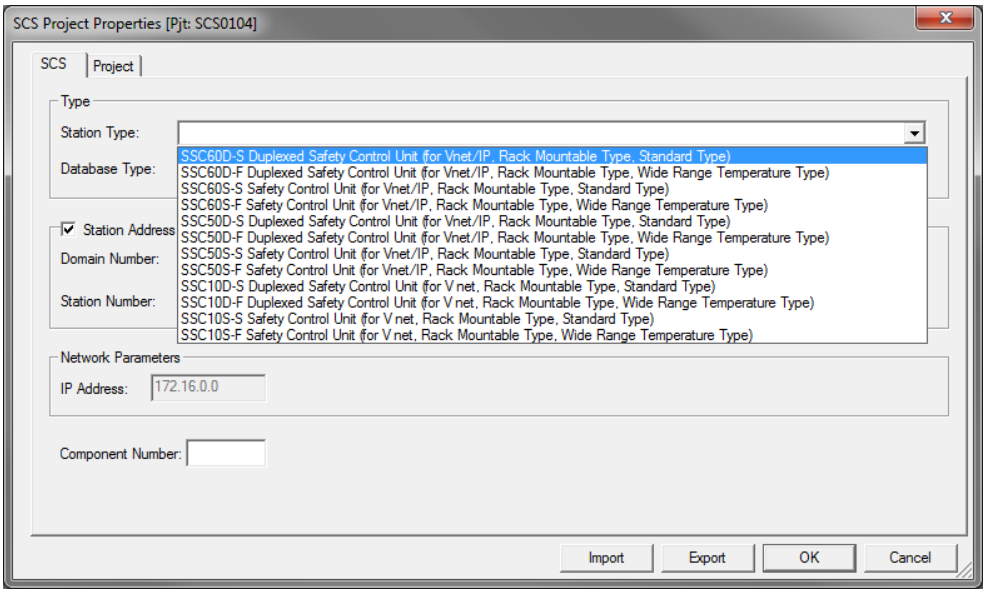


Figure 51 – SCS Project Properties Window – SCS selection.

Select the correct SCS type.

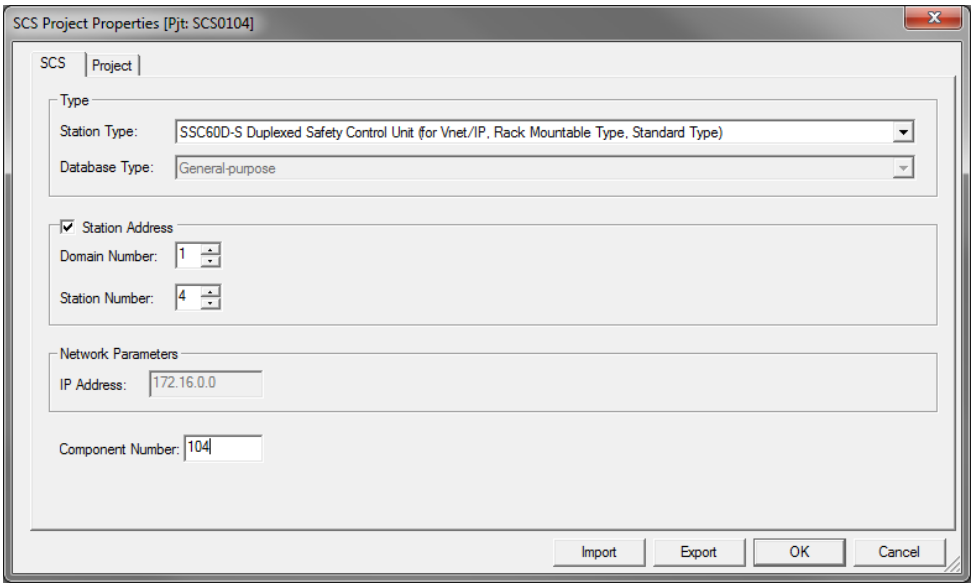


Figure 52 – SCS Project Properties Window – Station Address

Enter the correct Domain and Station Number.

The Component Number is ddss with no leading zeros.

19.3 PROJECT ARCHITECTURE SETUP

The Project architecture will be set-up by selecting the title bar on Link Architecture View (the default view after creation) and then choosing the [Properties] from the Edit menu to display the Resource Properties dialog box. The resource name and the resource number are defined through the General tab.

19.3.1 Link Architecture

Name: Same as project name folder. 8 characters maximum.

Comment: Same as Project Comment. 24 characters maximum.

Resource number: "ddss" (dd: domain number, ss: station number with no leading zeros on the domain).

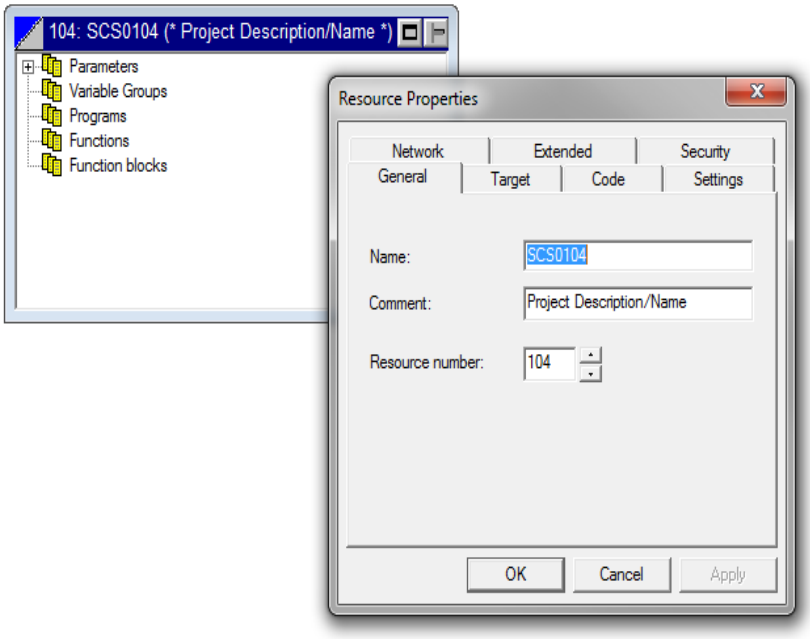


Figure 53 – Resource Properties

19.3.2 Scan Rate

The Scan Rate shall be configured through the settings Tab in the Resource properties window as shown below. The Minimum Scan Rate that can be entered in the Cycle time box is 50 milliseconds. The required Scan rate entered in the Cycle Timing box in milliseconds, depends on Safety Requirement Specification which will meet the required process safety time. The setting for the other tabs will be left at the default values. Refer the online help for additional information.

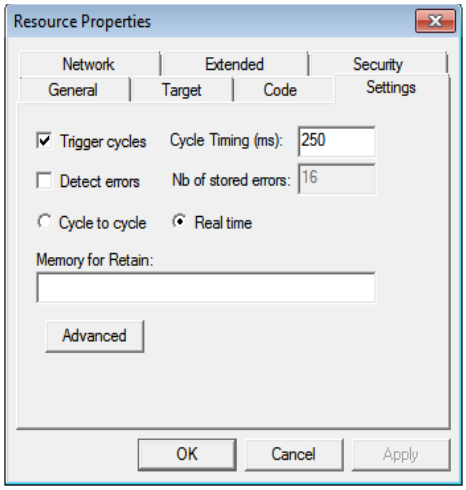


Figure 54 – Scan Rate Setting

19.3.3 Network Parameter

The IP address shall be defined on Hardware Architecture View. From the Windows button toolbar, select the Hardware Architecture view. Double click "Connection" (the line connecting the SCS box to the network line) so as to display Connection - Properties dialog box. The IP address needs to be set for "Value" item.

The IP address sets: 172.16.dd.ss

dd: domain number

ss: station number

E.g.:

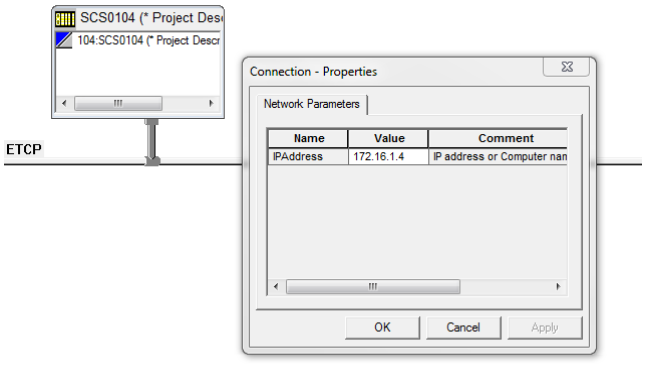


Figure 55 – Network Parameters

Use the Windows menu to return to the Link Architecture view.

19.3.4 ESB Bus Repeater Configuration

If Optical ESB Bus Repeater node is used, Repeater parameters must be configured in SCS Constants Builder and I/O Parameter Builder.

Select SCS Constants Builder from Workbench's Engineering menu

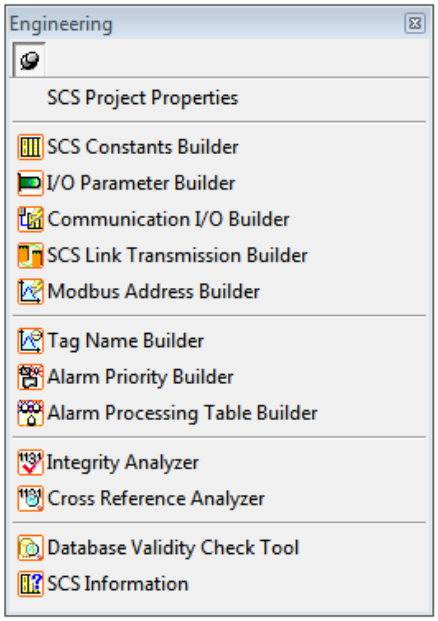


Figure 56 – SCS Engineering Menu Window

Select 1 (Yes) option and Maximum Extension Distance for Optical ESB Bus Repeater from SCS Constants Builder window. This distance value is the maximum distance from processor to the last extended node.

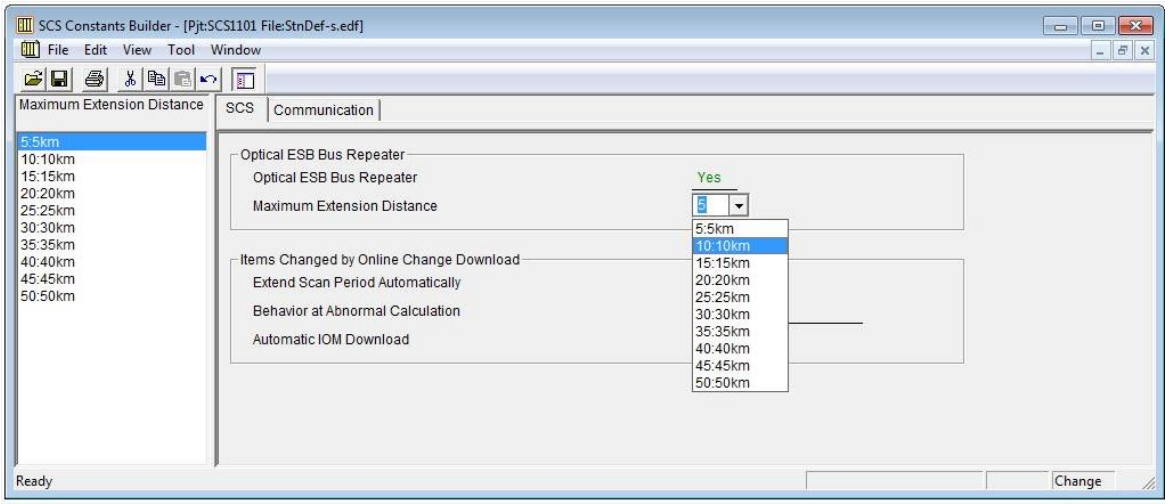


Figure 57 – SCS Constants Builder Window

Once SCS Constants Builder options has been selected and saved, Open I/O Parameter Builder from Engineering menu. Select node number on the left then select 1 (Yes) option and specify repeater node distance.

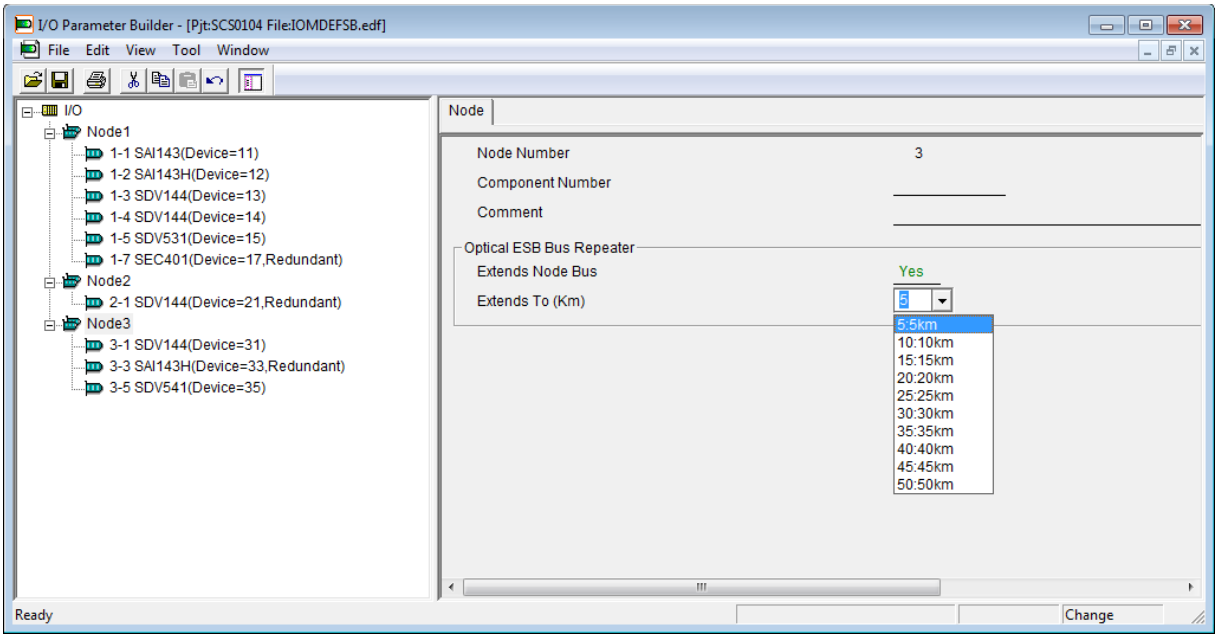


Figure 58 – I/O Parameter Builder Window

19.3.5 Additional SCS Configuration Options

Extend Scan Period Automatically – This function automatically extends the scan period of application logic execution function when the load on SCS becomes high. It is not recommended to enable this option because it can affect the system safety time.

Behavior at Abnormal Calculation – if there is an error in the application logic (i.e. divide by 0) that causes overflow and other abnormal calculations during logic execution, SCS will stop because correct control cannot be continued. Enabling this option (select 'SCS Continues') will allow SCS processor to resume operations and system alarms will be generated. It is recommended to have this option enabled.

Automatic IOM Download – This function will allow automatic execution of IOM download. When a redundant module on standby side is replaced for maintenance, the configuration information is automatically downloaded from the module on control side to the replaced module. It is recommended to enable this option.

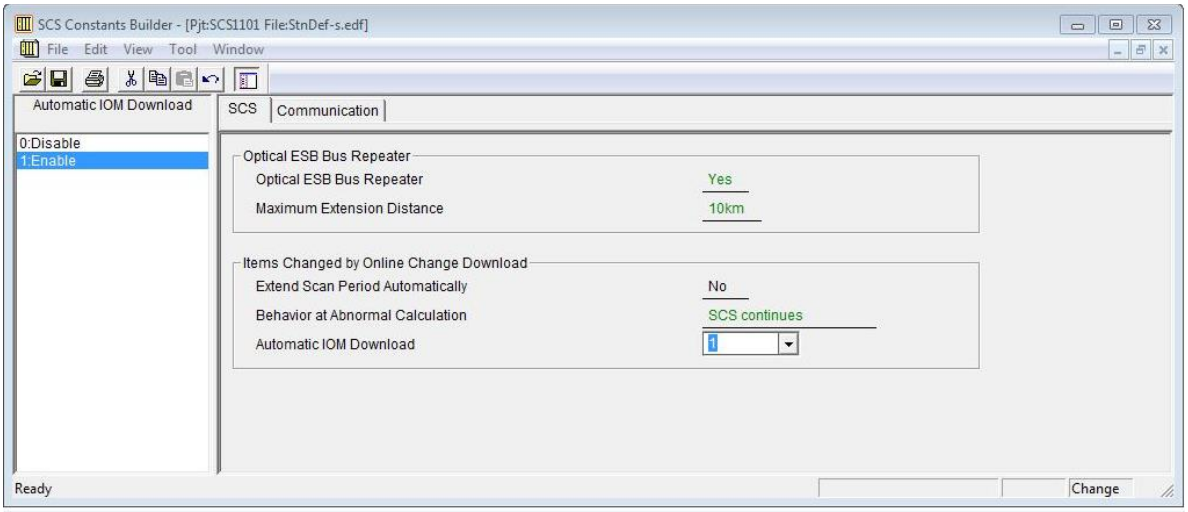


Figure 59 – SCS Engineering Menu Window

20 PROGRAMMING AND INSTRUMENTATION CONVENTION

The following convention shall be used throughout the project:

- SIS Outputs typically de-energize to trip & FGS Outputs typically energize to trip.
- Input trip signals shall occur when de-energized (0 or OFF) for SIS & energized(1 or ON) for FGS.
- Transmitter fault signals shall occur when de-energized (0 or OFF). A fault may or may not be a trip depending on the voting scheme and the actual transmitter configuration.
- FGS detector fault signals shall occur when energized (1 or ON). A fault may or may not be a trip depending on the voting scheme and the actual detector configuration.
- Overrides shall be active when energized.
- Alarms and first outs are indicated as energized when active.
- Constant values shall be used for setting alarm limits and trip set points. These constants shall be accessible only to authorized personnel through the Workbench software and require coding changes.
- SIS Logic shall be programmed to be negative: TRUE is the normal condition; FALSE reflects the tripped state. [De-energize to safe]
- FGS Logic shall be programmed to be positive: FALSE is the normal condition; TRUE reflects the tripped state. [energize to safe]

20.1 DEFAULT CONSTANTS SETTING

- Repeated warning alarms: Project Specific.
- Synchronous mode: Vnet/IP.
- Scan period for external system: one second.
- MODBUS word order: blank (filled in when subsystem defined).

The above SCS communication behaviour can be specified in SCS constants builder independently and the same is explained below in detail.



Figure 60 – SCS Constant Builder-Communication Behavior.

20.2 I/O PARAMETER BUILDER

Set all channel parameters according to the hardware design. Parameters of I/O modules and channels include the specification of action on error detection.

20.2.1 Digital Input Line Monitoring

Line monitoring configuration can detect short circuits, open circuits or both. Provided below are the options and their settings. Exceptions will be justified on a case-by-case basis. The SCB110 is a 5.6V Zener Diode and the SCB100 is a 36kohm, 1%, 25W resistor.

Short & Open Circuit:

SCB110 & SCB100 EOL Device are required for short & open circuit line monitoring.

Open Circuit:

SCB100 EOL Device is required for open circuit line monitoring.

Short Circuit:

SCB110 EOL Device is required for short circuit line monitoring.

No Monitoring :

Shall have all diagnostics removed.

Trip signal item specifies whether or not to regard an event as a trip occurrence. This setting is only enabled if [Yes] is set for [SOER].

- No (0): Changes are not regarded as a trip signal (default).
  However these are recorded in SOE as event changes.
- OFF TRIP (1):
  A change to OFF is regarded as a trip signal and SOE data before and after a trip is stored in an SCS.
- ON TRIP (2):
  A change to ON is regarded as a trip signal and SOE data before and after a trip is stored in an SCS.

The default background color for trip trigger events in SOE viewer is yellow.

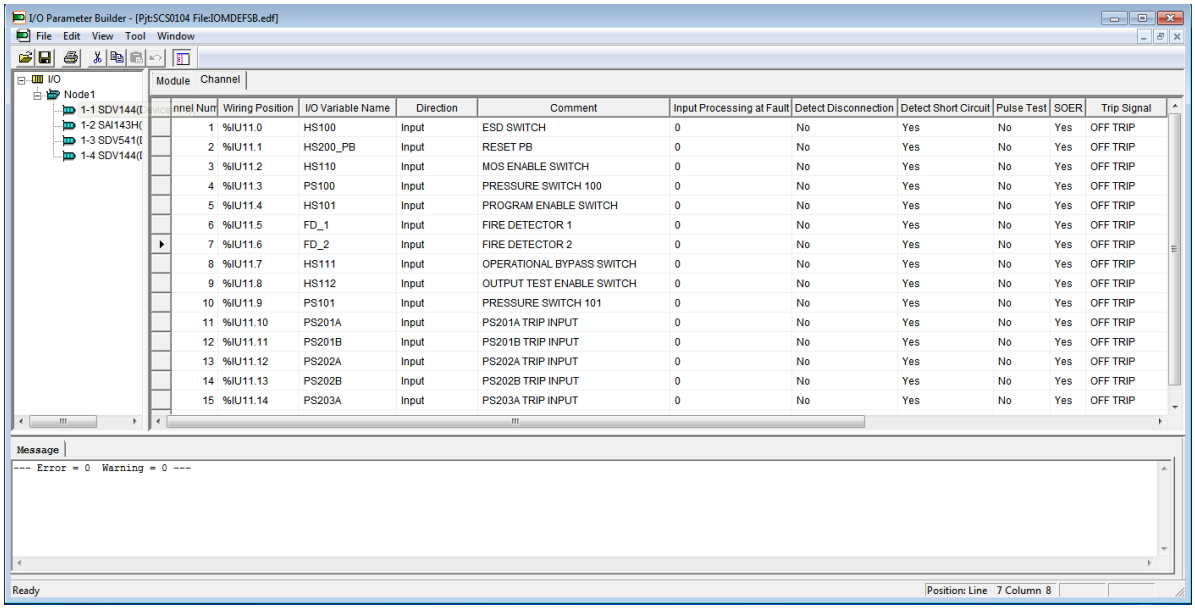
I/O Parameter	Options	Project Setting	
		SIS Setting	FGS Setting
Input Value at Fault :	0, 1, HOLD	0	0
Disconnection Detection:	NO, YES	YES (NOTE 1)	YES (NOTE 1)
Short Circuit Detection:	NO, YES	YES (NOTE 1)	YES (NOTE 1)
Pulse Test:	NO, YES	NO	NO
SOER:	NO, YES	YES	YES
Trip Signal:	NONE, OFF TRIP, ON TRIP	[Trip direction of Point]	[Trip direction of Point]

Table 66 – Discrete Input card settings

Note 1: To be Configured based on IO Lists.

I/O Parameter Builder settings for all wired spare/unwire spare tags shall be disabled for signal/transmitter fault detection to avoid nuisance alarms Example Configuration

Example Configuration



nnel Num	Wiring Position	I/O Variable Name	Direction	Comment	Input Processing at Fault	Detect Disconnection	Detect Short Circuit	Pulse Test	SOER	Trip Signal
1	%IU11.0	HS100	Input	ESD SWITCH	0	No	Yes	No	Yes	OFF TRIP
2	%IU11.1	HS200_PB	Input	RESET PB	0	No	Yes	No	Yes	OFF TRIP
3	%IU11.2	HS110	Input	MOS ENABLE SWITCH	0	No	Yes	No	Yes	OFF TRIP
4	%IU11.3	PS100	Input	PRESSURE SWITCH 100	0	No	Yes	No	Yes	OFF TRIP
5	%IU11.4	HS101	Input	PROGRAM ENABLE SWITCH	0	No	Yes	No	Yes	OFF TRIP
6	%IU11.5	FD_1	Input	FIRE DETECTOR 1	0	No	Yes	No	Yes	OFF TRIP
7	%IU11.6	FD_2	Input	FIRE DETECTOR 2	0	No	Yes	No	Yes	OFF TRIP
8	%IU11.7	HS111	Input	OPERATIONAL BYPASS SWITCH	0	No	Yes	No	Yes	OFF TRIP
9	%IU11.8	HS112	Input	OUTPUT TEST ENABLE SWITCH	0	No	Yes	No	Yes	OFF TRIP
10	%IU11.9	PS101	Input	PRESSURE SWITCH 101	0	No	Yes	No	Yes	OFF TRIP
11	%IU11.10	PS201A	Input	PS201A TRIP INPUT	0	No	Yes	No	Yes	OFF TRIP
12	%IU11.11	PS201B	Input	PS201B TRIP INPUT	0	No	Yes	No	Yes	OFF TRIP
13	%IU11.12	PS202A	Input	PS202A TRIP INPUT	0	No	Yes	No	Yes	OFF TRIP
14	%IU11.13	PS202B	Input	PS202B TRIP INPUT	0	No	Yes	No	Yes	OFF TRIP
15	%IU11.14	PS203A	Input	PS203A TRIP INPUT	0	No	Yes	No	Yes	OFF TRIP

Figure 61 – Discrete Input Parameter Builder

Short and Open Circuit Line Monitoring Wiring Diagram

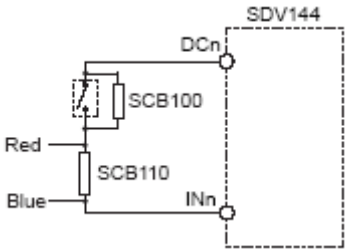


Figure 62 – Short & Open Circuit

Open Circuit Line Monitoring Wiring Diagram

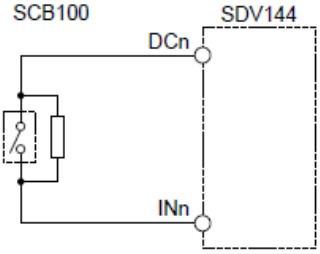


Figure 63 – Open Circuit

Short Circuit Line Monitoring Wiring Diagram

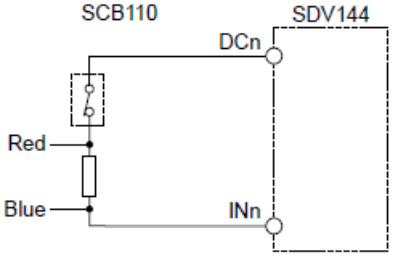


Figure 64 – Short Circuit

20.2.2 Digital Output Line Monitoring

Line monitoring for DO is available. Prosafe RS outputs shall be configured with the following diagnostics configuration:

IO Parameter	Options	SIS Setting	FGS Setting
Output Shutoff Switch:	DISABLE, ENABLE	ENABLE (Note 1)	ENABLE (Note 1)
Output Processing at Fault:	0, 1, HOLD	0 (1 for BDV)	0
Detect Disconnection:	NO, YES	NO (Note 2)	YES (Note 2)
Pulse Test (OFF):	NO, YES	NO (Note 2)	NO
Pulse Test (ON):	NO, YES	NO	Yes (Note 2)
SOER:	NO, YES	YES	YES
Trip Signal:	NONE, OFF TRIP, ON TRIP	OFF TRIP (ON TRIP for BDV)	ON TRIP

Table 67 – Discrete Output card settings

Note 1: The Output Shutoff Switch should be set to ENABLED. Spares and non-critical points should have Output Shutoff Switch DISABLED. When set to ENABLED, the whole digital output card will be de-energised when a critical fault is detected.

If the project selects the settings to ENABLED, engineering attention shall be given to IO allocation such that when the complete IO card is shut down no dangerous situation shall occur.

Note 2: To be Configured based on IO Lists.

For Lamp outputs & buzzer, disconnection connection and pulse test options will be set to NO.

For relay the line monitoring diagnostics available until coil supply.

For the monitoring to function properly, the normal load must exceed 35mA. If the end device draws less, resistors shall be installed to support the monitoring function.

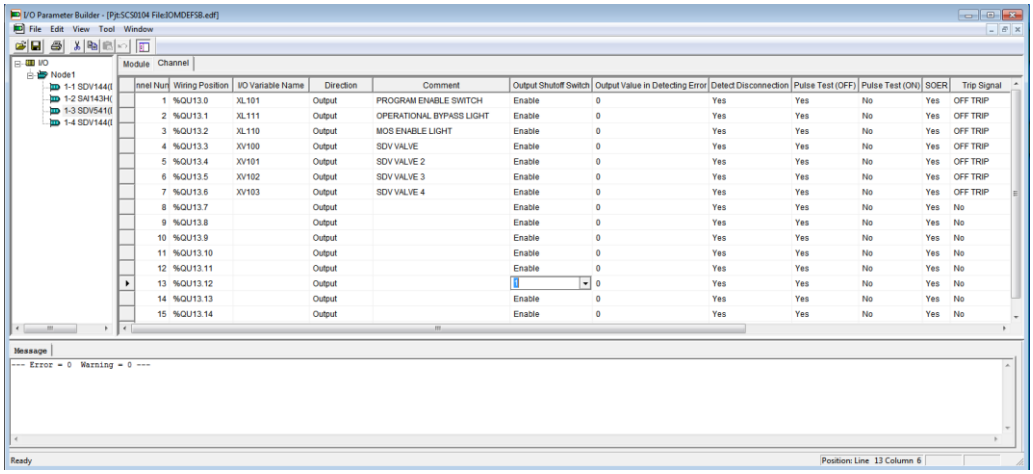


Figure 65 – Discrete Output Parameter Builder

20.2.3 Transmitter Failure Detection

Transmitter failure detection shall be at the channel level producing a system alarm with node slot channel and fault type displayed on the HIS. Diagnostics shall be configured as follows:

IO Parameter	Options	SIS Setting	FGS Setting
Input Processing at Fault:	HOLD, FIXED VALUE	FIXED VALUE Note 1	HOLD Note 4
Input Value at Fault:	-25.0%(0mA) TO 125.0%(24mA)	(Refer IO list for Fail safe value) Note 5	0.0%
Input Processing at Transmitter Fault	Input Processing at Fault, Raw Data	0-Input Processing at Fault	1-Raw data
Signal Conversion	LINEAR, SQRT	LINEAR	LINEAR
IOP Detection (High):	NO, YES	YES (Note 1)	YES (Note 1)
IOP Detection (Low):	NO, YES	YES (Note 1)	YES (Note 1)
Transmitter Fault Detection (High):	NO, YES	YES (Note 1)	NO
Transmitter Fault Detection (Low):	NO, YES	YES (Note 1)	NO
Field Power Diagnosis	None, 2-Wire, 4-Wire	2-Wire or 4 Wire	2-Wire or 4 Wire

Table 68 – Analog Input card settings

Note 1: Fixed value, either high trip or low trip, shall be set based upon project requirements. Correct settings must be evaluated for each individual channels.

The following default set points shall be used to detect faults (The values below are the defaults and need to be verified for the specific field instrument):

Parameter Note 3	High	Low
Transmitter Fault (Note 2)	103.125% (20.5 mA)	-1.25% (3.8mA)
IOP	106.25% (21 mA)	-2.5% (3.6mA)

Table 69 – Analog Input card settings

Note 1: 2-wire and 4-wire signals should be separated when possible for clarity.

Note 2: Setting at instrument in field should be 3.6mA and/or 21.0 mA.

Note 3: Both transmitter fault and Input Open, create IOP on HMI.

Note 4: General fault for various devices shall be generated as per device data sheet and same is summarized in below table of each detector (HOLD-1).

Note 5: Fail Safe Value (input value at fault) Setting for SIS follow below

Voted Configuration	Fail Safe Setting	Remarks
1ooN (1oo1, 1oo2) High Trip Transmitter	100%	Towards the direction of high trip
1ooN (1oo1, 1oo2) Low Trip Transmitter	0%	Towards the direction of low trip
1ooN (1oo1, 1oo2) High/Low Trip Transmitter	0% or 100%	Selection of fault value is toward the higher SIL rated function

Table 70 – Fail safe Value

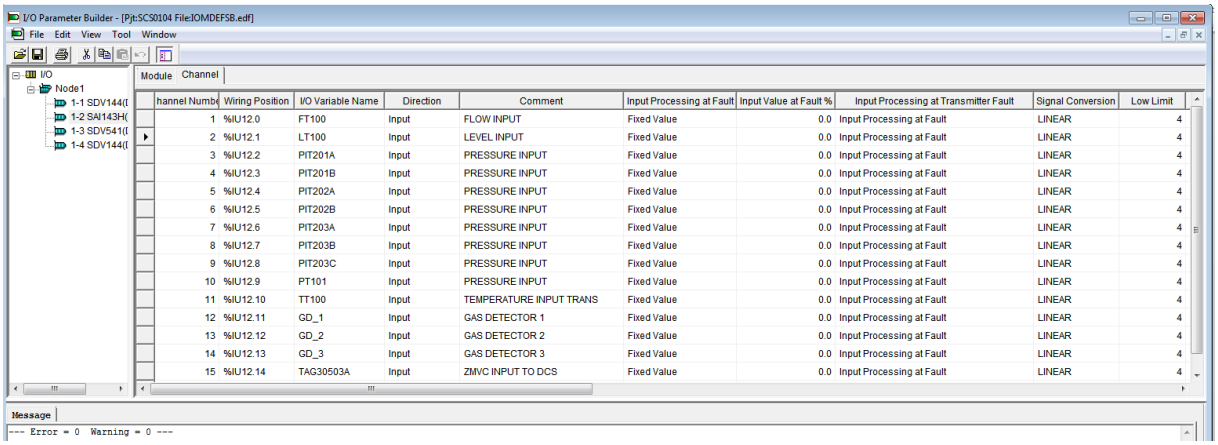


Figure 66 – Analog Input Parameter Builder

20.3 I/O WIRING CONFIGURATION

Configure the I/O modules according to the hardware design.

20.3.1 Device Selection

ESB Bus Coupler Module SEC402 connects safety control units and safety node units via an ESB bus cable.

An SEC401 bus coupler module is required if Safety Node Units (I/O racks) are installed.

The device index shall be numbered as follows:

First two characters are the node number, and the second character is the slot number.

The I/O parameter Builder shall show the actual configuration in the correct order, using the node/slot numbers.

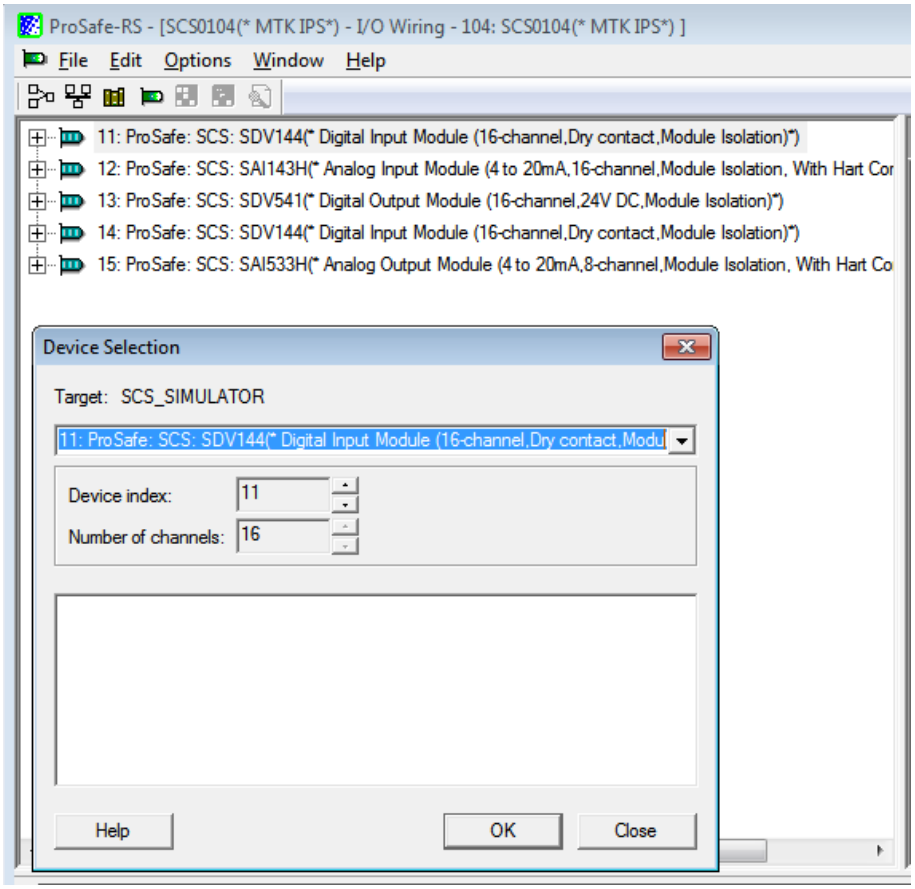


Figure 67 – I/O Module Selection

20.3.2 I/O Parameters

Each module's node and slot numbers shall be entered, and TRUE shall be entered in the Is Redundant field. Non-critical loops such as indication lamps may be assigned to non-redundant modules; in this case the Is Redundant field will be FALSE.

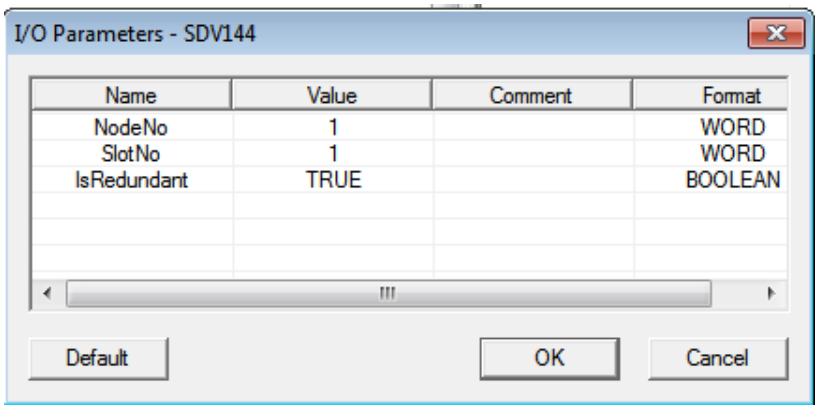


Figure 68 – I/O Module Parameters

Once variables declared as I/O have been created in the dictionary, they shall be listed in the unwired variables table. Only variables of the correct type for the selected I/O module are listed in the unwired variable table, a variable can then be wired to the selected channel.

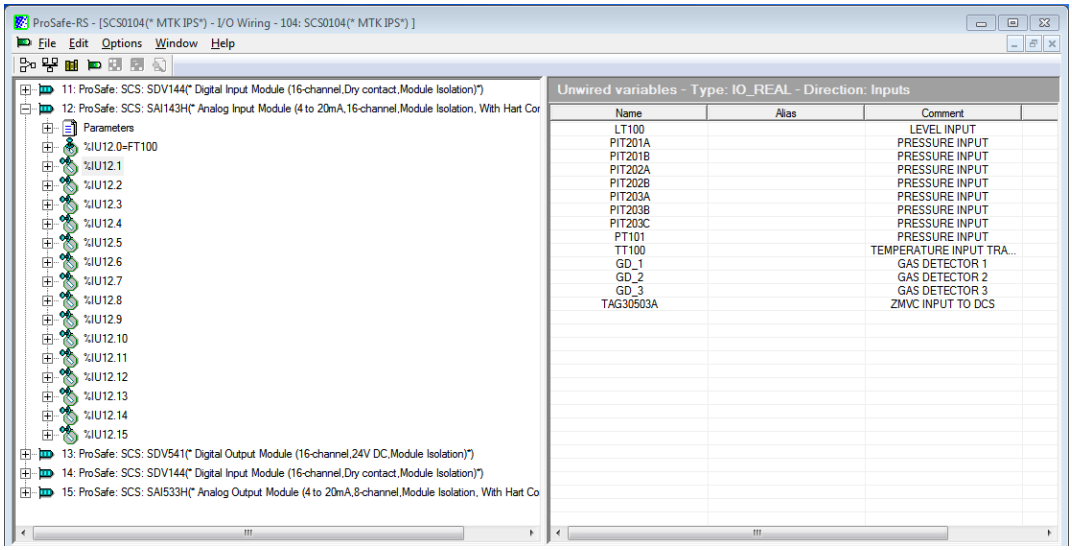


Figure 69 – I/O Wiring

20.4 DEFINED WORDS FOR SOE BLOCKS

Only default words shall be used and are in the Dictionary under the 'Open - True' Tab.

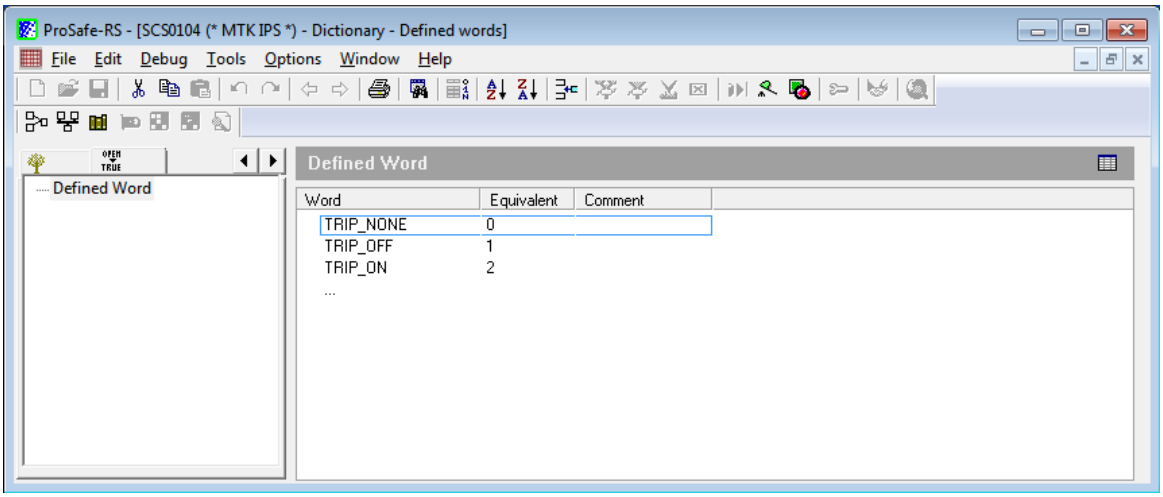


Figure 70 – Defined Words

The Defined Words are used on the SOE block input nubs:

TRIP_NONE is used to signify that a point or event is not a trip.

TRIP_OFF is used to signify that a point or event trip in the OFF or 0 position.

TRIP_ON is used to signify that a point or event trip in the ON or 1 position.

20.4.1 Variable Dictionary

The following fields are required for every I/O point or internal variable:

Field	Description
Name	Variable Name
Type	Variable Type
Group	Variable Group
Attribute	Variable Attribute (Read, Write, or Free)
Scope	Variable Global or Local to Program
Direction	Variable Direction (Input, Output, or Internal)
Comment	Variable Comment (24 character limit)

Figure 71 – Variable Dictionary

Most of these fields shall be imported from the project database.

Name	Alias	Type	[]	Init. value	Dimensi...	Group	Attribute	Scope	Direction	Retain	Wiring	Address	Comment
PPA10200		BOOL				None	Free	Global	Internal	No			PRESSURE PRE ALARM
PPA10300		BOOL				None	Free	Global	Internal	No			PRESSURE PRE ALARM
⊞ PPA10400		ANN				None	Free	Global	Internal	No			PRESSURE PRE ALARM
PPA10400A		BOOL				None	Free	Global	Internal	No			PRESSURE PRE ALARM
PPA10400B		BOOL				None	Free	Global	Internal	No			PRESSURE PRE ALARM
⊞ PPA10500		ANN				None	Free	Global	Internal	No			PRESSURE PRE ALARM
PPA10500A		BOOL				None	Free	Global	Internal	No			PRESSURE PRE ALARM
PPA10500B		BOOL				None	Free	Global	Internal	No			PRESSURE PRE ALARM

Figure 72 – Variable Dictionary

20.4.2 Variable Name

The Variable Name will be the tag from the project database.

20.4.3 Variable Type

This is a drop-down menu with the available I/O types.

20.4.4 Variable group declaration

Variable Groups provide a method of managing variables and logically sorting them within a SCS. The variable groups are shown in the Variables Tree. Their contents are defined within the Dictionary Variables grid. Define the following variable groups:

Name	Functionality
AI_Proc	Analog Input Proc UDFB & Points
AO_Proc	Analog Output Proc UDFB & Points
DI_Proc	Discrete Input Proc UDFB & Points
DO_Proc	Discrete Output Proc UDFB & Points
COMM	Inter SCS UDFB & Points

SYS	System Alarms & Diagnostics

Table 71 – Variable group declaration

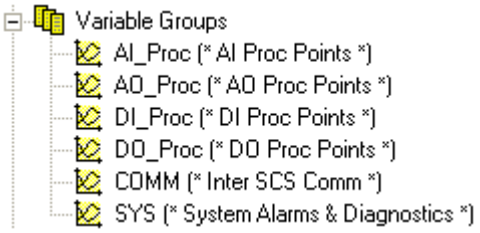


Figure 73 – Variable Groups

20.4.5 Variable Attribute

The Variable Attribute can be one of three settings:

1) Read – used for Inputs.
2) Write – used for Outputs.
3) Free – used for internal variables which are read and write capable.

20.4.6 Variable Scope

The Variable Scope may be one of two values: Global, and Local to Program. A Global Variable may be used and seen by all areas of programming within the SCS. A Local to Program Variable is confined to use within a subprogram or Function Block.

20.4.7 Variable Direction

The Variable Direction can be one of three settings:

1) Input – used for Inputs.
2) Output – used for Outputs.
3) Internal – used for internal variable which are read and write capable.

20.4.8 Variable Comment

Comment field for all points shall be filled with a description of the service and function of the tag.

21 APPLICATION PROGRAMS

21.1 ORGANIZATION / STRUCTURE

21.1.1 Setup

When starting a new controller configuration, certain initial settings for Workbench need to be verified.

In the logic editor:

- Under the options menu ensure that Show I/O Variable Comments and Show Internal Variable Comments are checked.
- In the Tools menu, select Show/Hide Guidelines Area and check that all guidelines are checked.
- In the working area space, the guidelines such that the Inputs area is five “dots” wide, the From area is five “dots” wide, the Logic area is Twenty Five “dots” wide, the To area is five “dots” wide and the Outputs area is five “dots” wide.

21.1.2 Program Sheet Format

The Program shall include a title block as described above. The title block shall be positioned at the top of the page properly sized with extra space for future additional commenting.

Program functionality shall be divided as follows:

Functionality	Program Naming Convention
Auxiliary Alarms such as power supply and fan failure	AUX_ALM
Link Transmission Received from other SCS and FCS	COM_FROM_SCS[Domain][Station] COM_FROM_FCS[Domain][Station]
Serial Communications Blocks	COM_SER
Unit Processing	UNIT_xx[Group or Equipment]
Special Logic Processing such as sequences or trip that span multiple C&Es	SCLxx_[Group or Equipment]
Link Transmission Leaving to other SCS or FCS	COM_OUT

Table 72 – Types of Program Functionality

Further divisions shall be created as needed on a per project basis. The program flow is as follows:

1. The inputs from other systems are read.
2. All of the inputs are processed including scaling and override, creating the appropriate trip flags.
3. The output logic is processed using the trip flags created in the current or previous sheets.
4. Outputs to other systems are sent.
5. The first out (if needed) is generated.

The configuration will be grouped based on Units. Each group of sheets will start with an input processing section (one sheet or more if necessary) a logic section containing the UZ trip and resetting logic and an output processing sheet (one sheet or more if necessary).

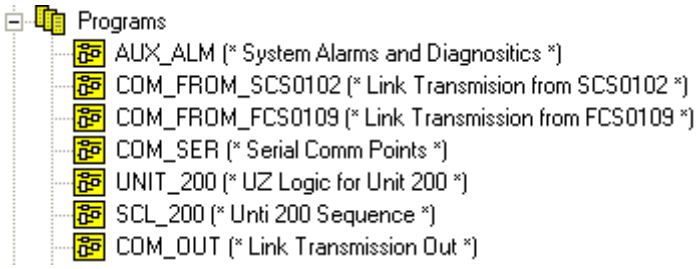


Figure 74 –Program Layout Example

21.1.3 Trip Principle

The trip principle for Safety Instrumented Systems is typically de-energize to trip; exceptions shall be identified in the Project's Safety Requirements Specification. When an SIS/FGS output is tripped, a signal will be sent to the PCS to place any associated loops into manual with a 0% output.

The trip principle for Fire & Gas Systems Shall follow typically energize to trip. Firefighting related system outputs, fire water pump start signals and horn/beacon outputs which are designated energise-to-activate, and for which line monitoring shall be provided. Other requirements shall be identified in the Projects Fire & Gas Safety Requirements Specification. The FGS trip signal sent to SIS to initiate shutdown as required shall be designed fail-safe.

21.1.4 Inter SCS Communication

Communication between different SCS's is possible in following 2 methods.

- Across domains using Inter SCS Safety communication.
- Within same domain using Link transmission function.

Link Transmission

Only BOOL communications will be performed using Link Transmission within a single Domain. This allows each controller to broadcast 128 bits of data to all the other controllers in the domain. Each controller can receive up to 1000 bits from a mix of SCSs and FCSs. The response to loss of communications can be set individually to true, false or hold for each bit in the receiving SCS. Link Transmission allows BOOL type data communication only if the SCS are in the same domain.

Reaction for Link transmission

The three factors that determine response times for link transmission between two controllers are:

- Data execution by the SCS system program for receiving (consumer) controller and transmitting (producer) controller.
- Link transmission repeat time.
- V-net/IP transmission delay.

The data execution by the SCS is maximal two times the scan period for handling the input and output and logic execution. The V-net/IP transmission delay is 10ms (including 2ms switch over time, between bus1 and bus2), for communication within the same domain. The link transmission data is broadcast in a fixed time interval of 100ms. So, the worst-case scenario (theoretical maximum response time) for the response time between two controllers can be determined by applying the following formula;

RTDMAX (Reaction Time on Demand) = 2 x scan periods (producer) + 2 x scan periods (consumer) + 2 x link transmission repeat periods + V-net/IP delay + Link transmission repeat time.

The minimal data execution time is the scan period plus the input handling time plus the output handling time. As a result, the minimum (optimal) response time between two controllers can be determined by applying the following formula.

RTDOPT (Reaction Time on Demand) = 1 x scan period (producer) + 1 x scan period (consumer) + Vnet/IP delay + Link transmission repeat time

The average response time can be calculated by the following formula.

RTDAVG (Reaction Time on Demand) = (RTDMAX + RTDOPT) / 2.

Inter-SCS Safety Communication

If large amounts of data must be communicated between domains, one SCS in each domain will be selected to concentrate the data to be sent/received from the other domain. Consumer and Producer blocks will be used to send the data between these two SCSs. Link Transmission will be used to distribute the received data to other SCSs in the domain.

Reaction for safety communication

The two factors that determine response times for safety communication between two controllers are:

- Data execution by the SCS system program for receiving (consumer) controller and transmitting (producer) controller.
- V-net/IP transmission delay.

The data execution by the SCS is maximal two times the scan period for handling the input and maximal three times for the output handling and logic execution. The V-net/IP transmission delay is 50ms (including 2ms switch over time, between bus1 and bus2), for communication within the different domains. The worst-case scenario (theoretical maximum response time) for the response time between two controllers can be determined by applying the following formula.

RTDMAX (Reaction Time on Demand) = 2 x scan periods (producer) + 3 x scan periods (consumer) + Vnet/IP delay.

The minimal data execution time is the scan period plus the input handling time plus the output handling time. As a result, the minimum (optimal) response time between two controllers can be determined by applying the following formula.

RTDOPT (Reaction Time on Demand) = 1 x scan period (producer) + 1 x scan period (consumer) + Vnet/IP delay.

It is possible to program consumer and producer blocks for REAL or BOOL points, but usage requires Shell approval. System Producer Block (PROD_B for BOOL, PROD_I for DINT, or PROD_R for Real) and Consumer Block (CONS_B for BOOL, CONS_I for DINT, or CONS_R for Real) are used when configuring Inter SCS Communications. The response to loss of communications can be set individually to a preset value for each consumer block.

21.1.5 Analog Input processing

Analog input processing will be performed using one of the analog input typical depending on the voting requirements of the point.

- Scaling: An analog input 4-20 mA signal is normalized to a 0-100% value at the Analog Input card. The percentage is then scaled into engineering units from scale high and low value input nubs at the ANLG_S block.
- Analog Trip Points: There are input nubs for SDL, SDH, high-high, high, low and low-low trip. Pre-trip and trip setpoints are to be documented in the project's Safety Requirements Specification. When a setpoint is not required, the setpoint shall be set to value (99999.0 or -99999.0) to ensure that trip or alarm does not occur.

21.1.6 Discrete Input Processing

Discrete input processing will be performed using one of the discrete input typicals depending on the voting requirements of the point.

21.1.7 Interlock Logic Processing

The logic shall be grouped into UZ (or trip) groups. When one of the input devices associated with a UZ group enters its trip state, the UZ group is tripped, and all of the outputs affected by the group will be driven to their safe state. If the device was the first device in that group to trip, the first out flag for that point will be set true and all subsequent first out flags will be masked. The UZ group can only be reset when all of the input devices have been cleared or overridden. Once the group has been reset the outputs for that group will return to their normal state. If an output is driven by more than one UZ group, it will only return to its normal state if none of the UZ groups are tripped.

21.1.8 Fire and Gas Logic Processing

Fire and gas trip logic shall be grouped in per cause and effect or logic descriptions. Each group normally includes all fire and gas detectors in one unit zone or area. Each trip input is latched and must be reset individually. Once all initiating inputs have been reset the outputs for that zone will return to their normal state automatically. Single input trip or multiple input faults or overrides will initiate fire and gas vote to trip.

21.1.9 Resets

SIS logic and FGS logic has manuals reset only. Resets are initiated from the CI-View by the operator. Only when related trip input is recovered the reset signal will be accepted by the logic.

21.1.10 Output Processing

Output processing is performed by a standard template. Basic operation of the template is as follows:

- SIS Process & FGS manual trip shall cause an output to shut down to a fail-safe position.
- Shutdown outputs shall return to normal state once all trip conditions are cleared, all permissive conditions are satisfied, and the proper reset procedure has been completed.

The inputs for the output processing function block are generic in nature and can be used for many different types of outputs. Multiple outputs can be triggered by one block as long as all outputs share trip, permissive, and reset requirements.

21.1.11 Auxiliary Alarms

The following are cabinet alarms.

Part Alarm-1 : Fan Failure.

Part Alarm-2 : MCB tripped alarm

Part Alarm-3 : PSU Power Failure

Part-Alarm-4 : Earth Fault.

Part-Alarm-5 : Thermostat Alarm

The signals shall be wired fail safe. System alarms shall be configured on a per project basis. All system diagnosis alarms shall be brought to the CI-View alarm banner.

21.1.12 Annunciators

Discrete Alarms shall be programmed with the use of ANN function block. They shall exist throughout the application's function blocks or where process alarms are required. Annunciator messages will be composed of the Tag and the Tag Description for proper display in the alarm window.

21.1.13 Sequence of Events (SOE)

All DI and DO signals that require SOE shall be configured at the channel level of the IO module. Analog input signals shall be configured for SOE in the ANLG_S block. Any other points requiring SOE shall be programmed with the SOE function blocks. Only BOOL points shall be used for SOE. An example would be voted trip. They shall exist throughout the application's user defined function blocks or where the points are programmed. Points configured in the SOE application shall be per project requirements. Time stamping for SOE events shall be within 2 ms of event for Digital IO modules and at system scan rate for all others. Refer section 19.2 for SOE setting for digital inputs and outputs.

21.2 TAG NAME BUILDER

21.2.1 Tag Name Parameter Setting

BOOL / DINT / REAL / ECW TABS:

Points created in the dictionary shall have the Tag Name field the same as the Variable Name field and Tag Comment field the same as the Comment field.

Points from instanced user defined function block outputs shall have the Tag Name field follow the tag naming convention. The Tag Comment shall have as clear a description of the service and description of the point as possible with 24 characters maximum with a space at 12th character. Variable Naming Convention shall have the Tag Name field follow the expanded tag naming convention on a per project basis.

BOOL/ECW_B | DINT/REAL/ECW_I/ECW_R | ANLGI/ANLG_S | VEL | ANN | IO_REAL | IO_BOOL | GOV_B/GOV_IB/OVR_B/OVR_IB | OVR_I/OVR_R/OVR_IR | PASSWD | SCI_B/SCO_B | SCI_I/SCO_I

Variable Name	Tag Name	Type	Tag Comment	Comment
HAS10300	HAS10300	BOOL	PST10300 STARTUP BYPASS	PST10300 STARTUP BYPASS
HAS10600	HAS10600	BOOL	PST10600 STARTUP BYPASS	PST10600 STARTUP BYPASS
HAS10700	HAS10700	BOOL	PST10700 STARTUP BYPASS	PST10700 STARTUP BYPASS
HAS10800	HAS10800	BOOL	PST10800 STARTUP BYPASS	PST10800 STARTUP BYPASS
SDV10850_PST.CONFIRM	SDV10850_CONF	BOOL	CONFIRM REQUEST TO OP	CONFIRM REQUEST TO OP
SDV10850_PST.FBO_PROGRESS	SDV10850_PROG	BOOL	PST IN PROGRESS	PST IN PROGRESS
SDV10850_PST.FBO_COMPLETE	SDV10850_COMP	BOOL	PST COMPLETE FLAG	PST COMPLETE FLAG

Table 73 –Tag Name Builder Example

ANLGI / ANLG_S TAB:

The Tag Name field shall be the transmitter (root) instrument name with the "T" replaced with an "I", i.e. the ANLG_S for analog input PT10300 will be PI10300.

The Tag Comment shall have as clear a description of the service and description of the point as possible with 24 characters maximum in accordance with the customer IO database. The faceplate will display the comment in two 12-character rows so care should be taken to try to generate a comment that can be understood when split.

The Low Limit and High Limit fields shall be the low and high scale ranges associated with the transmitter.

The Unit field shall be the engineering units associated with the transmitter following the engineering units table from the integrated PCS (CENTUM VP) project.

BOOL/ECW_B | DINT/REAL/ECW_I/ECW_R | ANLGI/ANLG_S | VEL | ANN | IO_REAL | IO_BOOL | GOV_B/GOV_IB/OVR_B/OVR_IB | OVR_I/OVR_R/OVR_IR | PASSWD | SCI_B/SCO_B | SCI_I/SCO_I/SCI_F

Variable Name	Tag Name	Tag Comment	Comment	Low Limit	High Limit	Unit
PI10100	PI10100	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10200	PI10200	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10300	PI10300	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10400A	PI10400A	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10400B	PI10400B	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10500A	PI10500A	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10500B	PI10500B	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR
PI10500C	PI10500C	TANK PRESSURE	TANK PRESSURE	0.0	200.0	BAR

Figure 75 -ANLGI / ANLG_S Tab Example

ANN TAB

Points created in the dictionary shall have the Tag Name field the same as the Variable Name field.

Points from instanced user defined function block outputs shall have the Tag Name field follow the tag naming convention. Variable Naming Convention shall have the Tag Name field follow the expanded tagging convention on a per project basis.

Annunciator Message field shall include the tag name, equipment or group, and description with 80 characters maximum.

BOOL/ECW_B | DINT/REAL/ECW_I/ECW_R | ANLGI/ANLG_S | VEL | ANN | IO_REAL | IO_BOOL | GOV_B/GOV_IB/OVR_B/OVR_IB | OVR_I/OVR_R/OVR_IR | PASSWD | SCI_B/SCO_B

Element Name	Variable Name	Tag Name	Annunciator Message
%AN0016	PXA10400	PXA10400	PST10400 High High Alarm
%AN0017	PXA10500	PXA10500	PST10500 High High Alarm
%AN0018	PI10400.DEV	PDA10400	PST10400 Deviation Alarm
%AN0019	PI10400.PRETRIP	PPA10400	PST10400 High Alarm
%AN0020	PI10400.TRIP	PXA10400	PST10400 High High Alarm

Figure 76 -Annunciator Tab Example

ALL OTHER TABS

Points created in the dictionary shall have the Tag Name field the same as the Variable Name field and Tag Comment field the same as the Comment field.

Points from instanced user defined function block outputs shall have the Tag Name field follow the tag naming convention. The Tag Comment shall have as clear a description of the service and description of the point as possible with 24 characters maximum. If the point has a faceplate, the faceplate will display the comment in two 12-character rows so care should be taken to try to generate a comment that can be understood when split. Variable Naming Convention shall have the Tag Name field follow the expanded tagging convention on a per project basis.

21.2.2 CENTUM VP/ ProSafe-RS integration

ProSafe-RS shall provide all signals required by the CENTUM VP graphics through the Tag Name Builder. These signals shall include analog ANLG_S blocks, trip/shutdown signals, maintenance, startup override feedback, SIS/FGS process alarms, transmitter fault signals and timers included in logic.

21.2.3 Alarm priority building

Alarm Priority Builder setting must match the alarm priority setting in CENTUM VP PCS. If a mismatch occurs a warning shall occur when the program is built or compiled.

21.2.4 Alarm Processing Table Builder

SIS/FGS(SCS)/PCS(FCS) integration, the Alarm Processing Table is used to determine the Alarm Priority of process alarms raised by function blocks (FBs) or mapping blocks. Each block will have the same alarm priority in the Tag Name Builder, but the individual alarms associated with each block can be assigned different priorities in the builder based on that overall priority. The Alarm Processing Table Builder is edited in the CENTUM VP EWS and then imported into Workbench.

The Alarm Processing Table Builder is used to import the 'Alarm Processing Table' defined on CENTUM VP to the SCS project. In the CENTUM VP integration structure, the application of ProSafe-RS needs to be defined with those builders. Furthermore, engineering of CENTUM VP including SCS definition and configuration, and tag list generation needs to be executed on the CENTUM VP EWS.

The following figure shows the outline of CENTUM VP integration application definition.

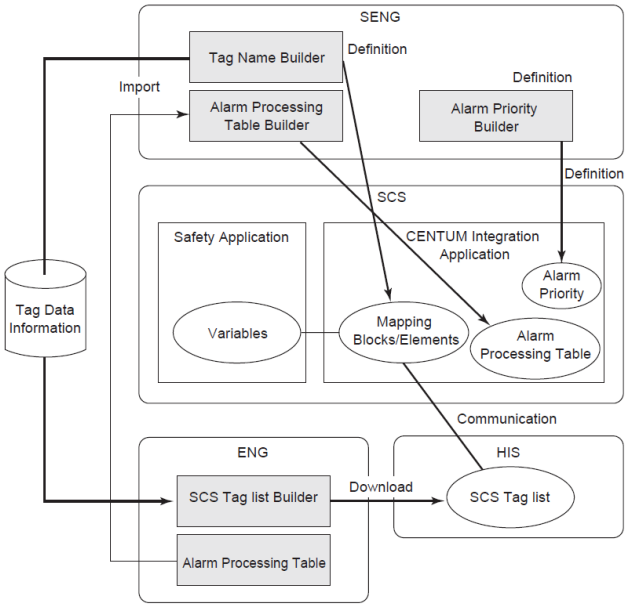


Figure 77 – CENTUM VP Integration

21.3 SECURITY AND PASSWORDS SETTING

21.3.1 Security

All security levels must have passwords configured as per site requirements. Passwords shall be configured during pre-FAT. The security level of SCS indicates how much the memory of SCS is protected from the setting of data from outside. An overview of SCS security level is as follows:

- One SCS has one security level. At any moment of time, the controller can only be in one particular state.
- The security level can be confirmed from an LED on the CPU module and the SCS State Management screen of SCS Maintenance Support Tool.

STATUS lamps	Display	Description
1, 2	Operating Mode	• Running mode: 1 and 2 on • Waiting mode: 1 off, 2 on • Others: 1 and 2 off
3	Security level	Turns on only for security level 2. (*1)
4	Safety control station error (*2)	• Error occurred: off • Normal: on
5, 6, 7	Unused	Always on
8	Writing to flash memories	Writing: off, Otherwise: on

*1: Security level 0 corresponds to offline level and security levels 1 and 2 correspond to online level.
*2: This lamp may be linked to the SYS_DIAG output.

Table 74 – Status Lamps Display Operating Mode and Error Status

- SCS limits changes made online depending on the security level.
- The security level can be referred to by applicable logic.
- The security level can only be changed by an authorized user.
- The system function block (SYS_SEC_CTL) allows control of whether or not security level change operations from a EWS with an external hardware program Enable/Disable key switch.
- The security level can be changed under the following conditions:
  - The SCS is either in the Waiting or Running mode
  - SYS_SEC_CTL is set to allow security level changes or is not used.

There are two classifications of security levels: Online and Offline.

- The Online level is used when the SCS is in normal operation. It can be separated into two levels according to the limits of functions which can be used.
  - Level 2: The highest security level. The SCS runs at this level in normal operation.
  - Level 1: A temporary security level used by authorized users for maintenance of equipment and changing SCS applications online.

- The Offline level is used when SCS is not in normal operation. This is displayed as "Level 0" on the Status Display Window of SCS and EWS. In the Offline Level, the SCS does not limit access to system parameters. Information which was used at test may be stored in SCS databases depending on operations performed by those tools.

Write Operation to SCS	Security Level (*)			Operation
	Level 2	Level 1	Level 0	
Override from OWS	OK	OK	OK	OWS
Operation on password block from OWS	OK	OK	OK	OWS
Operation on manual operation block	OK	OK	OK	OWS
Confirmation of Process alarm	OK	OK	OK	OWS
Setting operation mark on mapping element/mapping block	OK	OK	OK	OWS
Confirmation and Deletion of Diagnostic information	OK	OK	OK	EWS
Setting of system time	OK	OK	OK	OWS /EWS
Change of security level	OK	OK	Error	EWS
IOM Download (**)	OK	OK	OK	EWS
Resetting of Trip signal file	OK	OK	OK	EWS
Change of password for security level	OK	OK	OK	EWS
Lock/unlock variables	Error	OK	OK	EWS
On-demand communication for device management	OK	OK	OK	PRM
Change of variable with forcing function	Error	OK	OK	EWS
Online change download of applications	Error	OK	OK	EWS
I/O lock function	Error	OK	OK	EWS
Communication I/O lock function	Error	OK	OK	EWS
Switching Control right for dual-redundant AIO/DIO modules	Error	OK	OK	EWS
Offline download	Error	Error	OK	EWS
Application Debug function	Error	Error	OK	EWS
Restart of SCS from EWS	Error	Error	OK	EWS
Output Enabled Operation	OK	OK	OK	EWS
Save/Download Operation Marks	OK	OK	OK	EWS
Output module starting operation	OK	OK	OK	EWS

Table 75 – Operations Performed to SCS and Required Security Levels

21.3.2 System Program Enable Switch

System Program Enable Switch is a hard-wired switch and shall be in applicable system cabinet. This Key provides protections against unauthorized access and modification to system logic.

- System key is normally set to REMOTE position. The ProSafe-RS logic security level is set and locked at level 2, which is read only mode.
- When System key is set to PROGRAM position, security level remains at 2 but is allowed to be changed to 1 or 0 for online and offline download.
- When System key is switched from PROGRAM to REMOTE position, the logic will enable all locked or disabled variables then set security level back to 2. Enabling disabled variables is necessary to ensure that System key input will not be kept in locked state, which will cause security level and variable enable feature locked down.

21.3.3 Passwords

- Passwords for the security level are controlled in SCS.
- A password for the security level is set for each security level. Passwords are required to be set for changing to Level 1 and Level 0. A password is not necessary to change to Level 2.
- A password is a maximum of 16 alphanumeric characters and is upper/lower case sensitive.
- Passwords are maintained during a power cut and restart of SCS.
- Security Level Passwords are deleted when SCS Off-line Download is performed. Security level passwords shall be set upon start up.

21.3.4 Setting and Changing Passwords

- Authorized users may change passwords on the SCS Manager in EWS.
- Passwords can be changed when the SCS is online.
- When a password is changed, the person who changes it must enter the old password before it is changed.
- When a password has been changed, the SCS notifies its change with a Diagnostic Information Message.

21.4 SPECIFICATIONS AT STARTUP

A SCS always performs the initial cold start processing when it starts up. It does not have a function that allows it to resume the operating mode as it was before stopping. The operating mode at startup is always the Stop mode. An SCS can start up in one of the following three ways:

- After Power Recovery Start. An SCS starts up in this way when the power supply is resumed after a power failure.
- Start after Off-line Download. An SCS starts up in this way when the user performs off-line download from the EWS. Security Level Passwords are deleted when SCS Off-line Download is performed. Security level passwords shall be set upon start up. Refer IM32P01B10-01EN ProSafe-RS User Guide for detailed configuration.

- Manual Restart. An SCS restarts when the restart switch of the CPU module is pressed, or the user performs SCS restart operation from SCS Manager of the EWS.
- Output Enable. An output enable shall be performed once SCS is Active. The Output Enable Operation will enable the output channels to output the application logic results, initiates inter-SCS safety communication, SCS link transmission and subsystem communication.

21.5 SYSTEM ACTIONS DUE TO ERROR OCCURRENCE

If an error occurs in the system, operations corresponding to the error level must be executed. The following three error levels are specified: fatal error, major error and minor error.

A fatal error disables hardware and/or software so that operation cannot be continued. Both sides of a redundant CPU module stop, and all channels of all output modules will go to the fail-safe state.

A (system) error does not affect the application logic execution function itself. In a redundant hardware device, if an error occurs in one of the devices, the control right is switched to the standby side to continue the processing. Such errors are regarded as minor. The fact that a switch over occurred due to a failure is notified via a diagnostic information message. Since the SCS can continue controlling in this case, the data status is not changed nor is any error status notification to system function blocks performed.

21.6 SOFTWARE AND I/O FORCING

It is possible to force individual inputs and outputs to the logic '0' or '1' state or manipulate analogue and time values or any other types via SCS Manager on the EWS. This is a facility to support off-line field device test and maintenance. The SCS must be in non-secure mode to enable the I/O forcing function. All forces are disabled (removed) if the SCS is switched back to the secure mode. This function can be used to cancel all the forces (locking statuses) in such an emergency as the unavailability of SCS Manager due to a EWS fault.

The presence and total number of forced variables shall be reported to PCS. If variables in the system are forced for more than 4 hours an alarm will be generated every 4 hours, these facts are notified as diagnostic system status information.

21.7 ON-LINE AND OFF-LINE MODIFICATIONS

ProSafe-RS allows both the application to be modified and specific I/O module settings to be changed on-line. The SCS Manager on the EWS is used for editing the work database. The edited work database, when being downloaded to SCS with On-line Change Download, is automatically saved in the master database.

The Master Database Restoration Function deletes the SCS database which is being edited in the work database and replaces it with the master database. Do not Set/Reset Maintenance overrides from HIS while executing an on-line download to SCS.

List of applicable online changes as follows.

Corrected item	Description
Adding/deleting a variable	-
Deleting variables and adding variables with the same names as the deleted variables	-
Changing the types of variables	-
Changing attributes of variables	-
Adding/deleting I/O variables	-
Adding/deleting the standard FB instances	-
Adding/deleting the user-defined FB instances	Including FB defined in the library. A project that is created with the revision earlier than R3.02.00 will be in the same condition as R3.02.00 when clean project is executed. Therefore, you can perform online change download.
Deleting FB instances and adding FB instances with the same names as the deleted ones	
Changing the types of FB instances	

Table 76 – Operations that Can be Changed Online for Variables and Instances Used in Program

Modification	Description
Adding/deleting a variable	-
Deleting variables and adding variables with the same names as the deleted variables	-
Changing the types of variables	-
Changing the attributes of variables	-
Adding/deleting the standard FB instances	-
Adding/deleting the user-defined FB instances	Including FB defined in the library. A project that is created with the revision earlier than R3.02.00 will be in the same condition as R3.02.00 when clean project is executed. Therefore, you can perform online change download. When adding user-defined FU/FB, the added user-defined FU/FB must be tested. When adding pre-validated user-defined FB, testing of the FB itself is not required.
Deleting FB instances and adding FB instances with the same names as the deleted ones	Including FB defined in the library. A project that is created with the revision earlier than R3.02.00 is in the same state as R3.02.00 when clean project is executed. Therefore, it can perform online change download.
Changing the types of FB instances	

Table 77 – Online Changes of User -Defined FB and FU

Modification	Online Change (*1)
Adding nodes	Yes
Deleting nodes	Yes
Changing parameters of nodes	Yes
Adding I/O modules	Yes
Deleting I/O modules	Yes
Changing redundant I/O modules	Yes
Changing parameters of I/O modules	Yes
Changing parameters of channels	Yes
Changing parameters of serial communication modules	Yes
Defining wiring between a variable and an idle channel	Yes
Deleting wiring between a channel and a variable	Yes
Changing wiring between a channel and a variable	Yes
Adding, changing or deleting subsystem communication definitions	Yes
Changing wiring of communication input/output FBs	Yes
Adding or deleting ESB bus coupler modules	Yes

*1: Yes: Online change download is possible.

Table 78 – I/O Module Information that is Changeable Online

Classification	Modification	Online Change (*1)
Configuration	Name	No
	Password	No (*2)
Resource	Name	No
	Resource Number	No
	Cycle Timing	Yes
	Memory size for online changes	No
	Memory size for temporary variable	No
Network	IP address	No
	Station address	No
	Inter-SCS safety Communication (Binding)	No

*1: Yes: Online change download is possible.
No: Offline download is required.
*2: Setting and changing passwords is ignored.

Table 79 – Constants and Network Information Changeable Online

Items	Online Change (*1)
SCS Constants Builder	Yes (*2)
I/O Parameter Builder	Yes
Communication I/O Builder	Yes
SCS Link Transmission Builder	Yes
Modbus Address Builder	Yes
DNP3 Communication Builder (*3)	Yes (*4)
Tag Name Builder	Yes
Alarm Priority Builder	No
Alarm Processing Table Builder	No

*1: Yes: Online change download is possible.
No: Offline download is required.
*2: Some items are enabled. A breakdown showing which items are and are not enabled is provided in "Table of SCS Constants Builder online change."
*3: Usable only when the version of SCSU1 is R3.02.20 or later
*4: Some items are enabled. A breakdown showing which items are and are not enabled is provided in "Table of DNP3 Communication Builder online change."

Table 80 – Builder Definitions Changeable Online

Items	Online Change (*1)
Interval of Repeated Warning Alarms	No
Synchronous Mode	No
Scan Period for External System	No
Modbus Word Order	No
16-bit Modbus master support mode	No
Alarm Notify Action when AOF Released	No
PV Status of S_ANLG_S	No
DNP3 Slave Function (*2)	No
Optical ESB Bus Repeater	No
Maximum Extension Distance	No
Extend Scan Period Automatically	Yes
Behavior at Abnormal Calculation	Yes
Locking of Internal Variables (*3)	Yes
Automatic IOM Download	Yes

*1: Yes: Online change download is possible.
No: Offline download is required.
*2: Displayable only when the version of SCSU1 is R3.02.20 or later
*3: Only for SCSP2

Table 81 – SCS Constants Builder Changeable Online

22 OVERRIDES

The various types of overrides that shall be used in the project are: Operational Override (OOS) and Maintenance(MOS). Overrides are utilized during startup, maintenance, construction and equipment testing. The following is a general description for initiating the overrides and their effects.

22.1 OPERATIONAL OVERRIDE SWITCH (OOS)

To be able to start equipment or sections of process, it shall be necessary to override some inputs of the safety system, as sensor signal may be in an abnormal state prior to start-up and could cause a shutdown. Such overrides are designated as "Start-Up Overrides".

Activation of OOS shall be carried out automatically as far as possible by the SIS system during a start-up sequence, but some OOS may have to be set manually by the operator from the SIS Console. (e.g. automatic = pump discharge low pressure and manual = high level in a compressor scrubber).

Each OOS function shall be reset automatically either by the sensor signal reverting to the normal or healthy status, after a dedicated step of the equipment start-up sequence or after a predetermined time delay, or by a set of process conditions. If cancelled automatically by the sensor signal, the input logic shall prevent spurious trips being caused by oscillation of the input around the reset value.

Indication of the raw statuses of the sensors overridden by automatic start-up shall be shown into the OWS graphic displays and recorded on the event log.

22.2 MAINTENANCE/TESTING DEVICE OVERRIDE (MOS)

During normal unit operating conditions, maintenance and operations personnel shall be required to perform maintenance and testing procedures on safety devices and equipment. During these procedures, the shutdown logic for each device shall be overridden but shall allow the audible and visual alarms for each device to be fully functional. This shall include devices in the SIS/FGS Systems. This shall allow maintenance or operations personnel to complete all testing procedures under safe working conditions.

The MOS will be enabled by signal from SCADA (MOS enable switch) located on CAP. The override signal shall be used in the analog input processing templates to inhibit trip. Return of the MOS enable switch will disable and remove all active Maintenance Overrides. MOS function will override both trip and fault signals of an input.

In the case of 1oo1, the override will inhibit the trip. In the case of 1oo2 and 2oo2, the override will be treated as a negative override to force the logic to 1oo (N-1) or 1oo1. Override logic will be handled in voting logic.

If an overridden transmitter remains in faulty condition while its override function is removed, UZ logic trip will occur. This logic only applies to non-redundant transmitters since override and fault logics for voting transmitters are handled by voting logics.

The Project's SRS shall specify which sensor types will not be provided with a MOS (e.g. manual trip switches and flame sensors).

23 PROSAFE-RS VERSION CONTROL MANAGEMENT

The ProSafe-RS application software comes with a version control tool. It allows progressive tracking through version control of the user application logic at various stages of development and implementation. The version control function is intended for controlling the version History of SCS projects to support users' system update.

The version control tool function serves the following purposes:

Name	Description
Version control of project Data	Save engineering data at a project milestone or at the end of engineering in different hard disks (check-in). Refer section 23.2 of this document for version control procedure which shall be followed for this project.
Backing-up project data	Checked-in data can be used as backup data. Checked-in project data can be checked out and restored
Replacing by revised project with large-scale changes	When making large-scale changes to an SCS project, it is recommended to perform engineering tasks on temporarily copied project data, rather than editing the active project data directly; this way, the active project data can be replaced with the new project data at the end of engineering.

Table 82 – List of ProSafe-RS Version Control Tool Function Overview

23.1 VERSION CONTROL TOOL

The version control tool performs the following functions:

1. Check-in and check-out of project data
2. Deletion of versions and check-in projects
3. Reading and printing of version information
4. Designation of check-in folders and SCS projects to be version controlled

A typical ProSafe-RS version control tool function is described as below.

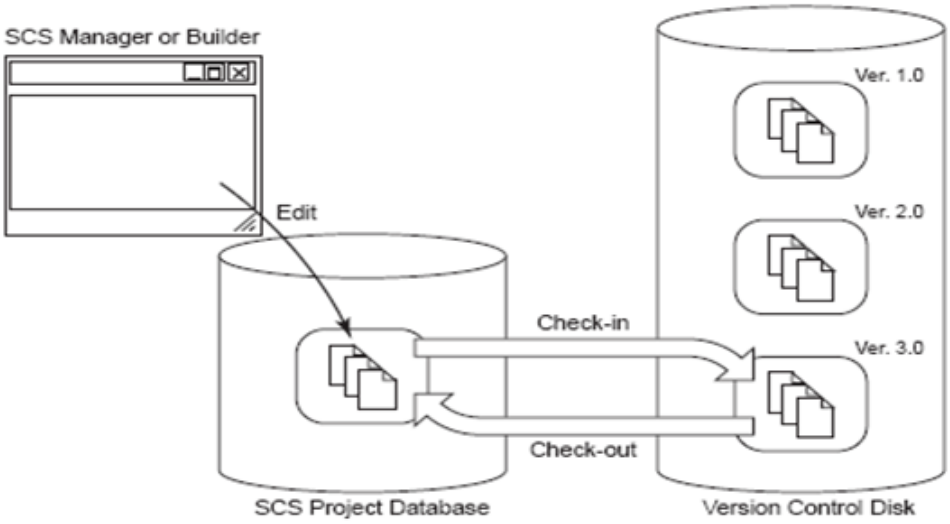


Figure 78 – Version Control Tool Function.

23.2 VERSION CONTROL NUMBERING

This section describes the version control numbering to be applied throughout the code development lifecycle of the application software from the engineering stage to FAT for this project. Beyond SAT and throughout the operational lifetime of the asset, the end-user's version and disaster recovery procedures shall be applied.

Item	Check in Timing	Version Control Number
During Detailed Engineering	Initial SCS Project Creation	-
	Changes in database	-
	End of Detailed Engineering	1.00
	Check-in path	Note 1
During Internal Test	Initial SCS project save during int. test starts	1.00
	Changes in database	Increment second decimal (e.g., 1.01, 1.02 etc.)
	End of Internal FAT	2.0
	Check-in path	Note 1
During FAT	Initial SCS project save during FAT starts	2.00
	Changes in database	Increment second decimal (e.g., 2.01, 2.02 etc.)
	End of FAT	3.00
	Check-in path	Note 1

Item	Check in Timing	Version Control Number
During SAT	Initial SCS project save during SAT starts	3.00
	Changes in database	Increment second decimal (e.g., 3.01, 3.02 etc.)
	End of SAT	4.00
	Check-in path	Note 1

Table 83 – Version Control Numbering

Note 1: The version-controlled databases are to be copied to other location in local EWS immediately after the project check-in activity completion as per the above schedule. The path to maintain the version data in the local EWS shall be

- D:\BLPH\VERSIONCONTROL\SCR XX\SCSddss

  BLPH – Project Name

  SCR XX – SCR Number (E.g., 01, 03...)

  SCSddss – SCS version control backup

This path shall contain the respective Unit's / System's SCS version control backup. The version control path shall be a different folder path than RS Projects.

The check in settings will include 'Engineer Name', 'Comment' and 'Note'. The 'Note' shall refer to the 'Punch List' during internal FAT and FAT phase.

The Punch List shall include the 'Safety Impact Review', 'application version number before modification' and 'application version number after modification' for the respective design change due to the test incidents.

24 TAG NAMING PHILOSOPHY

24.1 PHYSICAL IO VARIABLE NAMING

This section details the naming convention as applied to variables assigned to AI, DI, AO and DO channels and used in the application logic.

All input and output variables such as Analog Inputs (AI), Digital Inputs (DI), Analog Output (AO) and Digital Outputs (DO) shall adopt the same variable naming philosophy as detailed in the following table.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
_	U	U	U	X	X	X	X	X	S1	S2	S3	Y1	Y2	Y3

Were,

_	Used in the beginning of SIS field signal
UUU	Unit Code (ex: 01, 90)
XXXXX	Instrument type, Minimum 2 characters, and Maximum 5 characters
S1S2S3	Component Number, Minimum 2 characters, and Maximum 3 characters
Y1Y2Y3	Sequence Number

Each physical IO variable will contain a maximum of 16 characters.

Type	Field IO Tag name	ProSafe-RS Variable name	In builder Tag Name
Analog Input	01-FT-012AA	_01FT012AA	01FT-012AA
Digital Input	01-BSL-501A	_01BSL501A	01BSL-501A
Digital Output	114HY0002	_114HY0002	114HY-0002

Table 84 – Physical IO Variable Naming

If the total length exceeds 16 characters, certain portions of the name must be truncated, and a unique identifier added to differentiate them.

The "Unique Identifier" shall be determined in consultation with the Contractor with respect to their acceptable naming format. This is only necessary if the existing tag names in the IO database exceeds 16 characters.

24.2 TAG COMMENTS NAMING

A tag comment can be defined using up to 24 single-byte or 12 double-byte characters. On each faceplate, the Tag Comment will occupy 2x rows of 12-single byte or 6-double byte characters.

Tag Comment Convention shall be: "XXXXXXXXXXXX" (first row) + "YYYYYYYYYYYY" (second row)

where:

XXXXXXXXXXXX	12-Single byte / 6-double byte to describe Equipment Name / Process Area of related tag (TGCOMM)
YYYYYYYYYYYY	12-Single byte / 6-double byte to describe Tag Function (e.g., TGCOMM2, Reset, Shutdown, Override, etc.)

It is suggested to consider use of appropriate spacing and alignment of words to avoid breaking up of descriptions between the two rows to ensure readability. For example,

1. When all the characters are used in the first row, then between the first row and second row characters, there should not be any empty spaces as the faceplate will automatically start the display for the 13th character on the second row.
2. In case the last word on the first row does not end on the last character of the first row, then empty spaces must be added to ensure the first word of the second row starts on the first character of the second row.

The tag comment must be defined as part of the design and engineering inputs for physical I/O tags by CONTRACTORS.

24.3 INTERNAL VARIABLE NAMING

Internal Variables are the most common type of variables or tags to be declared in the Workbench application environment. This section describes the naming convention as applied to any variables used in the application logic for intermediate logic states or temporary storage of calculation results, which maybe independent or related to the Input and Output variables.

Below naming philosophy is used for internal variables used in applications such as SIS C&E, F&G C&E:

Type	ProSafe-RS Variable name	Internal Variable name	In builder Tag Name
Analog Input	_01FT012AA	_01FT012AA+FB PIN	01FT012AA+ FB PIN
Digital Input	_01BSL501A	_01BSL501A+ FB PIN	01BSL-501A+ FB PIN
Digital Output	_114HY0002	_114HY0002+ FB PIN	114HY0002+ FB PIN

Tag names shall be adjusted due to limitation of 18 characters for internal tag names & 16 characters for HIS tag names in ProSafe-RS.

24.4 FUNCTION BLOCK INSTANCE NAMING

Function blocks are commonly used for specific logical operations and generating intermediate variables for use in the application logic.

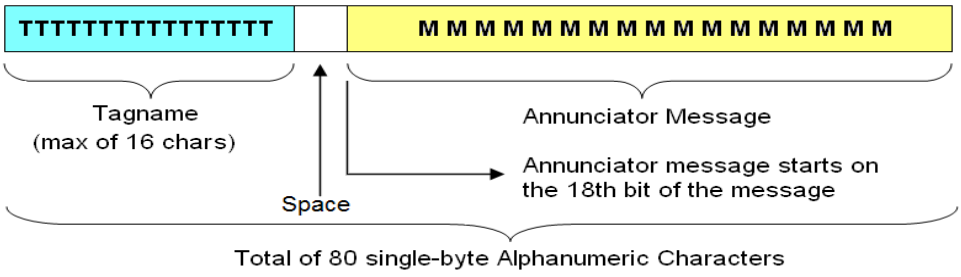
Function Block	Prosafe – RS IO Variables	Prefix	Suffix	Instance Name
Analog input UDFB	_01FT012AA	AI	-	AI_01FT012A

Function Block	Prosafe – RS IO Variables	Prefix	Suffix	Instance Name
Digital input UDFB	_01BSL501A	DI	-	DI_01BSL501A
Digital output UDFB	_114HY0002	DO	-	DO_114HY0002
Safeguarding UDFB (per Interlock)	Interlock 01-IS-001 for Unit 01	UZ	-	UZ_01IS001_01
Fire Zone UDFB (per Interlock)	Interlock 04-IF-501 for Unit 04	UZ	-	UZ_04IF501_01
Voting UDFB	02-GD-021-A / B / C	VT23 VT13	HH HI	VT23_02GD021HH (For, HH-2oo3) VT13_02GD021HI (For, HI-1oo3)

Table 85 – Function Block Instance Naming

24.5 ANNUNCIATOR MESSAGE DESIGN

This defines a message notifying a process error. An annunciator message can be defined using an arbitrary character string consisting of up to 80 single-byte characters or 40 double-byte characters. The General message structure is described below in figure.



Pzi

Figure 79 – Annunciator Message Structure.

TTTTTTTTTTTTTT : Tag name

MMMMMMMMMMM : Annunciator message (Tag comments and functions)

The annunciator is usually taken from the IO List (Service Description).

Notes:

1. Tag names are derived from the Tag names defined in IODB & Centum VP Integration Tag name.
2. The abbreviation for instance name defined for ANN function block in UDFB is described subsequently.

SIS:

Type	I/O Type	Annunciation Type	Annunciation Philosophy
Trip Initiator	Digital Input	Trip state (except limit switch)	TAGNAME+ SERVICE +TRP
		Trip state (limit switch)	TAGNAME+SERVICE+OPN (for Open limit switch)
			TAGNAME+SERVICE+CLS (for Close limit switch)
	Analog Input	Trip state	TAGNAME + SERVICE +TRP
Final Control Element	Digital Output	Trip state	TAGNAME + SERVICE
Operation Override		OOS activated warning	TAGNAME + SERVICE + OOS ACT
First Out		First – Out Alarm	TAGNAME + SERVICE + FO

Table 86 – SIS Annunciation Philosophy

FGS:

Type	I/O Type	Annunciation Type	Annunciation Philosophy
Detector / Sensor	Digital Input	Active state	TAGNAME+ SERVICE+TRP
		Signal Fault	TAGNAME+ SERVICE + FLT
	Analog Input	Alarm state	TAGNAME + SERVICE + HH/HI/LO/LL
		Open Loop Fault	TAGNAME + SERVICE + IOP
		Over Range Fault	TAGNAME + SERVICE + OVR
		Dirty Optics	TAGNAME + SERVICE + DIRTY OPTICS
		Beam Block	TAGNAME + SERVICE + BB
		Fault	TAGNAME + SERVICE + FLT
Final Control Element	Digital Output	Active state	TAGNAME + SERVICE
		Signal Fault	TAGNAME + SERVICE + FLT
First Out		First – Out Alarm	TAGNAME + SERVICE + FO
Voting Activation Alarm		Voting Trip Alarm	TAGNAME + ALM(HI/HH/LO/LL) + VOT + TRP
Voting Degradation Alarm		Voting Degradation Alarm	TAGNAME + ALM(HI/HH/LO/LL) + VOT + DEG
Voting All Fault		Voting All Fault Alarm	TAGNAME + ALM(HI/HH/LO/LL) + ALL DET FLT

Table 87 – F&G Annunciation Philosophy

24.6 SEQUENCE OF EVENTS (SOE) MESSAGE PHILOSOPHY

The SOE message for each user-configurable event shall be defined according to the following convention for this project:

1. Maximum of 32-single byte or 16-double byte alphanumeric characters

Event ID to comprise of 3 portions (with empty space in between) and based on:

- Tag name
- Abbreviated equipment name / location

- Functionality

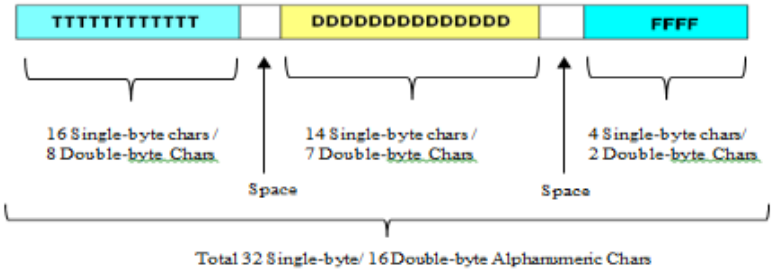


Figure 80 – SOE Message Structure.

- TTTTTTTTTTTT : Tag name
- DDDDDDDDDDDDDD : Description (equipment name / tag comment/ location)
- FFFF : Function (maximum of 4 chars)

Note: The abbreviated equipment name / tag comment / location is defined by the CONTRACTOR as part of the design and engineering inputs.

Type	SOE Type	SOE Philosophy
SIS Analog Input	Analog input trip initiator	Tag Name + Description + "TRP"
F&G Analog Input	Analog input alarm initiator	TAGNAME + SERVICE + HH/HI/LO/LL
F&G Analog Input (Detector)	Analog input open loop fault	TAGNAME + SERVICE + IOP
	Analog input over range fault	TAGNAME + SERVICE + OVR
	Analog input dirty optics	TAGNAME + SERVICE + DIRTY OPTICS
	Analog input beam block	TAGNAME + SERVICE + BB
	Fault	TAGNAME + SERVICE + FLT
Maintenance Override	Maintenance Override activation status	TAGNAME + SERVICE + MOS
Operation Override	Operation Override activation status	TAGNAME + SERVICE + OOS
First-out	First-out alarm events (Trip)	TAGNAME + SERVICE + FO
Voting Activation	Voting Trip activated	TAGNAME + ALM(HI/HH/LO/LL) + VOT + TRP
Voting Degradation	Voting degraded	TAGNAME + ALM(HI/HH/LO/LL) + VOT + DEG
Voting All Fault	All detectors in voting fault	TAGNAME + ALM(HI/HH/LO/LL) + ALL DET FLT

Table 88 – Sequence of Events Message Philosophy

Notes:

SOE for digital I/O's will be module based and not in the function block level. Hence, tag comment in the workbench dictionary will become the SOE for digital I/O's. The SOE philosophy for digital I/O's is as follows:

1. Message should be defined in Dictionary Tag comment for IO_BOOL variables.
2. The abbreviation for SOE instance name defined in UDFB is described subsequently.

The path to maintain the SOE configuration files in the local EWS shall be:

- D:\BLHPREF\SOE

24.7 COMMUNICATION BETWEEN (FCS - SCS) / (SCS – FCS):

In this project, signal sent from SCS to PCS shall be via Vnet/IP using SCS Tag name Builder. Communication naming convention

1. Sending Variable Names
2. Receiving Variable Names

Sending Variable Names:

Sending variables can be IO Variable or Internal Variable and their respective variable naming conventions shall be observed if customer not provided.

The tagging philosophy for the sending tags will be as below:

SddssFddss_DIYY

S – Constant (S – SCS)

F – Constant (F – FCS)

dd – Domain Number

ss – Station Number

DI– DINT

YY – Sequence number

For example – SCS0101 sending set of 16 bits with pack function to FCS0103 with sequence no. 1 is configured as S0101F0103_DI1 in SCS0101. In this case Instance name will be 'P_S0101F0103_DI1'.

Receiving Variable Names:

Receiving variables can be IO Variable or Internal Variable and their respective variable naming conventions shall be observed if customer not provided.

The tagging philosophy for the receiving tags will be as below:

FddssSddss_ECYY

F – Constant (F – FCS)

S – Constant (S – SCS)

dd – Domain Number

ss – Station Number

EC– ECW_I

YY – Sequence number

For example – FCS0104 sending set of 16 bits with pack function to SCS0103 with sequence no. 1 is configured as F0104S0103_EC1 in SCS0104. If 5th bit of this signal must be used in logic, F0104S0103_EC1.5 is to be used. In this case Instance name will be 'U_F0104S0103_EC1'

25 SCS SYSTEM SOFTWARE LICENSE

The following are the software license shall be used for this project.

Description	Software License
Project ID License	RS4CPJT-V11
Safety System Engineering and Maintenance Function & Server Function	RS4E5100-V11
Electronic Instruction Manual	RS4C5400-V11
Software Media	RS4CKM-V11
Project I/O License	RS4F3100-V11
CENTUM VP Integration Package	RS4E5600-V11
Safety Control Function (for S2SC70x)	RS4F1500-V11

Table 89 – ProSafe-RS SCS System Software License

Note:

The Project ID license must be unique for ProSafe-RS system for this project and will be different from PCS.

26 PROSAFE-RS ENGINEERING PROCEDURE FOR CENTUM VP INTEGRATION

In this project, signal sent from safety systems to PCS shall be via Vnet/IP using SCS Tag name Builder.

Signal sent from PCS to safety systems shall be using SEBOL (Periodic Execution).

The CENTUM integration function of ProSafe-RS provides a seamless interface for accessing SCS by Centum VP system. Accessing of SCS data from PCS is also treated the same as the PCS to access other PCS.

In the Centum VP Integration Configuration, engineering needs to be performed both by the EWS functions and the Centum VP Engineering Functions. The figure shows the engineering procedure in the Centum VP Integration Configuration.

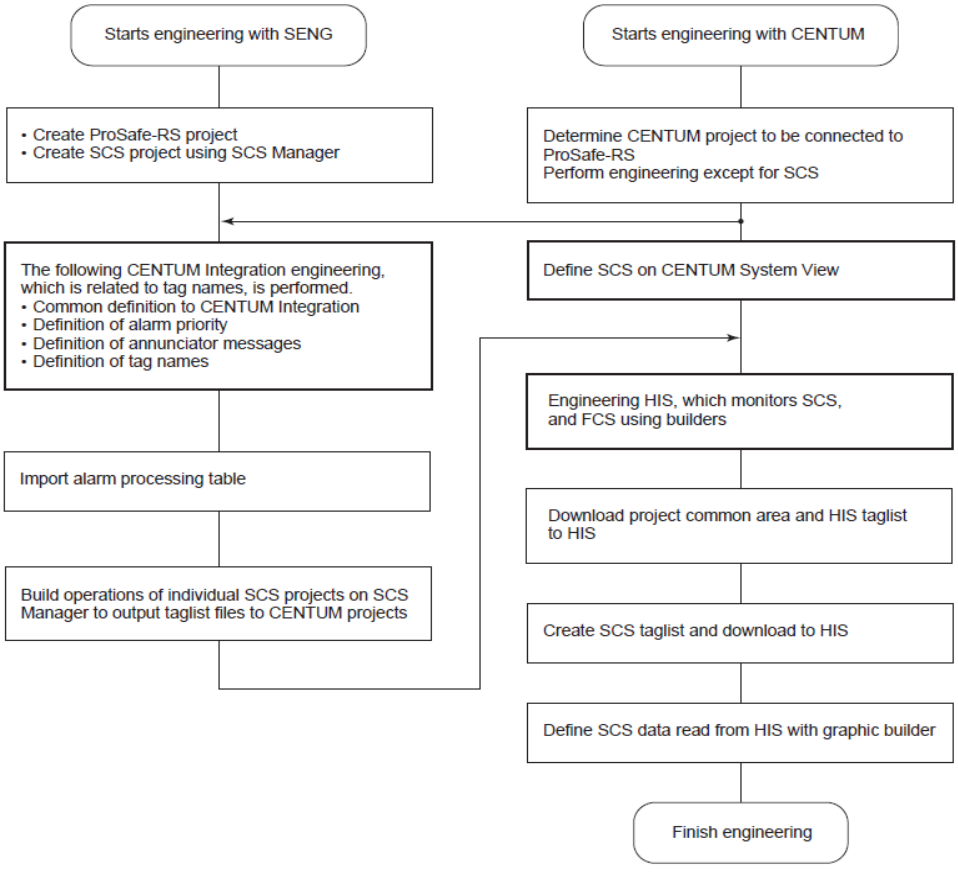


Figure 81 – ProSafe-RS & Centum Integration Engineering Procedure

Engineering Function	Description	ProSafe-RS Builder	Project Definition
Common definition of Centum PV Integration	Defines the top folder of the Centum VP project	SCS project property	Will be finalized during detailed engineering. Refer Functional Design Specifications – PCS Software

Engineering Function	Description	ProSafe-RS Builder	Project Definition
Definition of alarm priority	Defines the handling of SCS process alarms, which appear on OWS	Alarm priority builder	The SIS / F&G alarms are defined as high priority alarm. Refer Functional Design Specifications – PCS Software
Definition of alarm processing table	Import the alarm processing table, which is defined on Centum VP	Alarm processing builder	The definition of alarm processing table in CENTUM database is to be imported to ProSafe-RS Refer Functional Design Specifications – PCS Software
Definition of annunciator messages	Defines the contents of process alarms, which appear on OWS	Tag name builder	Refer section 15.2 for Annunciation Design of this FDS.
Definition of tag names	Allows Centum VP to access the variables of application logic by assigning tag names	Tag name builder	Refer section 15.2 Centum VP Mapping Block/Element Naming of this FDS.
Engg Unit	Import the engineering unit, which is defined on Centum VP	Tag name builder	Refer Functional Design Specifications – PCS Software
Switch Position Label	Import the label, which is defined on Centum VP	Tag name builder	Refer Functional Design Specifications – PCS Software

Table 90 – ProSafe-RS & Centum Integration Settings

27 USER DEFINED FUNCTION BLOCKS

27.1 SIS TYPICALS

27.1.1 General

The following sections will describe the User Defined Functions and Function Blocks that will be used to build the Logic Typicals. The blocks in this section are specifically designed to meet the Shell requirements.

Refer attached Typical test reports for the detailed functionalities.

27.1.2 EDI

Digital input signal for normally open type of inputs without Line Monitoring (EDI)

Purpose

This function is used to process the normally open digital input signal without Line Monitoring.

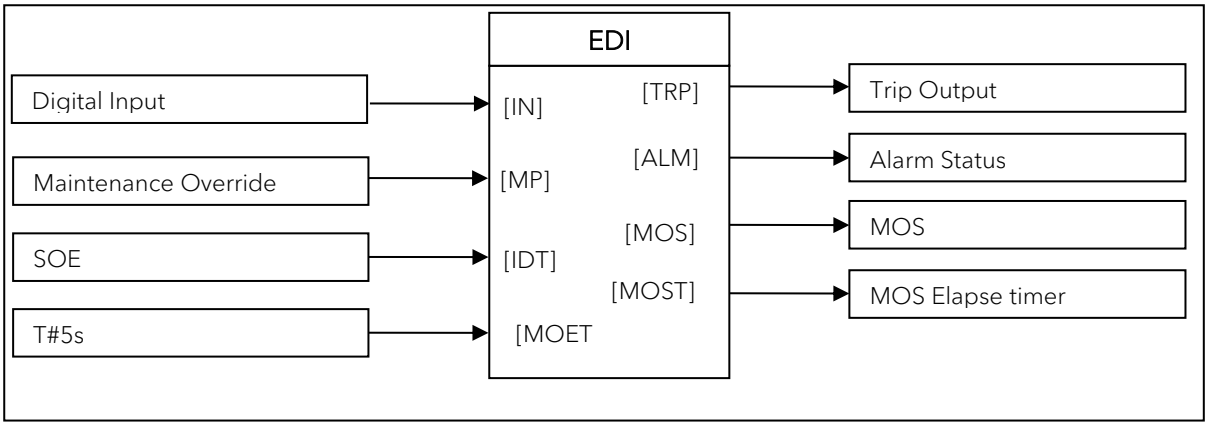
Functionality:

The EDI function block has the following main functions:

- Trip management with alarming function.
- Optional maintenance override functionality.

The functions of the EDI typical are shown below. This typical is used for normally open digital trip initiator inputs based upon energize to trip function without line monitoring function. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. The typical has an alarm and trip output. When the input becomes energized the output will be tripped and will remain tripped until the input value becomes de-energized again. The trip output will be used in the SIS application logic and the status will be indicated on the OWS. MOS shall be enabled from the OWS.



27.1.3 EDI_LM

Digital input signal for normally open type of inputs with Line Monitoring (EDI_LM)

Purpose

This function is used to process the normally open digital input signal with Line Monitoring.

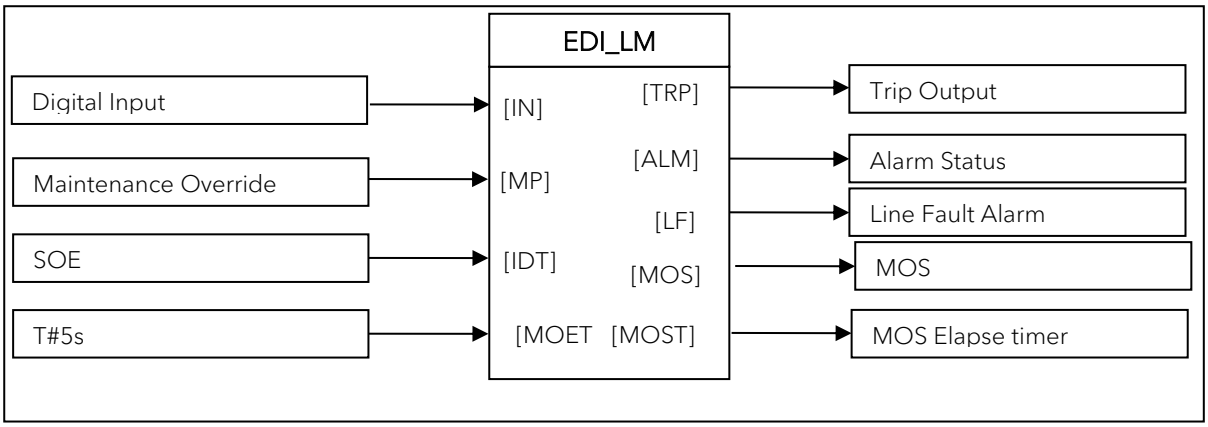
Functionality:

The EDI_LM function block has the following main functions:

- Trip management with alarming function.
- Optional maintenance override functionality.
- Line fault detection.

The functions of the EDI typical are shown below. This typical is used for normally open digital trip initiator inputs based upon energize to trip function with line monitoring function. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. The typical has an alarm and trip output. When the input becomes energized the output will be tripped and will remain tripped until the input value becomes de-energized again. The trip output will be used in the SIS application logic and the status will be indicated on the OWS. MOS shall be enabled from the OWS.



27.1.4 DDI

Digital input signal for normally close type of inputs without Line Monitoring (DDI)

Purpose

This function is used to process the normally close digital input signal without Line Monitoring.

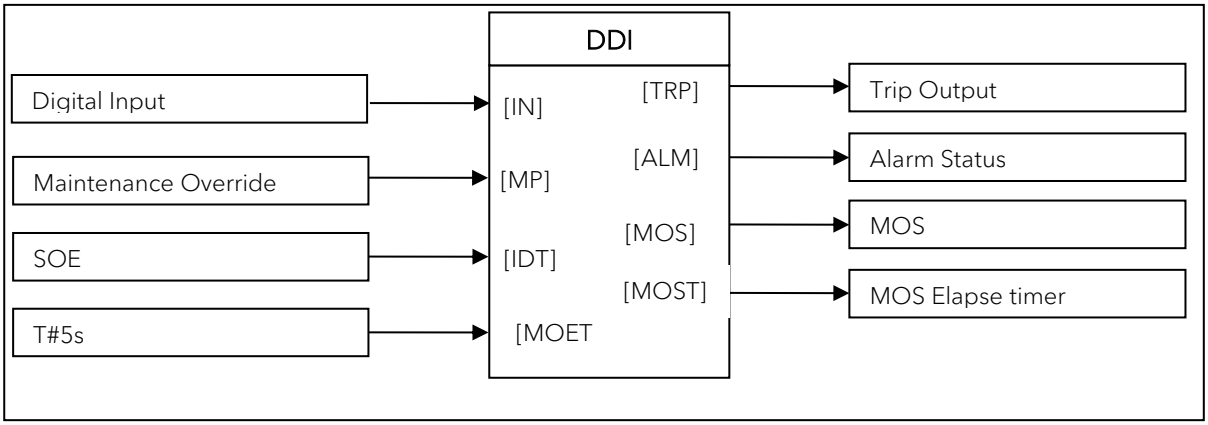
Functionality:

The DDI function block has the following main functions:

- Trip management.
- Optional maintenance override function.

The functions of the DDI typical are shown below. This typical is used for digital inputs based upon de-energize to trip function. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. This typical is applicable for normally closed field contact. The typical has a trip output. In case the input becomes de-energized the output will be tripped and will remain de-activated until the input value becomes energized again. The trip output status alarm will be indicated on OWS. MOS shall be enabled from the OWS.



27.1.5 DDI_LM

Digital input signal for normally close type of inputs with Line Monitoring (DDI_LM)

Purpose

This function is used to process the normally close digital input signal with Line Monitoring.

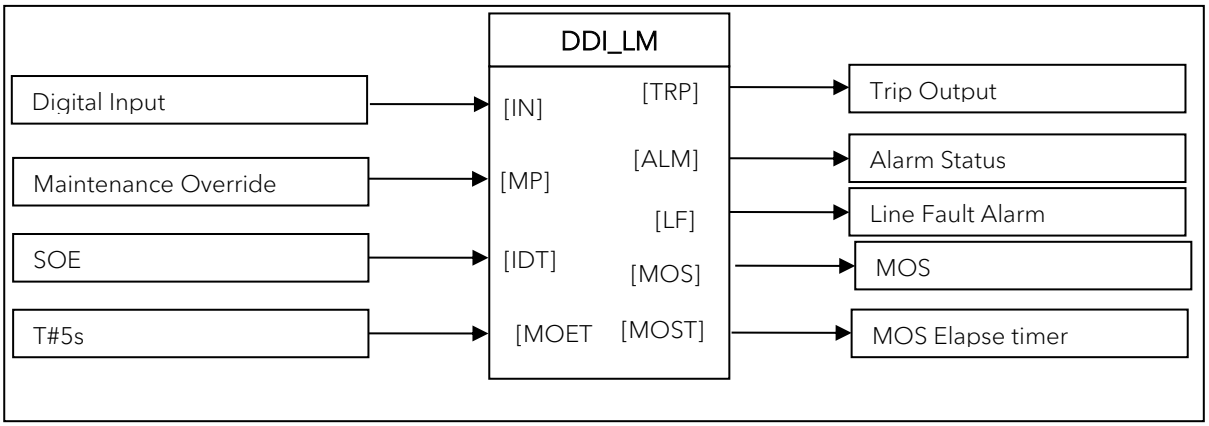
Functionality:

The DDI function block has the following main functions:

- Trip management.
- Line fault detection.
- Optional maintenance override function.

The functions of the DDI typical are shown below. This typical is used for digital inputs based upon de-energize to trip function which require line monitoring. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. This typical is applicable for normally closed field contact. The typical has a line fault alarm and trip output. In case the input becomes de-energized the output will be tripped and will remain de-activated until the input value becomes energized again. The trip output status and line fault alarm will be indicated on OWS. MOS shall be enabled from the OWS.



27.1.6 SAI

SAI Function block is used to scale the Input signal to the Engineering value

Purpose

SAI Function block is used to scale the Input signal to the Engineering value and will generate trip signal when input value exceeds the Set points of LOW, LOW LOW, HIGH & HIGH HIGH.

Functionality:

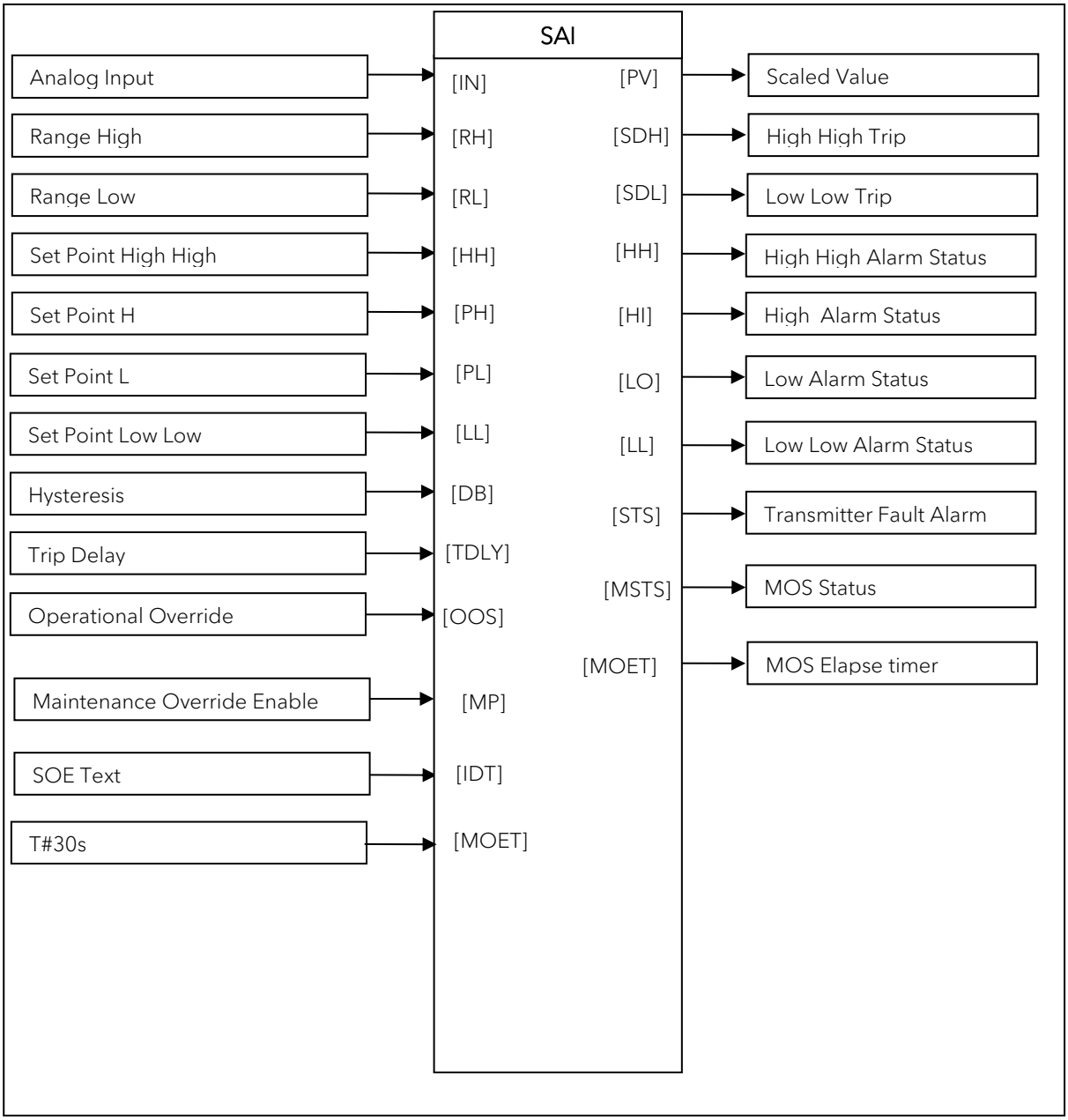
The SAI function block has the following main functions:

- Validity check of the signal.
- Process threshold management.
- Optional functions are maintenance override and operational override functionality

This function block is used in logic applications in order to decide whether the input signal is below the Low, or above the High threshold setting. The image below gives the model for the functions specified for the SAI function block. For the threshold, an optional dead-band DB will be available (hysteresis) when changing from a trip state to a normal state.

When the input value drops below the Low Low set-point, the (LL) alarm and trip (SDL) will be set, and will remain latched until the input value rises above the Low Low set-point plus the dead-band. When the input value exceeds the High High set-point, the (HH) alarm and trip (SDH) will be set, and will remain latched until the input value falls below the High High set-point minus the dead-band.

The trip function can be overridden by the maintenance override. The alarm function is independent of the status of the maintenance override. The trip status and line fault alarm will be indicated on OWS. MOS shall be enabled from the OWS.


SAI
Analog Input
[IN]
Range High
[RH]
Range Low
[RL]
Set Point High High
[HH]
Set Point H
[PH]
Set Point L
[PL]
Set Point Low Low
[LL]
Hysteresis
[DB]
Trip Delay
[TDLY]
Operational Override
[OOS]
Maintenance Override Enable
[MP]
SOE Text
[IDT]
T#30s
[MOET]
[PV]
Scaled Value
[SDH]
High High Trip
[SDL]
Low Low Trip
[HH]
High High Alarm Status
[HI]
High Alarm Status
[LO]
Low Alarm Status
[LL]
Low Low Alarm Status
[STS]
Transmitter Fault Alarm
[MSTS]
MOS Status
[MOET]
MOS Elapse timer

27.1.7 UZGRP

UZGRP typical provides the common functionality for UZ groups in the SIS.

PURPOSE

UZGRP typical provides the common functionality for UZ groups in the SIS. The functions of the typical are trip latching, alarming and first failure identification.

Functionality:

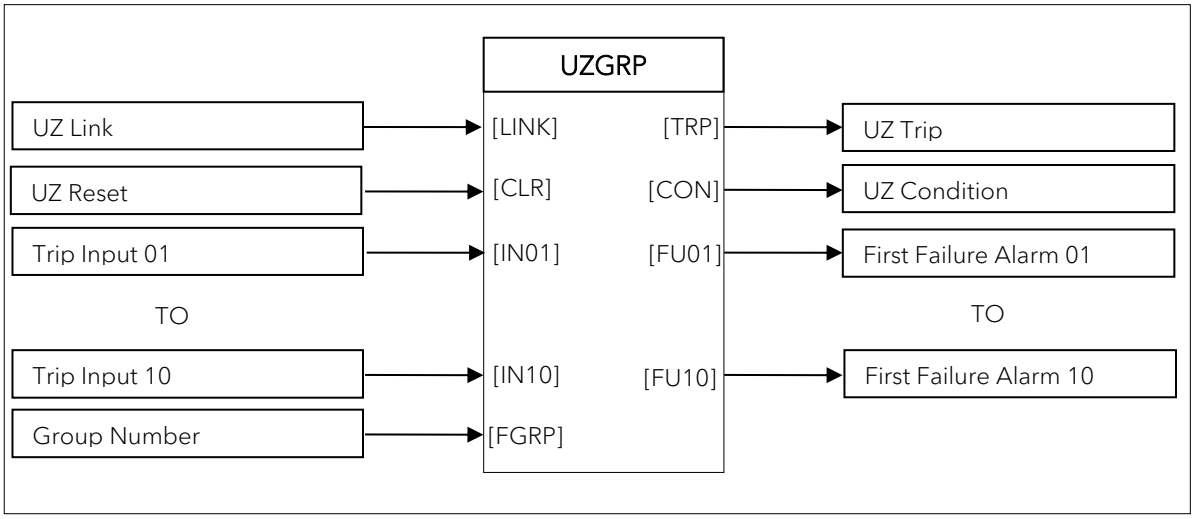
The UZGRP function block has the following main functions:

- Trip the UZ group if one of the inputs is tripped.
- Initiate a First Failure alarm to indicate which trip came first.
- Latch the UZ trip if a trip condition is active and no reset has been applied.

For every process group in the system at least one UZ block is used. The typical UZ block is designed for 10 inputs. Depending on the number of inputs to the group, more UZ blocks may be used for a process group. The UZ block can be linked together in a chain by linking the UZ Link and UZ Condition of the next UZ block together. If only one UZ block is used to trip a UZ group the UZ Link input shall be set to TRUE.

The trip outputs of input typical and/or voting typical in a UZ group are connected to the inputs of the UZ block. A trip condition on an input of the UZ block will trip the UZ group. This will latch the UZ block, further trips on the inputs will be ignored for failure indication, but still affect the UZ group trip. The output of the UZ block will be used in the application logic to the trip related field outputs. The trip alarm and the first failure flag of the tripped input will be shown in the OWS. The Tripped Outputs Latched status will be shown in the OWS until UZGRP is reset.

After all trip conditions are cleared the UZ typical can be reset via the optional UZRST application typical, by a reset signal from SCS. If the UZ group requires an auto-reset function, then the UZ Condition output has to be connected to the Clear input. The Clear input will only react on a positive trigger. The Clear will not only reset the UZ group but also clears the first failure flag, a reset will only have affected if all trip input conditions are normalized (not tripped).



27.1.8 UZRST

UZRST typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip.

Purpose

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

Functionality:

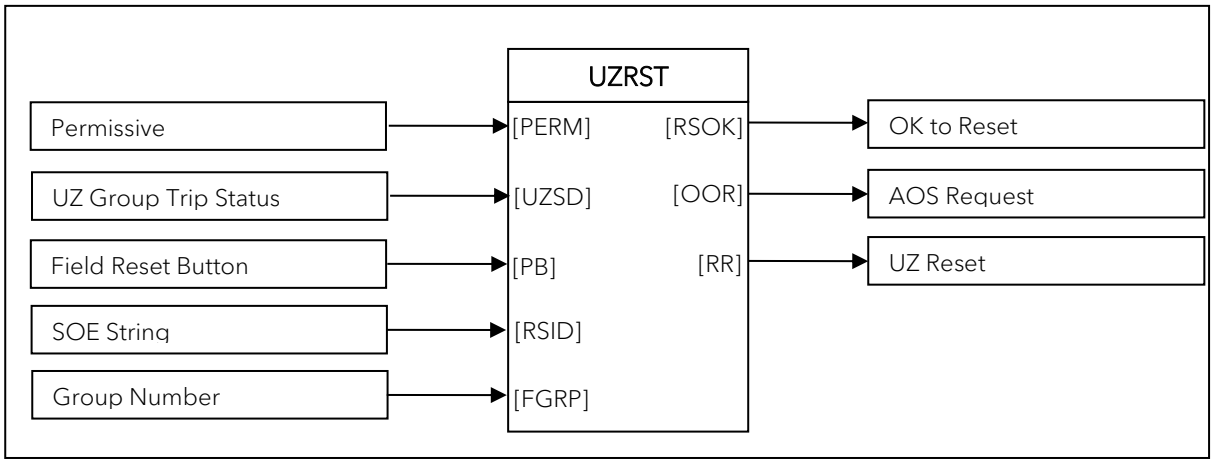
The UZRST function block has the following main functions:

- Reset UZ groups only when SCS Reset operated from OWS or field reset switch has been applied
- Indicate that SCS reset is allowed.

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

To indicate that a SCS reset is allowed (i.e. Permissive is 'TRUE') the status (Ok to Reset) is sent to OWS. After the reset from OWS, the Ok to Reset status will go off.

Push button field input reset is designed for normally open-momentary closed contacts to reset.



27.1.9 SDV_1

SDV_1 function is used for the Fail to Close Valves with limit switch Feedback

Purpose

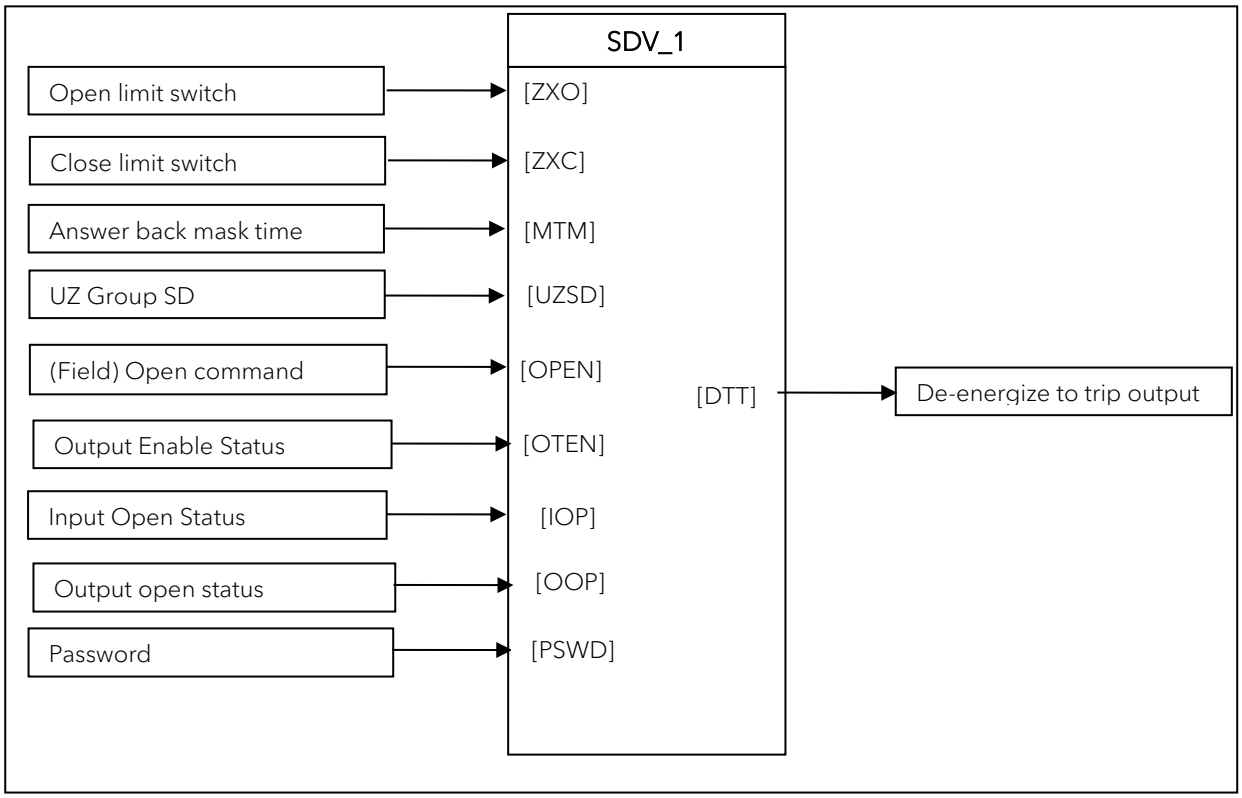
This typical, drives the output to safe-state when the UZSD input trips.

Functionality:

The SDV_1 typical has the following features:

- Valve operation.
- Limit switch feedback (one or two limit switches)

This typical, drives the output to safe-state when the UZSD input trips. When the UZGRP is normal, then open command can be given from the OWS / AUTO open (OPEN nub).



27.1.10 BDV

BDV function is used for the Fail to Open Valves with limit switch Feedback

Purpose

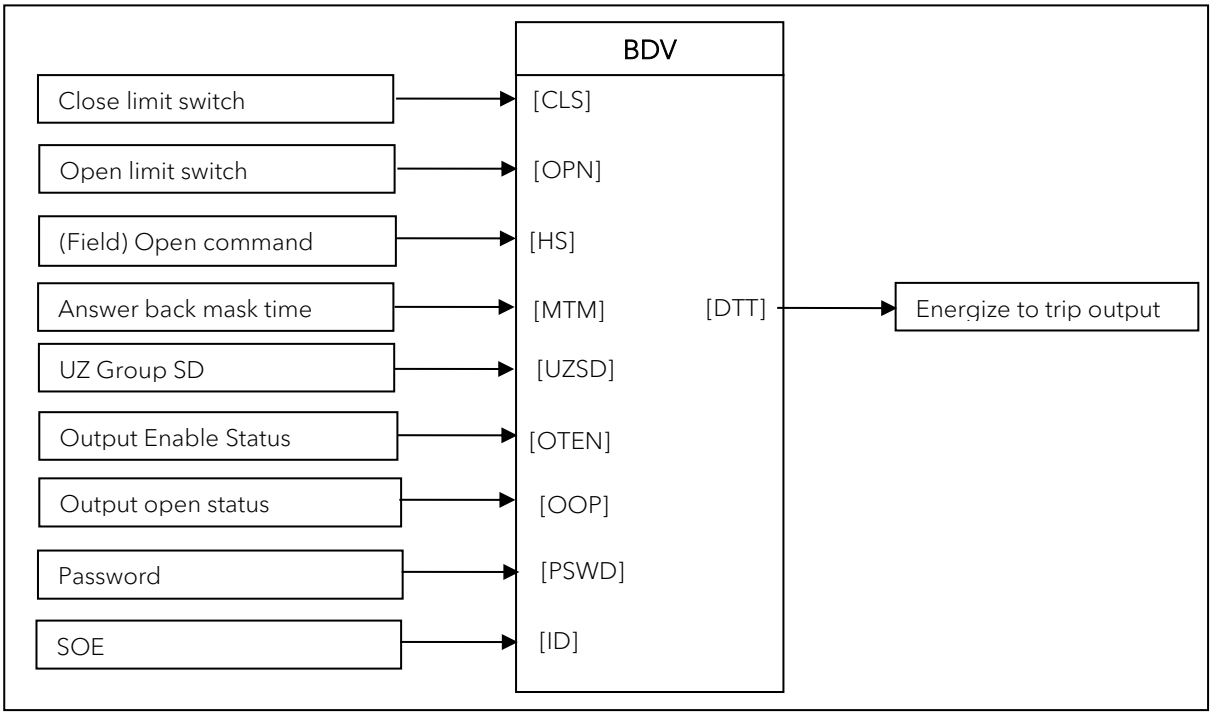
This typical, drives the output to safe-state when the UZSD input trips.

Functionality:

The BDV typical has the following features:

- Valve operation.
- Limit switch feedback (one or two limit switches).

This typical, drives the output to safe-state when the UZSD input trips. Design of the typical is energize to trip (or activate) the output hence line monitoring of the output is essential. MANUAL operations to the Valve from the OWS are prohibited at all times except in a state when the associated UZ group acting on the BDV recovers from trip state and UZ group is reset. CLOSE command shall be issued from the OWS. Field Hand Switch allows opening of the Valve locally when the valve is in CLOSE condition.



27.1.11 TOF

Trip Delay Timer (TOF) timer is used to provide delayed actions or alarms in response to a specific condition.

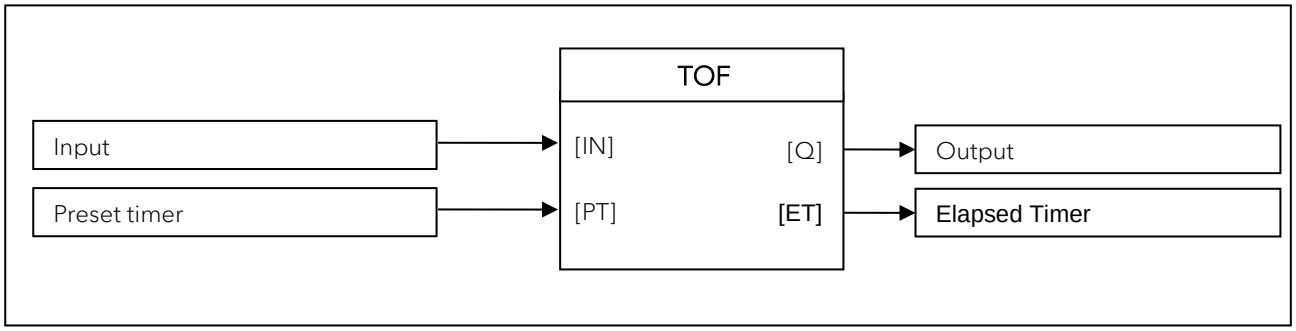
Purpose

Trip delay timer (TOF) timer is often used to provide delayed actions or alarms in response to a specific condition.

Functionality:

The TOF function block has the following main functions:

1. Activation on Condition: The TOF timer is triggered when a specific condition is met, such as an abnormal process variable exceeding its safe limit (e.g., high pressure, high temperature).
2. Timing Period: Once the condition is met, the TOF timer starts counting. This period is preset and can vary depending on the application. During this time, the condition is monitored continuously.
3. Condition Sustains Beyond the Timer:
    1. If the condition persists beyond the timer period, the SIS initiates the corresponding safety action, such as:
        1. Activating an alarm
        2. Triggering an emergency shutdown (ESD)



27.2 FGS TYPICALS

27.2.1 General

The following sections will describe the User Defined Functions and Function Blocks that will be used to build the Logic Typicals. The blocks in this section are specifically designed to meet the Shell requirements.

Refer attached Typical test reports for the detailed functionalities.

27.2.2 FG_MAN_REL_NC

This typical is used for discrete inputs that are de-energized to trip.

Purpose

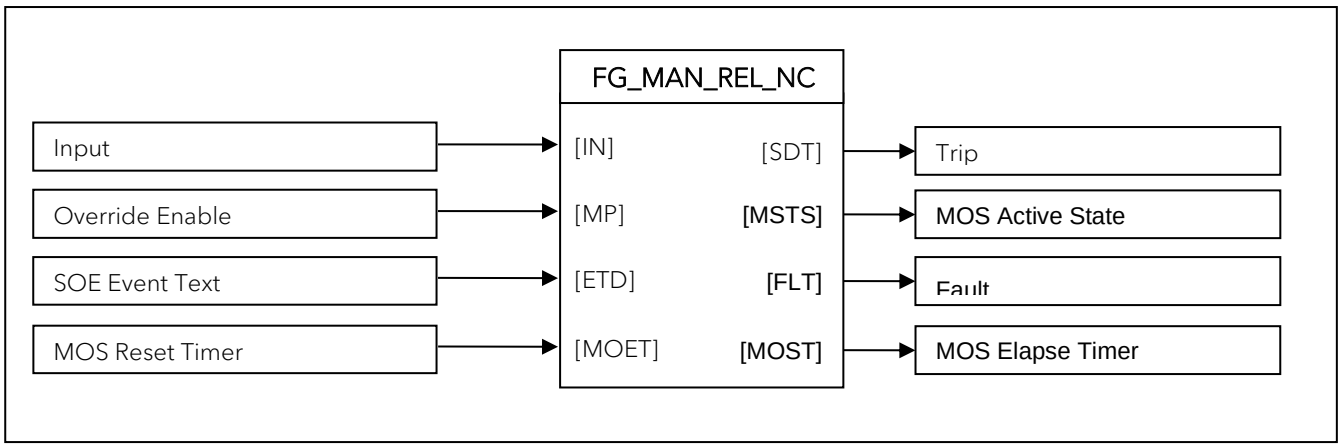
This typical is used for discrete inputs that are de-energized to trip such as Heat, Smoke detectors, ESD or Blowdown switches.

Functionality:

- Process Normally Closed digital input
- Manage the maintenance override function (MOS) for each MAN_REL_NC input
- Manage input trip, diagnostic and I/O fault logics
- Manage input trip alarm reset logics
- Optional line monitoring and fault detection
- All diagnostic and I/O alarms will trigger individual Annunciator alarms.

Note: The MOS override function is included inside the function block

MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.



27.2.3 FG_MAN_REL_NO

This typical is used for discrete inputs that are energized to trip.

Purpose

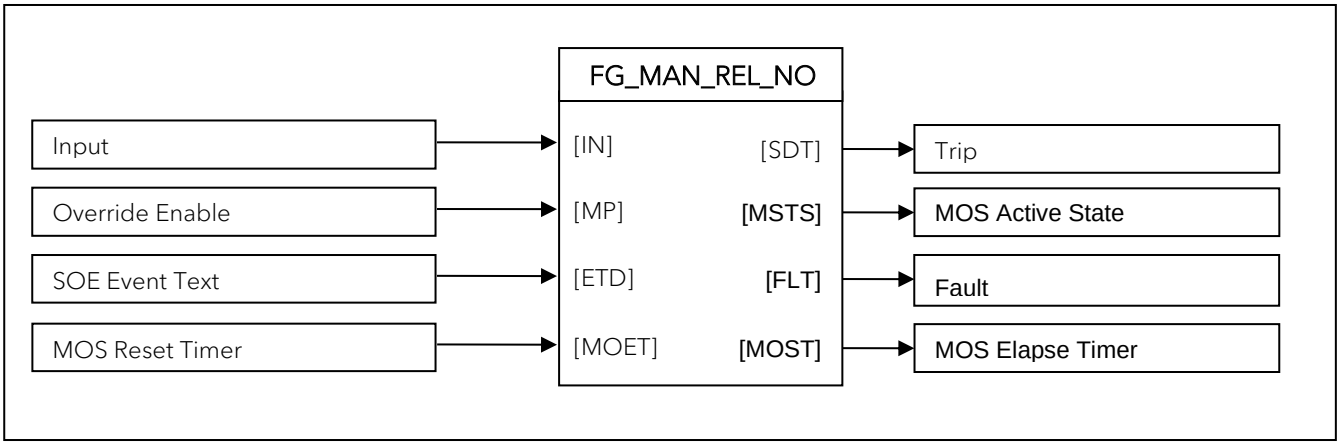
This typical is used for discrete inputs that are energized to trip such as manual alarm call points.

Functionality:

- Process Normally Open digital input
- Manage the maintenance override function (MOS) for each MAN_REL_NO input
- Manage input trip, diagnostic and I/O fault logics
- Manage input trip alarm reset logics
- Optional line monitoring and fault detection
- All diagnostic and I/O alarms will trigger individual Annunciator alarms.

Note: The MOS override function is included inside the function block

MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.



27.2.4 FG_FLAME_IR

This typical is used for Flame detector

Purpose

This typical is used for Ultrasonic Flame detector

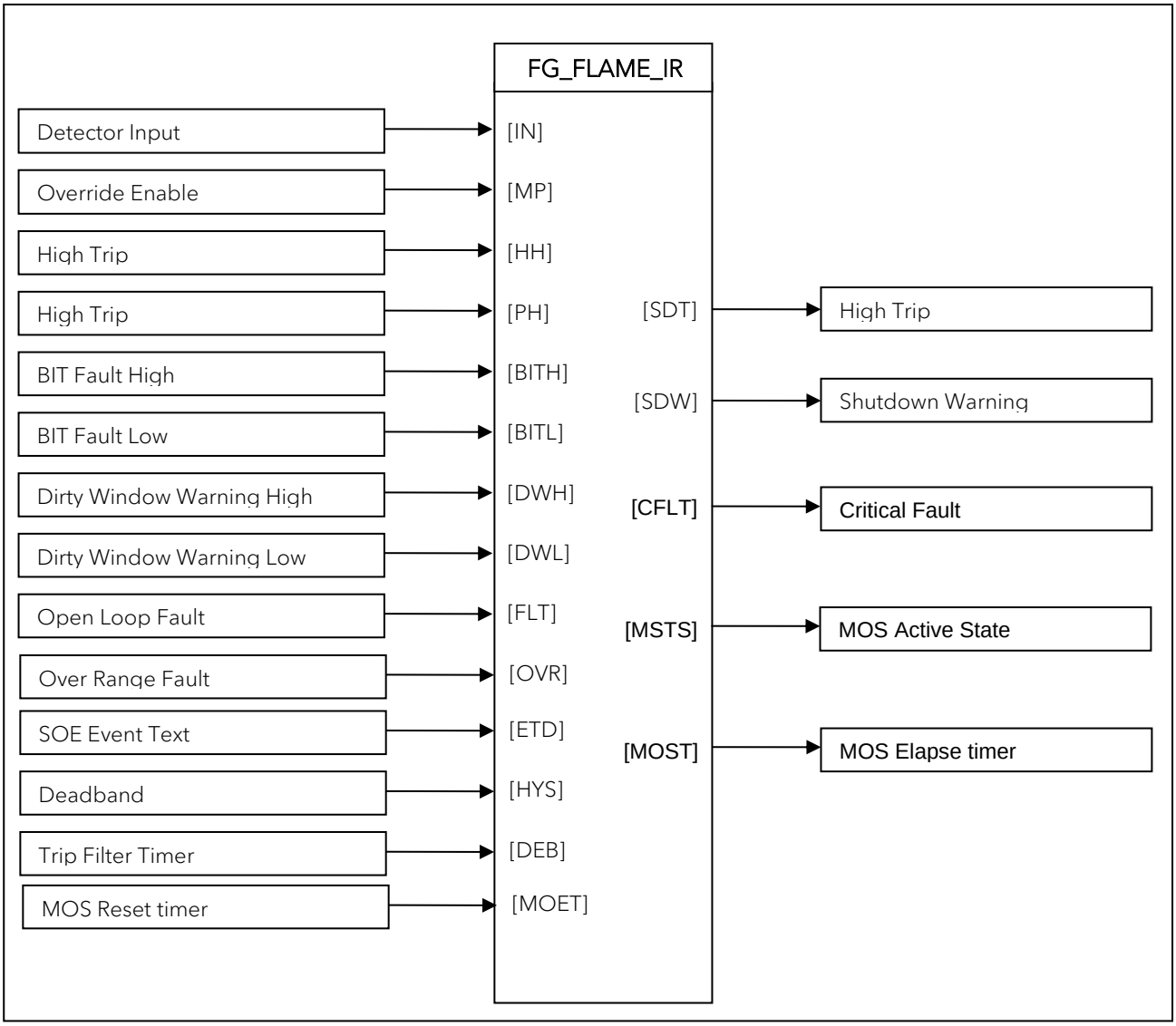
Functionality:

- Process Flame Ultrasonic type Flame analog gas detectors
- Manage the maintenance override function (MOS) for each FLAME IR detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block.
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Flame_IR input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LL and LTRP values are masked as these provide no function for flame detection.
- HHH value & HTRP values is used for warning and trip.
- All faults are considered critical and result in degraded voting logic.


FG_FLAME_IR
Detector Input
Override Enable
High Trip
High Trip
BIT Fault High
BIT Fault Low
Dirty Window Warning High
Dirty Window Warning Low
Open Loop Fault
Over Range Fault
SOE Event Text
Deadband
Trip Filter Timer
MOS Reset timer
[IN]
[MP]
[HH]
[PH]
[BITH]
[BITL]
[DWH]
[DWL]
[FLT]
[OVR]
[ETD]
[HYS]
[DEB]
[MOET]
[SDT]
[SDW]
[CFLT]
[MSTS]
[MOST]
High Trip
Shutdown Warning
Critical Fault
MOS Active State
MOS Elapse timer

27.2.5 FG_LD/FG_GD

This typical is used for Leak and gas detector.

Purpose

This typical is used for H2 Leak and H2/O2 gas detectors.

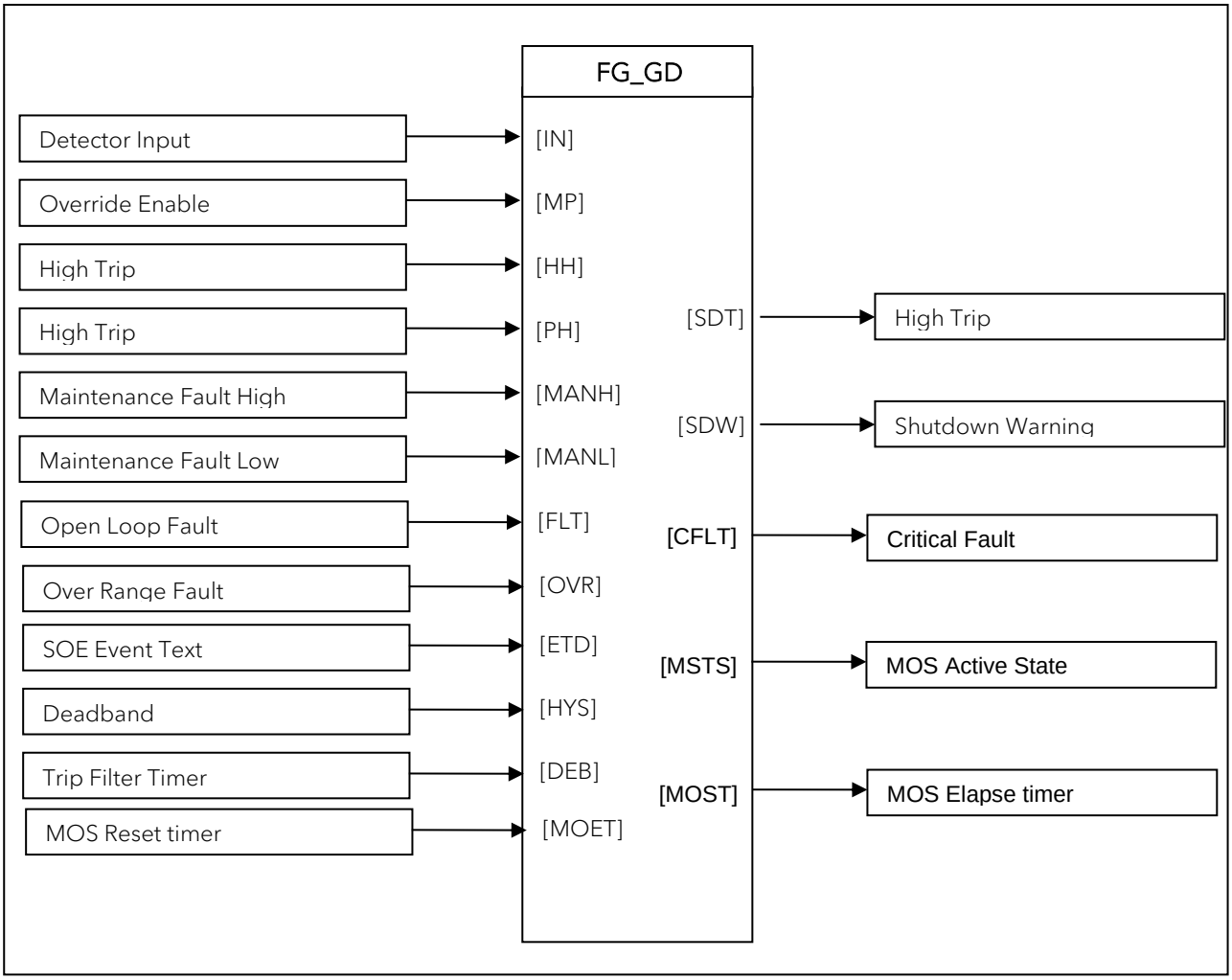
Functionality:

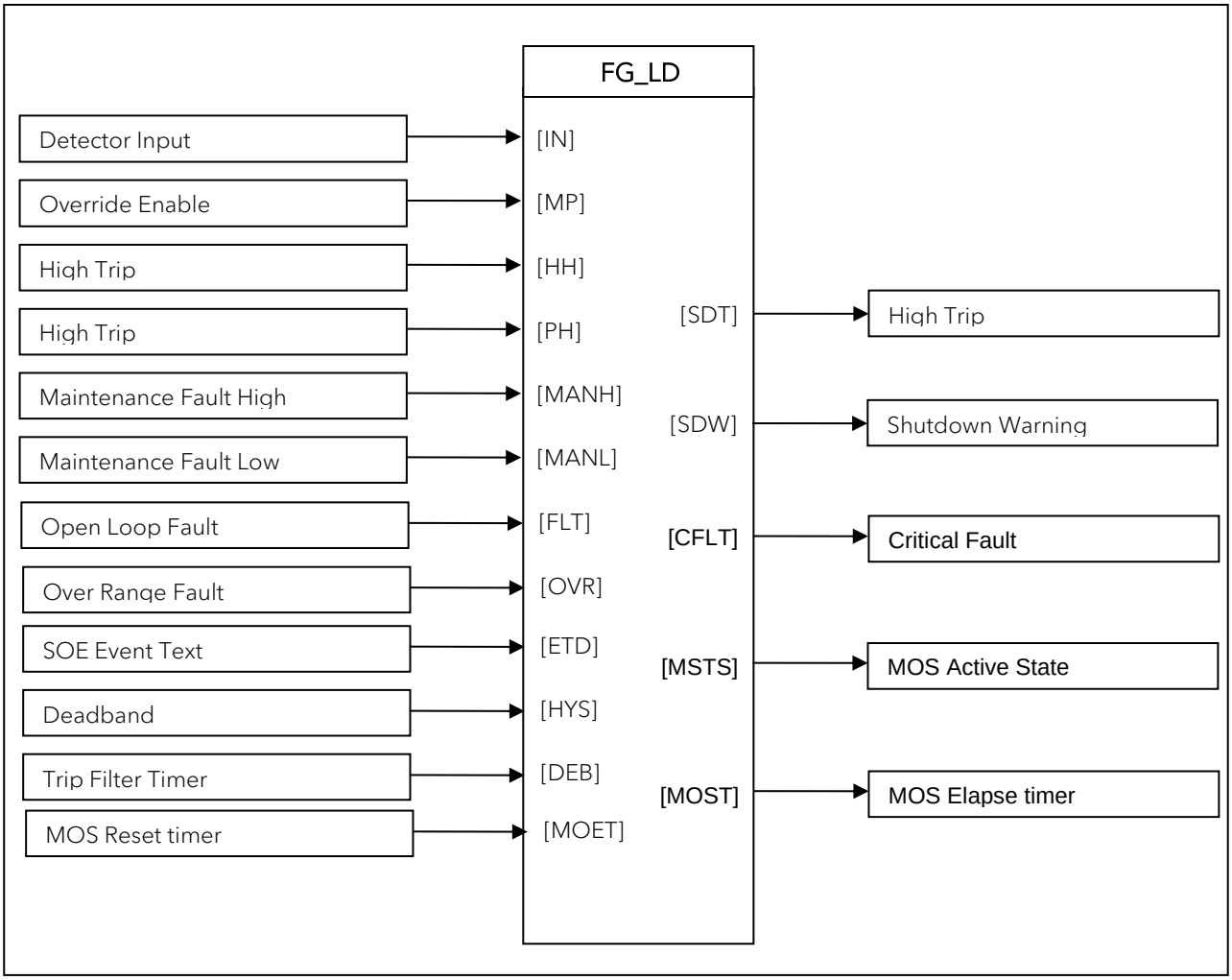
- Process Point type gas detectors
- Manage the maintenance override function (MOS) for gas point detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Gas Point type input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LL and LTRP values are masked as these provide no function for flame detection.
- HHH and HTRP values is used for warning and to trip.
- All faults are considered critical and result in degraded voting logic.


FG_GD
Detector Input
Override Enable
High Trip
High Trip
Maintenance Fault High
Maintenance Fault Low
Open Loop Fault
Over Range Fault
SOE Event Text
Deadband
Trip Filter Timer
MOS Reset timer
[IN]
[MP]
[HH]
[PH]
[MANH]
[MANL]
[FLT]
[OVR]
[ETD]
[HYS]
[DEB]
[MOET]
[SDT]
[SDW]
[CFLT]
[MSTS]
[MOST]
High Trip
Shutdown Warning
Critical Fault
MOS Active State
MOS Elapse timer


FG_LD
Detector Input
Override Enable
High Trip
High Trip
Maintenance Fault High
Maintenance Fault Low
Open Loop Fault
Over Range Fault
SOE Event Text
Deadband
Trip Filter Timer
MOS Reset timer
[IN]
[MP]
[HH]
[PH]
[MANH]
[MANL]
[FLT]
[OVR]
[ETD]
[HYS]
[DEB]
[MOET]
[SDT]
[SDW]
[CFLT]
[MSTS]
[MOST]
High Trip
Shutdown Warning
Critical Fault
MOS Active State
MOS Elapse timer

27.2.6 FG_SD

This typical is used for Smoke detector.

Purpose

This typical is used for Smoke detectors.

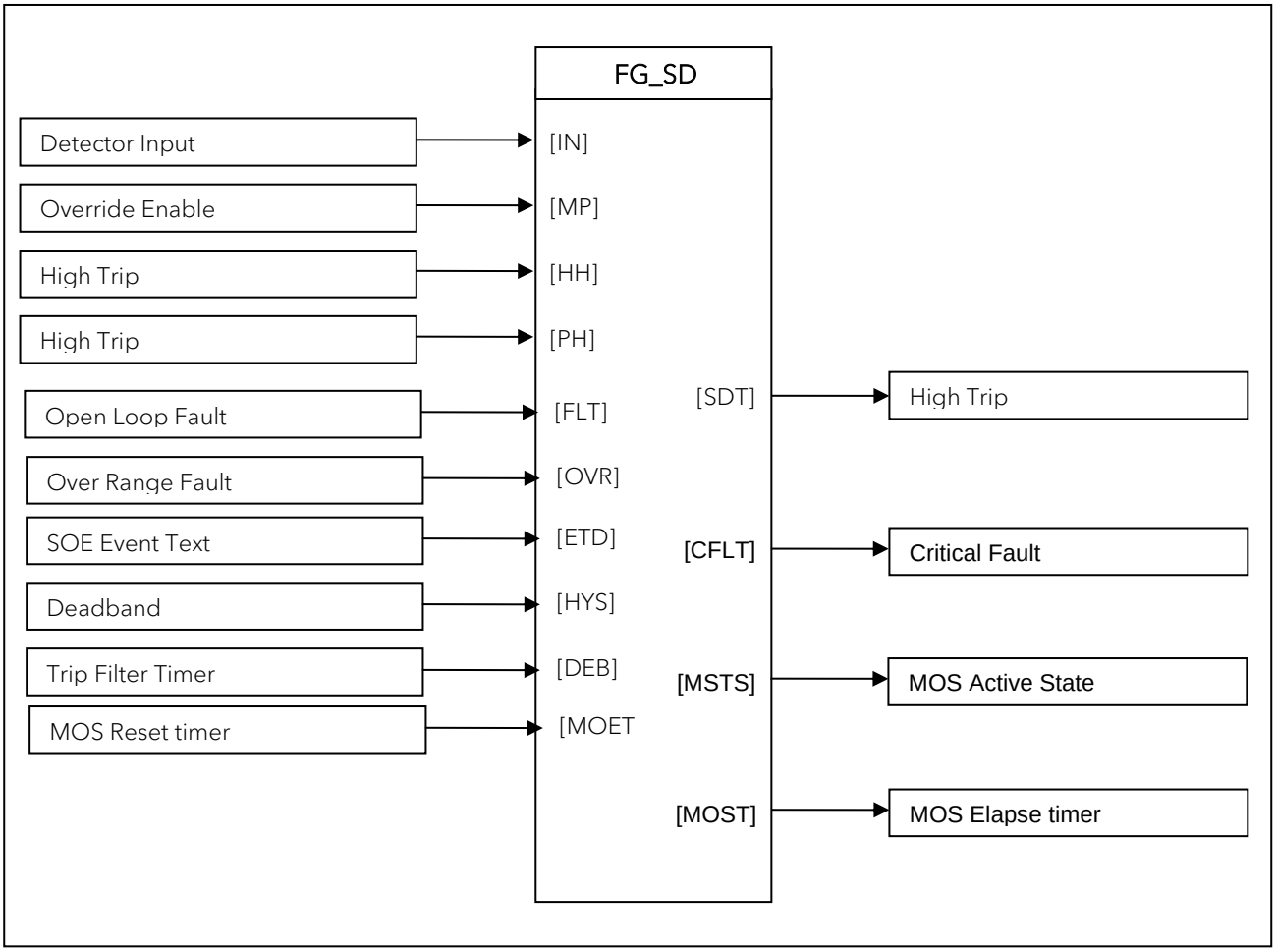
Functionality:

- Process smoke detectors
- Manage the maintenance override function (MOS) for gas point detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Smoke Detector input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LL and LTRP values are masked as these provide no function for flame detection.
- HTRP values is used to trip.
- All faults are considered critical and result in degraded voting logic.


FG_SD
Detector Input
Override Enable
High Trip
High Trip
Open Loop Fault
Over Range Fault
SOE Event Text
Deadband
Trip Filter Timer
MOS Reset timer
[IN]
[MP]
[HH]
[PH]
[FLT]
[OVR]
[ETD]
[HYS]
[DEB]
[MOET
[SDT]
[CFLT]
[MSTS]
[MOST]
High Trip
Critical Fault
MOS Active State
MOS Elapse timer

27.2.7 UZGRP

UZGRP typical provides the common functionality for UZ groups in the SIS.

Purpose

UZGRP typical provides the common functionality for UZ groups in the FGS. The functions of the typical are trip latching, alarming and first failure identification.

Functionality:

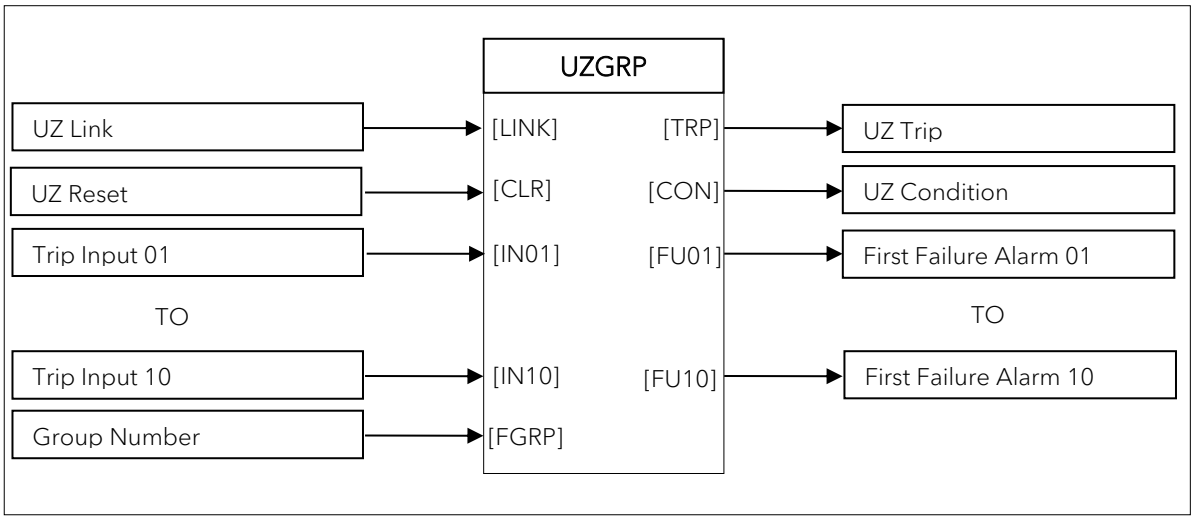
The UZGRP function block has the following main functions:

- Trip the UZ group if one of the inputs is tripped.
- Initiate a First Failure alarm to indicate which trip came first.
- Latch the UZ trip if a trip condition is active and no reset has been applied.

For every process group in the system at least one UZ block is used. The typical UZ block is designed for 10 inputs. Depending on the number of inputs to the group, more UZ blocks may be used for a process group. The UZ block can be linked together in a chain by linking the UZ Link and UZ Condition of the next UZ block together. If only one UZ block is used to trip a UZ group the UZ Link input shall be set to FALSE.

The trip outputs of input typical and/or voting typical in a UZ group are connected to the inputs of the UZ block. A trip condition on an input of the UZ block will trip the UZ group. This will latch the UZ block, further trips on the inputs will be ignored for failure indication, but still affect the UZ group trip. The output of the UZ block will be used in the application logic to the trip related field outputs. The trip alarm and the first failure flag of the tripped input will be shown in the OWS. The Tripped Outputs Latched status will be shown in the OWS until UZGRP is reset.

After all trip conditions are cleared the UZ typical can be reset via the optional UZRST application typical, by a reset signal from SCS. If the UZ group requires an auto-reset function, then the UZ Condition output has to be connected to the Clear input. The Clear input will only react on a positive trigger. The Clear will not only reset the UZ group but also clears the first failure flag, a reset will only have affected if all trip input conditions are normalized (not tripped).



27.2.8 UZRST

UZRST typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip.

Purpose

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

Functionality:

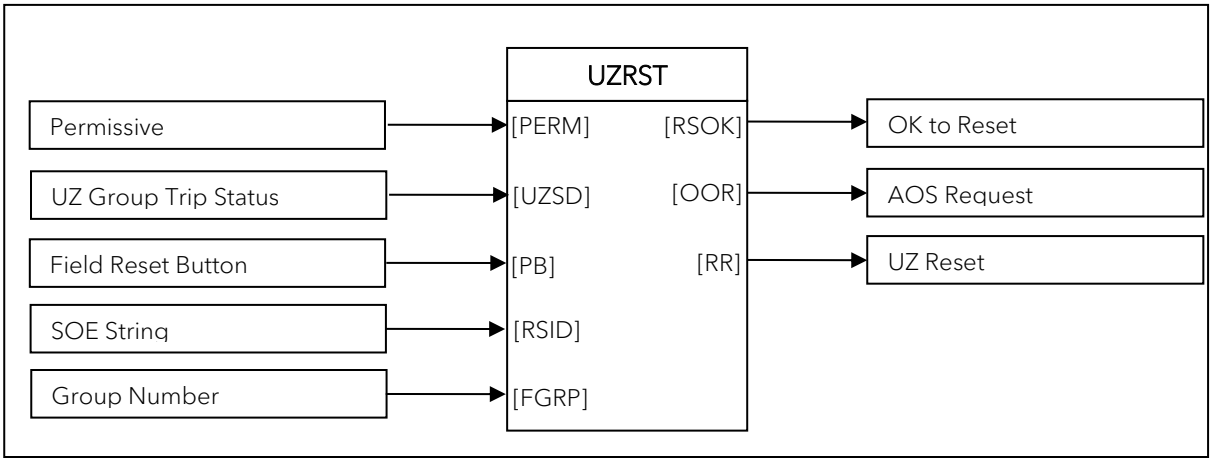
The UZRST function block has the following main functions:

- Reset UZ groups only when SCS Reset operated from OWS or field reset switch has been applied
- Indicate that SCS reset is allowed.

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

To indicate that a SCS reset is allowed (i.e. Permissive is 'TRUE') the status (Ok to Reset) is sent to OWS. After the reset from OWS, the Ok to Reset status will go off.

Push button field input reset is designed for normally open-momentary closed contacts to reset.



27.2.9 F23

2oo3 Voting typical will be used for Fire and Gas application.

Purpose

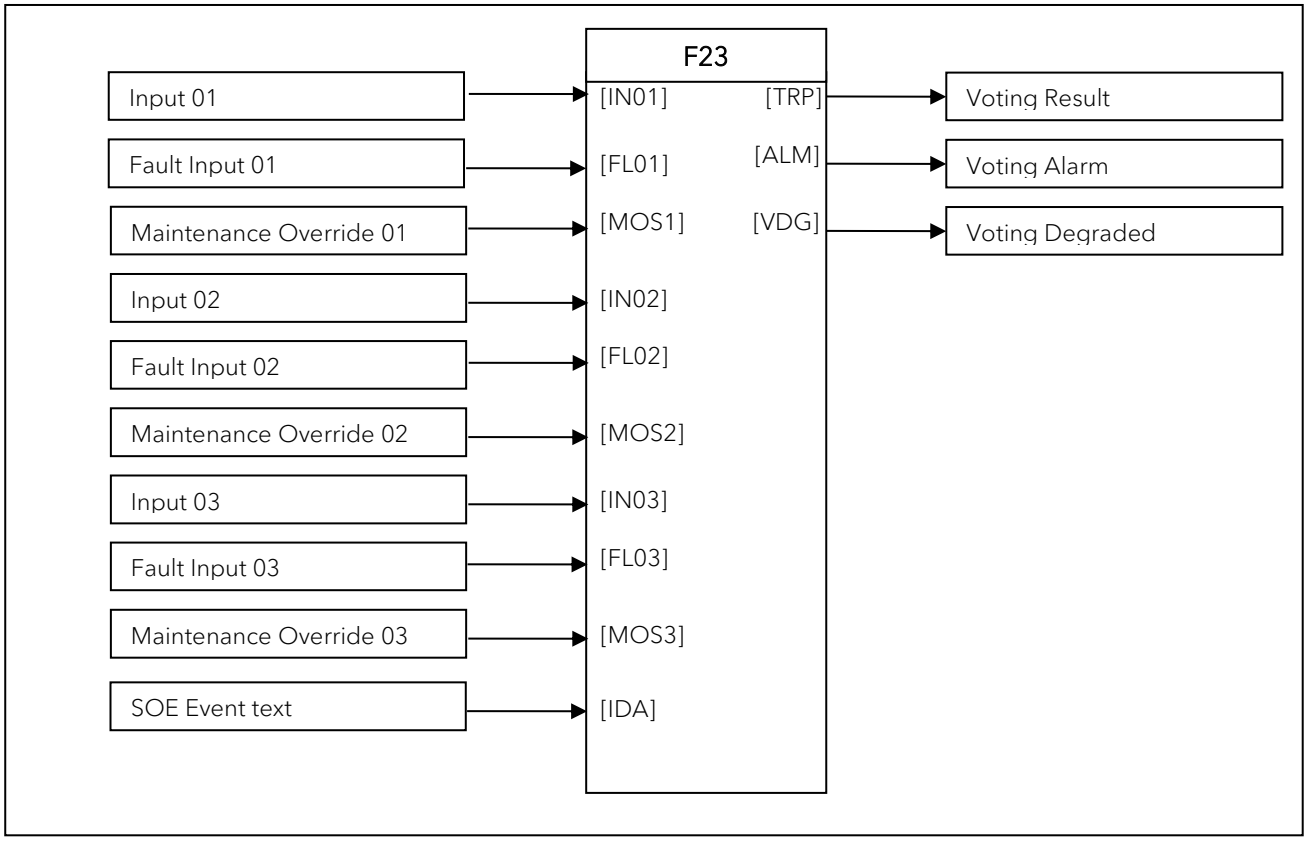
This typical is used to Initiate a trip if two of the three inputs are in trip.

Functionality:

The F23 function block has the following main functions:

- Initiate a trip if two of the three inputs are in trip state.
- Degrade voting function.

If two of the three inputs are tripped the output TRP of the F23 block will trip. If either one of the three inputs is not valid (detector fault) or a maintenance override is applied the voting function will degrade to 1oo2 and VDG of F23 will become true. If all transmitters are in fault, or if one maintenance override is applied while the other two transmitters are in fault the voting function is disabled.



27.2.10 FG_V2N_Voting

2-out-of-N voting is commonly used in fire and gas system to initiate trip, Process shutdown interlocks and other safety functions. This voting logic requires any two detectors to be in Alarm condition.

Purpose

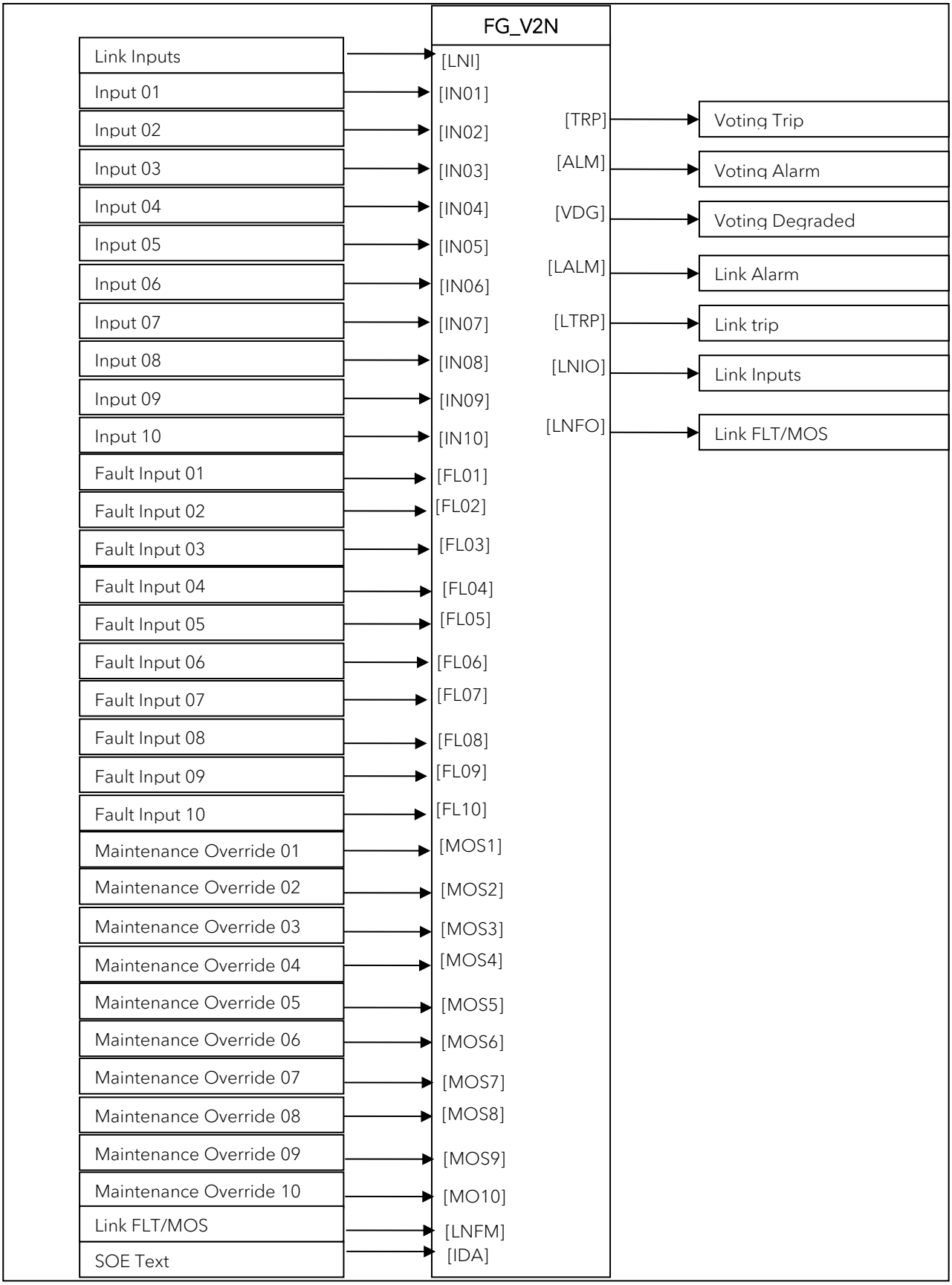
This typical is used to Initiate a trip if two of the N inputs are in trip.

Functionality:

The FG_V2N function block has the following main functions:

- Initiate a trip if two of the three inputs are in trip state.
- Degrade voting function.

If two of the N inputs are tripped the output TRP of the FG_V2N block will trip. If any one of the N inputs is not valid (detector critical fault) or a maintenance override is applied the voting function will degrade and VDG of FG_V2N will become true. If all transmitters are in fault, or if one maintenance override is applied while the N transmitters are in fault the voting function is disabled.


FG_V2N
Link Inputs
[LNI]
Input 01
[IN01]
Input 02
[IN02]
Input 03
[IN03]
Input 04
[IN04]
Input 05
[IN05]
Input 06
[IN06]
Input 07
[IN07]
Input 08
[IN08]
Input 09
[IN09]
Input 10
[IN10]
Fault Input 01
[FL01]
Fault Input 02
[FL02]
Fault Input 03
[FL03]
Fault Input 04
[FL04]
Fault Input 05
[FL05]
Fault Input 06
[FL06]
Fault Input 07
[FL07]
Fault Input 08
[FL08]
Fault Input 09
[FL09]
Fault Input 10
[FL10]
Maintenance Override 01
[MOS1]
Maintenance Override 02
[MOS2]
Maintenance Override 03
[MOS3]
Maintenance Override 04
[MOS4]
Maintenance Override 05
[MOS5]
Maintenance Override 06
[MOS6]
Maintenance Override 07
[MOS7]
Maintenance Override 08
[MOS8]
Maintenance Override 09
[MOS9]
Maintenance Override 10
[MO10]
Link FLT/MOS
[LNFM]
SOE Text
[IDA]
[TRP]
Voting Trip
[ALM]
Voting Alarm
[VDG]
Voting Degraded
[LALM]
Link Alarm
[LTRP]
Link trip
[LNIO]
Link Inputs
[LNFO]
Link FLT/MOS

28 CI SERVER FUNCTION DESIGN

28.1 CI SERVER

28.1.1 CI Server Configuration

CI Server can be flexibly configured according to the plant architecture and business style from standalone configuration, in which single computer provides environment of data collection in real time processes alarms and stores it in the historical database.

- CI Server consists of three functional components. The system configuration is determined by allocating these components on the server computers and client computers.
- CI Core: Collects, stores, and calculates plant operation data, and links data with other CI Core and other systems.
- CI Portal: Provides the data collected and stored by CI Core and predefined screens to CI View.
- CI View: HMI for operation and monitoring

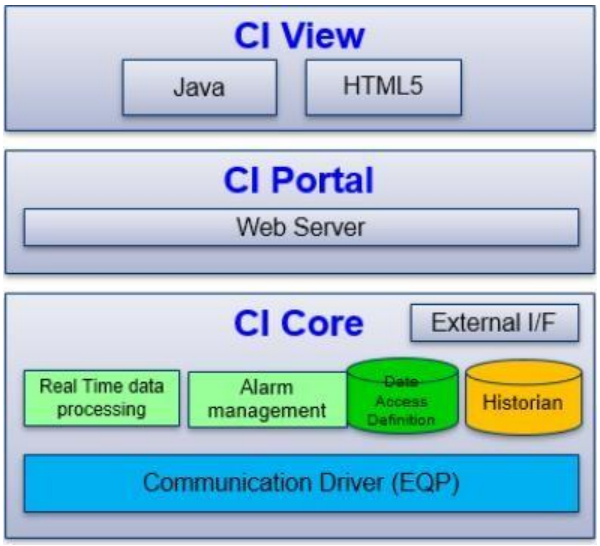


Figure 82 – Functional Component of CI Server

Detailed system design is as follows:

Location	Station	License	Node	Redundancy	Virtualized	Vnet/IP
ITER	CI Core	1	1	YES	NA	YES
ITER	CI Core	1	1	YES	NA	YES
OER	CI Portal VIEW	3	21,22,23	NA	NA	NA
CCR	CI View	2		NA	NA	NA

Table 91 – List of CIX Modules

These components can be installed in computers using the functional component unit. Each of the functional components can be installed in a single computer or can be distributed across computers based on the

plant structure. Therefore, CI Server supports both standalone structure in which data collection and operation maintenance is carried out in a single computer as well as wide area system structure in which multiple servers are installed in a wide area and are integrated.

The system design architecture has 2 Server Modules installed in ITER location and shall have CI -Core redundancy.

28.1.2 Redundancy

CI SERVER comes with several built-in features for supporting high Availability solutions. The purpose of these features is to support redundant Server configuration to reduce down-time.

The high availability features include:

- Redundant server support
- Monitoring CPU levels, queue levels and activity of CI SERVER Processes
- Synchronizing data between redundant servers
- Journaling of changes to CI SERVER databases

In the rest of the document, the CI SERVER High Availability features will be abbreviated to HAC.

Configuring the high availability is performed primarily through the HAC setup file. This file can be accessed from the CI server Setup File Editor.

28.1.3 CI-Core HAC Servers

The CI-Core in the CCR will be configured as a dual-redundant High Availability Computing (HAC).

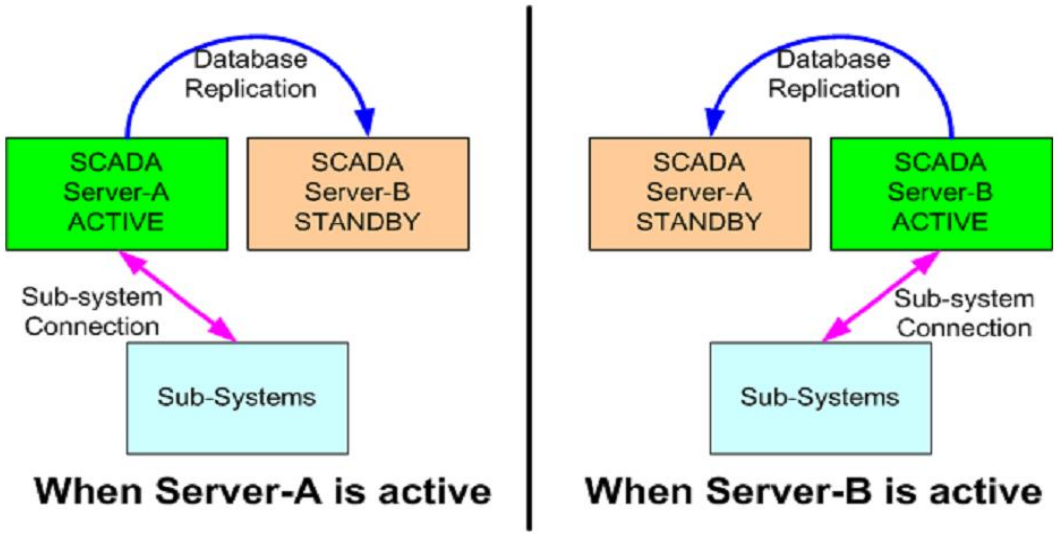


Figure 83 – CI-Core HAC Concept

At start-up, Primary server will become the active server, while the secondary server will take role as the hot standby server. Then HAC module will synchronize the content (files) of the active server to the standby server. Only the differences of the files (delta) will be replicated.

Initial replication to get in sync will take time from a minute to hours depending on network speed and the size of files. After that, the databases are synchronized in real-time.

Whenever there is an abnormality in the active server (such as hardware failure) the standby side will be activated within ~15 seconds (depends on hardware and system size and configuration).

CI-Core HAC system is to synchronize the CI-Core database only.

28.2 FIELD DATA ACQUISITION

28.2.1 Field Controller

28.2.2 Field Data Acquisition

The list of communication line between the field controllers and CI Server (CI-Core) are as follows:

#	Controller	Protocols	Scan rate*	Master / Slave	Communication Link
1	FCS	Vnet/IP	> 1 second	Slave	Vnet/IP bus
2	SCS_SIS	Vnet/IP	> 1 second	Slave	Vnet/IP bus
3	SCS_FGS	Vnet/IP	> 1 second	Slave	Vnet/IP bus
4	EMCS	OPC UA/ Modbus TCP/IP	> 1 second	Slave	Ethernet

Table 92 – Communication Lines

*Actual Scan rates to be finalized once Master Tag list is available.

28.3 FIELD CONTROL

28.3.1 Control Philosophy

CI Server shall be designed to continuously monitor/ access data on real time basis from PCS, SIS & EMCS and operate the entire integrated system on day-to-day basis.

28.4 CI SERVER NETWORK

For Network design overview, network names and subnet, routing and firewall rules, time synchronization (NTP) refer to 1724000594-IN-RE-00043 - Cyber Security Settings.

28.5 CI SERVER SOFTWARE CONFIGURATION

CI Server software configuration covers the main aspect of CI-Server engineering (Database, Visualization, and Interfacing).

28.5.1 CI Server Database (CI-Core)

Real Time Database

The CI Server (CI-Core) collects data from the field through the controllers (FCSs, SCSs, EMCSs, etc.) and stores it in the real-time database and shown in HMI. The data are also simultaneously processed for alarming and stored in the historian database.

The data refresh rate is entirely based on the scan rate (data polling) from CI-Core to field controllers as defined in section 3.2.2.

Tag-set	Tag	I/O	Function Description	Scan Rate
	All AO/DO	Output	All output are sent immediately	1 sec.
PVI	PV	Input	The transmitter value (measured value)	1 sec.
PVI	HH	Feedback Input	Alarm HH limit set-point Also, for HI, LO and LL	5 secs.

Table 93 – Scan rate settings for I/Os example

Historical Data Recording

Historical data from the field are collected as follows

Typically, every AI data (process-value) from transmitters is recorded in every 1 second, while status data are recorded in the event of value change.

The target of historian data storage life cycle is to be kept for up to 1 year. Final settings to be defined after MTL is received.

Historical Data Storage group

History Group	Scan Rate	Avg. (1)	Agg.(2)	Life Cycle	Description
EVENT	Event	-	-	1 year	For all status (DI / DO) tags and event-based AI.
0001_FCS1_EI	Event	-	-	1 year	For AI tags which are involved for process control such as PID-control-loop (PV and MV).
0001_FCS1_ST1	5 sec	60 sec	-	1 Year	For AI tags which are involved for monitoring from PCS Controller
0001_SCS1_EI	Event	-	-	1 year	For DI tags which are related to FO alarms and annunciator
0001_SCS1_ST1	5 sec	60 sec	-	1 year	For AI tags which included timers
TEN_MINUTES	600 sec	-		1 year	For AI tags related to EMCS

Table 94 – History groups

Archiving and De-Archiving

The archive and de-archive functionality is the backup and restore functionality.

There are two types of archiving procedures.

- Automatic Archive: This method archives the history files automatically from the storage groups at a specified time each day.

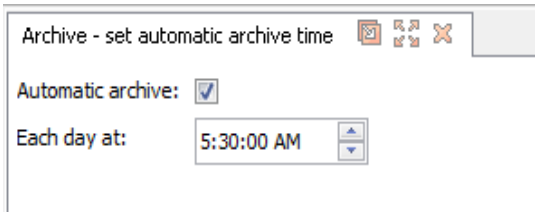


Figure 84 – Automatic Archive

- Manual Archive: This method archives the history files from the storage groups from the start of archive period to end of archive period specified by the user at the time of archiving.

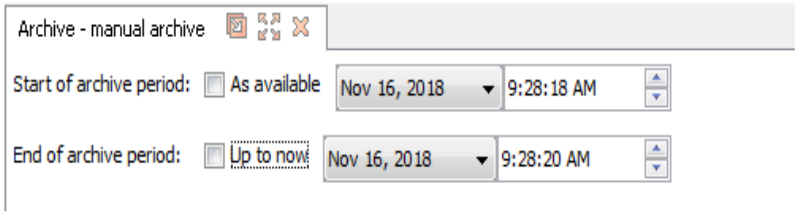


Figure 85 – Manual Archive

The archive supports disk drive, that are accessible via a directory path, and it can be used for archiving purposes on Windows. This means that all read/write storage mediums that are accessible via a directory path can be used by the archive functionality. This includes:

- Local Disk drives.
- Drive access over the network.
- USB Storage devices.
- CD and DVD writers that support Universal Disk Format (UDF) and are loaded with a UDF formatted CD-R, CD-RW, DVD-RAM (or compatible systems).

For disk drives the disk is the archive medium and for CD and DVD drives the CD's and DVD's are the archive mediums.

Drive access over the network shall be configured in backup recovery server and Mass storage devices shall not be used.

CI-Core has its own historical database (online historical) for reporting and trending, then such data will be archived to the specified location.

This method retrieves the information from the archived folders from the storage medium by specifying the start of retrieval period and end of retrieval period time.

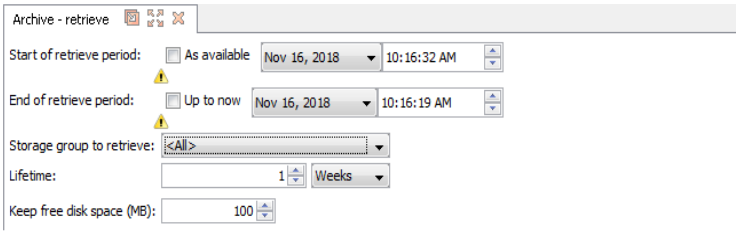


Figure 86 – De-Archive

Refer 1724000594-IN-RE-00043 - Cyber Security Settings for detailed settings of backup recovery server.

28.5.2 Item Naming Convention

In CI SERVER, items are the main definition within the CI Core database. They are the real-time tags that can be configured via points to receive real-time data from the PCS blocks tags, generate alarms, be used in graphics, stored in history, and used in reports.

The items can be placed under Sections and Objects which will define a plant hierarchy structure within the CI Server database.

The layout of an item name is as follows:

SECTION.SECTION..... OBJECT.ITEM

SECTION: can be the location, plant area, subsystem.

- OBJECT: the equipment tag name, usually the PCS block name as well.
- ITEM: the sub tag which relates to the parameter of the PCS block (e.g. PV, ALRM)

When an item is referred to within the CI server database, its name will include the sections and object name and can contain a maximum of 252 characters.

An item is also uniquely identified by an item ID which is automatically generated when the item is defined.

Item Name – 1st layer sections

The following 1st layer sections are defined:

1st Layer Section	Description
BLPH	Base Load Power Hub

Table 95 – 1st layer section example

Item Name – 2nd layer sections

The following 2nd layer sections are defined:

1st Layer Section	2nd Layer Section	Description
BLPH	FCS0110	FCS Controller
	SCS0110	SIS Controller 1
	SCS0120	F&G Controller 2
EMCS		Electrical Monitoring and Control System

Table 96 – 2nd layer section example

Item Name – 2nd layer sections

Item names will change based on the block used for generating the object.

Tag names will be defined in Master Tag List (MTL).

28.5.3 HMI Server (CI-Portal)

CI-Portal role can be as:

CI Portal Function	Description
HMI Web-Server	Serving the HMI request from CI-View clients.
Engineering Workstation (EWS for CI-Server)	In this EWS (desktop), engineer can do: • Configures CI-Core database (with Engineering module) • Creates / modify Graphics HMI (with Edit Module)

Table 97 – CI Portal Roles

CI Portal software is installed on a target machine. The application makes a native CI Server connection to CI Core. Users can open the operator interfaces directly from the target machine.

The lists of CI Portal are:

CI	Node#	Device Type	Location
CI VIEW(OWS)	NA	CIPO04	CCR
CI VIEW (CAP)	NA	CIPO05	CCR
CI PORTAL/VIEW (EWS)	21,22,23	CIPO03	OER

Table 98 – List of CI Portals

28.5.4 HMI Client (CI-View)

CI-View (HMI Client) connection is:

CI View type	Description
Remote-Connect	The Java based CI-View suites which covers the functionality of Engineering, HMI Editing and HMI Viewing.

Table 99 – List of CI Portals

CI View solution is a web-based user interface of CI Server. It can be opened by opening a web browser and connecting either to a CI Portal machine or CI Core. A user license is required to open the operator interface. E.g. if CI Portal is equipped with 2 user licenses, on the native CI Portal machine the operator interface can be opened and via a web browser on the same or another machine a second Operators interface can be

opened as well. This can be useful to give additional users access to the operator interface, e.g. during commissioning or e.g. to provide information to remote users.

Both HMI1 and HMI2 are equipped with an additional CI View license for this purpose.

The functionality as EWS or OWS is only determined by user's right, whereas the engineering capabilities is only available to the specific users in the "system-manager" group of CIX user database.

Machine	Function	# Additional CI View License
HMI 1	Operator Working Station	1
HMI 2	Operator Working Station	1
CI EWS	Engineering Working Station	0

Table 100 – List of CI View Machines

The maximum number of monitors that can be connected to one CI View is 4.

28.5.5 CI Server Presentation

The acquired field data in CI Server database will be presented to the operator in the following forms as:

- Process Schematic HMI
- Trending Chart

Please refer to section 30 for graphics HMI design.

Process Schematic

Reference to section 30.2.

Trending Chart

Trending chart is available for all analog values from sensors or transmitters, for digital signals and for software items.

The "value-display" in HMI can be clicked to show the fluctuation of the historical value in the trending-chart pop-up window.

Reference to section 30.2.5.

28.5.6 Reporting Definitions

NOTE: No inputs received during Development and FAT.

Report Conventions

The layout of a report is configurable. The following figure shows what parameters can be set:

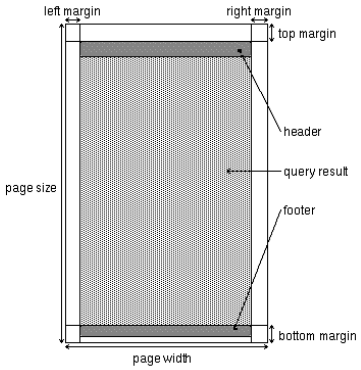


Figure 87 – *Report layout Parameters*

For this project the parameters are defined as follows:

- Page size 72 lines
- Top margin 3 lines
- Bottom margin 6 lines
- Page width 80 characters
- Left margin 3
- Right margin 3

The header of each report will look as follows:

```
--------------------------------------------------------------------------------
                        REPORT DESCRIPTION
Date 7-MAY-2022                                          PAGE NUMBER
--------------------------------------------------------------------------------
```

The header shows the date when the report was generated. Furthermore, it shows a report description. Finally, it shows the report page number.

The footer of the report looks as follows:

```
--------------------------------------------------------------------------------
TOT_PROD                                                 page 1
--------------------------------------------------------------------------------
```

On the left side the CI SERVER name of the report is shown and on the right side the page number.

Report Destinations

The following report destinations are available:

Destination	Device	Output type	Description
REPORT	CI_Core Server	Hardcopy	For all add-hoc generated reports

FILE	< none >	File	For all automatically generated reports

Table 101 – Report Destination

Report Handling

Reports can be generated in the following ways:

- Time based; meaning the report is generated at specific time, such as daily or monthly.
- Event based; meaning the report is generated after it was triggered by tag's events such as a pressure crosses a certain limit, or a digital input signal state was changed.
- Ad-hoc: meaning that the user must press a button to start the generation of the report.

The following table gives an overview of all default delivered reports. The below reports can be ad-hoc generated. Custom reports can be defined as well but require customer input.

Report Name	Report Description
ALARM_COUNT	Alarm counting report
ALARM_CURRENT	Current alarms report
ALARM_HISTORY	Alarm history report
AUDIT_TRAIL	Audit trail of user activity and item/object/class modification
AUTH_GROUP	Authorization groups
ITEM_ACK	Items and related acknowledgement type
ITEM_ALM	Items and related alarm info
ITEM_EQP	Items and related equipment info
ITEM_FO	Items and related first out groups
ITEM_HISTORY	Historical values of an item
ITEM_ID	Items and related item ids
ITEM_ITM	Items with related item table info
ITEM_OTH	Items and related miscellaneous info
ITEM_TYPE	Items in order of item type
ITEM_VAL_STA	Item value and status report
ITEM_VAL_CSV	Export CI SERVER data in csv format.

STATION	Station definitions
SYSTEM_LOG	The contents of the system log
USER	User definitions

Table 102 – Report Destination

Generated reports are stored in history and retained for a certain period (lifetime).

28.5.7 Audit Trail

Audit Trail is a function for recording a log for each action by the CIX users which affecting the CI-Core database. This optional feature was added for this project.

There is no special configuration required; and by default, the following action by CIX users will be logged:

CIX DB Tables	User's Action
CIX System (Engineering, Edit and Operator Interface)	Login and Logout.
Equipment (sub-system) scan (polling) properties	Modify
Station (sub-system) connection	Modify (Scan / Off-scan)
Item (Tag) structures (Installation, Unit, Section)	Insert and delete
Item's properties	Modify
Item's value (manual)	Modify
Class	Insert, Modify and Delete
Class's Objects	Insert, Modify and Delete
Class's Trigger Group	Modify
Users	Insert, Modify and Delete
User's Profiles	Modify

Table 103 – Audit Trails actions and affected objects

28.5.8 System Monitoring

CI Server system components health status and parameters will be monitored, and it will be displayed in HMI.

Device status / Parameters monitoring by PLC

The list of devices and its parameters which are connected and monitored in SCADA:

Device name	Monitored Parameters (MP)			
	MP-1	MP-2	MP-3	MP-4
FCS	Communication	Node and CPU	Battery	BUS Line
SCS_SIS	Communication	Node and CPU	Battery	BUS Line
SCS_FGS	Communication	Node and CPU	Battery	BUS Line
EMCS	Communication	-	-	

Table 104 – List of Monitored Device's Status

Network Device Monitoring

CI Server by means of the utility called INTTCPMON can periodically ping network devices and capture the response and connect this to a tag. The tag can be used for visualization and alarm.

28.5.9 CI Server Licenses

The list of CI Server licenses that being used in this project are:

Software name	Version	Quantity	Computer name
CI Core with FCS Connections: 1 SCS Connections: 2 Number of licensed items: 64000	v.1.03 *	1	CI_Core
CI Portal	v.1.03 *	3	HMI1, HMI2, CI_EWS
CI View	v.1.03*	5	HMI1, HMI2, CI_EWS + 2-browser-based connections
Product Maintenance License (PML)			

Table 105 – CI Server Licenses

*Note: In the project the latest version available will be used (R1.03). Post Integration of all packages item-based license shall be procured to meet the requirements as per project scope.

28.6 SYSTEM ALARMING

CI Server acts as an overall integration package where Operators control the plant on a day-to-day basis. A key element of control are alarms and alarm management.

From a high-level perspective to integrate alarms there are 2 approaches possible:

- Centrally: Alarm management is organized centrally in CI Server: All alarm definitions, alarm generation and acknowledgement are centrally defined and managed.

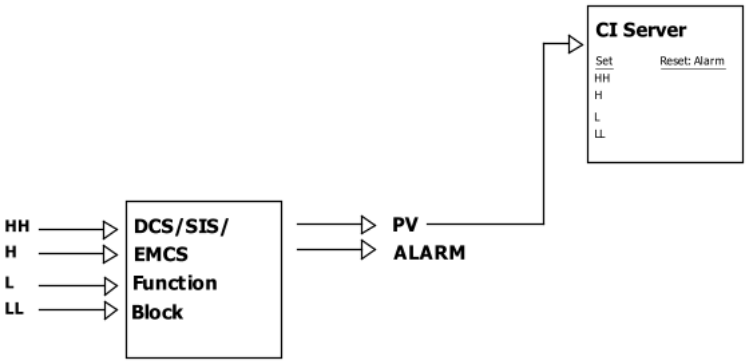


Figure 88 – Central alarm management

- Integrated: Alarm settings and alarm generation are defined in lower system(s), CI Server connects and displays these alarms. Acknowledgement of alarms happens in CI Server, refer to below picture. Typically, it is possible to update alarm limits in CI Server and write those back to the lower system.

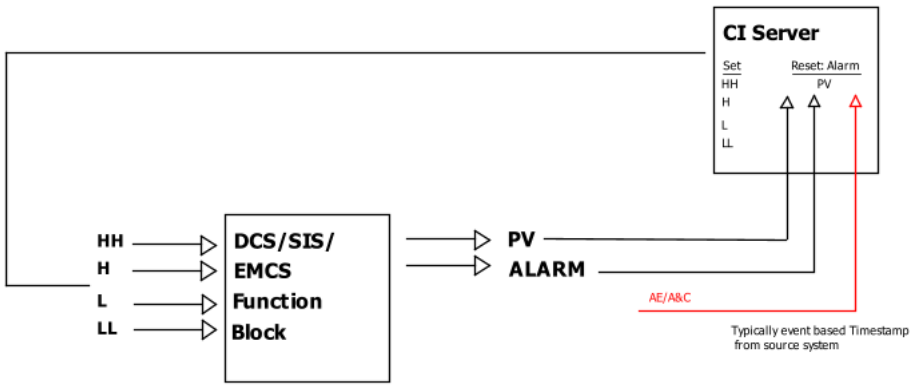


Figure 89 – Integrated alarm management

The process values and alarm status of e.g. Function blocks are polled by CI Server scan based and typically get the timestamp of CI Server. Exception to this rule are systems which use protocols which provide the timestamp as well.

To get alarm information with lower system timestamp either OPC AE or OPCUA A&C is required. Often a combination of scan-based data and the OPC based data are used, which will result in a slight offset in time on Function block status and alarm status in the alarm banner, due to the different moment the information enters CI Server. This typically is not a problem if the difference in time is limited.

Alarm limits and definitions will all be set and maintained in the lower systems.

28.6.1 Alarm concept and features in CI Server

The alarm concept in CI Server can be summarized as follows:

Each tag can be enabled/ disabled for alarming. When a tag is enabled for alarming the status change of the tag is the primary driver for alarming. A status change can be for example from High High to High, or Boolean 1 to Boolean 0, Offline to Normal, etc. In total 255 statuses can be defined in CI Server. With status

e.g. the alarm state & acknowledgement approach, priorities, coloring, etc. can be set. Alarm related features (see below) make use of these settings as well.

	Item status	Description	Status number	Alarm state	Alarm prio...	Alarm color	Mnemonic	Shelve enable
0	CALCULATE	calculate status	1	Normal	0	WH	CALC	☑
1	USE OLD	use old status	2	Normal	0	GR	OLD	☑
2	BLOCKED	BLOCKED	3	Alarm 3	3	BLU	BLKD	☑
3	BOOLEAN 0	FALSE	4	Normal	15	WH	FALSE	☑
4	BOOLEAN 1	TRUE	5	Normal	15	WH	TRUE	☑
5	UNDERRANGED	underranged	6	Alarm 1	0	CY	UNDERR	☑
6	LOW LOW	LOW LOW	7	Alarm 3	1	RED	LL	☑
7	LOW	LOW	8	Alarm 2	2	YEL	LO	☑
8	NORMAL	NORMAL	9	Normal	15	GRI	NR	☑
9	HIGH	HIGH	10	Alarm 2	2	YEL	HI	☑
10	HIGH HIGH	HIGH HIGH	11	Alarm 3	1	RED	HH	☑

Figure 90 – Item Status

These status dependent settings can be set project wide, however each individual tag has the possibility for max 6 individual status to override defaults.

Alarm related features within CI Server are for example:

- Alarm acknowledgement: to acknowledge an alarm.
- First out groups: A mechanism for a group of tags with alarms related to each other.
- Alarm collections: a grouping function.
- Alarm Selection Areas: Filters which can be programmed and used in other features, e.g. to filter on an alarm banner, for audible alarms, etc.
- Acknowledgement types: mechanism which supports automatic or manual alarm acknowledgement definitions.
- Area of interest: To create alarm filtering, more info is given in this chapter.
- Alarm link display: Link a particular tag with alarming to a particular display.
- Alarm notifications: Alarm to email.
- Alarm shelving: Temporarily shelving of alarms.
- Alarm repeat: Alarm repeat if not acknowledged with a certain time.
- Alarm delay: Delay an alarm event after e.g. to limit nuisance alarms.
- Audible alarms: to create audible sounds when a particular alarm becomes active.
- Priority change of alarms: Change alarm priority over time.
- Alarm Trend linkage: based on a tag in alarm, show the related trend.

28.6.2 Alarm Priorities

NOTE: Default priorities are followed.

Alarm priority is a numeric grading for the alarming condition (hence the priority); defined as integer number series from 0 to 15. The grading can be as descending (0 as the highest risk) or ascending (15 as the highest risk).

In this project descending grades is used with the interpretation as (example, to be finalized):

Priority	Interpretation
0	Emergency alarm identifying threat to life and environment.
1	High priority alarm indicating plant trip within 10 minutes
2	Medium priority alarm indicating area trip within 10 minutes.
3	Low priority alarm indicating degradation of product quality.
15	Unconcerned status, Normal

Table 106 – Alarm Priorities Example

28.6.3 Alarm State Transition

Alarm-states are the transition boundary of an evolving condition, defined as:

State	Interpretation
Normal	A condition which considered as a safe or normal event.
Alarm-1	The early stage of an alarming condition, or Low priority Boolean alarm.
Alarm-2	The next higher stage of an alarming condition, or medium priority Boolean alarm.
Alarm-3	The terminal stage of an alarming condition which supposed to be as the tripping point for shut down, or high priority Boolean alarm.

Table 107 – Alarm State Transitions

28.6.4 Alarm Configuration

28.6.5 Operator's action for Alarm

Two actions can be taken by Operator:

- Acknowledge: It's a conscious action by operator to admit that alarm situation has happened, and his team should know it and act accordingly to rectify the problem.
- Shelve: Alarm shelving is provided to prevent distraction from a repeating alarm from some "under repair" or maintenance.

28.6.6 Alarm Acknowledgement

Alarms can be manually or automatically acknowledged. For each type of acknowledgement rule an acknowledgement type is defined. Each tag can be assigned one of these acknowledgement types. For this project there are three acknowledgement types defined:

- Full Manual: Each change in alarm state must be manually acknowledged by the user.

  NORMAL to ALARM<x>, ALARM<x> to ALARM<y> as well as ALARM<x> to NORMAL
- Manual: When there is a change in alarm state from NORMAL to ALARM, the user must acknowledge this alarm. When the tag changes from ALARM to NORMAL, this will be automatically acknowledged.
- Automatic: Any change in alarm state will be acknowledged automatically.

The following tables show the acknowledgement matrices for the three types. The table should be read as follows: select from the left column the current alarm state and for that state the current acknowledgement

state. Then select the column with the new alarm state. On the intersection it shows either "auto" or "manual", specifying how this new alarm should be acknowledged:

Current alarm state \ Next alarm state		No Alarm (N)	Alarm1 (A1)	Alarm2 (A2)	Alarm3 (A3)
No Alarm	Ack	Manual	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual
Alarm1	Ack	Manual	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual
Alarm2	Ack	Manual	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual
Alarm3	Ack	Manual	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual

Table 108 – Full Manual Acknowledge type

Current alarm state \ Next alarm state		No Alarm (N)	Alarm1 (A1)	Alarm2 (A2)	Alarm3 (A3)
No Alarm	Ack	Auto	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual
Alarm1	Ack	Auto	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual
Alarm2	Ack	Auto	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual
Alarm3	Ack	Auto	Manual	Manual	Manual
	Nack	Manual	Manual	Manual	Manual

Table 109 – Manual Acknowledge type

Current alarm state \ Next alarm state		No Alarm (N)	Alarm1 (A1)	Alarm2 (A2)	Alarm3 (A3)
No Alarm	Ack	Auto	Auto	Auto	Auto
	Nack	Auto	Auto	Auto	Auto
Alarm1	Ack	Auto	Auto	Auto	Auto
	Nack	Auto	Auto	Auto	Auto
Alarm2	Ack	Auto	Auto	Auto	Auto
	Nack	Auto	Auto	Auto	Auto
Alarm3	Ack	Auto	Auto	Auto	Auto
	Nack	Auto	Auto	Auto	Auto

Table 110 – Automatic Acknowledge type

Alarm acknowledge types for the project shall be decided/ finalised during FAT. Until then all alarms will be configured with manual type acknowledgment.

28.6.7 Audible Alarm Annunciation

Alarm can be made audible in HMI workstation (CI-View).

For each priority level a different sound is generated: low, medium, and high tone. Furthermore, a horn silence command is available. This will cease the tone until a new alarm event is received.

Please note that the horn silence command will NOT acknowledge the alarm. The horn silence command is available under function key < F10 >.

The following table shows what will be the result when a new alarm event occurs (example, to be finalized):

Previous situation	New event	New situation
No alarm active	Low priority alarm	Audible annunciation (low tone)
No alarm active	High priority alarm	Audible annunciation (high tone)
Low priority alarm active (low tone audible)	Low priority alarm	No change
High priority alarm active (high tone audible)	High priority alarm	No change
Low priority alarm active (low tone)	High priority alarm	Audible annunciation (high tone)
High priority alarm active (high tone)	Low priority alarm	No change
Low priority alarm active (low tone)	Horn silence command	Cease audible annunciation
High priority alarm active (high tone)	Horn silence command	Cease audible annunciation
Alarms are active, no audible because silence command	Low priority alarm	Audible annunciation (low tone)
Alarms are active, no audible because silence command	High priority alarm	Audible annunciation (high tone)

Table 111 – Alarm Event Example

28.6.8 Alarm Selection Area

Alarm selection areas (ASA) are used to filter the output of alarms destinations such as alarm-display or printers. The ASA naming philosophy supports a maximum of 15 characters.

ASA is a logical expression to select alarm / events. Various attributes of the item (tag) can be used to make the ASA filter such as Section, tag-name, alarm-priority.

ASA created for this project is based on Master Alarm Database (123A90-DDL-IN-LIS-40027).

Name	Priority Level
Station/Subsystem NAMES	Alarms can be filtered individually based on Station/Subsystem using AOI filter.
SYSTEM	System based alarms can be grouped as station names

Table 112 – Alarm Selection Area

28.6.9 Area of Interest (AOI)

An area of interest is a name, which represents a specific region. Areas of interest are used to specify what region an Item operates in. By defining area of interest and connecting items to area of interests, it is possible that an operator obtains only relevant alarms. If, however, no areas of interest are used, the operator will receive all possible alarms. To filter and group the relevant alarms for users AOI are used. A Tag can be associated to 16 areas. The following AOI grouping is suggested.

Name	Priority Level
Station/Subsystem NAMES	Alarms can be filtered individually based on Station/Subsystem using AOI filter.
SYSTEM	System based alarms can be grouped as SCS names.

Table 113 – Alarm of Interest

28.6.10 Alarm Collection

Alarm collection group is a mechanism to manage alarms of all items (group items) registered in the group.

The status of each alarm collection group (group status) indicates the arising status, acknowledgement status, and reset status of alarms that are arising in the group items. The group status is represented by a combination of three information:

1. No alarm/Alarm is arising
2. Waiting for Acknowledgement/Acknowledged completed
3. Waiting for reset operation/Reset completed

These are the combination of groups and are independent.

If the group status is "Alarm State," it means that one or more alarms have occurred in all group items. If at least one of the group items has an alarm, the group status indicates an alarm state.

If the group status is "Acknowledgment required," it means that there is one or more Nack alarms in arising alarms in all group items. Only when all the alarms are acknowledged, it indicates the group status is the acknowledged status.

When the group status is "Reset operation," it means that the reset operation is done for the alarm collection group.

Refer Master Alarm Database -123A90-DDL-IN-LIS-40027.

28.7 SYSTEM INTERFACING

From external application (3rd party system), CI-Core data can be accessed via protocols such as OPC-UA. CI-Core acts as data-provider (Client); while 3rd party application acts as data-consumer (Server). This section describes this function.

28.7.1 OPC Interface

OPC-UA Client

CI-Core has an in-built OPC-UA client. The specification as follows:

Specified parameter	Parameters configuration value (options)
Endpoint URL	*
Security policy	*
Message security mode	Sign (only) Sign and encrypt
Login	Username and password

Table 114 – OPC-UA server access parameters

"*": Refer to Cybersecurity Document for the details of IP address and Security policy

28.8 CI SERVER USER MANAGEMENT

Note: Details to be aligned with customer.

In most cases, there are three essential "Authorization Groups" (user level):

- View only group
- Remote
- Operator
- Admin / Engineer

28.8.1 Authorization Group

Five user levels are defined:

- Level 0: View Only

This will be the default level for all workstations, view only level allows the user to view all process values, process displays, system status displays, trends and alarm acceptance. He is not allowed to manipulate any data or Process parameters.

- Level 1: Operation

The process operator can change control set points, outputs, operation modes and acknowledge process & system alarms of certain areas.

- Level 2: Process Operations Supervisor

The process operator can change alarm parameters, Enable / Disable alarms, Enable / Disable point scan and assignment of AOI's, also manual overwrite process values.

- Level 3: Engineer

The engineer has access to system management functions like tag definition (add, modify, and delete), building graphics or changing software.

- Level 4: Administrator

This is the highest level. This user can change/delete user rights, set file permissions and attributes.

Each level can be configured with selectable privileges. Each higher level includes all the lower-level privileges.

System function	System user level				
	0	1	2	3	4
Display process variables	X	X	X	X	X
Change process variables		X	X	X	X
Acknowledge alarms		X	X	X	X
System function	**System user level**				
	0	1	2	3	4
Manually override input process variables			X	X	X
Modify alarm parameters			X	X	X
Assignment of plant areas, view only terminals			X	X	X
USER/FAST system management				X	X
Modify/add displays				X	X
Change passwords					X
Add/delete users					X
Install/modify CI Server software					X
Managing system backup					X
Stop/Start CI Server or Operator Console					X
Restrict file access					X
Setting file attributes					X
Restrict any system resources					X

Table 115 – User level and access rights

Authorization groups have been created for each of the above levels with respective privileges. The Central and Station Controls will have separate authorization groups for each of the above levels.

Note: Authorization group will be modified inline to customer requirements.

28.8.2 User Profiles

The following users are defined for an example, actual users to be received from customer:

Authorization Group	General definitions: - user name (1) - password (2) - Process area	Operator interface: - layout - initial display	Alarming: - alarm selection area - Shelving group
System Administrator	admin ***** 1-999	default system_start_sa	administrator USER_SELF_GROUP
Engineer	Eng ***** 1-999	engineer system_start_en	system USER_SELF_GROUP
Operations Supervisor	super ***** 1-800	opersv system_start_sv	process USER_SELF_GROUP
Operator	oper ***** 1-500	oper system_start_op	oper USER_SELF_GROUP
View only	View ***** <none>	View system_start_vi	View <none>

Table 116 – Defined user profiles Example

Notes:

- The real usernames to be added on production deployment.
- All passwords are temporary; it is to be changed on production deployment.

28.8.3 Active Directory (AD) on CI Server

The following AD functions are available on CI Server:

- Users and user policies can be maintained in one place and are used everywhere in the system that makes up an automated system. No need to log on to the CI Server after logging on to Windows.
- Users are identified by name or password (or other authentication such as fingerprints). No one can access your system without a valid username and password. In addition, strong password rules can be applied at the Windows level without relying on potentially weak authentication of the application.
- Many companies standardize Windows technology, and external software is required to use these standards. Kerberos is a protocol available on Windows and other platforms supported by CI Server. AD is a technology of Microsoft.
- Even if a CI Server system is isolated from the network and has no access to the Windows domain controller, it is still possible to log on and access the application.
- Whether the CI Server uses AD integration can be configured for individual machines.
- The following widely accepted standard mechanisms are used:
- Kerberos - a ticket-based computer network authentication protocol that allows nodes communicating over an insecure network to prove each other's identities in a secure manner.
- Microsoft Active Directory (AD) - an AD domain controller assigns and enforces security policies to all computers, installs and updates software, and authenticates and authorizes all users and computers within a Windows domain type network. For example, when a user logs on to a computer that is part of a Windows domain, AD checks the password sent to determine if the user is a system administrator or a regular user.

CI Server supports a secondary logon mechanism to temporarily elevate the privilege level of users whereas AD and single sign-on do not support a secondary logon mechanism.

The AD integration function of CI Server has priority over the logon method (Login method) configured for each application using the following Authentication and authorization setup file (dssana.sup).

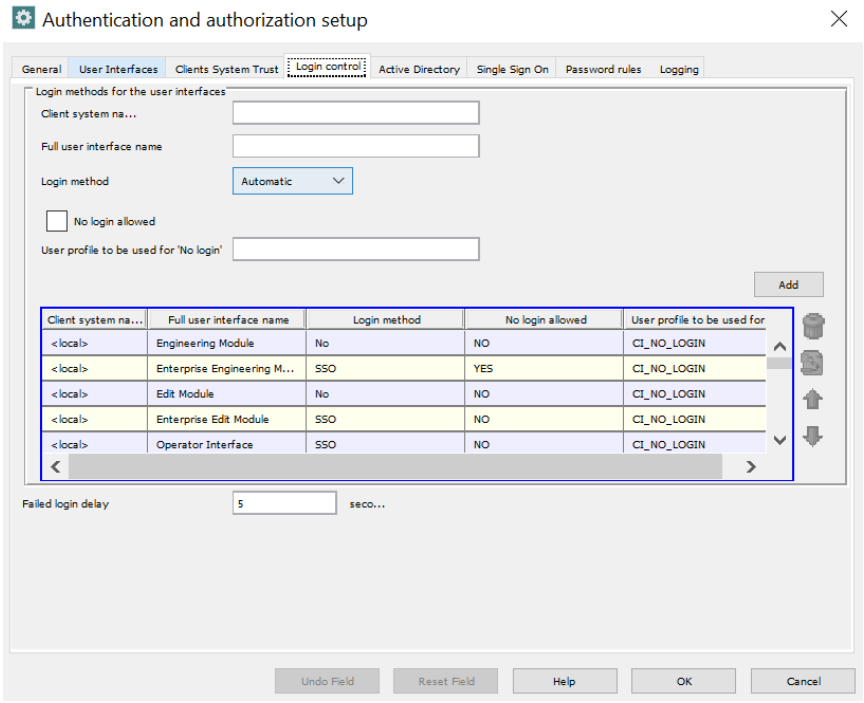


Figure 91 – Authentication and authorization setup

AD will be used for this project.

28.9 CI SERVER SYSTEM SECURITY

CI Server System security holistic approach covers the design, hardware, software component and the network. Refer to 1724000594-IN-RE-00043 - Cyber Security Settings document.

28.9.1 PC access Security

Active Directory

Reference to 1724000594-IN-RE-00043 - Cyber Security Settings document.

28.9.2 Network Security

Reference to 1724000594-IN-RE-00043 - Cyber Security Settings document.

28.9.3 Application security

Reference to 1724000594-IN-RE-00043 - Cyber Security Settings document.

28.9.4 Database security

In general, the field historian data is not considered as sensitive data in CI Server, however the process control set-point is sensitive for some industries. Therefore, it is recommended not to include the set-point value tags into RDBMS exposure.

28.10 SYSTEM BACKUP

28.10.1 System Backup

For a system back-up the software Windows Native Back up tool is used. All systems that are configured for back-up will store the image to the CI Core Machine.

For CI Core the backup is scheduled automatically using Backup recovery Server

All CI Portal are considered as non-critical machines and scheduled automatic back-up shall be taken. For these stations a back-up can be initiated on demand.

28.10.2 Restore

Whenever a system needs to be restored it must be booted with the Back-up Exec recovery CD. From the recovery utility one can select the image to restore. After the image has been restored, the machine must be rebooted. After reboot the system is up and running again.

Restore individual files

The backup software as described in the previous section provides the possibility to retrieve individual files and/or folders from a system back-up.

Note: When a CI server folder structure is retrieved, the CI server software on that machine must be stopped beforehand.

Reference to 1724000594-IN-RE-00043 - Cyber Security Settings document.

28.11 SYSTEM TOOLS

28.11.1 Quickload

A unique functionality of the CI Server engineering environment is loading and exporting the entire application configuration through the “quick load engineering utility”.

This enables the user to “quick load” applications and modifications online without stopping the system from its real-time duties. While loading the application CI Server continuously checks the “quick load” data. An error in the configuration will be reported instantly, stopping the loading process or prompting the user for rejection or acceptance.

The advantages of preparing the applications configuration database this way is:

- Preparation of configuration data can be done off-line
- Data can be pre-checked on: Consistency, Format/Syntax and Completeness
- Re-use for other applications
- Easy and fast configuration of backup-systems

The following configuration data can be prepared off-line:

- Items
- Displays
- I/O-driver configurations
- Alarm collections

- History groups
- User-profiles
- Objects and classes

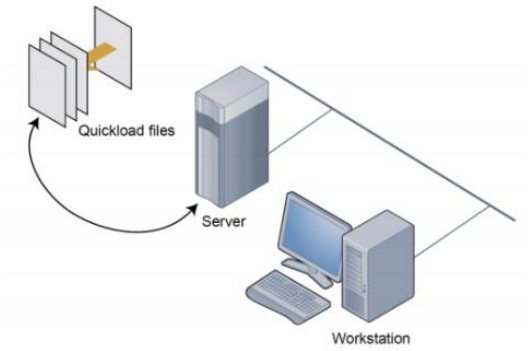


Figure 92 – Quickload Configuration

28.11.2 Report Editor

NOTE: No input received during Development or FAT.

Using the standard tool REPORT, the system manager is able to define and generate reports.

REPORT can be used to:

- Define a report
- Generate a report
- Inspect a report
- List the database field names corresponding to the real-time database

This utility is available through several USER forms.

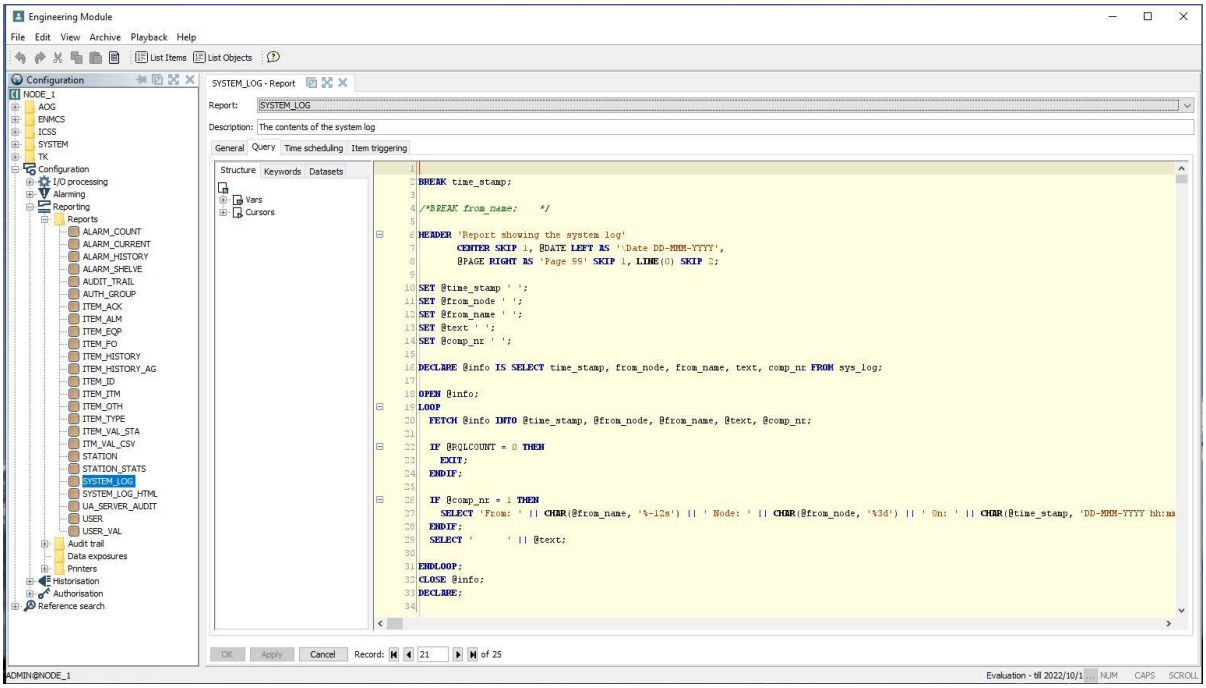


Figure 93 – Report Editor

28.11.3 Diagnostic Tools

CI SERVER provide an extensive set of diagnostic tools allowing online monitoring of:

- Configuration settings
- Real-time values of items, communication statistics, process-load
- Time related issues
- Status values
- Module specific parameters

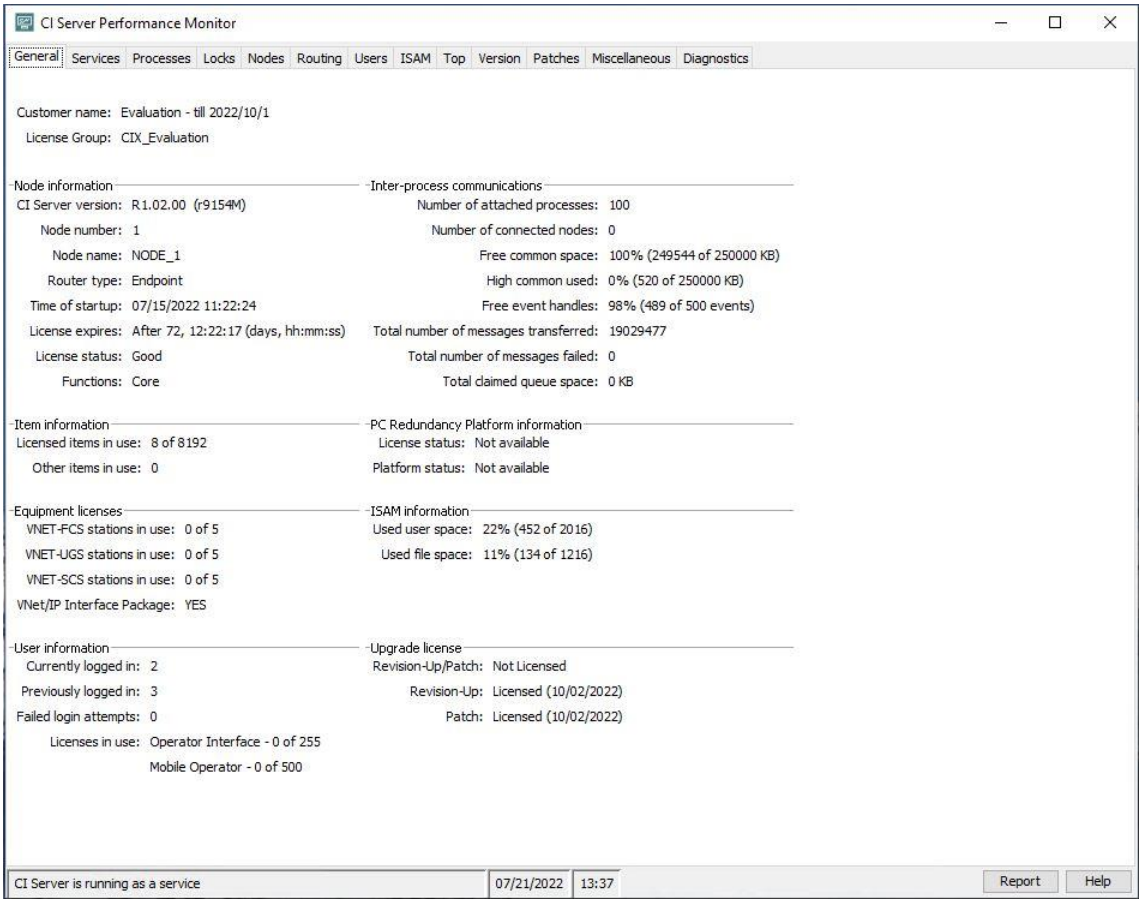


Figure 94 – Performance Monitor

These diagnostic tools are used to locate suspicious faulty situations and to optimize the performance of the CI Server system. Performance optimization can be done by:

- Balancing network traffic between e.g., a server and workstation in a redundant network
- Preventing queue overflows by defining larger queue sizes of CI Server processes that are consuming more than others.
- Perfecting scan times of external process variables in addition some diagnostic tools allow logging diagnostic data to a file on disk, which can be used for analyses later. The diagnostic features are impressive and go as far as byte and bit information.

The following diagnostic tools are available within CI Server:

Internal data traffic diagnostic tool

A lot of information can be gathered related to the internal data traffic in a CI Server based system. Looking into the main data streams will provide the user with information on how to tune the system. By examining the data traffic between processes, a problem can easily be broken down into a single process. Some of the optimization possibilities are:

- Overview of total message traffic.
- Overview of message traffic per process.

- Show outstanding number of messages per process.
- Overview of all time-related actions (clock queue).
- Overview of traffic to other systems.
- Logging of the data contents of messages transferred.
- Block a message queue.
- Influence the order of messages in a queue.
- Selective flush messages from a queue.
- Overview of maximum queue use since system start-up

Process variable related diagnostics

- On process variable level the following information can be collected:
- Statistics about all actions related to process variables since system startup.
- Overview of event streams between process variables and processes.
- Detailed information about all historical samples stored.

29 HARDWARE SPECIFICATION

For hardware configuration (performance) and features of the server cabinet, PC servers, firewalls, console desks, operator workstations and engineering workstation. Reference to be PAS Hardware Functional Design Specification (FDS-HW) 1724000594-IN-SP-00017.

30 HMI / GRAPHIC SPECIFICATION

This chapter describes the graphical user interface for the CI Server System. First, an overview of the mimics itself is given, thereafter an overview of all symbols being used to build the mimics. This graphical user interface is mainly to be used by the operator.

The following definitions are being used in this chapter:

- Screen: Applies to what is shown on the whole physical screen
- Mimic/display: Applies to a part of the screen representing a function which is logically grouped together.

This chapter will be updated accordingly.

30.1 GRAPHIC CONVENTIONS

30.1.1 Framework

Screen Layout

The startup display is automatically activated when the user logs on to the system. It consists of a framework which is always visible:

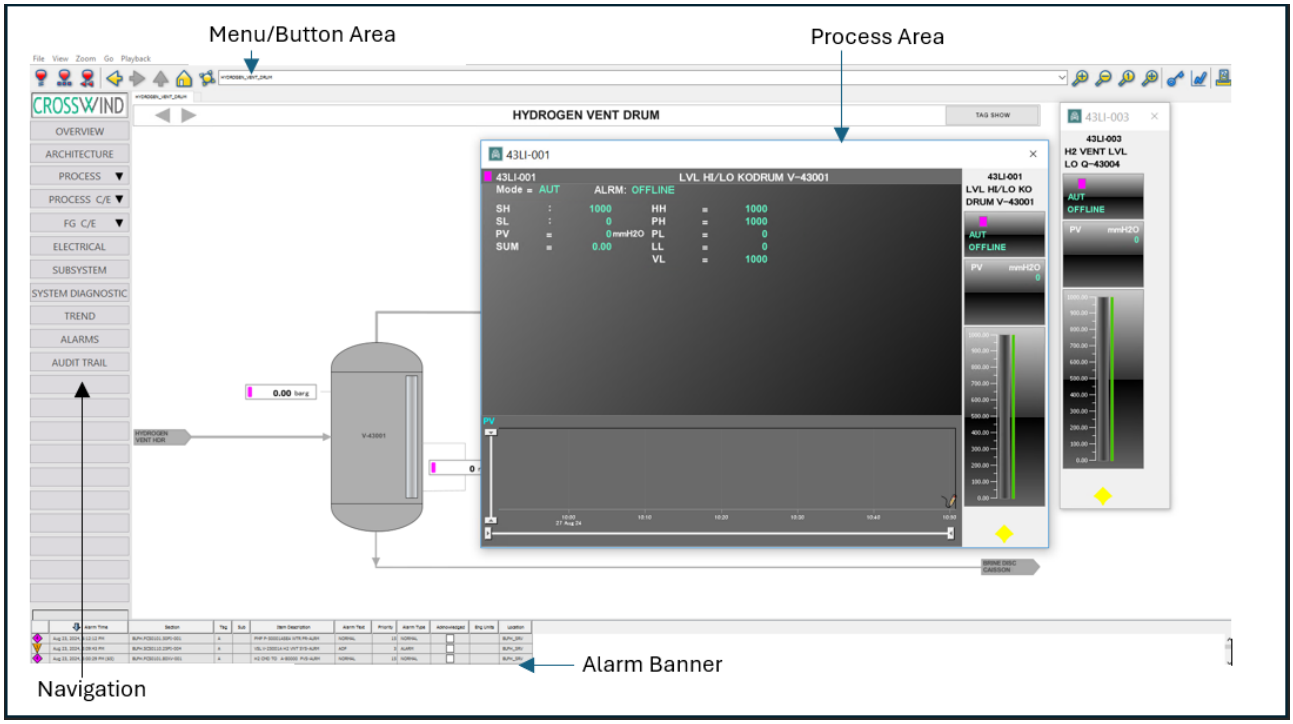


Figure 95 – General Display Layout

The displays resolution for the graphics of this project is 1920 x 1080 pixels (ratio 16:9).

Within this area the following sections are identify

Menu/button area

The menu and button area are always visible and as shown in the below figure, the following options are available for the operator:



Figure 22: Header menu

The menu and button area are always visible on the top part of each display unless a popup display is opened. Buttons will also provide a shortcut to basic HMI functions. Below table shows a summary of buttons and their functions:

Button	Function
	Go to current alarm list
	Go to Shelved alarm list
	Go to historical alarm list
	Go to system alarm list
	Go back to main display
	Reload main display
	Go to previous display or forward
	Zoom in
	Zoom out
	Reset to 100%
	Fit Display
	Login
	Go to Trending
	Print Screen

Table 117 – Header Buttons

Navigation

The left side of the displays is the navigation area. This area is always visible. Via buttons in this area the user can quickly navigate through the displays. The navigation area is designed in such a way to move through the displays efficiently and effectively.

Alarm banner

At the bottom of the display the alarm banner is shown. This part is always visible and shows the 3 most recent high priority alarms.

Process area

In this area the process displays are shown. It is possible to open more process displays and show each display in a separate tab. The tab indication is visible at the top of the process area.

Function Keys

Within the operator interface function keys are available for quick access to certain functions. The keys are accessible regardless of what display is shown. The following table gives an overview of the function keys:

Action	Result
F1	Shows help menu
F2	Horn silence
F3	Print screen

Table 118 – Function Key definition Example

30.1.2 General Conventions

Screen Size

Note: To be aligned & finalized.

The screen size of the project is defined as 1920 x 1080 pixels, the following areas are defined as:

- Navigation menu : 160 x 992 pixels
- Process area : 1760 x 992 pixels
- Alarm banner : 1920 x 80 pixels

Display Titles

The display title helps the user recognize the display objective quickly and should be immediately visible to the user. All main displays shall have a top text line and shall appear in the top left corner of the screen.

Screen Name

Screen shall be derived from P&IDs or SLDs in case of multiple sheets shall be suffixed by" _XX""

XX-Sheet Number.

Text

The visual specification for the Graphic Title, Equipment and tag names is as per the table below.

Display Object	Specification	Example
Equipment label/description	Gray (RGB 64,64,64) Arial, Bold, 12 pt	TK-0024
Tag names/EGUT	Black, Arial, Bold, 12 pt	TAG2401B
Graphic Title	Black, Arial, Bold, 24 pt	Subsystem Overview

Table 119 – Text

Lines

The visual specification for the Process/Instrument/Control lines is listed in the table below:

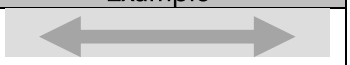
Display Object	Specification	Example
Main process Lines	Gray (RGB 165,165,165) Solid Line 5 pt.	
Instrument/Control Lines	Gray (RGB 128,128,128) Dashed Line 1 pt. (no arrows)	
Minor process lines	Gray (RGB 165,165,165) Solid Line 3 pt.	
Utility lines	Gray (RGB 165,165,165) Solid Line 1 pt.	

Table 120 – Lines

Arrow indicating process flow direction shall only be used where pipe enters equipment, at pipe corners or where lines leave the page.

2–way process lines will show same as process lines, but with at least one pair of double arrows ½ inch apart, spaced along line to make flow direction to and from connect equipment visually obvious.

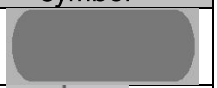
For crossing lines, the horizontal one will be in the front and the vertical one will be in the background.

Static Equipment

Representation of static equipment shall be as simple (without extra detail) as possible. Static equipment shall be filled on Gray (RGB 165,165,165) color. Static equipment shapes shall not show any edge colors. Static equipment shall not show any internals.

The equipment name will be shown within the equipment symbol as Gray, Arial, Bold, 12pt. The layout will follow the P&ID representation.

Samples static equipment shapes are shown below:

Equipment Type	Symbol
Vessels	
Tube Exchangers	
Furnace and Heaters	
Pumps	

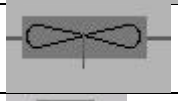
Positive displacement pumps	
Fin Fan exchangers	
Filters	
Compressors	

Table 121 – Static Equipment Example

Grid Settings

The grid is set to 4x4.

Actions

The following action conventions apply to the project:

Single left-click - Initiate an action on any dynamic symbol.

30.2 DISPLAY OVERVIEW

This section lists all displays that are available for the project. It will describe the contents/purpose of the screen, navigation options to/from the screen and any further details if available. Please note that not all screens are shown. Only for a few types of displays a screenshot is provided to give an overall representation.

30.2.1 Main Overview Display

The below display is an example of the Main Overview display.

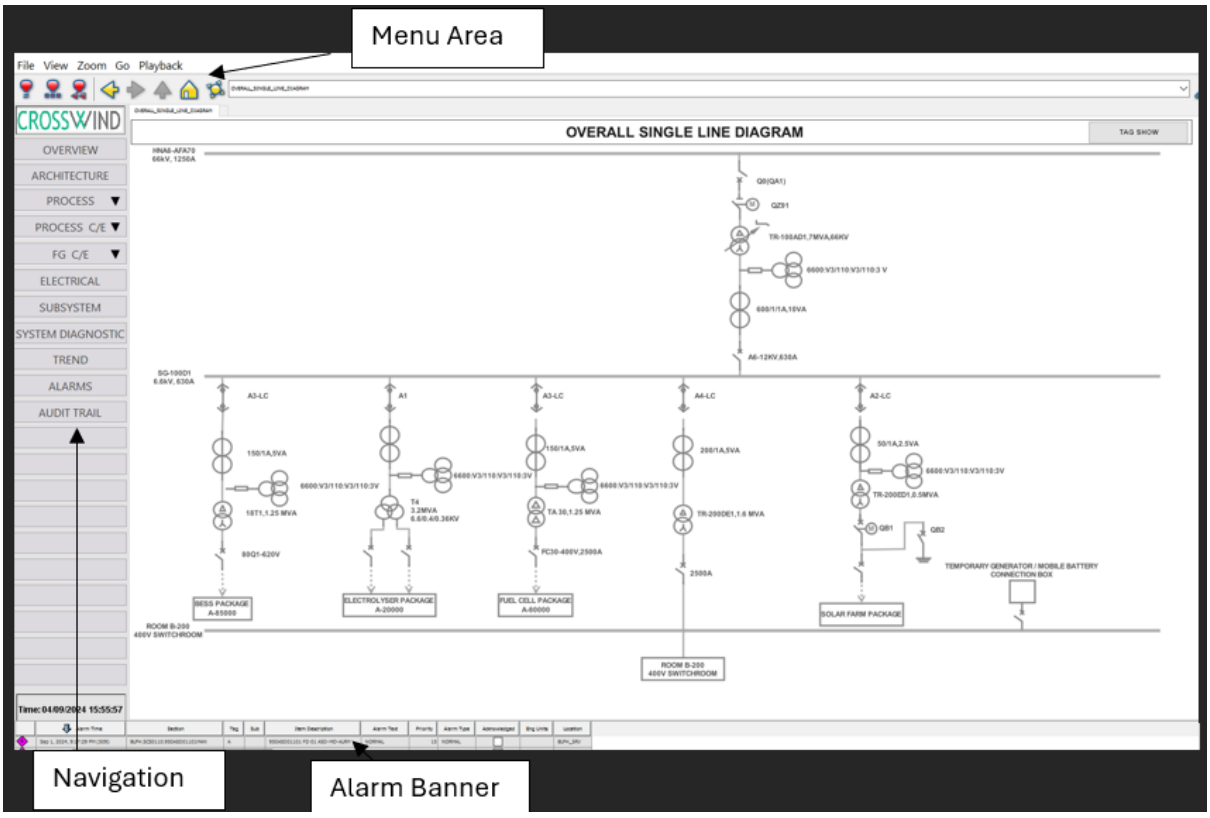


Figure 96 – Main Overview Display Example

30.2.2 System monitoring display

This display is a schematic layout of the cabinets with the CI servers, the local area network with the workstations, and the VNET/IP network. It displays the status of the CI servers, workstations, the local area network, and the cabinet alarms. For status of PIN network, a dedication navigation link shall be provided for accessing the NMS status webpage.

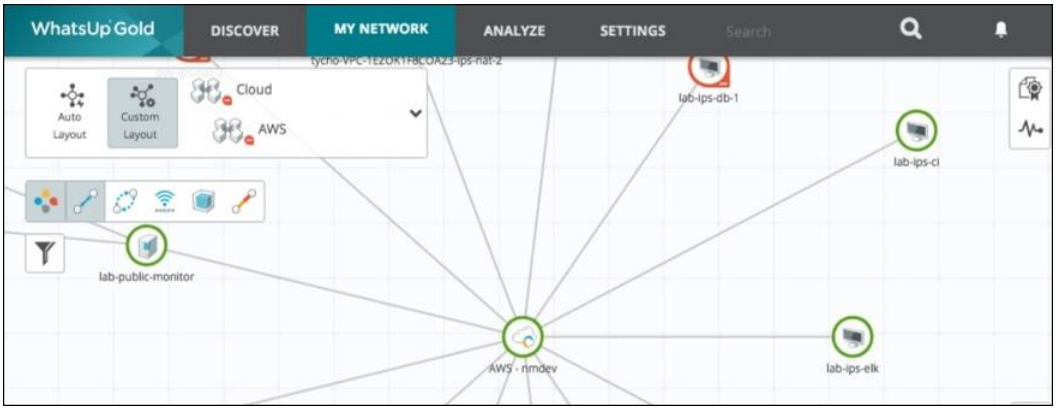


Figure 97 – System monitoring example

Navigation

This display is accessible from the navigation panel on the left side of the screen with the System Monitoring button.

30.2.3 Current Alarm Overview

The current alarm overview shows the alarms that are currently active. All the alarms are displayed in the Alarm overview, which can be accessed by the most left icon from the Header menu. Alarms are aligned in chronological order and operators can sort the alarms the way they want to. All new alarms are currently unacknowledged and must be acknowledged manually. Alarms also have the possibility that they do not need confirmation from the operator.

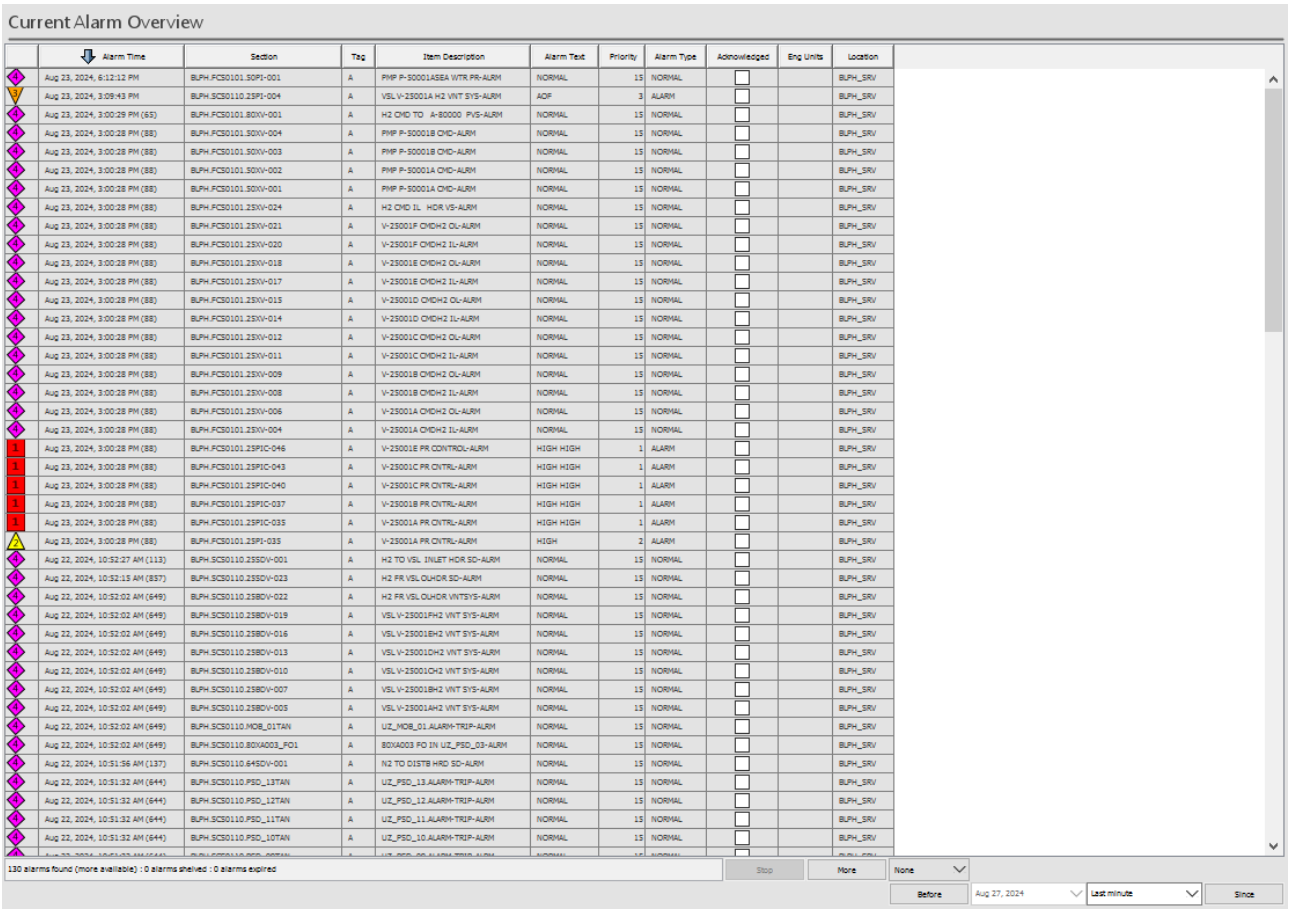


Figure 98 – Current alarm overview example

Alarm Indicator Icon

The alarm indicator icon in the alarm overviews refers to colour and numeric priority of item status. The color of the alarm indicator icon can be changed from system wide definition of item status or overridden by item definitions. See the below figures:

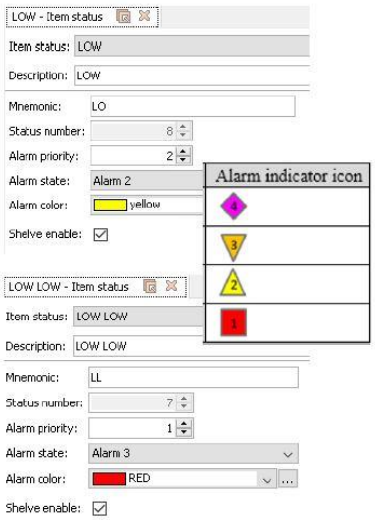


Figure 99 – System Wide Definition example

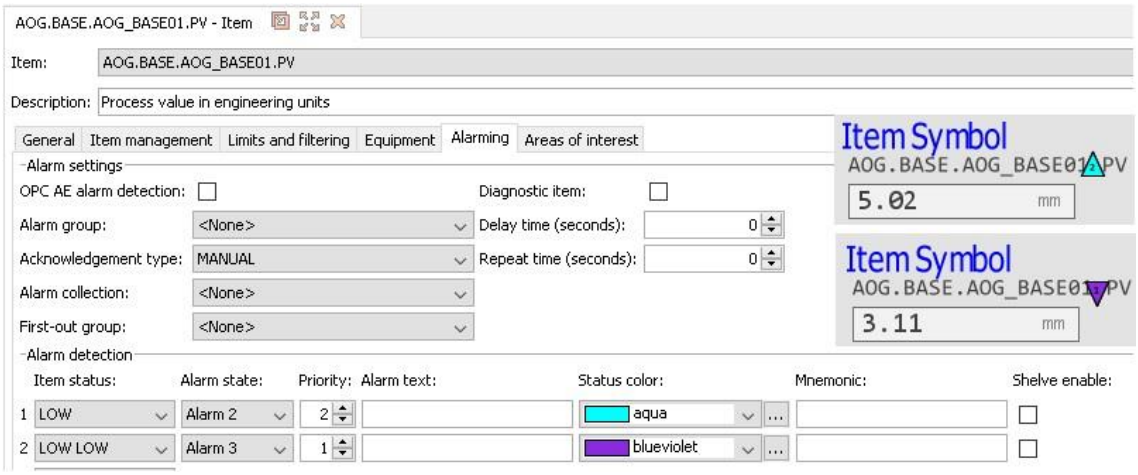


Figure 100 – Item Definition example

Navigation

This display is accessible from the navigation pane on the left side of the screen.

No specific navigation is available from this display.

Actions

Action	Object	Result
Left Mouse-click	Individual alarm line	Acknowledge of the alarm
Right Mouse-click	Any alarm line	Pop-up of a context menu: Acknowledge all visible alarms. Go to related display.

Table 122 – Actions in current alarm overview

30.2.4 Historical Alarm Overview

The historical alarm overview shows the alarms that have occurred in chronological order.

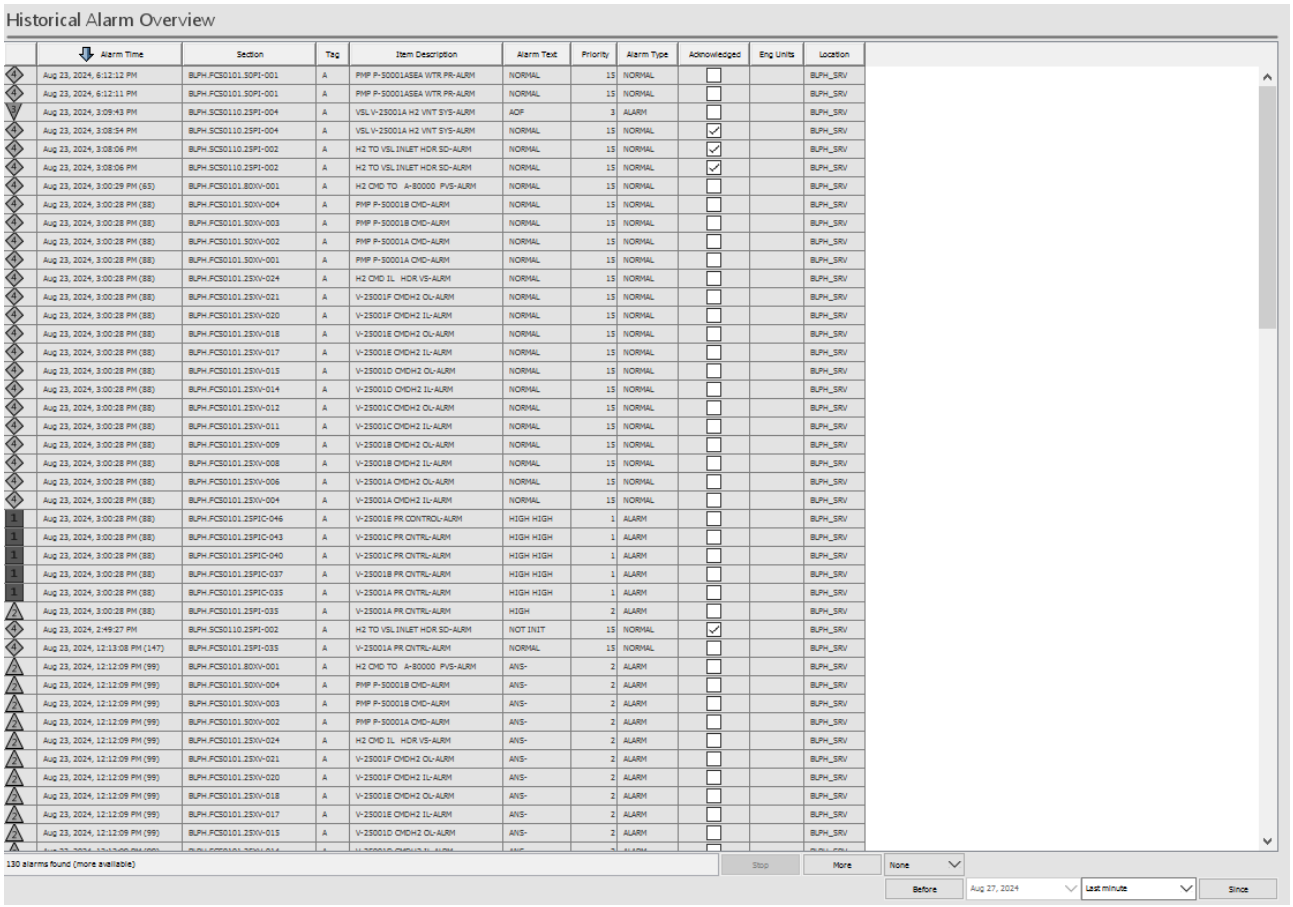


Figure 101 – Historical alarm overview example

Navigation

This display is accessible from the navigation pane on the left side of the screen.

No specific navigation is available from this display.

Actions

In the historical alarm overview no actions are defined.

30.2.5 Trend Display

The "Trend" display allows the user to generate plots of the desired process tag(s) as a function of time. Options for trend generation include multiple tag selection, date/time selection, date/time scroll, zoom in/out functionality, print functionality. The "Trend" display navigation has to defined in accordance with the other process graphics screen.

Layout

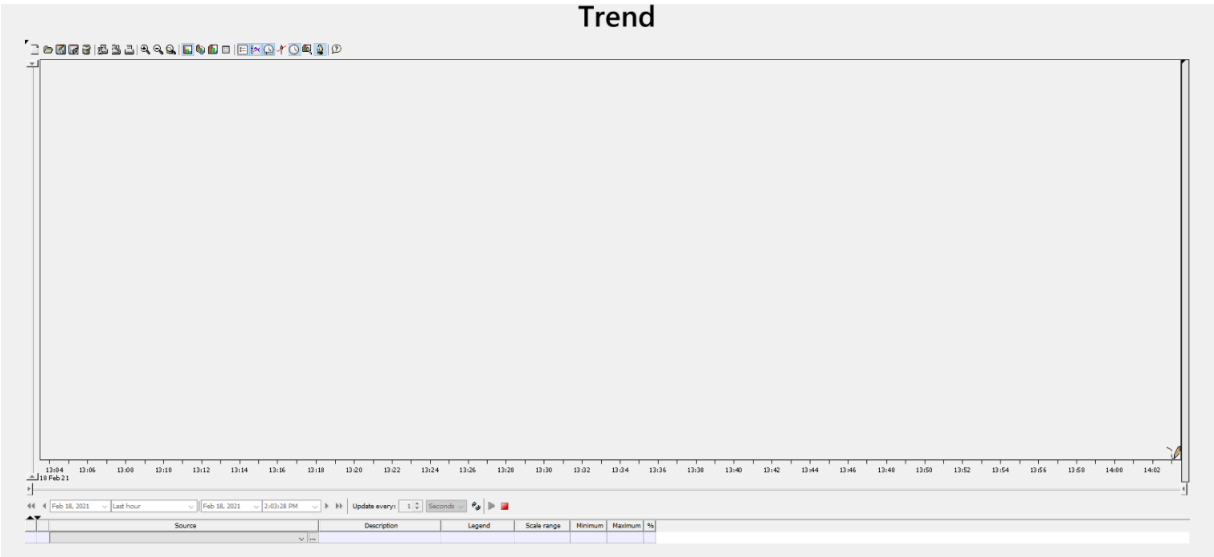


Figure 102 – Trend layout example

Settings

The trend display consists of the following sections:

- Toolbar
- Time/date settings control buttons
- Pen panel

Toolbar

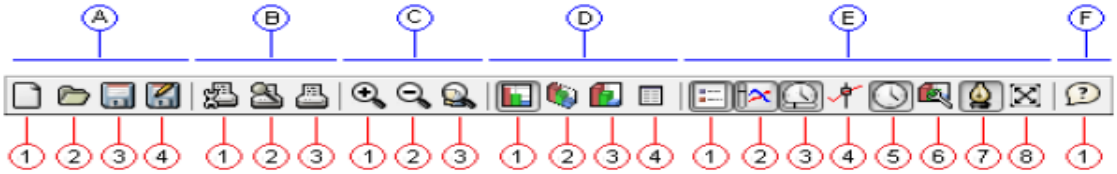


Figure 103 – Toolbar Buttons

Item	Description
A: Create and save trends	
1	Create a new trend
2	Open a trend
3	Save a trend
4	Save a trend as
B: Print	
1	Print page setup

2	Print preview
3	Print
C: Zoom	
1	Zoom in
2	Zoom out
3	Fit in window (to show complete trend contents)
D: Appearance	
1	Switch to 2d rendering
2	Switch to 3d orthographic rendering
3	Switch to 3d oblique rendering
4	Switch to table rendering
E: Show or hide user interface components	
1	Show or hide legend
2	Show or hide value slider
3	Show or hide time slider
4	Show or hide Hairline
5	Show or hide time control
6	Show or hide 3d control panel
7	Show or hide pen selection panel
8	Maximize current trend
F: Help	
1	Help

Table 123 – Trend Toolbar

Time/date settings control buttons

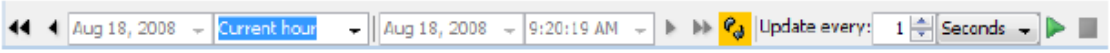


Figure 104 – Time/date settings control buttons

Time interval:

- Last minute
- Last hour
- Last day
- Last week

With one of these options, you select a "Last" period. If you click the “trend refresh” button the data of this "Last" period will be retrieved and shown.

- Current minute
- Current hour
- Current day
- Current week
- Current month
- Current year

With one of these options, you select a "Current" period. If you click the “trend refresh” button the data of this "Current" period will be retrieved and shown.

Example:

- 12:00 AM
- 12:30 AM
- 13:00 AM
- ...
- ...
- 10:30 PM
- 11:00 PM
- 11:30 PM

With one of these time settings, you can set a period from which you want to retrieve the data. If you click the “trend refresh” button the data of this period will be retrieved and shown. You cannot use the play button.

Pen Panel

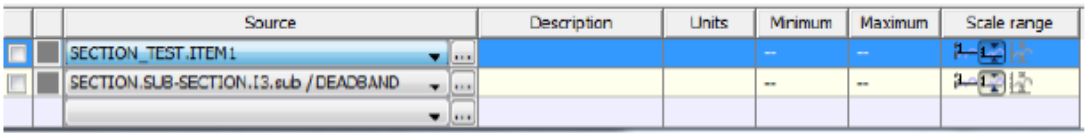


Figure 105 – Pen Panel Controls example

In the pen-panel (the area at the bottom of the application main frame), click in the table cell containing the text “…”. The table-cell will change contents and a small button with dots on it, will be rendered at the right side of the table cell.

Click on this small button in the table cell. This will cause the item selection dialog to appear, in which all currently defined FAST/TOOLS items or sub-items, attributes and history storage groups are rendered in a tree-like hierarchical structure.

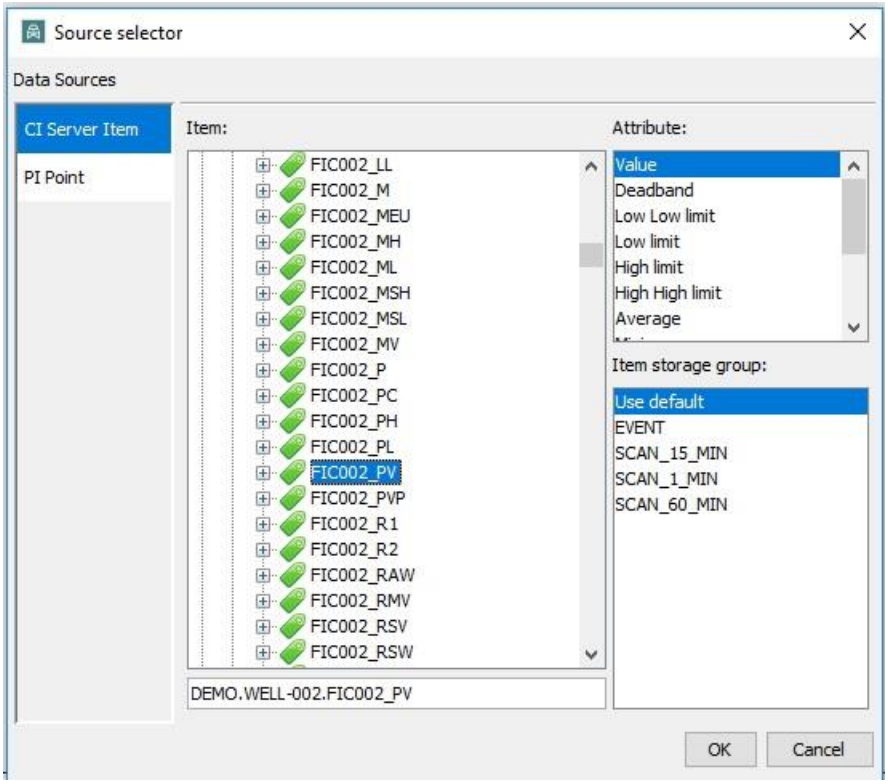


Figure 106 – Pen Selection pop-up example

Navigate in this tree to find the item that has been configured. Once found, click on the item, and press the OK button to select it (a short-cut for doing this is double-clicking on the item). The item selection dialog disappears, and the name of the selected item is depicted in the pen-panel. You can also select attributes or history storage groups.

30.2.6 Alarm Display Relations

From the alarm display the user can select an alarm and open the (process)display related to that item. In CI Server this is so-called alarm-jump functionality. In the Master Tag List, the display can be specified per item.

30.2.7 HMI Graphic Symbols

Refer Appendix-5 HMI Graphic Symbols

Appendix -1 SIS Typical test Report

Appendix -2 FGS Typical test Report

Appendix -3 List of Supported Devices

Appendix -4 PRM user groups and Account configuration

Appendix -5 HMI Graphic Objects

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
Document Title:	**TEST REPORT FOR SIS TYPICALS**	Sheet 1 of 95 Date: 06/JAN/2025 Rev: 02

TEST REPORT FOR SIS TYPICALS

Revision	**:**	**02**
Date	**:**	**06-JAN-2025**
Test Specification Prepared by	**:**	**DAMINI.D**
Tested by	**:**	**NANDAGOPALK.S.**
Verified by	**:**	**MANOJKUMAR.P**

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
Document Title:	**TEST REPORT FOR SIS TYPICALS**	Sheet 2 of 95 Date: 06/JAN/2025 Rev: 02

Revision History

Rev	Date	Revision Details / Remarks
00	05-JULY-2024	First Issue after Typical Test
01	08-OCT-2024	Accepted for Construction
02	06-JAN-2025	Accepted for Construction

List of SIS Software Typical

SYSTEM	SL. NO	Typical Name	Description	Revision			
				00	01	02	03
SIS	1	EDI	Energize to trip without LM	X	X		
	2	EDI_LM	Energize to trip with LM	X	X		
	3	DDI	De-energize to trip without LM	X	X		
	4	DDI_LM	De-energize to trip with LM	X	X		
	5	SAI	SIS Analog input with HH/LL trip	X	X		
	6	UZGRP	SIS UZ group with 10 inputs with First Out	X			
	7	UZRST	SIS Reset for UZ group	X			
	8	SDV_1	SDV VLV Position FB	X			
	9	BDV	BDV VLV Position FB	X	X	X	
	10	AOS	SIS Auto Override function	X			
	11	TOF	Timer Over Function		X		

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
Document Title:	**TEST REPORT FOR SIS TYPICALS**	Sheet 3 of 95 Date: 06/JAN/2025 Rev: 02

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1 EDI

Digital input signal for normally open type of inputs without Line Monitoring (EDI)

1.1 PURPOSE

This function is used to process the normally open digital input signal without Line Monitoring.

Functionality:

The EDI function block has the following main functions:

- Trip management with alarming function.
- Optional maintenance override functionality.

The functions of the EDI typical are shown below. This typical is used for normally open digital trip initiator inputs based upon energize to trip function without line monitoring function. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. The typical has an alarm and trip output. When the input becomes energized the output will be tripped and will remain tripped until the input value becomes de-energized again. The trip output will be used in the SIS application logic and the status will be indicated on the OWS. MOS shall be enabled from the OWS.

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1.2 LOGIC DIAGRAMS

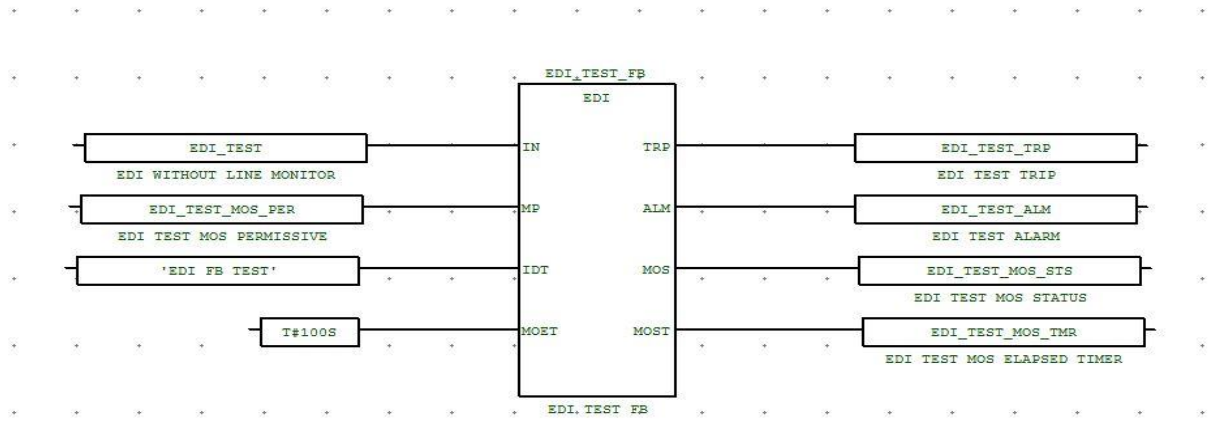

Fig 1 User Defined Function Block EDI

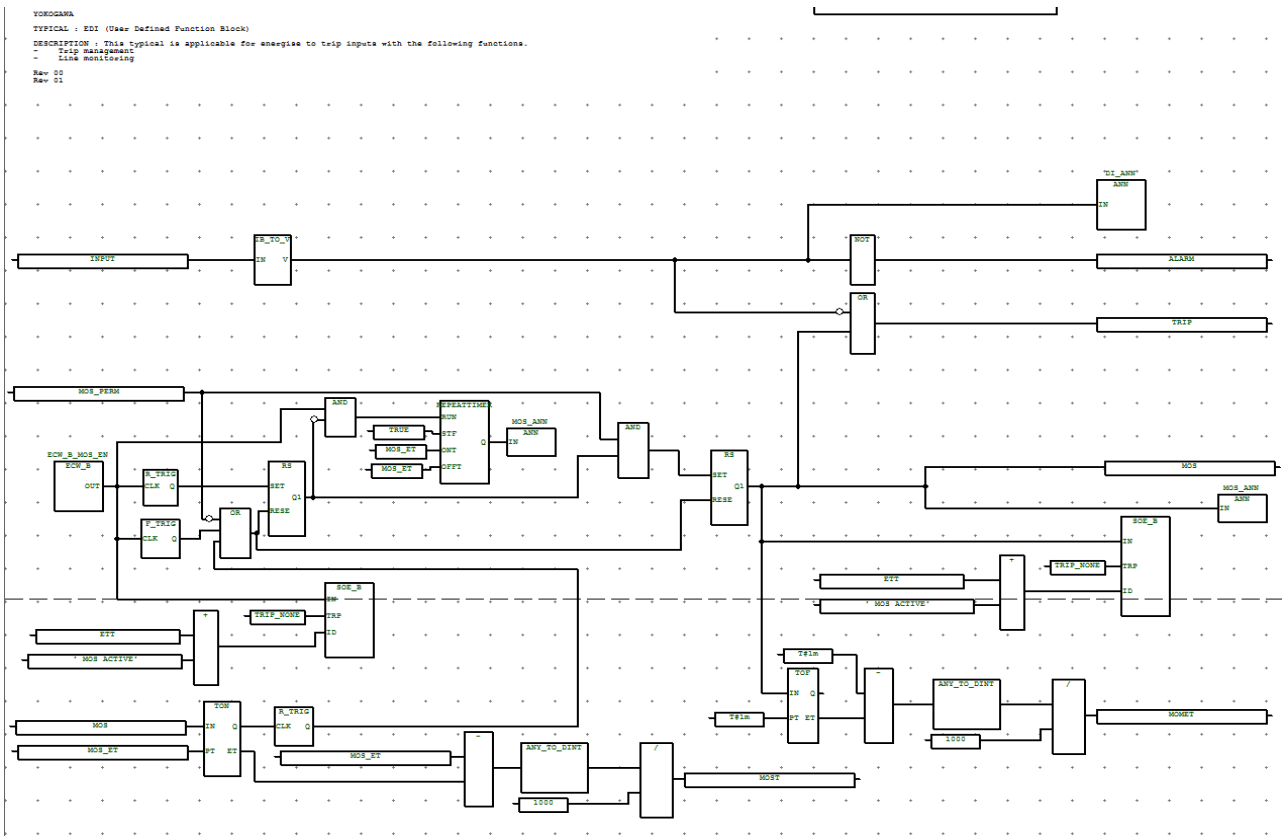

Fig 2 Logic Diagram for Typical EDI

1.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	IN is the Field Digital Input	FALSE
MP	MP is the Maintenance Override Enable	FALSE
IDT	IDT is the comment for the “SOE”	"XXXXXXXXX"
MOET	MOET is the MOS Elapse Time	T#100s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	TRP is the Trip Output	TRUE
ALM	ALM is the Alarm Status	TRUE
MOS	MOS is the MOS status	FALSE
MOST	MOST is the MOS Elapsed Time	100

1.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			Trip Output TRP	Logic Alarm ALM	MOS Status MOS
TC#1	IN.Value = TRUE, MP = FALSE	IN.Value = TRUE, MP = FALSE	FALSE	FALSE	N/A
TC#2	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	TRUE	FALSE	TRUE
TC#3	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	FALSE	FALSE	FALSE
TC#4	IN.Value = TRUE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = TRUE, MP = FALSE, MOS ENABLE = TRUE	FALSE	FALSE	FALSE

Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

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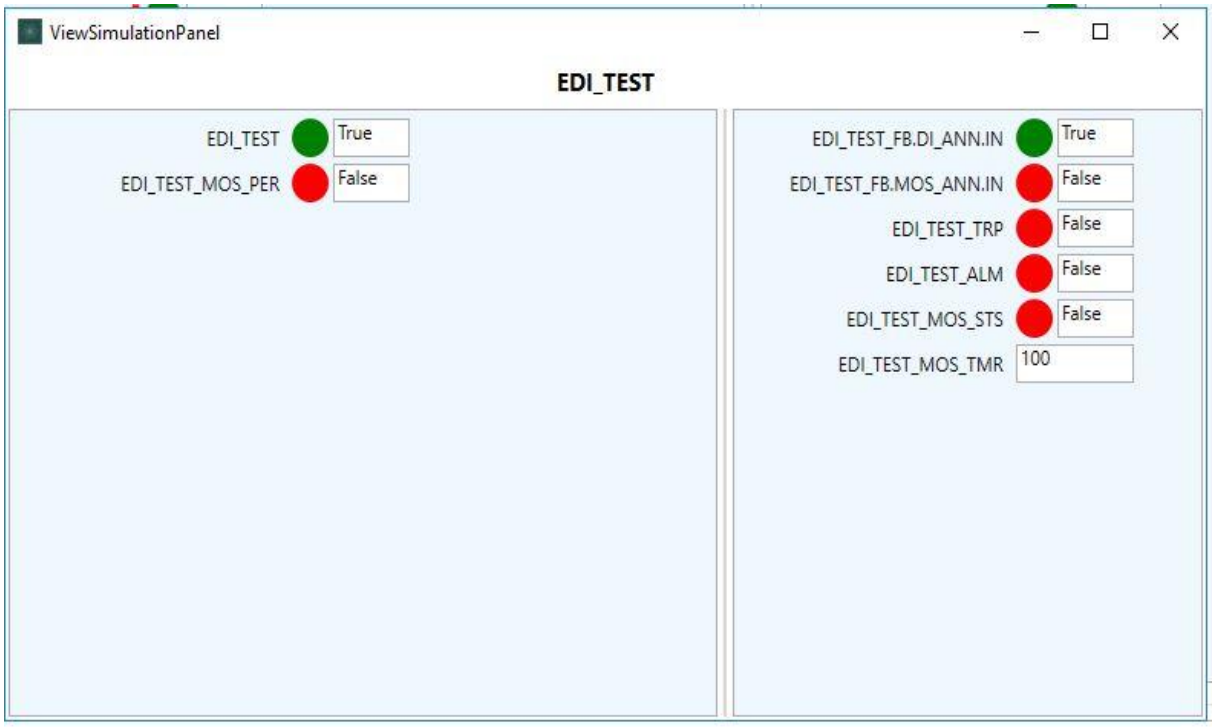
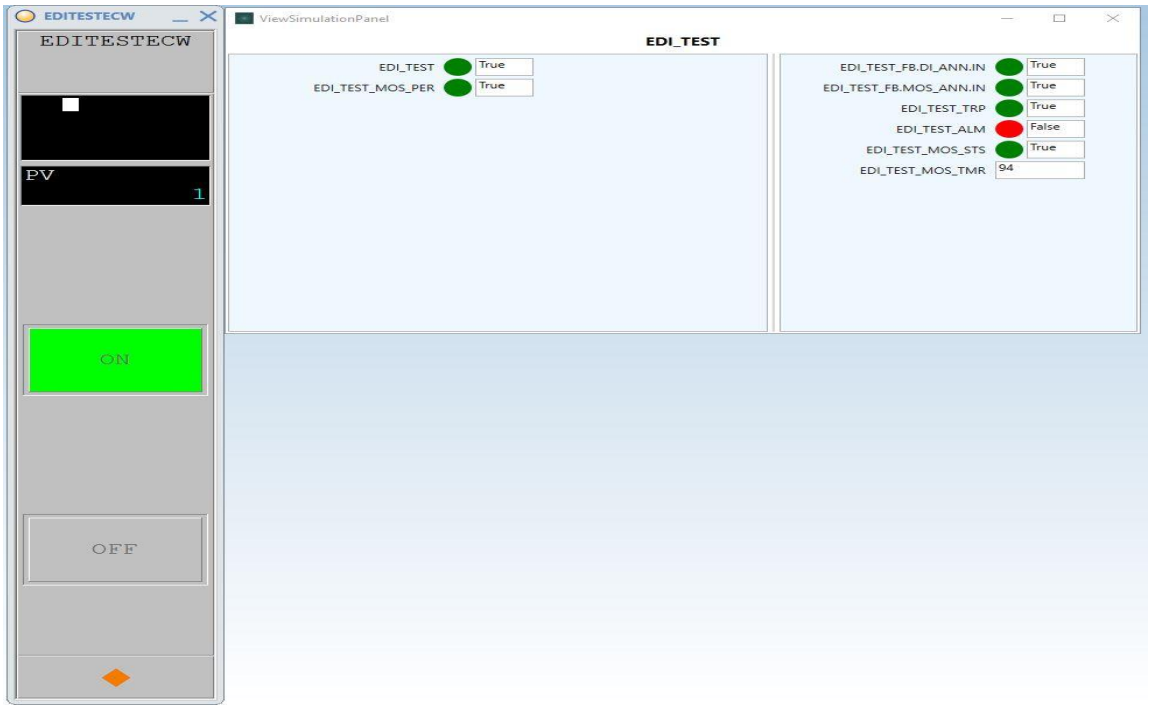
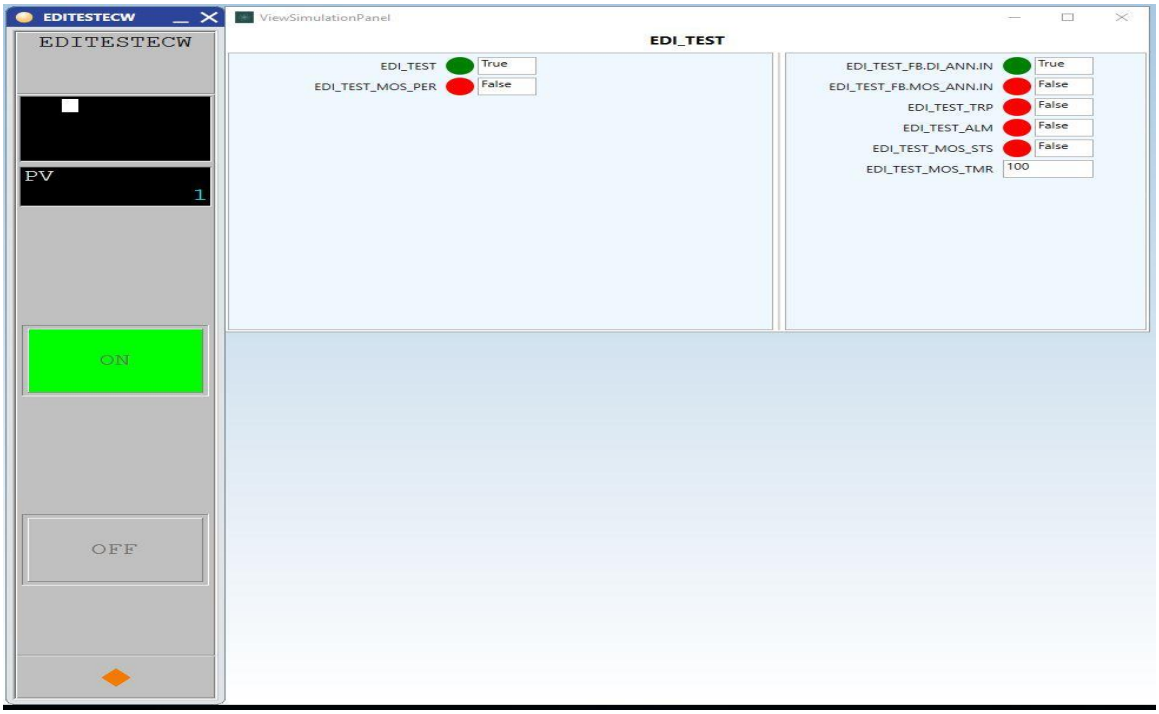
1.5 TEST RESULTS:



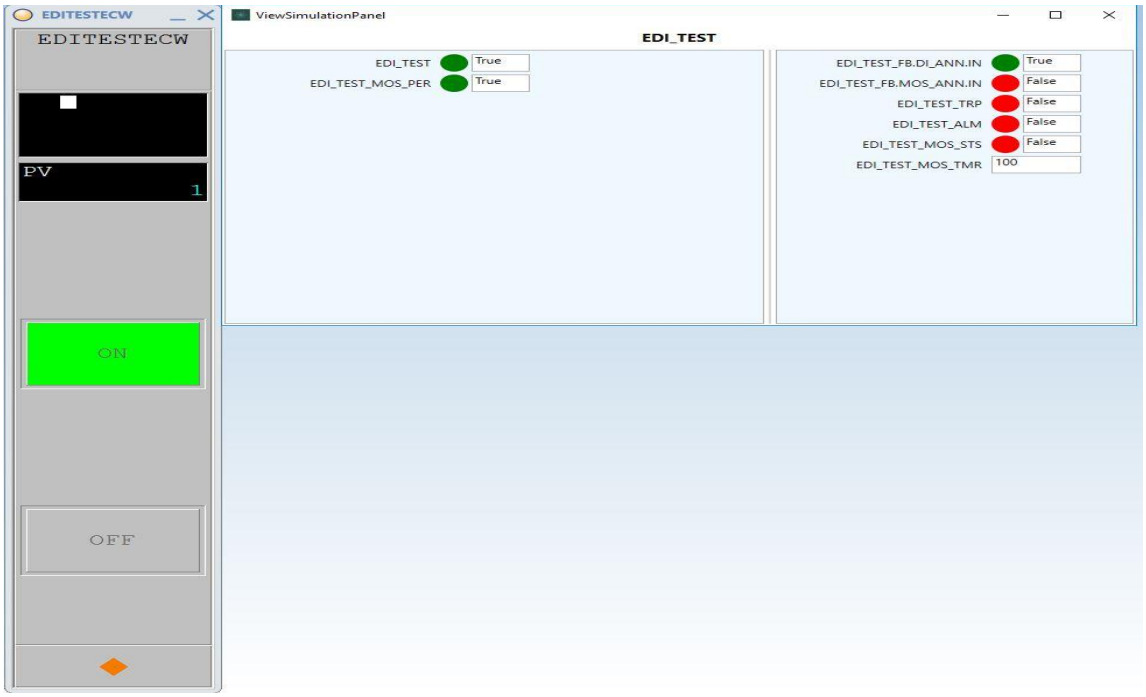
TC#1 : IN.Value = TRUE,MP = FALSE



TC#2 : IN.Value = TRUE,MP = TRUE,MOS ENABLE = TRUE,MOS Elapse time not Elapsed

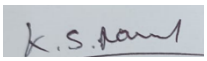


TC#3 : IN.Value = TRUE,MP = TRUE,MOS ENABLE = TRUE,MOS Elapse time Elapsed



TC#4 : IN.Value = TRUE,MP = FALSE,MOS ENABLE = TRUE

1.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

2 EDI_LM

Digital input signal for normally open type of inputs with Line Monitoring (EDI_LM)

2.1 PURPOSE

This function is used to process the normally open digital input signal with Line Monitoring.

Functionality:

The EDI_LM function block has the following main functions:

- Trip management with alarming function.
- Optional maintenance override functionality.
- Line fault detection.

The functions of the EDI typical are shown below. This typical is used for normally open digital trip initiator inputs based upon energize to trip function with line monitoring function. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. The typical has an alarm and trip output. When the input becomes energized the output will be tripped and will remain tripped until the input value becomes de-energized again. The trip output will be used in the SIS application logic and the status will be indicated on the OWS. MOS shall be enabled from the OWS.

2.2 LOGIC DIAGRAMS

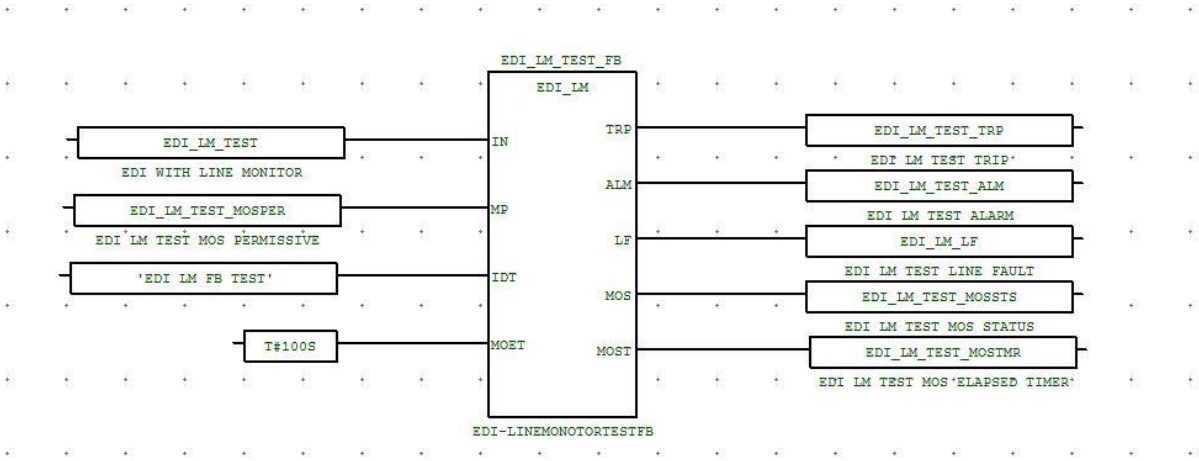


Fig 3 User Defined Function Block EDI_LM

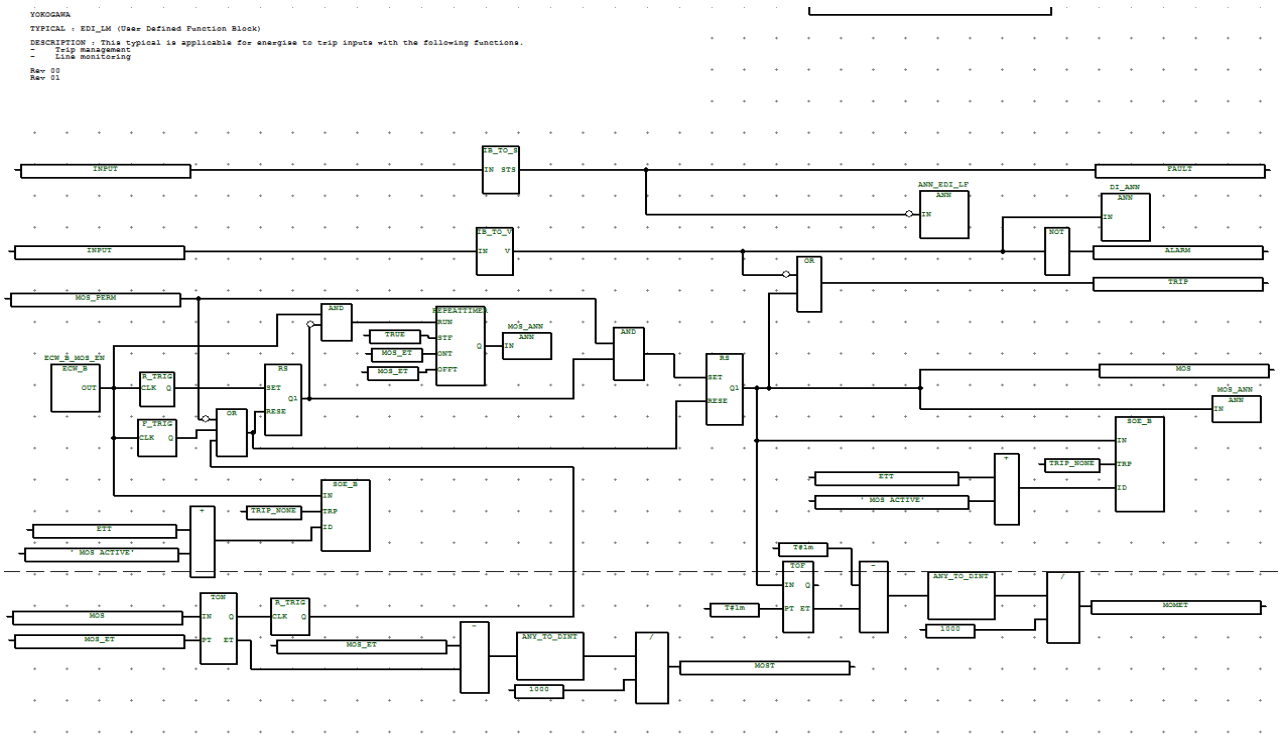


Fig 4 Logic Diagram for Typical EDI_LM

2.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	IN is the Field Digital Input	FALSE
MP	MP is the Maintenance Override Enable	FALSE
IDT	IDT is the comment for the “SOE”	"XXXXXXXXX"
MOET	MOET is the MOS Elapse Time	T#100s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	TRP is the Trip Output	TRUE
ALM	ALM is the Alarm Status	TRUE
LF	LF is the Line Fault Alarm	TRUE
MOS	MOS is the MOS status	FALSE
MOST	MOST is the MOS Elapsed Time	100

2.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results			
			Trip Output TRP	Logic Alarm ALM	MOS Status MOS	Line Fault LF
TC#1	IN.Value = FALSE, IN.Status = FALSE, MP = FALSE	IN.Value = FALSE, IN.Status = FALSE, MP = FALSE	N/A	N/A	N/A	FALSE
TC#2	IN.Value = TRUE, IN.Status = TRUE, MP = FALSE	IN.Value = TRUE, IN.Status = TRUE, MP = FALSE	FALSE	FALSE	N/A	N/A
TC#3	IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	TRUE	FALSE	TRUE	N/A
TC#4	IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	FALSE	FALSE	FALSE	N/A
TC#5	IN.Value = TRUE, IN.Status = TRUE, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = TRUE, IN.Status = TRUE, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE	FALSE	FALSE	FALSE	N/A

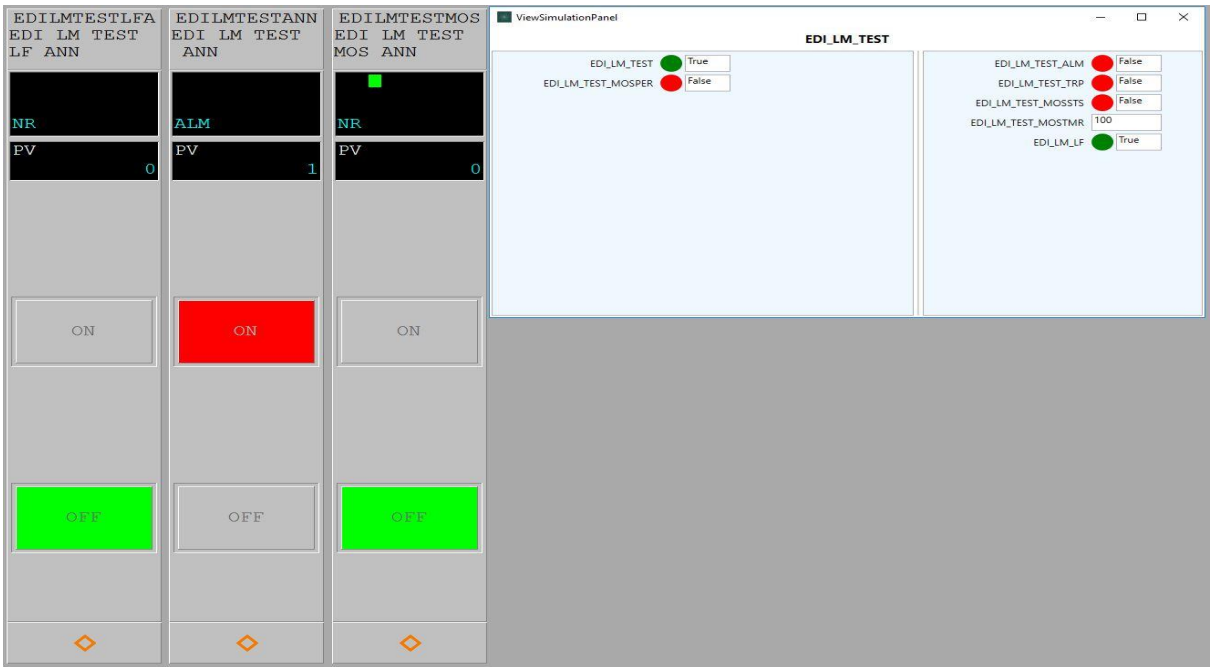
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

2.5 TEST RESULTS:



TC#1 : IN.Value = FALSE, IN.Status = FALSE,MP = FALSE



TC#2 : IN.Value = TRUE, IN.Status = TRUE, MP = FALSE

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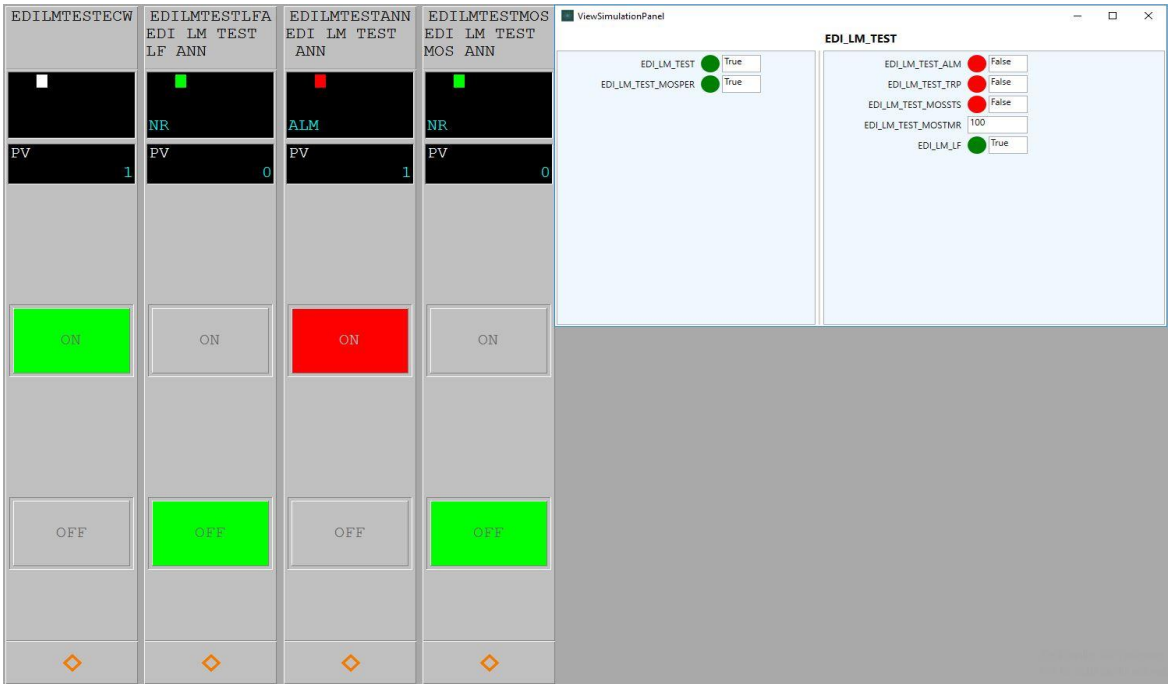
TC#3 : IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE,
MOS Elapse time not Elapsed



TC#4 : IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE,
MOS Elapse time Elapsed

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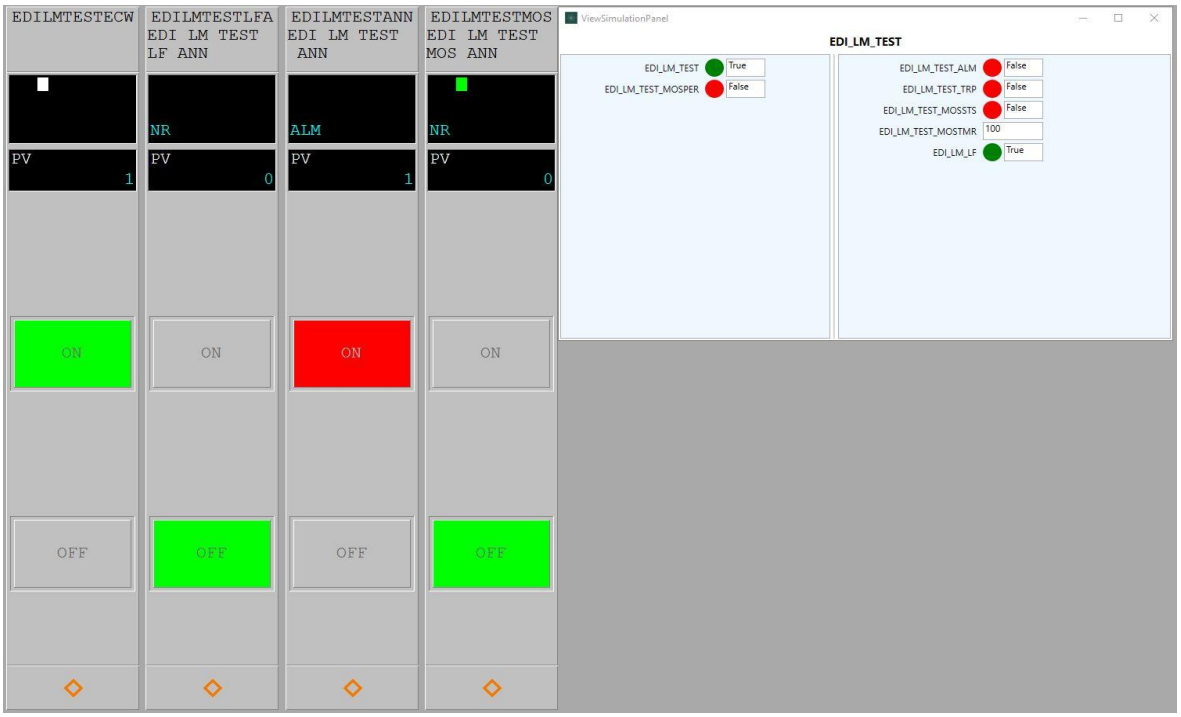
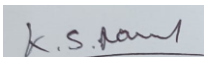


TC#5 : IN.Value = TRUE, IN.Status = TRUE, IN.Status = TRUE, MP = FALSE,
MOS ENABLE = TRUE

2.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

3 DDI

Digital input signal for normally close type of inputs without Line Monitoring (DDI)

3.1 PURPOSE

This function is used to process the normally close digital input signal without Line Monitoring.

Functionality:

The DDI function block has the following main functions:

- Trip management.
- Optional maintenance override function.

The functions of the DDI typical are shown below. This typical is used for digital inputs based upon de-energize to trip function. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. This typical is applicable for normally closed field contact. The typical has a trip output. In case the input becomes de-energized the output will be tripped and will remain de-activated until the input value becomes energized again. The trip output status alarm will be indicated on OWS. MOS shall be enabled from the OWS.

3.2 LOGIC DIAGRAMS

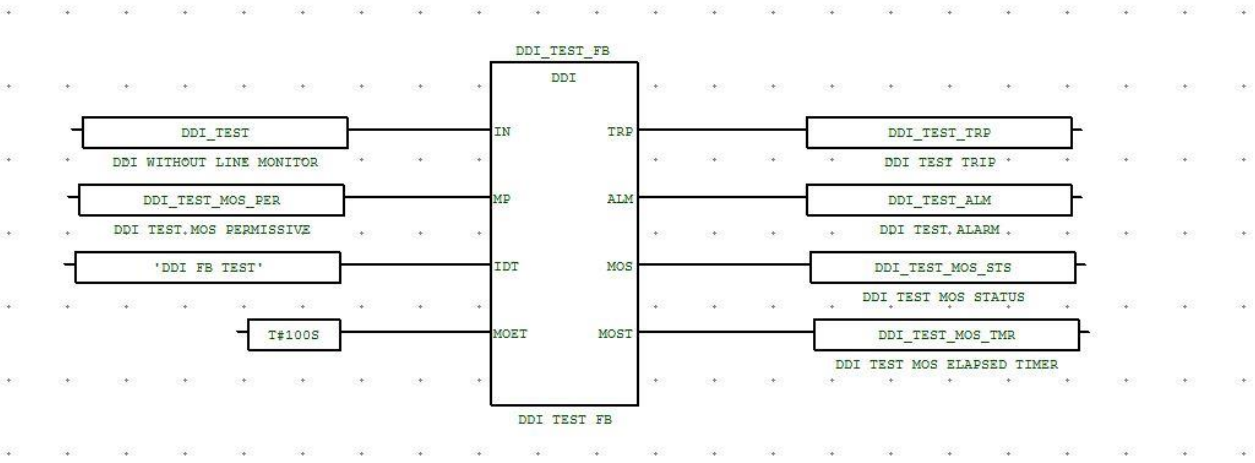


Fig 5 User Defined Function Block DDI

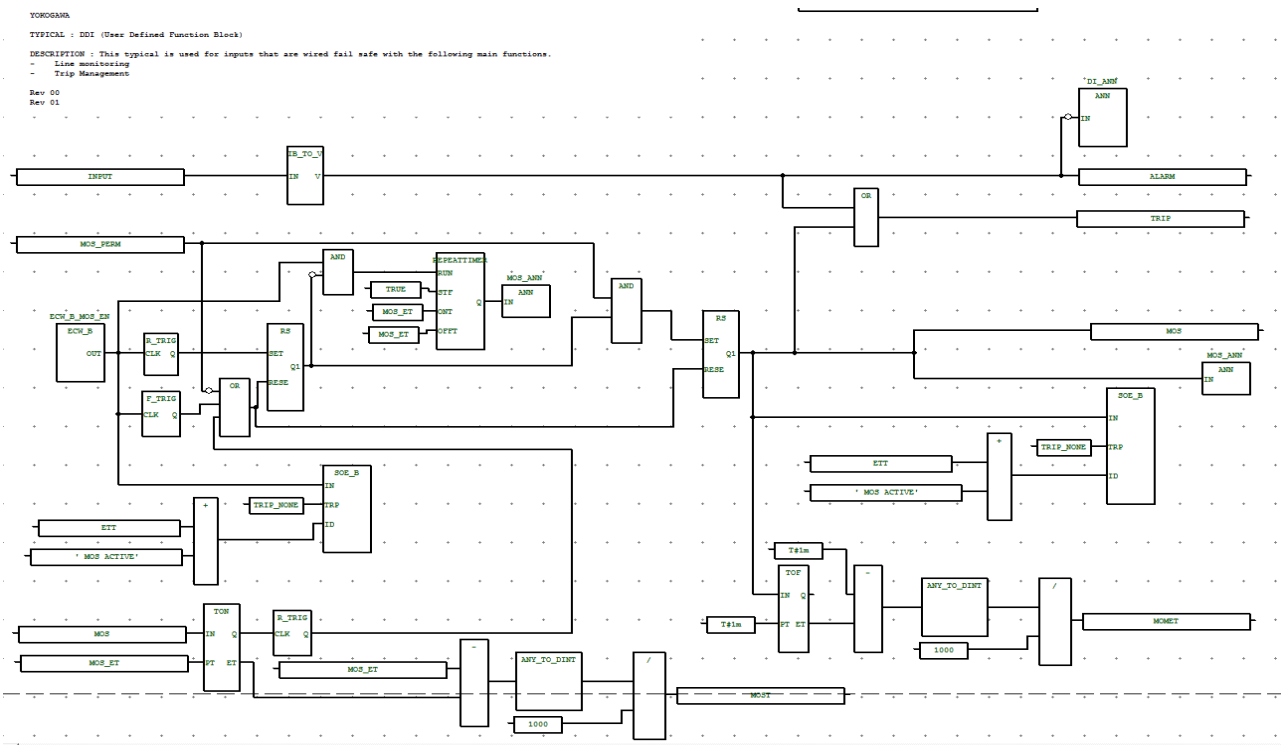


Fig 6 Logic Diagram for Typical DDI

3.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	IN is the Field Digital Input	TRUE
MP	MP is the Maintenance Override Enable	FALSE
IDT	IDT is the comment for the “SOE”	"XXXXXXXXX"
MOET	MOET is the MOS Elapse Time	T#100s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	TRP is the Trip Output	TRUE
ALM	ALM is the Alarm Status	TRUE
MOS	MOS is the MOS status	FALSE
MOST	MOST is the MOS Elapsed Time	100

3.4 TEST CASES VS EXPECTED RESULTS

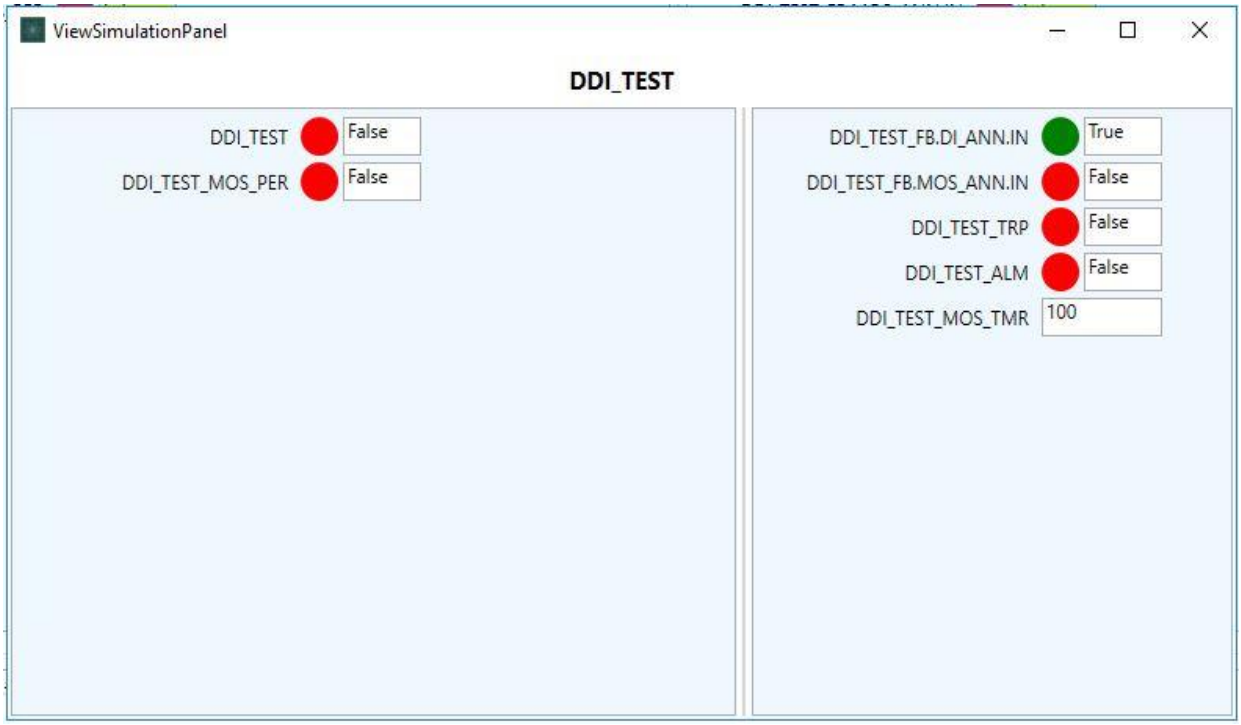
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			Trip Output TRP	Logic Alarm ALM	MOS Status MOS
TC#1	IN.Value = FALSE, MP = FALSE	IN.Value = FALSE, MP = FALSE	FALSE	FALSE	N/A
TC#2	IN.Value = FALSE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value = FALSE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	TRUE	FALSE	TRUE
TC#3	IN.Value = FALSE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = FALSE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	FALSE	FALSE	FALSE
TC#4	IN.Value = FALSE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = FALSE, MP = FALSE, MOS ENABLE = TRUE	FALSE	FALSE	FALSE

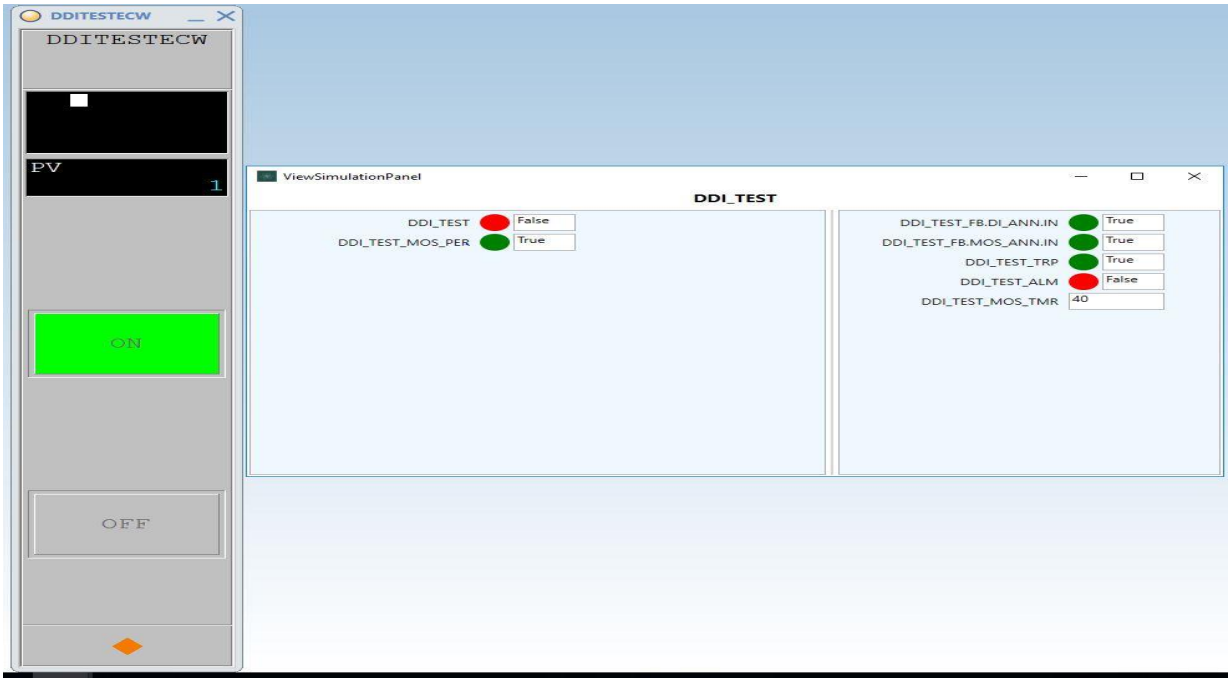
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

3.5 TEST RESULTS:



TC#1 : IN.Value = FALSE, MP = FALSE



TC#2 : IN.Value = FALSE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed

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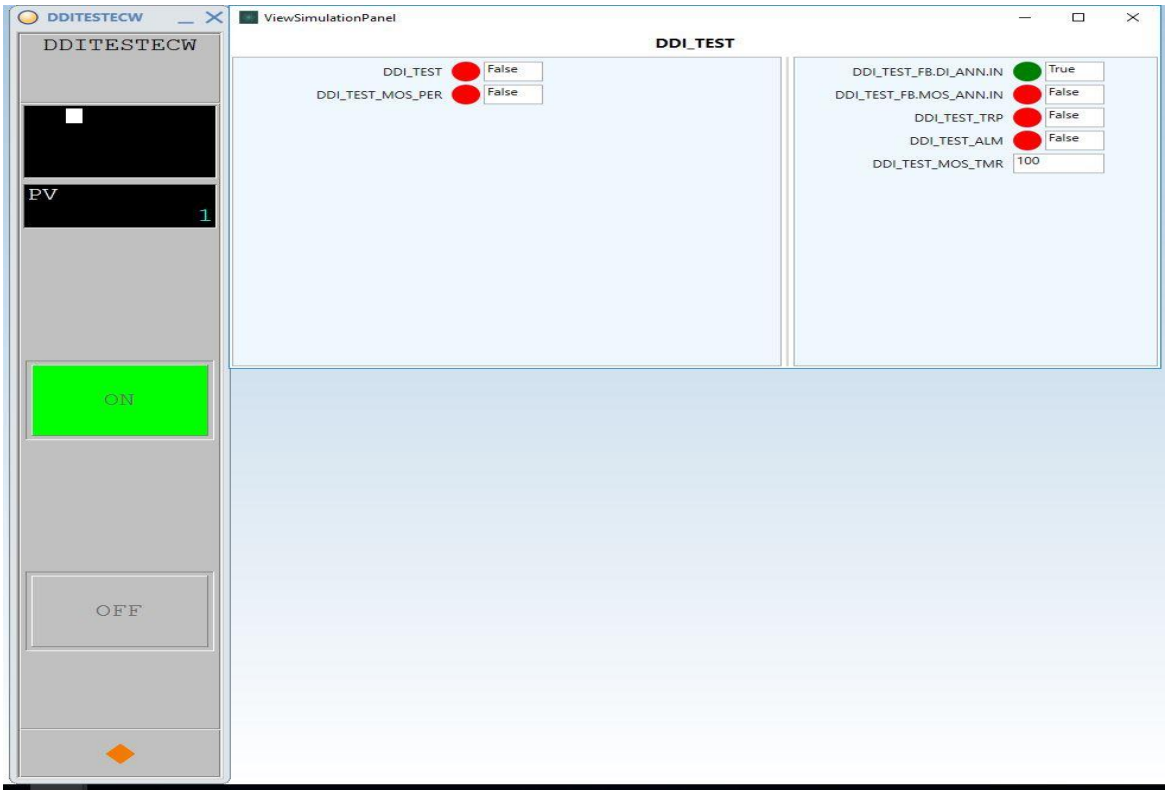
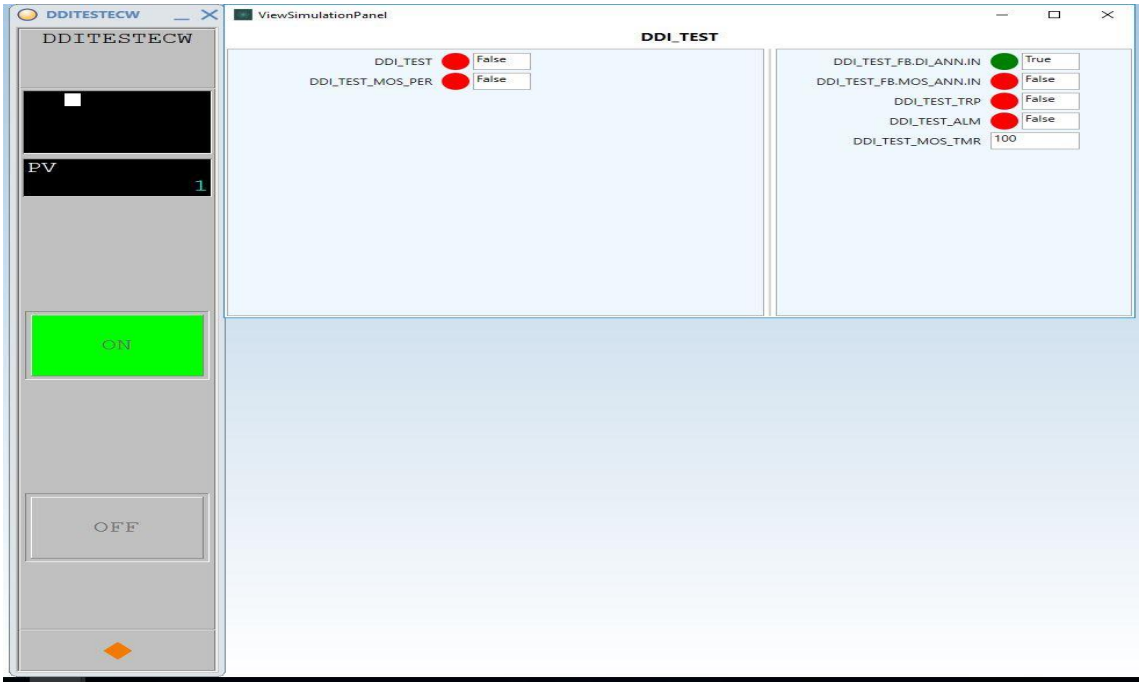
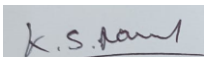


TC#3 : IN.Value = FALSE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed



TC#4 : IN.Value = FALSE, MP = FALSE, MOS ENABLE = TRUE

3.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

4 DDI_LM

Digital input signal for normally close type of inputs with Line Monitoring (DDI_LM)

4.1 PURPOSE

This function is used to process the normally close digital input signal with Line Monitoring.

Functionality:

The DDI function block has the following main functions:

- Trip management.
- Line fault detection.
- Optional maintenance override function.

The functions of the DDI typical are shown below. This typical is used for digital inputs based upon de-energize to trip function which require line monitoring. The typical has optional maintenance override functionality to override the trip function. The alarm output is independent of the MOS functionality.

The field signal for the typical is a digital input. This typical is applicable for normally closed field contact. The typical has a line fault alarm and trip output. In case the input becomes de-energized the output will be tripped and will remain de-activated until the input value becomes energized again. The trip output status and line fault alarm will be indicated on OWS. MOS shall be enabled from the OWS.

4.2 LOGIC DIAGRAM

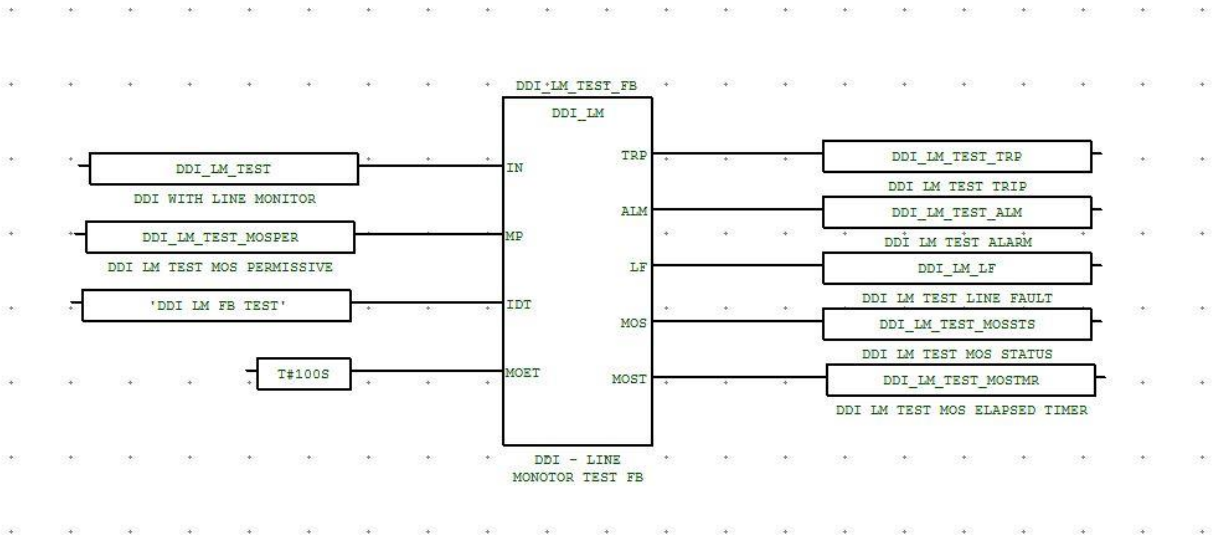


Fig 7 User Defined Function Block DDI_LM

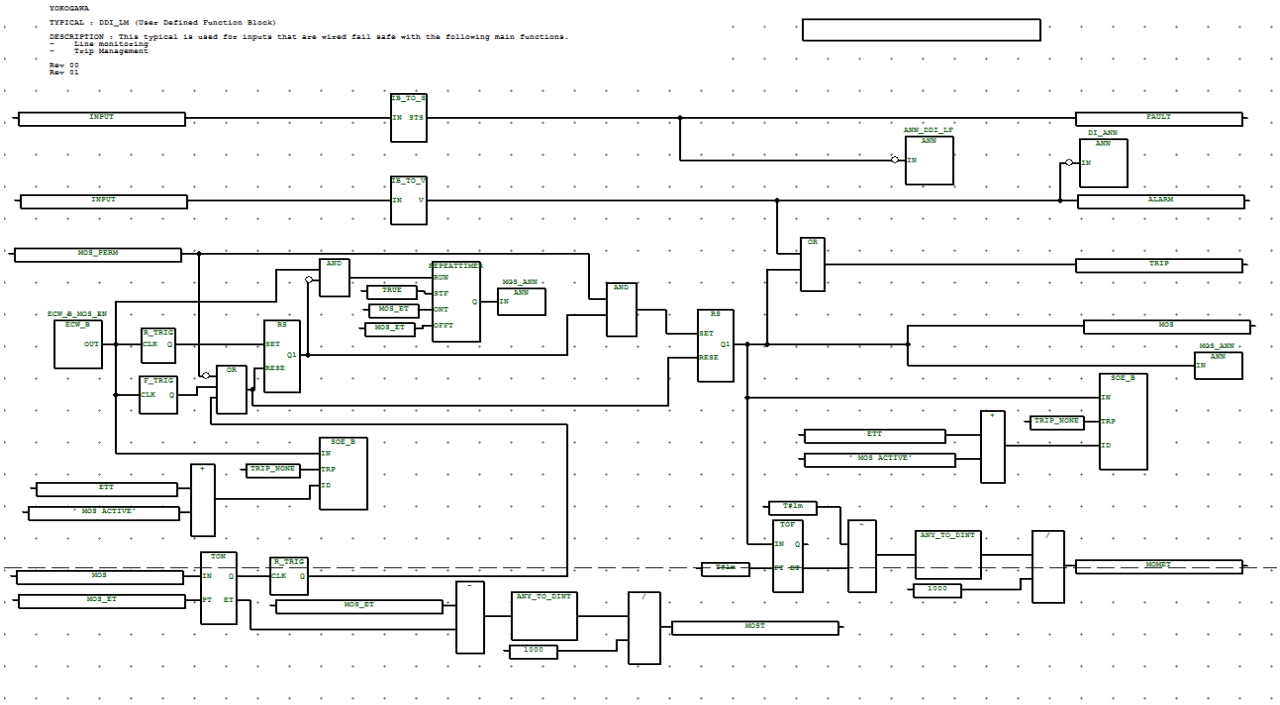


Fig 8 Logic Diagram for Typical DDI_LM

4.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	IN is the Field Digital Input	TRUE
MP	MP is the Maintenance Override Enable	FALSE
IDT	IDT is the comment for the “SOE”	"XXXXXXXXX"
MOET	MOET is the MOS Elapse Time	T#100s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	TRP is the Trip Output	TRUE
ALM	ALM is the Alarm Status	TRUE
LF	LF is the Line Fault Alarm	TRUE
MOS	MOS is the MOS status	FALSE
MOST	MOST is the MOS Elapsed Time	100

4.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results			
			Trip Output TRP	Logic Alarm ALM	MOS Status MOS	Line Fault LF
TC#1	IN.Value = TRUE, IN.Status = FALSE, MP = FALSE	IN.Value = TRUE, IN.Status = FALSE, MP = FALSE	N/A	N/A	N/A	FALSE
TC#2	IN.Value = FALSE, IN.Status = TRUE, MP = FALSE	IN.Value = FALSE, IN.Status = TRUE, MP = FALSE	FALSE	FALSE	N/A	N/A
TC#3	IN.Value = FALSE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value = FALSE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	TRUE	FALSE	TRUE	N/A
TC#4	IN.Value = FALSE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = FALSE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	FALSE	FALSE	FALSE	N/A
TC#5	IN.Value = FALSE, IN.Status = TRUE, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = FALSE, IN.Status = TRUE, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE	FALSE	FALSE	FALSE	N/A

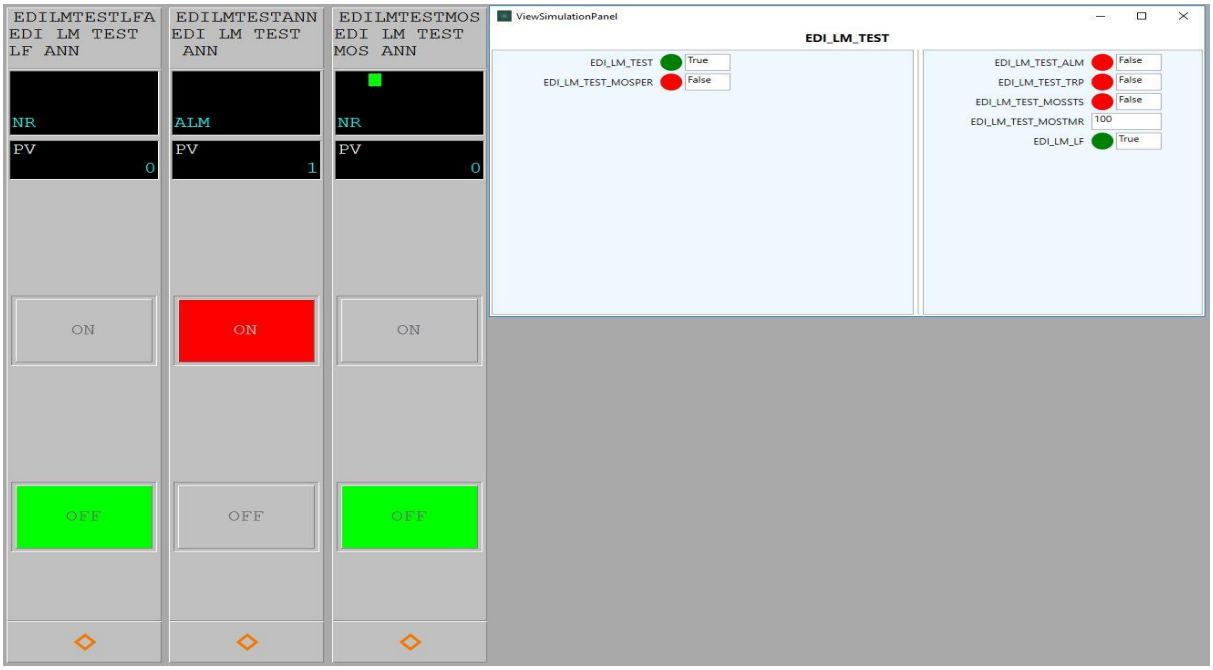
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

4.5 TEST RESULTS:



TC#1 : IN.Value = FALSE, IN.Status = FALSE,MP = FALSE



TC#2 : IN.Value = TRUE, IN.Status = TRUE, MP = FALSE

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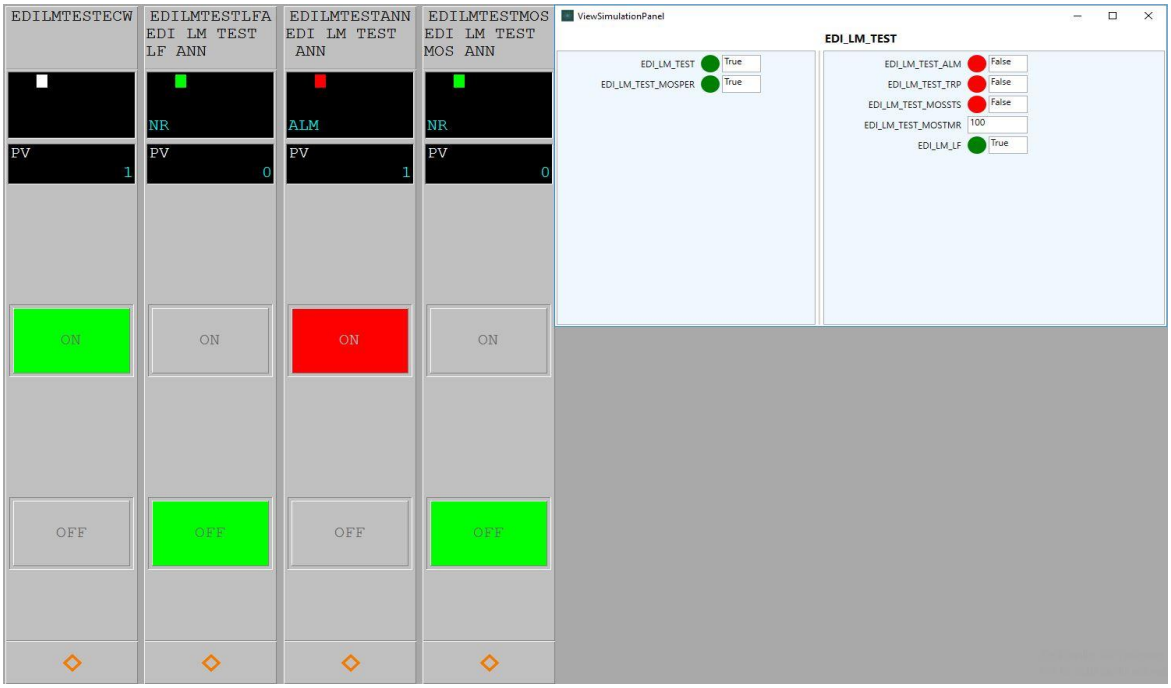
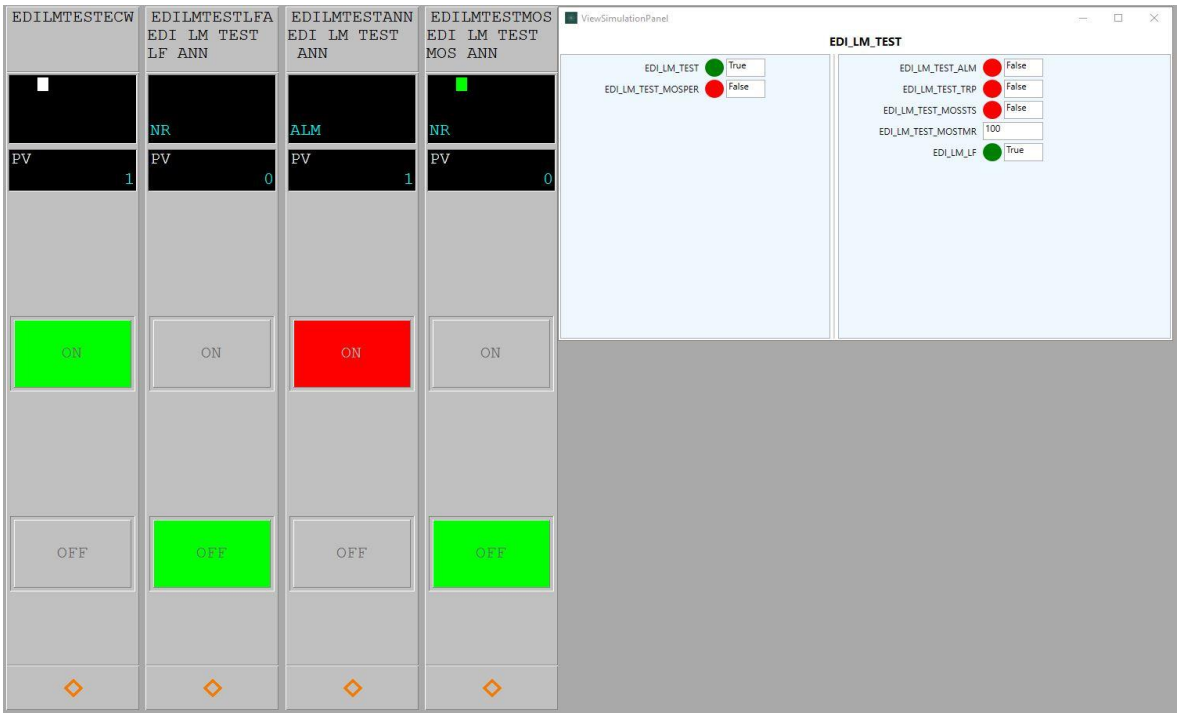
TC#3 : IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE,
MOS Elapse time not Elapsed

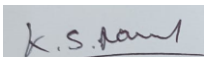


TC#4 : IN.Value = TRUE, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE,
MOS Elapse time Elapsed



TC#5 : IN.Value = TRUE, IN.Status = TRUE, IN.Status = TRUE, MP = FALSE,
MOS ENABLE = TRUE

4.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

5 SAI

SAI Function block is used to scale the Input signal to the Engineering value

5.1 PURPOSE

SAI Function block is used to scale the Input signal to the Engineering value and will generate trip signal when input value exceeds the Set points of LOW, LOW LOW, HIGH & HIGH HIGH.

Functionality:

The SAI function block has the following main functions:
• Validity check of the signal.
• Process threshold management.
• Optional functions are maintenance override and operational override functionality

This function block is used in logic applications in order to decide whether the input signal is below the Low, or above the High threshold setting. The image below gives the model for the functions specified for the SAI function block. For the threshold, an optional dead-band DB will be available (hysteresis) when changing from a trip state to a normal state.

When the input value drops below the Low Low set-point, the (LL) alarm and trip (SDL) will be set, and will remain latched until the input value rises above the Low Low set-point plus the dead-band. When the input value exceeds the High High set-point, the (HH) alarm and trip (SDH) will be set, and will remain latched until the input value falls below the High High set-point minus the dead-band.
The trip function can be overridden by the maintenance override. The alarm function is independent of the status of the maintenance override. The trip status and line fault alarm will be indicated on OWS. MOS shall be enabled from the OWS.

5.2 LOGIC DIAGRAMS

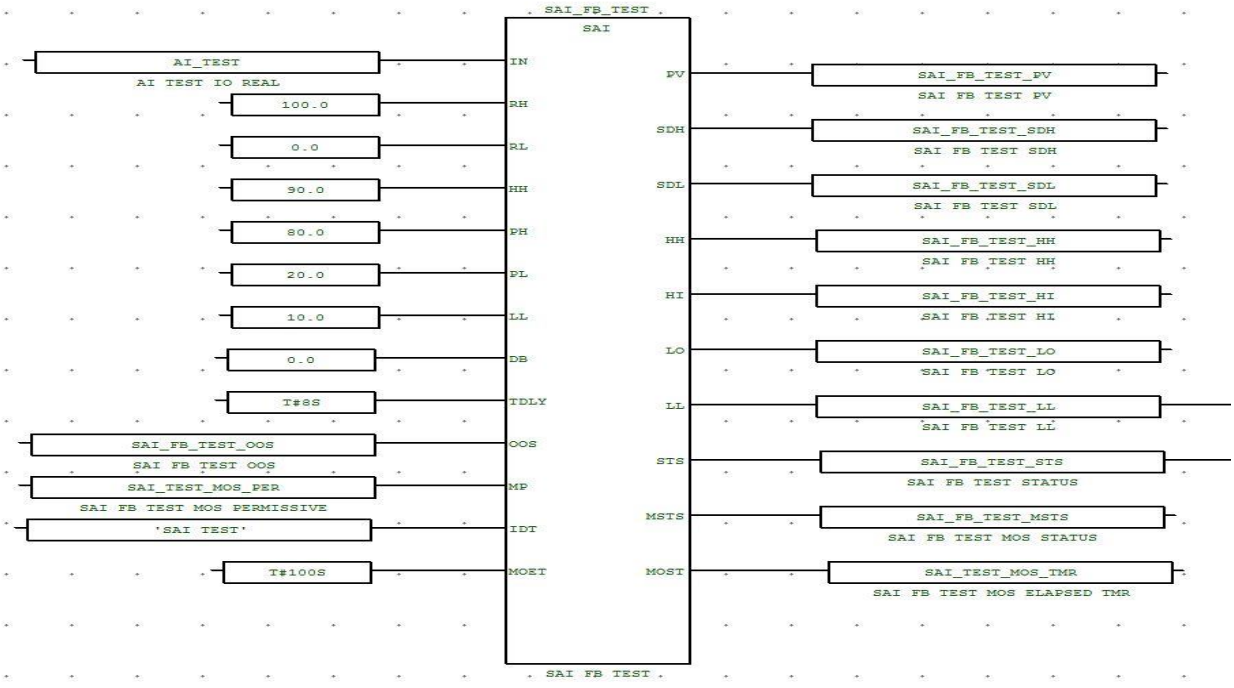


Fig 9 User Defined Function Block SAI

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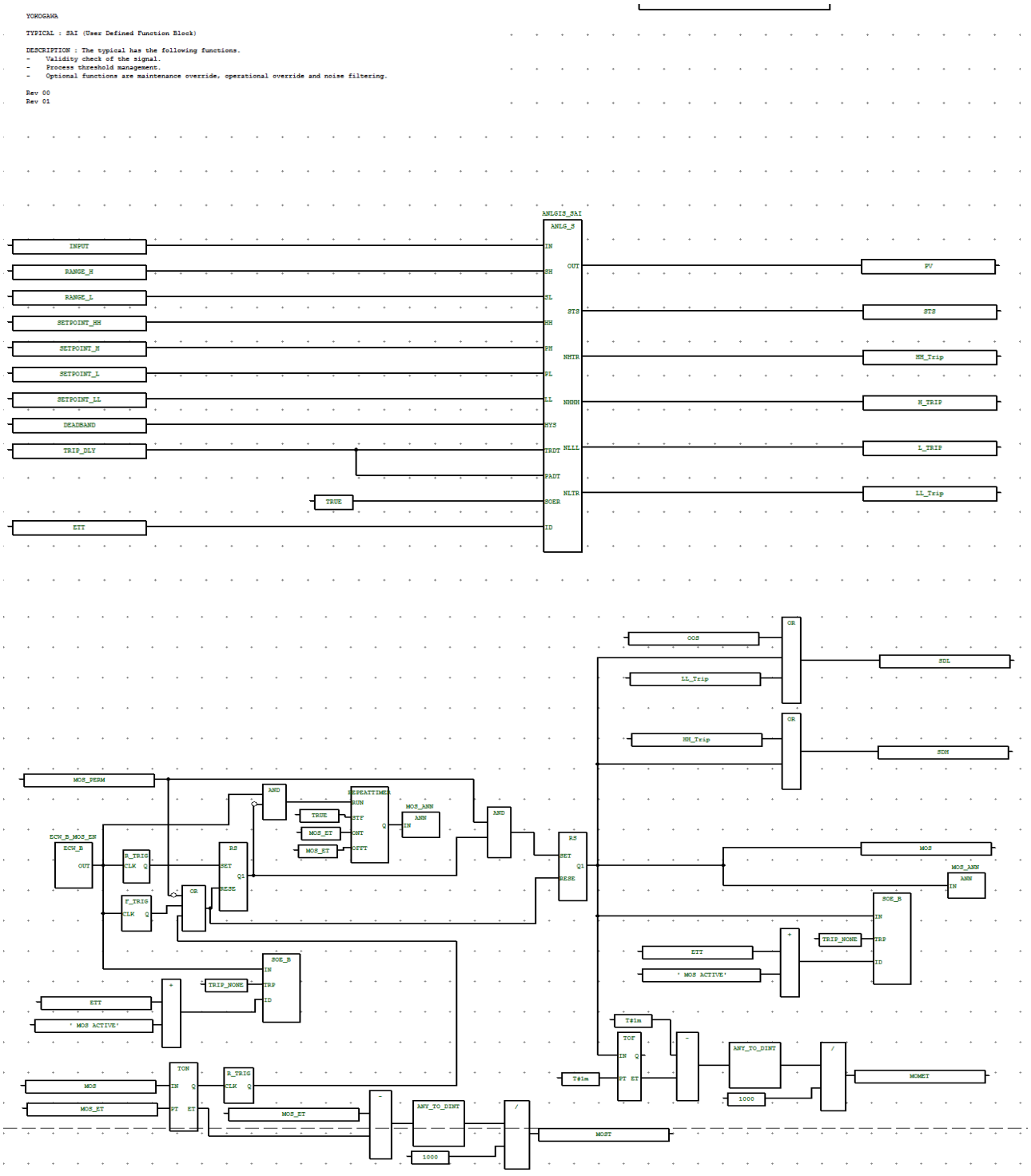


Fig 10 Logic Diagram for Typical SAI

5.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	IN is the Field Analog Input	50.00
RH	RH is the "Range High" Value	100.00
RL	RL is the "Range Low" Value	0.00
HH	HH is the Setpoint Value "High High"	90.00
PH	HH is the Setpoint Value "High "	80.00
PL	HH is the Setpoint Value "Low"	20.00
LL	HH is the Setpoint Value "Low Low"	10.00
DB	DB is the "Hysteresis" Value	0.50
TDLY	TDLY is the Trip Delay Time	T#8s
OOS	OOS is the Operational Override	FALSE
MP	MP is the Maintenance Override Enable	FALSE
IDT	IDT is the comment for the “SOE”	"XXXXXXXXX"
MOET	MOET is the MOS Elapse Time	T#100s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
PV	TRP is the Processed Digital Input Signal value	50.00
SDH	Shutdown High High Trip	TRUE
SDL	Shutdown Low Low Trip	TRUE
HH	HH is the High High Alarm Status	TRUE
HI	HI is the High Alarm Status	TRUE
LO	LO is the Low Alarm Status	TRUE
LL	LL is the Low Low Alarm Status	TRUE
STS	STS is the Transmitter Fault Alarm	TRUE
MSTS	MOS is the MOS status	FALSE
MOST	MOST is the MOS Elapsed Time	100

5.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

	Test Cases	Input Parameter /Values	Expected Results								
Test Case Number			PV	SDH	SDL	HH TRIP	HI ALARM	LO ALARM	LL TRIP	Line Fault STS	MOS Status MSTS
TC#1	IN.Value = 50.0, IN.Status = FALSE, MP = FALSE	IN.Value = 50.0, IN.Status = FALSE, MP = FALSE	50.00	N/A	N/A	N/A	N/A	N/A	N/A	FALSE	N/A
TC#2	IN.Value = 19.0, IN.Status = TRUE, MP = FALSE	IN.Value = 19.0, IN.Status = TRUE, MP = FALSE	19.00	N/A	N/A	N/A	N/A	FALSE	N/A	N/A	N/A
TC#3	IN.Value = 9.0, IN.Status = TRUE, MP = FALSE	IN.Value = 9.0, IN.Status = TRUE, MP = FALSE	9.00	N/A	FALSE	N/A	N/A	FALSE	FALSE	N/A	N/A
TC#4	IN.Value = 81.0, IN.Status = TRUE, MP = FALSE	IN.Value = 81.0, IN.Status = TRUE, MP = FALSE	81.00	N/A	N/A	N/A	FALSE	N/A	N/A	N/A	N/A
TC#5	IN.Value = 91.0, IN.Stat	IN.Value = 91.0, IN.Status =	91.00	FALSE	N/A	FALSE	FALSE	N/A	N/A	N/A	N/A

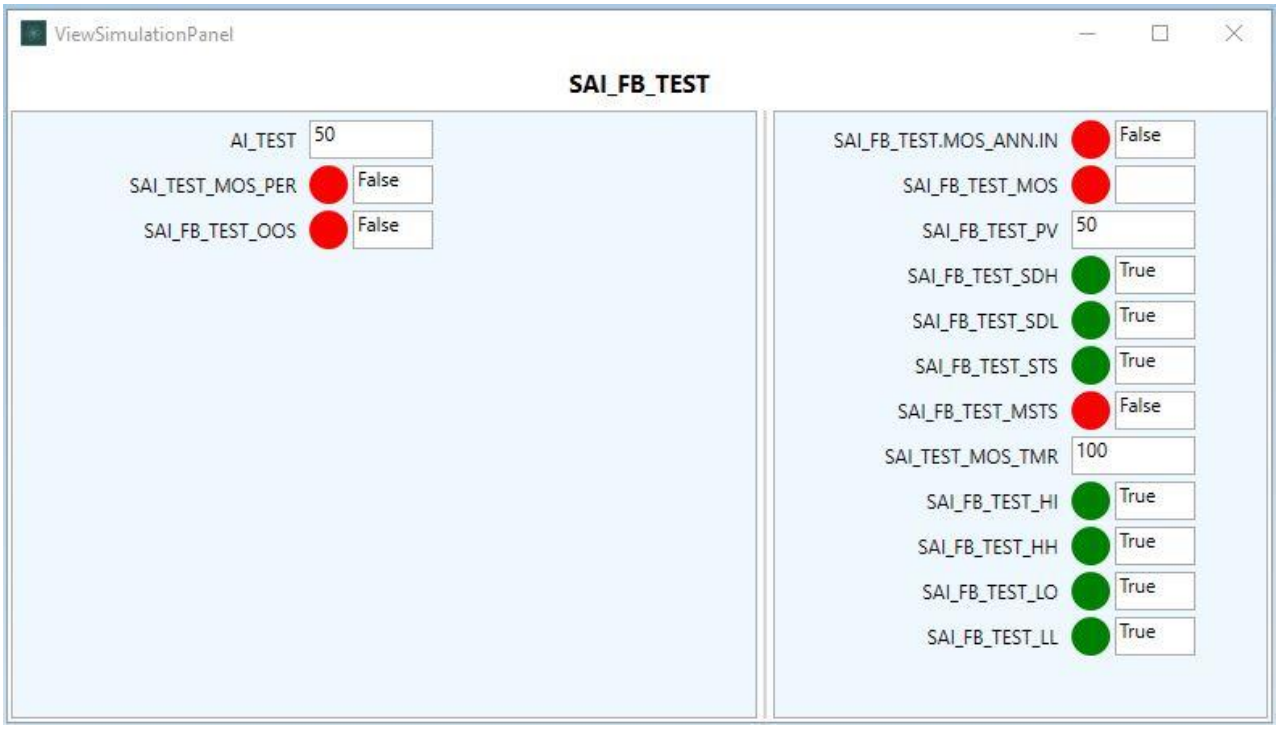
	us = TRUE, MP = FALSE	TRUE, MP = FALSE									
TC#6	IN.Value = 9.0, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value = 9.0, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	9.00	N/A	TRUE	N/A	N/A	TRUE	TRUE	N/A	TRUE
TC#7	IN.Value = 9.0, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = 9.0, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	9.00	N/A	FALSE	N/A	N/A	FALSE	FALSE	N/A	FALSE
TC#8	IN.Value = 9.0, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = 9.0, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE	9.00	N/A	FALSE	N/A	N/A	FALSE	FALSE	N/A	N/A

TC#9	IN.Value = 9.0, IN.Status = TRUE, MP = FALSE, OOS = TRUE	IN.Value = 9.0, IN.Status = TRUE, MP = FALSE, OOS = TRUE	9.00	N/A	TRUE	N/A	N/A	FALSE	FALSE	N/A	N/A

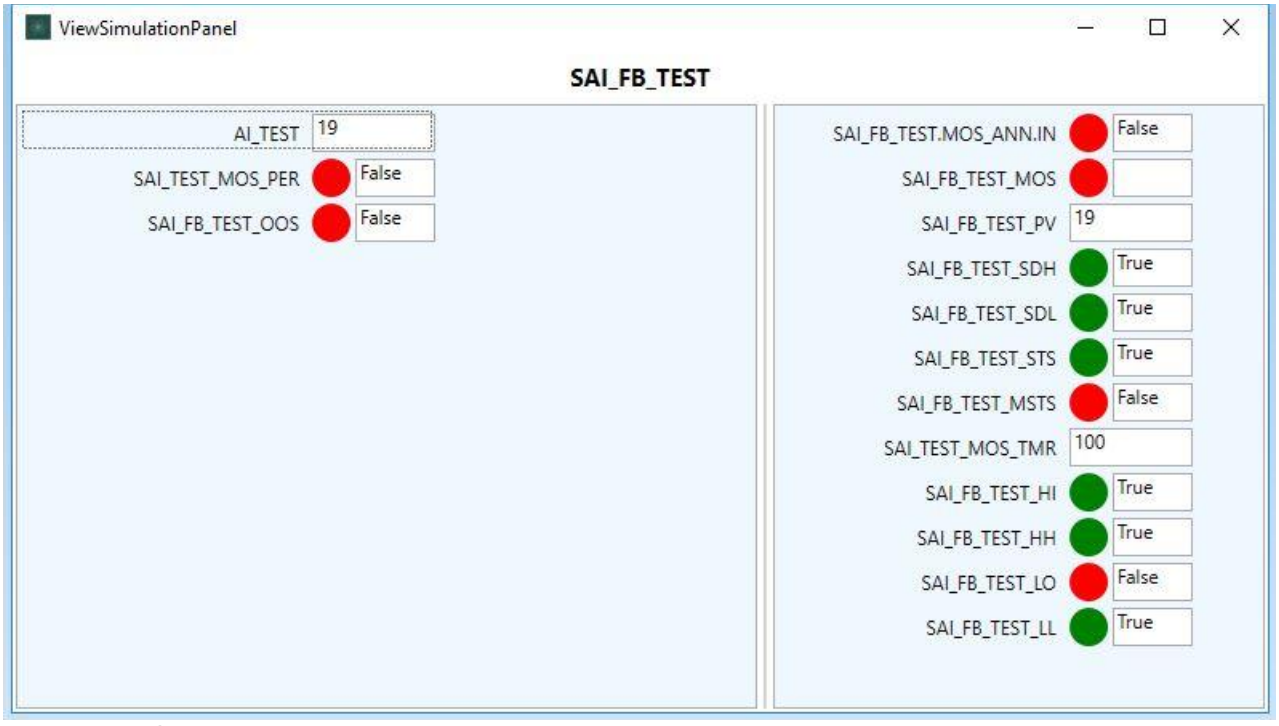
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from “True’ to ‘False’.

5.5 TEST RESULTS:



TC#1 : IN.Value = 50.0, IN.Status = FALSE, MP = FALSE



TC#2 : IN.Value = 19.0, IN.Status = TRUE, MP = FALSE

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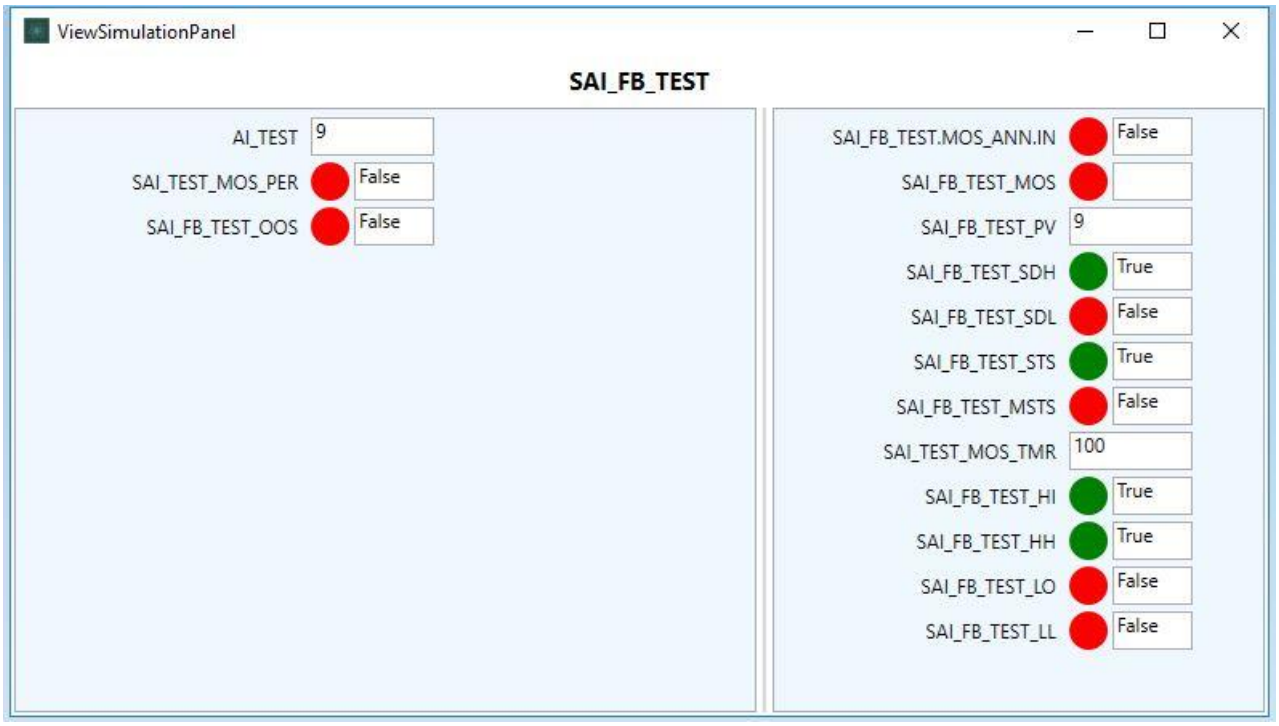
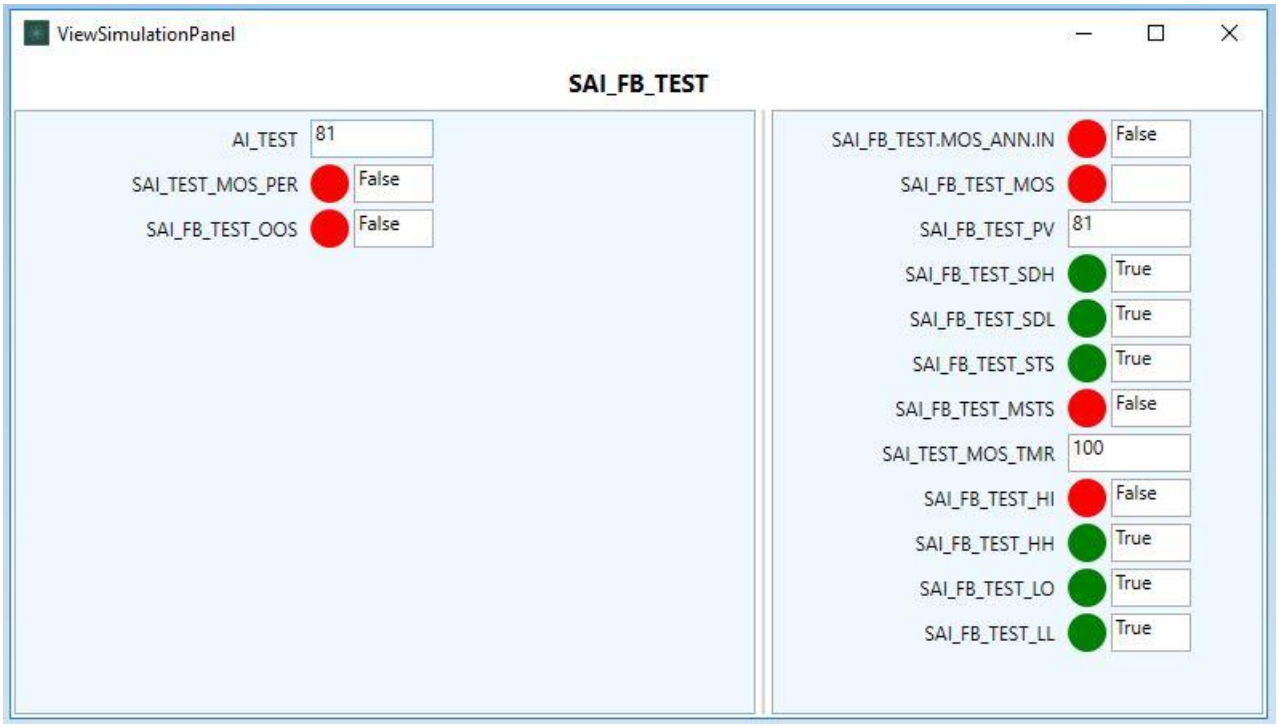
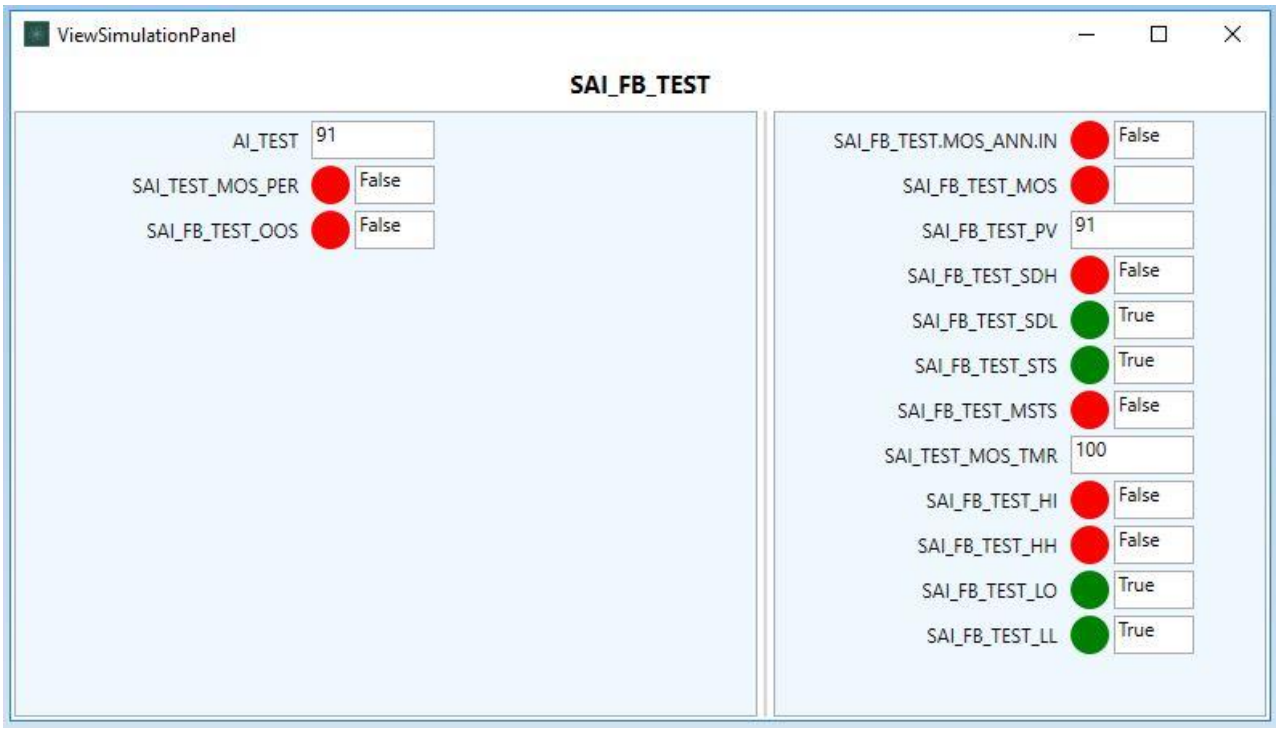


TC#3 : IN.Value = 9.0, IN.Status = TRUE, MP = FALSE



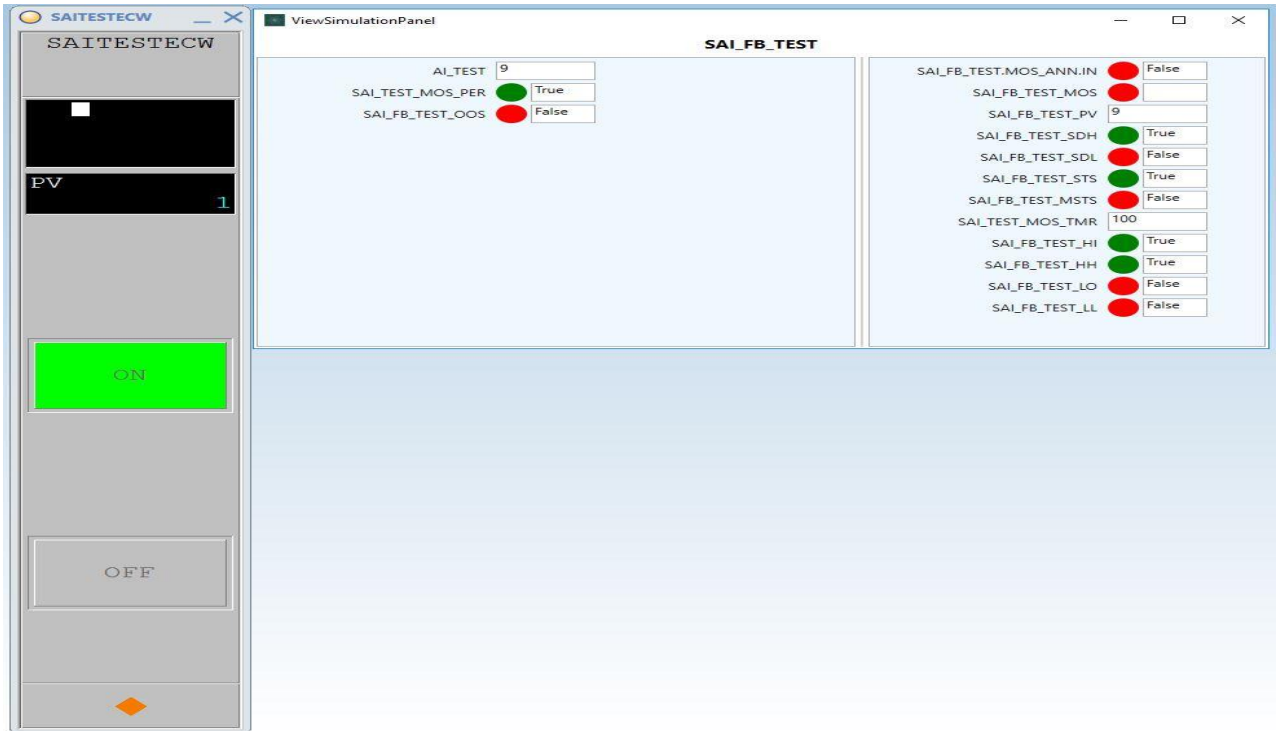
TC#4 : IN.Value = 81.0, IN.Status = TRUE,MP = FALSE



TC#5 : IN.Value = 91.0, IN.Status = TRUE, MP = FALSE



TC#6 : IN.Value = 9.0, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE,
MOS Elapse time not Elapsed



TC#7 : IN.Value = 9.0, IN.Status = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed

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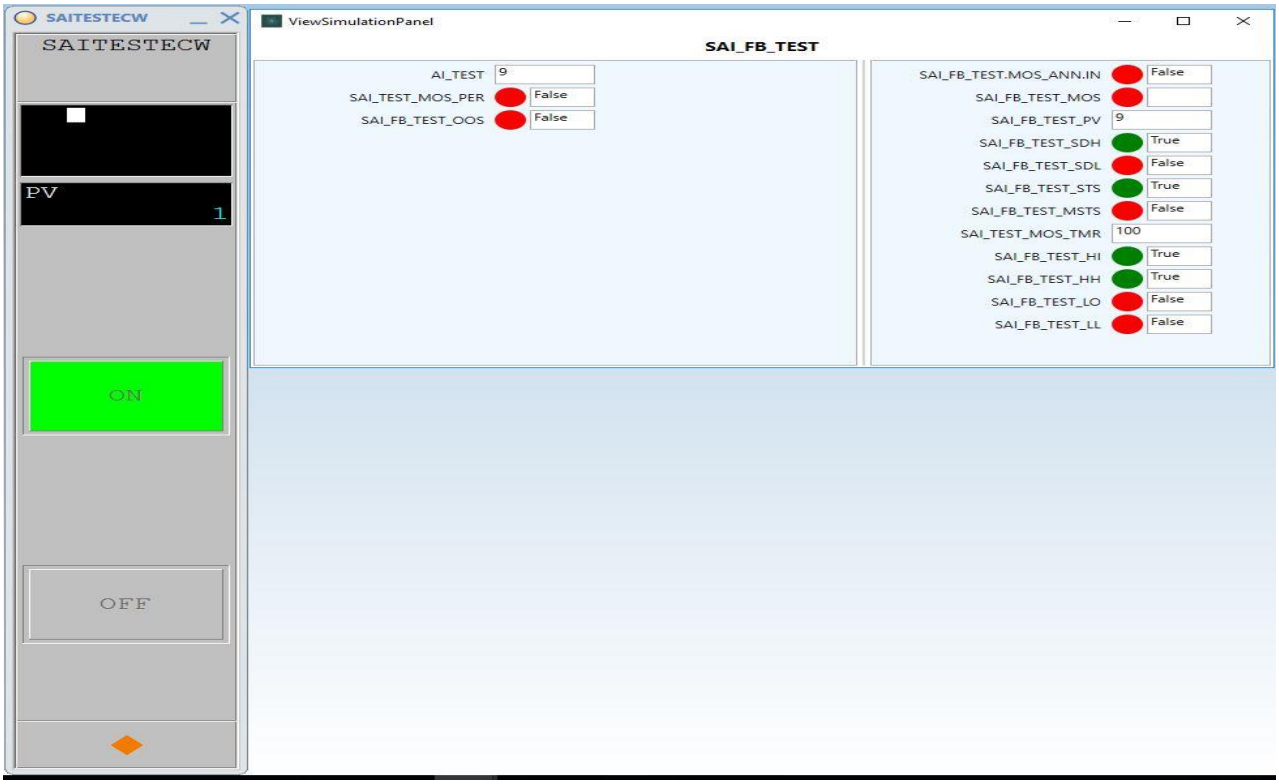
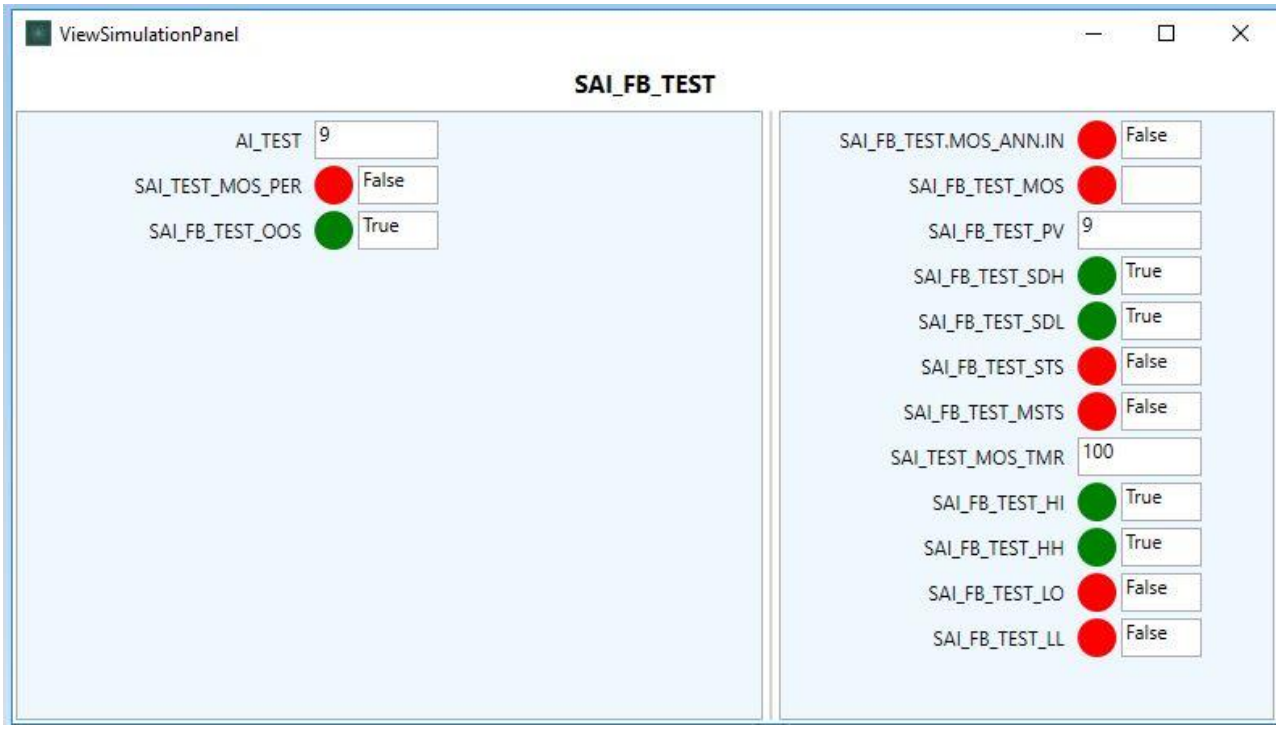
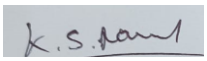


TC#8 : IN.Value = 9.0, IN.Status = TRUE, MP = FALSE, MOS ENABLE = TRUE



TC#9 : IN.Value = 9.0, IN.Status = TRUE, MP = FALSE, OOS = TRUE

5.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

6 UZGRP

UZGRP typical provides the common functionality for UZ groups in the SIS.

6.1 PURPOSE

UZGRP typical provides the common functionality for UZ groups in the SIS. The functions of the typical are trip latching, alarming and first failure identification.

Functionality:

The UZGRP function block has the following main functions:

- Trip the UZ group if one of the inputs is tripped.
- Initiate a First Failure alarm to indicate which trip came first.
- Latch the UZ trip if a trip condition is active and no reset has been applied.

For every process group in the system at least one UZ block is used. The typical UZ block is designed for 10 inputs. Depending on the number of inputs to the group, more UZ blocks may be used for a process group. The UZ block can be linked together in a chain by linking the UZ Link and UZ Condition of the next UZ block together. If only one UZ block is used to trip a UZ group the UZ Link input shall be set to TRUE. The trip outputs of input typical and/or voting typical in a UZ group are connected to the inputs of the UZ block. A trip condition on an input of the UZ block will trip the UZ group. This will latch the UZ block, further trips on the inputs will be ignored for failure indication, but still affect the UZ group trip. The output of the UZ block will be used in the application logic to the trip related field outputs. The trip alarm and the first failure flag of the tripped input will be shown in the OWS. The Tripped Outputs Latched status will be shown in the OWS until UZGRP is reset.
After all trip conditions are cleared the UZ typical can be reset via the optional UZRST application typical, by a reset signal from SCS. If the UZ group requires an auto-reset function, then the UZ Condition output has to be connected to the Clear input. The Clear input will only react on a positive trigger. The Clear will not only reset the UZ group but also clears the first failure flag, a reset will only have affect if all trip input conditions are normalized (not tripped).

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6.2 LOGIC DIAGRAMS

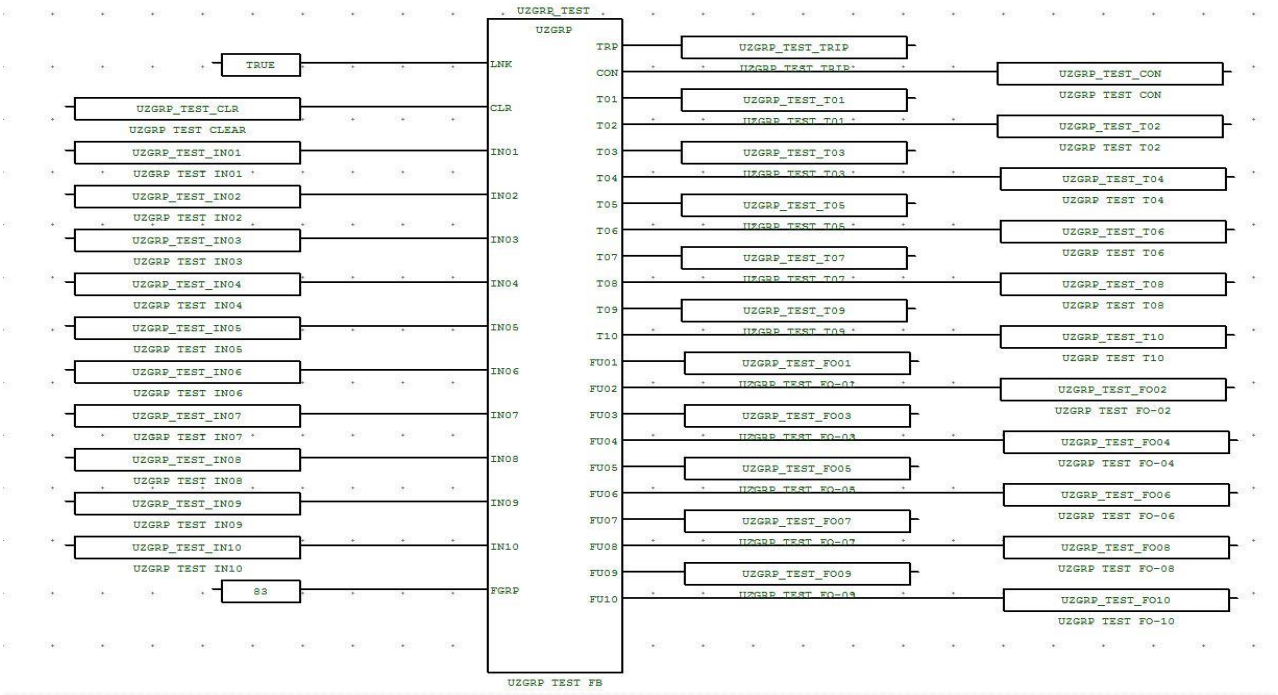
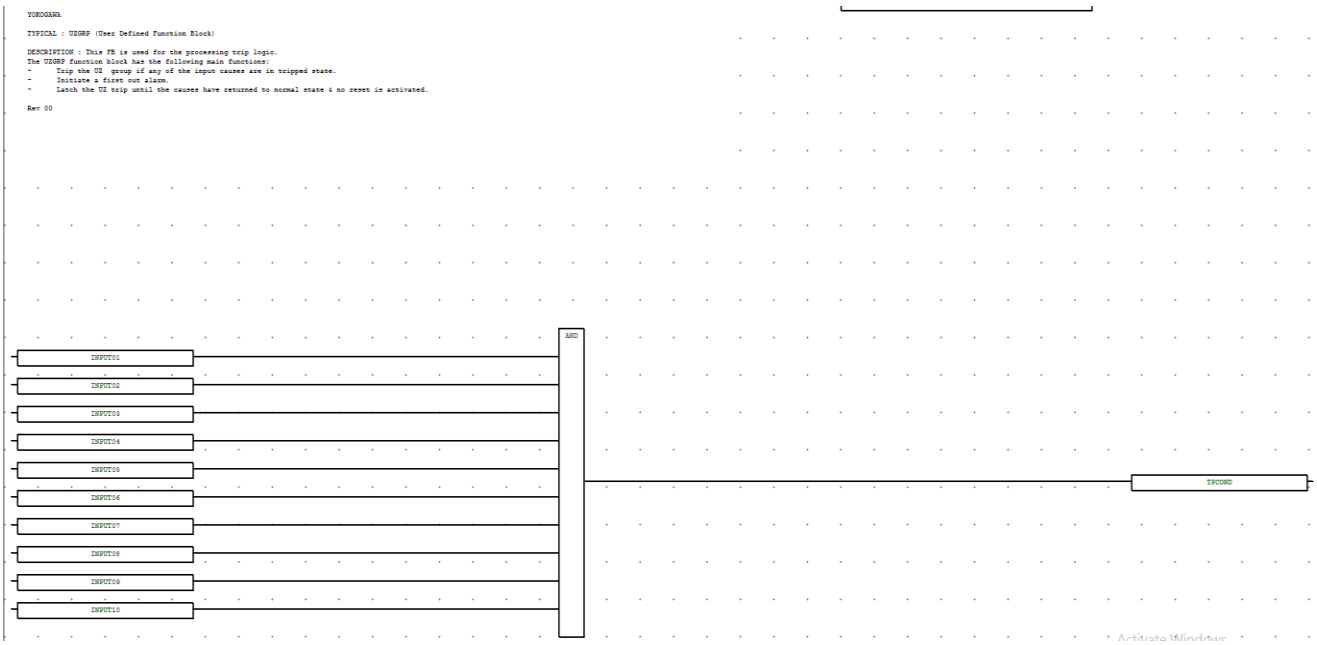


Fig 11 User Defined Function Block UZGRP



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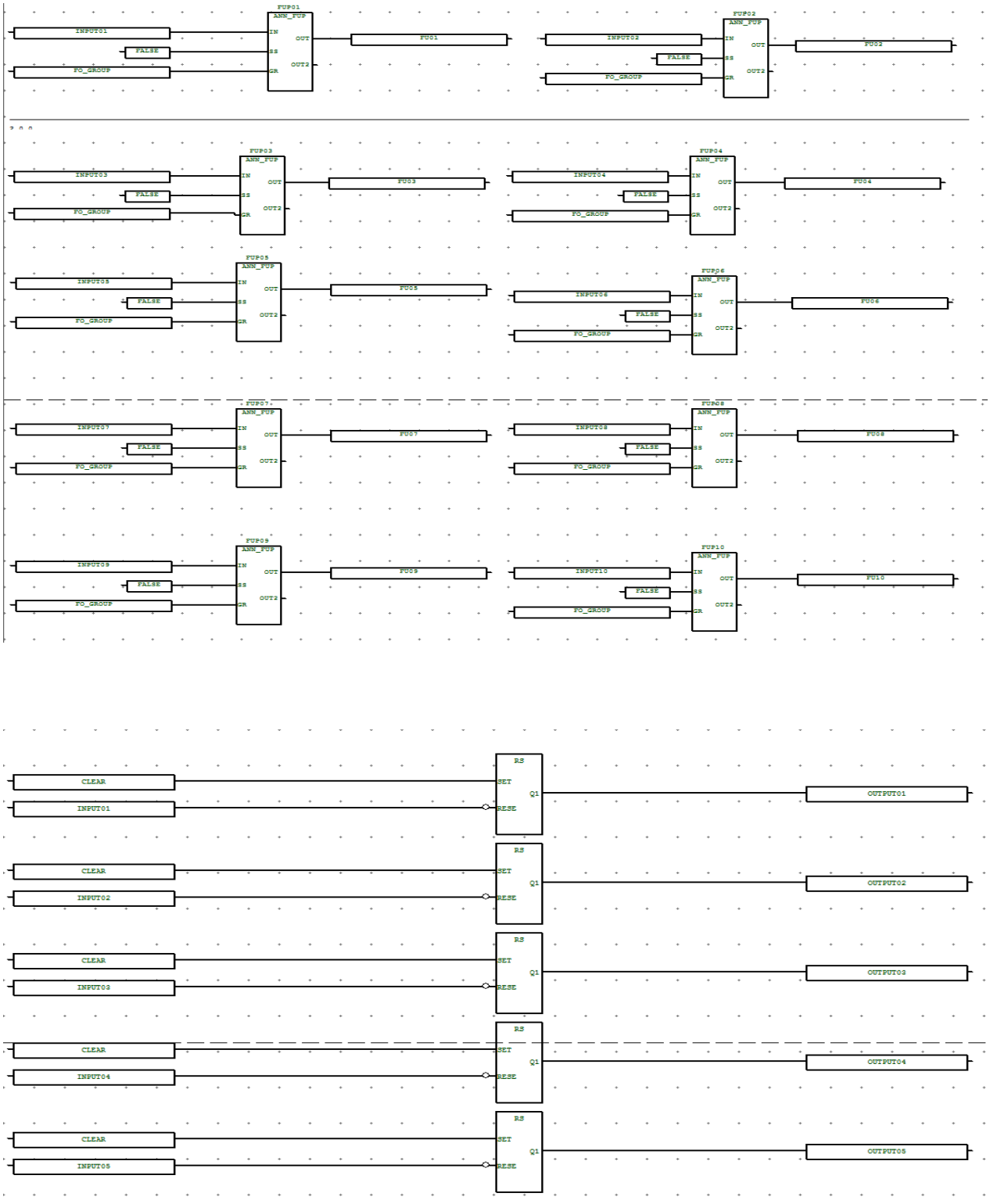


Fig 12 Logic Diagram for Typical UZGRP

6.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
LINK	LINK is the UZ link	TRUE
CLR	CLR is the UZ reset	FALSE
IN01, IN02,…....IN09, IN10	IN01,…IN10 are the Trip Inputs	TRUE
FGRP	FGRP is the Group Number	"83"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	TRP is the UZ Trip	TRUE
CON	CON is the UZ Condition	TRUE
T01, T02,…....T09, T10	T01,…T10 are the Trip Output of Inputs IN01,….IN10 respectively	TRUE
FU01, FU02,…....FU09, FU10	FU01,…FU10 are the First Out of Inputs IN01,….IN10 respectively	FALSE

6.4 TEST CASES VS EXPECTED RESULTS

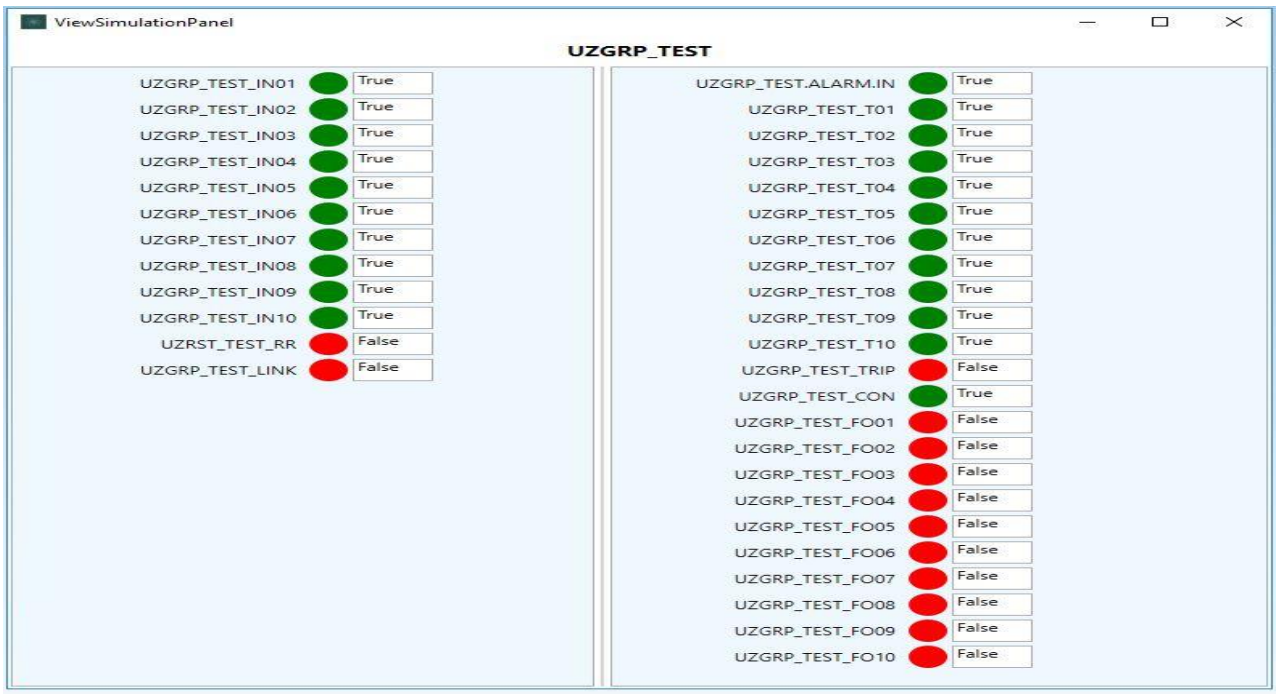
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results			
			Grp Trip TRP	All Cause CON	Cause TRIP	FU
TC#1	LINK = FALSE, All IN are "TURE"	LINK = FALSE, IN01,IN02,…IN09,IN10 = TRUE	FALSE	TRUE	N/A	N/A
TC#2	LINK = TRUE, Any one IN is "FALSE"	LINK = TRUE, IN01 or IN02 or ..or IN09 or IN10 = FALSE	FALSE	FALSE	FALSE	TRUE
TC#3	LINK = TRUE, All IN are "TURE"	LINK = TRUE, IN01,IN02,…IN09,IN10 = TRUE	FALSE	TRUE	FALSE	TRUE
TC#4	LINK = TRUE, All IN are "TURE", CLR = TRUE	LINK = TRUE, IN01,IN02,…IN09,IN10 = TRUE, CLR = TRUE	TRUE	TRUE	TRUE	FALSE

Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

6.5 TEST RESULTS:



TC#1 : LINK = FALSE, IN01,IN02,…IN09,IN10 = TRUE

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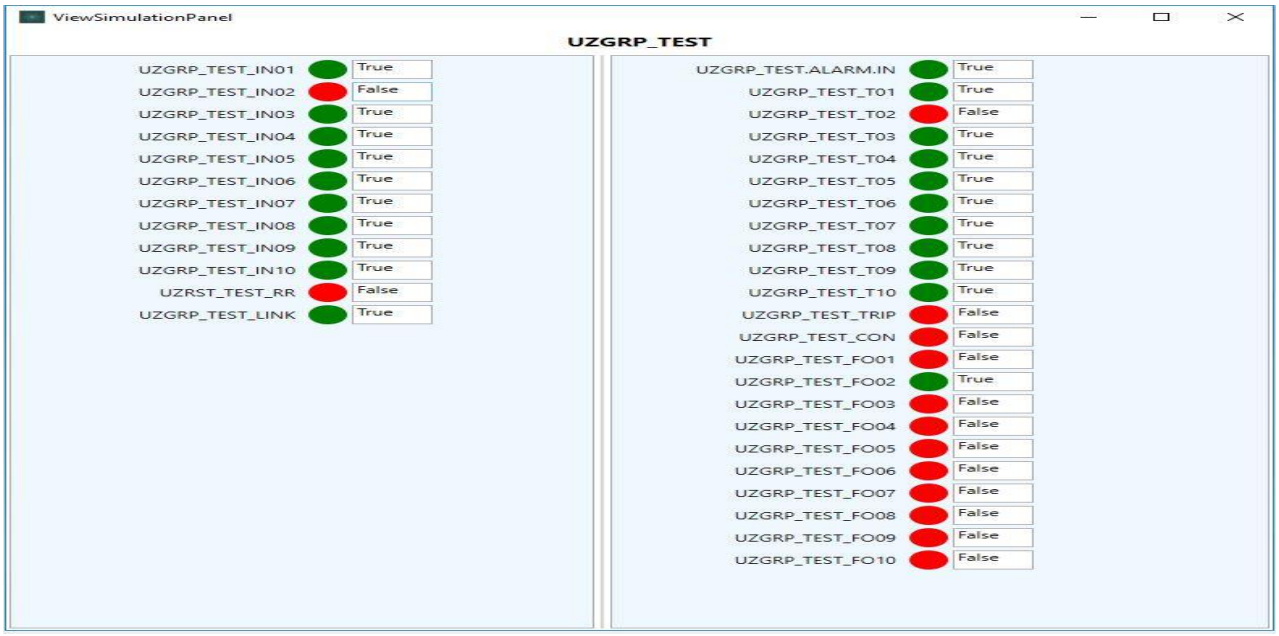

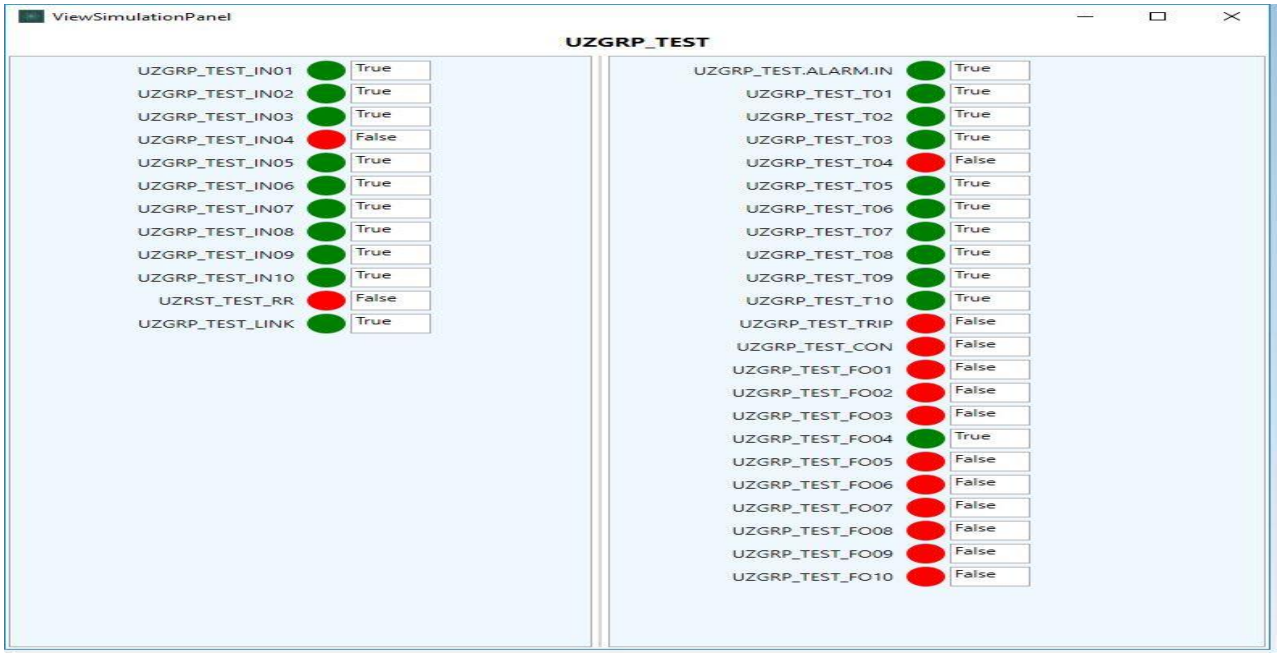

TC#2 : LINK = TRUE, IN01 or IN02 or ..or IN09 or IN10 = FALSE

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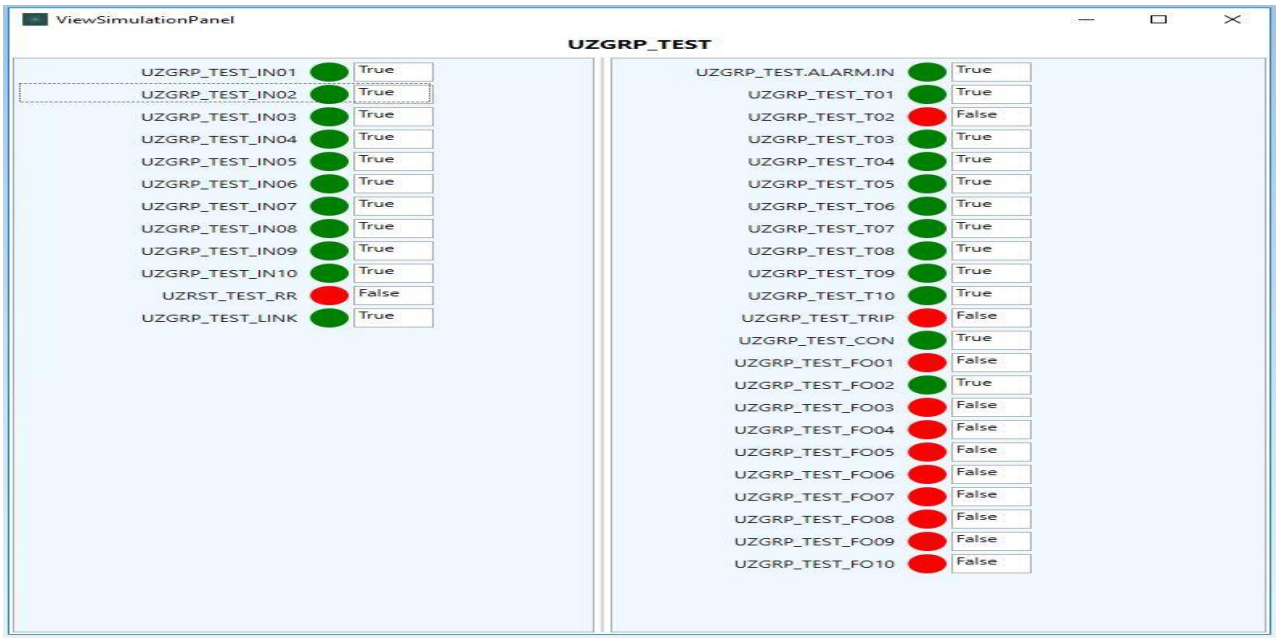

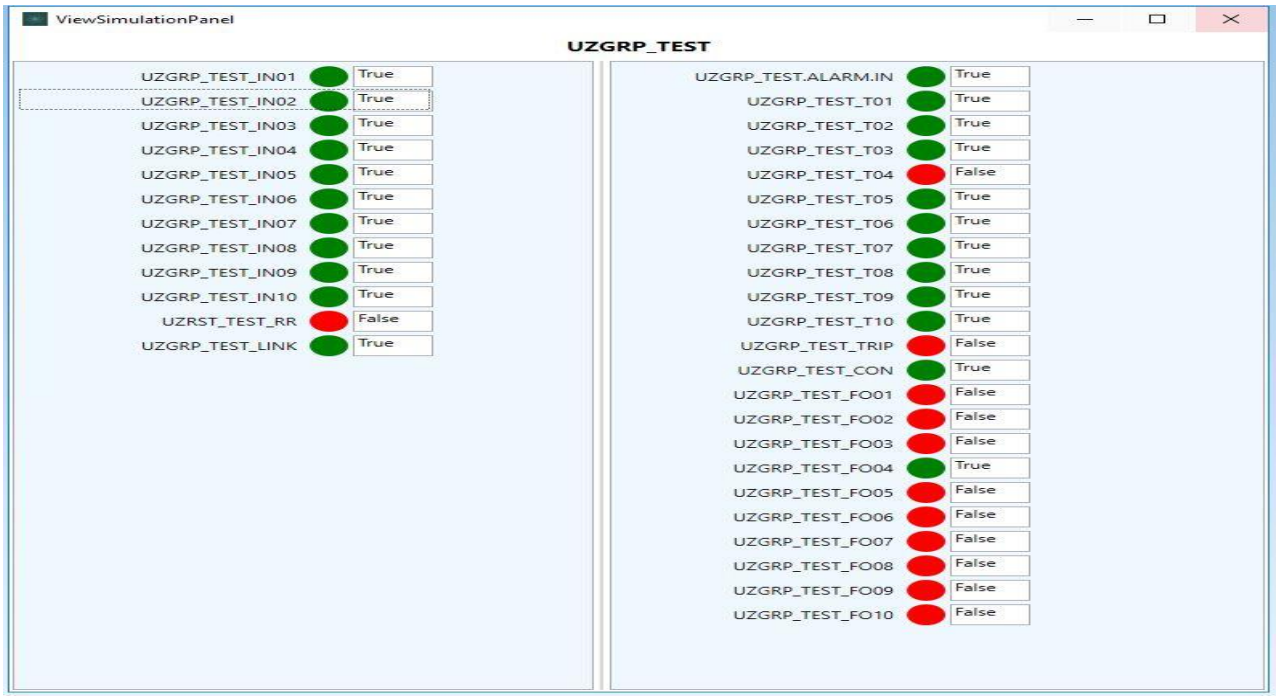

TC#3 : LINK = TRUE, IN01,IN02,…IN09,IN10 = TRUE

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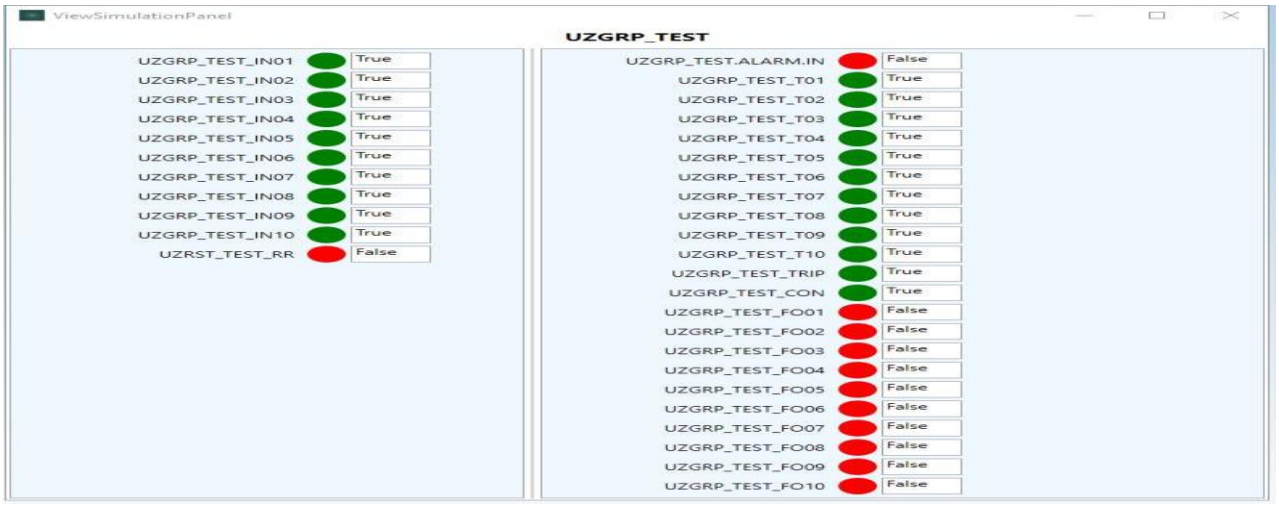
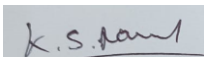


TC#4 : LINK = TRUE, IN01,IN02,…IN09,IN10 = TRUE, CLR = TRUE

6.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-JUL-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

7 UZRST

UZRST typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip.

7.1 PURPOSE

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

Functionality:

The UZRST function block has the following main functions:

- Reset UZ groups only when SCS Reset operated from OWS or field reset switch has been applied
- Indicate that SCS reset is allowed.

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

To indicate that a SCS reset is allowed (i.e. Permissive is ‘TRUE’) the status (Ok to Reset) is sent to OWS. After the reset from OWS, the Ok to Reset status will go off.

Push button field input reset is designed for normally open-momentary closed contacts to reset.

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7.2 LOGIC DIAGRAMS

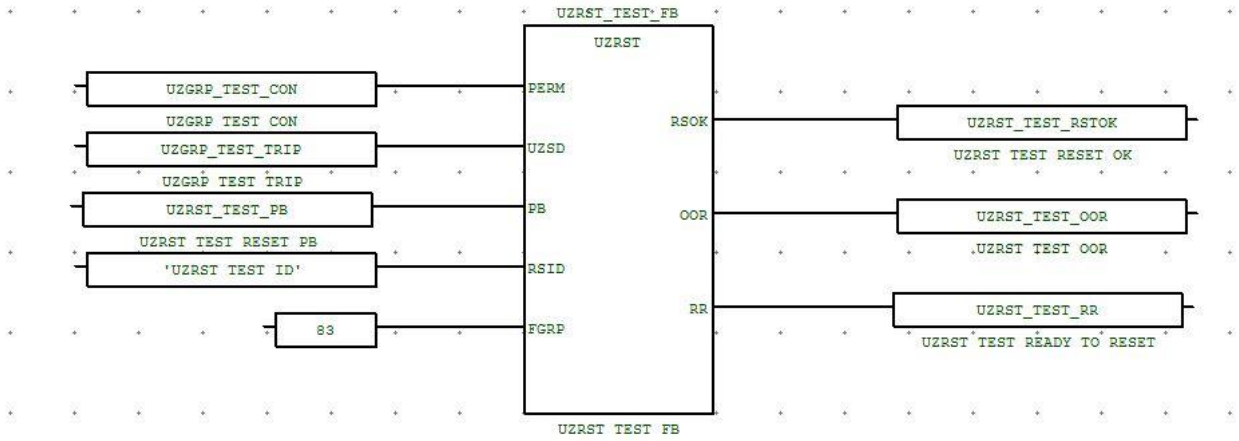


Fig 13 User Defined Function Block UZRST

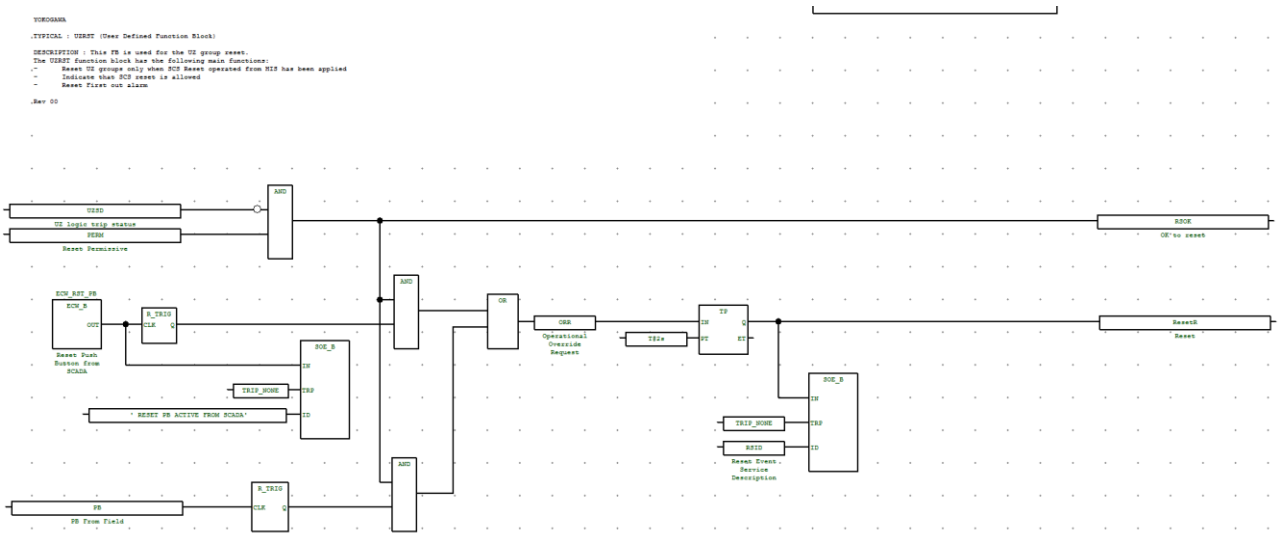


Fig 14 Logic Diagram for Typical UZRST

7.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
PERM	PERM is the Reset Permissive	FALSE
UZSD	UZSD is the UZ Group Trip Status	TRUE
PB	PB is the Field Reset Push Button	FALSE
RSID	RSID is the comment for the “SOE”	"XXXXXXXXX"
FGRP	FGRP is the Group Number	"83"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
RSOK	RSOK is the OK to Reset	FALSE
OOR	OOR is the AOS Request	FALSE
RR	UZ Reset	FALSE

7.4 TEST CASES VS EXPECTED RESULTS

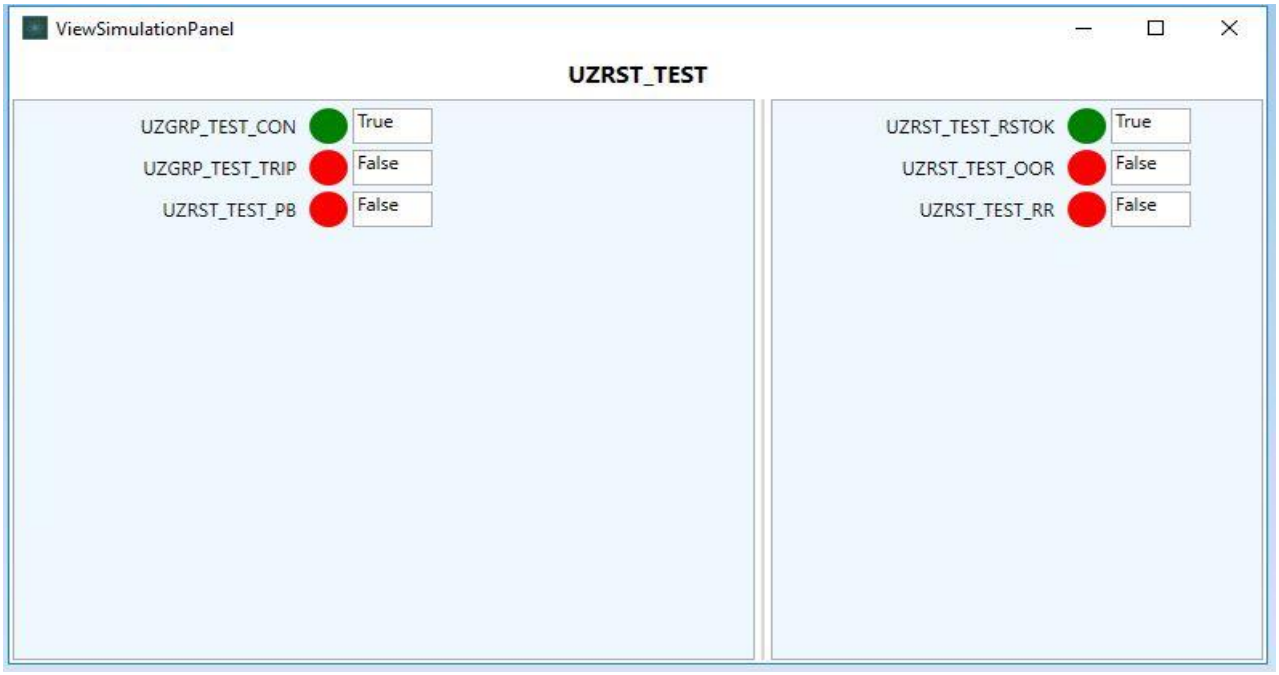
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

	Test Cases	Input Parameter /Values	Expected Results		
Test Case Number			**OK to Reset RSOK**	**OOR (Pulse OP)**	**Reset Signal RR(2Sec)**
TC#1	PERM = TRUE, UZSD = FALSE, PB = FALSE, OWS RESET = FLASE	PERM = TRUE, UZSD = FALSE, PB = FALSE, OWS RESET = FLASE	TRUE	N/A	N/A
TC#2	PERM = TRUE, UZSD = FALSE, PB = TRUE, OWS RESET = FLASE	PERM = TRUE, UZSD = FALSE, PB = TRUE, OWS RESET = FLASE	FALSE	TRUE	TRUE
TC#3	PERM = TRUE, UZSD = FALSE, PB = FALSE, OWS RESET = TRUE	PERM = TRUE, UZSD = FALSE, PB = FALSE, OWS RESET = TRUE	FALSE	TRUE	TRUE

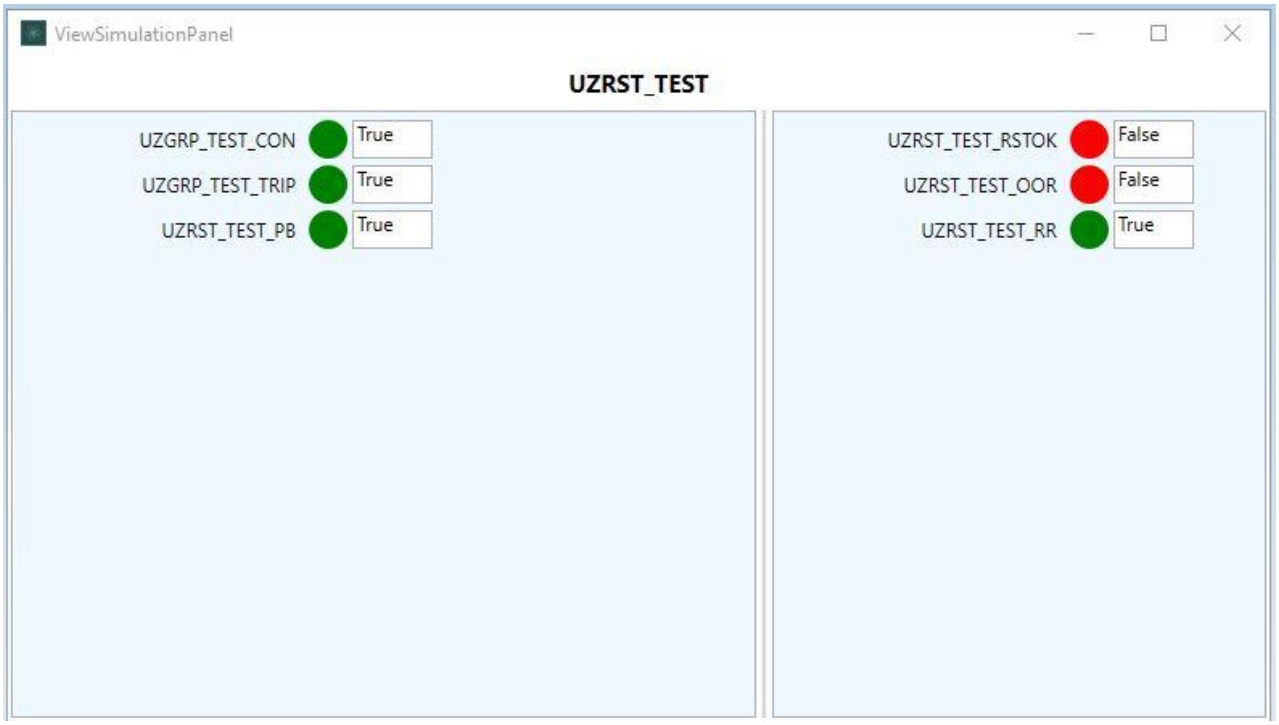
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

7.5 TEST RESULTS:



TC#1 : PERM = TRUE, UZSD = FALSE, PB = FALSE, OWS RESET = FLASE



TC#2 : PERM = TRUE, UZSD = FALSE, PB = TRUE, OWS RESET = FLASE

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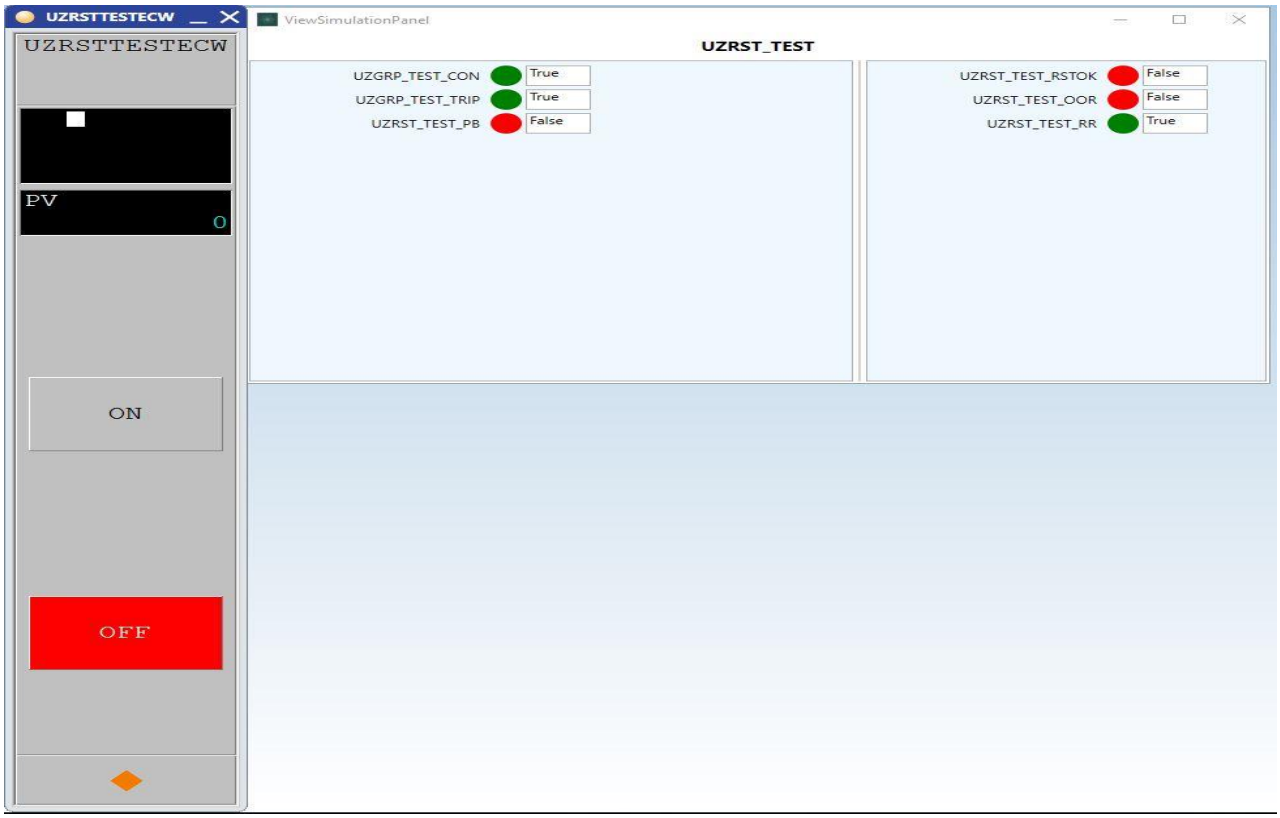
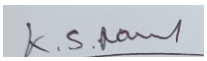


TC#3 : PERM = TRUE, UZSD = FALSE, PB = FALSE, OWS RESET = TRUE

7.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-JUL-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

8 SDV_1

SDV_1 function is used for the Fail to Close Valves with limit switch Feedback

8.1 PURPOSE

This typical drives the output to safe-state when the UZSD input trips.

Functionality:

The SDV_1 typical has the following features:

- Valve operation.
- Limit switch feedback (one or two limit switches)

This typical drives the output to safe-state when the UZSD input trips. When the UZGRP is normal ,then open command can be given from the OWS / AUTO open (OPEN nub)

8.2 LOGIC DIAGRAMS

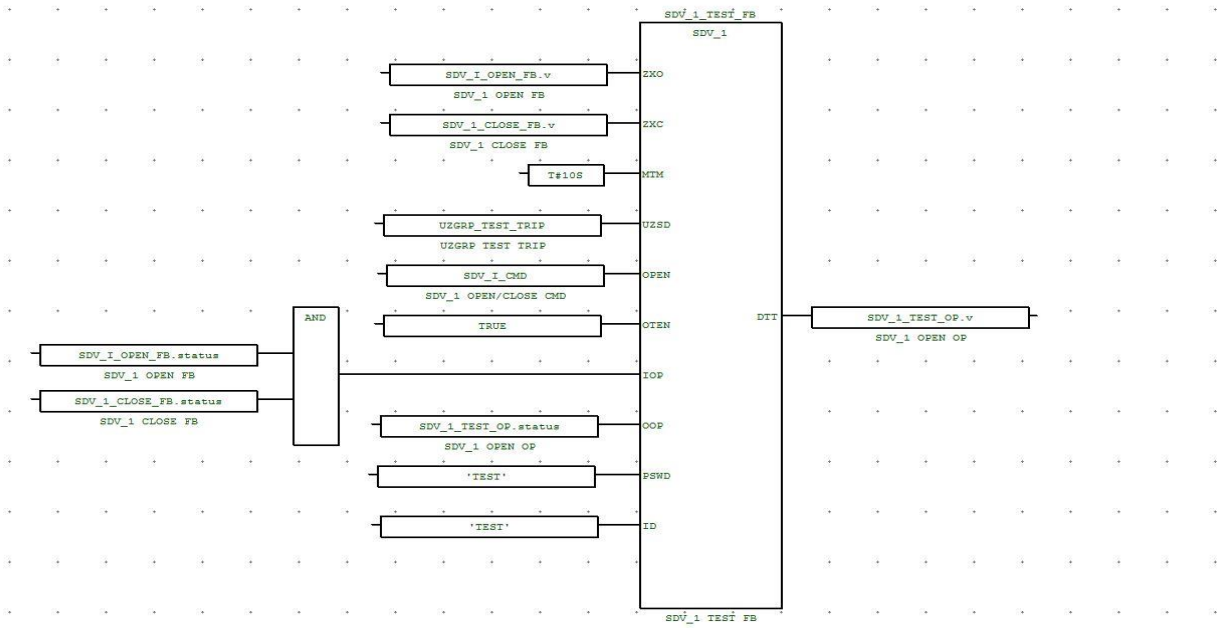


Fig 15 User Defined Function Block SDV_1

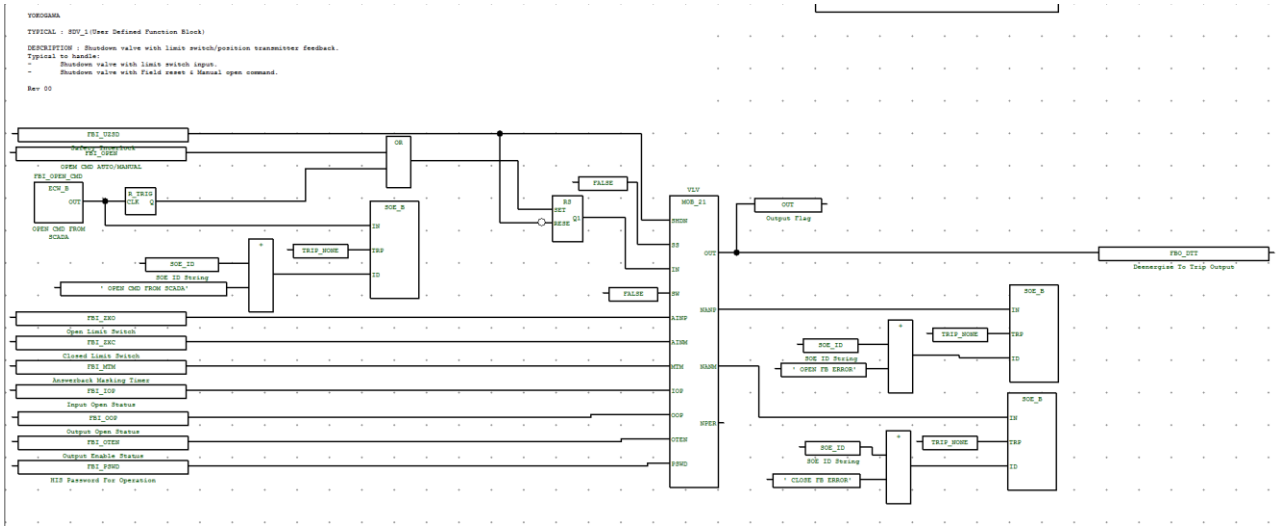


Fig 16 Logic Diagram for AI Typical SDV_1

8.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
ZXO	ZXO is the Open Limit Switch	TRUE
ZXC	ZXC is the Close Limit Switch	FALSE
MTM	MTM is the Answer Back Mask Time	T#10s
UZSD	UZSD is the UZ Group SD	TRUE
OPEN	OPEN is the AUTO/Field Open Command	FALSE
OTEN	OTEN is the Output Enable Status	FALSE
IOP	IOP is the Input Open Status	TRUE
OOP	OOP is the Output Open Status	TRUE
PSWD	PSWD is the Password	"XXXXXXXXX"
ID	RSID is the comment for the “SOE”	"XXXXXXXXX"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
DTT	DTT is the Output to Valve	TRUE

8.4 TEST CASES VS EXPECTED RESULTS

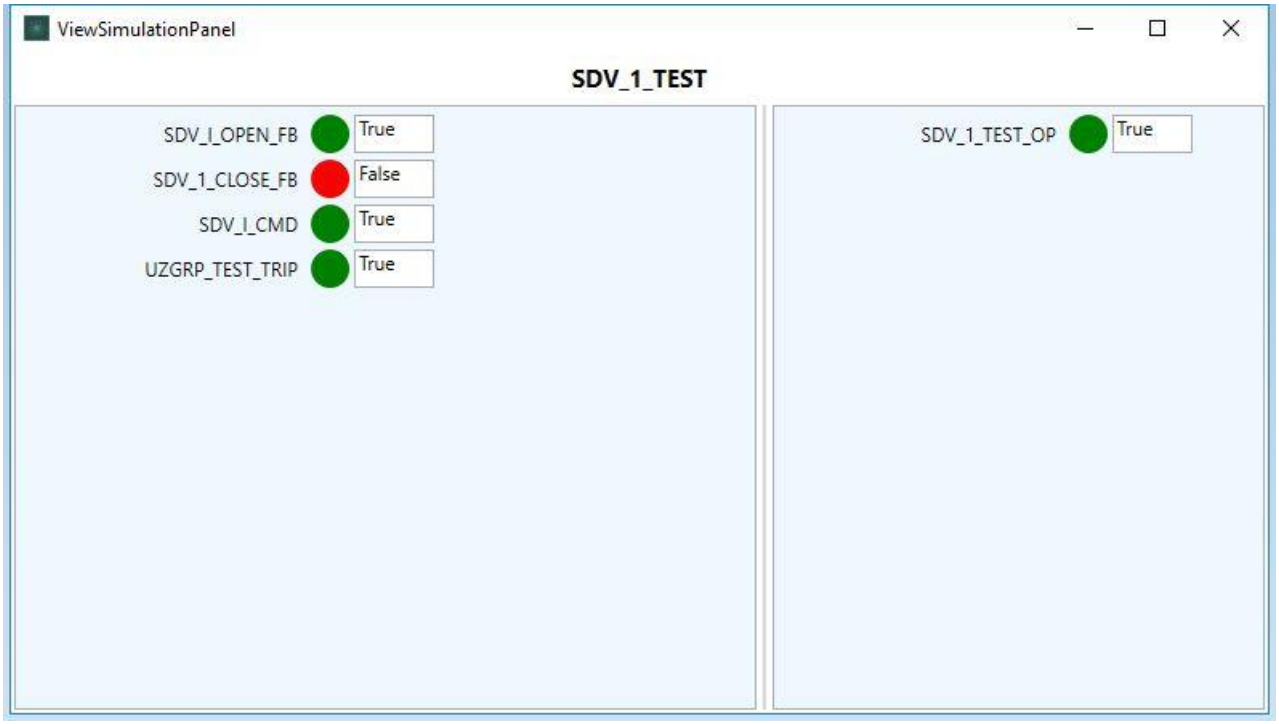
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			Output DTT	Open FB SOE Record	Close FB SOE Record
TC#1	ZXO = TRUE, ZXC = FALSE, UZSD = TRUE, CMD = TRUE	ZXO = TRUE, ZXC = FALSE, UZSD = TRUE, CMD = TRUE	TRUE	N/A	N/A
TC#2	ZXO = TRUE, ZXC = FALSE, UZSD = FALSE, CMD = TRUE, MTM time not Elapsed	ZXO = TRUE, ZXC = FALSE, UZSD = FALSE, CMD = TRUE, MTM time not Elapsed	FALSE	N/A	N/A
TC#3	ZXO = TRUE, ZXC = FALSE, UZSD = FALSE, CMD = TRUE, MTM time Elapsed	ZXO = TRUE, ZXC = FALSE, UZSD = FALSE, CMD = TRUE, MTM time Elapsed	FALSE	YES	N/A
TC#4	ZXO = FALSE, ZXC = TRUE, UZSD = TRUE, CMD = FALSE	ZXO = FALSE, ZXC = TRUE, UZSD = TRUE, CMD = FALSE	FALSE	N/A	N/A
TC#5	ZXO = FALSE, ZXC = TRUE, UZSD = TRUE, CMD = TRUE	ZXO = FALSE, ZXC = TRUE, UZSD = TRUE, CMD = TRUE	TRUE	N/A	N/A

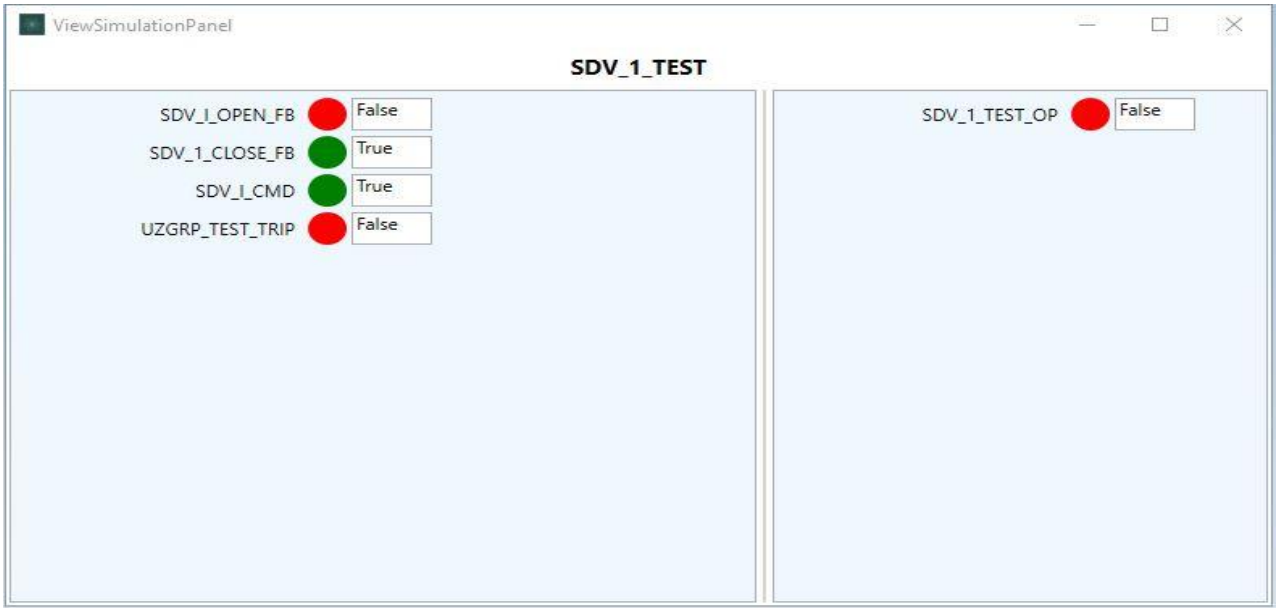
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

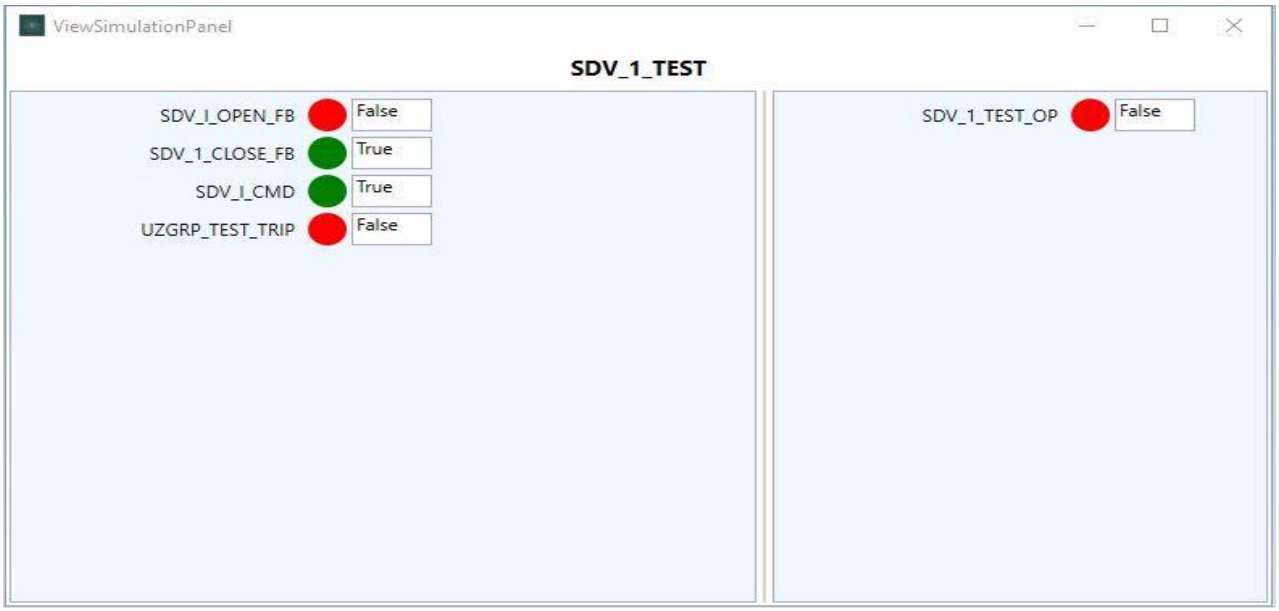
8.5 TEST RESULTS:



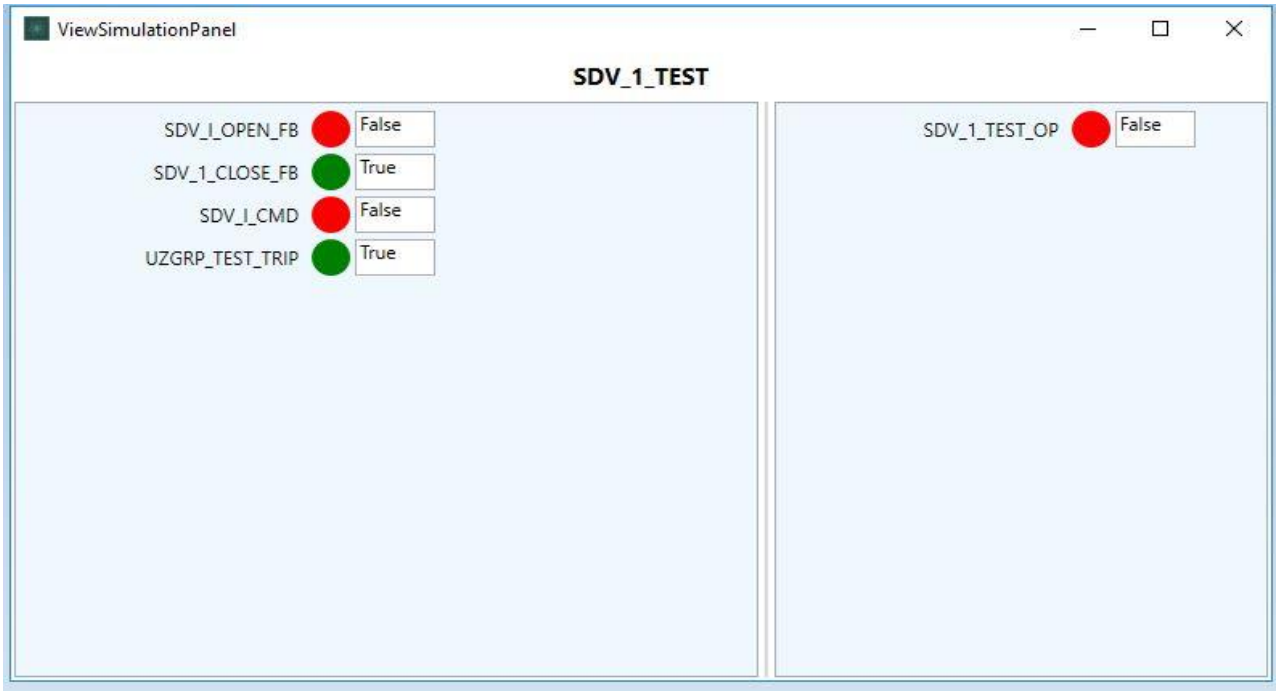
TC#1 : ZXO = TRUE, ZXC = FALSE, UZSD = TRUE, CMD = TRUE



TC#2 : ZXO = TRUE, ZXC = FALSE, UZSD = FALSE, CMD = TRUE, MTM time not Elapsed



TC#3 : ZXO = TRUE, ZXC = FALSE, UZSD = FALSE, CMD = TRUE, MTM time Elapsed



TC#4 : ZXO = FALSE, ZXC = TRUE, UZSD = TRUE, CMD = FALSE

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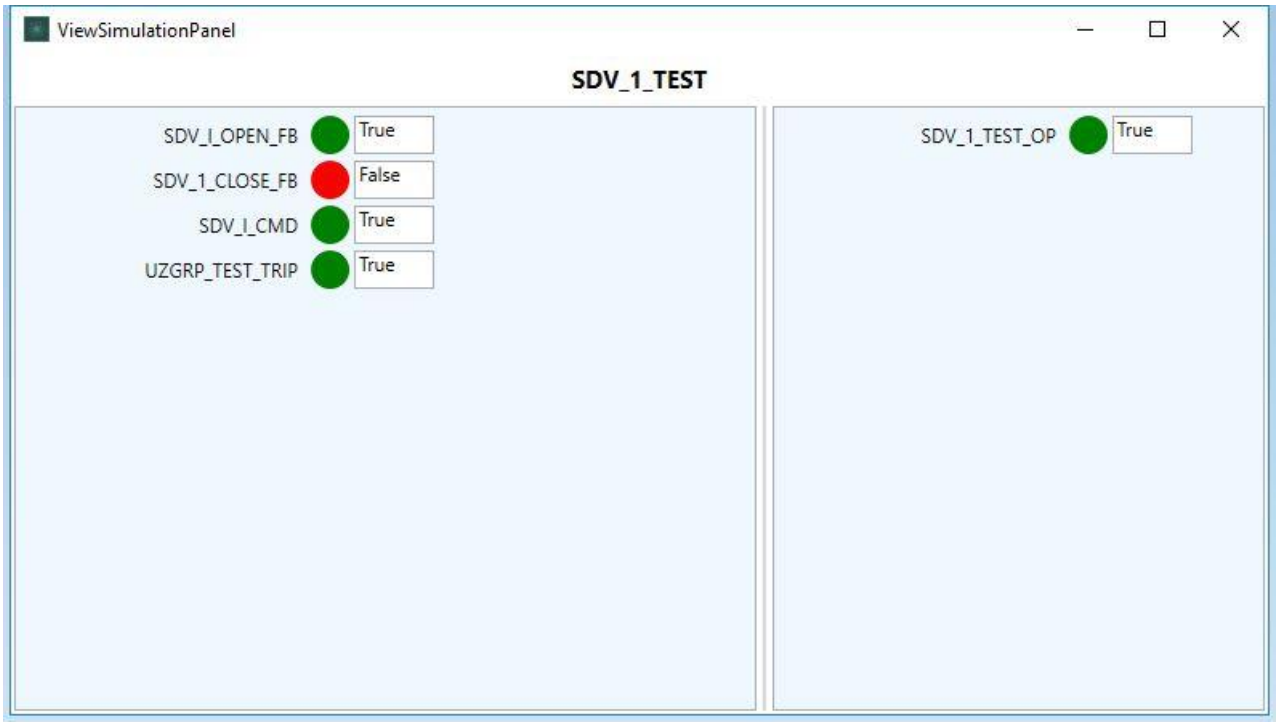
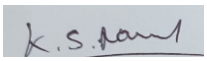


TC#5 : ZXO = FALSE, ZXC = TRUE, UZSD = TRUE, CMD = TRUE

8.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-JUL-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

9 BDV

BDV function is used for the Fail to Open Valves with limit switch Feedback

9.1 PURPOSE

This typical drives the output to safe-state when the UZSD input trips.

Functionality:

The BDV typical has the following features:

- Valve operation.
- Limit switch feedback (one or two limit switches).

This typical drives the output to safe-state when the UZSD input trips. Design of the typical is energize to trip (or activate) the output hence line monitoring of the output is essential. MANUAL operations to the Valve from the OWS are prohibited at all times except in a state when the associated UZ group acting on the BDV recovers from trip state and UZ group is reset. CLOSE command shall be issued from the OWS. Field Hand Switch allows opening of the Valve locally when the valve is in CLOSE condition.

9.2 LOGIC DIAGRAMS

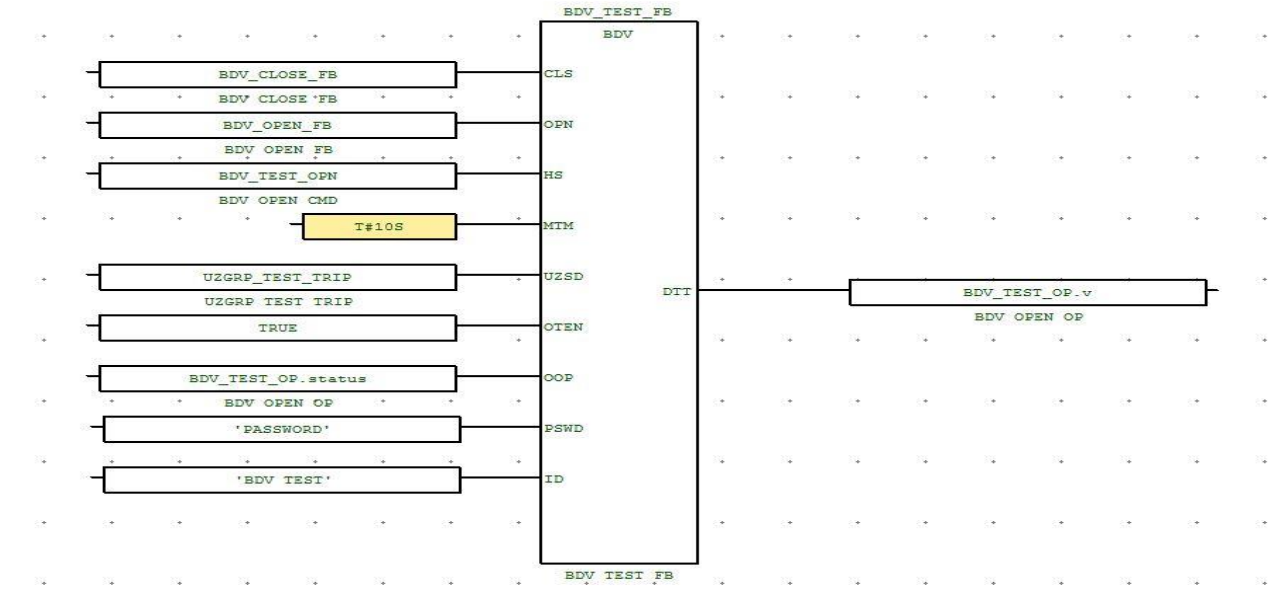


Fig 17 User Defined Function Block BDV

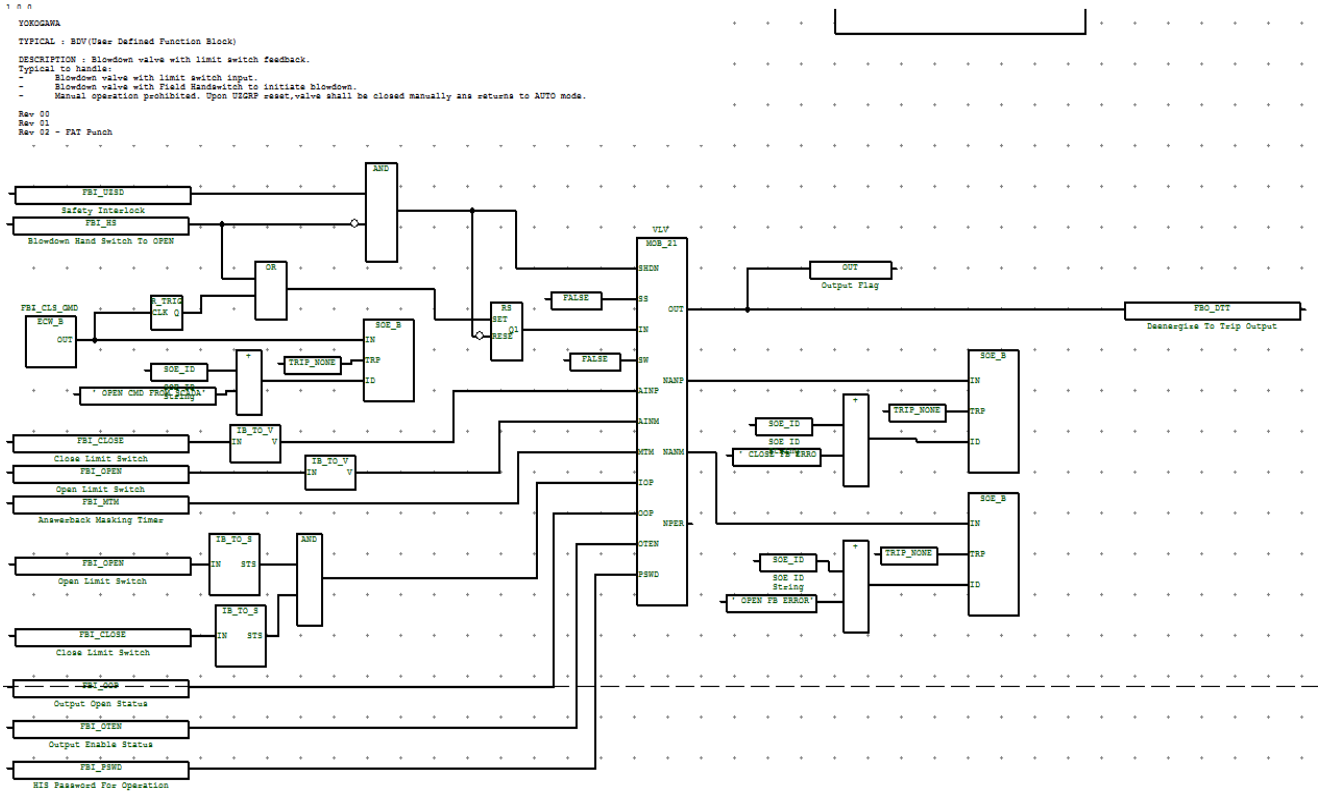


Fig 18 Logic Diagram for Typical BDV

9.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
CLS	CLS is the Close Limit Switch	TRUE
OPN	OPN is the Open Limit Switch	FALSE
HS	HS is the Field Open Command	FALSE
MTM	MTM is the Answer Back Mask Time	T#10s
UZSD	UZSD is the UZ Group SD	TRUE
OTEN	OTEN is the Output Enable Status	FALSE
OOP	OOP is the Output Open Status	TRUE
PSWD	PSWD is the Password	"XXXXXXXXX"
ID	RSID is the comment for the “SOE”	"XXXXXXXXX"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
DTT	DTT is the Output to Valve	FALSE

9.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under ‘Predefined Values’ section.

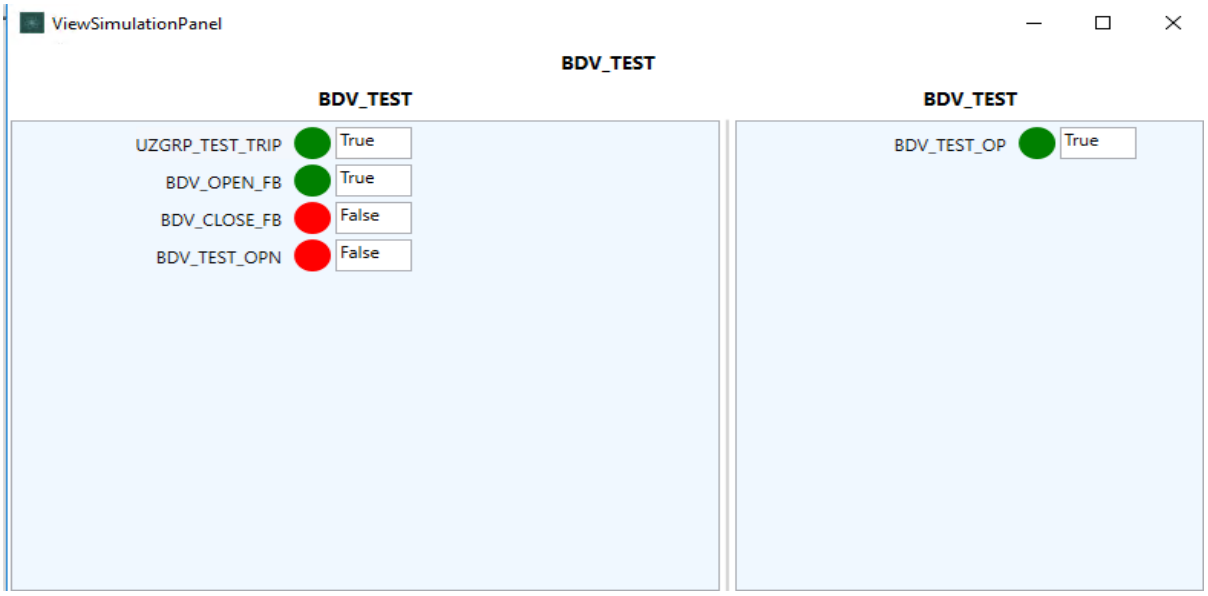
	Test Cases	Input Parameter /Values	Expected Results		
Test Case Number			Output DTT	Open FB SOE Record	Close FB SOE Record
TC#1	OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = TRUE	OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = TRUE	TRUE	N/A	N/A
TC#2	OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = FALSE, MTM time not Elapsed	OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = FALSE, MTM time not Elapsed	FALSE	N/A	N/A

TC#3	OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = FALSE, MTM time Elapsed	OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = FALSE, MTM time Elapsed	FALSE	YES	N/A
TC#4	OPN = FALSE, CLS = TRUE, HS = FALSE, UZSD = TRUE, DDT = TRUE, OWS CLO CMD = FALSE	OPN = FALSE, CLS = TRUE, HS = FALSE, UZSD = TRUE, DDT = TRUE, OWS CLO CMD = FALSE	FALSE	N/A	N/A
TC#5	OPN = FALSE, CLS = TRUE, HS = FALSE, UZSD = TRUE, OWS CLO CMD = TRUE	OPN = FALSE, CLS = TRUE, HS = FALSE, UZSD = TRUE, OWS CLO CMD =TRUE	TRUE	N/A	N/A

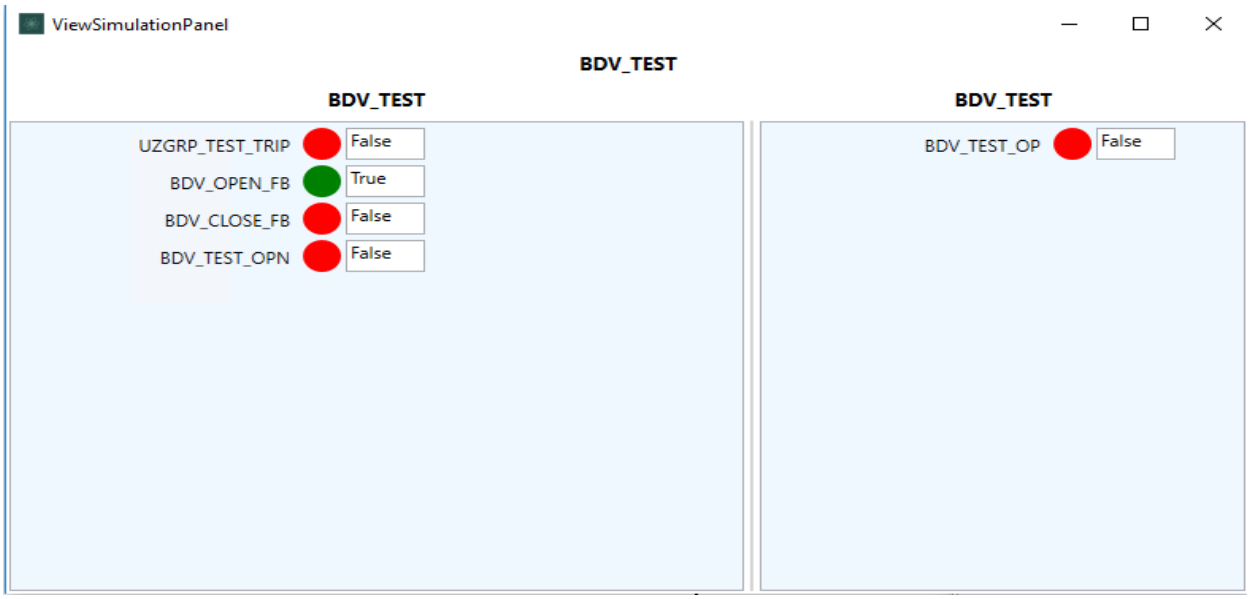
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from “True’ to ‘False’.

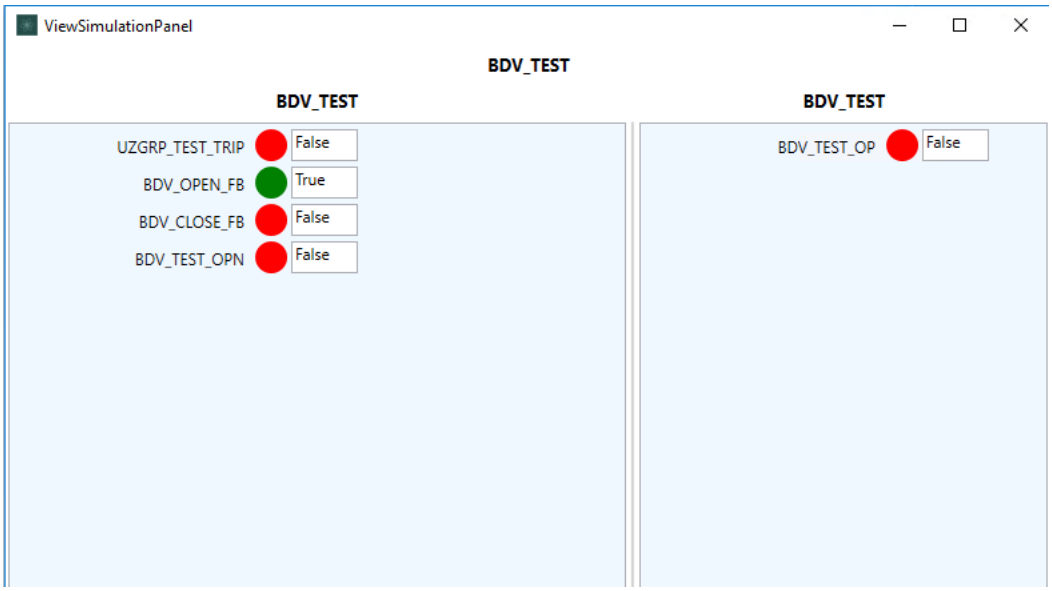
9.5 TEST RESULTS:



TC#1 : OPN = TRUE, CLS = FALSE, HS = FALSE, UZSD = TRUE



TC#2 : OPN = FALSE, CLS = FALSE, HS = FALSE, UZSD = FALSE,
MTM time not Elapsed



TC#3 : OPN =TRUE, CLS = FALSE, HS = FALSE, UZSD = FALSE,
MTM time Elapsed

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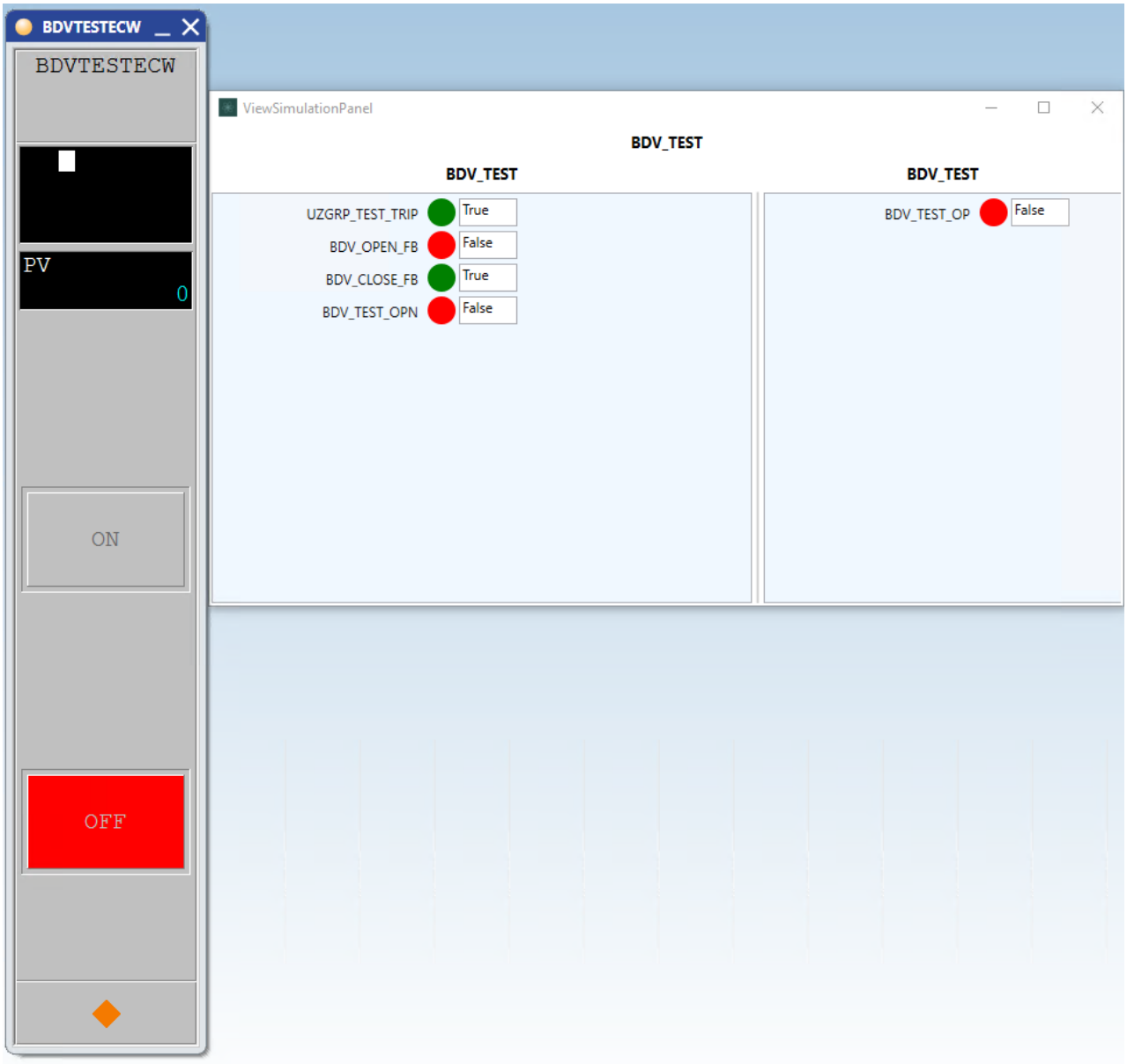

TC#4 : OPN = FALSE, CLS = TRUE, HS = FALSE, UZSD = TRUE, DDT = FALSE,
OWS CLO CMD = FALSE

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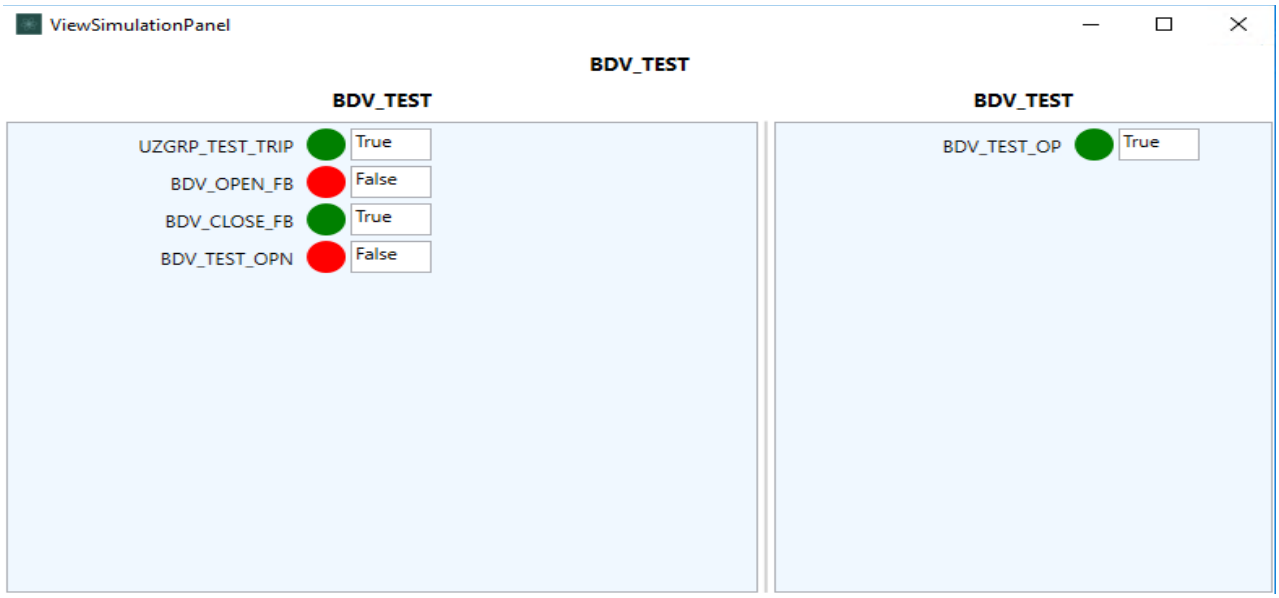
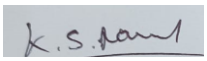


TC#5 : OPN = FALSE, CLS = TRUE, HS = FALSE, UZSD = TRUE, OWS CLO CMD = TRUE

9.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	06-JAN-2025

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

10 AOS

AOS function is used for the Start-up Override

10.1 PURPOSE

The Automatic Operational Override (also known as startup override) is used during a unit (re)start. During a unit startup, levels, pressures, flows, and temperatures may be in a state of alarm providing a shutdown signal to the SIS. This in turn prevents the continuation of a process startup. The Automatic Operational Override shall be used to override the Lo-Lo and Hi-Hi shutdown signals as specified in the *Project* allowing operations to bring the unit back up.

Functionality:

The AOS function block has the following main functions:

1. Manage the operational override on startup function.
2. Reset the startup override when the override time is elapsed.
3. Reset the startup override when the process value has reached above the Low set point for at least a predefined time (process settling time) within the allowed operational override time.
4. Reset startup override when UZ group logics shutdown.
5. Reset the operational override (AOS) when the transmitter is faulty.

The operational override is activated by a UZ-group reset. The reset signal is connected to the operational override request input. The operational override will be activated on a rising edge of the reset signal if the following conditions are met:

- If the input typical is in trip alarm;
- And if there is no transmitter fault.

The operational override will be active as long as the operational override time is not elapsed. The operational override will be reset if:

- If the operational override time is elapsed;
- Or if the process value has reached normal condition for at least a predefined time (process settling time) within the allowed operational override time,
- Or if the transmitter is faulty; Start-up sequence should be stopped.
- A trip occurs in the applicable UZ group.

10.2 LOGIC DIAGRAMS

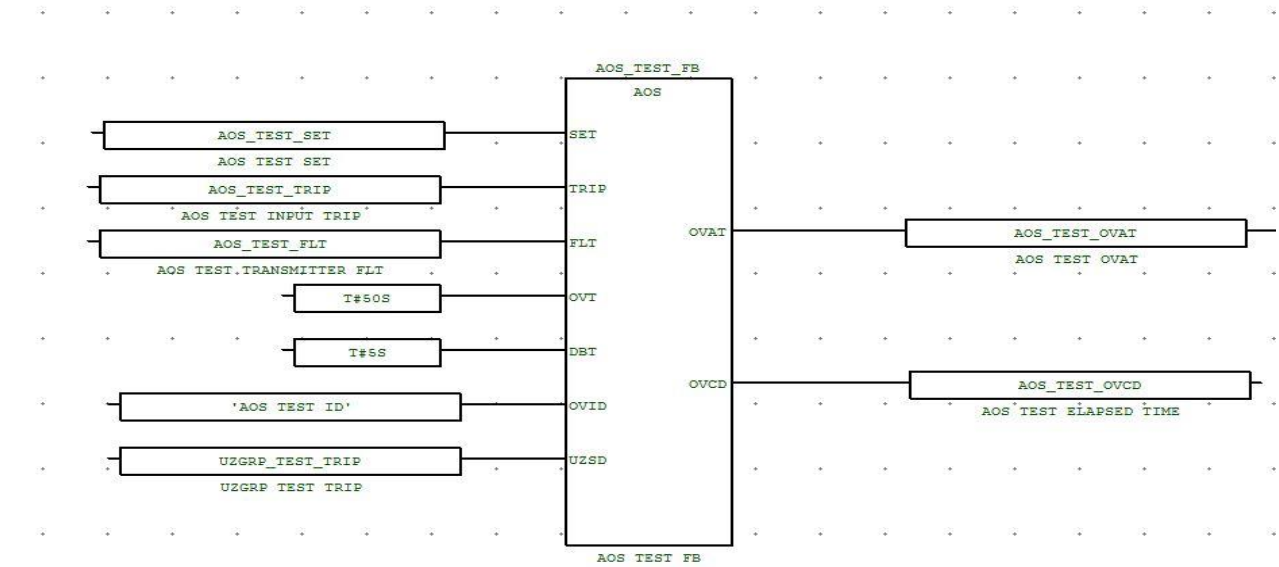


Fig 19 User Defined Function Block AOS

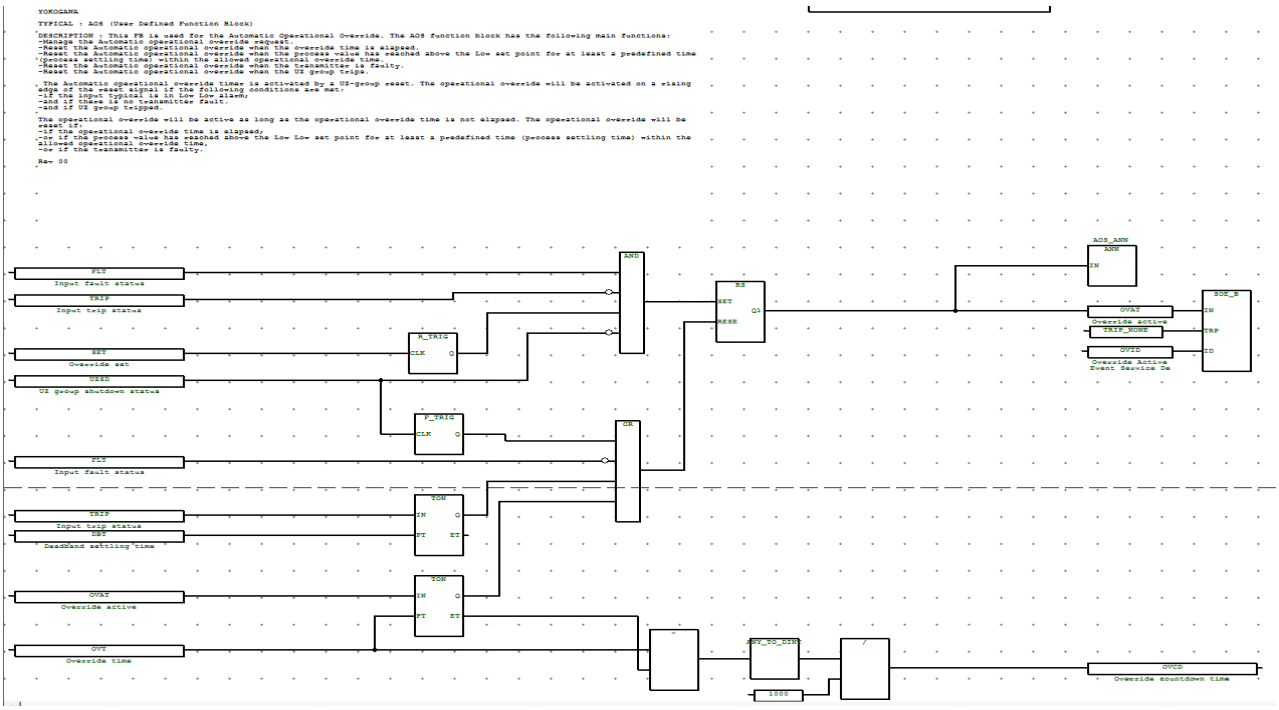


Fig 20 Logic Diagram for Typical AOS

10.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
SET	AOS Set from the UZRST Block	FALSE
TRIP	TRIP is the "LL trip" from the SAI Block	TRUE
FLT	FLT is the "STS" from the SAI Block	TRUE
OVT	OVT is the Override timer	T#50s
DBT	DBT is the Process Settling Time	T#5s
OVID	OVID is the comment for the “SOE”	"XXXXXXXXX"
UZSD	UZSD is the UZ Group Trip Status	TRUE

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
OVAT	OVAT is the Boolean Override bit	FALSE
OVCD	OVCD is the Override Countdown Time	50

10.4 TEST CASES VS EXPECTED RESULTS

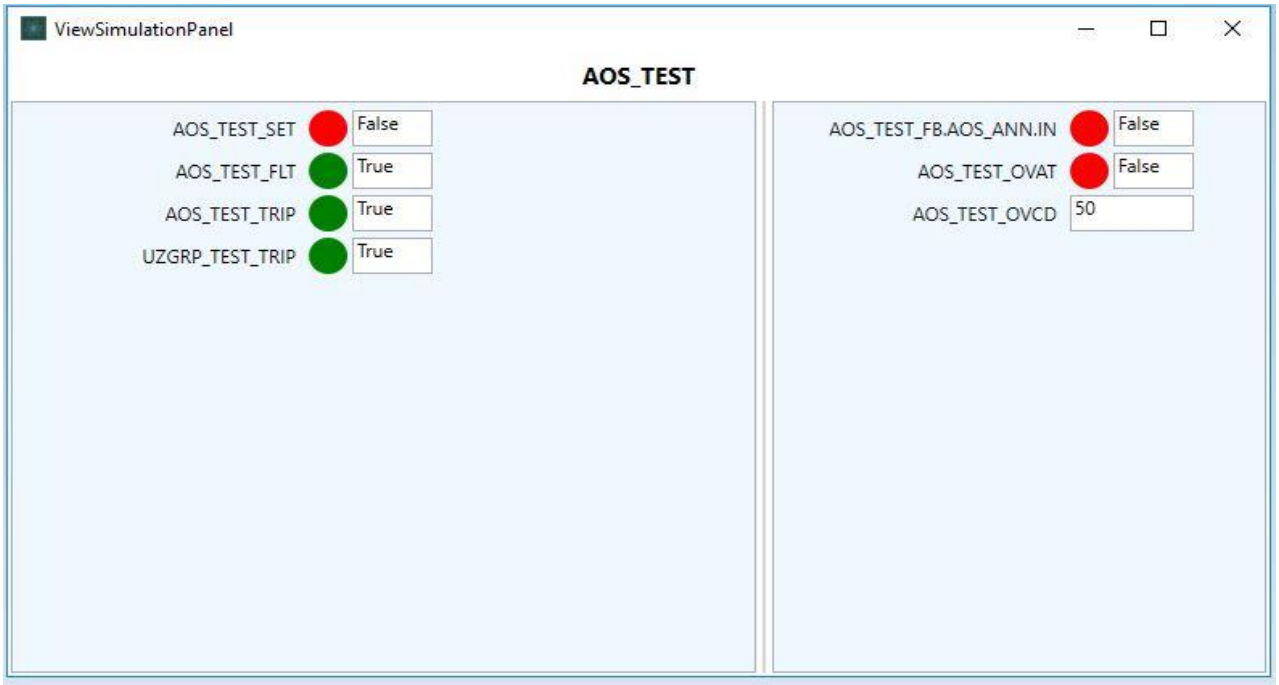
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

	Test Cases	**Input Parameter /Values**	**Expected Results**
Test Case Number			**OVAT**
TC#1	SET = FALSE, TRIP = TRUE, FLT = TRUE, UZSD = TRUE	SET = FALSE, TRIP = TRUE, FLT = TRUE, UZSD = TRUE	N/A
TC#2	SET = FALSE, TRIP = FALSE, FLT = TRUE, UZSD = FALSE	SET = FALSE, TRIP = FALSE, FLT = TRUE, UZSD = FALSE	N/A
TC#3	SET = TRUE, TRIP = FALSE, FLT = TRUE, UZSD = TRUE	SET = TRUE, TRIP = FALSE, FLT = TRUE, UZSD = TRUE	TRUE
TC#4	SET = FALSE, OVAT = TRUE and TRIP = TRUE or OVAT = TRUE and FLT = FALSE or OVAT = TRUE and UZSD = FALSE or OVAT = TRUE and Countdown time Elapse	SET = FALSE, OVAT = TRUE and TRIP = TRUE or OVAT = TRUE and FLT = FALSE or OVAT = TRUE and UZSD = FALSE or OVAT = TRUE and Countdown time Elapse	FALSE

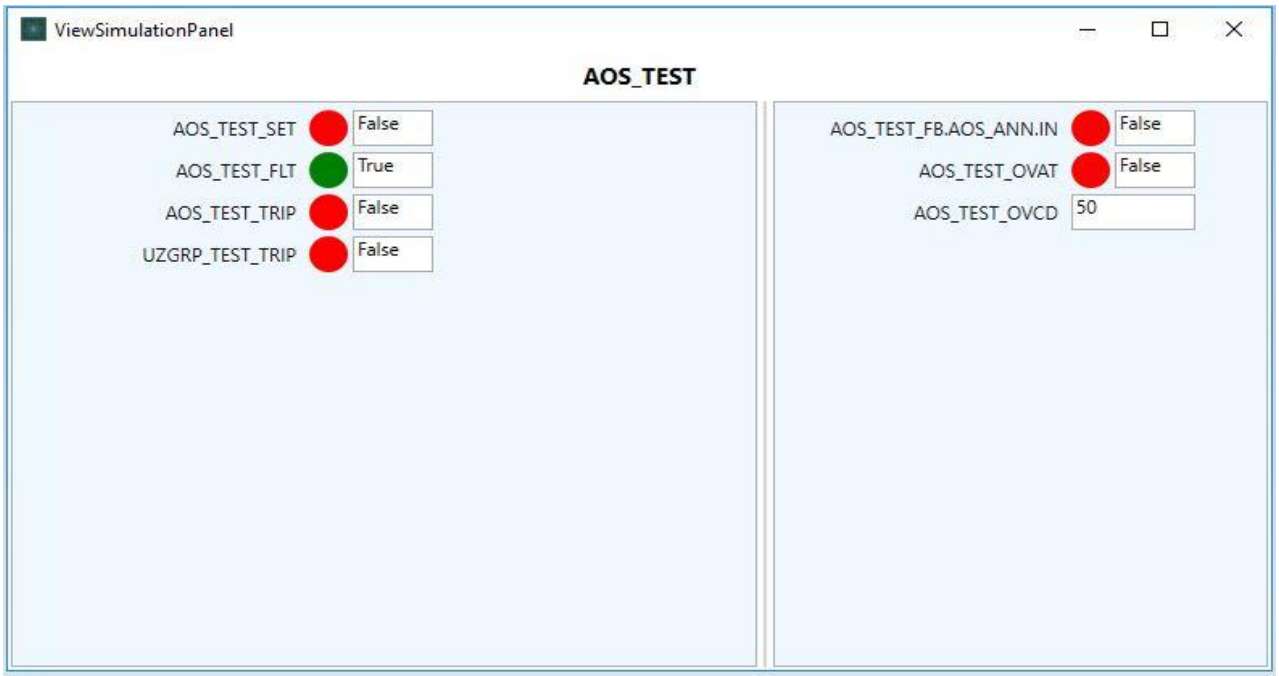
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

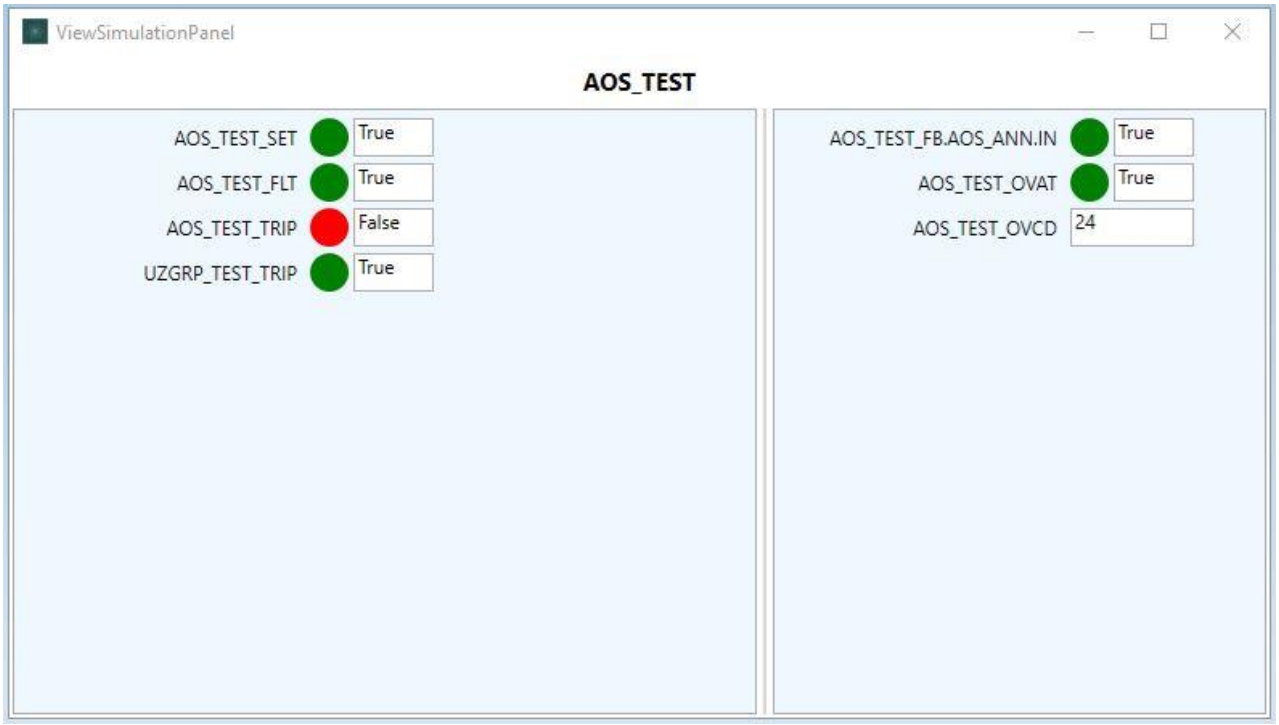
10.5 TEST RESULTS:



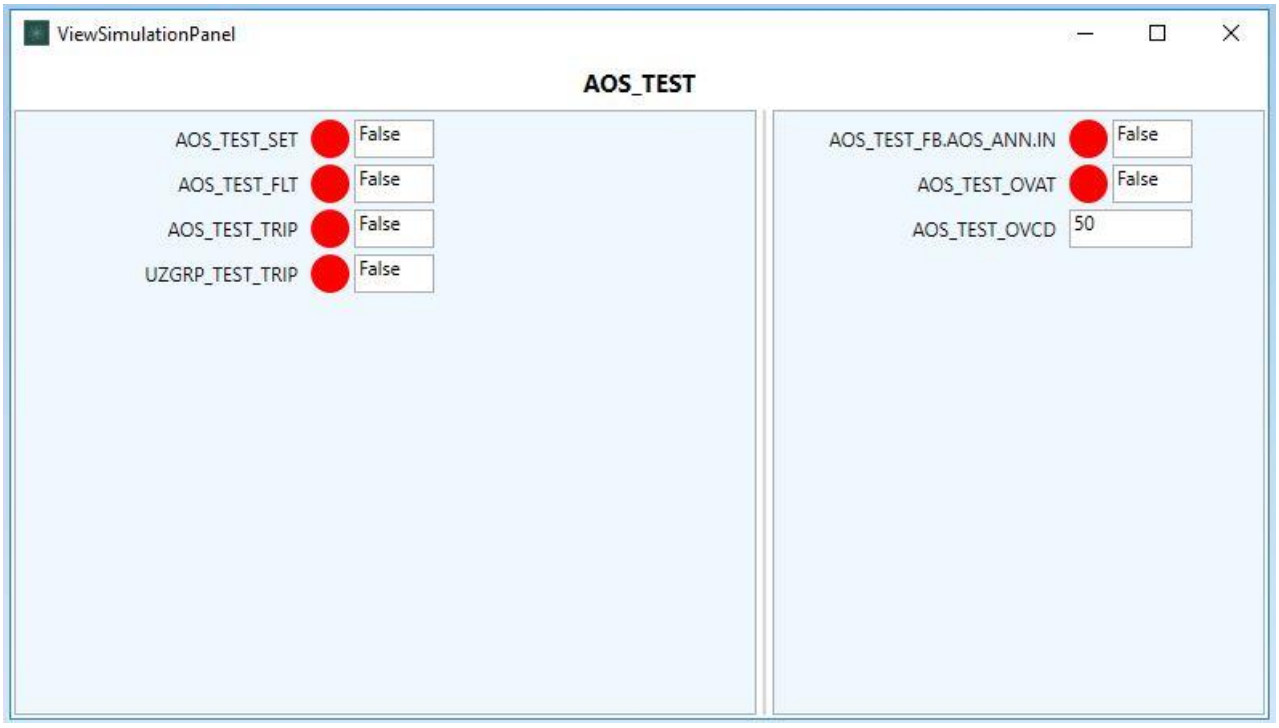
TC#1 : SET = FALSE, TRIP = TRUE, FLT = TRUE, UZSD = TRUE

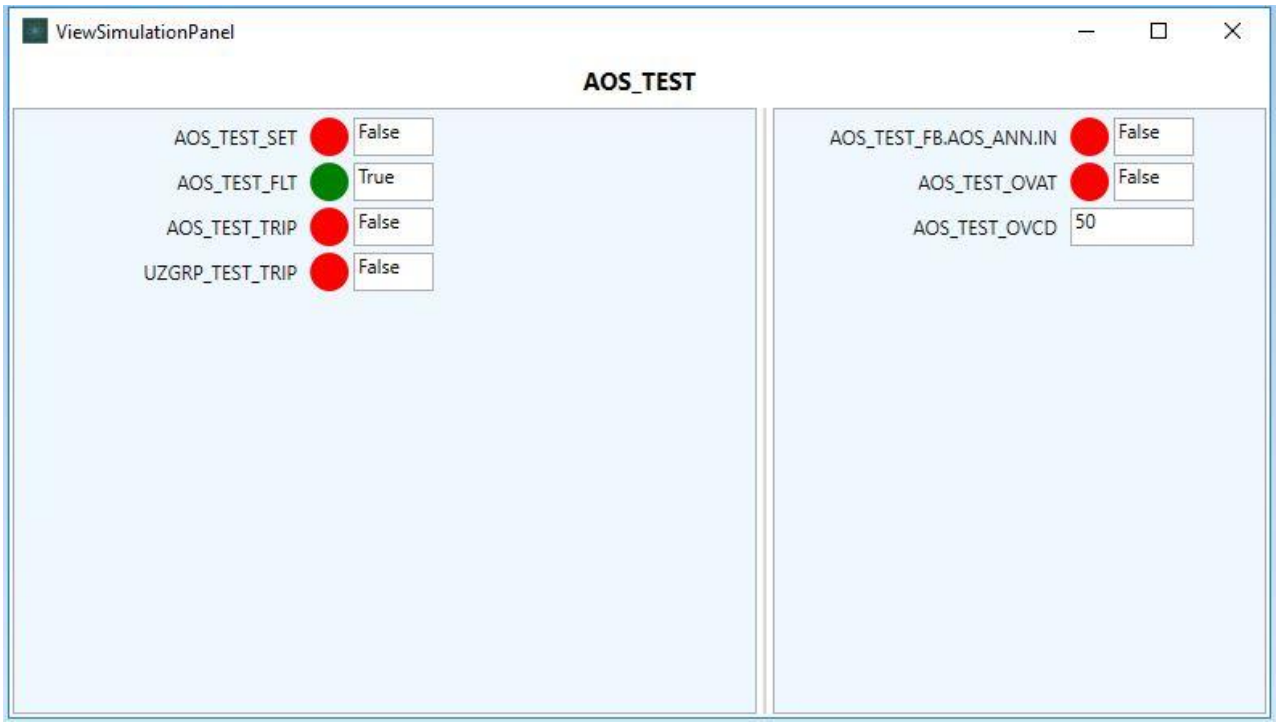


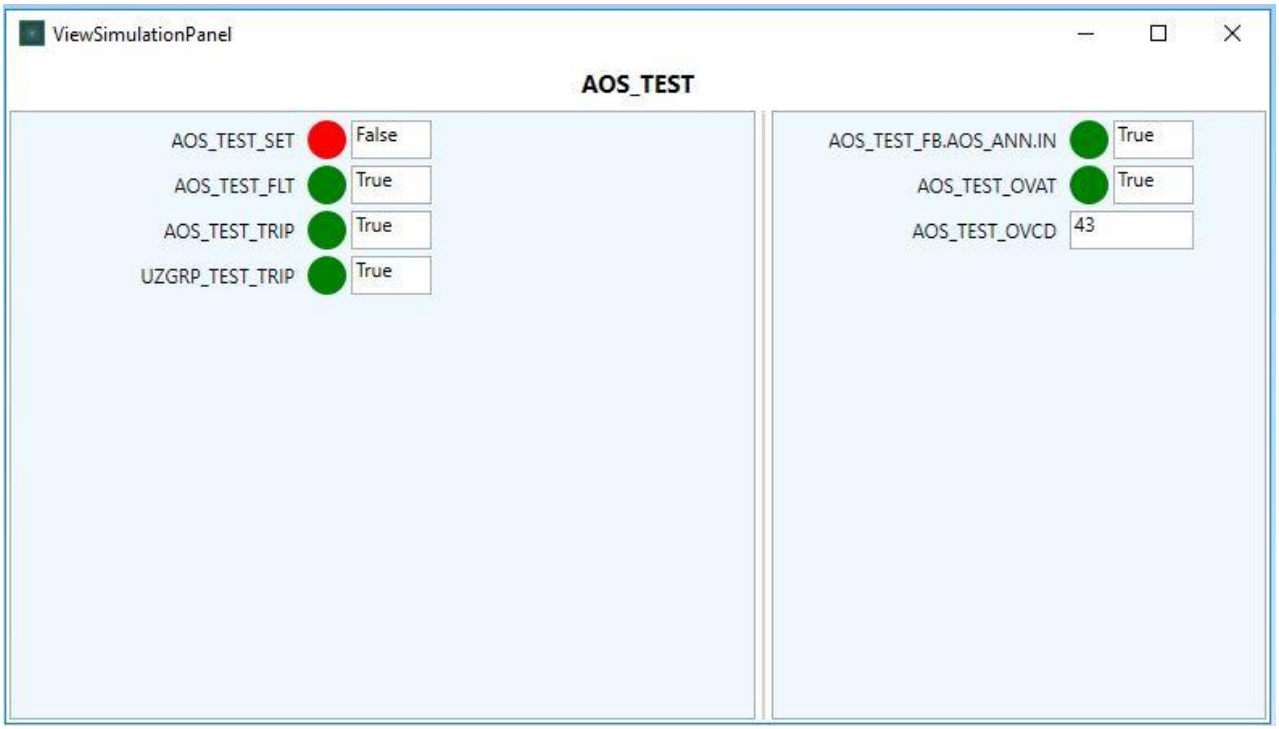
TC#2 : SET = FALSE, TRIP = FALSE, FLT = TRUE, UZSD = FALSE



TC#3 : SET = TRUE, TRIP = FALSE, FLT = TRUE, UZSD = TRUE

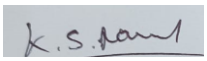






TC#4 : SET = FALSE,
OVAT = TRUE and TRIP = TRUE or
OVAT = TRUE and FLT = FALSE or
OVAT = TRUE and UZSD = FALSE or
OVAT = TRUE and Countdown time Elapse

10.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-JUL-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

11 TOF

Trip Delay Timer (TOF) timer is used to provide delayed actions or alarms in response to a specific condition.

11.1 PURPOSE

Trip delay timer (TOF) timer is often used to provide delayed actions or alarms in response to a specific condition.

Functionality:
The TOF function block has the following main functions:

1. **Activation on Condition**: The TOF timer is triggered when a specific condition is met, such as an abnormal process variable exceeding its safe limit (e.g., high pressure, high temperature).
2. **Timing Period**: Once the condition is met, the TOF timer starts counting. This period is preset and can vary depending on the application. During this time, the condition is monitored continuously.
3. **Condition Sustains Beyond the Timer**:
    1. If the condition persists beyond the timer period, the SIS initiates the corresponding safety action, such as:
        1. **Activating an alarm**
        2. **Triggering an emergency shutdown (ESD)**

11.2 LOGIC DIAGRAMS

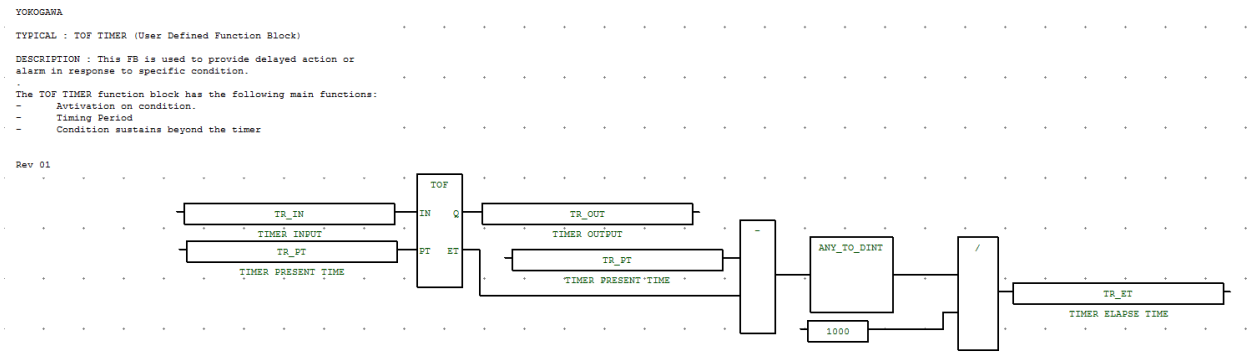


Fig 21 User Defined Function Block TOF

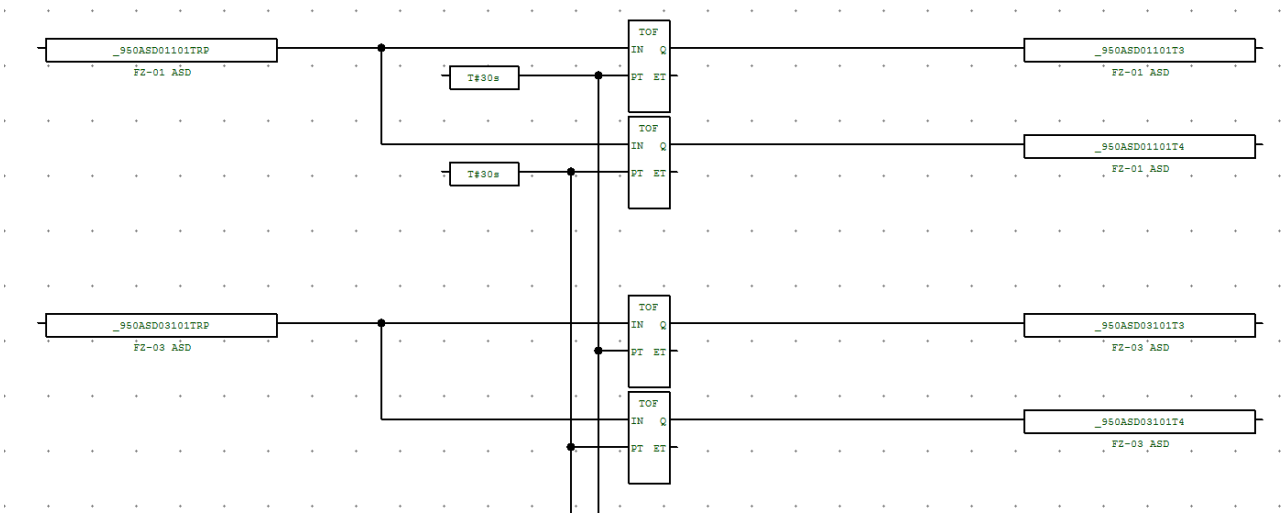


Fig 22 Logic Diagram for Typical TOF

11.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	Input (BOOL)	TRUE
PT	Preset Timer	T#Sec

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
Q	Output (BOOL) If TRUE: total time is not elapsed If FALSE: ET increments till reaches reach PT	TRUE
ET	Elapsed Time	T#Sec

11.4 TEST CASES VS EXPECTED RESULTS

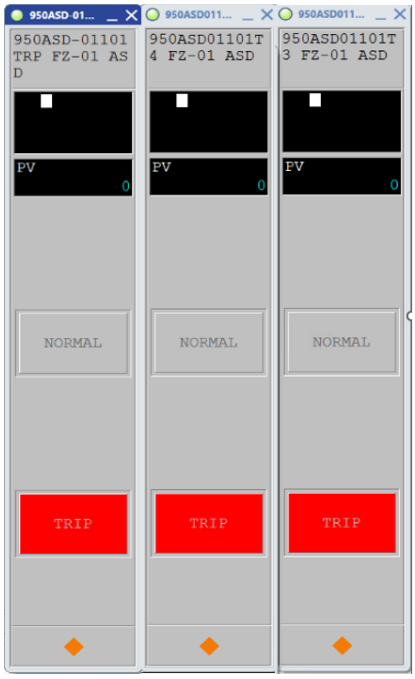
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results
			Q (OUTPUT)
TC#1	IN = FALSE, Q = FALSE, PT = 0-2147483648, ET = 0-2147483648	IN = FALSE	FALSE
TC#2	IN = TRUE, Q = TRUE, PT = RESET TO ZERO, ET = RESET TO ZERO	IN = TRUE	TRUE

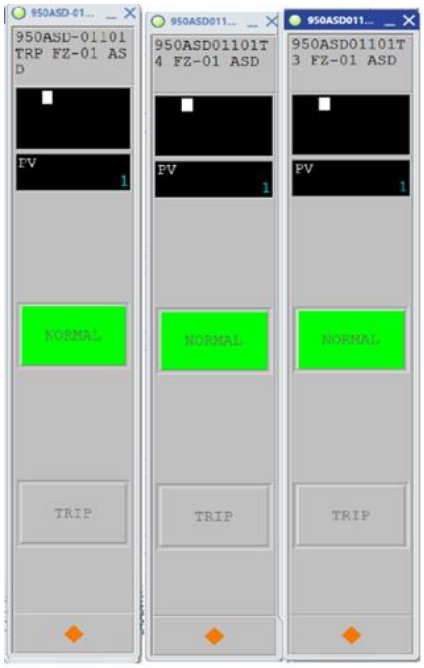
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

11.5 TEST RESULTS:



TC#1 : IN = FALSE, Q = FALSE, PT = 0-2147483648, ET = 0-2147483648



TC#1 : IN = TRUE, Q = TRUE, PT =0-2147483648 , ET = RESET TO ZERO

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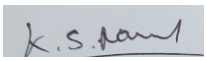
11.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

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TEST REPORT FOR FGS TYPICALS

Revision	**:**	**01**
Date	**:**	**08-OCT-2024**
Test Specification Prepared by	**:**	**DAMINI.D**
Tested by	**:**	**NANDAGOPALK.S.**
Verified by	**:**	**MANOJKUMAR.P**

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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Revision History

Rev	Date	Revision Details / Remarks
00	05-AUG-2024	First Issue after Typical Test
01	08-OCT-2024	Accepted for Construction

List of FGS Software Typical

SYSTEM	SL. NO	Typical Name	Description	Revision			
				00	01	02	03
FGS	1	FG_LD	Leak Detector Analog Input	X	X		
	2	FG_GD	Gas Detector Analog Input	X			
	3	FG_SD	Smoke Detector Analog Input	X			
	4	FG_FLAME_IR	Flame Detector Analog Input	X	X		
	5	FG_MAN_REL_NC	FGS NC Type Digital Input	X			
	6	FG_MAN_REL_NO	FGS NO Type Digital Input	X			
	7	F23	FGS Voter 2oo3	X	X		
	8	FG_V2N	FGS 2ooN Voting	X			
	9	UZGRP	IPS UZ group with 10 inputs	X			
	10	UZRST	IPS Reset for UZ group	X			

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1 FG_LD

Leakage Detector for Fire and Gas Applications.

1.1 PURPOSE

This typical is used for H2 Leak detectors.

Functionality:

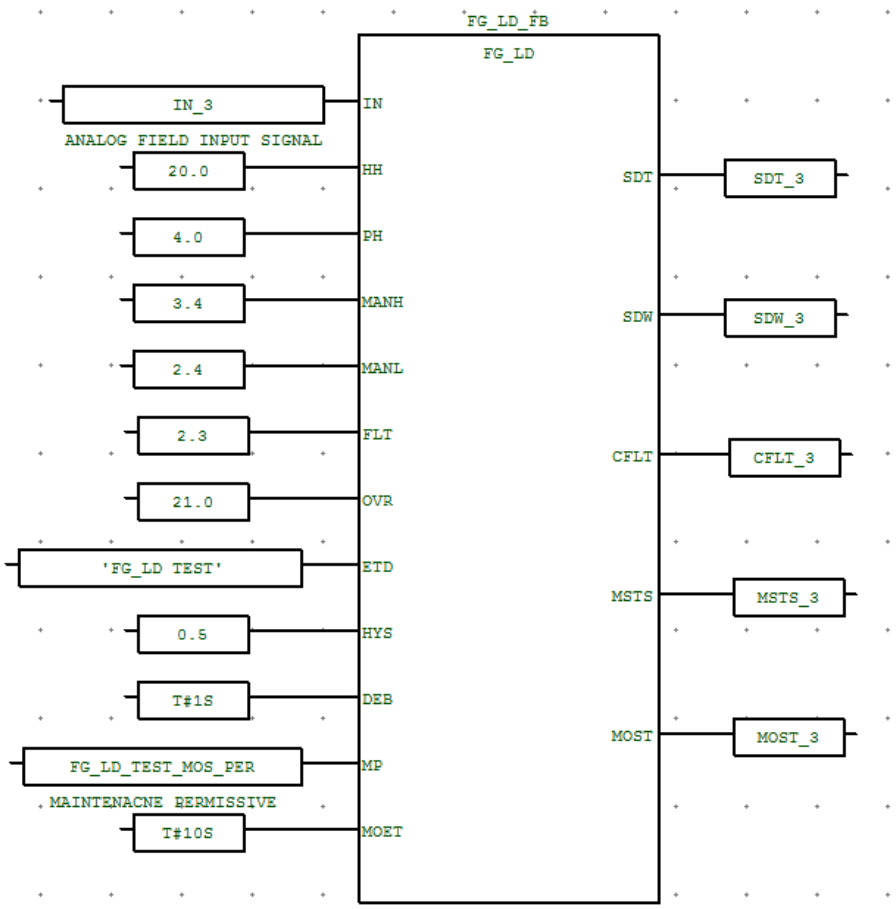
- Process Point type gas detectors
- Manage the maintenance override function (MOS) for gas point detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Gas Point type input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LLLL and LTRP values are masked as these provide no function for flame detection.
- HHH and HTRP values is used warning and trip.
- All faults are considered critical and result in degraded voting logic.

Logic Diagrams



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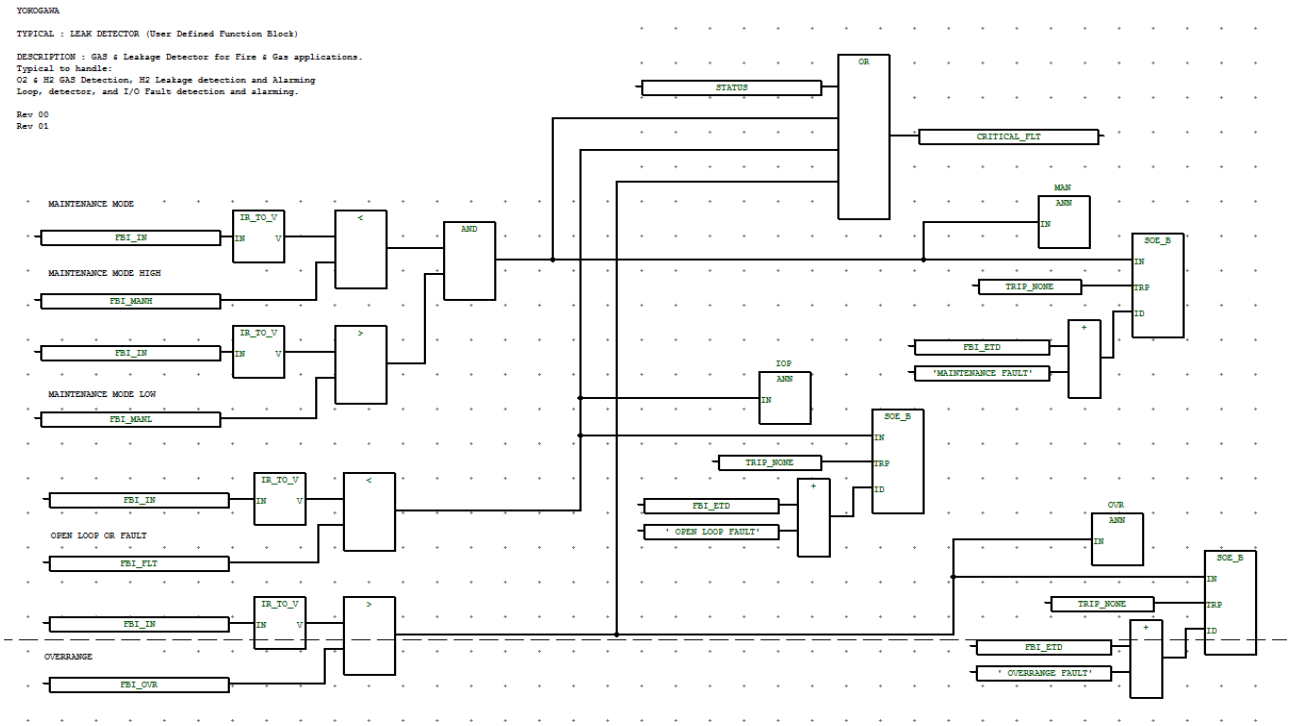


Fig 1 User Defined Function Block FG_LD

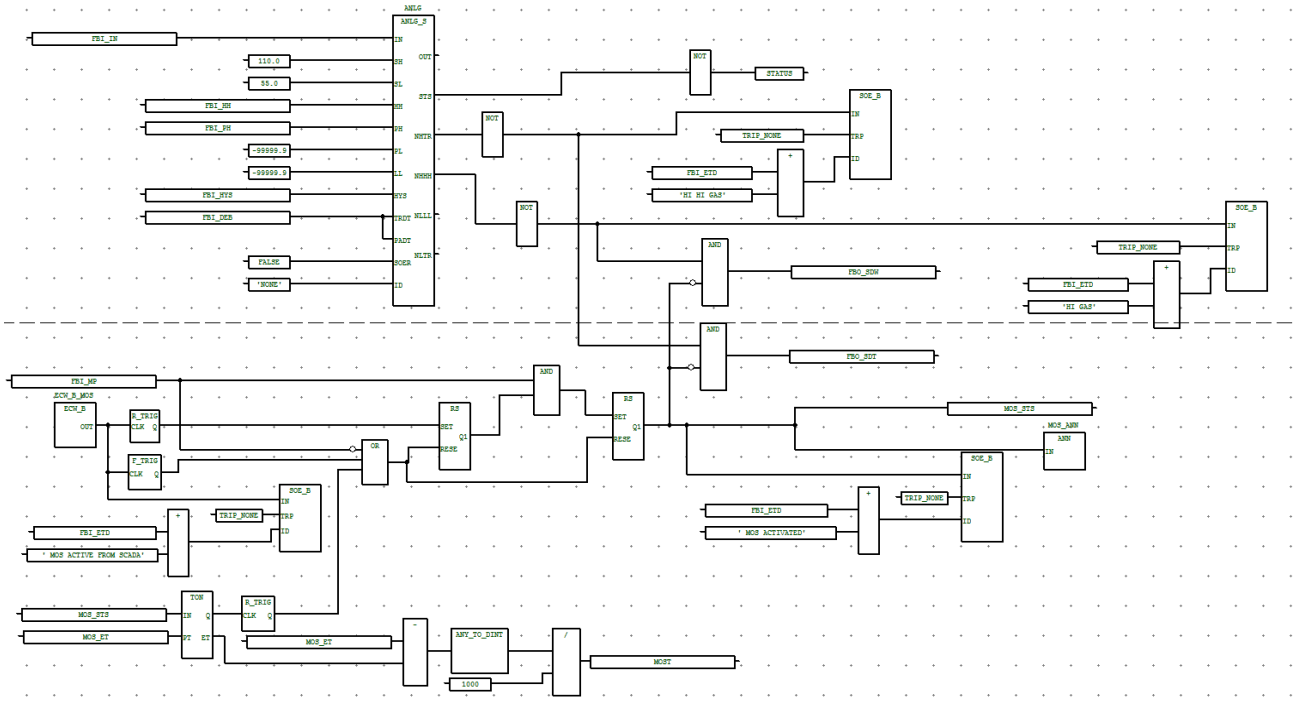


Fig 2 Logic Diagram for Typical FG_LD

1.2 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	ANALOG FIELD INPUT SIGNAL	50
HH	HH SETPOINT	80
PH	PH SETPOINT	70
MANH	MAINTENANCE FAULT THRESHOLD HI	-3.4
MANL	MAINTENANCE FAULT THRESHOLD LO	-6.4
FLT	OPEN LOOP FAULT	-8
OVR	OVERRANGE FAULT	105
ETD	EVENT TEXT FOR DEVICE	XXXXXX
HYS	HYSTERESIS %	0.5
DEB	DEBOUNCE TIME	T#1S
MP	MAINTENACNE PERMISSIVE	FALSE
MOET	MOS RESET TIMER	T#10s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
SDT	SHUTDOWN TRIP	FALSE
CFLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	FALSE
MOST	MOS RESET TIMER	10s

1.3 TEST CASES VS EXPECTED RESULTS

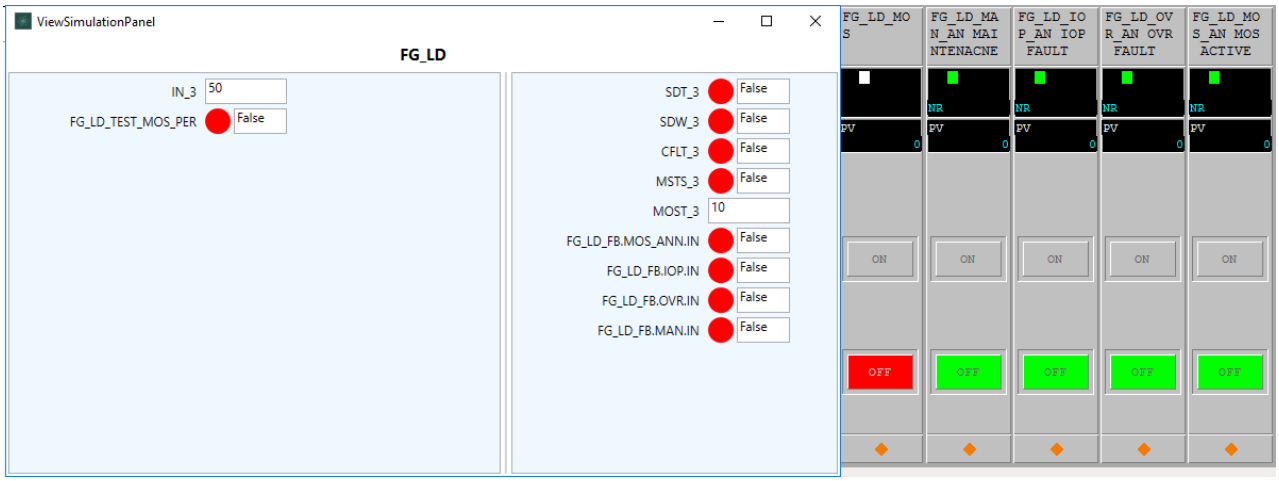
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results			
			Shutdown Trip	Shutdown H Trip	Critical Fault	MOS Status
TC#1	IN.Value = 50.0, MP = FALSE	IN.Value = 50.0, MP = FALSE	FALSE	FALSE	FALSE	FALSE
TC#2	IN.Value = 81.0, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	TRUE	TRUE	FALSE	FALSE
TC#3	IN.Value = 81.0, MP = TRUE, @ECW_B_LD = TRUE	IN.Value = 81.0, MP = TRUE, @ECW_B_LD = TRUE	FALSE	FALSE	FALSE	TRUE
TC#4	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	TRUE	TRUE	FALSE	FALSE
TC#5	IN.Value = -3.5, MP = FALSE,	IN.Value = -3.5 MP = FALSE,	FALSE	FALSE	TRUE	FALSE
TC#6	IN.Value = -8.1, MP = FALSE,	IN.Value = -8.1, MP = FALSE,	FALSE	FALSE	TRUE	FALSE
TC#7	IN.Value = 105.1, MP = FALSE,	IN.Value = 105.1, MP = FALSE,	TRUE	TRUE	TRUE	FALSE
TC#8	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	FALSE	FALSE	TRUE	FALSE

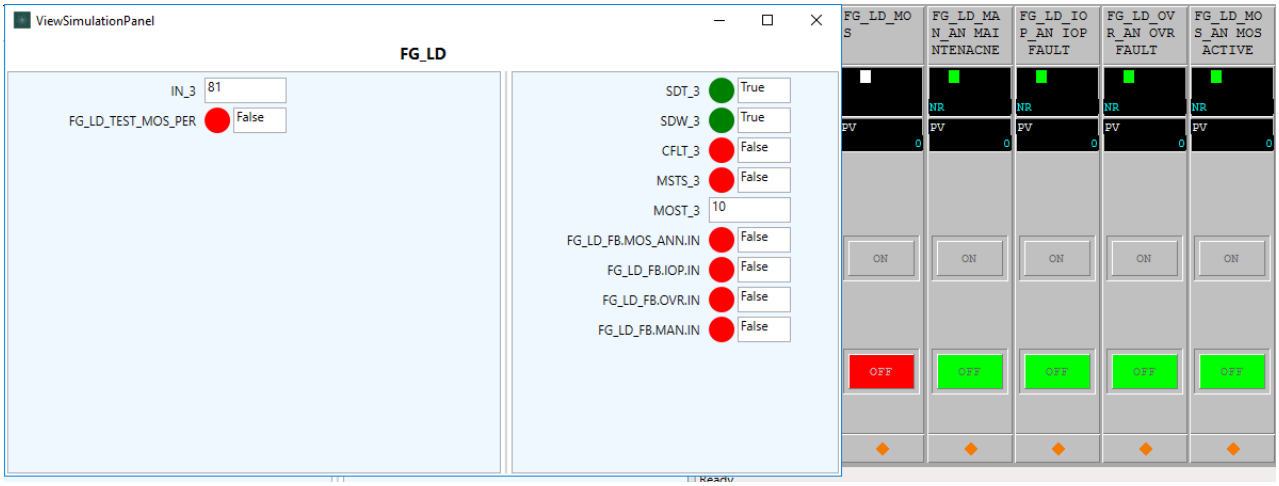
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- TRUE Indicates Alarm / Trip value changes from “False’ to ‘True’.

1.4 TEST RESULTS:



TC#1 : IN.Value = 50.0,MP = FALSE



TC#2 : IN.Value = 81.0,MP = FALSE

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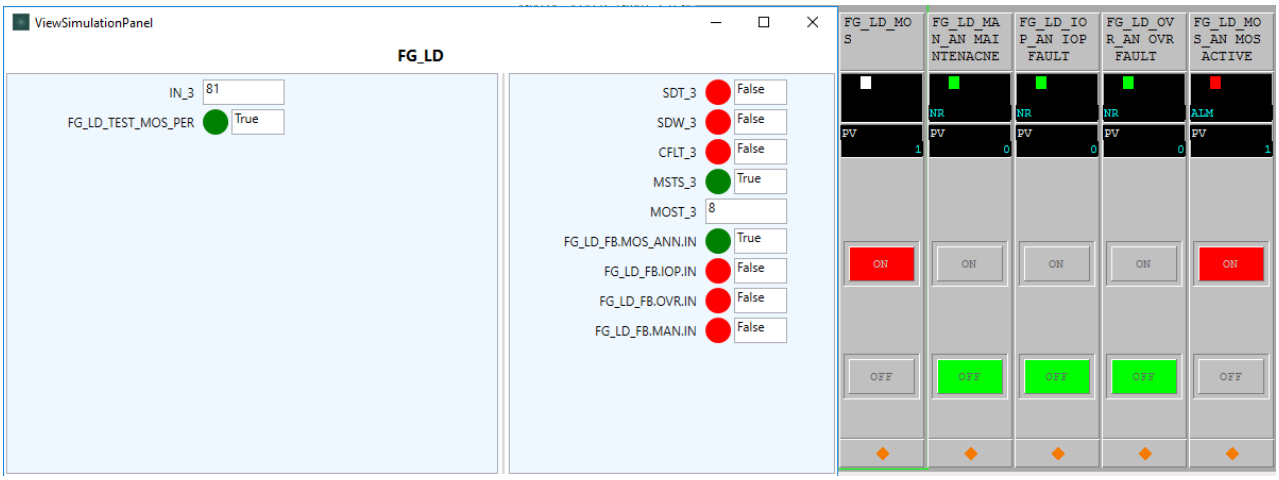
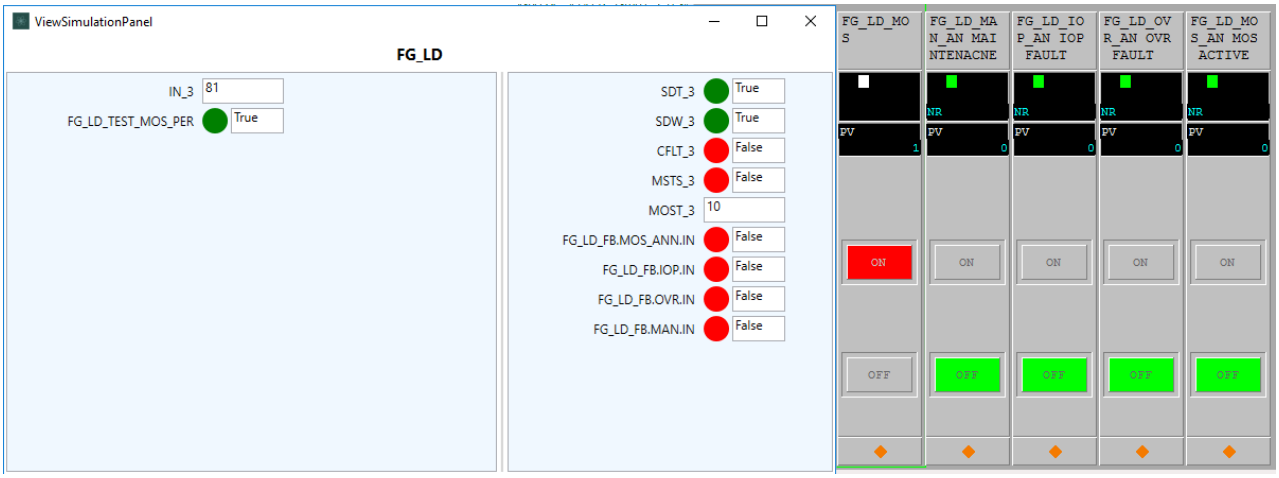


TC#3 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE



TC#4 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE, MOS TIME ELAPSED

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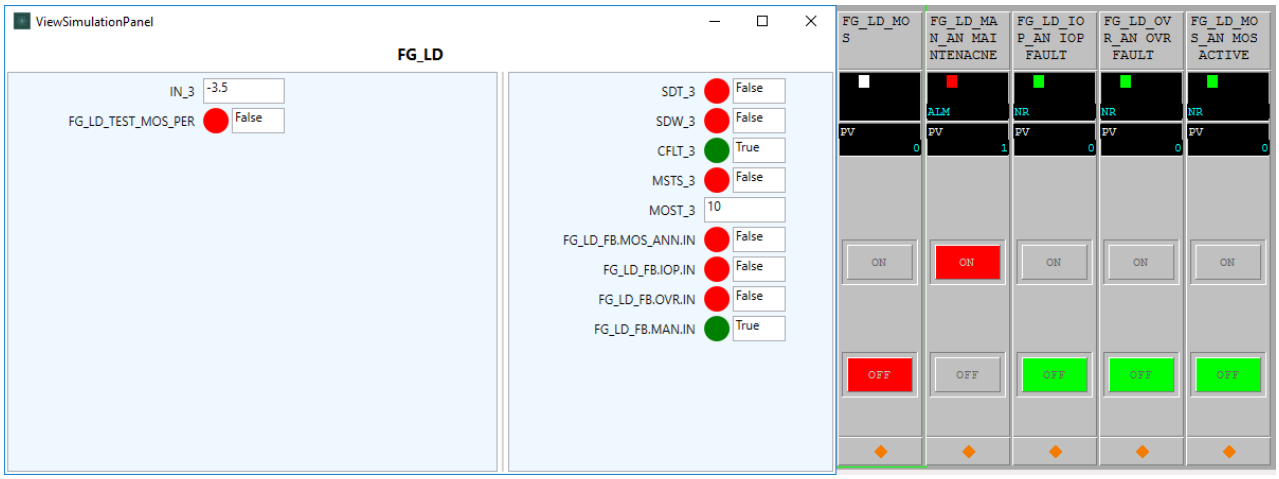
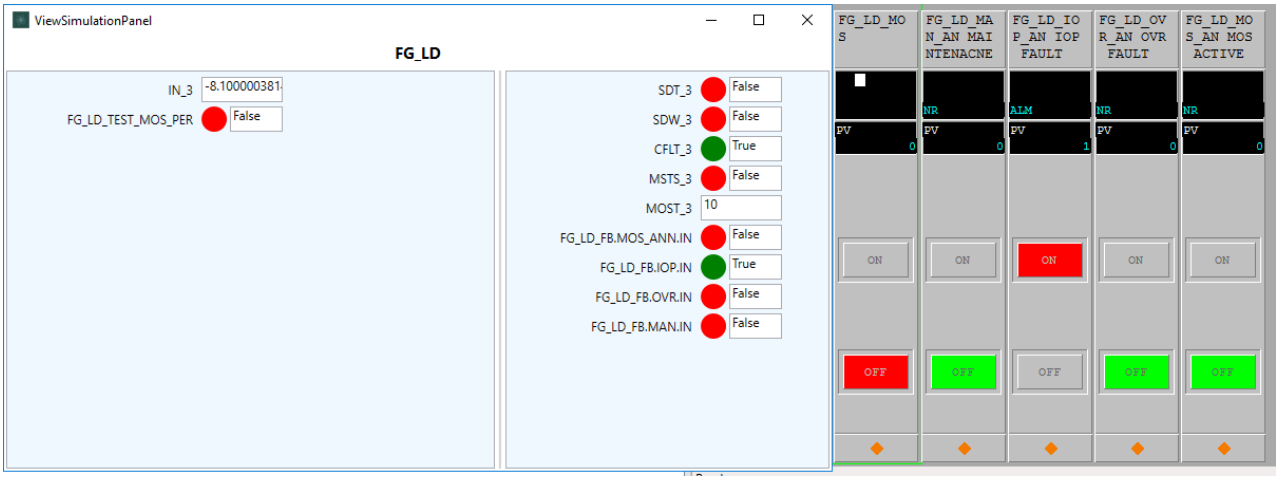


TC#5: IN.Value = -3.5,MP = FALSE



TC#6 : IN.Value = -8.1,MP = FALSE

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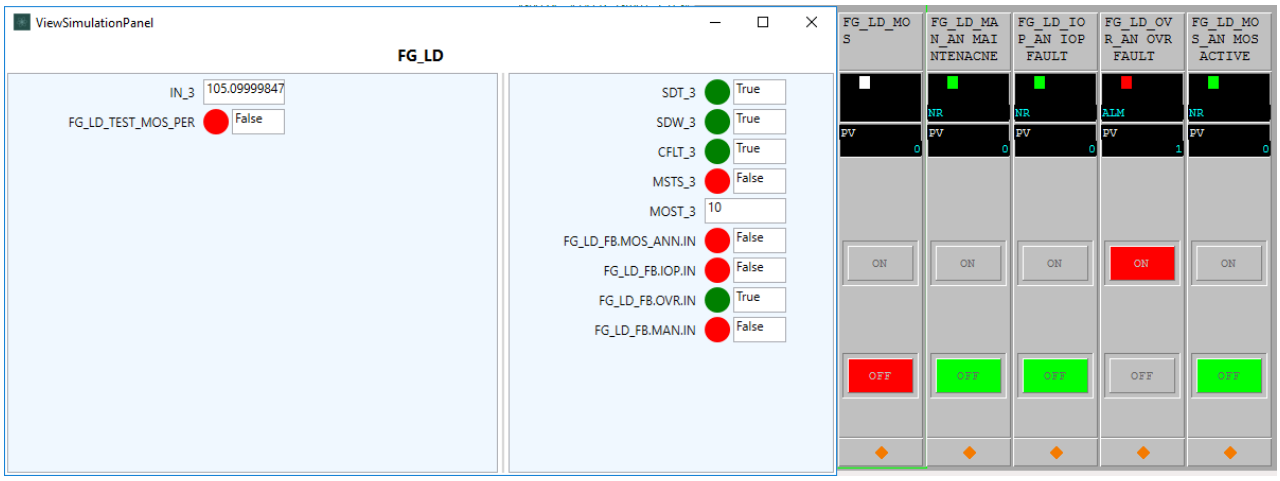
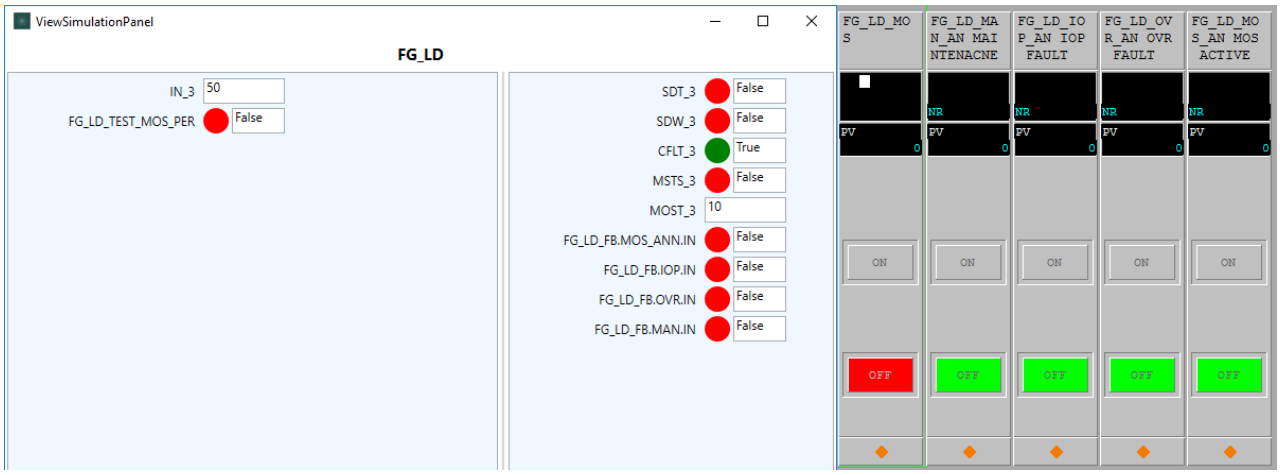
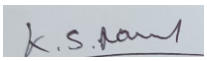


TC#7 : IN.Value = 105.1,MP = FALSE



TC#8 : IN.Value = 50.0,MP = FALSE, TRANSMITTER FAULT(STS) = TRUE

1.5 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

2 FG_GD

GAS Detector for Fire & Gas applications.

2.1 PURPOSE

This typical is used for H2 & O2 gas detectors.

Functionality:

- Process Point type gas detectors
- Manage the maintenance override function (MOS) for gas point detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Gas Point type input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LLL and LTRP values are masked as these provide no function for flame detection.
- HHH and HTRP values is used warning and trip.
- All faults are considered critical and result in degraded voting logic.

2.2 LOGIC DIAGRAMS

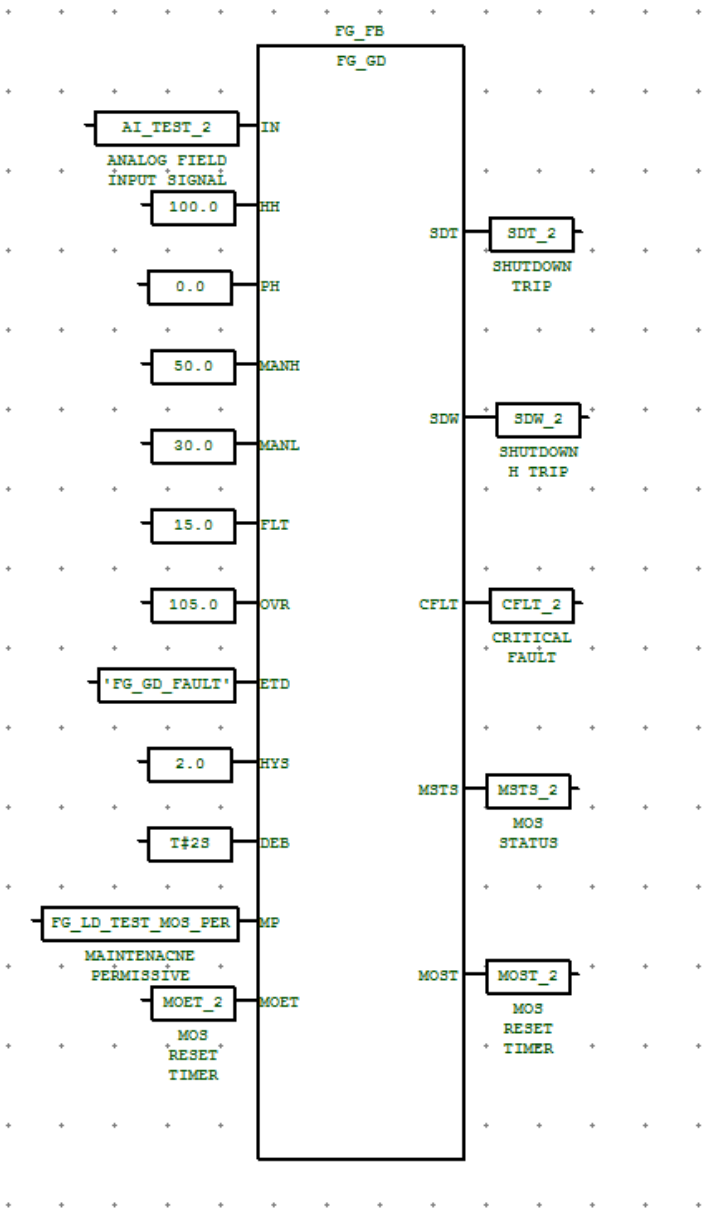


Fig 3 User Defined Function Block FG_GD

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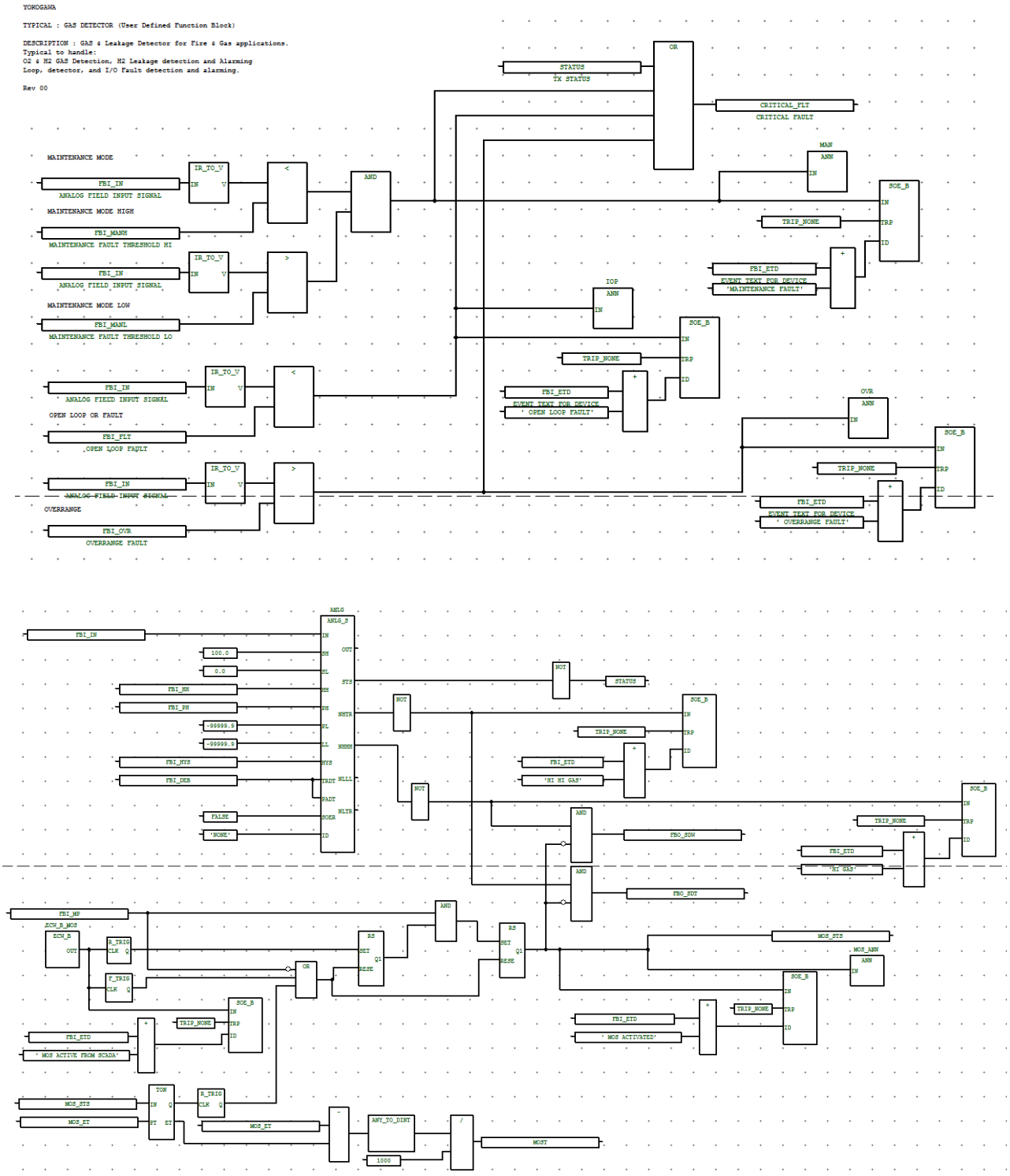


Fig 4 Logic Diagram for Typical FG_GD

2.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	ANALOG FIELD INPUT SIGNAL	50.0
HH	HH SETPOINT	80.0
PH	PH SETPOINT	70.0
MANH	MAINTENANCE FAULT THRESHOLD HI	-3.4
MANL	MAINTENANCE FAULT THRESHOLD LO	-6.4
FLT	OPEN LOOP FAULT	-8.0
OVR	OVERRANGE FAULT	105.0
ETD	EVENT TEXT FOR DEVICE	XXXXXX
HYS	HYSTERESIS %	0.5
DEB	DEBOUNCE TIME	T#1S
MP	MAINTENACNE PERMISSIVE	FALSE
MOET	MOS RESET TIMER	T#10s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
SDT	SHUTDOWN TRIP	FALSE
CFLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	FALSE
MOST	MOS RESET TIMER	10s

2.4 TEST CASES VS EXPECTED RESULTS

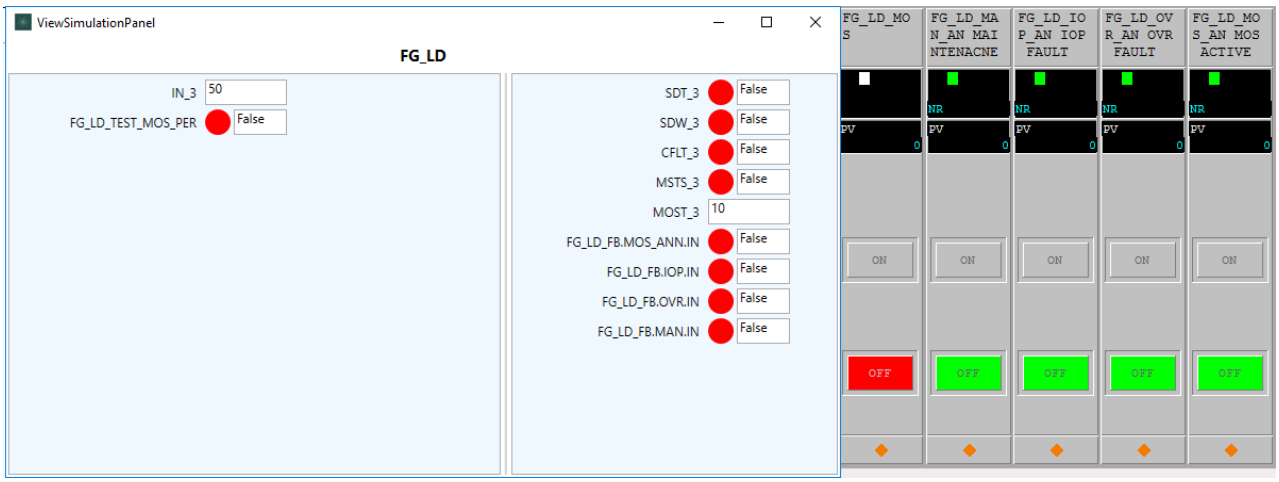
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			Shutdown Trip	Critical Fault	MOS Status
TC#1	IN.Value = 50.0, MP = FALSE	IN.Value = 50.0, MP = FALSE	FALSE	FALSE	FALSE
TC#2	IN.Value = 81.0, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	TRUE	FALSE	FALSE
TC#3	IN.Value = 81.0, MP = TRUE, @ECW_B_GD = TRUE	IN.Value = 81.0, MP = TRUE, @ECW_B_GD = TRUE	FALSE	FALSE	TRUE
TC#4	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	TRUE	FALSE	FALSE
TC#5	IN.Value = -3.5, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	FALSE	TRUE	FALSE
TC#6	IN.Value = -8.1, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	FALSE	TRUE	FALSE
TC#7	IN.Value = 105.1, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	TRUE	TRUE	FALSE
TC#8	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	IN.Value = 81.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	FALSE	TRUE	FALSE

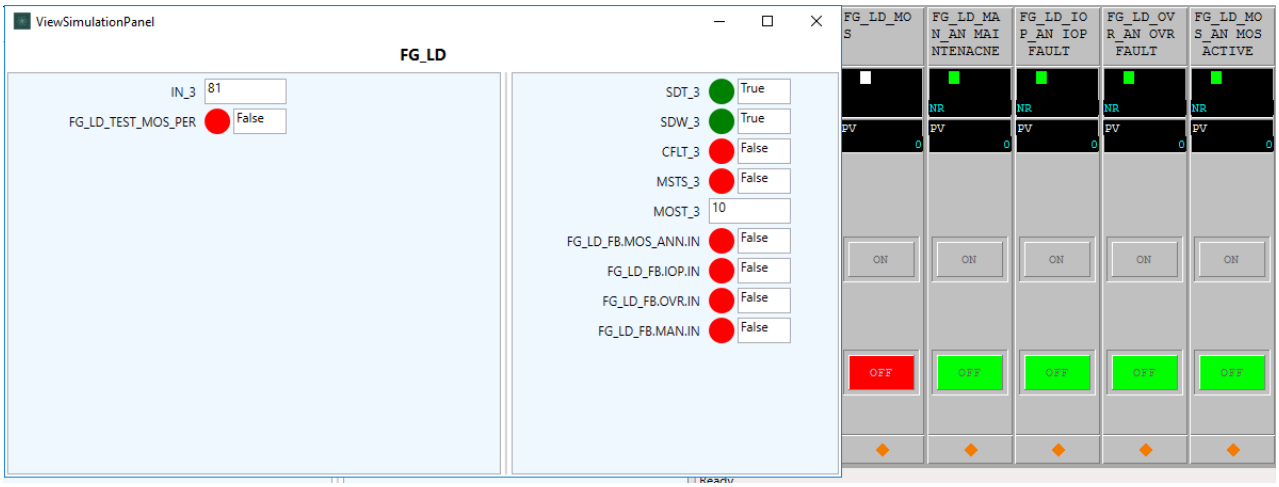
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- TRUE Indicates Alarm / Trip value changes from "False' to 'True'.

2.5 TEST RESULTS:



TC#1 : IN.Value = 50.0,MP = FALSE



TC#2 : IN.Value = 81.0,MP = FALSE

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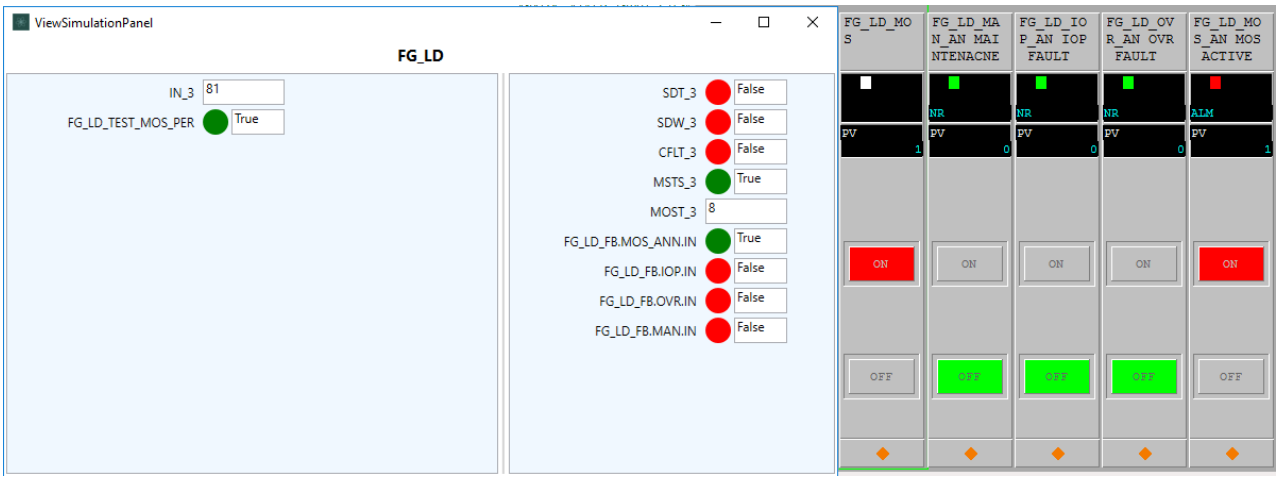
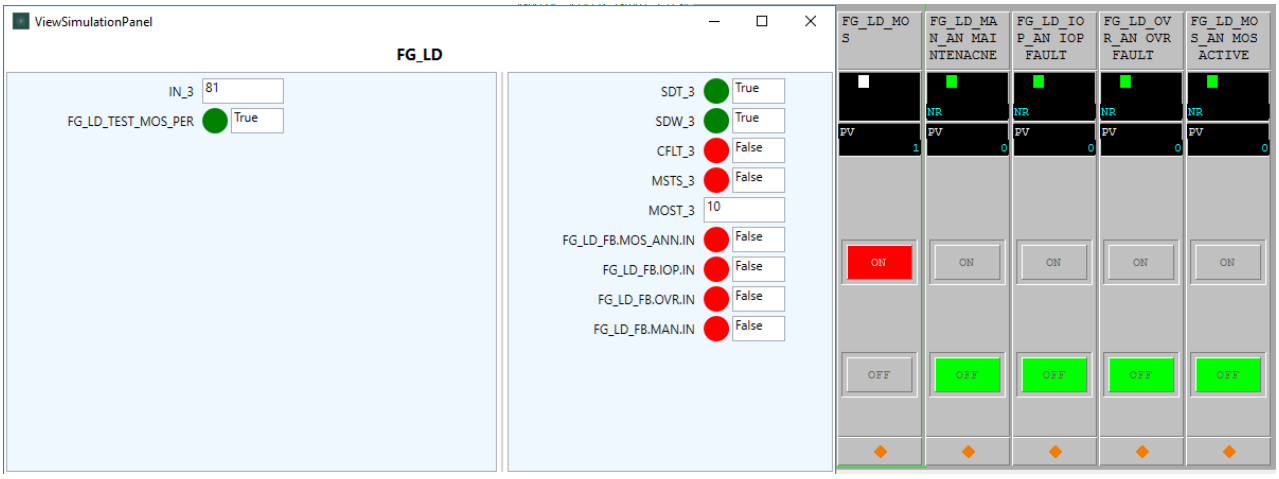


TC#3 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE



TC#4 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE, MOS TIME ELAPSED

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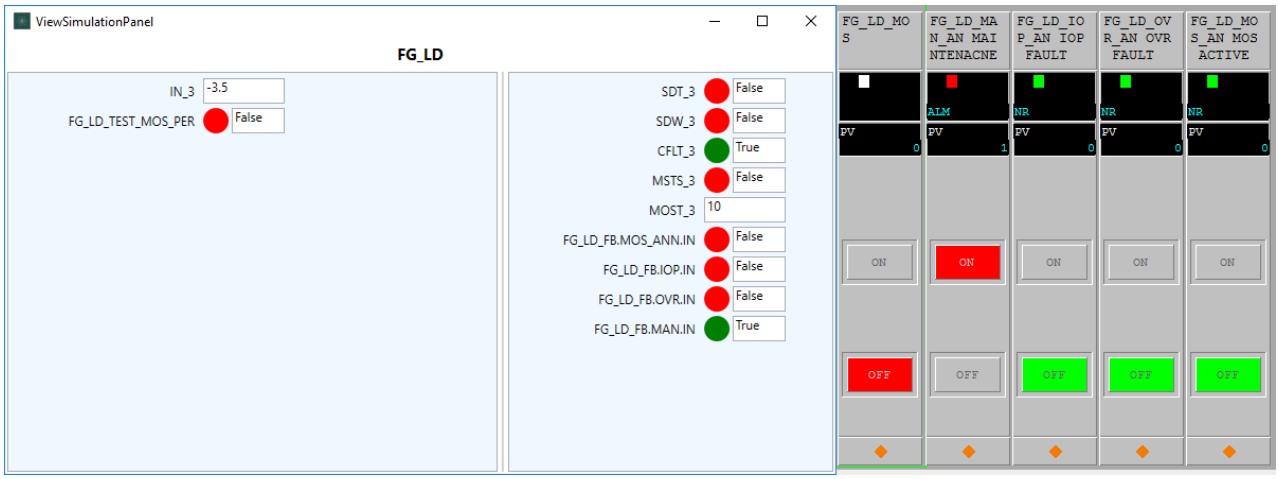
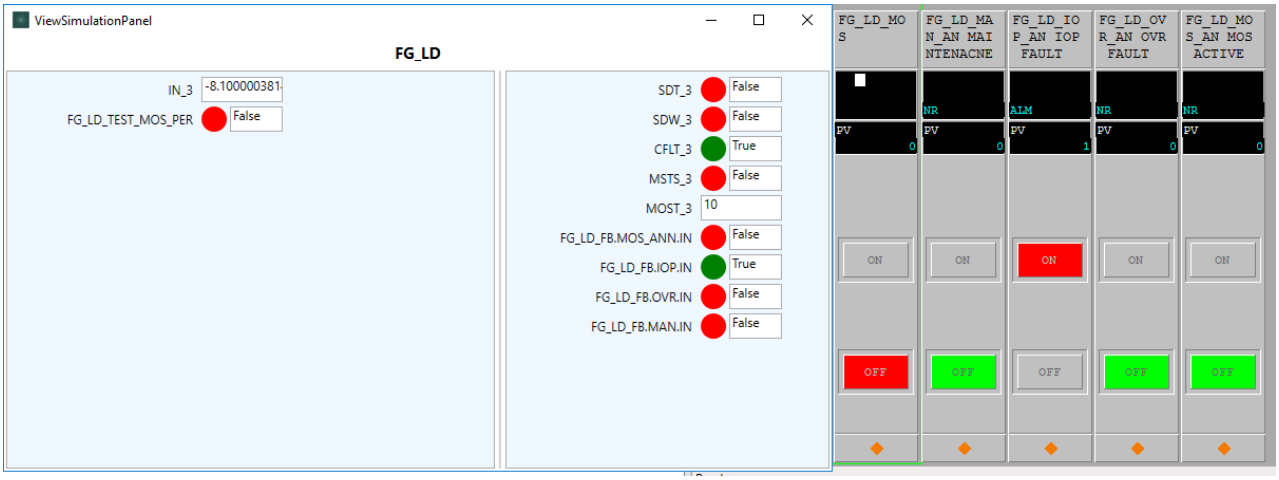


TC#5: IN.Value = -3.5,MP = FALSE



TC#6 : IN.Value = -8.1,MP = FALSE

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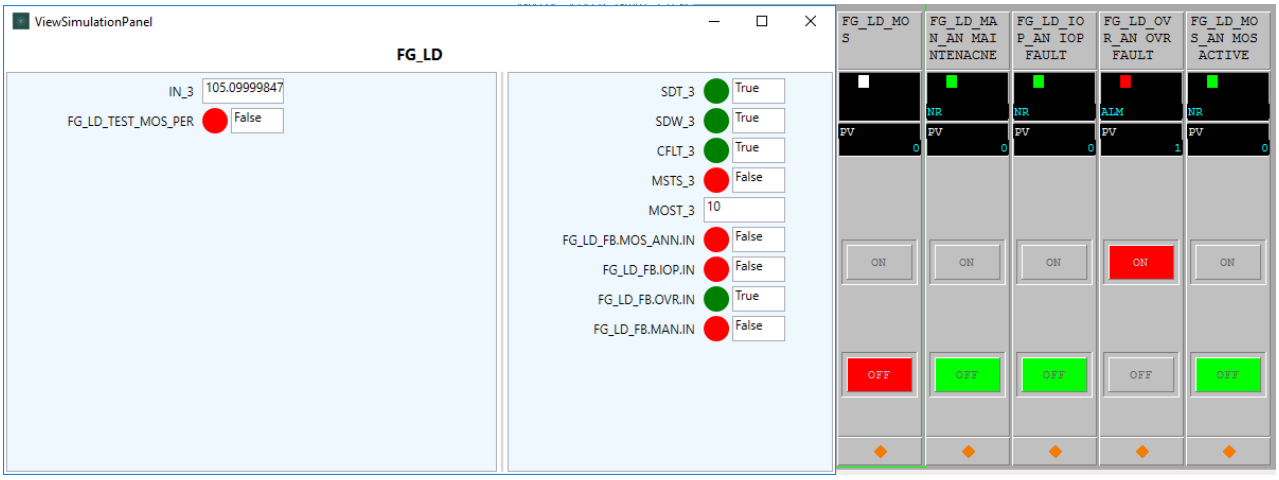
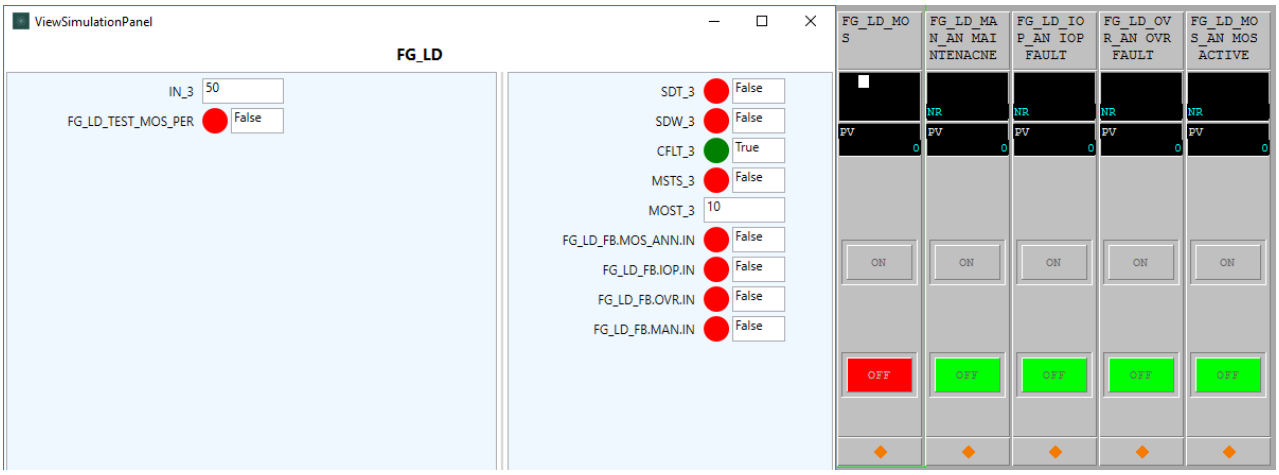
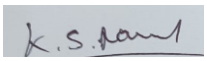


TC#7 : IN.Value = 105.1,MP = FALSE



TC#8 : IN.Value = 50.0,MP = FALSE, TRANSMITTER FAULT(STS) = TRUE

2.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

3 FG_SD

Smoke Detector for Fire and Gas Applications.

3.1 PURPOSE

This typical is used for Smoke detectors.

Functionality:

- Process smoke detectors
- Manage the maintenance override function (MOS) for gas point detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Smoke Detector input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LLLL and LTRP values are masked as these provide no function for flame detection.
- HTRP values is used to trip.
- All faults are considered critical and result in degraded voting logic.

3.2 LOGIC DIAGRAMS

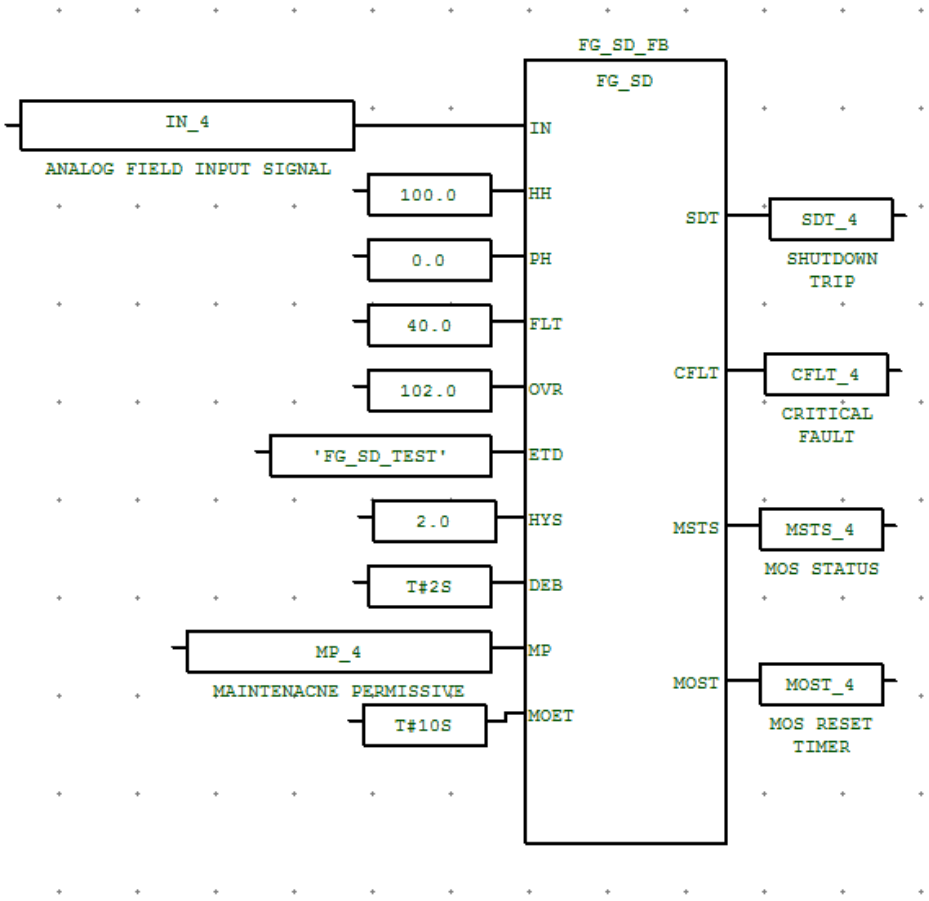


Fig 5 User Defined Function Block FG_SD

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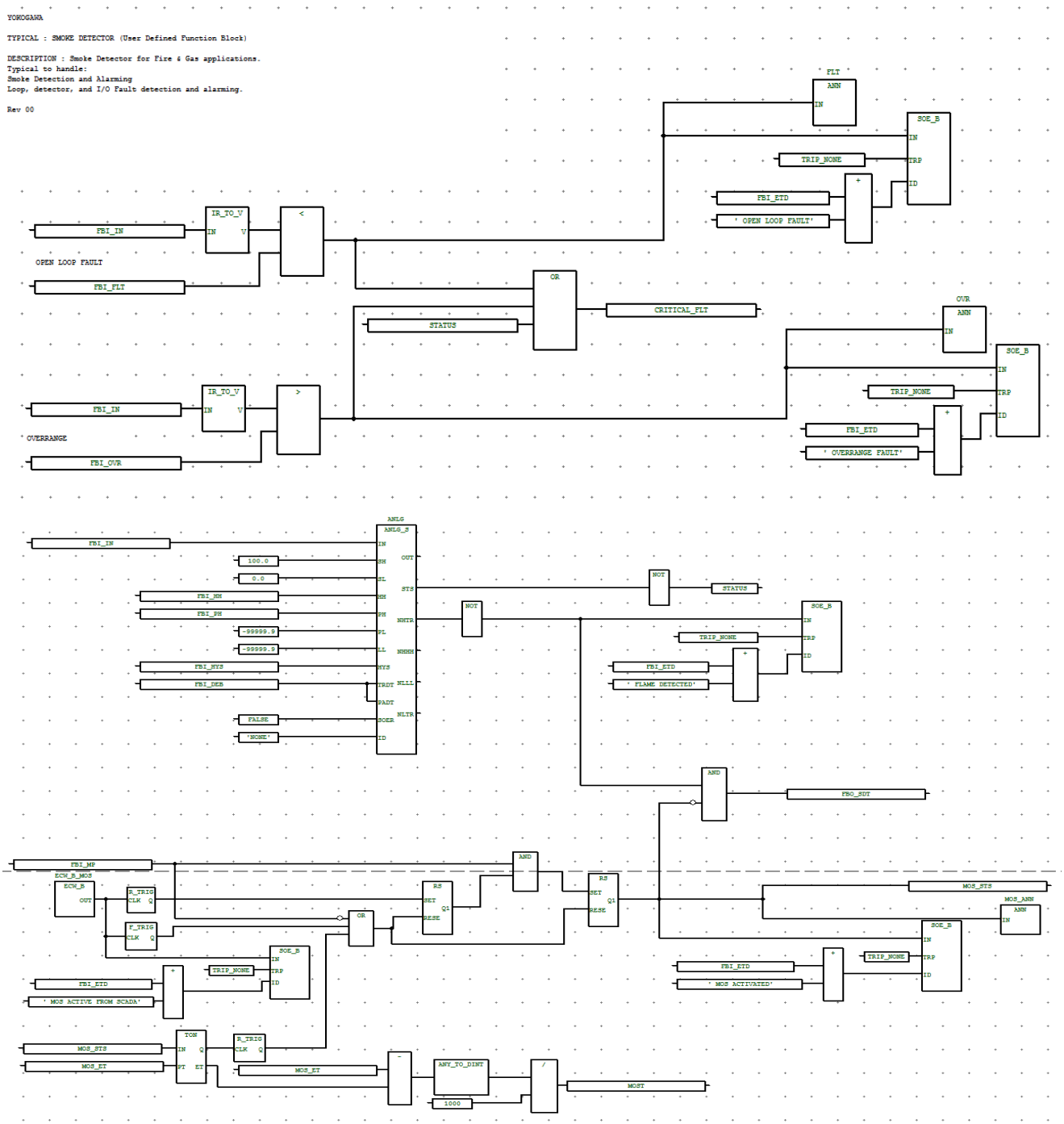


Fig 6 Logic Diagram for Typical FG_SD

3.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	ANALOG FIELD INPUT SIGNAL	50.0
HH	HH SETPOINT	80.0
PH	PH SETPOINT	70.0
FLT	OPEN LOOP FAULT	-8.0
OVR	OVERRANGE FAULT	105.0
ETD	EVENT TEXT FOR DEVICE	XXXXXX
HYS	HYSTERESIS %	0.5
DEB	DEBOUNCE TIME	T#1S
MP	MAINTENACNE PERMISSIVE	FALSE
MOET	MOS RESET TIMER	T#10s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
SDT	SHUTDOWN TRIP	FALSE
CFLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	FALSE
MOST	MOS RESET TIMER	10s

3.4 TEST CASES VS EXPECTED RESULTS

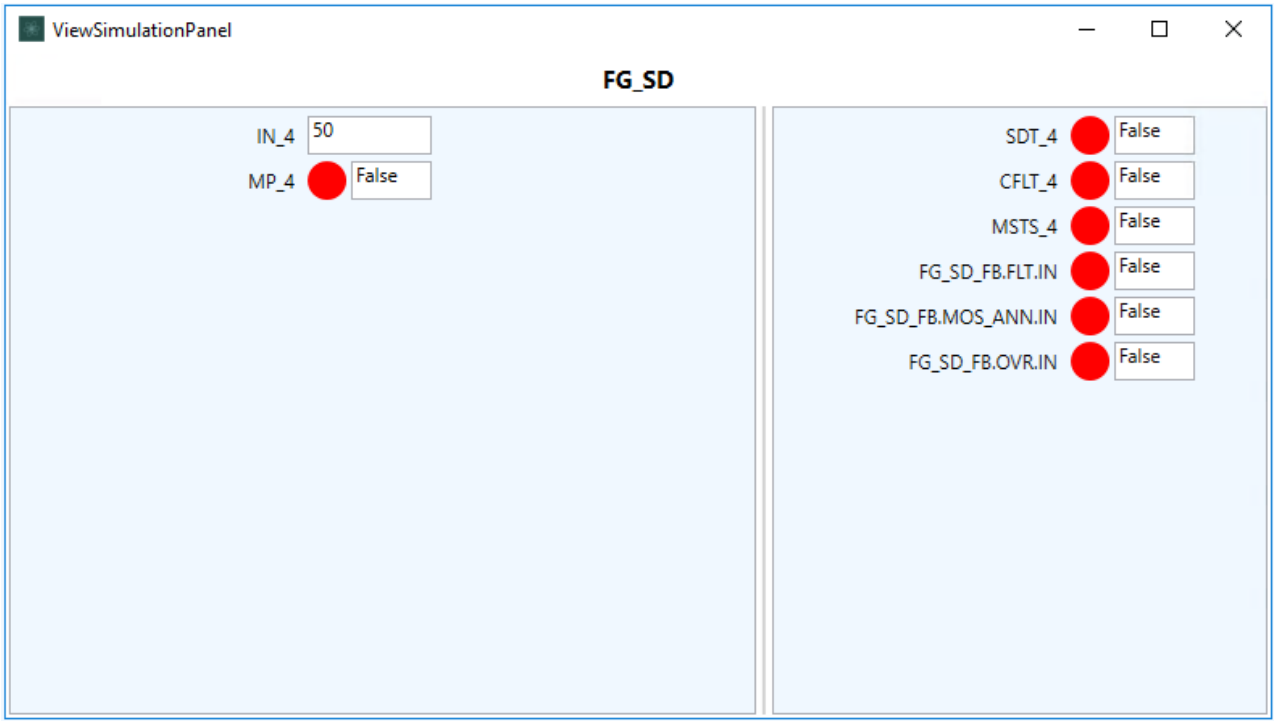
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			Shutdown Trip	Critical Fault	MOS Status
TC#1	IN.Value = 50.0, MP = FALSE	IN.Value = 50.0, MP = FALSE	FALSE	FALSE	FALSE
TC#2	IN.Value = 81.0, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	TRUE	FALSE	FALSE
TC#3	IN.Value = 81.0, MP = TRUE, @ECW_B_GD = TRUE	IN.Value = 81.0, MP = TRUE, @ECW_B_GD = TRUE	FALSE	FALSE	TRUE
TC#4	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	TRUE	FALSE	FALSE
TC#5	IN.Value = -3.5, MP = FALSE,	IN.Value = -3.5, MP = FALSE,	FALSE	TRUE	FALSE
TC#6	IN.Value = 105.1, MP = FALSE,	IN.Value = 105.1, MP = FALSE,	TRUE	TRUE	FALSE
TC#7	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	FALSE	TRUE	FALSE

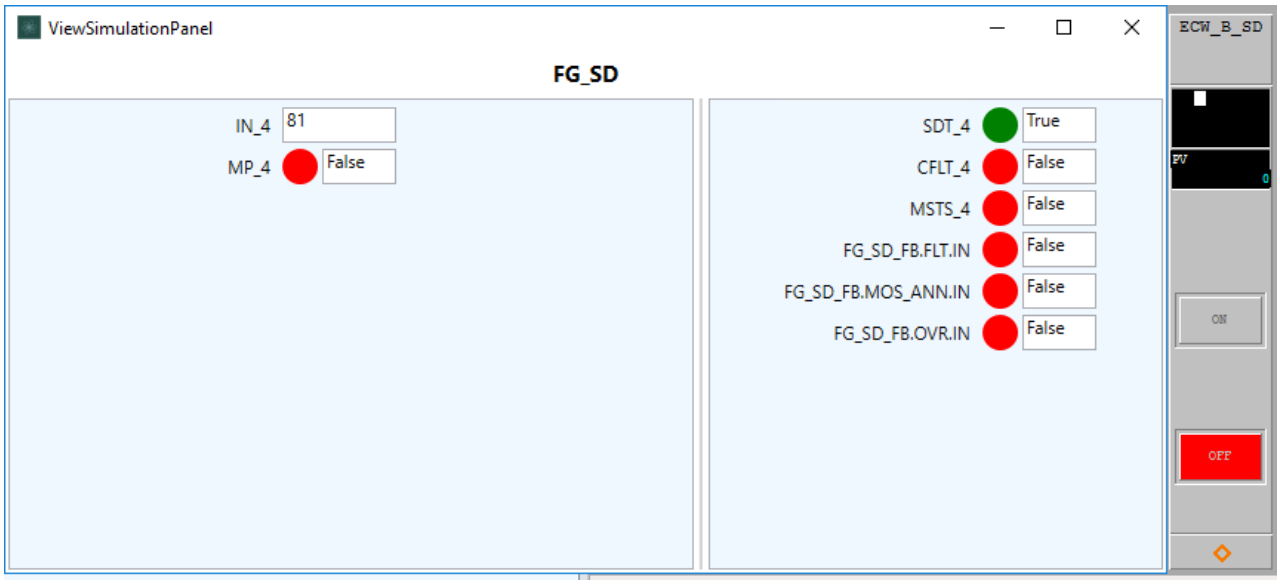
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- TRUE Indicates Alarm / Trip value changes from "False' to 'True'.

3.5 TEST RESULTS:



TC#1 : IN.Value = 50.0,MP = FALSE



TC#2 : IN.Value = 81.0,MP = FALSE

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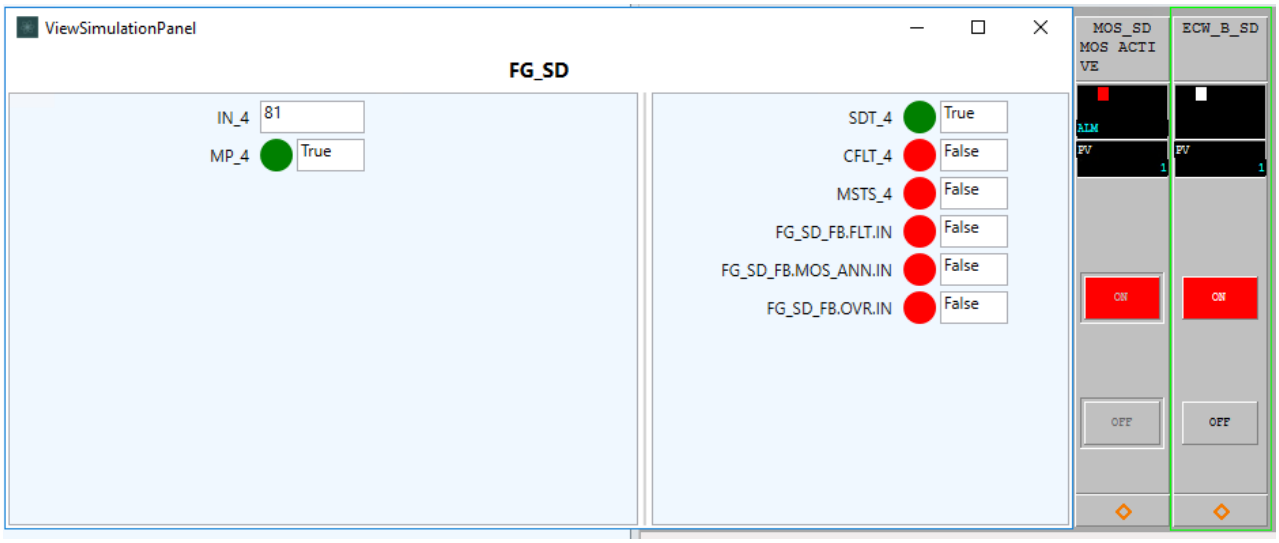
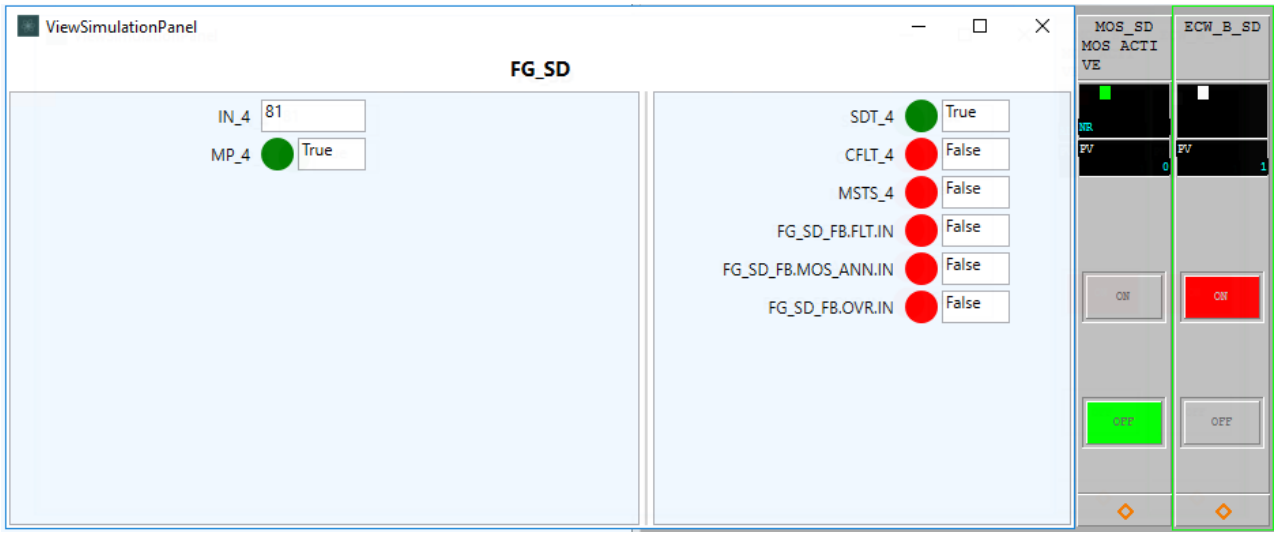


TC#3 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE



TC#4 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE, MOS TIME ELAPSED

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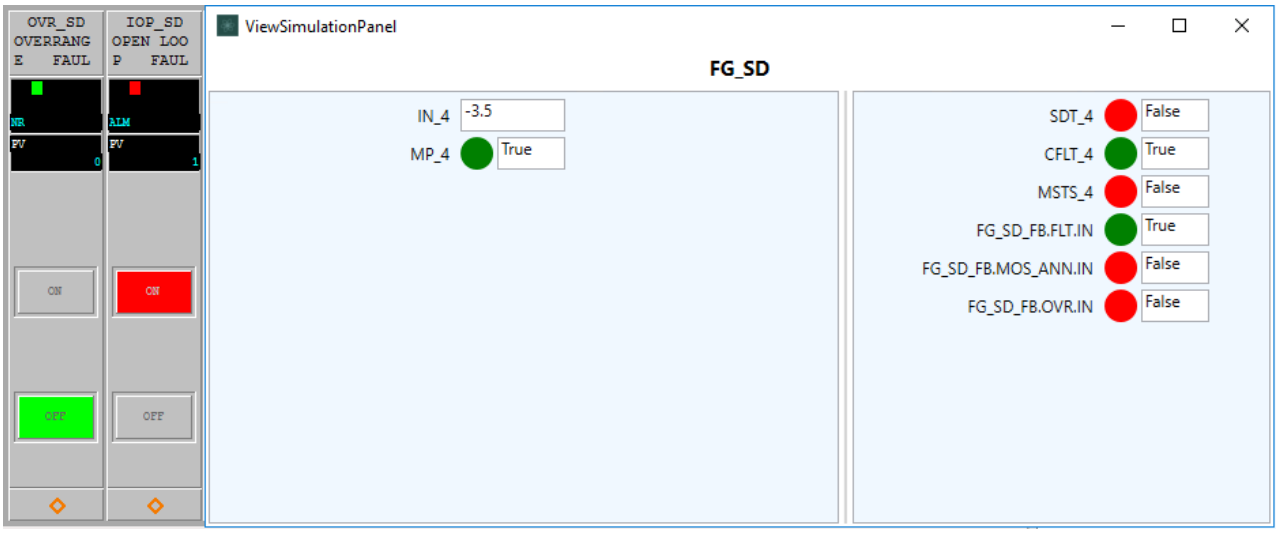
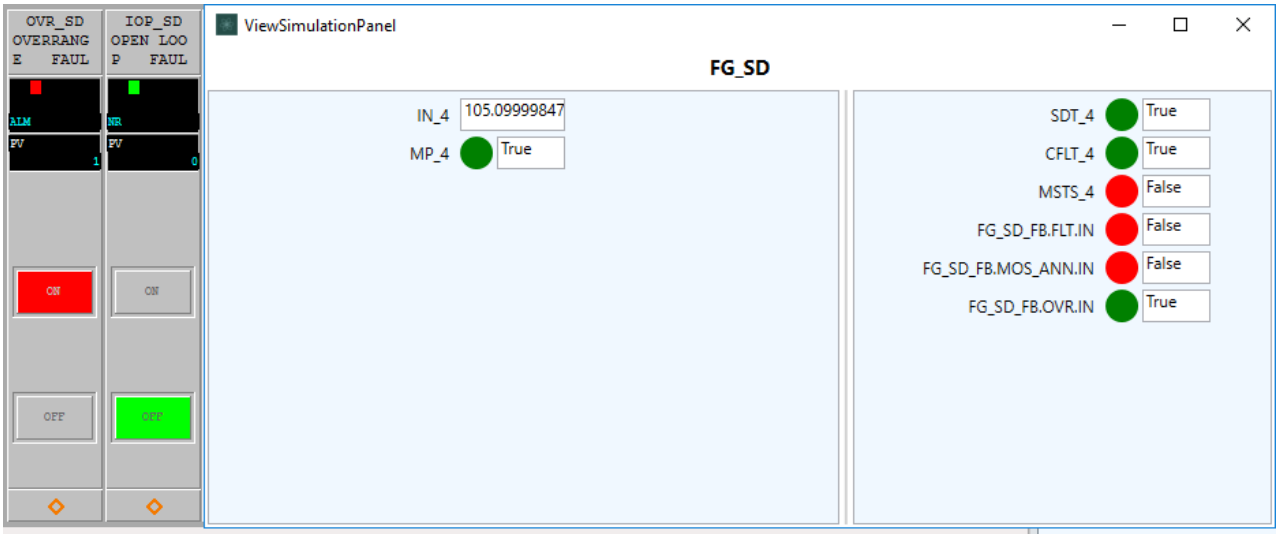


TC#5: IN.Value = -3.5,MP = FALSE



TC#6 : IN.Value = 105.1,MP = FALSE

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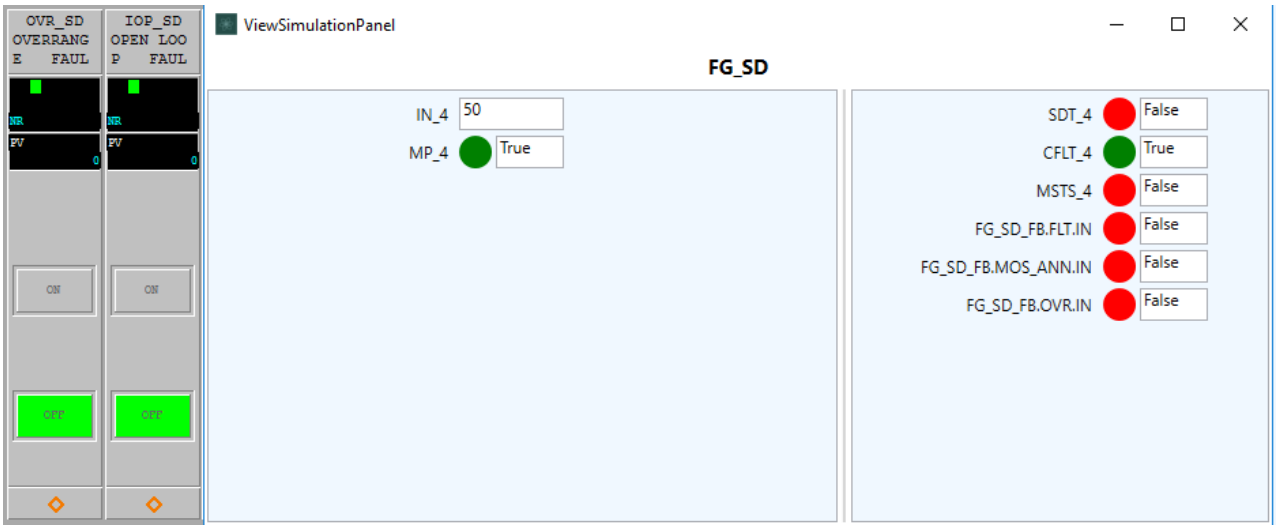
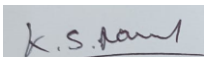


TC#7 : IN.Value = 50.0,MP = FALSE, TRANSMITTER FAULT(STS) = TRUE

3.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

4 FG_FLAME_IR

UV IR Flame Detector for Fire & Gas applications.

4.1 PURPOSE

This typical is used for Ultrasonic Flame detector

Functionality:

- Process Flame Ultrasonic type Flame analog gas detectors
- Manage the maintenance override function (MOS) for each FLAME IR detector
- Manage detector trip, diagnostic and I/O fault logics

Note: The MOS override function is included inside the function block.
MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

Flame_IR input processing block:

- Trip and general diagnostic setpoints are hardcoded outside the User Defined Function Block (UDFB).
- Scaling setpoints are inside UDFB.
- LLL and LTRP values are masked as these provide no function for flame detection.
- HHH value & HTRP values is used for warning and trip.
- All faults are considered critical and result in degraded voting logic.

4.2 LOGIC DIAGRAMS

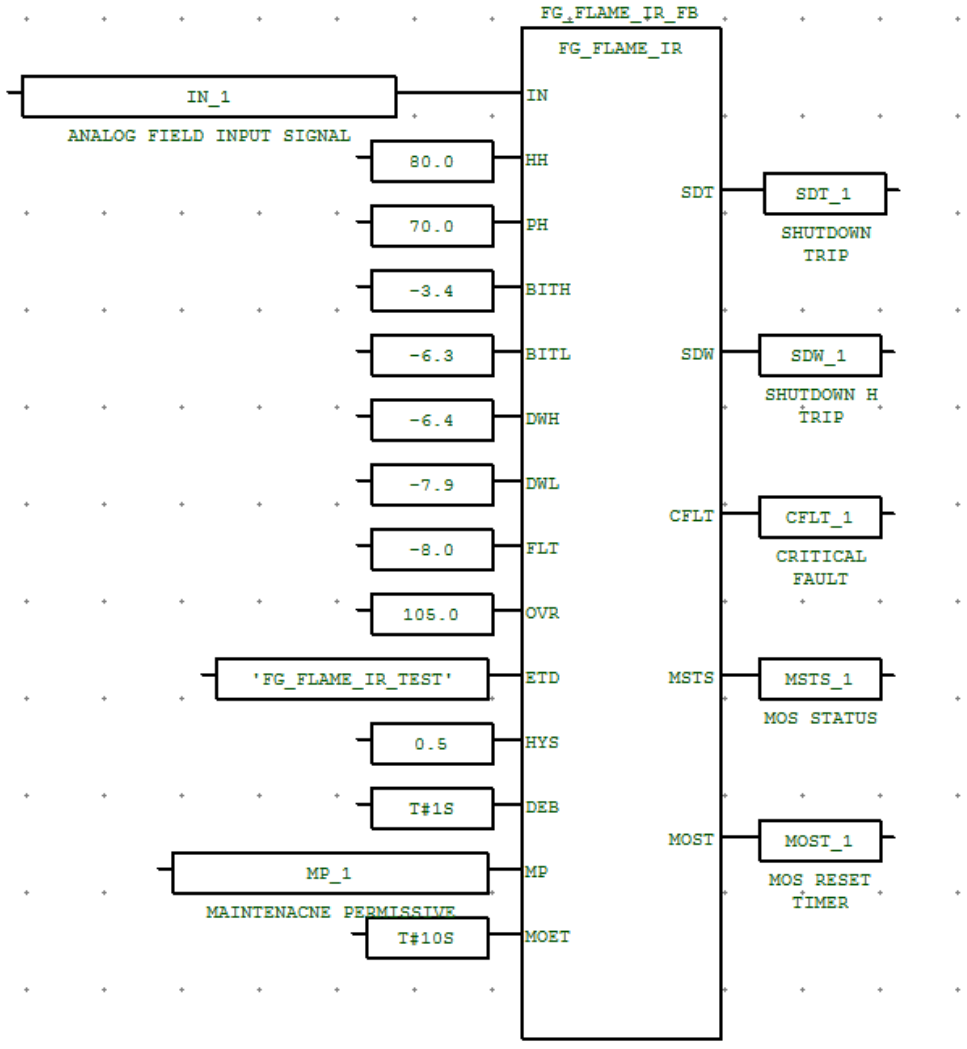


Fig 7 User Defined Function Block FG_FLAME_IR

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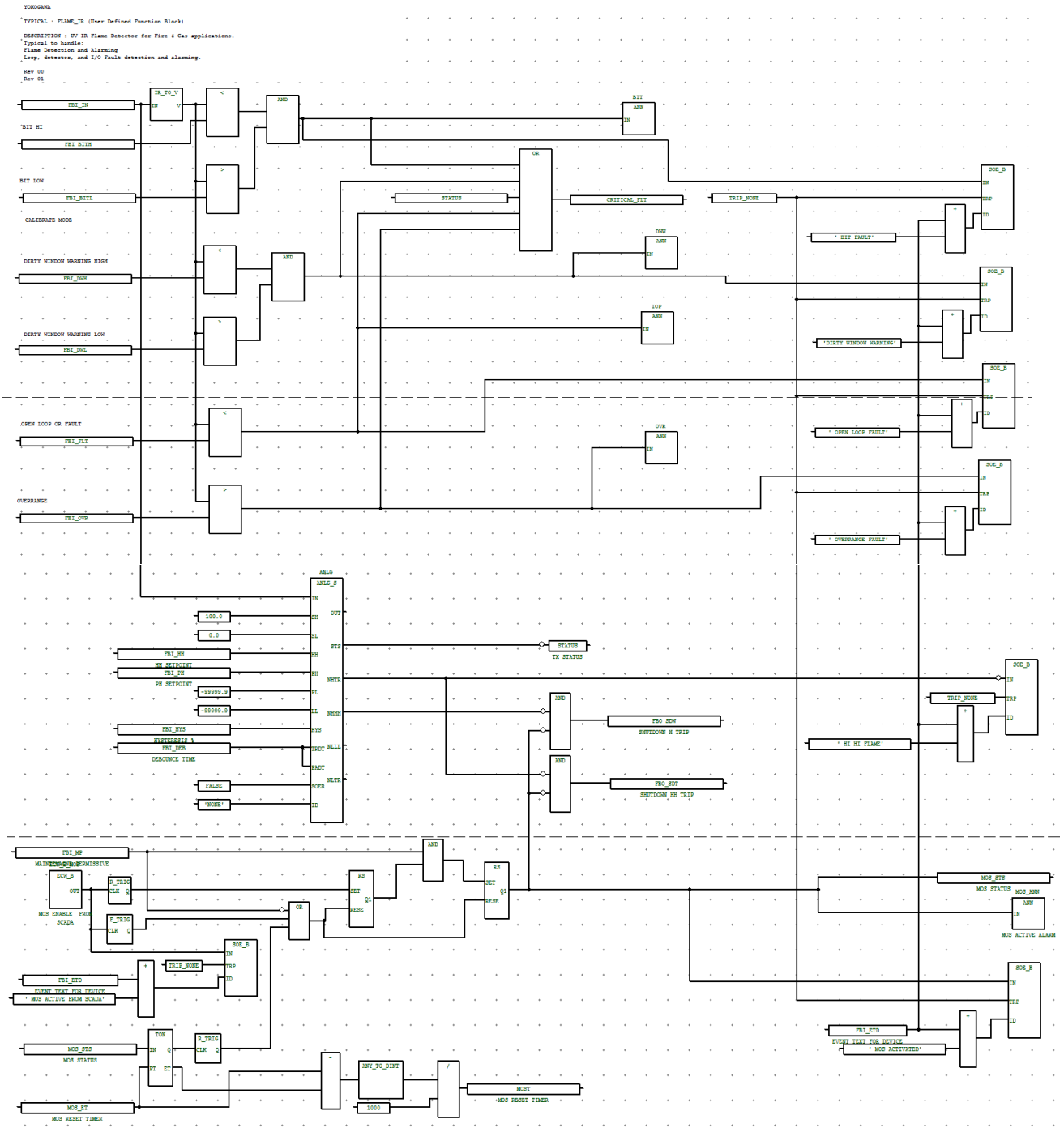

Fig 8 Logic Diagram for Typical FG_FLAME_IR

4.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	ANALOG FIELD INPUT SIGNAL	50.0
HH	HH SETPOINT	80.0
PH	PH SETPOINT	70.0
BITH	BIT FAULT THRESHOLD HI	-3.4
BITL	BIT FAULT THRESHOLD LO	-6.3
DWH	DIRTY WINDOW THRESHOLD HI	-6.4
DWL	DIRTY WINDOW THRESHOLD LO	-7.9
FLT	OPEN LOOP FAULT	-8.0
OVR	OVERRANGE FAULT	105.0
ETD	EVENT TEXT FOR DEVICE	XXXXXX
HYS	HYSTERESIS %	0.5
DEB	DEBOUNCE TIME	T#1S
MP	MAINTENACNE PERMISSIVE	FALSE
MOET	MOS RESET TIMER	T#10s

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
SDT	SHUTDOWN TRIP 2	FALSE
CFLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	FALSE
SDW	SHUTDOWN TRIP 1	FALSE
MOST	MOS RESET TIMER	10s

4.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results			
			Shutdown Trip 1	Shutdown H Trip	Critical Fault	MOS Status
TC#1	IN.Value = 50.0, MP = FALSE	IN.Value = 50.0, MP = FALSE	FALSE	FALSE	FALSE	FALSE
TC#2	IN.Value = 81.0, MP = FALSE,	IN.Value = 81.0, MP = FALSE,	TRUE	TRUE	FALSE	FALSE
TC#3	IN.Value = 81.0 or 71.0 MP = TRUE, @ECW_B_GD = TRUE	IN.Value = 81.0 or 71.0 MP = TRUE, @ECW_B_GD = TRUE	FALSE	FALSE	FALSE	TRUE
TC#4	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	IN.Value = 81.0, MP = TRUE, MOS ENABLE = TRUE MOS TIME ELAPSED	TRUE	TRUE	FALSE	FALSE
TC#5	IN.Value = -3.5, MP = FALSE,	IN.Value = -3.5, MP = FALSE,	FALSE	FALSE	TRUE	FALSE
TC#6	IN.Value = -6.5, MP = FALSE,	IN.Value = -6.5, MP = FALSE,	FALSE	FALSE	TRUE	FALSE
TC#7	IN.Value = -8.1, MP = FALSE,	IN.Value = -8.1, MP = FALSE,	FALSE	FALSE	TRUE	FALSE
TC#8	IN.Value = 105.1, MP = FALSE,	IN.Value = 105.1, MP = FALSE,	TRUE	TRUE	TRUE	FALSE
TC#9	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	IN.Value = 50.0, MP = FALSE, TRANSMITTER FAULT(STS)= TRUE	FALSE	FALSE	TRUE	FALSE

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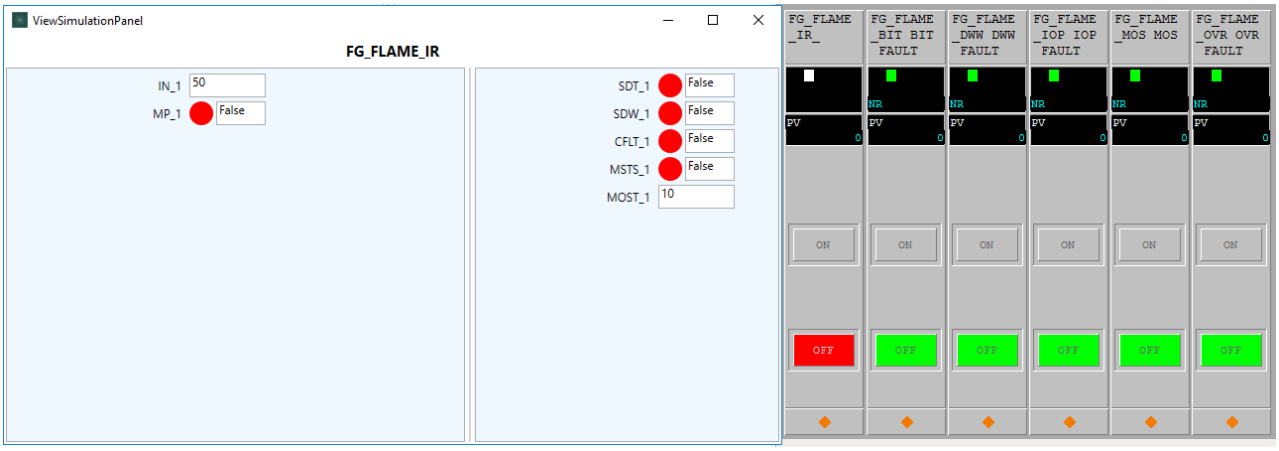
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- TRUE Indicates Alarm / Trip value changes from “False’ to ‘True’.

4.5 TEST RESULTS:



TC#1 : IN.Value = 50.0,MP = FALSE



TC#2 : IN.Value = 81.0,MP = FALSE

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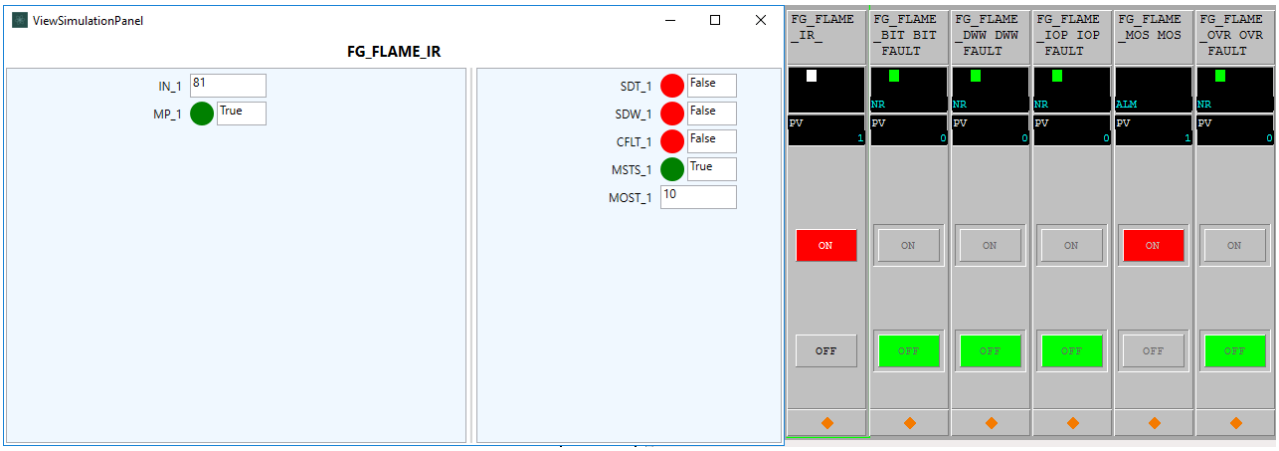
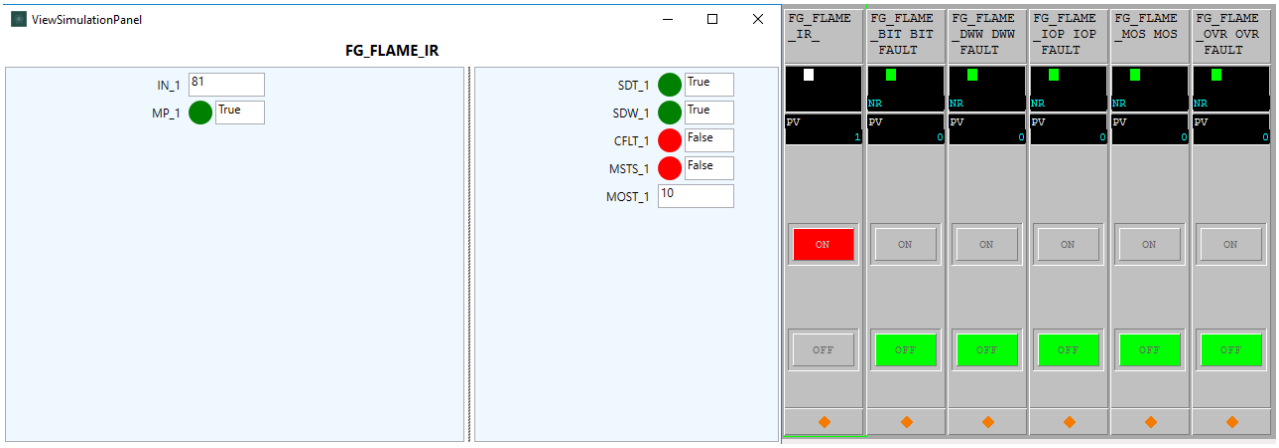


TC#3 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE



TC#4 : IN.Value = 81.0,MP = TRUE,MOS ENABLE = TRUE, MOS TIME ELAPSED

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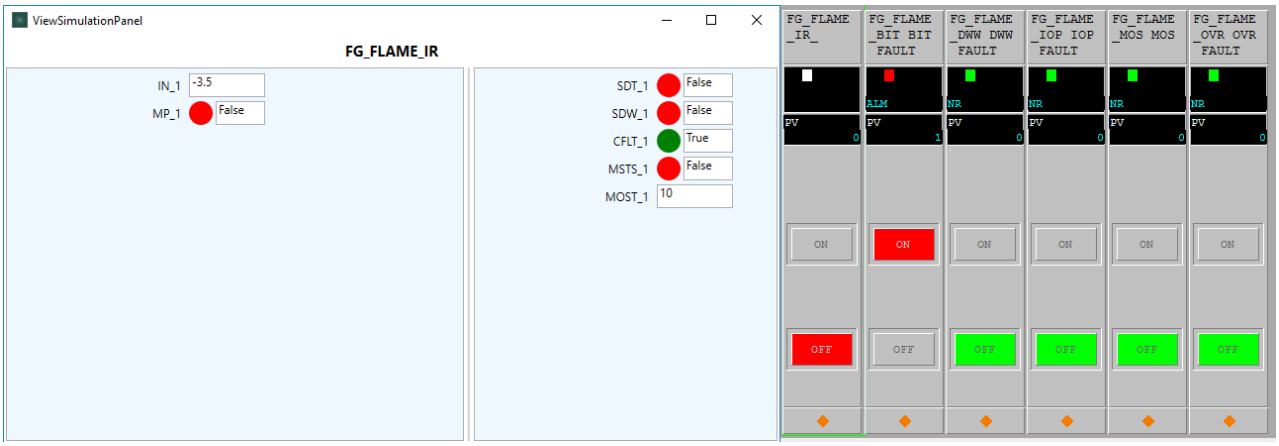
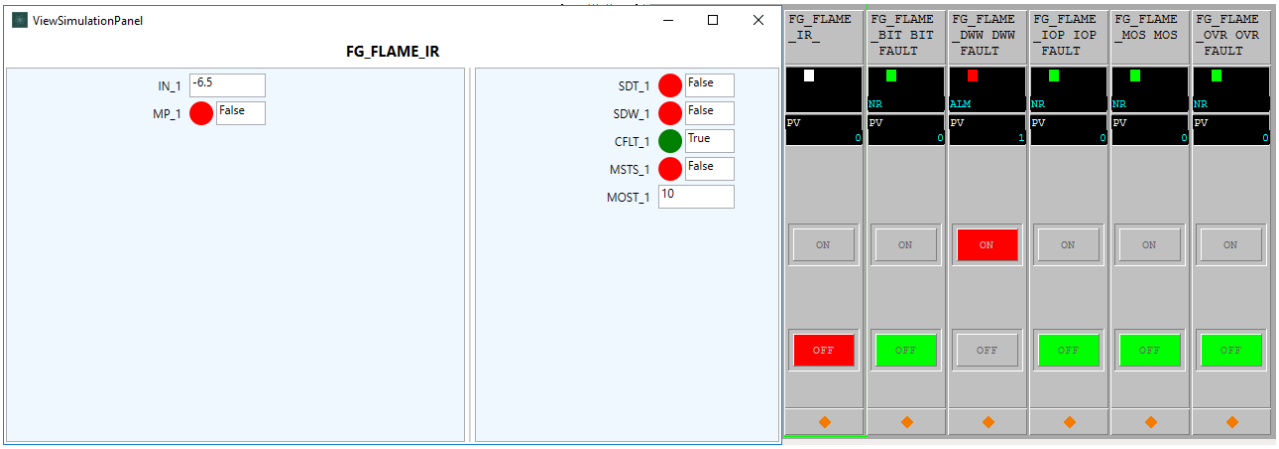


TC#5: IN.Value = -3.5,MP = FALSE



TC#6 : IN.Value = -6.5,MP = FALSE

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TC#7 : IN.Value = -8.1,MP = FALSE



TC#8 : IN.Value = 105.1,MP = FALSE

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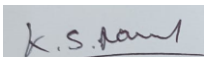
TC#9 : IN.Value = 50 ,MP = FALSE, TRANSMITTER FAULT(STS)= TRUE

4.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

5 FG_MAN_REL_NC

This typical is used for discrete inputs that are de-energized to trip.

5.1 PURPOSE

This typical is used for discrete inputs that are de-energized to trip such as Heat, Smoke detectors, ESD or Blowdown switches.

Functionality:

- Process Normally Closed digital input
- Manage the maintenance override function (MOS) for each MAN_REL_NC input
- Manage input trip, diagnostic and I/O fault logics
- Manage input trip alarm reset logics
- Optional line monitoring and fault detection
- All diagnostic and I/O alarms will trigger individual Annunciator alarms.

Note: The MOS override function is included inside the function block

MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

5.2 LOGIC DIAGRAMS

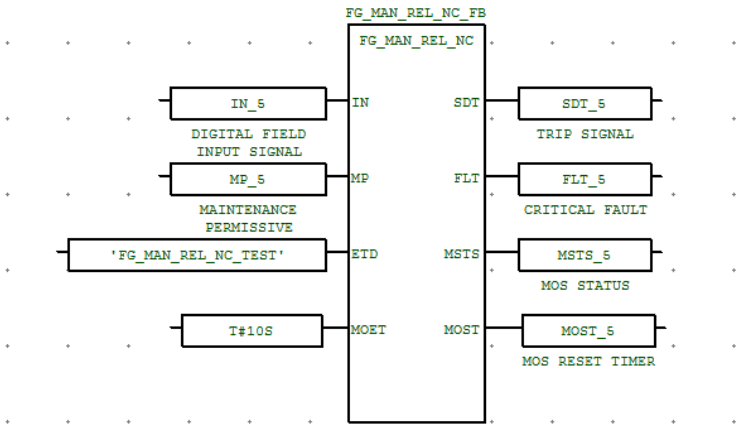


Fig 9 User Defined Function Block FG_MAN_REL_NC

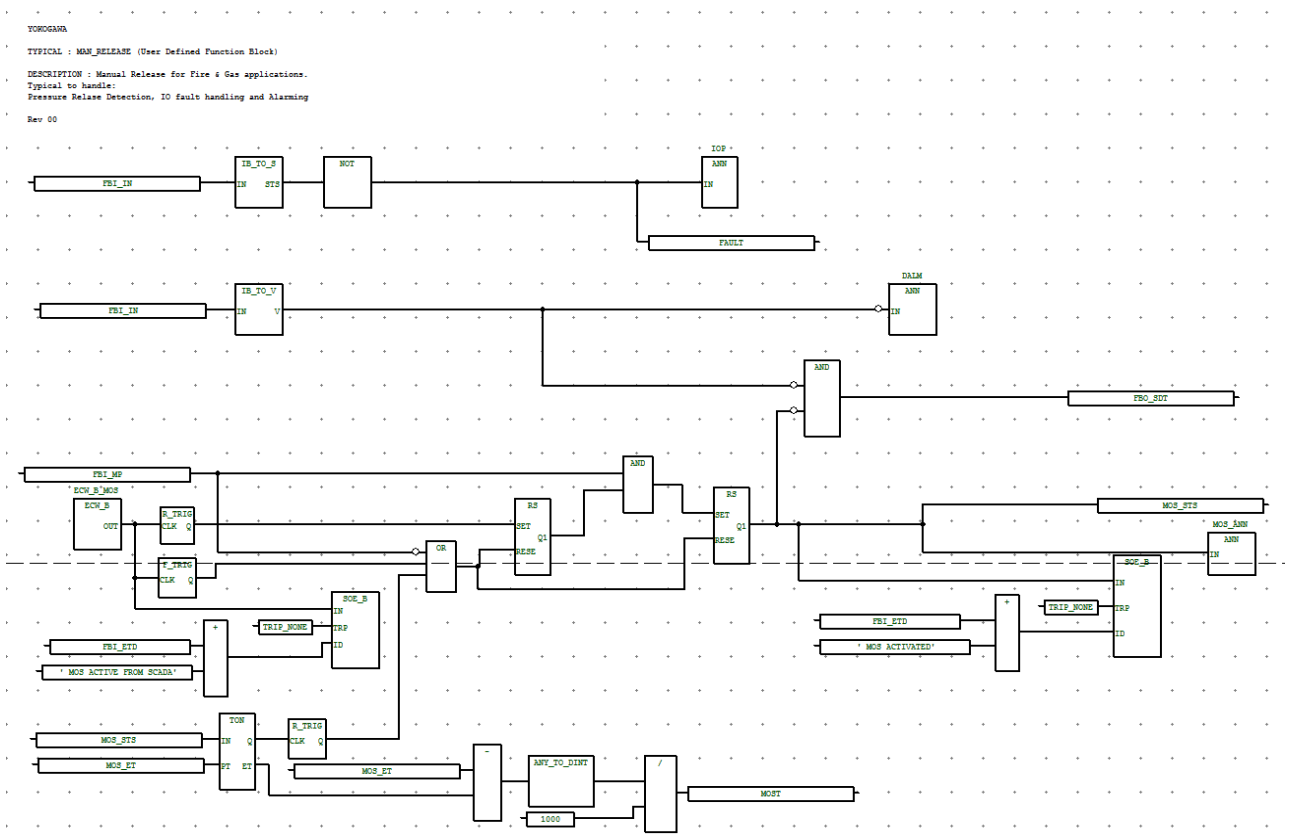


Fig 10 Logic Diagram for Typical FG_MAN_REL_NC

5.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
SDT	TRIP SIGNAL	FALSE
FLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	XXXXXX
MOST	MOS RESET TIMER	T#10S

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
SDT	TRIP SIGNAL	FALSE
FLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	XXXXXX
MOST	MOS RESET TIMER	10S

5.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter/Values	Expected Results		
			Trip Signal	Critical Fault	MOS Status
TC#1	IN.Value = FALSE, MP = FALSE	IN.Value = FALSE, MP = FALSE	TRUE	FALSE	FALSE
TC#2	IN.Value = TRUE, MP = FALSE	IN.Value = TRUE, MP = FALSE	FALSE	FALSE	FALSE
TC#3	IN.Value = TRUE, MP = TRUE MOS ENABLE = FALSE MOS Elapse time not Elapsed	IN.Value = TRUE, MP = TRUE MOS ENABLE = FALSE, MOS Elapse time not Elapsed	FALSE	FALSE	FALSE
TC#4	IN.Value.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	FALSE	FALSE	TRUE
TC#5	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	FALSE	FALSE	FALSE
TC#6	IN.Value = TRUE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = TRUE, MP = FALSE, MOS ENABLE = TRUE	FALSE	FALSE	FALSE

Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

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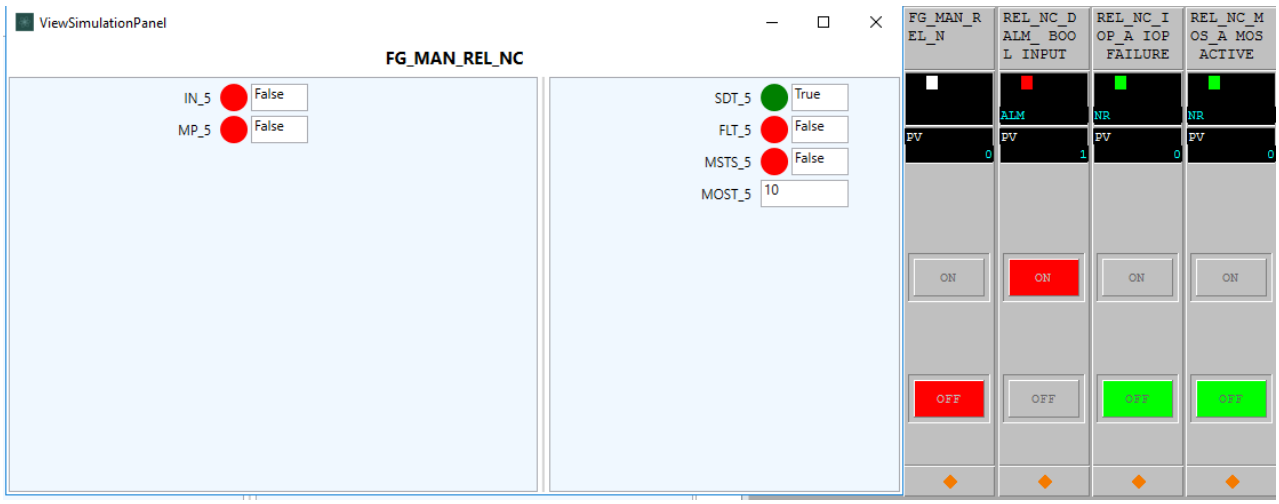
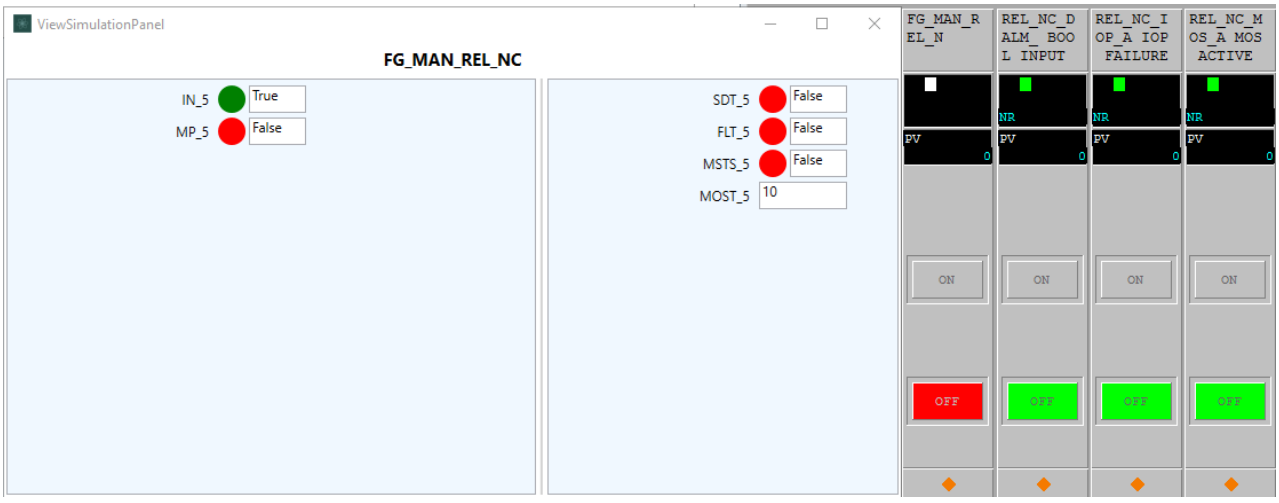
5.5 TEST RESULTS:



TC#1 : IN _5 = FALSE, MP_5 = FALSE, FG_MAN_REL_N=FALSE



TC#2 : IN_5 = TRUE, MP_5 = FALSE FG_MAN_REL_N=FALSE.

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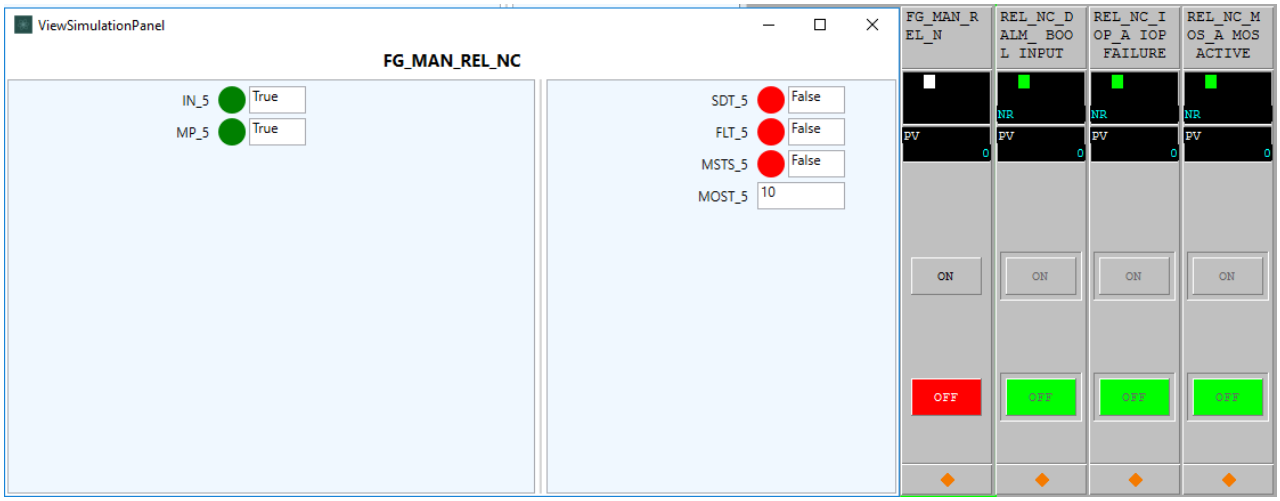
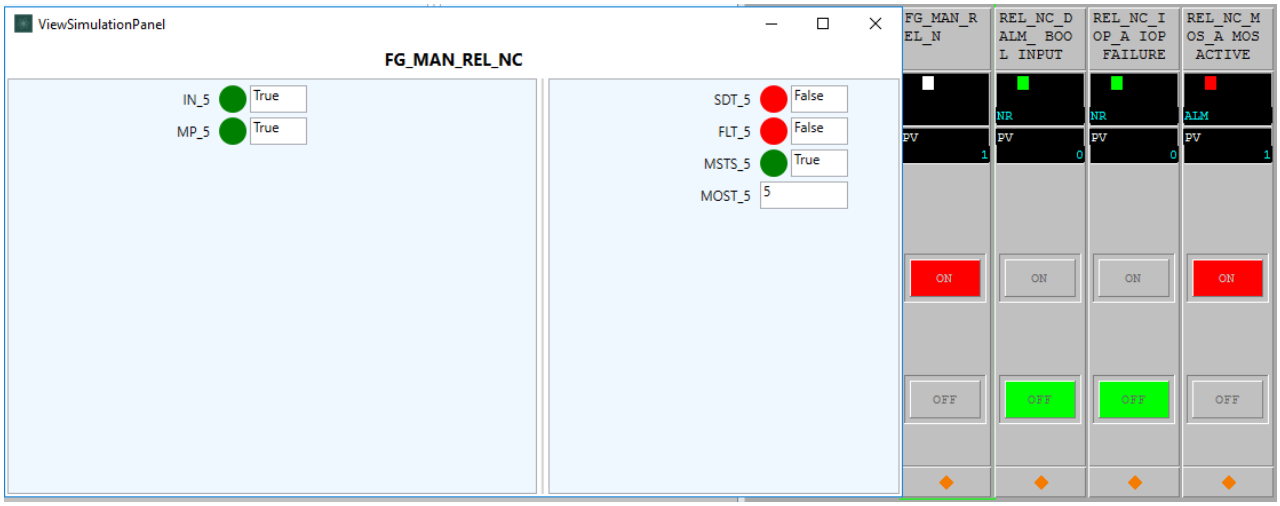


TC#3 : IN_5 = TRUE, MP_5 = TRUE, FG_MAN_REL_N =FALSE.



TC#4 : IN_5 = TRUE, MP_5 = TRUE, FG_MAN_REL_N =TRUE, MOS Elapse time not Elapsed

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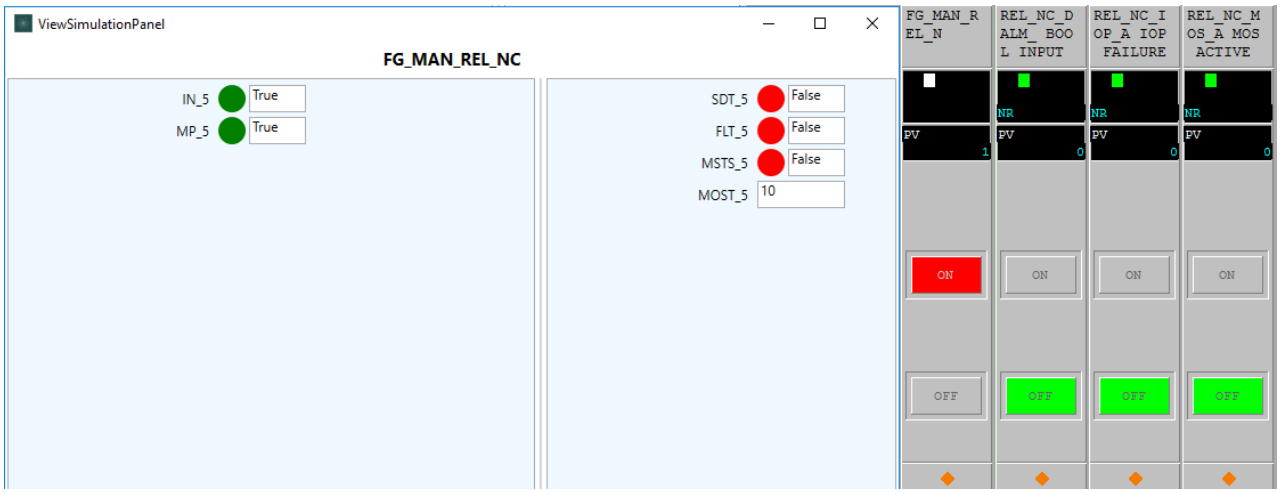
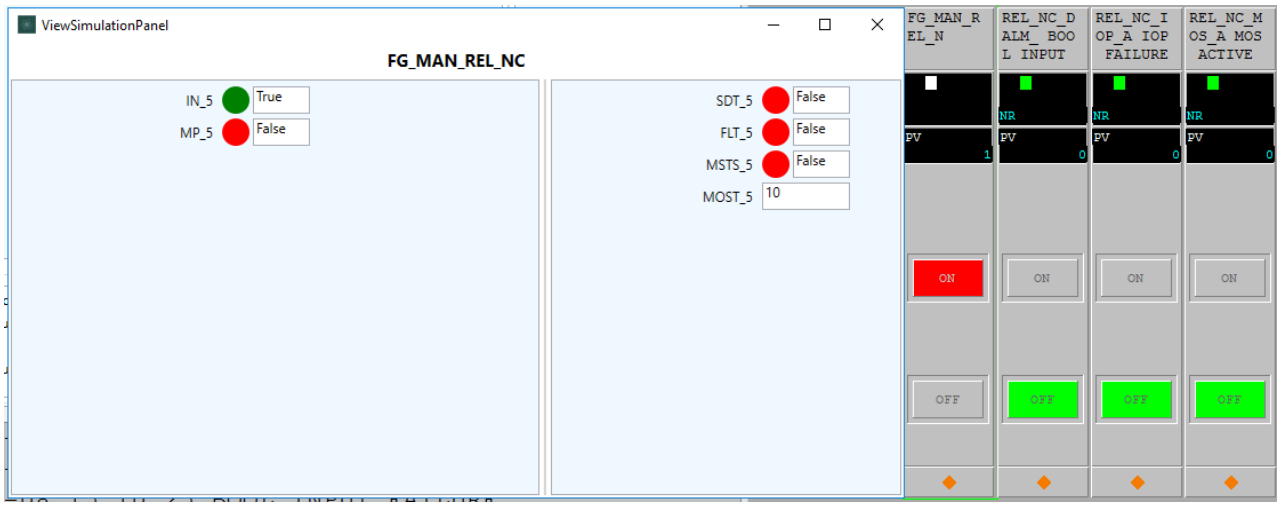
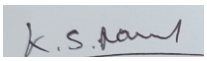


TC#5 : IN_5 = TRUE, MP_5 = TRUE, FG_MAN_REL_N =FALSE, MOS Elapse time Elapsed



TC#6 : IN_5 = TRUE, MP_5 = FALSE, FG_MAN_REL_N =TRUE.

5.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

6 FG_MAN_REL_NO

This typical is used for discrete inputs that are energized to trip.

6.1 PURPOSE

This typical is used for discrete inputs that are energized to trip such as manual alarm call points.

Functionality:

- Process Normally Open digital input
- Manage the maintenance override function (MOS) for each MAN_REL_NO input
- Manage input trip, diagnostic and I/O fault logics
- Manage input trip alarm reset logics
- Optional line monitoring and fault detection
- All diagnostic and I/O alarms will trigger individual Annunciator alarms.

Note: The MOS override function is included inside the function block

MOS function can be disabled by forcing the MOS enable key switch permanently to FALSE.

6.2 LOGIC DIAGRAMS

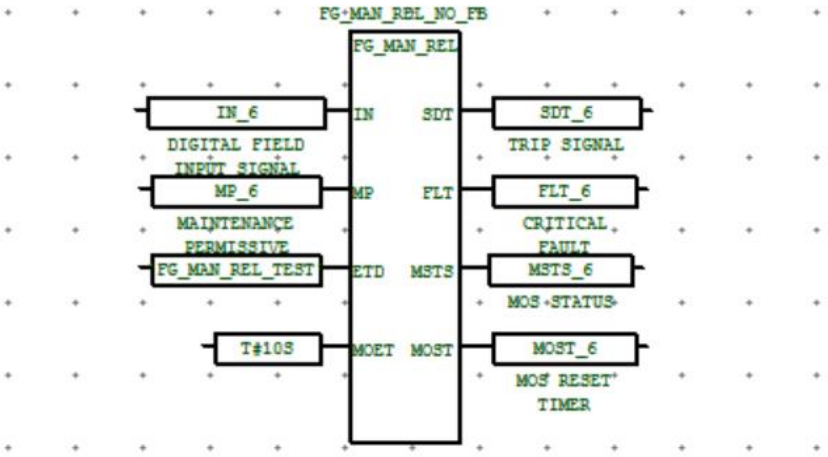


Fig 11 User Defined Function Block FG_MAN_REL_NO

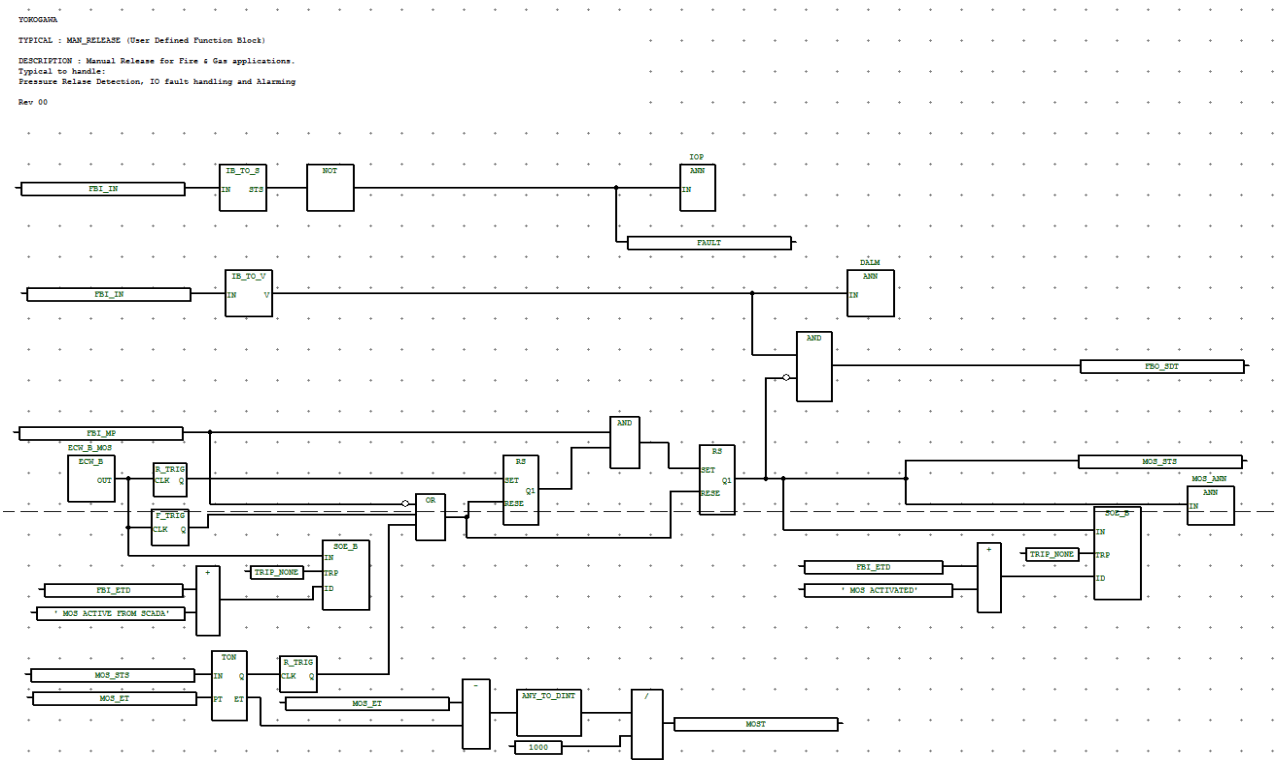


Fig 12 Logic Diagram for Typical FG_MAN_REL_NO

6.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN	DIGITAL FIELD INPUT SIGNAL	FALSE
MP	MAINTENANCE PERMISSIVE	FALSE
ETD	EVENT TEXT FOR DEVICE	FALSE
MOET	MOS RESET TIMER	10

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
SDT	TRIP SIGNAL	FALSE
FLT	CRITICAL FAULT	FALSE
MSTS	MOS STATUS	XXXXXX
MOST	MOS RESET TIMER	10S

6.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			Trip Signal	Critical Fault	MOS Status
TC#1	IN = FALSE. MP = FALSE	IN = FALSE. MP = FALSE	TRUE	FALSE	FALSE
TC#2	IN = TRUE, MP = FALSE	IN = TRUE, MP = FALSE	FALSE	FALSE	FALSE
TC#3	IN = TRUE, MP = TRUE MOS ENABLE = FALSE MOS Elapse time not Elapsed	IN = TRUE, MP = TRUE MOS ENABLE = FALSE, MOS Elapse time not Elapsed	FALSE	FALSE	TRUE
TC#4	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time not Elapsed	FALSE	FALSE	TRUE
TC#5	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	IN.Value = TRUE, MP = TRUE, MOS ENABLE = TRUE, MOS Elapse time Elapsed	FALSE	FALSE	FALSE
TC#6	IN.Value = TRUE, MP = FALSE, MOS ENABLE = TRUE	IN.Value = TRUE, MP = FALSE, MOS ENABLE = TRUE	FALSE	FALSE	FALSE

Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

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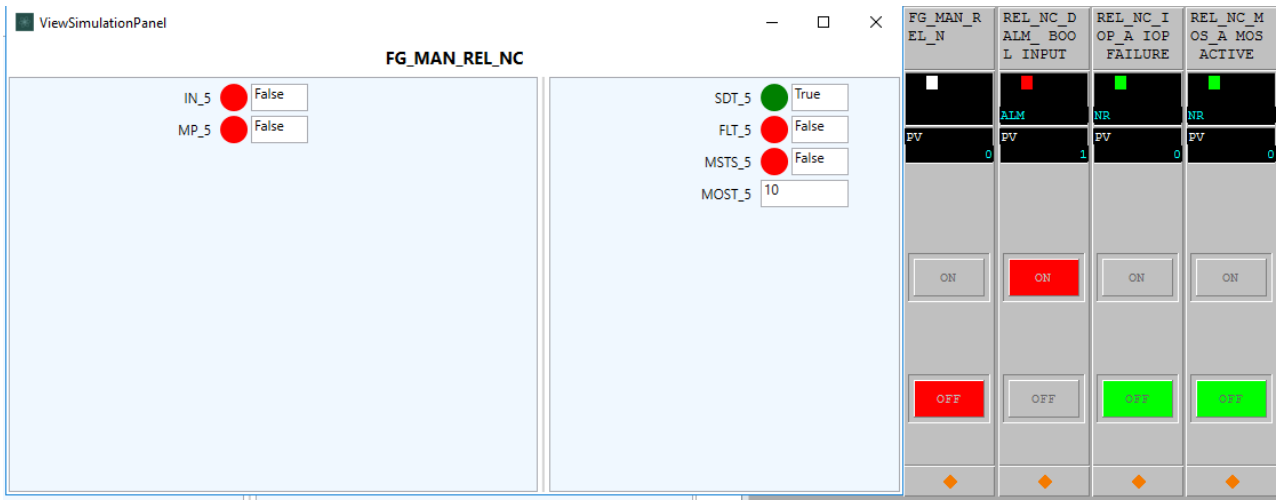
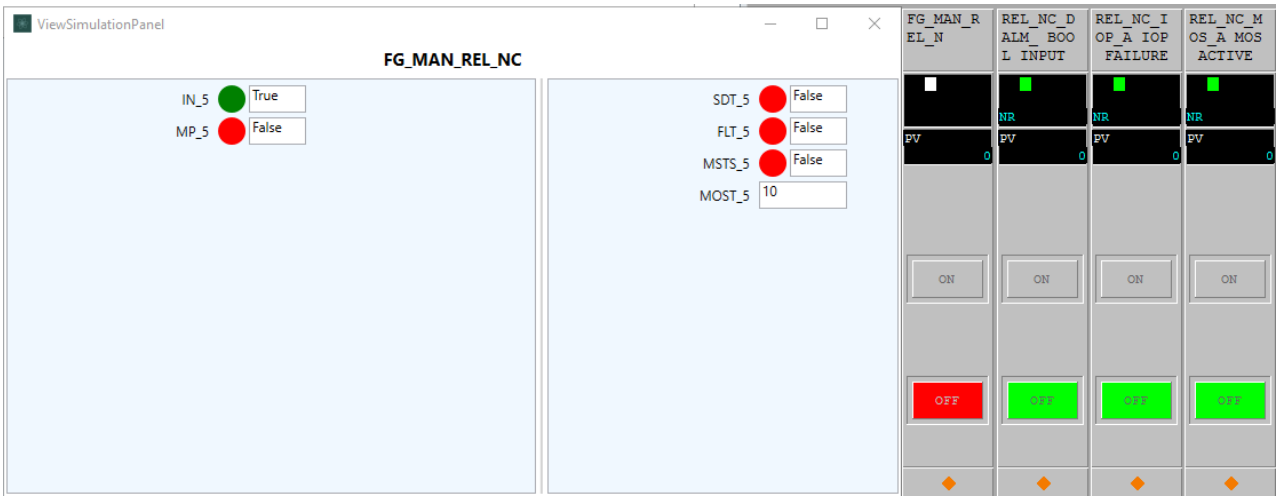
6.5 TEST RESULTS:



TC#1 : IN_5 = FALSE, MP_5 = FALSE, FG_MAN_REL_N=FALSE



TC#2 : IN_5 = TRUE, MP_5 = FALSE FG_MAN_REL_N=FALSE.

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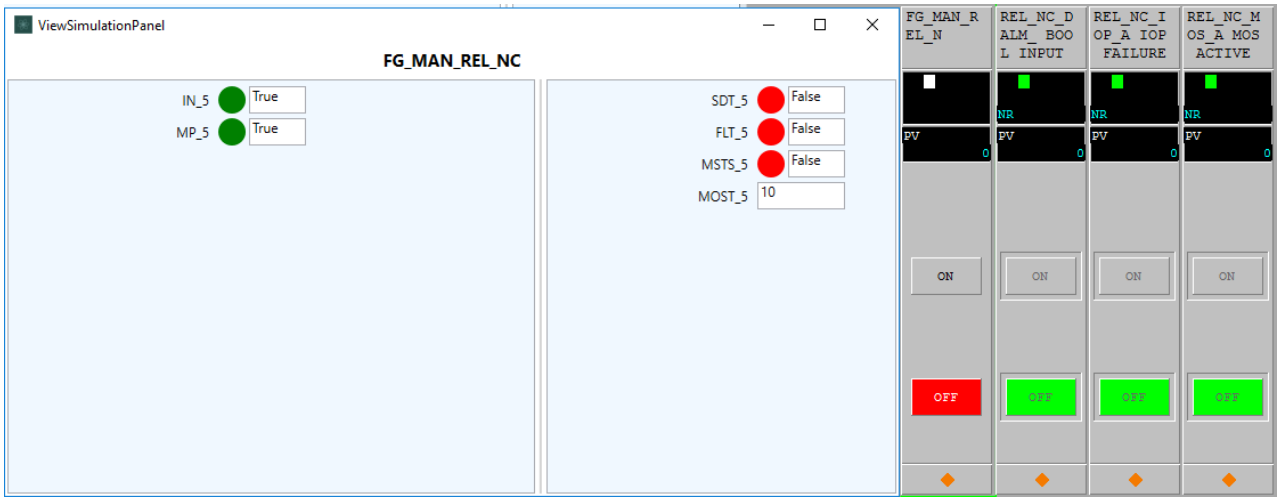
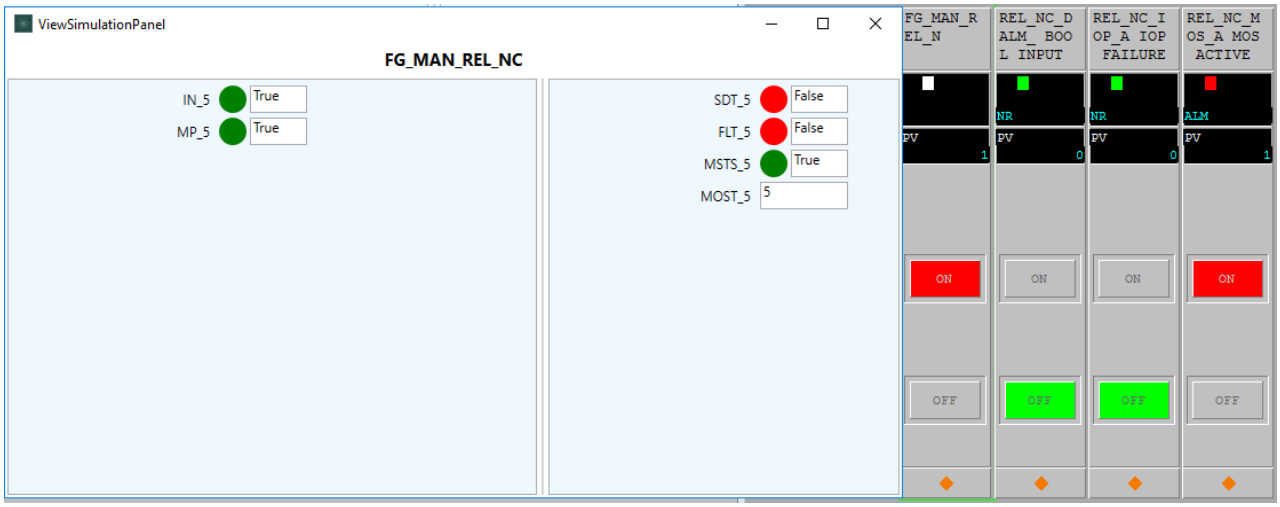


TC#3 : IN_5 = TRUE, MP_5 = TRUE, FG_MAN_REL_N =FALSE.



TC#4 : IN_5 = TRUE, MP_5 = TRUE, FG_MAN_REL_N =TRUE, MOS Elapse time not Elapsed

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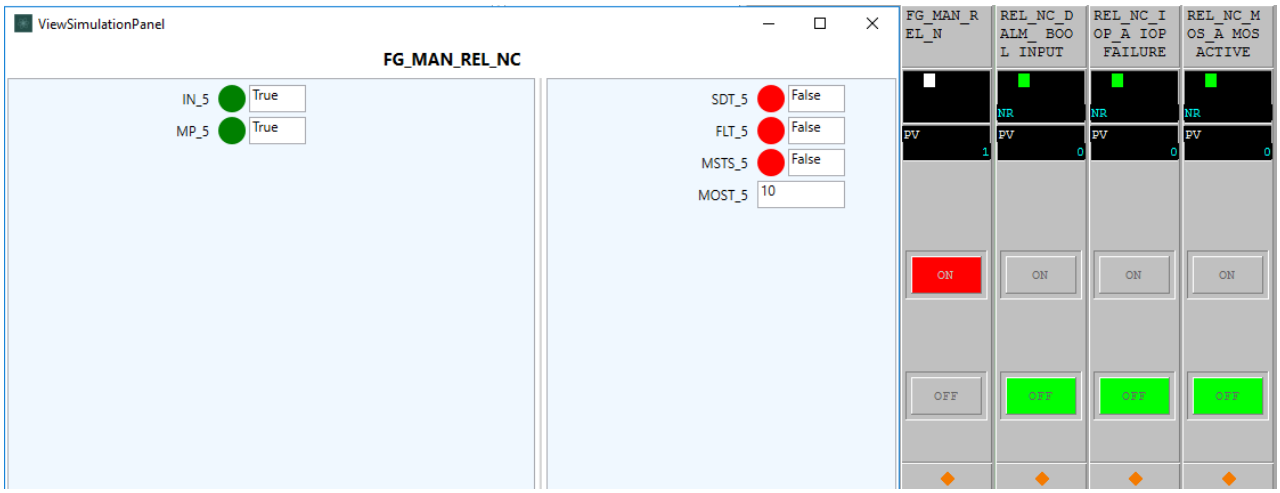
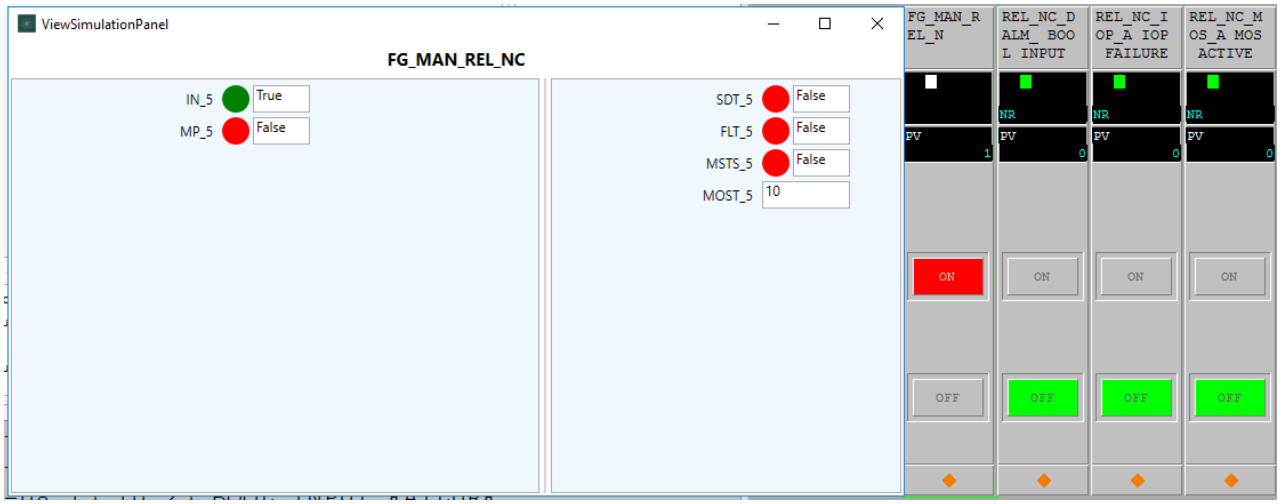
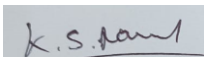


TC#5 : IN_5 = TRUE, MP_5 = TRUE, FG_MAN_REL_N =FALSE, MOS Elapse time Elapsed



TC#6 : IN_5 = TRUE, MP_5 = FALSE, FG_MAN_REL_N =TRUE.

6.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

7 F23

2oo3 Voting typical will be used for Fire and Gas application.

7.1 PURPOSE

This typical is used to Initiate a trip if two of the three inputs are in trip.

Functionality:

The F23 function block has the following main functions:

- Initiate a trip if two of the three inputs are in trip state.
- Degrade voting function.

If two of the three inputs are tripped the output TRP of the F23 block will trip. If either one of the three inputs is not valid (detector critical fault) or a maintenance override is applied the voting function will degrade to 1oo2 and VDG of F23 will become true. If all transmitters are in fault, or if one maintenance override is applied while the other two transmitters are in fault the voting function is disabled.

7.2 LOGIC DIAGRAMS

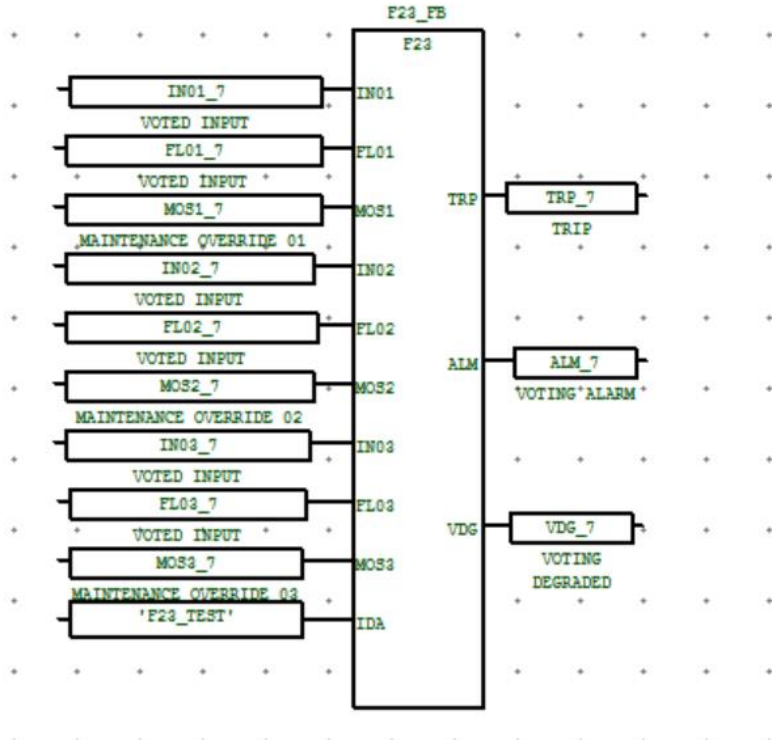


Fig 13 User Defined Function Block F23

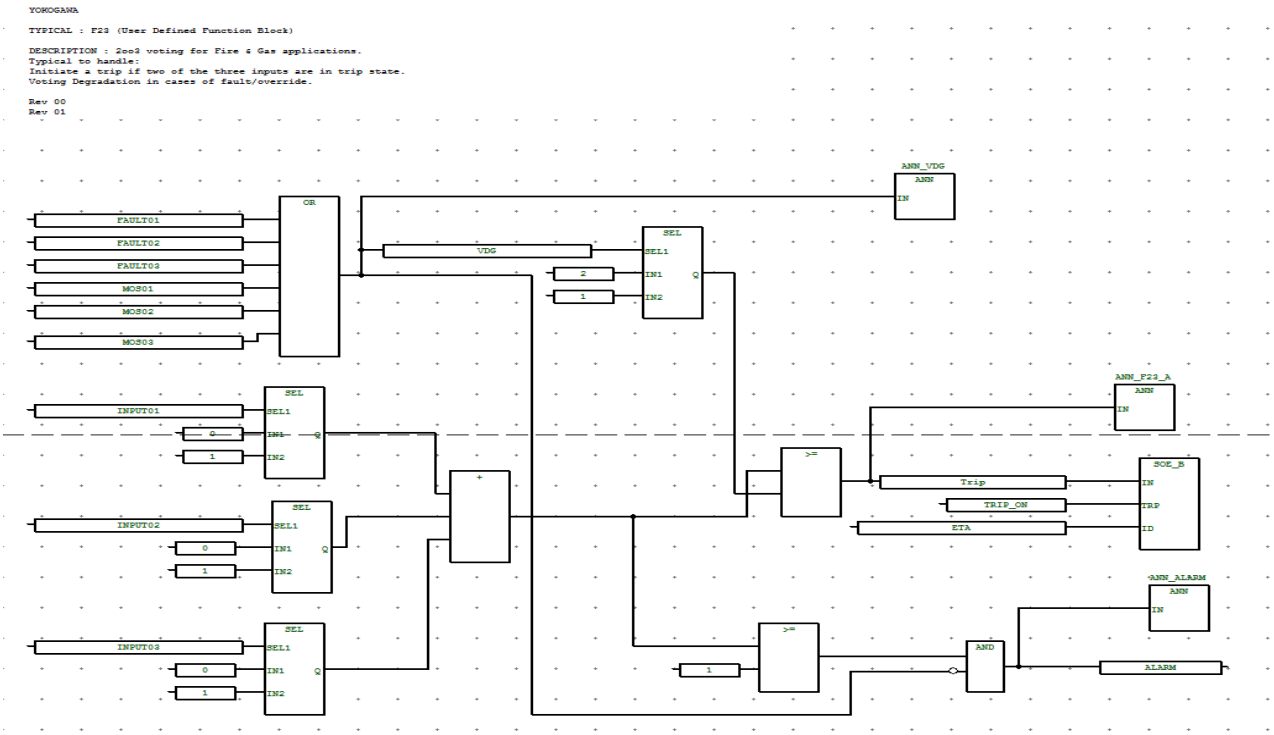


Fig 14 Logic Diagram for Typical F23

7.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
IN01, IN02, IN03	VOTED INPUT	FALSE
FL01, FL02, FL03	VOTED INPUT	FALSE
MOS1, MOS2, MOS3	MAINTENANCE OVERRIDE	FALSE
IDA	TRIP EVENT ID	"XXXXXXXXX"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	TRIP	FALSE
ALM	VOTING ALARM	FALSE
VDG	VOTING DEGRADED	FALSE

7.4 TEST CASES VS EXPECTED RESULTS

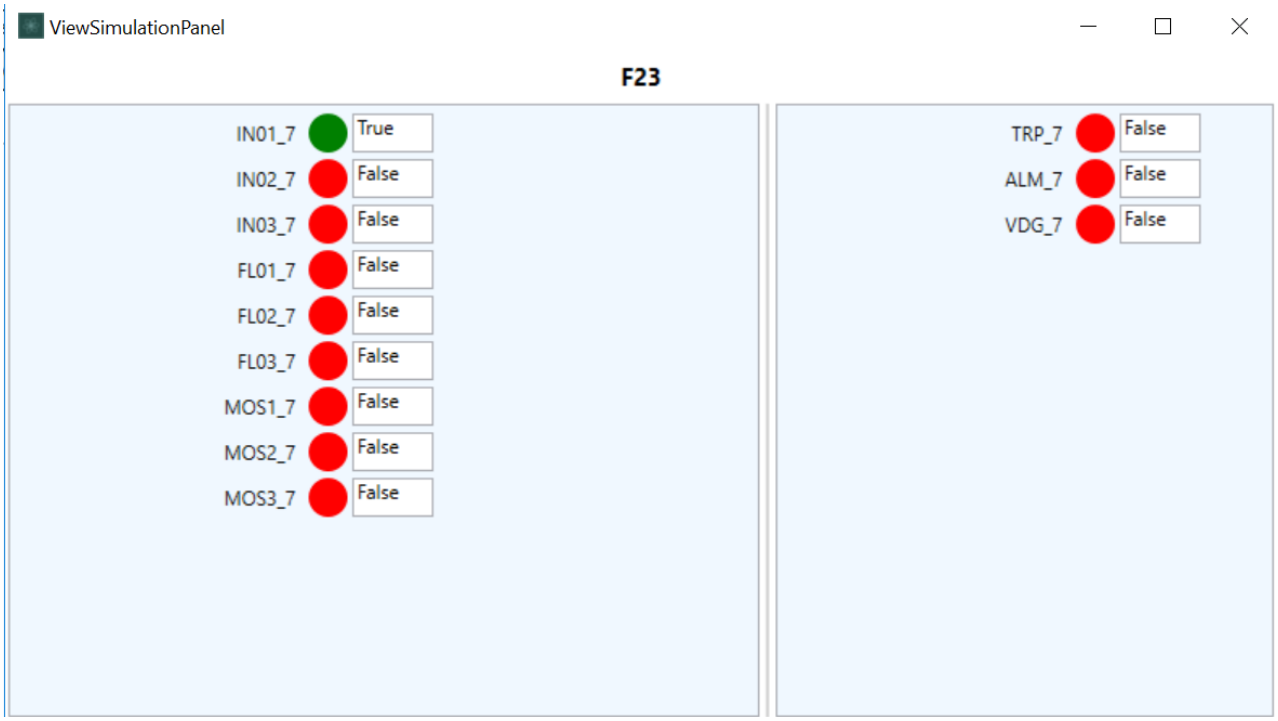
The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results		
			TRP	ALM	VDG
TC#1	IN01 = TRUE, FL01=FALSE MOS1=FALSE IN02 = FALSE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	IN01 = TRUE, FL01=FALSE MOS1=FALSE IN02 = FALSE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	FALSE	FALSE	FALSE
TC#2	IN01 = TRUE, FL01=FALSE MOS1=FALSE IN02 = TRUE FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	IN01 = TRUE, FL01=FALSE MOS1=FALSE IN02 = TRUE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	TRUE	TRUE	FALSE
TC#3	IN01 = TRUE, FL01=TRUE MOS1=FALSE IN02 = FALSE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	IN01 = TRUE, FL01=TRUE MOS1=FALSE IN02 = FALSE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	TRUE	TRUE	TRUE
TC#4	IN01 = TRUE, FL01=FALSE MOS1=TRUE IN02 = FALSE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	IN01 = TRUE, FL01=FALSE MOS1=TRUE IN02 = FALSE, FL02=FALSE MOS1=FALSE IN03 = FALSE, FL03=FALSE MOS1=FALSE	TRUE	TRUE	TRUE

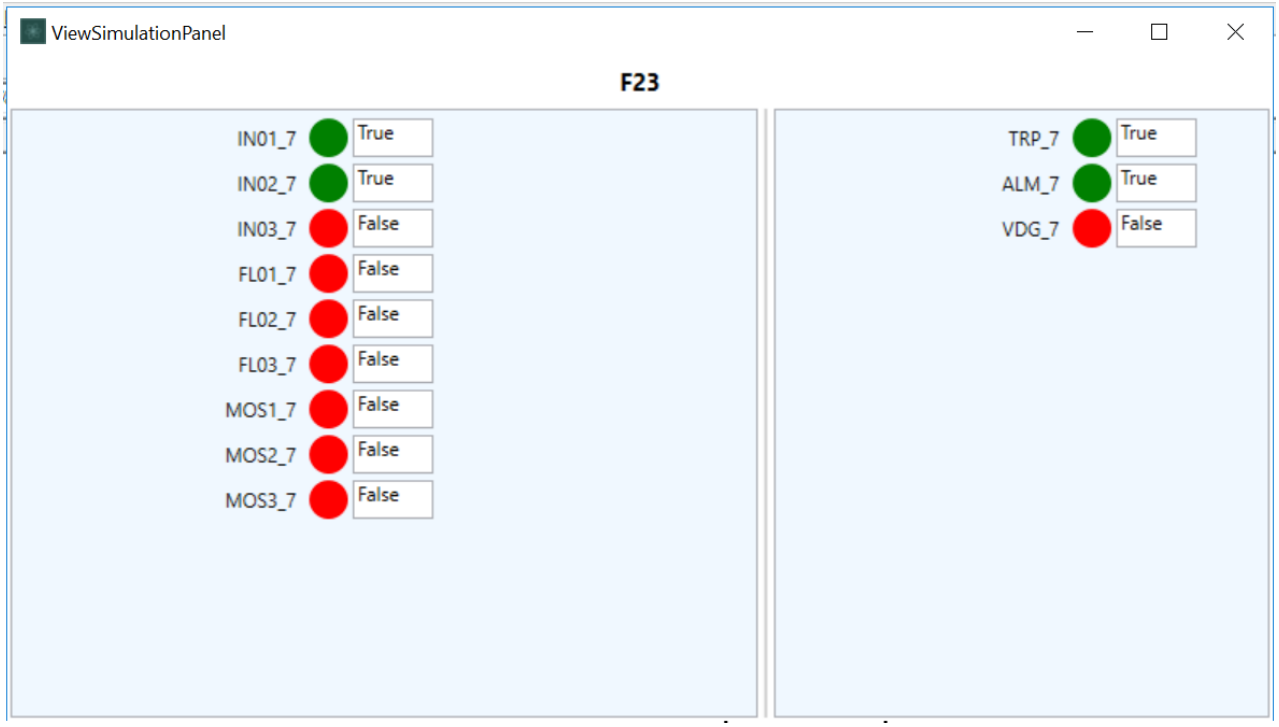
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from “True’ to ‘False’.

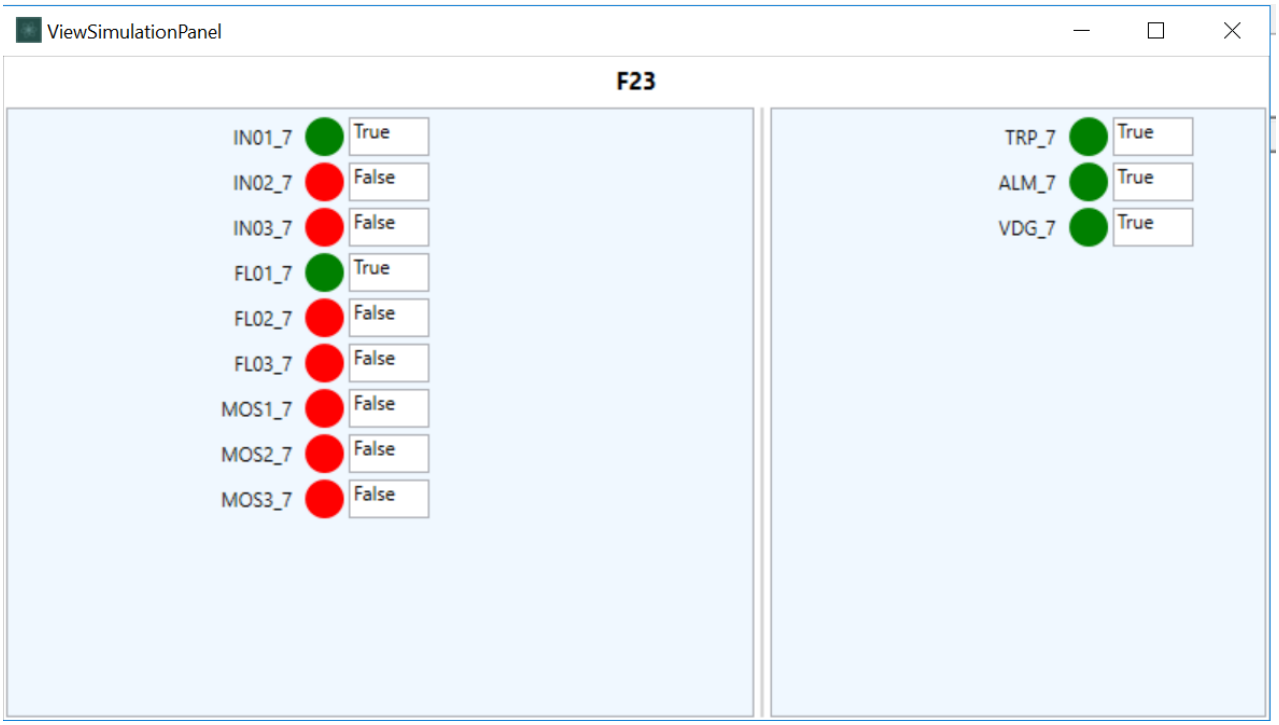
7.5 TEST RESULTS:



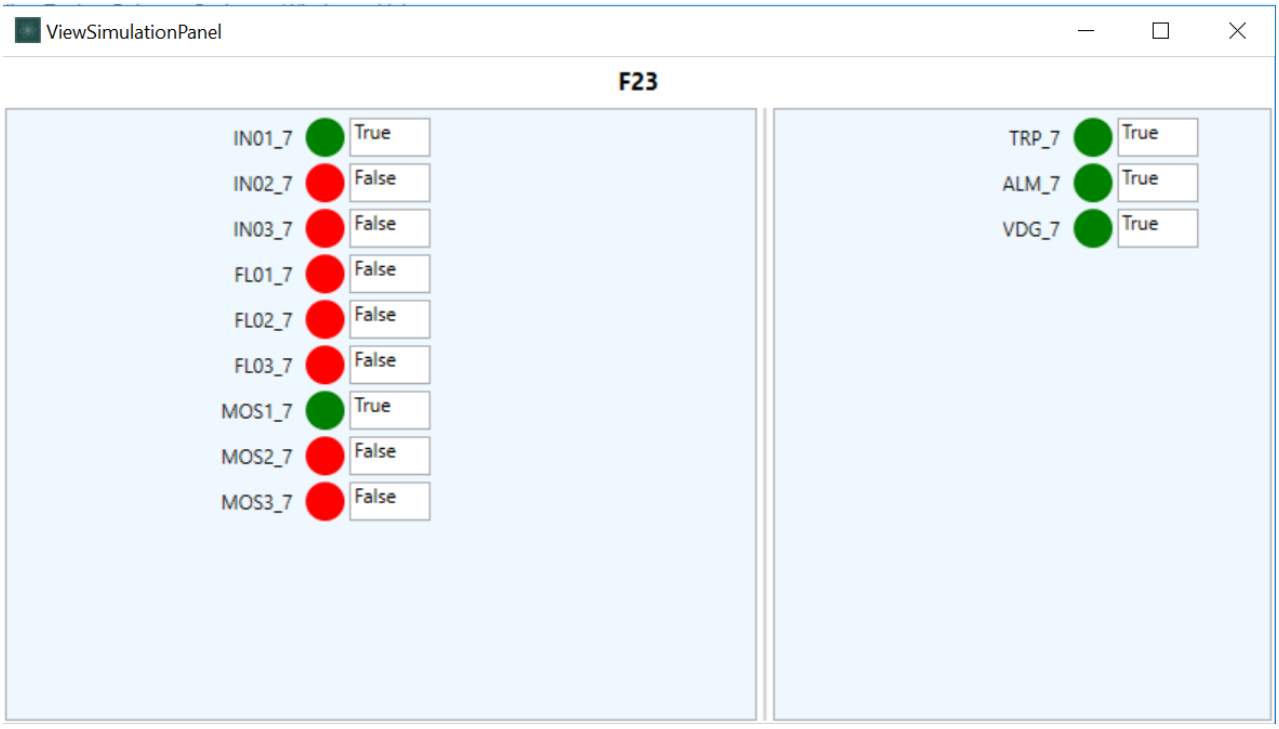
TC#1 : IN01 = TRUE, IN02 = FALSE, IN03 = FALSE,FL01=FALSE, FL02=FALSE, FL03=FALSE, MOS1=FALSE, MOS2=FALSE, MOS3=FALSE



TC#2 : IN01 = TRUE, IN02 = TRUE, IN03 = FALSE,FL01=FALSE, FL02=FALSE, FL03=FALSE, MOS1=FALSE, MOS2=FALSE, MOS3=FALSE

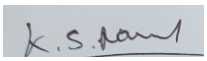


TC#3 : IN01 = TRUE, IN02 = FALSE, IN03 = FALSE,FL01=TRUE, FL02=FALSE, FL03=FALSE, MOS1=FALSE, MOS2=FALSE, MOS3=FALSE



TC#4 : IN01 = TRUE, IN02 = FALSE, IN03 = FALSE,FL01=FALSE, FL02=FALSE, FL03=FALSE, MOS1=TRUE, MOS2=FALSE, MOS3=FALSE

7.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	08-OCT-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

8 FG_V2N

2ooN Voting logic for Fire & Gas applications.

8.1 PURPOSE

2-out-of-N voting is commonly used in fire and gas system to initiate trip, Process shutdown interlocks and other safety functions. This voting logic requires any two detectors to be in Alarm condition.

Functionality:

The FG_V2N function block has the following main functions:

- Initiate a trip if two of the three inputs are in trip state.
- Degrade voting function.

If two of the N inputs are tripped the output TRP of the FG_V2N block will trip. If any one of the N inputs is not valid (detector critical fault) or a maintenance override is applied the voting function will degrade and VDG of FG_V2N will become true. If all transmitters are in fault, or if one maintenance override is applied while the N transmitters are in fault the voting function is disabled.

8.2 LOGIC DIAGRAMS

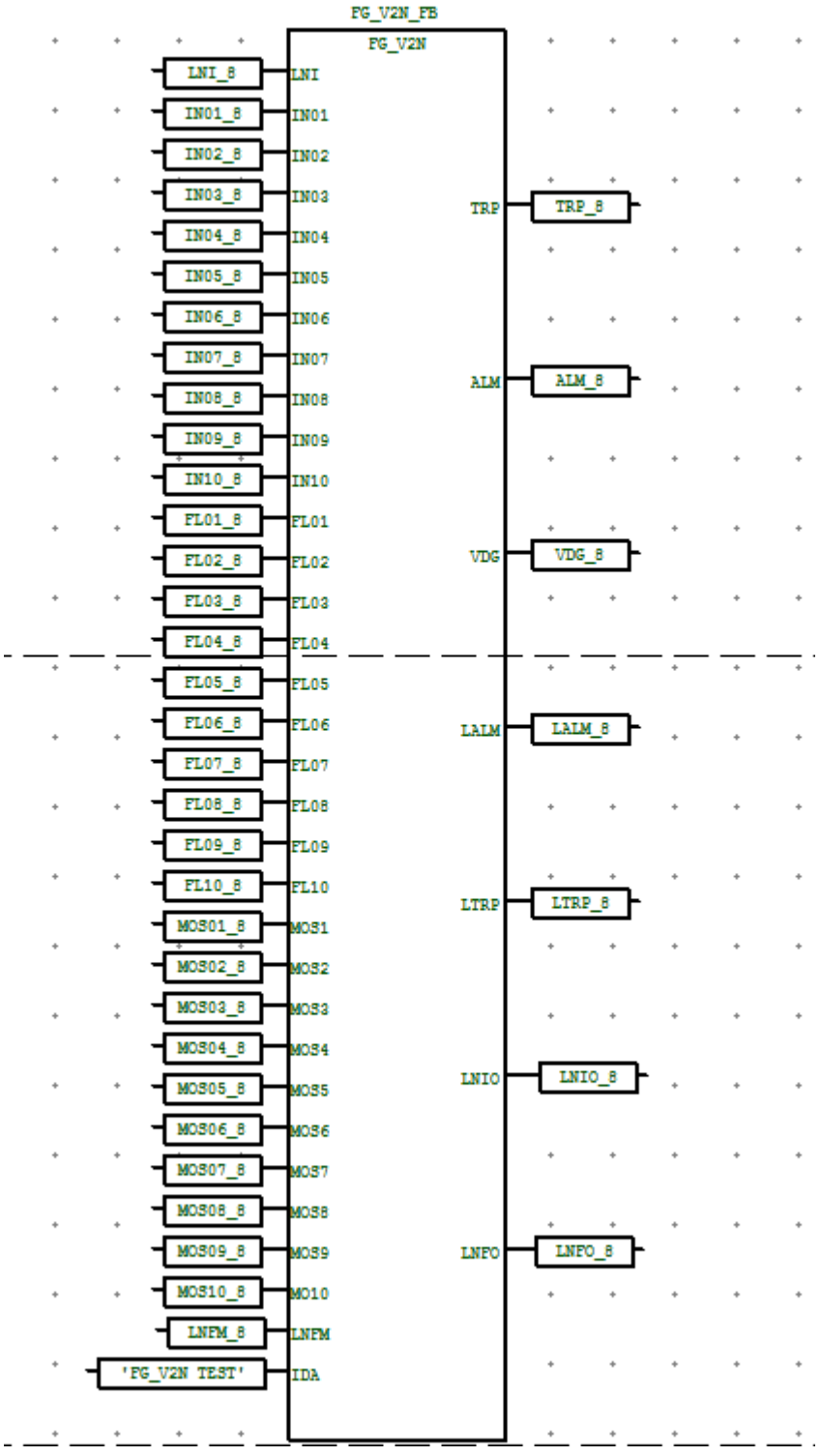


Fig 15 Logic Diagram for Typical FG_V2N

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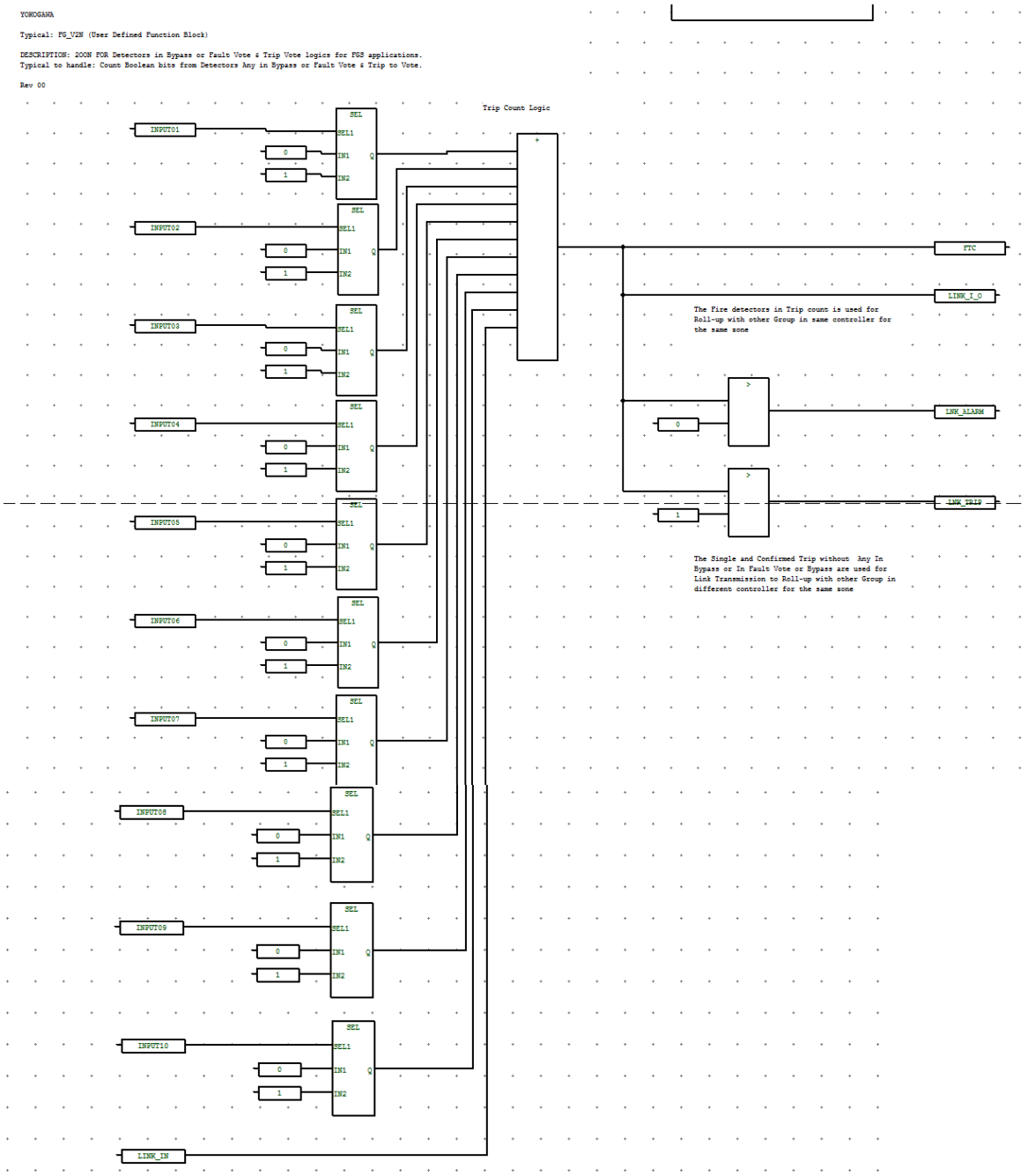

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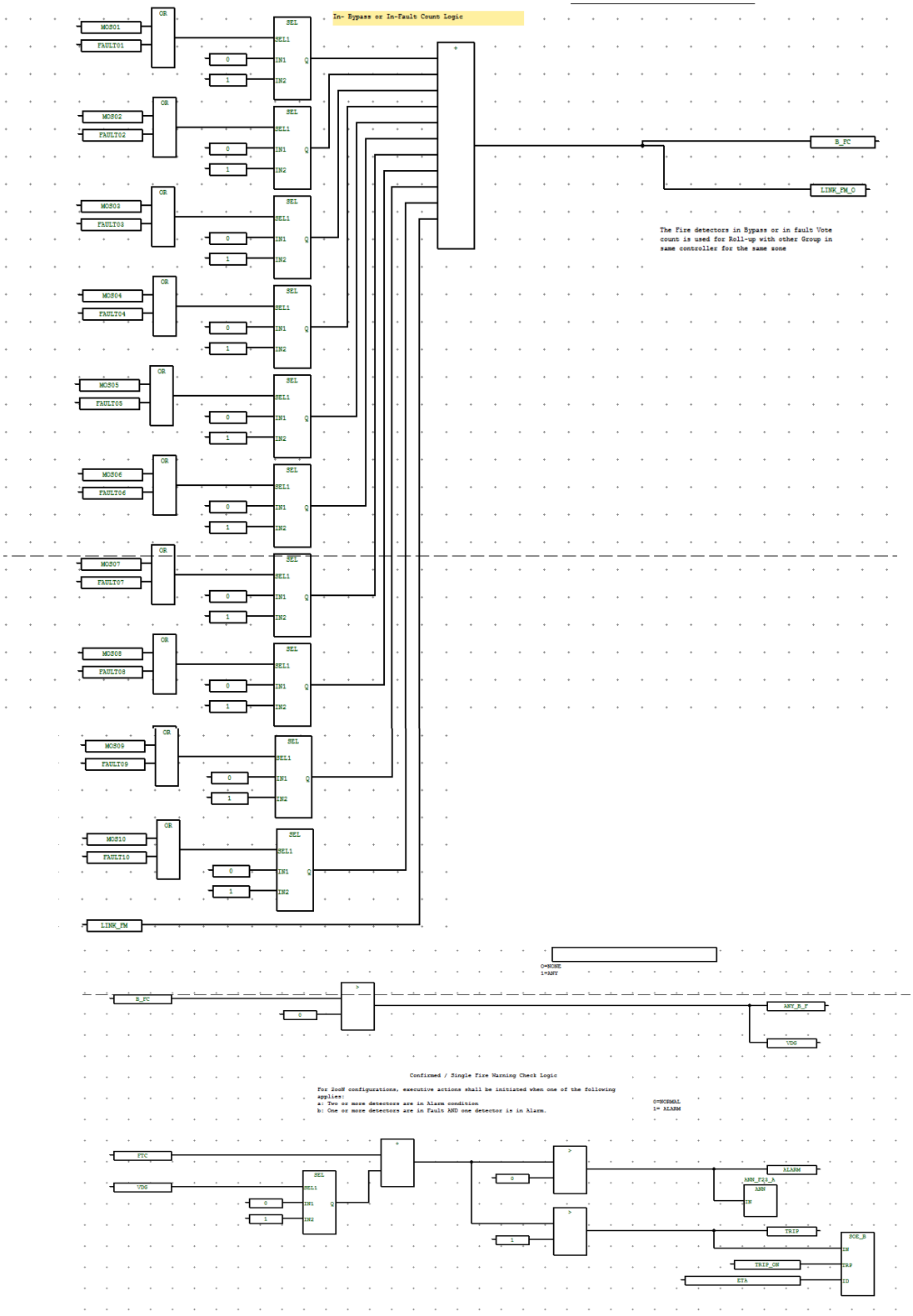

Fig 16 Logic Diagram for Typical FG_V2N

8.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
LNI	Link Input	0
IN01,IN02,IN03,…..IN10	Detector Input	FALSE
FL01, FL02, FL03….FL10	Detector In-Bypass or In-Fault	FALSE
MOS01, MOS02, MOS03,……MOS10	Detector In-Bypass or In-Fault	FALSE
LMFM	LINK FLT & MOS	0
IDA	TRIP EVENT ID	"XXXXXXXXX"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP	Fire Confirmed Trip Vote	FALSE
ALM	Fire Single Trip Vote	FALSE
VDG	Any Bypass or Fault Vote DEGRADE	FALSE
LALM	Single Trip Warning for Link Tra	FALSE
LTRP	Confirmed Trip Warning for Link	FALSE
LNIO	LINK INPUT TO OTHER VOTING	0
LNFO	LINK FLT& MOS TO OTHER VOTING	0

8.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results						
			Trip Signal	ALM	VDG	LALM	LTRP	LNIO	LNFO
TC#1	LNI=0 IN01 TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	LNI=0 IN01 TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	FALSE	FALSE	FALSE	FALSE	FALSE	0	0
TC#2	LNI=0 IN01=TRUE IN02=FALSE TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	LNI=0 IN01=TRUE IN02=FALSE TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	FALSE	TRUE	FALSE	TRUE	FALSE	1	0
TC#3	LNI=0 IN01=TRUE, IN02=FALSE TO IN10 = FALSE FL01=TRUE FL02 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	LNI=0 IN01=TRUE, IN02=TRUE IN03=FALSE TO IN10 = FALSE FL01=TRUE FL02 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	TRUE	TRUE	TRUE	TRUE	FALSE	1	10

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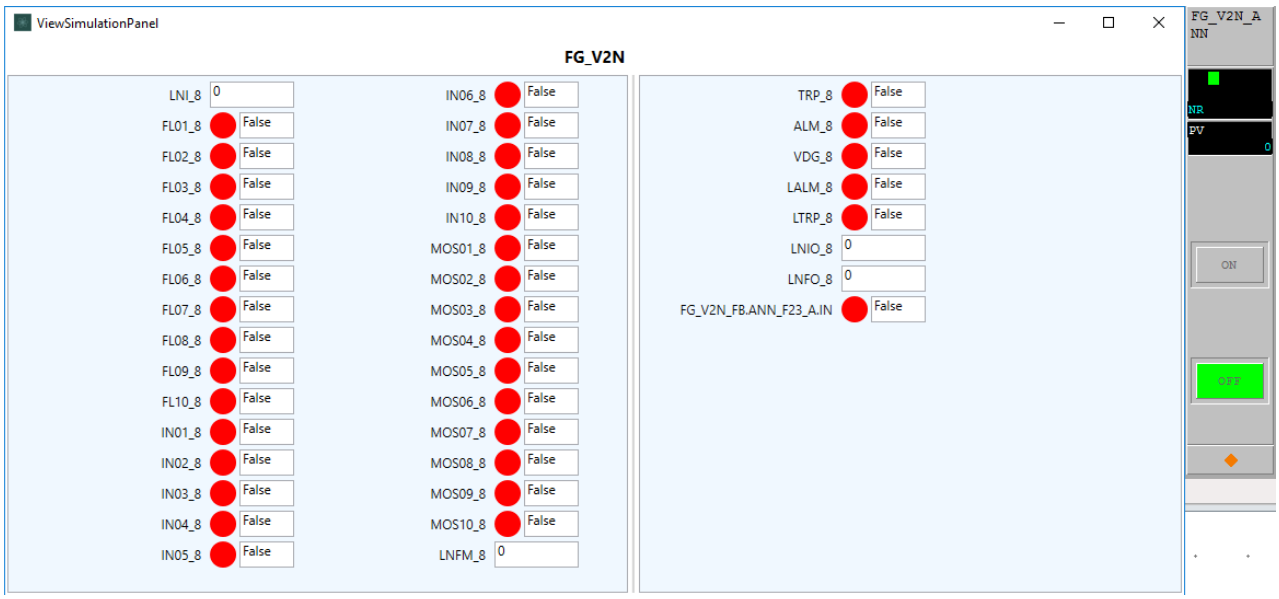
Test Case Number	Test Cases	Input Parameter /Values	Expected Results						
			Trip Signal	ALM	VDG	LALM	LTRP	LNIO	LNFO
TC#4	LNI=0 IN01=TRUE, IN02=TRUE IN03=FALSE TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	LNI=0 IN01=TRUE, IN02=TRUE IN03=FALSE TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01 TO MOS10=FALSE LNFM=0	TRUE	TRUE	FALSE	TRUE	TRUE	2	0
TC#5	LNI=0 IN01=TRUE, IN02=FALSE TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01=TRUE, MOS02 TO MOS10=FALSE LNFM=0	LNI=0 IN01=TRUE, IN02=FALSE TO IN10 = FALSE FL01 TO FL10 = FALSE MOS01=TRUE, MOS02 TO MOS10=FALSE LNFM=0	TRUE	TRUE	TRUE	TRUE	FALSE	1	10

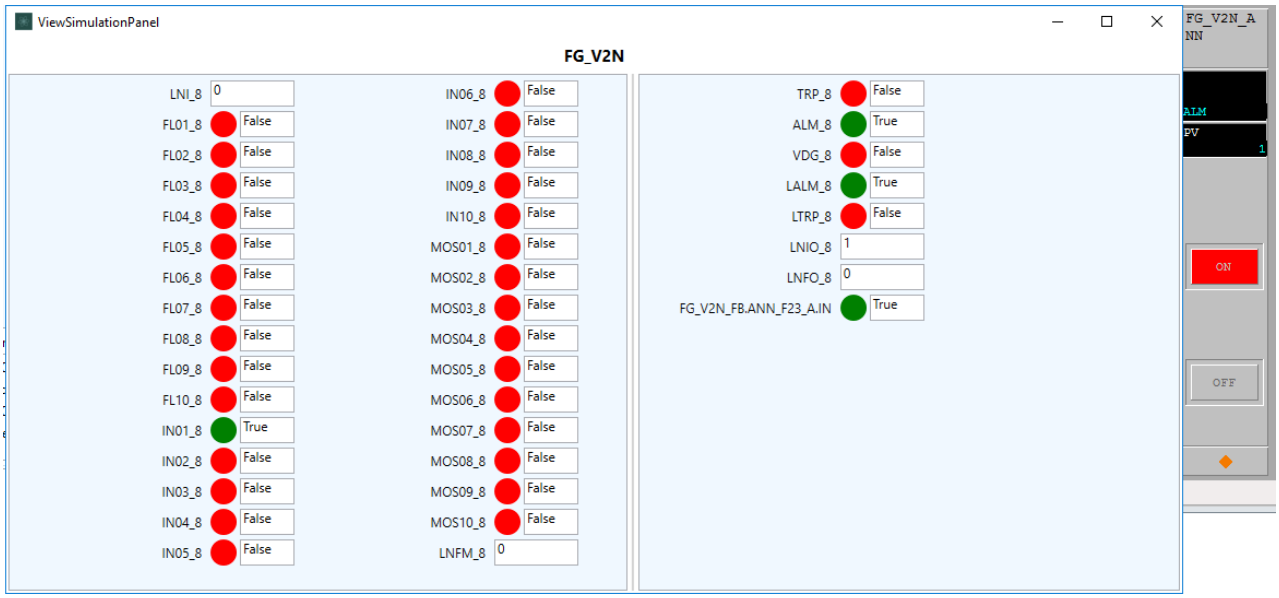
Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from “True’ to ‘False’.

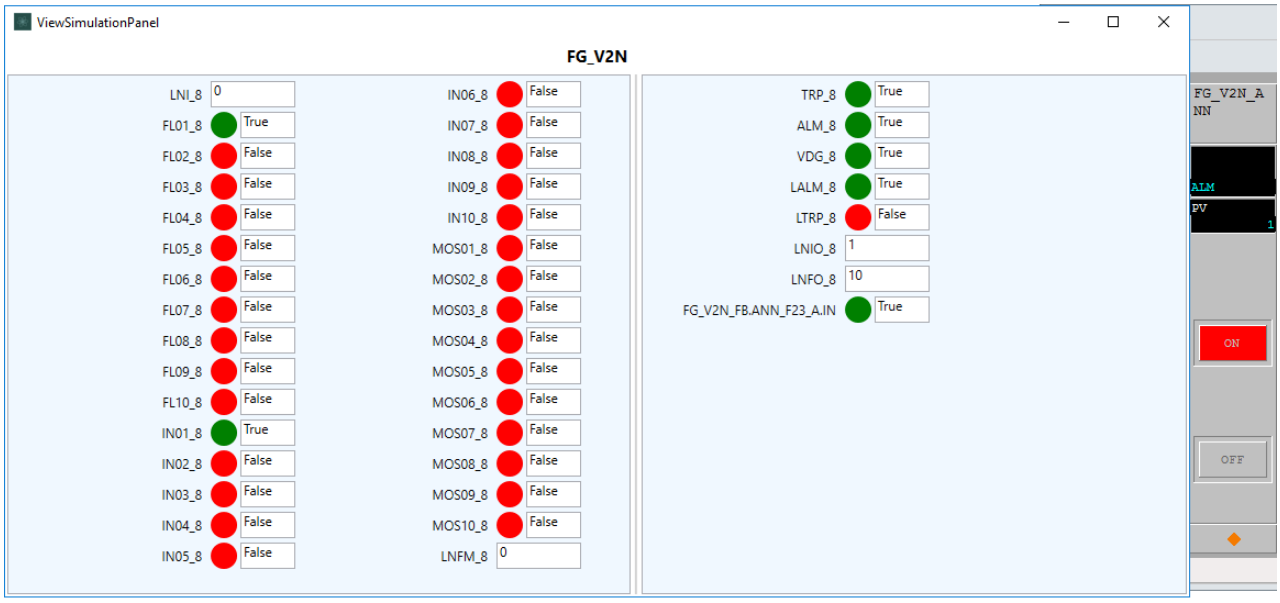
8.5 TEST RESULTS:



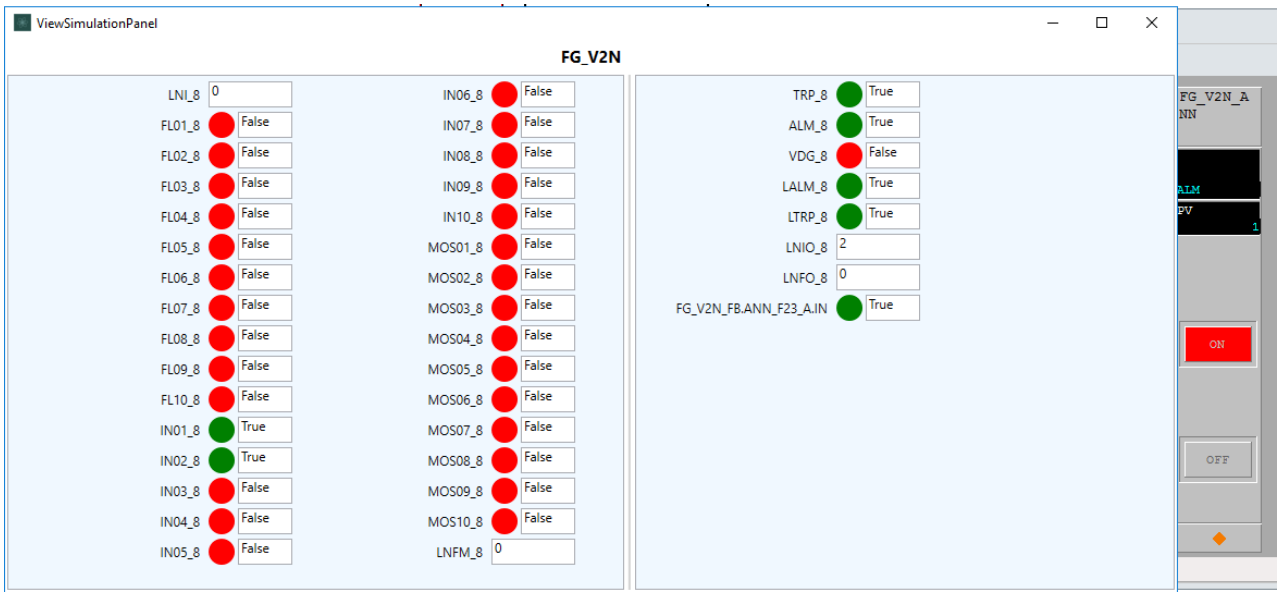
TC#1 : LNI=FALSE, IN01= FALSE TO IN10=FALSE, FL01=FALSE TO FL10=FALSE, MOS01=FALSE TO MOS10=FALSE, LNFM=FALSE,



TC#2 : LNI=FALSE, IN01 = TRUE, IN02= FALSE TO IN10=FALSE, FL01=FALSE TO FL10=FALSE, MOS01=FALSE TO MOS10=FALSE, LNFM=FALSE,



TC#3 : LNI=FALSE, IN01 = TRUE, IN02 = FALSE TO IN10=FALSE, FL01=TRUE, FL02=FALSE TO FL10=FALSE, MOS01=FALSE TO MOS10=FALSE, LNFM=FALSE,



TC#4 : LNI=FALSE, IN01, IN02= TRUE, IN03= FALSE TO IN10=FALSE, FL01=TRUE, FL02=FALSE TO FL10=FALSE, MOS01=FALSE TO MOS10=FALSE, LNFM=FALSE,

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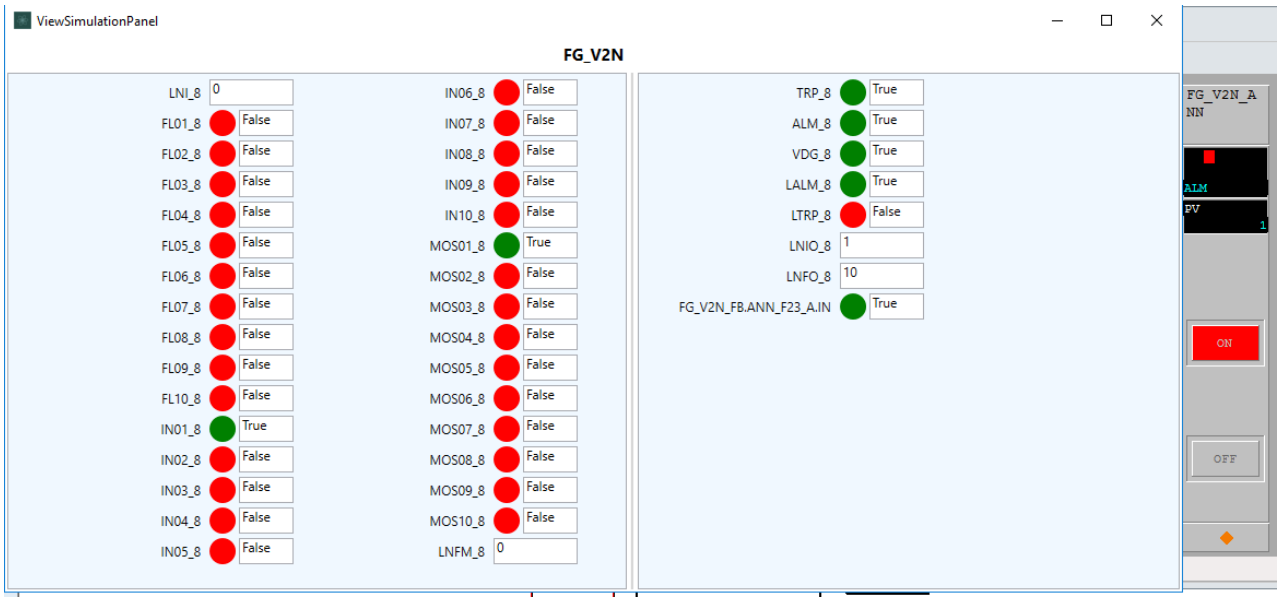
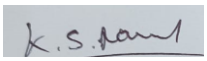


TC#5 : LNI=FALSE, IN01= TRUE, IN02= FALSE TO IN10=FALSE, FL01=TRUE, FL02=FALSE TO FL10=FALSE, MOS01=TRUE, MOS02=FALSE TO MOS10=FALSE, LNFM=FALSE,

8.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

9 UZGRP

UZGRP typical provides the common functionality for UZ groups in the FGS.

9.1 PURPOSE

UZGRP typical provides the common functionality for UZ groups in the FGS. The functions of the typical are trip latching, alarming and first failure identification.

Functionality:

The UZGRP function block has the following main functions:

- Trip the UZ group if one of the inputs is tripped.
- Initiate a First Failure alarm to indicate which trip came first.
- Latch the UZ trip if a trip condition is active, and no reset has been applied.

For every process group in the system at least one UZ block is used. The typical UZ block is designed for 10 inputs. Depending on the number of inputs to the group, more UZ blocks may be used for a process group. The UZ block can be linked together in a chain by linking the UZ Link and UZ Condition of the next UZ block together. If only one UZ block is used to trip a UZ group the UZ Link input shall be set to TRUE. The trip outputs of input typical and/or voting typical in a UZ group are connected to the inputs of the UZ block. A trip condition on an input of the UZ block will trip the UZ group. This will latch the UZ block, further trips on the inputs will be ignored for failure indication, but still affect the UZ group trip. The output of the UZ block will be used in the application logic to the trip related field outputs. The trip alarm and the first failure flag of the tripped input will be shown in the OWS. The Tripped Outputs Latched status will be shown in the OWS until UZGRP is reset.
After all trip conditions are cleared the UZ typical can be reset via the optional UZRST application typical, by a reset signal from SCS. If the UZ group requires an auto-reset function, then the UZ Condition output has to be connected to the Clear input. The Clear input will only react on a positive trigger. The Clear will not only reset the UZ group but also clears the first failure flag, a reset will only have affect if all trip input conditions are normalized (not tripped).

9.2 LOGIC DIAGRAMS

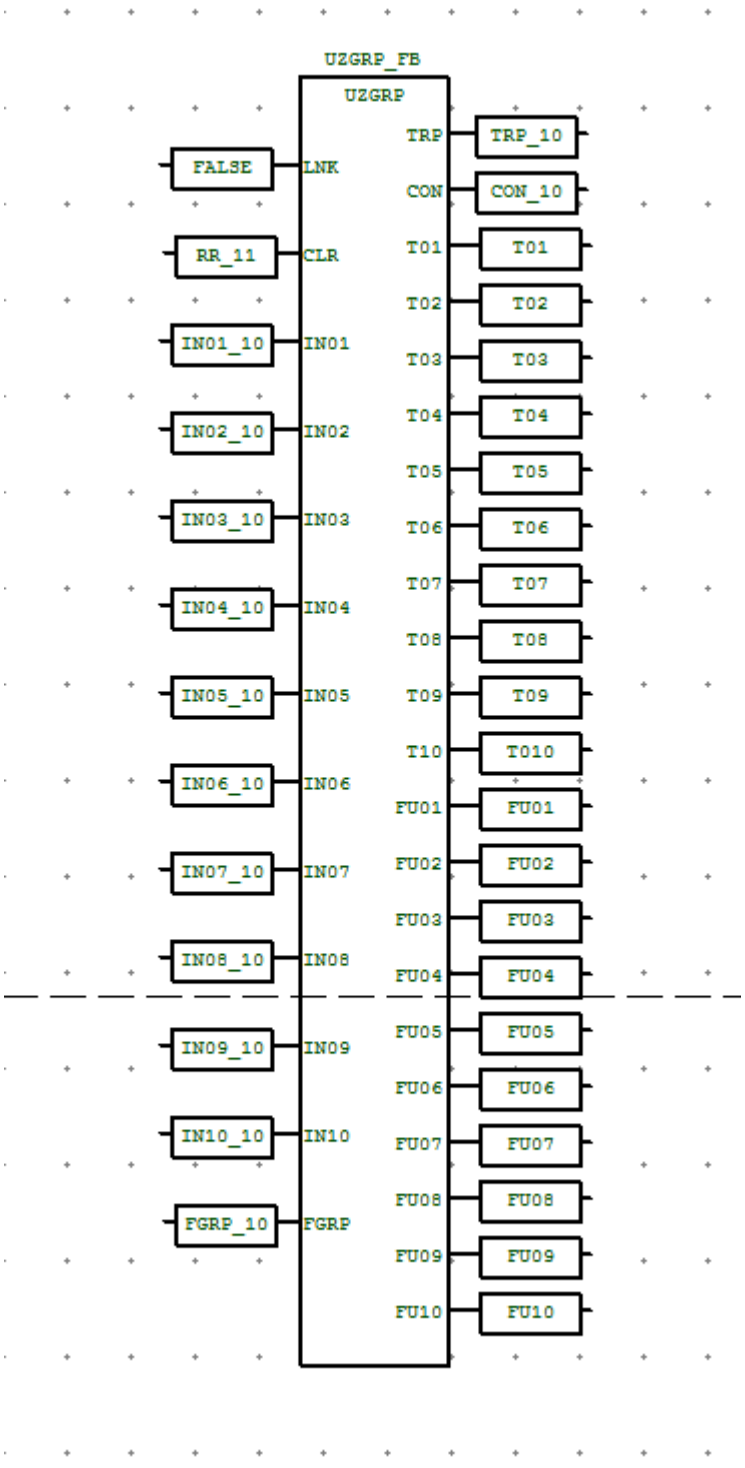


Fig 17 User Defined Function Block UZGRP

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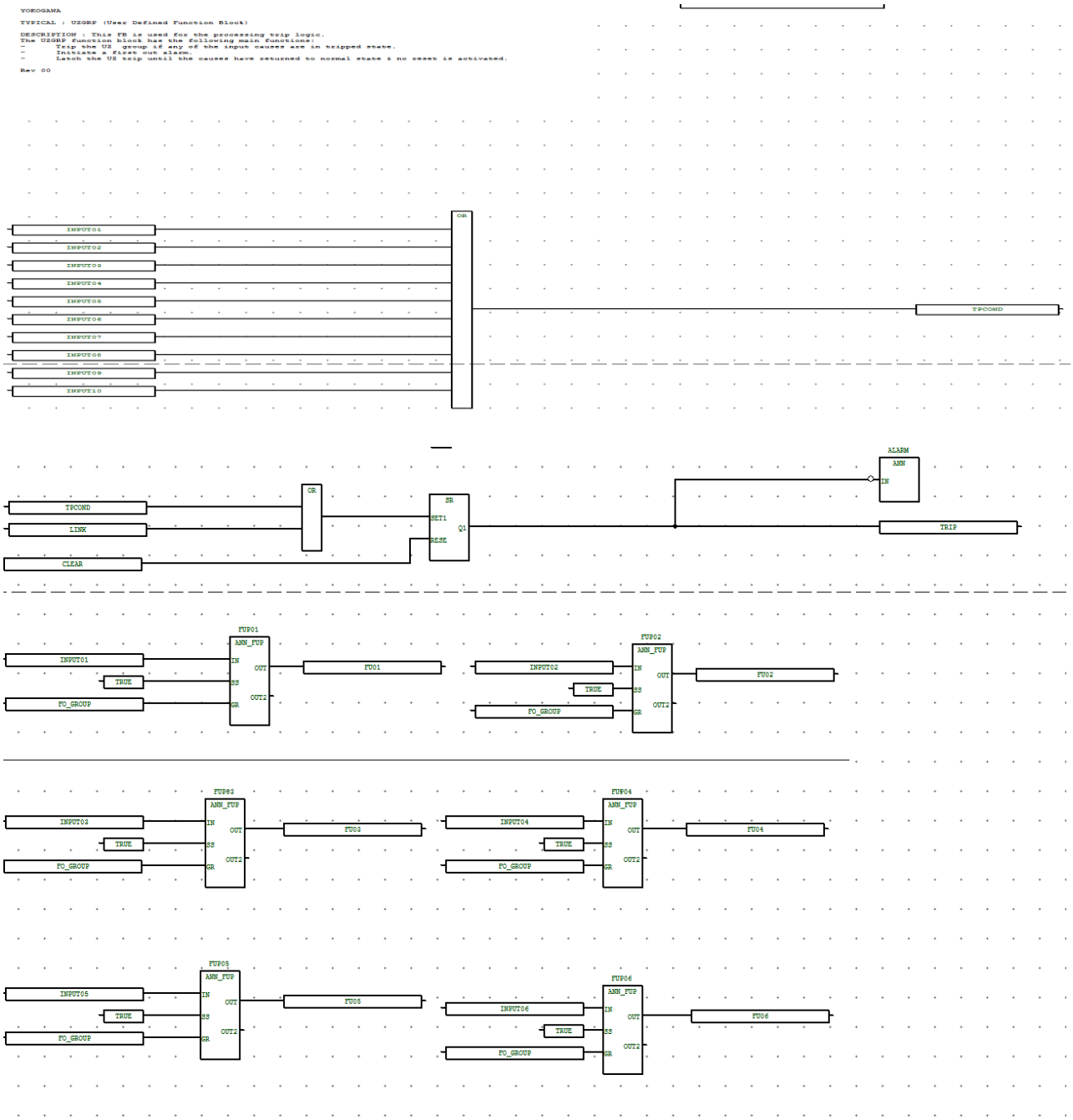

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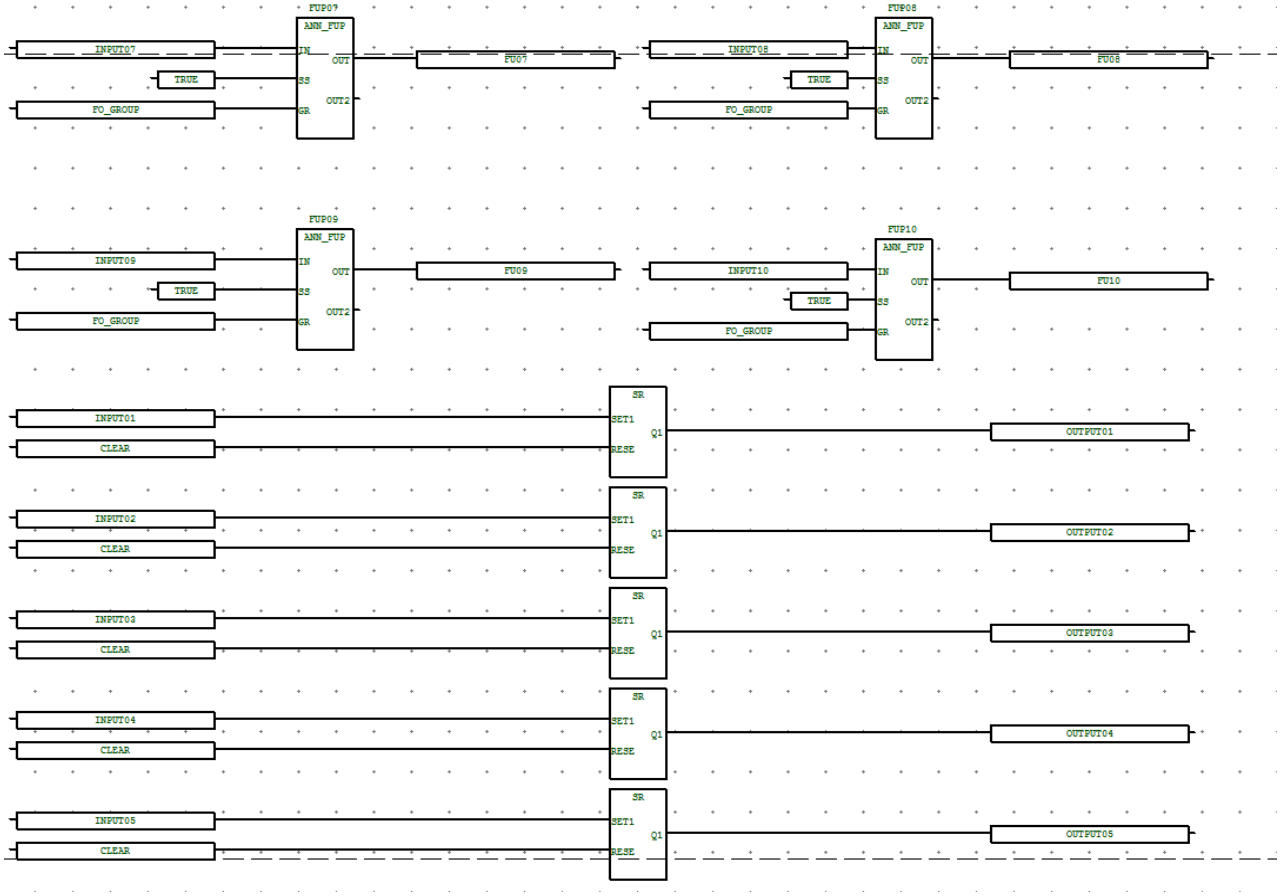

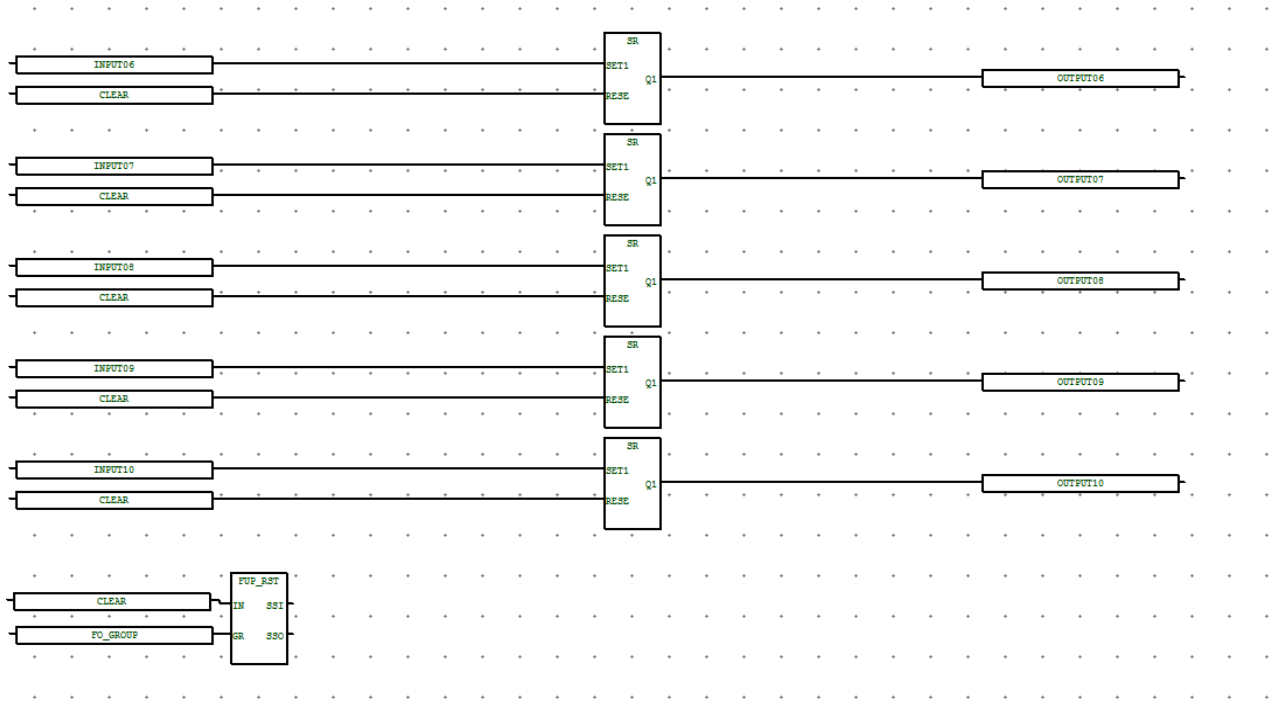

Fig 18 Logic Diagram for Typical UZGRP

9.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
LNK		FALSE
CLR		FALSE
IN01, IN02, IN03….. IN10		FALSE
FGRP		10

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
TRP_10		FALSE
CON_10		FALSE
T01, T02, T03…T10	TRIP OUTPUT	FALSE
FU01, FU02, FU03….FU10		T#10S

9.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results			
			Trip Signal	Critical Fault	Critical Trip	FU
TC#1	LNK=FALSE CLR = FALSE ALL IN are "FALSE"	LNK=FALSE CLR = FALSE IN01, IN02,…IN09,IN10=FALSE	FALSE	FALSE	FALSE	FALSE
TC#2	LNK=FALSE CLR = FALSE ALL IN are "TRUE"	LNK=FALSE CLR = FALSE IN01 or IN02 or …or IN09 or IN10=TRUE	TRUE	TRUE	TRUE	TRUE
TC#3	LNK=FALSE CLR = FALSE ALL IN are "FALSE"	LNK=FALSE CLR = FALSE IN01, IN02,…IN09,IN10=FALSE	TRUE	FALSE	TRUE	TRUE
TC#4	LNK=FALSE CLR = TRUE ALL IN are "FALSE"	LNK=FALSE CLR = TRUE IN01, IN02,…IN09,IN10=FALSE	FALSE	FALSE	FALSE	FALSE

Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

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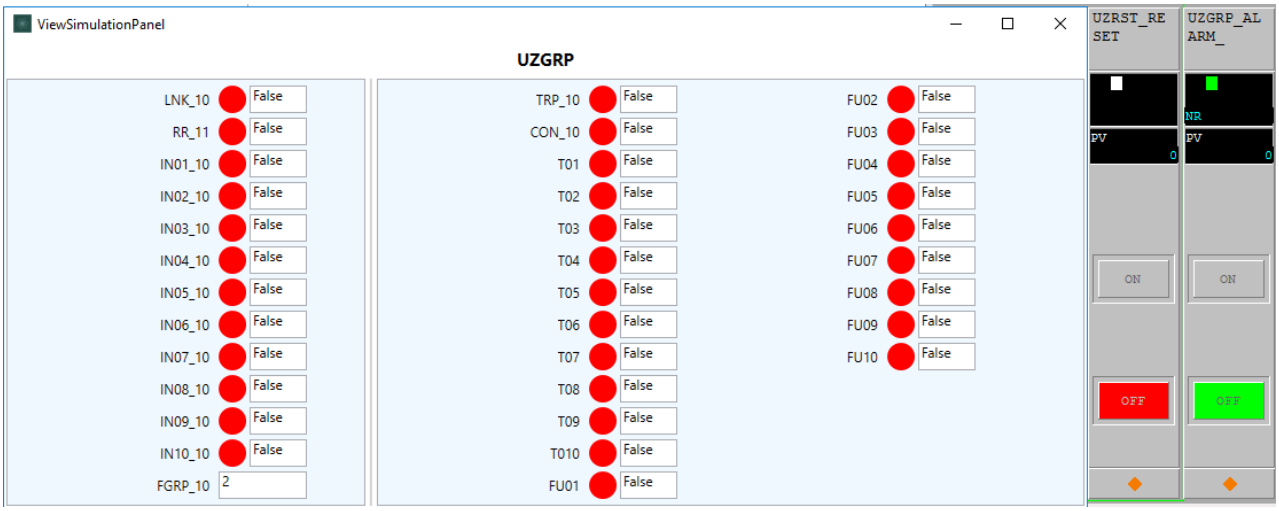
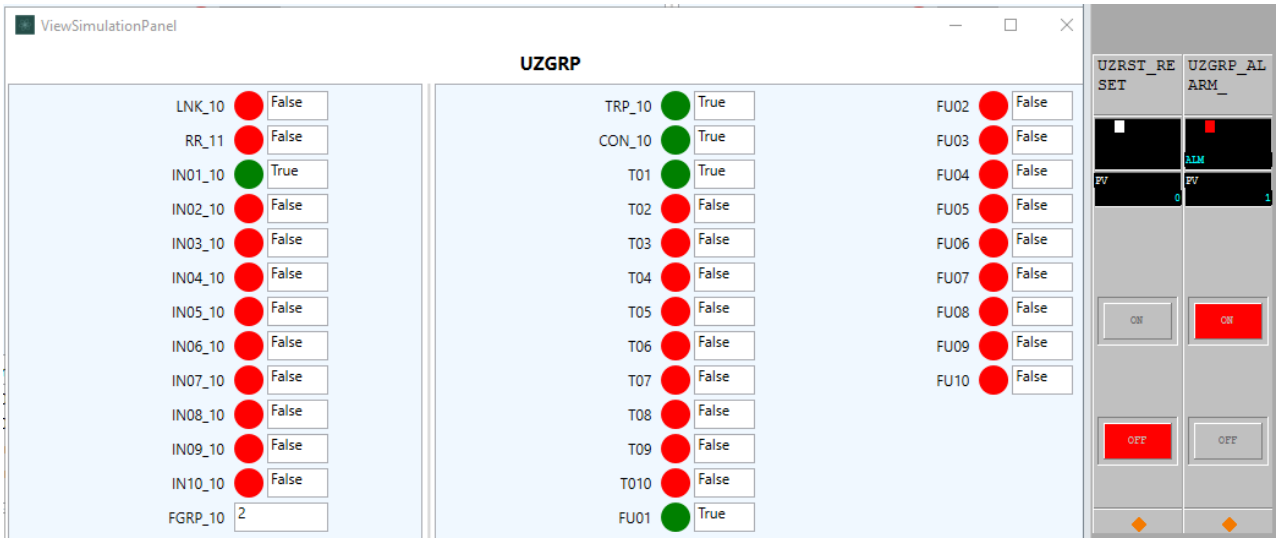
9.5 TEST RESULTS:



TC#1 : RR=FALSE, IN01 = FALSE, IN02= FALSE, IN03=FALSE, IN04=FALSE, IN05=FALSE, IN06=FALSE, IN07=FALSE, IN08=FALSE, IN09=FALSE, IN10=FALSE, FGRP=2



TC#2 : RR=FALSE, IN01 = TRUE, IN02= FALSE, IN03=FALSE, IN04=FALSE, IN05=FALSE, IN06=FALSE, IN07=FALSE, IN08=FALSE, IN09=FALSE, IN10=FALSE, FGRP=2

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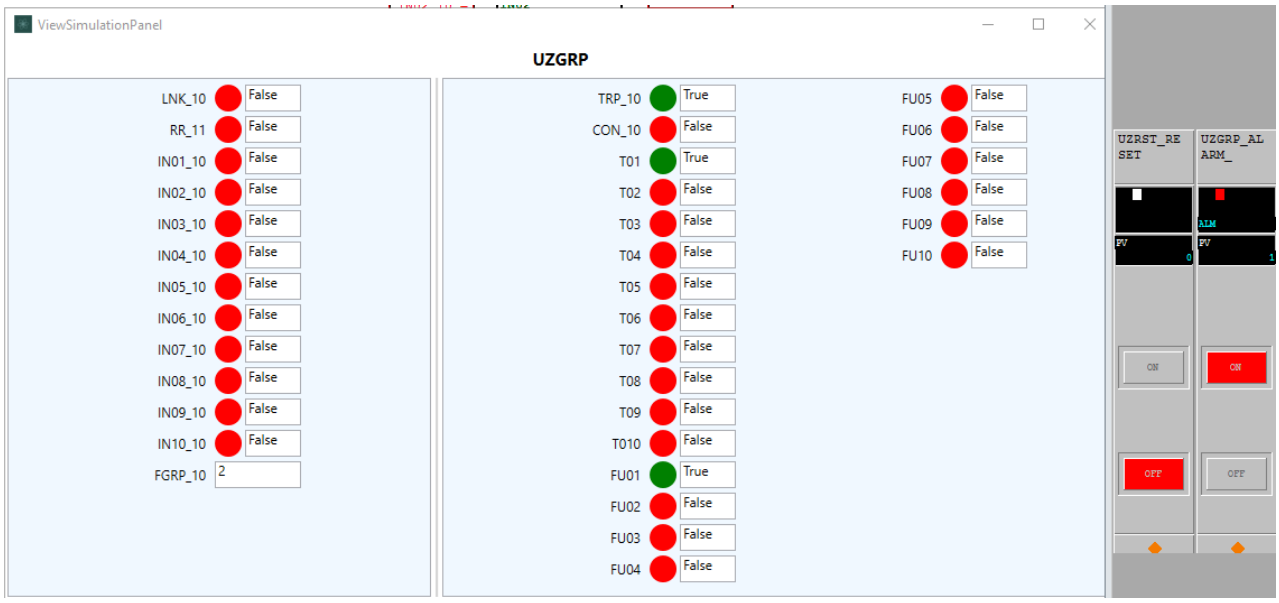
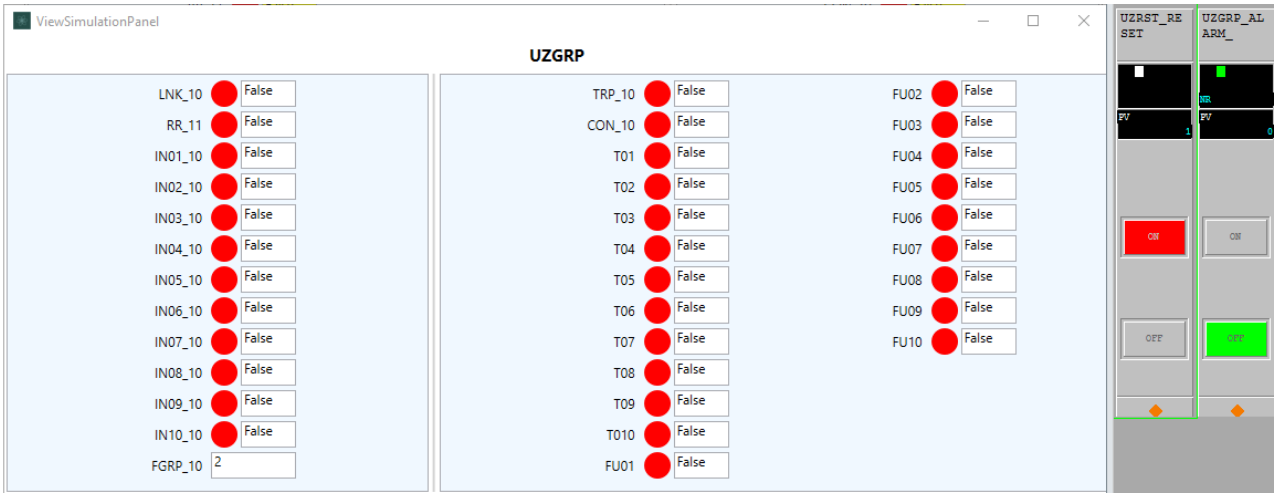
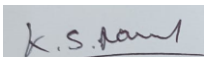


TC#3 : RR=FALSE, IN01 = FALSE, IN02= FALSE, IN03=FALSE, IN04=FALSE, IN05=FALSE, IN06=FALSE, IN07=FALSE, IN08=FALSE, IN09=FALSE, IN10=FALSE, FGRP=2



TC#4 : RR=TRUE, IN01 = FALSE, IN02= FALSE, IN03=FALSE, IN04=FALSE, IN05=FALSE, IN06=FALSE, IN07=FALSE, IN08=FALSE, IN09=FALSE, IN10=FALSE, FGRP=2

9.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

10 UZRST

UZRST typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip.

10.1 PURPOSE

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

Functionality:

The UZRST function block has the following main functions:

- Reset UZ groups only when SCS Reset operated from OWS or field reset switch has been applied
- Indicate that SCS reset is allowed.

This typical will be used to reset UZ safety groups which require a manual reset (from OWS) after a trip. The UZRST block has an input to indicate UZ trip status and an output to reset UZGRP logic.

To indicate that a SCS reset is allowed (i.e. Permissive is ‘TRUE’) the status (Ok to Reset) is sent to OWS. After the reset from OWS, the Ok to Reset status will go off.

Push button field input reset is designed for normally open-momentary closed contacts to reset.

10.2 LOGIC DIAGRAMS

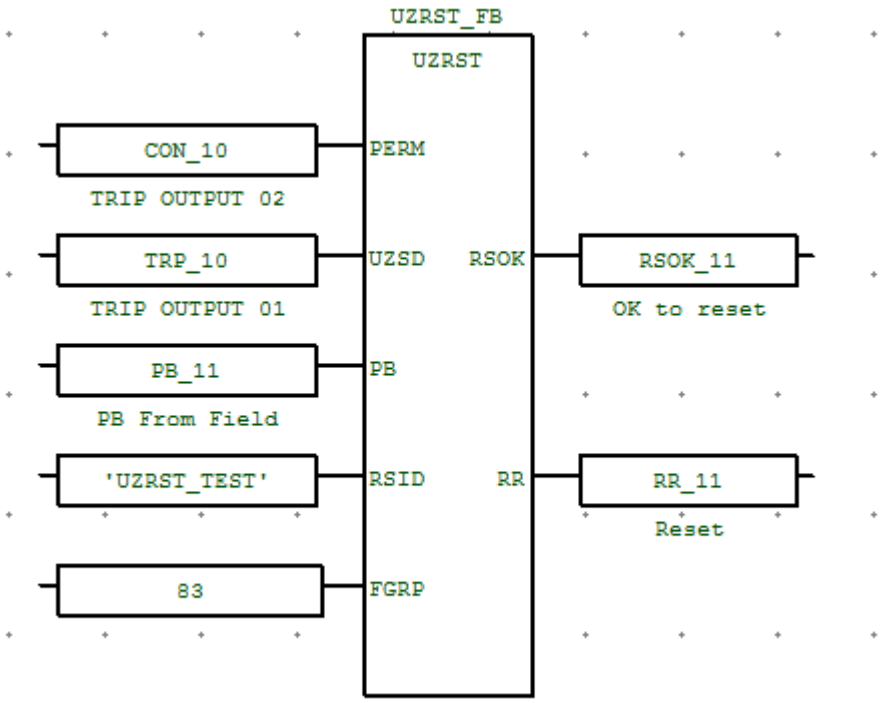


Fig 19 User Defined Function Block UZRST

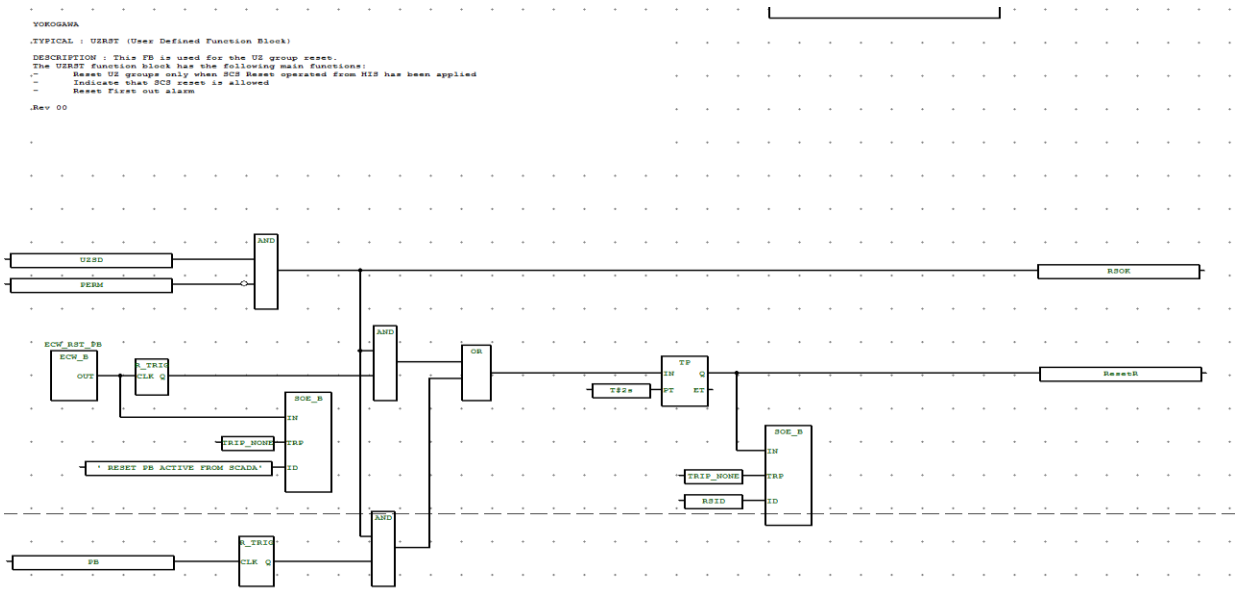


Fig 20 Logic Diagram for Typical UZRST

10.3 PREDEFINED VALUES

Predefined Input Parameter values that are indicated below shall be considered for functional test.

Short Name	Description	Predefined Values
PERM	PERM is the Reset Permissive	FALSE
UZSD	UZSD is the UZ Group Trip Status	FALSE
PB	PB is the Field Reset Push Button	FALSE
RSID	RSID is the comment for the “SOE”	"XXXXXXXXX"
FGRP	FGRP is the Group Number	"83"

Expected output Parameter values that are indicated below shall be verified before start of functional test.

Short Name	Description	Predefined Values
RSOK	RSOK is the OK to Reset	FALSE
RR	UZ Reset	FALSE

10.4 TEST CASES VS EXPECTED RESULTS

The required input parameters shall be changed from the predefined values based on individual test cases described below to carry out one hundred percent path test. Typical shall be normalized prior to apply the below test cases and make sure typical should read output parameters as stated in the expected output parameter values under 'Predefined Values' section.

Test Case Number	Test Cases	Input Parameter /Values	Expected Results	
			RSOK	RR
TC#1	PERM = FALSE, UZSD = FALSE, PB = FALSE,	PERM = FALSE, UZSD = FALSE, PB = FALSE,	FALSE	FALSE
TC#2	PERM = TRUE, UZSD = TRUE, PB = FALSE,	PERM = TRUE, UZSD = TRUE, PB = FALSE,	FALSE	FALSE
TC#3	PERM = FALSE, UZSD = TRUE, PB = FALSE, UZRST_MOS=FALSE	PERM = FALSE, UZSD = TRUE, PB = FALSE, UZRST_MOS=FALSE	TRUE	FALSE
TC#3	PERM = FALSE, UZSD = TRUE, PB = FALSE, UZRST_MOS=TRUE	PERM = FALSE, UZSD = TRUE, PB = FALSE, UZRST_MOS=TRUE	FALSE	FALSE

Note:

- N/A which are highlighted grey colour indicates that there is no change in the state. (Change not applicable).
- False Indicates Alarm / Trip value changes from "True' to 'False'.

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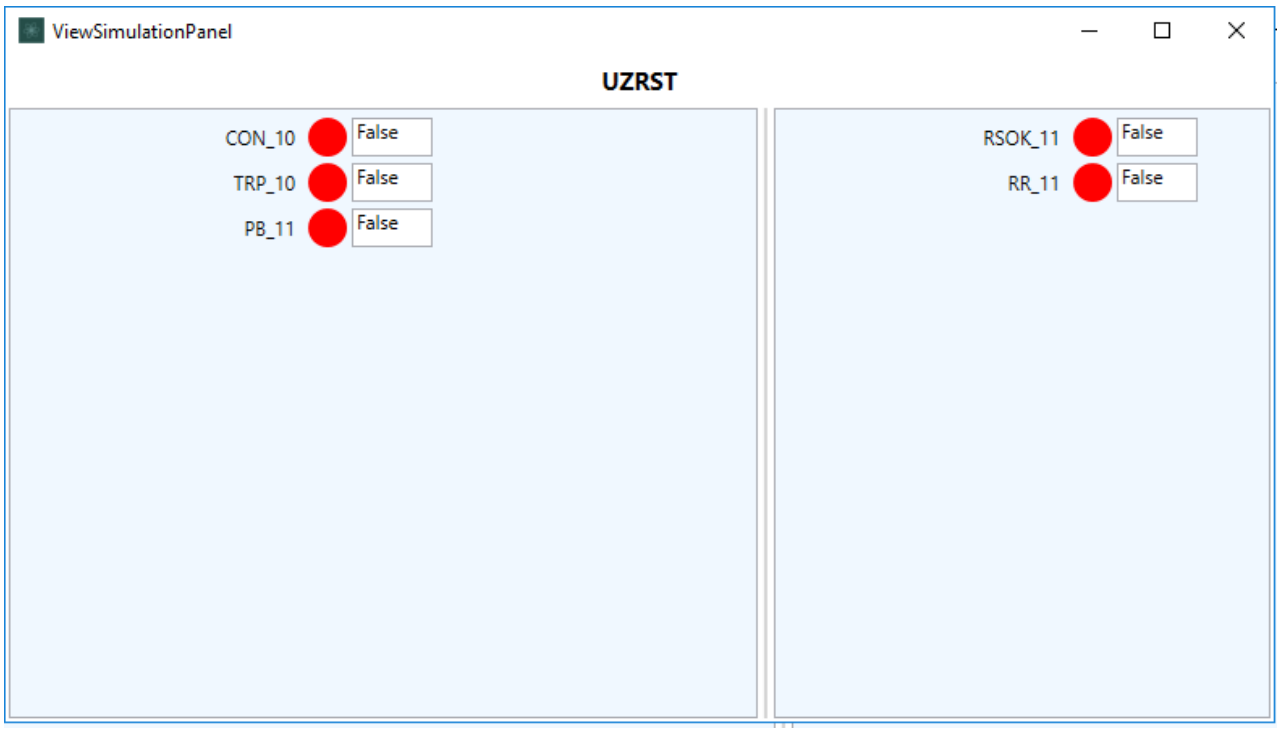
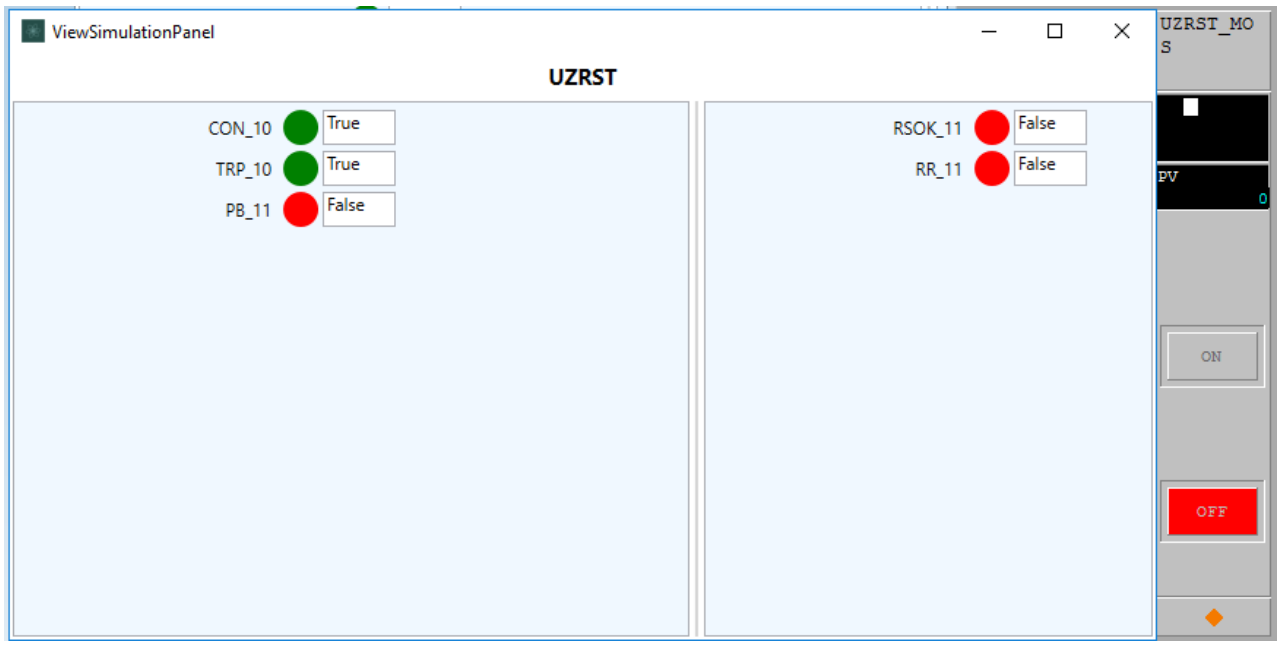
10.5 TEST RESULTS:



TC#1 : PERM= TRUE, UZSD = FALSE, PB = FALSE



TC#2 : PERM= TRUE, UZSD = TRUE, PB = FALSE

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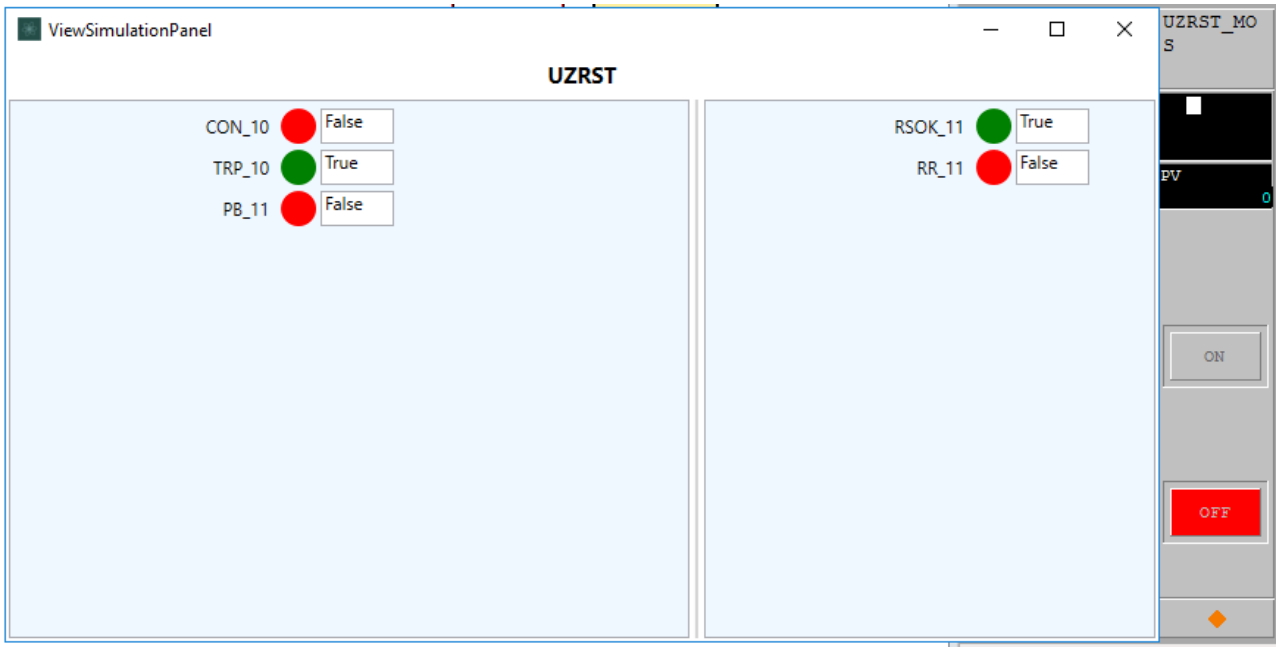
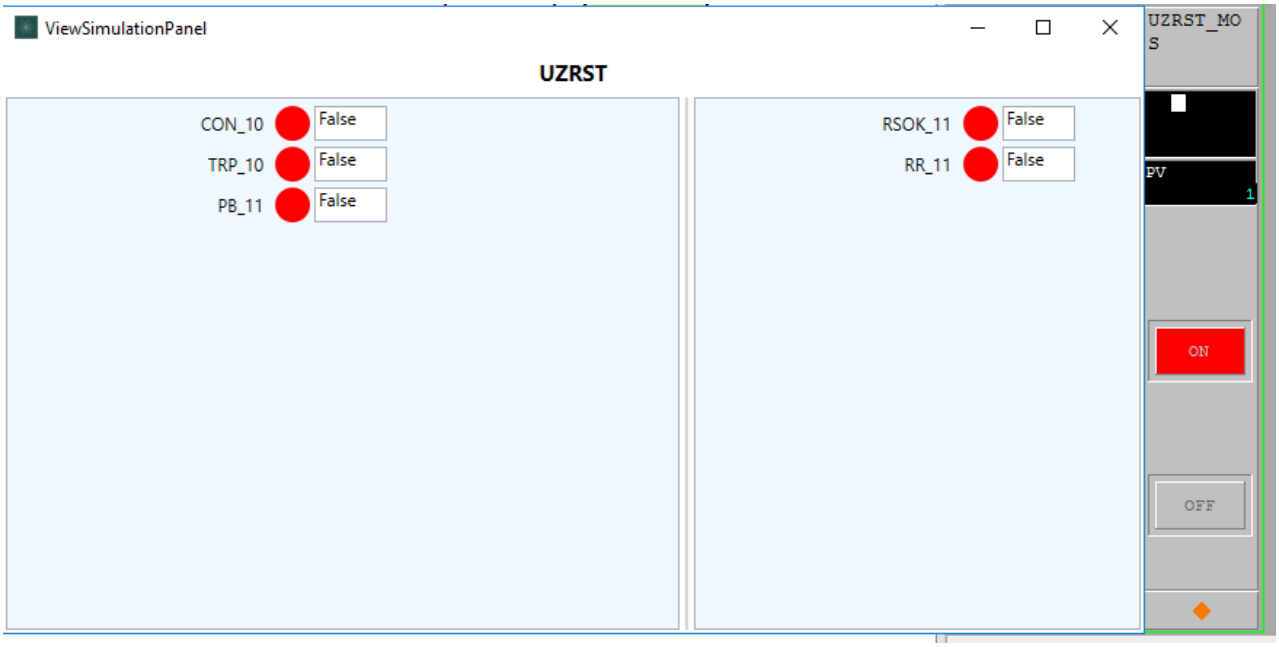


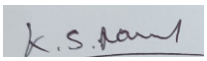
TC#3 : PERM= FALSE, UZSD = TRUE, PB = FALSE



TC#4 : PERM= FALSE, UZSD = TRUE, PB = FALSE, UZRST_MOS= TRUE

Note: (UZSD turns to ‘FALSE’ after timer reaches for 2Sec once the UZRST_MOS is turned ‘ON’)

10.6 SIGNOFF

Functional Check Test Result (**Pass/Fail**)	:	PASS
Test Engineer Name	:	NANDAGOPAL.K.S.
Signature	:	
Date	:	05-AUG-2024

Note:

- Pass / Fail criteria for functional test is based on comparing expected test results with actual test results recorded during simulation environment in IO Simulation Tool.
- Any mismatch observed during manual comparison of expected vs. actual test result then test is considered to be failed. Required logic correction shall be applied and typical to be retested again completely.

Updated on : 09 Jan 2024

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
1.	ABB	264DS	Differential Pressure Transmitter	0004	01/01		
2.	ABB	264DS	Differential Pressure Transmitter	0004	02/01		
3.	ABB	264IB	Multivariable Field Indicator	0006	01/01		
4.	ABB	265DS	Pressure Transmitter	0089	02/01		
5.	ABB	267CS	Multivariable Pressure Transmitter	008A	02/01		
6.	ABB	2600T series-Model 266 P-dP	Differential,Gauge Absolute-Pressure Transmitter	0007	01/01	Firmware Rev :7.01.04	
7.	ABB	2600T Series ・Model 266 P-dP	Differential, Gauge, Absolute Pressure Transmitter	0007	02/03	Enhanced DD	
8.	ABB	FCM2000	Coriolis Mass Flowmeter	0018	01/01		
9.	ABB	ProcessMaster/ HygienicMaster FEX300/FEX 500	Electromangnetic Flowmeter	0124	01/01		
10.	ABB	FSM4000	Magmeter	0017	01/01		
11.	ABB	FXE4000	Magmeter	0016	02/01		
12.	ABB	TB82EC	Four-Electrode Conductivity Transmitter	0051	01/01		
13.	ABB	TB82PH	pH/ORP/pION Transmitter	0050	01/01		
14.	ABB	TB82PH	pH/ORP/pION Transmitter	0050	02/02		
15.	ABB	TB82TC	Toroidal Conductivity Transmitter	0053	01/01		
16.	ABB	TB82TE	Two-Electrode Conductivity Transmitter	0052	01/01		
17.	ABB	TF02(-Ex) / TF202(-Ex)	Temperature Transmitter	001E	01/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
18.	ABB	TRIO-WIRL VT40	Vortex Flowmeter	0015	01/01		
19.	ABB	TRIO-WIRL FV4000/ FS4000	Vortex Flowmeter	0015	02/01		
20.	ABB	TTX300	Temperature Transmitter	001F	01/01	Enhanced DD	
21.	ABB	TZID-C120/220	Valve Positioner	0028	02/02		
22.	ABB	LMT100/200/300	Magnetostrictive Level Transmitters	0096	01/01	Firmware revision 15.05.04	
23.	ASCO	ASCO FF 4449	Valve Controller	4449	01/01		
24.	AUMA	AUMATIC AC 01.2 ACExC 01.2 FF H1	Electric Actuator / Valve Positioner	0001	01/01	Enhanced DD	
25.	AUMA	AUMATIC FF H1	Valve Positioner	01F8	01/01		
26.	AZBIL CORPORATION	AVP303	Valve Positioner	0203	01/01		
27.	AZBIL CORPORATION	AVP303	Valve Positioner	0203	02/01		X: Supported
28.	AZBIL CORPORATION	AVP304	Valve Positioner	1101	02/01		
29.	AZBIL CORPORATION	AVP703	Valve Positioner	1701	01/03		
30.	AZBIL CORPORATION	DSTJ3000, New Ace	Pressure Transmitter	0103	01/02		
31.	AZBIL CORPORATION	MagNew	Magnetic Flow Meter	0001	02/02		
32.	AZBIL CORPORATION	ST3000	Pressure Transmitter	0103	01/02		
33.	AZBIL CORPORATION	Thermonex	Temperature Transmitter	0401	01/02		
34.	AZBIL CORPORATION	MagneW3000 PLUS+/FLEX+	Electromagnetic Flowmeter	1601	01/03	Enhanced DD	
35.	AZBIL CORPORATION	AT9000 Advanced Transmitter Model GTX	Pressure Transmitter	1501	01/01	Enhanced DD	
36.	BEKA	BA414DF (BA414DF Series)	Fieldbus Indicator	0414	01/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
37.	BEKA	BA484DF (BA488CF Series)	Fieldbus Display	0488	01/01		X: Supported
38.	BEKA	BA484DF (BA488CF Series)	Fieldbus Display	0488	02/01		
39.	BIFFI	ICON2000	Valve Positioner	0100	01/02	Obsolete	
40.	BIFFI	ICON2000	Valve Positioner	0100	01/01	Obsolete	
41.	BIFFI	FF2000 v4	Electric Actuator-Valve Positioner	0001	01/01		
42.	BIFFI	FF2000 v4	Electric Actuator-Valve Positioner	0001	02/01	5.71(major) A2.02(minor)	
43.	BIFFI	FF2000 v4	Electric Actuator-Valve Positioner	0001	03/01	Enhanced DD Firmware 6.15	
44.	BIFFI	FF 2000 v4	Electric Actuator-Valve Positioner	0001	03/01	Enhanced DD Firmware 7.00 Tested with STARDOM/CENTUM	
45.	CHONGQING	FlowMaster EM Flow Meter	Electromagnetic Flowmeter	0001	01/01		
46.	CSI	9210	Machinery Health Transmitter	9210	02/01		
47.	DET-TRONICS	FlexVu UD10	Universal Display	0001	01/01		
48.	DRAEGER SAFETY	Polytron7xxx	Gas Detector	00EB	01/01		
49.	DRAEGER SAFETY	Polytron8000	Gas Detector	0001	01/01	Enhanced DD	
50.	DREHMO GMBH	DREHMO i-matic	Electric Actuator	0007	01/01		
51.	DREHMO GMBH	DREHMO i-matic	Electric Actuator	0007	02/01		
52.	DRESSER INC	FVP	Valve Positioner	0001	03/04		X: Supported
53.	DRESSER INC	FVP	Valve Positioner	0001	04/01		X: Supported
54.	DRESSER INC	FVP	Valve Positioner	0001	05/01		
55.	DRESSER INC	FVP (Software Download)	Valve Positioner	0007	02/01		X: Supported
56.	DRESSER INC	FVP (Software Download)	Valve Positioner	0007	03/01		X: Supported

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
57.	EIM CONTROLS INC	DCM Fieldbus Actuator	Electric Valve Actuator	EDC2	01/01	1.11.00 Mon Aug 03 11:13:01 2009by WangPeng	
58.	EIM CONTROLS INC	DCM Fieldbus Actuator	Electric Valve Actuator	EDC2	02/01	1.13.00 Fri Dec 25 14:22:11 2009 by WangPeng	
59.	EMERSON AUTOMATION SOLUTIONS	Magtech LTM-350FF	Magnetostrictive Level Transmitter	0102	01/01		
60.	EMERSON AUTOMATION SOLUTIONS	2051	Pressure Transmitter	2051	01/01		
61.	EMERSON AUTOMATION SOLUTIONS	2051	Pressure Transmitter	2051	02/01	Enhanced DD	
62.	EMERSON AUTOMATION SOLUTIONS	2240	16 Input Temperature Transmitter	2240	02/01		
63.	EMERSON AUTOMATION SOLUTIONS	2230	Graphic Field Display	2230	03/03	Enhanced DD	
64.	EMERSON AUTOMATION SOLUTIONS	3051C	Pressure Transmitter	3051	07/02		
65.	EMERSON AUTOMATION SOLUTIONS	3051C	Pressure Transmitter	3051	08/01	Tested with STARDOM/CENTUM Enhanced DD	
66.	EMERSON AUTOMATION SOLUTIONS	3051S	Pressure Transmitter	3051	14/02		X: Supported
67.	EMERSON AUTOMATION SOLUTIONS	3051S	Pressure Transmitter	3051	17/03		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
68.	EMERSON AUTOMATION SOLUTIONS	3051S	Pressure Transmitter	3051	18/01	Enhanced DD	
69.	EMERSON AUTOMATION SOLUTIONS	3051S	MultiVariable Transmitter	3151	01/01	Enhanced DD	
70.	EMERSON AUTOMATION SOLUTIONS	3095	Pressure Transmitter	3095	01/01		
71.	EMERSON AUTOMATION SOLUTIONS	3244MV	Temperature Transmitter	3244	05/02		X: Supported
72.	EMERSON AUTOMATION SOLUTIONS	3144P	Temperature Transmitter	3144	01/01		X: Supported
73.	EMERSON AUTOMATION SOLUTIONS	3144P	Temperature Transmitter	3144	01/03	Firmware 001.01.010	
74.	EMERSON AUTOMATION SOLUTIONS	3144P	Temperature Transmitter	3144	02/01		
75.	EMERSON AUTOMATION SOLUTIONS	3144P	Temperature Transmitter	3144	03/03	Enhanced DD	
76.	EMERSON AUTOMATION SOLUTIONS	3900	Radar Level Transmitter	3900	01/01		
77.	EMERSON AUTOMATION SOLUTIONS	5300 Series	Guided Wave Radar Level and Interface Transmitter	5300	01/03		
78.	EMERSON AUTOMATION SOLUTIONS	5300 Series	Guided Wave Radar Level and Interface Transmitter	5300	02/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
79.	EMERSON AUTOMATION SOLUTIONS	5300 Series	Guided Wave Radar Level and Interface Transmitter	5300	03/01		
80.	EMERSON AUTOMATION SOLUTIONS	5300 Series	Guided Wave Radar Level and Interface Transmitter	5300	04/01	Enhanced DD	
81.	EMERSON AUTOMATION SOLUTIONS	5300 Series	Guided Wave Radar Level and Interface Transmitter	5300	04/05	Enhanced DD	
82.	EMERSON AUTOMATION SOLUTIONS	5400 Series	Radar Level Transmitter	5400	02/01		
83.	EMERSON AUTOMATION SOLUTIONS	5400 Series	Radar Level Transmitter	5400	03/01		
84.	EMERSON AUTOMATION SOLUTIONS	5400 Series	Radar Level Transmitter	5400	04/01	Enhanced DD	
85.	EMERSON AUTOMATION SOLUTIONS	5408	Level Transmitter	5408	01/01	Enhanced DD	
86.	EMERSON AUTOMATION SOLUTIONS	5600	Radar Level Transmitter	5600	01/01		
87.	EMERSON AUTOMATION SOLUTIONS	5900	Radar Level Transmitter	5900	02/01		
88.	EMERSON AUTOMATION SOLUTIONS	5900	Radar Level Transmitter	5900	03/01	Enhanced DD	
89.	EMERSON AUTOMATION SOLUTIONS	644	Temperature Transmitter	0644	01/01		X: Supported

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
90.	EMERSON AUTOMATION SOLUTIONS	644	Temperature Transmitter	0644	02/01		
91.	EMERSON AUTOMATION SOLUTIONS	752	Remote Indicator	0752	02/01		X: Supported
92.	EMERSON AUTOMATION SOLUTIONS	752	Remote Indicator	0752	03/01		
93.	EMERSON AUTOMATION SOLUTIONS	752	Remote Indicator	0752	04/01	Enhanced DD	
94.	EMERSON AUTOMATION SOLUTIONS	848L	Discrete IO	848D	01/01		
95.	EMERSON AUTOMATION SOLUTIONS	848T	Eight Input Temperature Transmitter	0848	04/09		X: Supported
96.	EMERSON AUTOMATION SOLUTIONS	848T	Eight Input Temperature Transmitter	0848	05/04		
97.	EMERSON AUTOMATION SOLUTIONS	848T	Eight Input Temperature Transmitter	0848	06/01		
98.	EMERSON AUTOMATION SOLUTIONS	848T	Temperature Transmitter	0848	07/01		
99.	EMERSON AUTOMATION SOLUTIONS	848T	Temperature Transmitter	0848	08/01	Enhanced DD	
100	EMERSON AUTOMATION SOLUTIONS	8732E	Magnetic Flow Transmitter	8732	02/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
101	EMERSON AUTOMATION SOLUTIONS	8732E	Magnetic Flow Transmitter	8732	03/01	Enhanced DD	
102	EMERSON AUTOMATION SOLUTIONS	8742	Mag Flow Meter	8742	04/02		
103	EMERSON AUTOMATION SOLUTIONS	8742	Mag Flow Meter	8742	05/01		
104	EMERSON AUTOMATION SOLUTIONS	8800	Vortex Flowmeter	8800	04/02		
105	EMERSON AUTOMATION SOLUTIONS	8800	Vortex Flowmeter	8800	05/01		X: Supported
106	EMERSON AUTOMATION SOLUTIONS	8800	Vortex Flowmeter	8800	07/01		
107	EMERSON AUTOMATION SOLUTIONS	8800	Vortex Flowmeter	8800	09/01		
108	EMERSON AUTOMATION SOLUTIONS	8800	Vortex Flowmeter	8800	10/03	Enhanced DD	
109	EMERSON AUTOMATION SOLUTIONS	2240S	Multi-Input Temperature Transmitter	2240	03/01	Enhanced DD	
110	EMERSON AUTOMATION SOLUTIONS	700XA	Gas Chromatograph	2001	01/03		
111	EMERSON AUTOMATION SOLUTIONS	1500XA	Gas Chromatograph	2002	01/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
112	EMERSON AUTOMATION SOLUTIONS	5081-A-FF	Amperometric Transmitter	4083	02/01		
113	EMERSON AUTOMATION SOLUTIONS	5081C/T	Conductivity Transmitter	4084	01/01		X: Supported
114	EMERSON AUTOMATION SOLUTIONS	5081-C/T-FF	Conductivity Transmitter	4084	02/01		
115	EMERSON AUTOMATION SOLUTIONS	5081pH/ORP	Conductivity Transmitter	4085	01/01		X: Supported
116	EMERSON AUTOMATION SOLUTIONS	5081-P-FF	pH/ORP Transmitter	4085	02/01		
117	EMERSON AUTOMATION SOLUTIONS	5081-P-FF	pH/ORP Transmitter	4085	03/03	Enhanced DD	
118	EMERSON AUTOMATION SOLUTIONS	Oxymitter 5000	Oxygen Transmitter	4000	03/01		
119	EMERSON AUTOMATION SOLUTIONS	Oxymitter 5000	Oxygen Transmitter	4000	04/01		
120	EMERSON AUTOMATION SOLUTIONS	MLT Analyzer	Multi-Component Continuous Gas Analyzer	1100	01/01		
121	EMERSON AUTOMATION SOLUTIONS	1066-CT-FF	Conductivity Transmitter	4091	01/03	Enhanced DD	
122	EMERSON AUTOMATION SOLUTIONS	1066-P-FF	pH/ORP/Redox Transmitter	4089	01/05	Enhanced DD	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
123	EMERSON AUTOMATION SOLUTIONS	1066-DO-CL-OZ-FF	Oxygen/Chlorine and Ozone Transmitter	4090	01/03	Enhanced DD	
124	EMERSON AUTOMATION SOLUTIONS	DLC3020F	Digital Level Controller	3020	01/01		
125	EMERSON AUTOMATION SOLUTIONS	DLC3020F	Digital Level Controller	3020	01/05		
126	EMERSON AUTOMATION SOLUTIONS	DVC5000F-SC	Digital Valve Controller	5420	08/03		X:Supported
127	EMERSON AUTOMATION SOLUTIONS	DVC5000F-SC	Digital Valve Controller	5420	09/03		X:Supported
128	EMERSON AUTOMATION SOLUTIONS	DVC6000F	Digital Valve Controller	4601	01/02	SOFTWARE REVISION: 1.0.7.2.1	X:Supported
129	EMERSON AUTOMATION SOLUTIONS	DVC6000F	Digital Valve Controller	4601	01/02	SOFTWARE REVISION: 1.3.2.2.2	X:Supported
130	EMERSON AUTOMATION SOLUTIONS	DVC6000F	Digital Valve Controller	4601	01/02	SOFTWARE REVISION: 1.4.6.2.2	X:Supported
131	EMERSON AUTOMATION SOLUTIONS	DVC6000F	Digital Valve Controller	4601	01/02	SOFTWARE REVISION: 1.5.18.2.2	X:Supported
132	EMERSON AUTOMATION SOLUTIONS	DVC6000F	Digital Valve Controller	4601	01/02	SOFTWARE REVISION: 1.5.19.2.2	
133	EMERSON AUTOMATION SOLUTIONS	DVC6200F/DVC6000F	Digital Valve Controller	4602	02/01	Tested with STARDOM/CENTUM	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
134	EMERSON AUTOMATION SOLUTIONS	Fisher DVC6200f / DVC6000f	Digital Valve Controller	4602	04/03	Enhanced DD	
135	ENDRESS+HAUSER	Cerabar S	Pressure Transmitter	1007	06/01		
136	ENDRESS+HAUSER	Cerabar S	Pressure Transmitter	1007	06/03		
137	ENDRESS+HAUSER	Cerabar S	Pressure Transmitter	1007	07/02		X: Supported
138	ENDRESS+HAUSER	Cerabar M 5x	Pressure Transmitter	1019	01/01		X: Supported
139	ENDRESS+HAUSER	Cerabar M 5x	Pressure Transmitter	1019	01/03	Enhanced DD	X: Supported
140	ENDRESS+HAUSER	Deltabar M 5x	Differential Pressure Transmitter	1021	01/01		X: Supported
141	ENDRESS+HAUSER	Deltabar M 5x	Differential Pressure Transmitter	1021	01/03	Enhanced DD	X: Supported
142	ENDRESS+HAUSER	Deltabar S	Differential Pressure Transmitter	1009	06/01		
143	ENDRESS+HAUSER	Deltabar S	Differential Pressure Transmitter	1009	06/03	V03.00.08	
144	ENDRESS+HAUSER	Deltabar S	Differential Pressure Transmitter	1009	07/02	Enhanced DD	X: Supported
145	ENDRESS+HAUSER	Deltapilot M 5x	Hydrostatic Level Transmitter	1023	01/01	01.00.01 (Build 1024)	X: Supported
146	ENDRESS+HAUSER	Deltapilot M 5x	Hydrostatic Level Transmitter	1023	01/03	Enhanced DD	X: Supported
147	ENDRESS+HAUSER	Deltapilot S	Hydrostatic Level Transmitter	100B	01/02		
148	ENDRESS+HAUSER	Deltapilot S	Hydrostatic Level Transmitter	100B	06/01		
149	ENDRESS+HAUSER	Deltapilot S	Hydrostatic Level Transmitter	100B	06/01	03.00.04	X: Supported
150	ENDRESS+HAUSER	Deltapilot S	Hydrostatic Level Transmitter	100B	07/02	Enhanced DD	X: Supported
151	ENDRESS+HAUSER	Gammapilot M	Radiometric Density / Level Transmitter	1013	03/01		X: Supported
152	ENDRESS+HAUSER	Levelflex FMP5x	Guided Radar Level Measurement Device	1022	01/01	Enhanced DD	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
153	ENDRESS+HAUSER	Levelflex FMP5x	Guided Radar Level Measurement Device	1022	02/01	Enhanced DD	
154	ENDRESS+HAUSER	Levelflex FMP5x	Guided Radar Level Measurement Device	1022	02/02	Enhanced DD	X: Supported
155	ENDRESS+HAUSER	Levelflex M	Guided Wave Level Transmitter	1012	03/01	Firmware V01.02.00 (FF)	X: Supported
156	ENDRESS+HAUSER	Levelflex M	Guided Wave Level Transmitter	1012	03/01	Firmware V01.02.06 (FF)	X: Supported
157	ENDRESS+HAUSER	Levelflex M	Guided Wave Level Transmitter	1012	04/01		X: Supported
158	ENDRESS+HAUSER	Levelflex M	Guided Wave Level Transmitter	1012	04/03		
159	ENDRESS+HAUSER	Liquiline M CM42 Cond	Conductivity Transmitter	1090	01/03		
160	ENDRESS+HAUSER	Liquiline M CM42 Doxygen	Dissolved Oxygen Transmitter	109B	01/01	Firmware 20.02.07 - 0008	
161	ENDRESS+HAUSER	Liquiline M CM42 pH/ORP	pH/ORP Transmitter	108F	01/01		
162	ENDRESS+HAUSER	Liquiline Oxygen	Oxygen Transmitter	10A2	01/02	Enhanced DD	X: Supported
163	ENDRESS+HAUSER	Liquiline Oxygen	Oxygen Transmitter	10A2	02/01	Enhanced DD	X: Supported
164	ENDRESS+HAUSER	Liquiline Oxygen	Oxygen Transmitter	10A2	04/01	Enhanced DD	X: Supported
165	ENDRESS+HAUSER	Liquiline Cond	Conductivity Transmitter	10A1	02/02	Enhanced DD	X: Supported
166	ENDRESS+HAUSER	Liquiline Cond	Conductivity Transmitter	10A1	03/01	Enhanced DD	X: Supported
167	ENDRESS+HAUSER	Liquiline Cond	Conductivity Transmitter	10A1	04/01	Enhanced DD	X: Supported
168	ENDRESS+HAUSER	Liquiline pH/ORP	pH/ORP Transmitter	10A0	02/02	Enhanced DD	X: Supported
169	ENDRESS+HAUSER	Liquiline pHORP	pH/ORP Transmitter	10A0	03/01	Enhanced DD	X: Supported
170	ENDRESS+HAUSER	Liquiline pHORP	pH/ORP Transmitter	10A0	04/01	Enhanced DD	X: Supported
171	ENDRESS+HAUSER	Micropilot FMR5x	Radar Level Transmitter	1028	01/01	Enhanced DD	
172	ENDRESS+HAUSER	Micropilot FMR5x	Radar Level Transmitter	1028	02/01	Enhanced DD	
173	ENDRESS+HAUSER	Micropilot FMR5x	Radar Level Transmitter	1028	02/02	Enhanced DD	X: Supported
174	ENDRESS+HAUSER	Micropilot M	Radar Level Transmitter	100F	02/01		
175	ENDRESS+HAUSER	Micropilot M	Radar Level Transmitter	100F	03/01	Firmware V01.02.00 (FF)	X: Supported
176	ENDRESS+HAUSER	Micropilot M	Radar Level Transmitter	100F	03/01	Firmware V01.02.04 (FF)	X: Supported

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
177	ENDRESS+HAUSER	Micropilot M	Radar Level Transmitter	100F	04/01		
178	ENDRESS+HAUSER	Micropilot M	Radar Level Transmitter	100F	05/03		
179	ENDRESS+HAUSER	Micropilot M	Radar Level Transmitter	100F	05/05		
180	ENDRESS+HAUSER	Promag53	Magnetic Flowmeter	1042	02/01		X: Supported
181	ENDRESS+HAUSER	PROline Promag53/55	Electromagnetic Flowmeter	1042	03/01		X: Supported
182	ENDRESS+HAUSER	PROline Promag53/55	Electromagnetic Flowmeter	1042	04/01		X: Supported
183	ENDRESS+HAUSER	PROline Promag53/55	Electromagnetic Flowmeter	1042	05/01	Enhanced DD	X: Supported
184	ENDRESS+HAUSER	Promag 200	2-wire Electromagnetic Flow Meter	1048	01/01	Enhanced DD	X: Supported
185	ENDRESS+HAUSER	Promag 200	2-wire Electromagnetic Flow Meter	1048	01/02	Enhanced DD	X: Supported
186	ENDRESS+HAUSER	Promag 300/500	4-wire Electromagnetic Flowmeter	103C	01/01	Enhanced DD	X: Supported
187	ENDRESS+HAUSER	PROline T-mass 65	Thermal Mass Flowmeter	1065	01/01		
188	ENDRESS+HAUSER	PROline T-mass 65	Thermal Mass Flowmeter	1065	02/01	Enhanced DD	X: Supported
189	ENDRESS+HAUSER	Promass83	Mass Flowmeter	1051	02/01		X: Supported
190	ENDRESS+HAUSER	PROline Promass83	Mass Flowmeter	1051	03/01		X: Supported
191	ENDRESS+HAUSER	PROline Promass83	Mass Flowmeter	1051	04/01		X: Supported
192	ENDRESS+HAUSER	PROline Promass83	Mass Flowmeter	1051	05/01	Enhanced DD	X: Supported
193	ENDRESS+HAUSER	Promass 200	Coriolis Flowmeter	1054	01/01	Enhanced DD	X: Supported
194	ENDRESS+HAUSER	Promass 200	Coriolis Flowmeter	1054	01/02	Enhanced DD	X: Supported
195	ENDRESS+HAUSER	Promass 300/500	4-wire Coriolis Flowmeter	103B	01/01	Enhanced DD	X: Supported
196	ENDRESS+HAUSER	Prosonic Flow92	Ultrasonic Flowmeter	1061	01/01	Firmware V1.00.00D	
197	ENDRESS+HAUSER	Prosonic Flow93	Ultrasonic Flowmeter	1059	01/01		X: Supported
198	ENDRESS+HAUSER	Prosonic Flow93	Ultrasonic Flowmeter	1059	02/01		X: Supported
199	ENDRESS+HAUSER	Prosonic Flow93	Ultrasonic Flowmeter	1059	03/01		X: Supported
200	ENDRESS+HAUSER	Prosonic Flow93	Ultrasonic Flowmeter	1059	04/01	Enhanced DD	X: Supported
201	ENDRESS+HAUSER	Prosonic M	Ultrasonic Level Transmitter	1011	03/01	Firmware V01.02.00 (FF)	X: Supported

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
202	ENDRESS+HAUSER	Prosonic M	Ultrasonic Level Transmitter	1011	03/01	Firmware V01.02.06 (FF)	X: Supported
203	ENDRESS+HAUSER	Prosonic M	Ultrasonic Level Transmitter	1011	04/01		X: Supported
204	ENDRESS+HAUSER	Prosonic M	Ultrasonic Level Transmitter	1011	04/03		X: Supported
205	ENDRESS+HAUSER	Prowirl72	Vortex Flowmeter	1056	01/01		
206	ENDRESS+HAUSER	Prowirl73	Vortex Flowmeter	1057	01/01		
207	ENDRESS+HAUSER	Prowirl200	Vortex Flowmeter	1038	01/01		
208	ENDRESS+HAUSER	Prowirl200	2-wire Vortex Flowmeter	1038	01/02	Enhanced DD	X: Supported
209	ENDRESS+HAUSER	Prowirl200	2-wire Vortex Flowmeter	1038	02/01	Enhanced DD	X: Supported
210	ENDRESS+HAUSER	RID1x (RID14/RID16)	8 Channel Field Indicator	10CF	01/01		X: Supported
211	ENDRESS+HAUSER	RID1x (RID14/RID16)	8 Channel Field Indicator	10CF	02/01		
212	ENDRESS+HAUSER	TMT125	Temperature Multiplexer	10CD	01/06		
213	ENDRESS+HAUSER	TMT162	Temperature Transmitter	10CC	01/01		X: Supported
214	ENDRESS+HAUSER	TMT162	Temperature Transmitter	10CC	02/01		X: Supported
215	ENDRESS+HAUSER	TMT162	Temperature Transmitter	10CC	03/02	Enhanced DD	
216	ENDRESS+HAUSER	TMT162	Temperature Head Transmitter	10CC	03/04	Enhanced DD	
217	ENDRESS+HAUSER	TMT85	Temperature Head Transmitter	10CE	01/01	Firmware 01.00.03	
218	ENDRESS+HAUSER	TMT85	Temperature Head Transmitter	10CE	01/01	Firmware 01.00.04	X: Supported
219	ENDRESS+HAUSER	TMT85	Temperature Head Transmitter	10CE	01/01	Firmware 01.00.07	X: Supported
220	ENDRESS+HAUSER	TMT85	Temperature Head Transmitter	10CE	02/04	Enhanced DD	X: Supported
221	ENOTEC GMBH	COMTEC 6000	Oxygen and COe Analyzer System	0002	01/01		
222	ENOTEC GMBH	OXITEC 5000	Oxygen Analyzer System	0001	01/01		
223	ENRAF	97x SmartRadar Series	Level Gauge	0384	01/01		
224	FCI	ST100/ST80/ST100A	Thermal Mass Flow Meter	0001	01/01		
225	FIELDQ	FieldQ	Pneumatic Valve Actuator	D3A0	02/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
226	FINT	T610/T710	Modbus to Foundation Fieldbus Gateway	0013	01/01	Enhanced DD	
227	FLOWSERVE	Mx Actuator	Valve Actuator	4D58	02/01		
228	FLOWSERVE	LIMITORQUE MX QX	Electric Valve Actuator	4D58	05/01	Tested with STARDOM/CENTUM	
229	FLOWSERVE	LIMITORQUE MX QX	Electric Valve Actuator	4D58	06/05	Enhanced DD	
230	FLOWSERVE	Logix1400	Digital Positioner	0202	05/01		
231	FLOWSERVE	Logix3400IQ/ 1400	Digital Positioner	0202	06/01		
232	FLOWSERVE	Logix 3400MD	Valve Positioner	0203	01/02		
233	FLOWSERVE	Logix 3400MD	Valve Positioner	0203	02/01	Firmware revision 310(1) , 250(2) , 3(3), 0(4)	
234	FLOWSERVE	Logix 3400MD	Valve Positioner	0203	02/01	Firmware revision 310(1) , 250(2) , 3(3), 4(4)	
235	FLOWSERVE	Logix 3400MD	Valve Positioner	0203	02/03	Firmware revision 310(1) , 250(2) , 3(3), 4(4)	
236	FLOWSERVE	Logix 3400MD	Valve Positioner	0203	02/03	Firmware revision 350(1) , 250(2) , 3(3), 4(4)	
237	FLOWSERVE	PMV D3	Digital Valve Positioner	00D3	02/02		
238	FLOWSERVE	Logix 3800	Positioner	0301	01/02	Enhanced DD	
239	FLOWSERVE	Logix 3800	Positioner	0301	01/04	Enhanced DD	
240	FUJI ELECTRIC CORPORATION	FCX-A2	Pressure Transmitter	0032	01/01		
241	FUJI ELECTRIC CORPORATION	FCX-AIII Series	Pressure Transmitter	0033	01/01	Firmware revision V2.20.D.16	
242	FUJI ELECTRIC CORPORATION	FFX-P	Fiber Optic Pressure Transmitter	0001	01/02		
243	GE	XMT868	Ultrasonic Liquid Flowmeter	0001	01/01	GE Flow Liquid 868 Rev 1.2.0	
244	GE	XMT868i	Ultrasonic Liquid Flowmeter	0001	03/01	Enhanced DD	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
245	GE	XMT910	Ultrasonic Flowmeter	0007	01/01	Enhanced DD	
246	GE	XMT1000	Ultrasonic Flowmeter	0010	01/01	Enhanced DD	
247	GE	GE Flow Gas 868	Gas Flow Transmitter	0002	01/01		
248	GE	SVI FF	Pneumatic Valve Positioner	0008	01/01		
249	GE	SVI FF	Pneumatic Valve Positioner	0008	02/02	Enhanced DD	
250	GE	XGF868I	Ultrasonic Flare Gas Flowmeter	0002	02/06	Enhanced DD	
251	HAWK MEASUREMENT SYSTEM	Hawk FF Level Series - AW-XXXX	Sultan Acoustic Wave Series	0001	01/01	Enhanced DD	
252	HONEYWELL	SmartLine ST700	Pressure Transmitter	0004	01/01	Enhanced DD	
253	HONEYWELL	SmartLine ST700	Pressure Transmitter	0004	04/01	Enhanced DD	
254	HONEYWELL	SmartLine ST800	Pressure Transmitter	0003	01/02	Enhanced DD	
255	HONEYWELL	SmartLine ST800	Pressure Transmitter	0003	04/01	Enhanced DD	
256	HONEYWELL	ST3000FF	Pressure Transmitter	0002	09/01		
257	HONEYWELL	STT35F	Temperature Transmitter	0101	04/01	Enhanced DD	
258	HONEYWELL	SmartLine / STT850	Temperature Transmitter	0006	01/02	Enhanced DD	
259	HONEYWELL	STT650	Temperature Transmitter	0020	01/01		
260	HONEYWELL	STT17F	Temperature Transmitter	1101	01/01		
261	HONEYWELL	SmartLine/RMA 803	Remote Indicator	0005	01/01	Enhanced DD	
262	ISE-MAGTECH	LTM-300FF	Magnetostrictive Level Transmitter	0101	01/01		
263	K-TEK	AT100/ AT100S/ AT200	Magnetostrictive Level Transmitter	0100	02/01	02_FB302- 20080319_ AF080306	
264	K-TEK	AT100/ AT100S/ AT200	Magnetostrictive Level Transmitter	0100	03/01		
265	K-TEK	MT5000/ MT5100/ MT5200	Guided Radar Level Transmitter	5000	01/01	01_FB302- 20080530_ MF080530	
266	K-TEK	MT5000/ MT5100/ MT5200	Guided Radar Level Transmitter	5000	02/01		
267	K-TEK	MT5000/ MT5100/ MT5200	Guided Radar Level Transmitter	5000	03/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
268	KNICK	COMFF 3400 -085	Measuring System for Liquid Analysis	0D48	01/01		
269	KNICK	Stratos FF2231X Cond	Conductivity Transmitter	5728	01/01		
270	KNICK	Stratos FF2231X Oxy	OXY Transmitter	5727	01/01		
271	KNICK	Stratos FF2231X pH	pH Transmitter	08B7	01/01		
272	KNICK	Stratos FF2232X CondI	Torodial Conductivity Transmitter	08B8	01/01		
273	KNICK	Stratos Pro FF A231N/A231X	Measuring System for Liquid Analysis	A231	01/01	Enhanced DD	
274	KROHNE MESSTECHNIK	BM100	Reflex Radar	EE01	02/01		
275	KROHNE MESSTECHNIK	BM70	Radar Level Meter	F901	03/01		
276	KROHNE MESSTECHNIK	IFC090	Electromagnetic Flowmeter	F401	01/01		
277	KROHNE MESSTECHNIK	IFC100	Electromagnetic Flowmeter	0100	01/01	Enhanced DD	
278	KROHNE MESSTECHNIK	IFC300	Electromagnetic Flowmeter	0300	01/01		
279	KROHNE MESSTECHNIK	M40 ESK4-FF	Variable Area Flowmeter, Level Meter	0700	01/01	Enhanced DD	
280	KROHNE MESSTECHNIK	Optiflux IFC300	Electromagnetic Flowmeter	0300	03/01	Enhanced DD	
281	KROHNE MESSTECHNIK	Optimass MFC300	Coriolis Mass Flowmeter	0320	03/01	Enhanced DD	
282	KROHNE MESSTECHNIK	M40 ESK4-FF	Variable Area Flowmeter and Level Meter	0700	02/01	Enhanced DD	
283	KROHNE MESSTECHNIK	OptiSwirl 4200	Vortex Flowmeter	0200	01/03	Enhanced DD	
284	KROHNE MESSTECHNIK	OptiWave_x400/x500	FMCW Radar Level Transmitter	0280	01/01	Enhanced DD	
285	KROHNE MESSTECHNIK	Optimass MFC400	Coriolis Mass Flowmeter	0330	02/02	Enhanced DD	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
286	KROHNE MESSTECHNIK	OptiFlex 2200 C/F	TDR Level Meter	0220	01/01	Enhanced DD	
287	KROHNE MESSTECHNIK	OptiSonic UFC 400	Ultrasonic Flowmeter	0370	01/02	Enhanced DD	
288	L. BERNARD S.A	BERNARD_ ACTUATOR	Actuator	0001	01/01	M1.3 TI.1H 4.5	
289	L. BERNARD S.A	Intelli+ FF Interface	Actuator Communication Interface	0002	01/03	Enhanced DD	
290	MAGNETROL	705	Guided Wave Radar Level	0705	01/01	Obsolete	
291	MAGNETROL	E3 Modulevel	Displacer Level Transmitter	0003	01/01		
292	MAGNETROL	Eclipse Enhanced Model 705 3X	Guided Wave Radar Level	0001	01/01		
293	MAGNETROL	Eclipse Enhanced Model 705 3X	Guided Wave Radar Level	0001	01/01	Mdl705FF Ver3.0k	
294	MAGNETROL	Eclipse Enhanced Model 705 3X	Guided Wave Radar Level	0001	02/01		
295	MAGNETROL	Eclipse Model 706	Guided Wave Radar Level Transmitter	0005	01/01	Enhanced DD	
296	MAGNETROL	Eclipse Model 706	Guided Wave Radar Level Transmitter	0005	02/01	Enhanced DD	
297	MAGNETROL	Orion Jupiter Model 2xx	Magnetostrictive Level Transmitter	0002	01/01		
298	MAGNETROL	Thermatel Enhanced Model TA2 2x	Magnetostrictive Level Transmitter	0004	01/01	Enhanced DD	
299	MAGNETROL	Orion Jupiter Model JM4	Magnetostrictive Level Transmitter	0006	01/01	Enhanced DD	
300	MAGNETROL	Orion Jupiter Model JM4	Magnetostrictive Level Transmitter	0006	01/02	Enhanced DD	
301	MAGNETROL	Pulsar Model R96	Non-Contact Radar Level Transmitter	0007	01/01	Enhanced DD	
302	MAGNETROL	Pulsar Model R86	Non-Contact Radar Level Transmitter	0008	01/01	Enhanced DD	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
303	MAGNETROL	Model R86	Non-Contact Radar Level Transmitter	0008	02/01	Enhanced DD	
304	MICROMOTION	MVD2700	Mass Flow Sensor	2000	03/02		
305	MICROMOTION	MVD2700	Coriolis Mass Flowmeter	2000	04/01		
306	MICROMOTION	MVD2700	Coriolis Mass Flowmeter	2000	05/01	Tested with STARDOM/CENTUM	
307	MICROMOTION	MVD2700	Coriolis Mass Flowmeter	2000	06/01		
308	MICROMOTION	MVD2700	Coriolis Mass Flowmeter	2000	07/01	Enhanced DD	
309	MICROMOTION	MVD2700	Coriolis Mass Flowmeter	2000	08/01	Enhanced DD	
310	MICROMOTION	Micro Motion MVD 2700	Coriolis Mass Flowmeter	2000	09/01	Enhanced DD	
311	MICROMOTION	Micro Motion MVD 5700	Advanced Coriolis Flow / Density Transmitter	5700	01/01	Enhanced DD	
312	MICROMOTION	Micro Motion MVD 5700	Advanced Coriolis Flow / Density Transmitter	5700	01/02	Enhanced DD	
313	METTLER TOLEDO	Cond 7100e FF	Conductivity Meter	1BBC	01/01		
314	METTLER TOLEDO	Cond Ind 7100e FF	Torodial Conductivity Transmitter	1BBD	01/01		
315	METTLER TOLEDO	M400(G) FF	Multi-parameter transmitter	0400	01/01	Enhanced DD	
316	METTLER TOLEDO	M700 FF700	Measuring System for Liquid Analysis	00F0	01/01		
317	METTLER TOLEDO	O2 4100eFF	O2 Transmitter	1004	01/01		
318	METTLER TOLEDO	pH2100e FF	pH Transmitter	0834	01/01		
319	MTL	9331-TI	Temperature Transmitter	9331	01/01		
320	MTL	F809F	Fieldbus Diagnostic Module	0001	01/01		
321	MTL	F809F	Fieldbus Diagnostic Module	0001	02/01		
322	MTL	F809F-Plus	Fieldbus Diagnostic Module	0001	03/01	Enhanced DD	
323	OHMART	GEN2000	Nuclear Level Gauge	0003	02/01		
324	OHMART	GEN2000	Nuclear Density Gauge	0003	03/02		
325	OHMART	GEN2000 Density	Nuclear Density Gauge	0004	03/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
326	ORANGE INSTRUMENTS BIFOLD	IS210F FISCO	Actuator Positioner	F210	01/01	Enhanced DD	
327	OVAL CORPORATION	ALTImass	Coriolis Mass Flowmeter	0DD9	01/01	Enhanced DD	
328	OVAL CORPORATION	EX-DELTA	Vortex Flowmeter	0065	01/02		
329	OVAL CORPORATION	EX-DELTA Electrical	Vortex Flowmeter	0065	02/01		
330	OVAL CORPORATION	ULTRAmass MKII	Flowmeter	24B9	01/01		
331	OVAL CORPORATION	CT9401	Flowmeter	24B9	02/01		
332	PEPPERL+FUCHS	F2D0-TI-Ex8.FF	Temperature Multiplexer	0003	01/01		
333	PEPPERL+FUCHS	F2D0-TI-Ex8.FF	Temperature Multiplexer	0003	01/07		
334	PEPPERL+FUCHS	F2D0-TI-Ex8.FF	Temperature Multiplexer	0003	02/01	Enhanced DD	
335	PEPPERL+FUCHS	F2D0-TI-Ex8.FF	Temperature Multiplexer	0003	02/02	Enhanced DD	
336	PEPPERL+FUCHS	D0-MIO-Ex12.FF	Multi-Input/Output Device	0007	01/03	Enhanced DD	
337	PEPPERL+FUCHS	FD0-VC-Ex4.FF	Valve Coupler Fieldbox	0001	01/01		
338	PEPPERL+FUCHS	FD0-VC-Ex.4FF	Valve Coupler Fieldbox	0001	02/01		
339	PEPPERL+FUCHS	HD2-GT-2AD.FFIO	Diagnostic Gateway	0005	01/02		
340	PEPPERL+FUCHS	LB 8110-FB 8210	FF Remote IO	8010	02/01		
341	PHOENIX CONTACT	FB-DIAG/FF/LI & FB-DIAG/FF/NC	Field Diagnostics Module	0321	01/01	Enhanced DD	
342	POWER GENEX LTD	SS	Smart Valve Positioner	0001	01/01	Enhanced DD Tested as Basic device	X: Supported
343	PR ELECTRONICS	PRetop5350	Temperature Transmitter	0080	01/01		
344	PR ELECTRONICS	PRetop5350	Temperature Transmitter	0080	02/01		
345	PR ELECTRONICS	PR6350	Temperature Transmitter	0081	01/01		
346	R STAHL SCHALTGERATE GMBH	9413	Digital I/O Coupler 9413/21 (4-wire)	24C5	01/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
347	R STAHL SCHALTGERATE GMBH	9413 (4-wire version)	Digital I/O Coupler	24C5	03/01		
348	R STAHL SCHALTGERATE GMBH	DCM 9415	Diagnosis Communication Module	0001	01/01		
349	ROTORK CONTROLS LTD	FF-01	Valve Actuator	0001	02/01		
350	ROTORK CONTROLS LTD	FF01 MK2	Valve Positioner	0002	01/01	SW_REV: M1.2T1.1 H1.0	
351	ROTORK CONTROLS LTD	FF01 MK2 Network Interface	Valve Positioner	0002	02/01	Tested with STARDOM/CENTUM	
352	ROTORK CONTROLS LTD	IQ3	Multi-Turn Electric Valve Actuator	0003	01/01	Enhanced DD	
353	ROTORK YTC LIMITED	YT-3300	Smart Positioner	0009	01/01	Enhanced DD	
354	SAMSON AG	Positioner 3787	Valve Positioner	0001	02/01		
355	SAMSON AG	Positioner 3730-5	Valve Positioner	0002	01/01		
356	SAMSON AG	3738-50	SMART Discrete Valve Controller	0003	01/01	Enhanced DD	
357	SAMSON AG	373x-5	Valve Positioner / Final Control Element	0002	02/01	Enhanced DD	
358	SAMSON AG	373x-5	Valve Positioner / Final Control Element	0002	03/01	Enhanced DD	
359	SCHNEIDER ELECTRIC	240FF	Intelligent Transmitter	2506	01/01		
360	SCHNEIDER ELECTRIC	240FF	Intelligent Transmitter	2506	08/01	Enhanced DD	
361	SCHNEIDER ELECTRIC	SRD960	Intelligent Positioner	2481	12/01	Enhanced DD	
362	SCHNEIDER ELECTRIC	SRD991	Intelligent Valve Positioner	2401	10/01		
363	SCHNEIDER ELECTRIC	SRD991	Intelligent Positioner	2401	12/01	Enhanced DD	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
364	SCHNEIDER ELECTRIC	83	Vortex Flow Transmitter	BD33	03/01	REV_INFO: 3.55/3.2	
365	SCHNEIDER ELECTRIC	IAP10	Single Variable Pressure Transmitter	BA30	30/01		
366	SCHNEIDER ELECTRIC	IMT25	Magnetic Flowmeter	BC29	02/01	REV_INFO: 3.10/3.2	
367	SCHNEIDER ELECTRIC	RTT15-F	Temperature Transmitter	1036	01/01		
368	SCHNEIDER ELECTRIC	RTT30	2 Channel Temperature Transmitter	C034	02/01	Enhanced DD	
369	SCHNEIDER ELECTRIC	RTT80	2 Channel Temperature Transmitter	C035	02/03	Enhanced DD	
370	SCHNEIDER ELECTRIC	IGP10S	Series S Single Pressure Transmitter	BA30	32/02	Enhanced DD	
371	SCHNEIDER ELECTRIC	IDP50S-F Premium Performance	Pressure Transmitter	BA40	01/01	Enhanced DD	
372	SIEMENS AG	SIPART PS2 FF	Valve Positioner	0015	01/01		
373	SIEMENS AG	SIPART PS2 FF	Valve Positioner	0015	02/01		
374	SIEMENS AG	SIPART PS2 FF	Valve Positioner	0015	02/02	Enhanced DD	
375	SIEMENS AG	SIPART PS2 FF	Valve Positioner	0015	04/01	Enhanced DD	
376	SIEMENS AG	SITRANS F M MAG6000	Electromagnetic Flowmeter	0018	01/01		
377	SIEMENS AG	SITRANS F C MASS6000	Coriolis Mass Flowmeter	0019	01/01		
378	SIEMENS AG	SITRANS LR250	Radar Level Transmitter	1954	01/01		
379	SMAR	FI302	Fieldbus to Current Converter	0005	04/01		
380	SMAR	FP302	Fieldbus-Pneumatic Signal Converter	0004	04/01		X: Supported
381	SMAR	FY302	Fieldbus Positioner	0006	04/07		
382	SMAR	IF302	Current to Fieldbus Converter	0003	04/01		
383	SMAR	TT302	Universal Temperature Transmitter	0002	04/01		

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
384	STONEL	461052	Discrete IO (Bus Powered Outputs)	0052	01/01		
385	STONEL	461088	Analog I/O (Externally powered outputs)	00F2	01/01		
386	STONEL	Function Option 93 Discrete VCT	Discrete VCT (Bus Powered Outputs)	0051	02/01		
387	STONEL	I/O module (2DI, 2DO, 1AI, 1AO)	Discrete and Analog I/O Block	00F2	02/01		
388	STONEL	VCT/I/O Module (2DI, 2DO)	VCT/Univ. Discrete I/O Block	0052	02/01		
389	TLV CO LTD	iTrapSensor	Sensor for Steam Trap	0001	01/01	Enhanced DD	
390	TOKYO KEISO	FST4000FB	Torque Tube Displacement Level Transmitter	0002	03/01		
391	TOKYO KEISO	FST4000FB	Torque Tube Displacement Level Transmitter	0002	04/01	Enhanced DD	
392	TOPWORX	D2-FF	Valve Controller	0200	02/03	Enhanced DD	X: Supported
393	TOPWORX	TopWorx D2-FF	Discrete Valve Controller/Positioner	0200	03/01	Enhanced DD	
394	TOPWORX	Valvetop DXP/DVC-FF	Lumitech Discrete Valve Controller (On/Off)	0100	02/01	Topworx Rev 1.2.7	X: Supported
395	TOPWORX	Valvetop DXP/DVC-FF	Lumitech Discrete Valve Controller (On/Off)	0100	02/03	Topworx Rev 1.3.4	
396	TURCK	KMU-40Ex/1GD	Temperature Transmitter	FF9C	01/01		
397	VALMET FLOW CONTROL OY	LCP9000F	Local Control Panel	232A	01/01		
398	VALMET FLOW CONTROL OY	ND800FF	Digital Valve Positioner	0320	03/02		
399	VALMET FLOW CONTROL OY	ND9000F	Digital Valve Positioner	2328	01/02		
400	VALMET FLOW CONTROL OY	ND9000F	Digital Valve Positioner	2328	02/01	F09424-1. 31	

No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
401	VALMET FLOW CONTROL OY	ND9000F	Digital Valve Positioner	2328	02/01	F09424-1. 492	
402	VALMET FLOW CONTROL OY	ND9000F	Digital Valve Positioner	2328	03/01	F09424-1. 55	
403	VALMET FLOW CONTROL OY	ND9000F	Digital Valve Positioner	2328	03/01	F09424-1. 57	
404	VALMET FLOW CONTROL OY	ND9000F	Digital Valve Positioner	2328	05/01		
405	VALMET FLOW CONTROL OY	ND9000F	Intelligent Valve Positioner	2328	06/01	Enhanced DD	
406	VALMET FLOW CONTROL OY	VG9000F	Smart Valve Controller	2329	01/01		
407	VALMET FLOW CONTROL OY	VG9000F	Intelligent Safety Solenoid with PST	2329	03/01	Enhanced DD	
408	VALMET FLOW CONTROL OY	VG9000F	Intelligent Safety Solenoid with PST	2329	03/02	Enhanced DD	
409	VALVE AUTOMATION	CAM228/CAM28 FF	Electric Actuator	EDC3	01/01	Enhanced DD	X: Supported
410	VEGA	FIBERTRAC 31	Radiation-based Sensor for Continuous Level Measurement	0CF2	02/01	Enhanced DD	
411	VEGA	FIBERTRAC 31	Radiation-based Sensor for Continuous Level Measurement	0CF2	03/01	Enhanced DD	
412	VEGA	FIBERTRAC 32	Radiation-based Sensor for Continuous Level Measurement	0CF3	02/01	Enhanced DD	
413	VEGA	MINITRAC 31	Radiation-based Sensor for Density Measurement and Level Detection	0CF5	02/01	Enhanced DD	
414	VEGA	MINITRAC 31	Radiation-based Sensor for Density Measurement and Level Detection	0CF5	03/01	Enhanced DD	

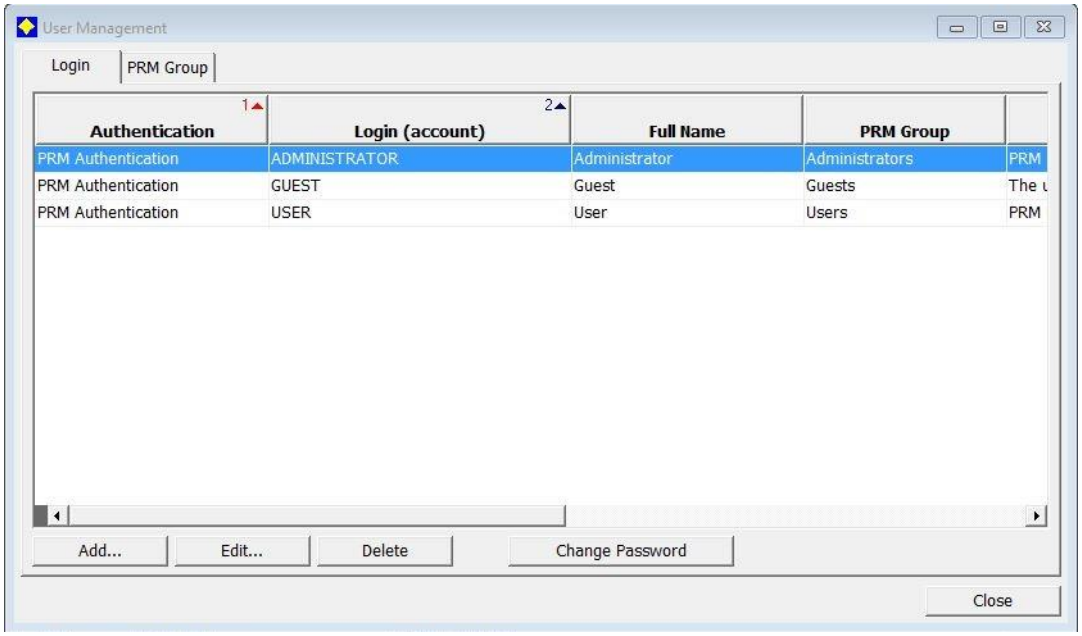
No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
415	VEGA	POINTRAC 31	Radiation-based Sensor for Level Detection	0D48	02/01	Enhanced DD	
416	VEGA	POINTRAC 31	Radiation-based Sensor for Level Detection	0D48	03/01	Enhanced DD	
417	VEGA	SOLITRAC 31	PreRadiation-based Sensor for Continuous Level Measurement	0CF4	02/01	Enhanced DD	
418	VEGA	SOLITRAC 31	Radiation-based Sensor for Continuous Level Measurement	0CF4	03/01	Enhanced DD	
419	VEGA	VEGABAR	Pressure Transmitter	076F	01/01	Firmware R3.07	
420	VEGA	VEGABAR	Pressure Transmitter	076F	01/01	Firmware R3.11.01	
421	VEGA	VEGABAR	Pressure Transmitter	076F	03/01		
422	VEGA	VEGABAR	Pressure Transmitter	076F	04/01		
423	VEGA	VEGABAR 80 Series FF	Pressure Transmitter	0BF9	01/01	Enhanced DD	
424	VEGA	VEGABAR 80 Series FF	Pressure Transmitter	0BF9	02/02	Enhanced DD	
425	VEGA	VEGABAR 80 Series FF	Pressure Transmitter	0BF9	03/01	Enhanced DD	
426	VEGA	VEGACAL	Admittance Level Transmitter	076E	03/01		
427	VEGA	VEGACAL	Admittance Level Transmitter	076E	04/01		
428	VEGA	VEGAFLEX	Guided Microwave Level Transmitter	0771	01/01	Firmware R3.07	
429	VEGA	VEGAFLEX	Guided Microwave Level Transmitter	0771	01/01	Firmware R3.11.01	
430	VEGA	VEGAFLEX	Guided Microwave Level Transmitter	0771	03/01		
431	VEGA	VEGAFLEX	Guided Microwave Level Transmitter	0771	04/01		
432	VEGA	VEGAFLEX 80 Series	Guided Wave Radar Level Transmitter	0BF5	01/01	Enhanced DD	

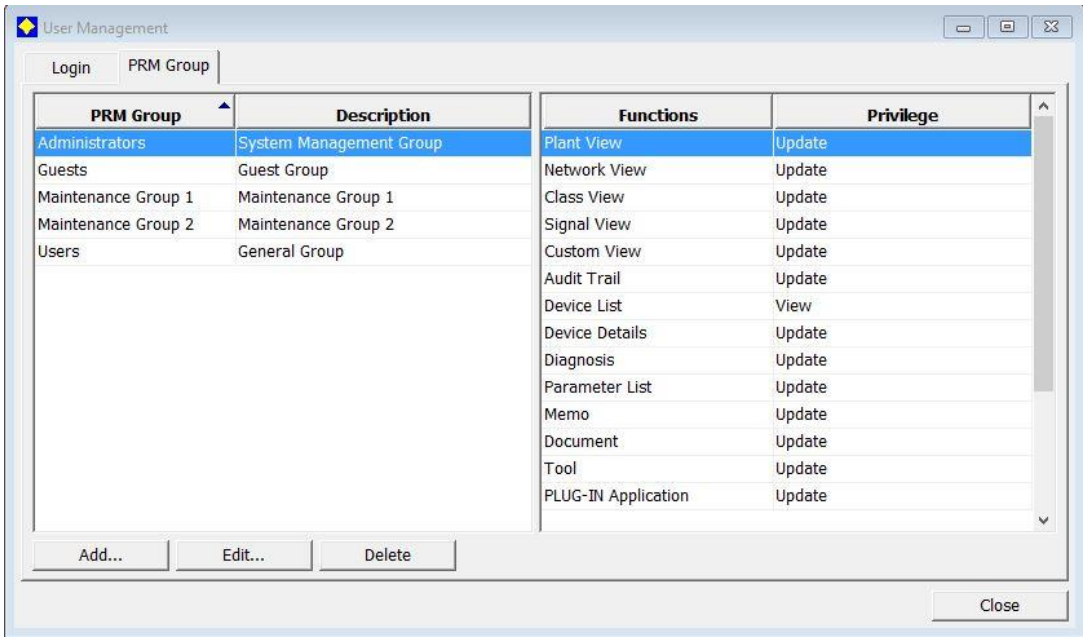
No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
433	VEGA	VEGAFLEX 80 Series	Guided Wave Radar Level Transmitter	0BF5	02/01	Enhanced DD	
434	VEGA	VEGAFLEX 80 Series	Guided Microwave Transmitter	0BF5	03/01	Enhanced DD	
435	VEGA	VEGAPULS	RADAR Level Transmitter	0772	01/01	Firmware R3.07	
436	VEGA	VEGAPULS	RADAR Level Transmitter	0772	01/01	Firmware R3.11.01	
437	VEGA	VEGAPULS	RADAR Level Transmitter	0772	03/01		
438	VEGA	VEGAPULS	RADAR Level Transmitter	0772	04/01		
439	VEGA	VEGAPULS 61	RADAR Level Transmitter	0BFC	06/01	Firmware R4.5.0 Build 7	
440	VEGA	VEGAPULS 62	RADAR Level Transmitter	0BFD	06/01	Firmware R4.5.0 Build 7	
441	VEGA	VEGAPULS 63	RADAR Level Transmitter	0BFE	06/01	Firmware R4.5.0 Build 7	
442	VEGA	VEGAPULS 65	RADAR Level Transmitter	0BFF	06/01	Firmware R4.5.0 Build 7	
443	VEGA	VEGAPULS 66	RADAR Level Transmitter	0C00	06/01	Firmware R4.5.0 Build 7	
444	VEGA	VEGAPULS 67	RADAR Level Transmitter	0C01	06/01	Firmware R4.5.0 Build 7	
445	VEGA	VEGAPULS 68	RADAR Level Transmitter	0C02	06/01	Firmware R4.5.0 Build 7	
446	VEGA	VEGAPULS 69	RADAR Level Transmitter	0BFA	01/01	Enhanced DD	
447	VEGA	VEGAPULS 69	RADAR Level Transmitter	0BFA	02/01	Enhanced DD	
448	VEGA	VEGAPULS WL 61	RADAR Level Transmitter	0CDB	06/01	Firmware R4.5.0 Build 7	
449	VEGA	VEGAPULS SR 68	RADAR Level Transmitter	0CDC	06/01	Firmware R4.5.0 Build 7	

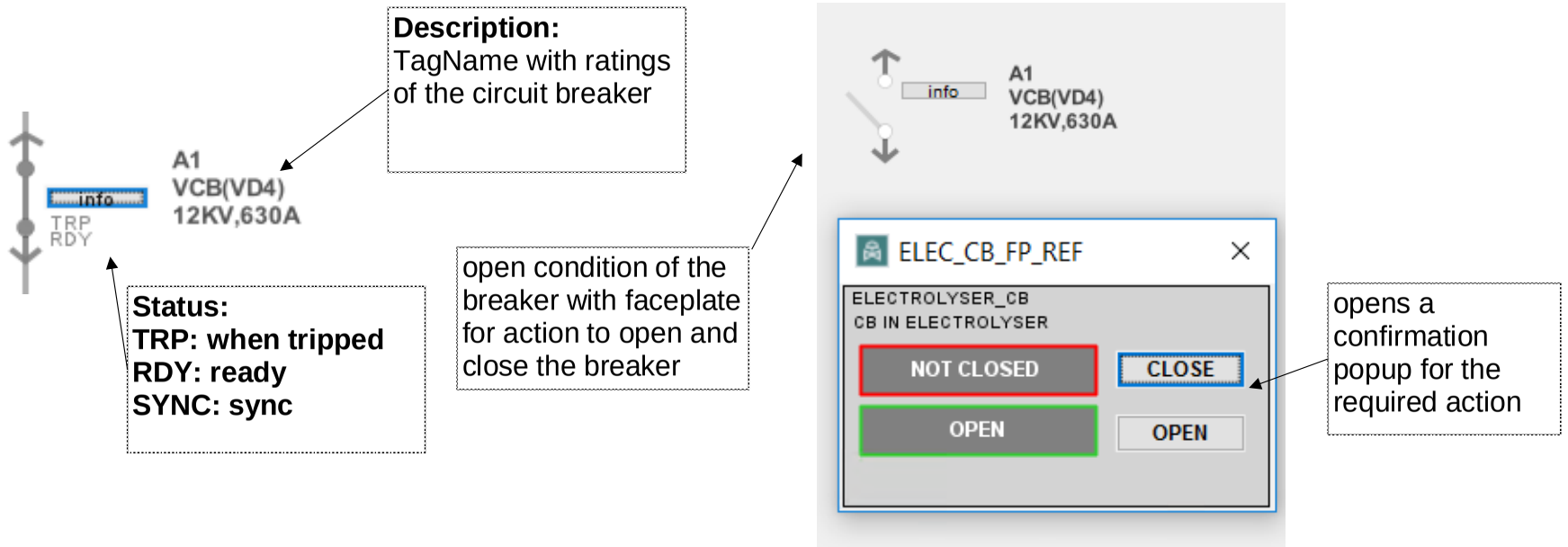
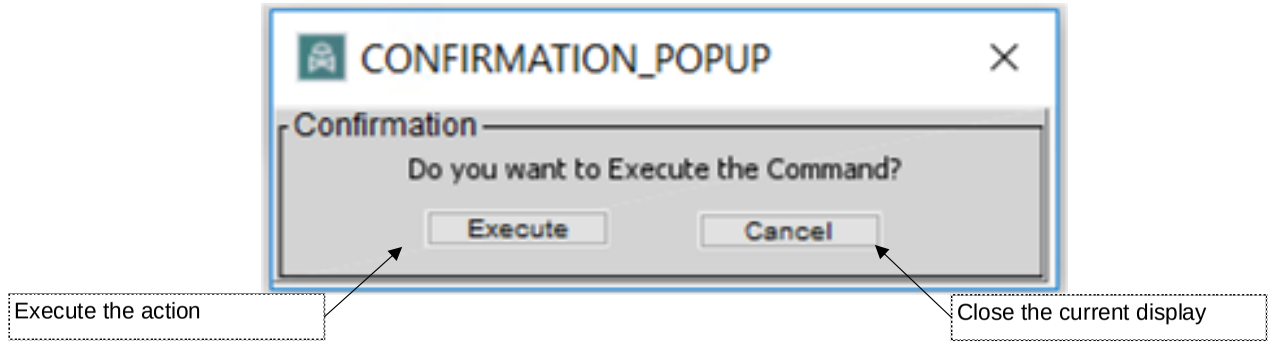
No.	Vendor	Model	Description	Device Type	Dev/DD REV	Remarks	Device Viewer
450	VEGA	VEGASON	Ultrasonic Level Transmitter	0770	01/01	Firmware R3.07	
451	VEGA	VEGASON	Ultrasonic Level Transmitter	0770	01/01	Firmware R3.11.01	
452	VEGA	VEGASON	Ultrasonic Level Transmitter	0770	03/01		
453	VEGA	VEGASON	Ultrasonic Level Transmitter	0770	04/01		
454	VEGA	WEIGHTRAC 31	Radiation-based Sensor for Mass Flow Detection	0CF8	02/01	Enhanced DD	
455	VEGA	VEGADIF 85	Differential Pressure Transmitter	0BF6	03/02	Enhanced DD	
456	WESTLOCK CONTROLS	EL40106	FPAC Valve Controller	0001	01/01		
457	WESTLOCK CONTROLS	Intellis ICoT FF	IS Pneumatic Positioner	1100	01/01		
458	WIKA	IPT-1x-4	Pressure Transmitter	00EC	03/01		
459	WIKA	T53.10	Temperature Transmitter	5310	01/01		

Appendix-4 PRM user groups and Account configuration

PRM User groups and Account configuration details are given below





S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
1	BLPH_VCB	REV 0			
2	CONFIRMATION_POPUP	REV 0			

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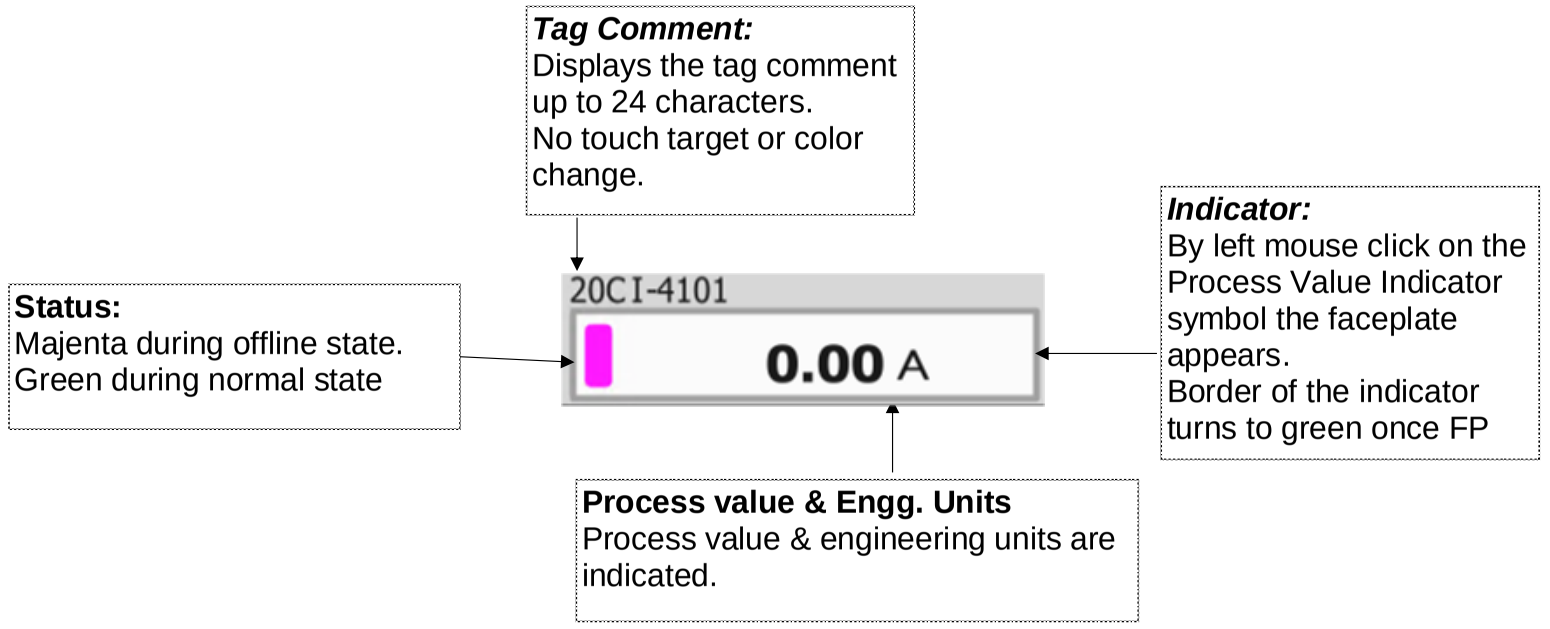
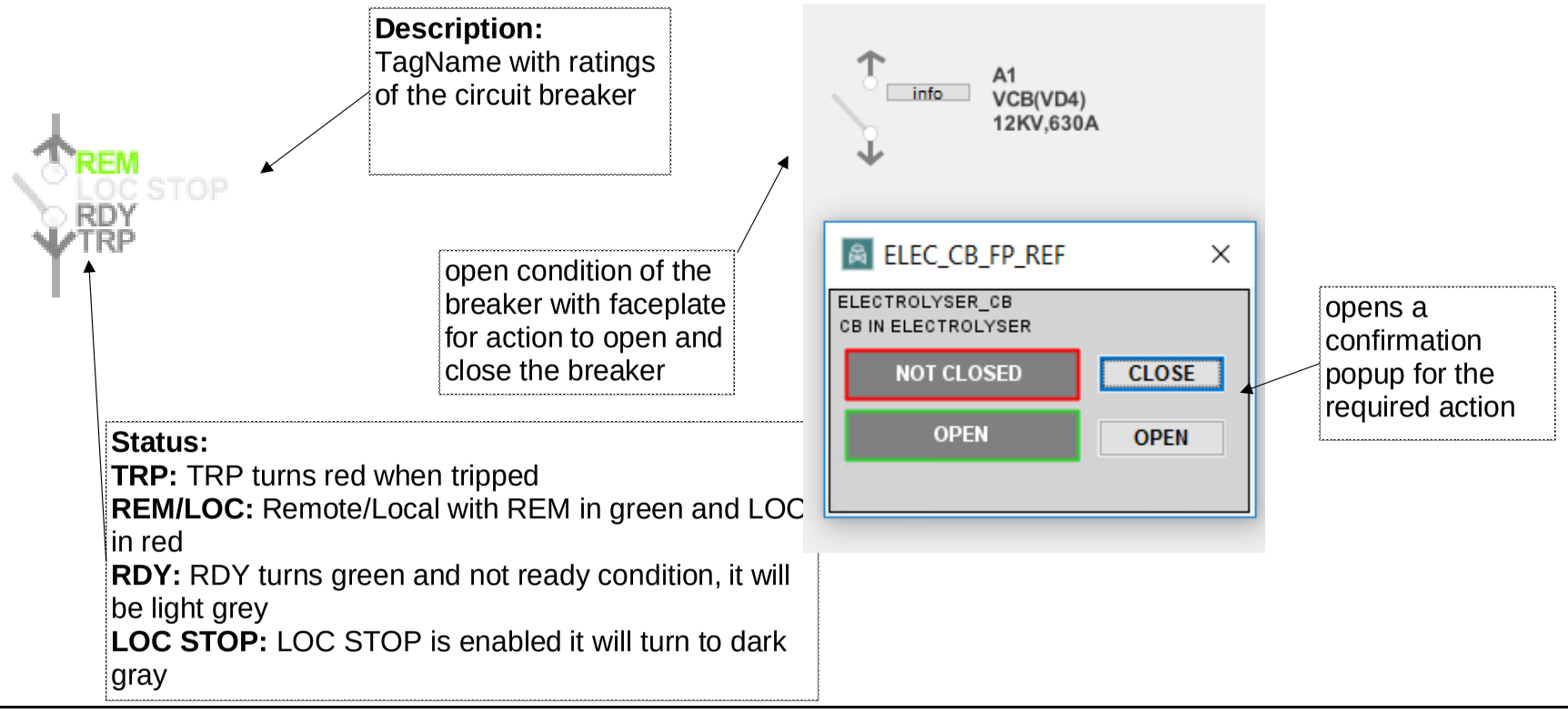
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
3	OPC_PVI	REV 0			
4	BLPH_UPS_MTR	REV 0			

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Color Philosphy

Sl.No	Tags	0 state - Text	1 state - Text
1	Trip 27-67	Normal	Trip
2	buckholz alarm	Normal	Alarm
3	buckholz Trip	Normal	Trip
4	General alarm	Normal	Alarm
5	General fault	Normal	Fault
6	Level low very low alarm	Normal	Alarm
7	oil temp/pres Alarm	Normal	Alarm
8	oil temp/pres Trip	Normal	Trip
9	protection tripped oil level	Normal	Trip
10	protection relay healthy	Unhealthy	Healthy
11	protection- watchdog	Normal	Fail
12	INTERTRIP SEND TO L.V. SWITCHBOARD	Normal	Intertrip
13	K86 TRIPPED	Normal	Trip
14	C.B. CLOSED AND INSERTED	not closed	close
15	C.B. OPENED OR ISOLATED	not open	open
16	MCB'S CLOSED	close	open
17	C.B. READY (TCS)	not ready	Ready
18	C.B. READY TO CLOSE	Not Ready	ready to close
19	Synchro	not in sync	sync
20	earth open	close	open
21	LOCAL		LOCAL
22	REMOTE	REMOTE	

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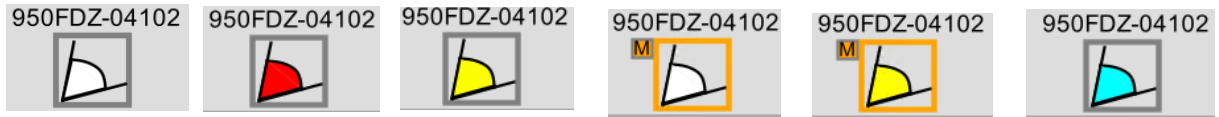
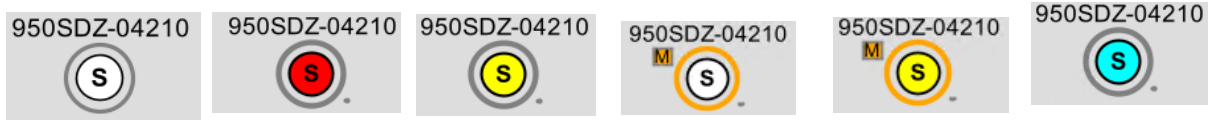
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
1	BLPH-FGS-FLAME-IR	REV 2	 **Normal** **HH Alarm** **H Alarm** **MOS** **MOS & alarm** **Fault alarm** As per alarm specific color code As per alarm specific color code MOS is indicated by the border. As per alarm specific color code - No blinking. MOS is indicated by the border.	Level 2 and higher	-
3	RMP-FGS-GAS-PNT-DET	REV 2	 **Normal** **HH Alarm** **H Alarm** **MOS** **MOS & alarm** **Fault alarm** S - SMOKE detector .O - OXYGEN detector H - HYDROGEN detector As per alarm specific color code As per alarm specific color code MOS is indicated by the border. As per alarm specific color code - No blinking. MOS is indicated by the border.	Level 2 and higher	This typical is applicable for smoke, hydorgen and oxygen detector.

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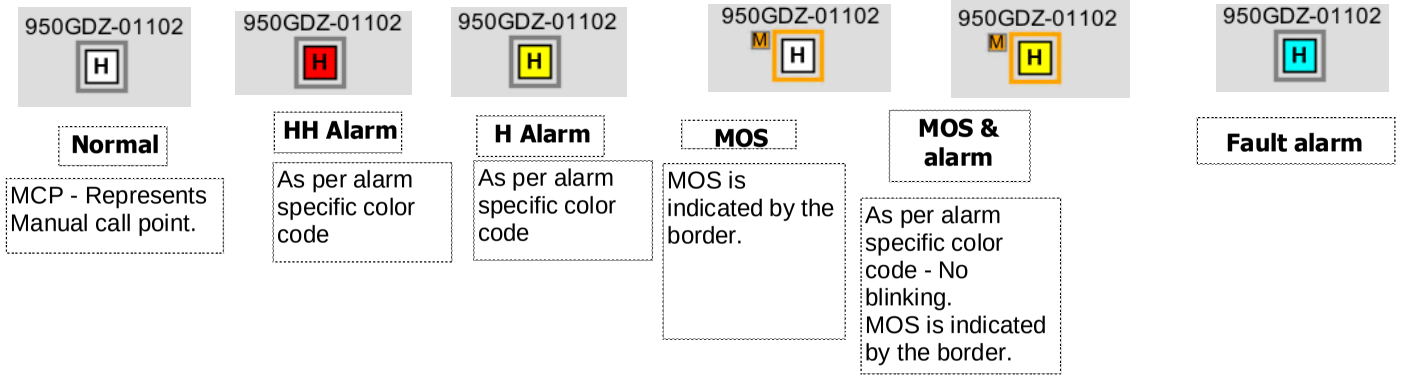
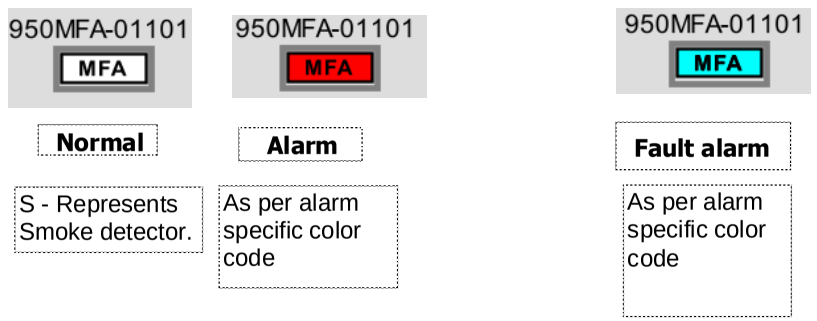
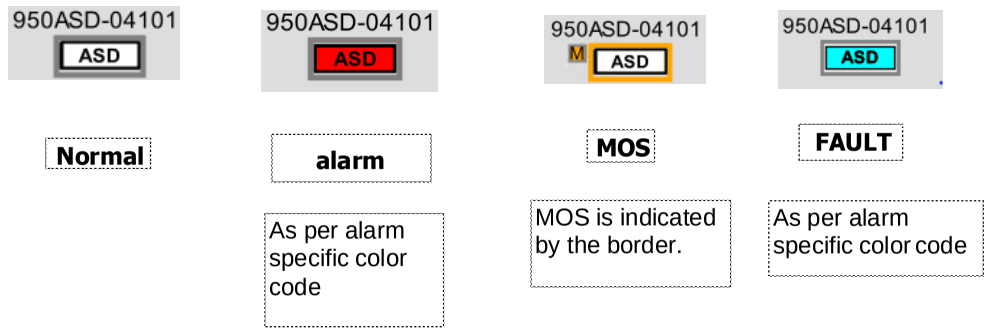
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
4	BLPH_FGS_USH2_DET	REV 2		Level 2 and higher	
5	BLPH_MFA	REV 2		Level 2 and higher	MOS is not applicable to manual call point.
6	BLPH_ASDMOB	REV 2		Level 2 and higher	Applicable for ASD,ESD,ESD-1D,MOB

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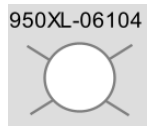
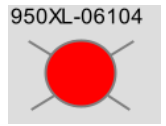
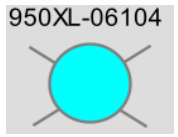
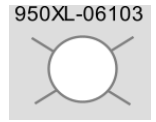
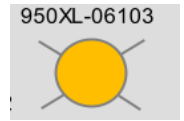
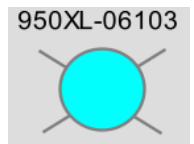
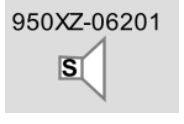
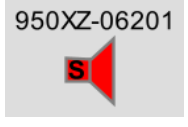
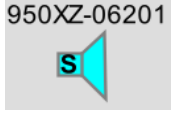
S.NO	Linkparts	Rev No	Functionality			Graphics level	Comments
7	BLPH-FGS-BEACON	REV 2	 **Normal**	 **Alarm** As per alarm specific color code	 **Fault** As per alarm specific color code	Level 2 and higher	-
	BLPH_FGS_GAS_BEACON	REV 2	 **Normal**	 **Alarm** As per alarm specific color code	 **Fault** As per alarm specific color code		
8	BLPH-FGS-SOUNDER	REV 2	 **Normal** S - Represents Sounder	 **Alarm** As per alarm specific color code .	 **Fault** As per alarm specific color code	Level 2 and higher	-

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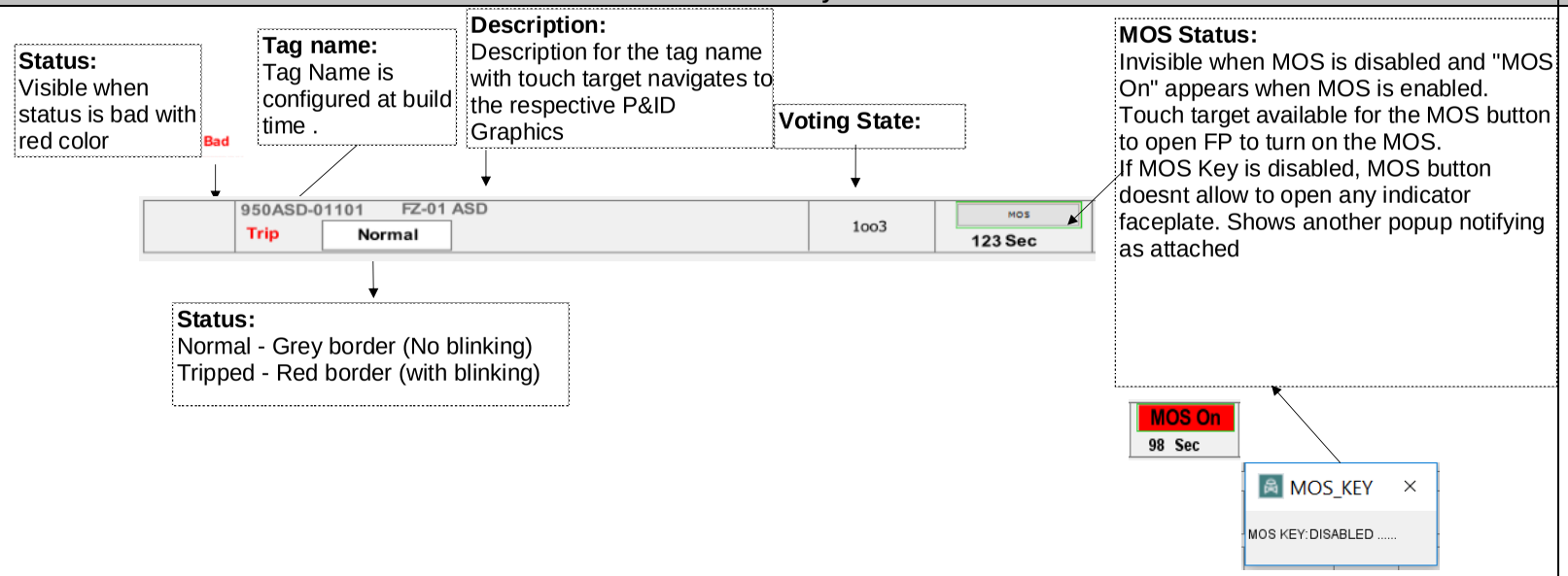
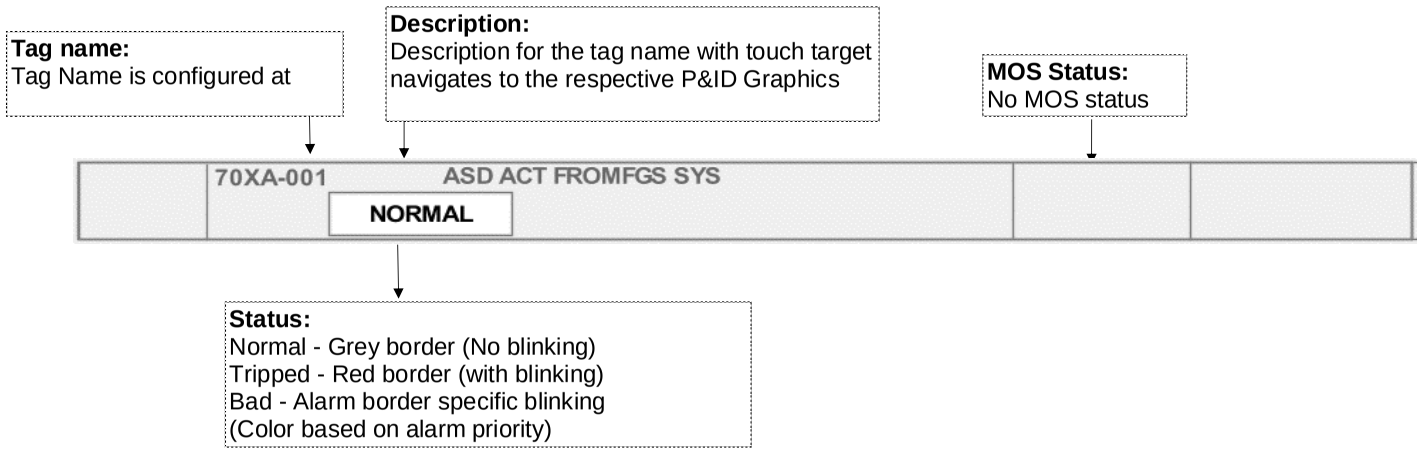
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
9	FG_CE_BLPH_DI	REV 0		Level 2 and higher	-
10	FG_CE_BLPH_FGS	REV 0		Level 2 and higher	Used to show the communication status with the field devices

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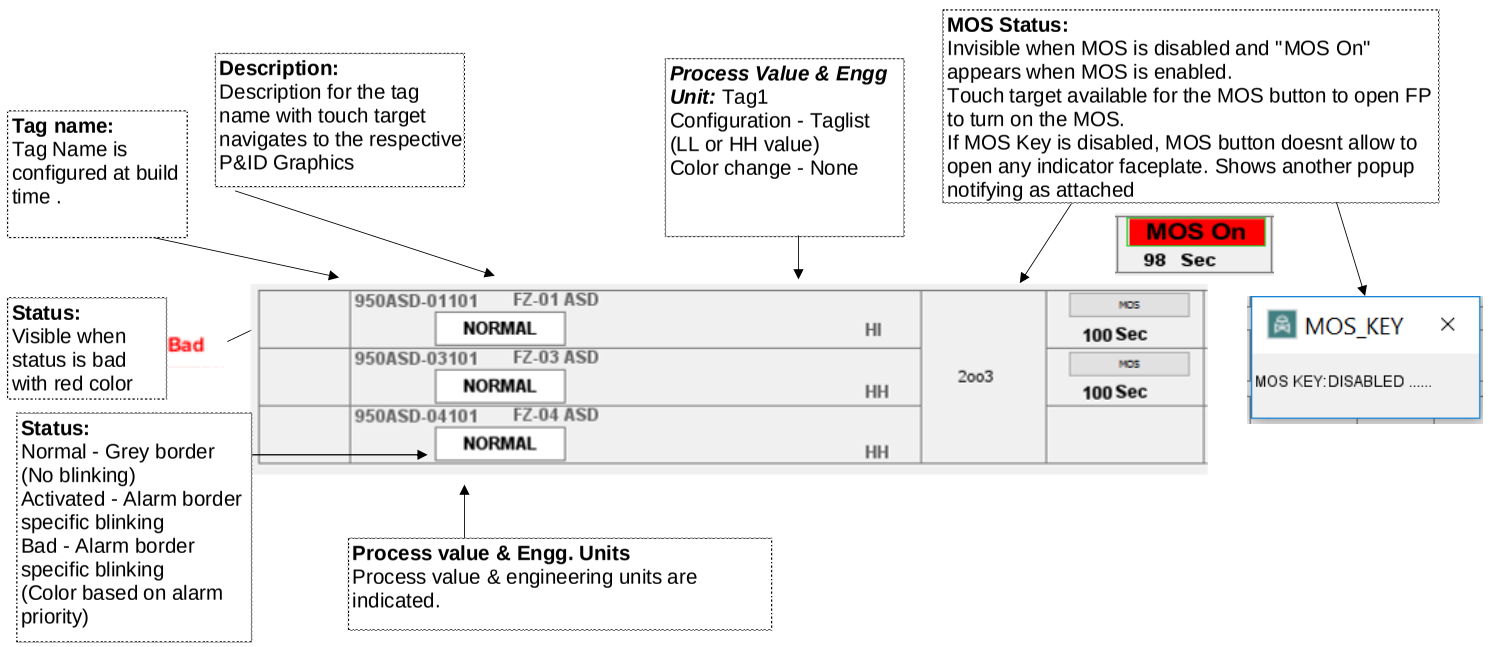
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
11	CE_BLPH_AI	REV 0		Level 2 and higher	-

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S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
12	CE_BLPH_DO_2CMNT	REV 0	**Tag name:** Tag Name is configured at build time with a touch target for opening the faceplate. Red when respective effect is tripped. Grey in normal condition. **Description:** Description for the tag name with touch target navigates to the respective P&ID Graphics **Status:** Shows the status of the tag 84XS-007A DISCONNECT AC UPS UP-200F3 BATTERIES A/B (B-300 CONTAINER) Bad	Level 2 and higher	-
13	CE_BLPH_MATRIX_2R	REV 0	**Trip Staus:** Normal Condition - Grey text & Grey alarm border Note: "TR" text is as per Cause & Effect TR TR **Trip Staus:** Trip Condition - Red text & Grey alarm border (No blinking)	Level 2 and higher	-

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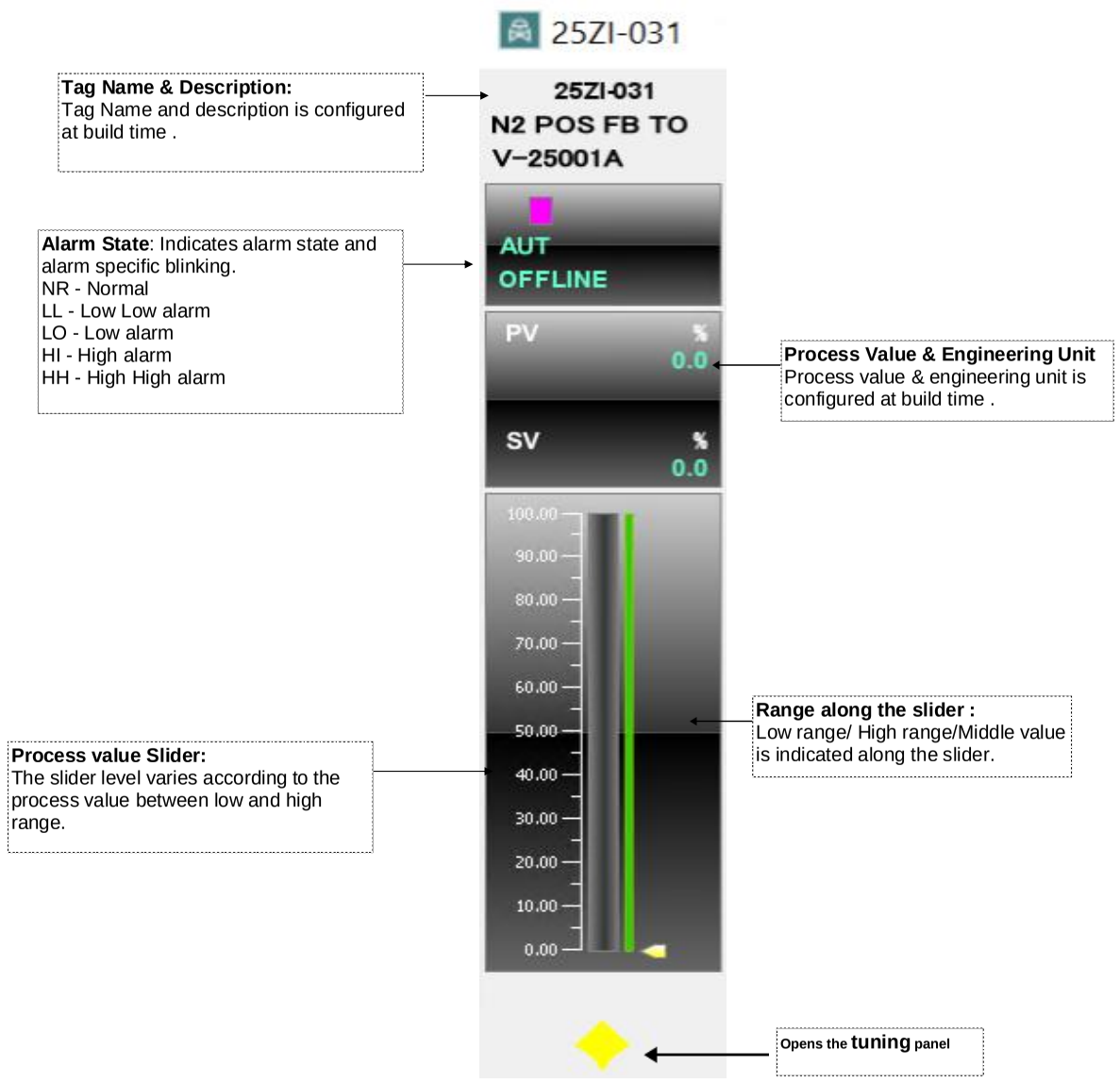
FACEPLATES

S.NO	Linkparts	Rev No	Functionality	Graphic Level	Comments
1	PVI Indicator	REV-1		Level 2 and higher	Applicable for all Analog indicators of SIS system

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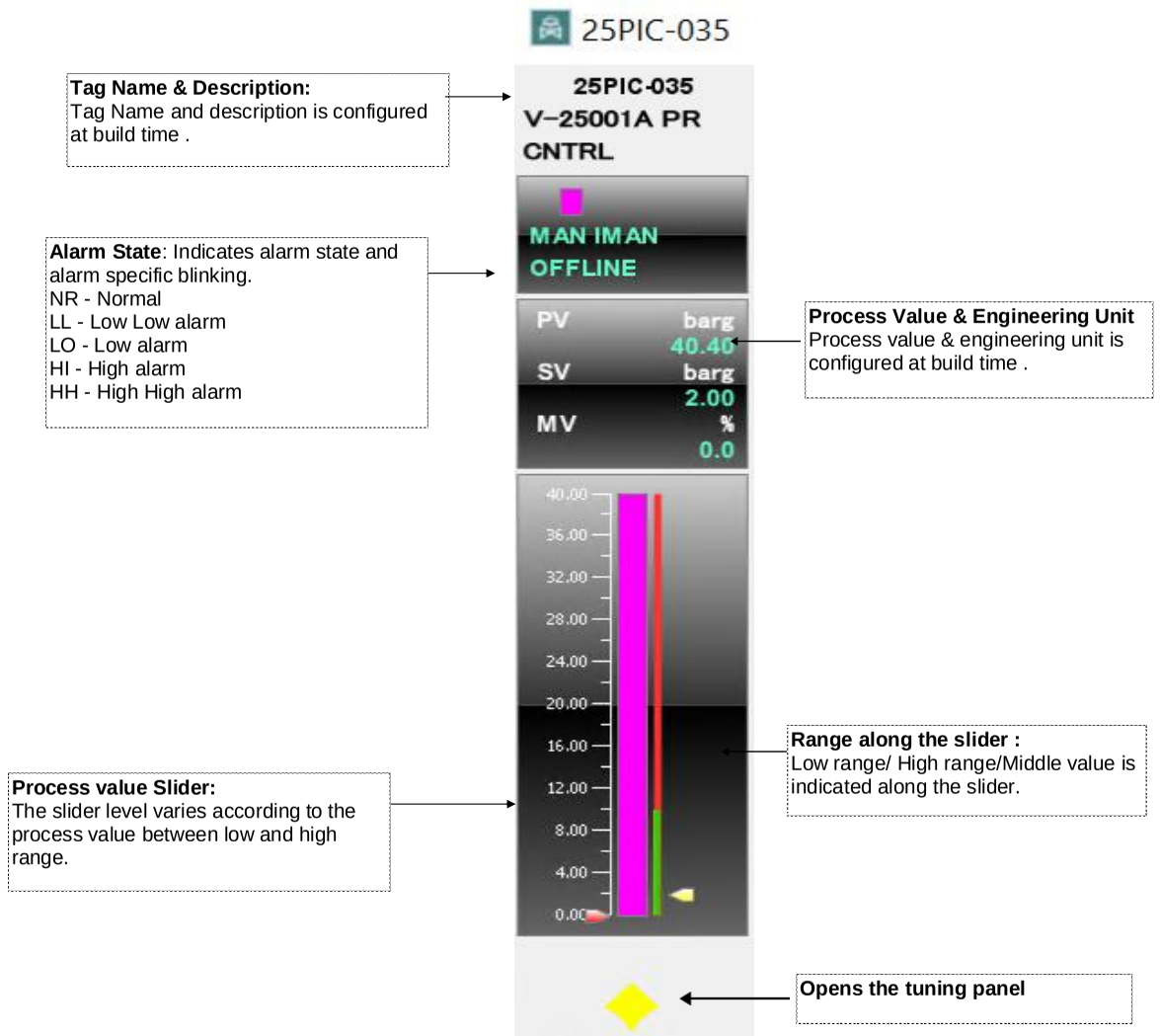
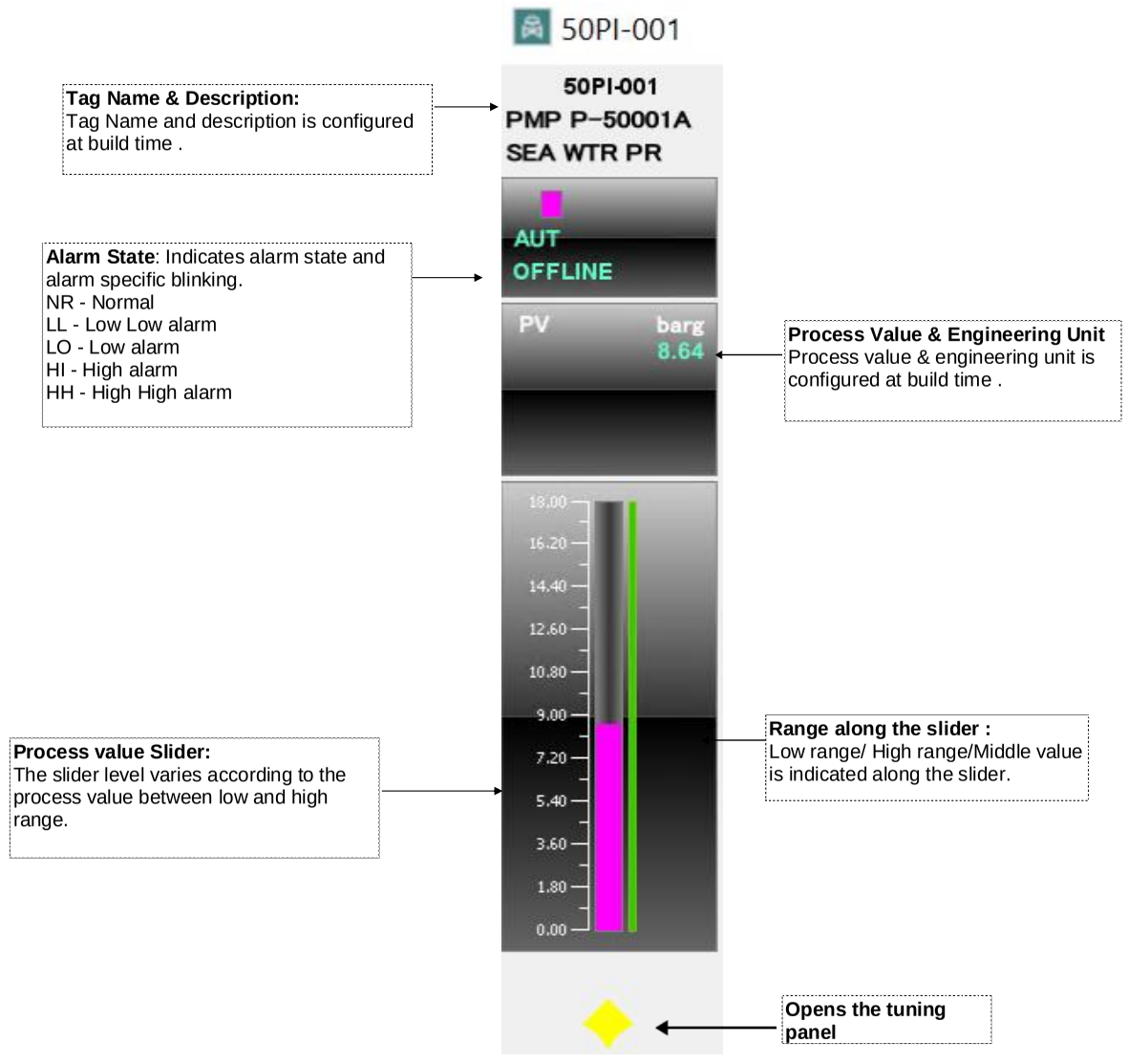
S.NO	Linkparts	Rev No	Functionality	Graphic Level	Comments
2	PID Indicator	REV-1		Level 2 and higher	Applicable for all Analog indicators of SIS system

S.NO	Linkparts	Rev No	Functionality	Graphic Level	Comments
3	SIS PVI Indicator	REV-1		Level 2 and higher	Applicable for all Analog indicators of SIS system

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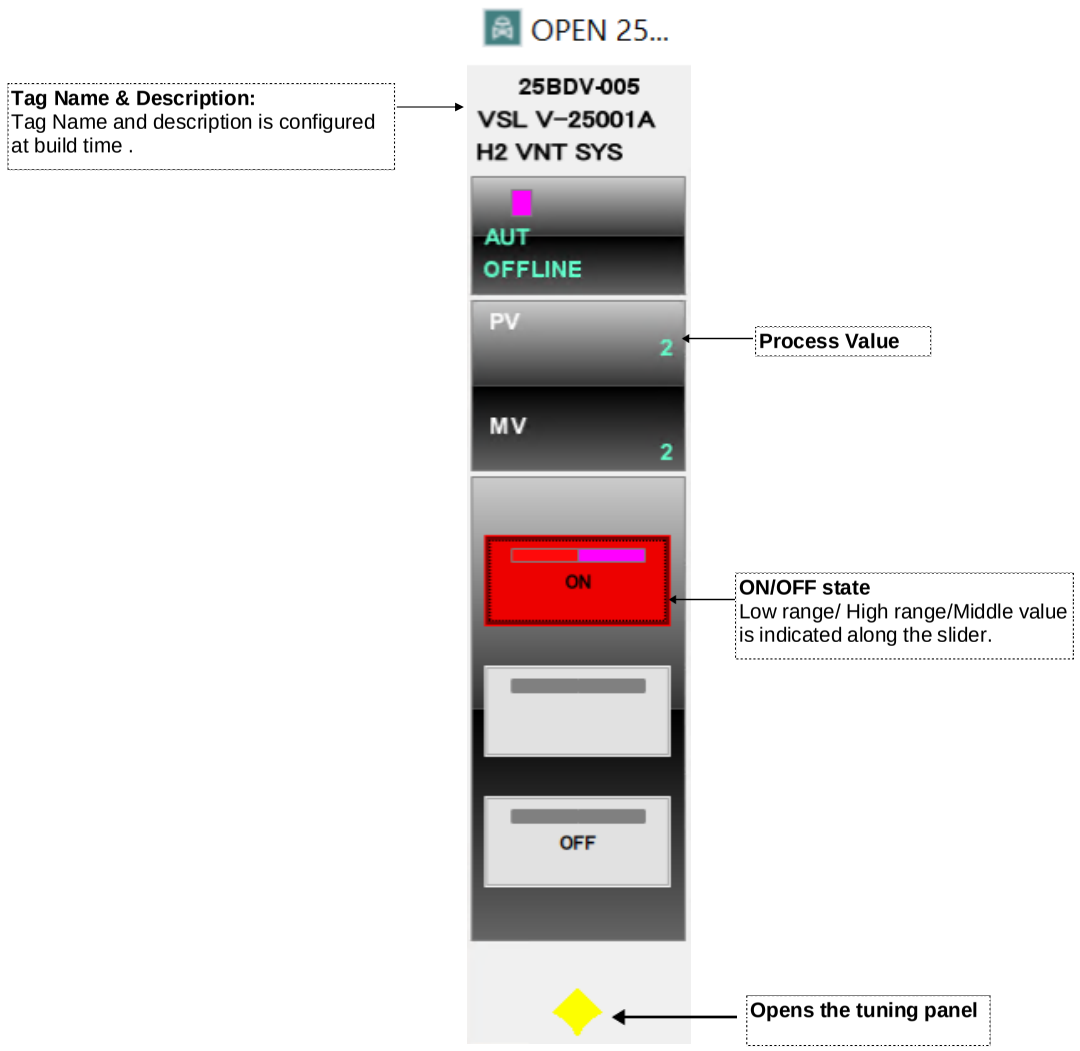
S.NO	Linkparts	Rev No	Functionality	Graphic Level	Comments
4	SIS PVI Indicator	REV-1		Level 2 and higher	Applicable for all Analog indicators of SIS system

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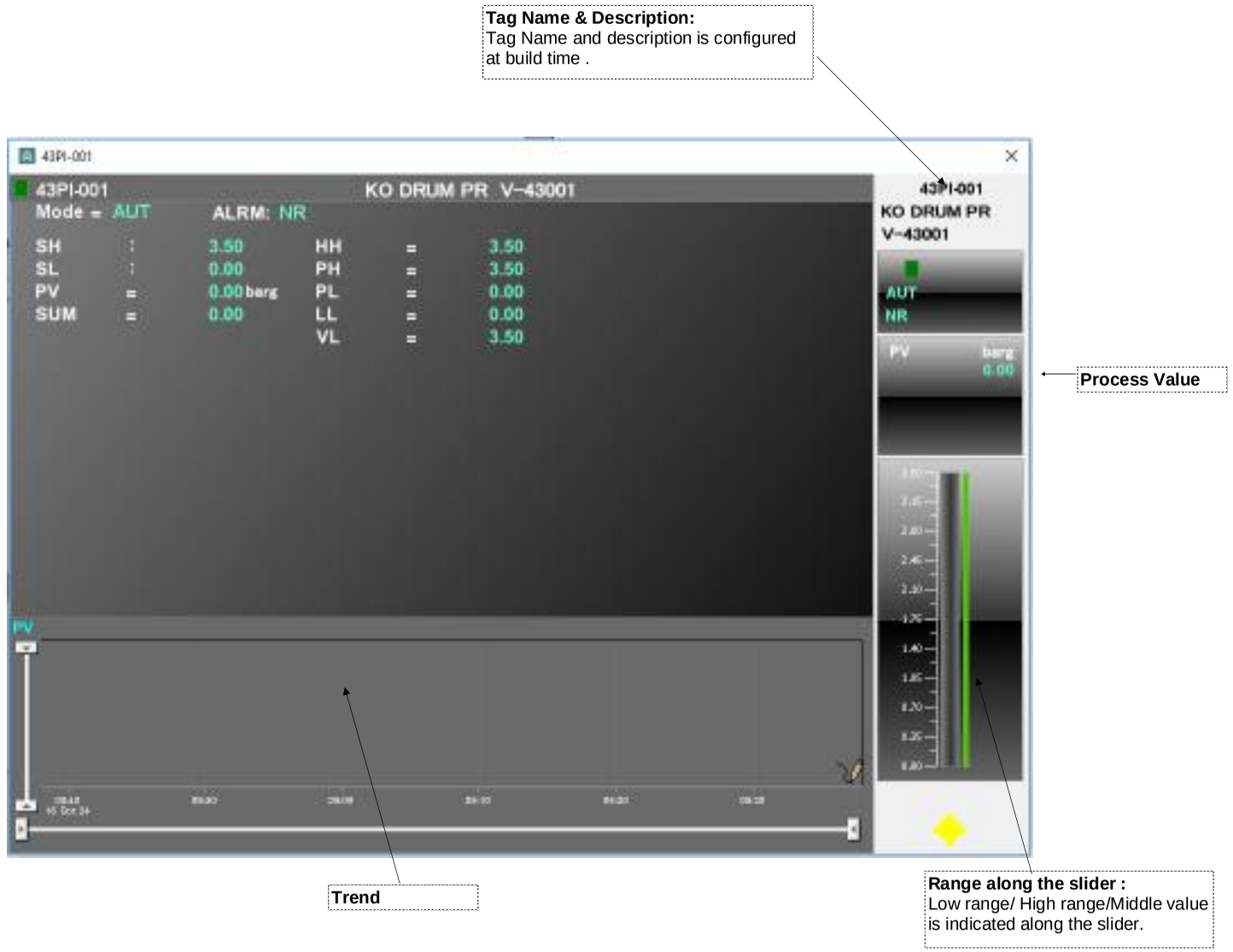
S.NO	Linkparts	Rev No	Functionality	Graphic Level	Comments
5	Tuning Panel	REV-1		Level 2 and higher	The Tuning panel parameter will change according to the functional block

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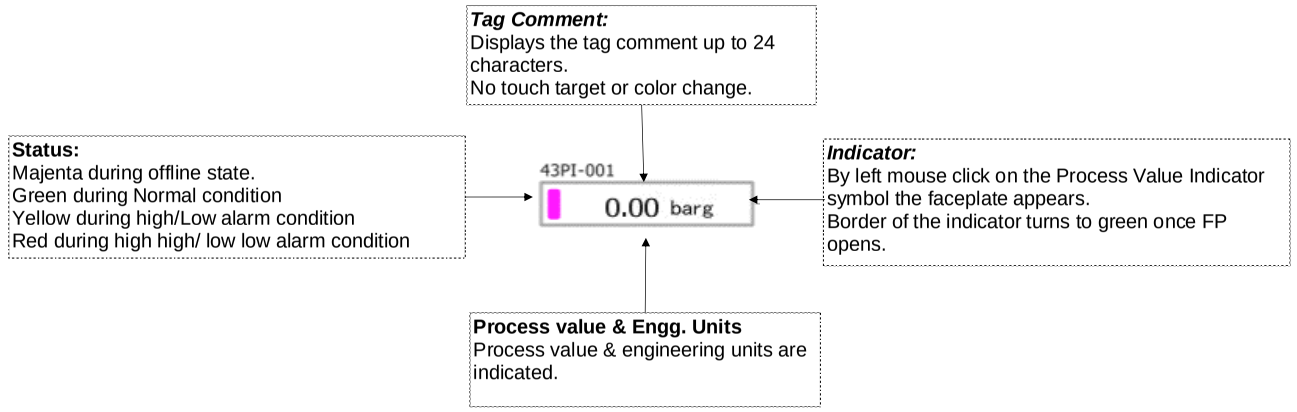
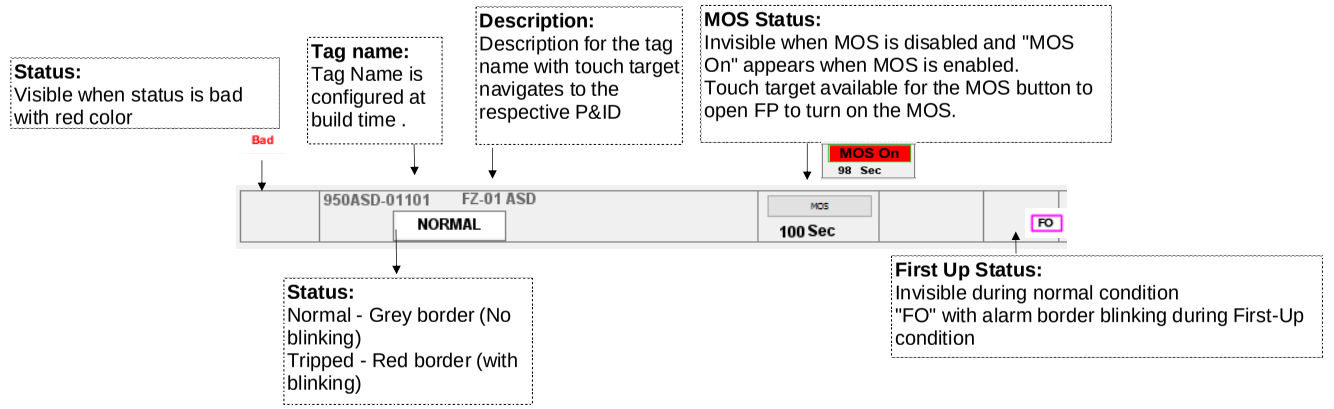
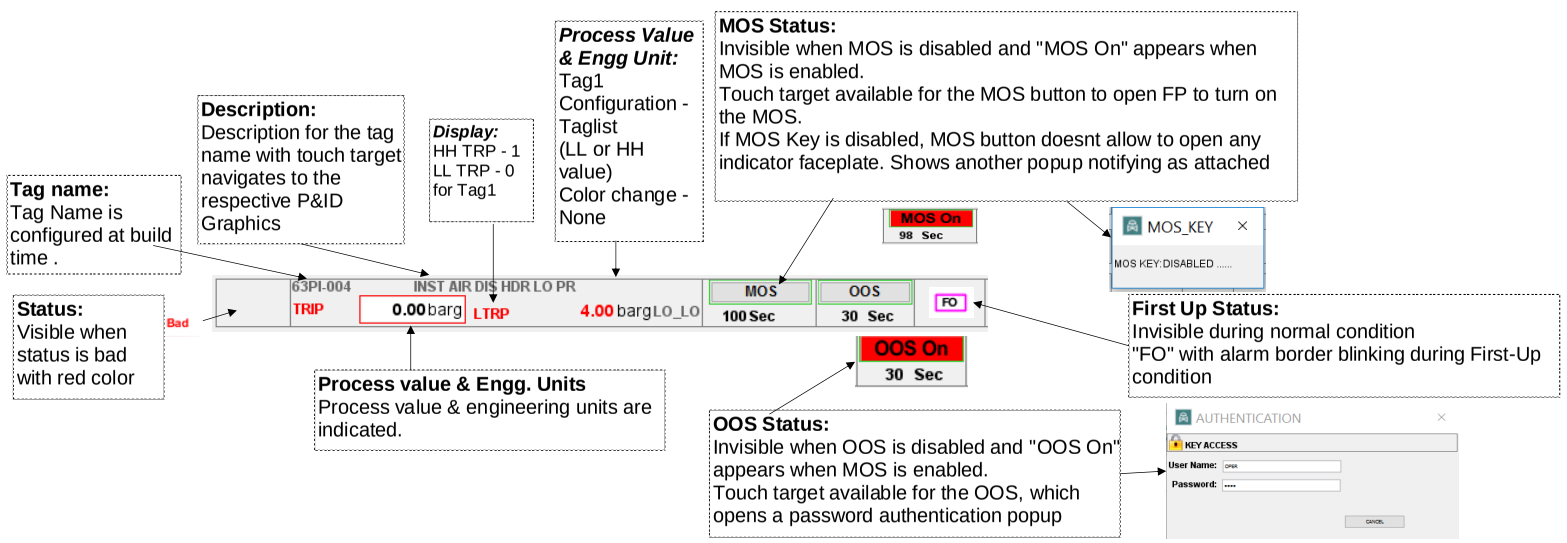
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
1	DCS_LINK_R	REV 0		-	-
2	DCS_LINK_L	REV 0		-	-

SAFETY - GRAPHIC TYPICALS					
S.NO	**Linkparts**	**Rev No**	**Functionality**	**Graphics level**	**Comments**
1	SCS_ECW_B	REV 0		ALL LEVEL	-
2	CE_BLPH_DI	REV 0		Level 2 and higher	-
3	CE_BLPH_AI	REV 0		Level 2 and higher	-

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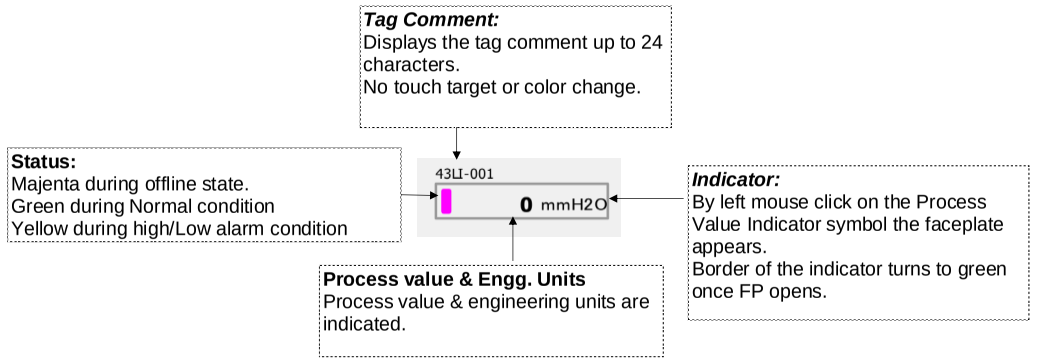
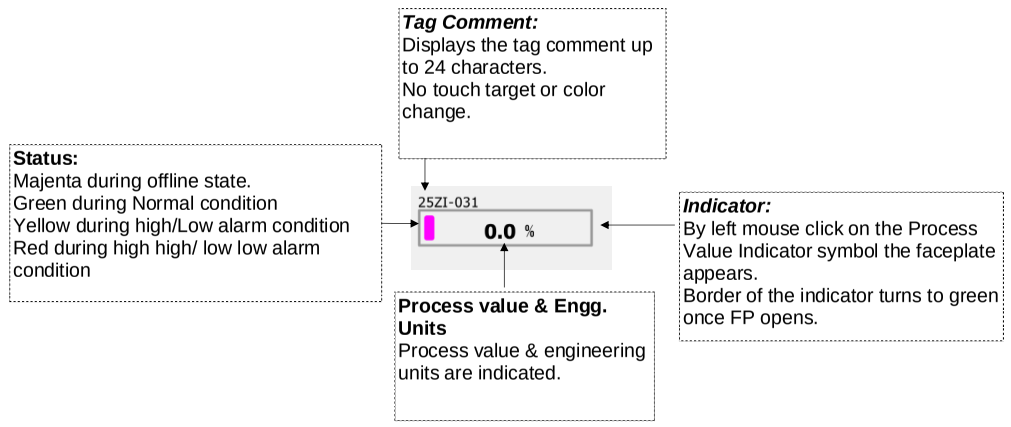
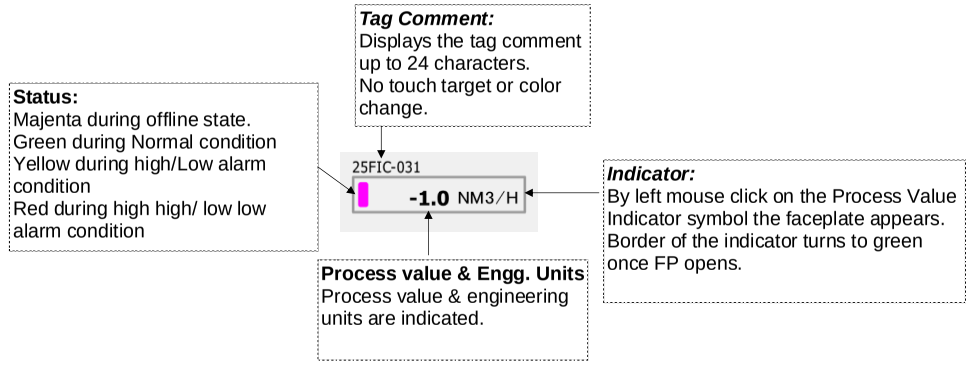
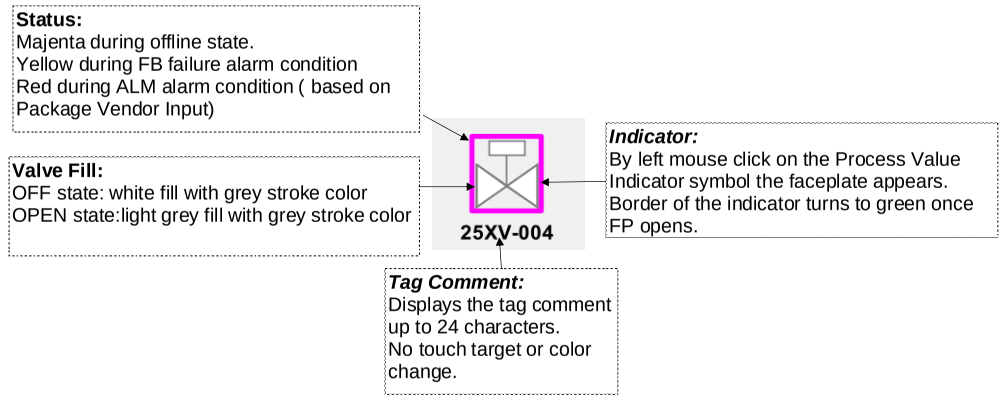
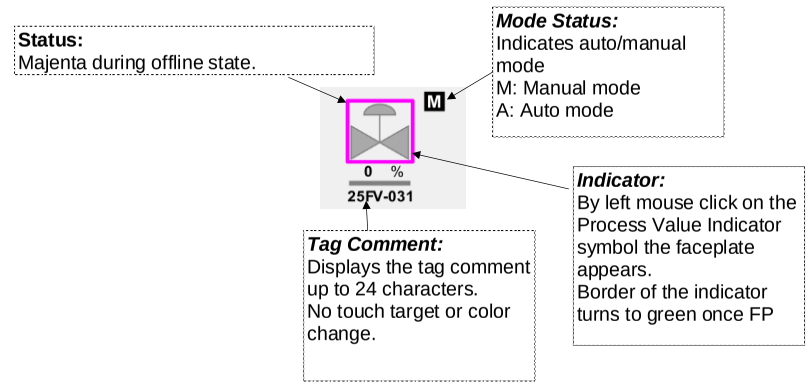
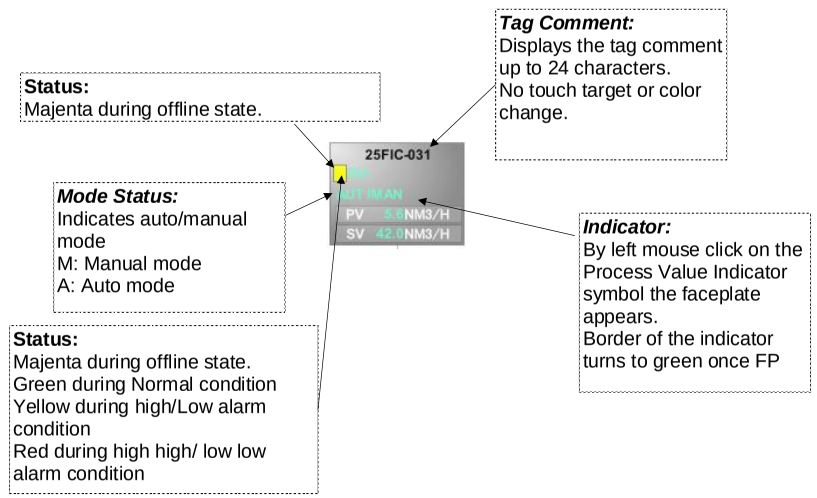
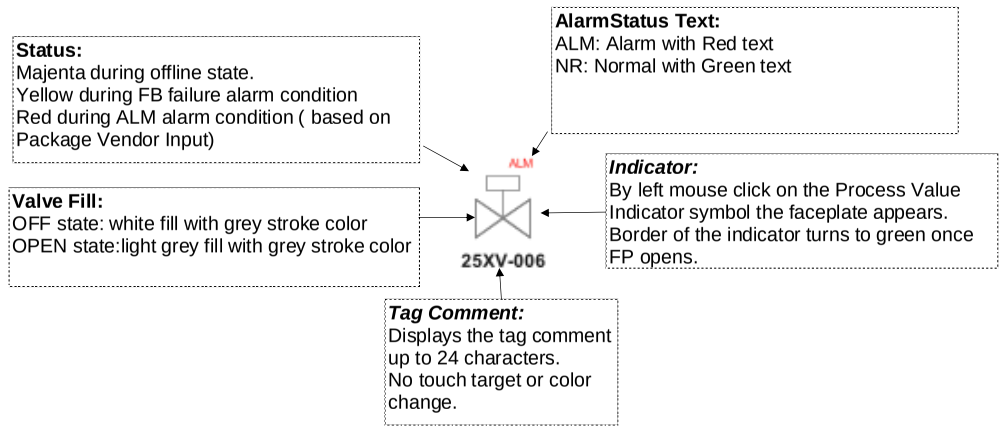
S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
4	CE_BLPH_DO_2CMNT	REV 0	**Tag name:** Tag Name is configured at build time with a touch target for opening the faceplate. Red when respective effect is tripped. Grey in normal condition. **Description:** Description for the tag name with touch target navigates to the respective P&ID Graphics 84XS-007A DISCONNECT AC UPS UP-200F3 BATTERIES A/B (B-300 CONTAINER)	Level 2 and higher	-
5	CE_BLPH_MATRIX_2R	REV 0	T2 **Trip Staus:** Normal Condition - Grey text & Grey alarm border Note: "TR" text is as per Cause & Effect TR TR **Trip Staus:** Trip Condition - Red text & Grey alarm border (No blinking)	Level 2 and higher	-
6	SCS_ANLG	REV 1	***Tag Comment:*** Displays the tag comment up to 24 characters. No touch target or color change. **Status:** Majenta during offline state. Green during Normal condition Yellow during high/Low alarm condition Red during high high/ low low alarm condition 25PI-004 **0.0** barg ***Indicator:*** By left mouse click on the Process Value Indicator symbol the faceplate appears. Border of the indicator turns to green once FP opens. **Process value & Engg. Units** Process value & engineering units are indicated.	ALL LEVEL	-
4	SCS_MOB21_BLPH_L	REV 1	**Status:** Majenta during offline state. Yellow during FB failure alarm condition Red during ALM alarm condition (based on Package Vendor Input) ***Tag Comment:*** Displays the tag comment up to 24 characters. No touch target or color change. **Valve Fill:** OFF state: white fill with grey stroke color INTERMEDIATE state: Half grey filled with grey stroke color OPEN state:light grey fill with grey stroke color 25BDV-005 ***Indicator:*** By left mouse click on the Process Value Indicator symbol the faceplate appears. Border of the indicator turns to green once FP opens.	All	-

S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments
1	DCS_PVI_MOD	REV 0		All	-
2	DCS_PVI_DV	REV 0		All	-
3	DCS_PID	REV 0		All	-

FAT COMMENTS

S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments	FAT COMMENTS
4	SIO_21E_VALVE_ON_OFF2	REV 0		All	-	
5	DCS_CONTROL_VALVE3	REV 0		All	-	
6	DCS_PID_IND_VAL	REV 1		All	-	Change the background color, maintain same as that of engineering station

Page 1179 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

S.NO	Linkparts	Rev No	Functionality	Graphics level	Comments	FAT COMMENTS
7	SIO_21E_VALVE_ON_OFF2_ANN	REV 1		All	-	

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-5.3 EMCS Software Functional Design Specification (FDS-SW)

1724000594-IN-SP-00019

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
Document Title:	EMCS Software Functional Design Specification (FDS-SW)	Sheet 1 of 65 Date: 29/01/2025 Rev: 03

Base Load Power Hub (BLPH)

EMCS Software Functional Design Specification (FDS-SW)

Document Number: 1724000594-IN-SP-00019

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On HOLD	
HOLDs	Description
HOLD 1	~~To the aim of reducing the issues about the fuel cell dynamics, it is assumed that for the current version the EMCS is sufficient to implement a generic rule in the control policy (as a deviation-vs-time filter on the set-point signal).~~
HOLD 2	~~An operator shall be able to set and hold the Supply Guarantee request status on NOT REQUIRED manually.~~
HOLD 3	~~For the EMCS, the BLPH shall be considered off-grid (i.e. not grid-tied) exclusively on the basis of the related hardwired signal. The latter is supposed to be an OR of the open condition of the INCOMMER 6.6kV CB and the GIS Q0(A1). This holds independently from the presence of grid signal and the status of the INCOMMER 6.6kV switchgear and any upward disconnector.~~
HOLD 4	~~(Under analysis, information arrived in May 2024): the "BESS charge level" and the related BESS.MINIMUM-EMERGENCY-RESERVE (and the others parameters about "BESS charge levels") are supposed to be expressed in SoC. However, such thresholds may need to be based on absolute values of energy, expressed in MWh, instead of SoC %: According to the meetings in held May 2024 with the BESS vendor, the BESS expose over the data interface the absolute value of energy available to the discharge, and this value is representative of the BESS ability to produce power and hence to sustain the isolated grid, while SoC value is not.~~
HOLD 5	~~The fuel cell, electrolyzer, BESS, solar farm will each provide a signal, or a set of signals, over the data interface with the EMCS which univocally identify the package status of ready to operate; the package vendor will document a static set of values of the mentioned signals for which such condition is met.~~
HOLD 6	~~the solar farm will provide a signal over the data interface with the EMCS, signaling that the solar farm is not able to guarantee the respect of the set-point from the EMCS (within the declared tolerances).~~
HOLD 7	~~The BESS is healthy is not a mandatory condition to enter in EXPORT MODE, if the fuel cell can produce power.~~
HOLD 8	~~EMCS shall constrain the range among positive set-points only (discharge), so to prevent power flow inversion (with the aim to avoid consequent possible stress on the BESS).~~
HOLD 9	~~The solar farm is able to guarantee the strict respect of the active power limit provided by the EMCS, or the respect of the limit with a maximum upward tolerance (supposed within 10%) in normal operating conditions.~~
HOLD 10	~~In grid-forming mode, if the BESS is not fully charged, it is always able to adsorb up to 1 MW (charging).~~
HOLD 11	~~It is supposed that the "BESS charge level" will be based on the SoC. HOWEVER, according to the BESS vendor, to assess the actually available margins of the BESS to charge and discharge, the energy margins shall be used instead of the SoC. In such case, it is also supposed that it is preferrable to operate around a point were energy margins in charging and discharging have similar values, instead of using the SoC as a reference (for the SoC, the optimal operational point was reported to be 50%). This affects the definition of any parameter related to the BESS stored energy level.~~
HOLD 12	~~BESS, electrolyzer, fuel cell, solar farm vendor will provide a heartbeat/watchdog allowing the package and the BESS to verify the presence of communication between the two systems.~~

HOLD 13	~~The suggested trade-off is the architecture with Fuel Cell in feedforward and BESS in feedback~~
HOLD 14	~~It is assumed that (in EMERGENCY MODE), to prevent the (potential) power overload of the BESS, the sum of the fuel cell set-point and the solar farm set-point shall be less than the BESS charge power in any moment in time, which is assumed to be always more than 0.6 MW.~~
HOLD 15	~~The synchronization procedure shall be required by the EMCS to the BESS, using a dedicated command signal exposed in the data interface of the BESS. The BESS shall start and execute the procedure only if the command is True, stop otherwise.~~
HOLD 16	~~The BESS expose a signal that is True when it is running the synchronization procedure, false otherwise~~
HOLD 17	~~The BESS perform the parallel closing request to the INCOMMER CB automatically after the synchronization, without waiting any input from the EMCS.~~
HOLD 18	~~Time-sync among EMCS and electrical equipment (protections and relays) will be done by PTP protocol.~~
HOLD 19	~~EMCS shall constrain the range among negative set points only (charge), so to prevent power flow inversion (with the aim to avoid consequent possible stress on the BESS).~~
HOLD 20	~~Definition of the condition for Supply Guarantee OFF (by Crosswind).~~
HOLD 21	~~Definition of BESS healthy no more required.~~
HOLD 22	~~To enter in EXPORT MODE, it is allowed to stop the Electrolyzer, i.e.; Able-to-Export shall consider also the possibility to use the ImperativeStop transition of the Electrolyzer. EMCS will allow to disable this possibility parametrically (Default: ImperativeStop allowed)~~
HOLD 23	~~Tanks are full~~
HOLD 24	~~Minimum ON-time inertia~~
HOLD 25	~~Minimum OFF-time inertia~~
HOLD 26	~~Waiting from Crosswind~~
HOLD 27	~~waiting from Crosswind~~
HOLD 28	~~As per the document provided, "HKN1-02-REG-341 Manual for Controlling the Solar Farm via the Client Connector REV A," , mentioned in response to TQ 55, it also consists of a signal list. However, clarification/confirmation about the "availability to control" of the park controller from Crosswind is still required.~~
HOLD 29	~~The electrolyzer PLC requires a custom time synchronization interface, based on dedicated signals (specifically: year, month, day, hour, minute, second) to be updated by the EMCS; it is assumed that the precision required is equal to the resolution.~~
HOLD 30	~~The provided response Fuel Cell Signal Analysis, sent document " TQ-0008 – Signal Analysis Response" lack in item. 2.4, 2.6 and 2.8, awaiting for the updated "Crosswind Modbus Table - Main PLC - External Cut"~~
HOLD 31	~~In consequence conversation with vendor Electrolyzer~~
HOLD 32	~~It is assumed that preventing the hydrogen level to overpass a pre-defined threshold is a sufficient condition to prevent protective/emergency reaction of the PCS and any other~~

	~~safety system~~
HOLD 33	~~Power Surplus formula is WTG.Power - 1 MW~~
HOLD 34	~~CW must provide the signal/s allowing to detect the Supply Guarantee status~~
HOLD 35	~~Total power consumption (W)" EMCS assume that the total Active Power absorbed by the Electrolyzer from the grid is not yet implemented (as per the response from the vendor).~~
HOLD 36	~~"Current Power Setpoint" EMCS assumes that the current power set point followed by Electrolyzer, or " Power setpoint(W)" used this information, there is no equivalent to power setpoint which is not yet implemented by vendor.~~
HOLD 37	~~To have the electrolyzer working it is enough to send the start command without the need to sent a setpoint~~
HOLD 38	~~Vendor shall specify, EL_MAX_SET_POINT in the IO list.~~
HOLD 39	~~Vendor shall specify, MIN_RUNNING_TIME (Minimum time to wait before the electrolyzer can be stopped) in the IO list.~~
HOLD 40	~~Exposed by FC interface~~
HOLD 41	~~This control logic does not prevent the ideal scenario where the BESS gets depleted while there is still some reserve of hydrogen. To guarantee to prevent it, an intentional charging of the BESS from the fuel cell should be foreseen when such incipient condition arises.~~
HOLD 42	~~The HV-SCADA will provide a signal to understand if the HNA5 is in fault.~~
HOLD 43	~~Ask Freqcon if the BESS is able to autoregulate and to follow the Loads energy consumption,~~
HOLD 44	~~In Grid-Forming mode, if the BESS is not fully charged, it is always able to absorb up to 1 MW (charging) only during the time needed for packages to curtail at set point send by EMCS, with the respect of the BESS MAXIMUM OPERATING RESERVE.~~

1. Scope of Document

This document describes the functional requirement specification of the Energy Management and Control System (EMCS) of the CROSSWIND BLPH project. This document is intended to produce a synthesis and unique interpretation of the requirements deriving from all the precedent project documents. The present functional requirement specifications are intended to be the input for the engineering design of the EMCS.

2. Context – Crosswind BLPH

The Base Load Power Hub (BLPH) is an innovation project which includes the piloting of an offshore water electrolysis-fuel cell round trip system and a lithium-ion battery installed on an offshore monopile. The BLPH is designed to integrate with one of the wind turbine generators in the Hollandse Kust Noord (HKN) wind farm thereby delivering a baseload of at least 20% of the average electricity production of a Wind Turbine Generator (WTG) (i.e., 1 MW) 99% of the time independent of wind conditions, demonstrating time-shifting flexibility on hours-to-days resulting in reduction of the intermittent power output.

BLPH will provide 'Innovation and Time Shifting Flexibility' where the power output of a single wind turbine will be shown to remain above 20% of average (1MW) regardless of the prevailing weather conditions for 98.5% of turbine up-time.

2.1 Project Overview

CrossWind, a Shell and Eneco joint venture, was recently awarded the tender to develop the offshore HKN wind farm, located 18.5km off the coast of The Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW, generating at least 3.3TWh per year. This is enough renewable power to supply more than 1 million Dutch households with green electricity. Offshore wind projects produce intermittent electricity. Balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. That is why the offshore wind farm will include several new technology demonstrations that could be implemented at full-scale in the future. Among others, the new technologies being explored include a floating solar farm, a short-term battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a Fuel Cell (FC). The combination of these individual measures, herein referred to as the BLPH, will ensure a continuous power supply regardless of the wind situation. All components included in the BLPH will be installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar farm) and release it during periods of low generation. In practice, it is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability. Electricity in the BLPH will be stored in the form of electrons in a Battery Energy Storage System (BESS) as well as converted into green hydrogen via water electrolysis. In addition of the charge held by the BESS, pressurized H2 gas will be converted back into electricity using a FC cell to extend the discharge duration. Note that transporting H2 out of the BLPH is not an option, energy must leave the BLPH in the form of electricity through an inter-array cable leading to a substation provided by the Transmission System Operator (TSO) TenneT.

2.2 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

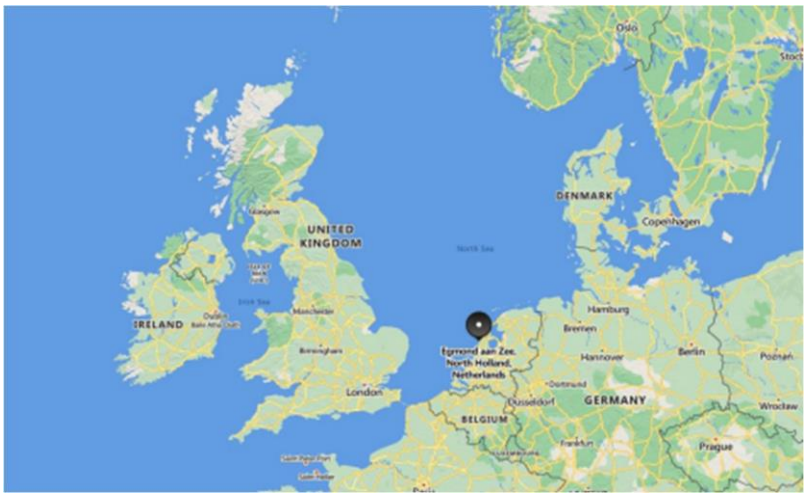

Figure 1 HOLLANDSE KUST NOORD WIND PART Location Map



Figure 2 Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

2.3 Electrical Distribution

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating Solar farm) and release it during periods of low generation.

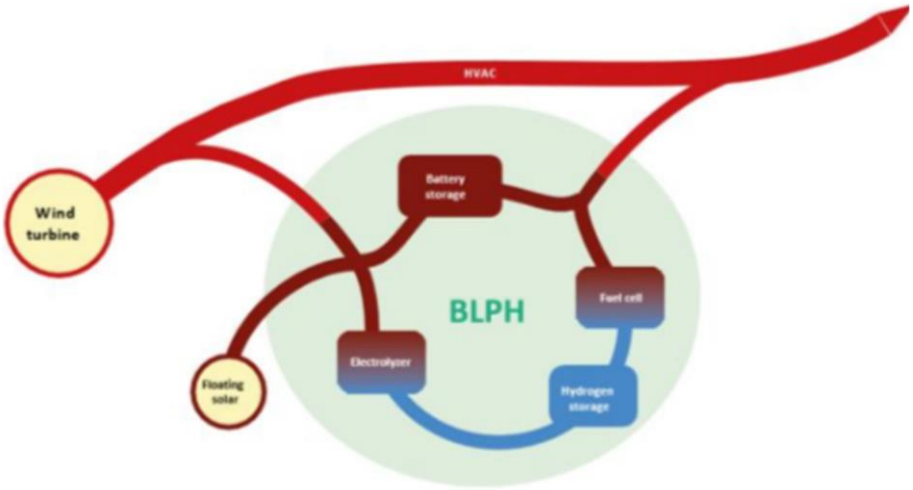

Figure 3 BLPH Concept

In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

2.4 Production Units and Loads

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MW, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration. The purpose of the BLPHs to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

2.5 Operational Constraints

The Central Control System (CCS) is responsible for the normal operations of BLPH, with an independent system to the elements of the Safety System. The components that CCS is required to control all process (power generation) systems, utilities systems, and electrical equipment on the platform following Document 123A90-DDL-IN-DD-40019 Data Network Architecture. As agreed with operations, a single operator shall be required for both electrical and process systems on BLPH. CCS reacts to changes from the HNA5 Wind Turbine, power output only. Only output/status of HNA5 Wind Turbine affects operating modes. The CCS shall act independently of the safety system and shall not interfere with any of its functions. The objective of the BLPH is to demonstrate time shifting flexibility and capability of providing 1MW Power output using the full capacity of the inventory stored on the platform. BLPH does not plan its output on weather forecast – BLPH output is planned depending on the actual power output of the HNA5 Wind Turbine. The facility can be operated remotely from on-shore Control room, and has the ability to shut down, start-up, to adjust and/or tune, to connect and disconnect to the grid and to monitor BLPH. The measured response of BLPH will be tied to the power generation profile of an individual wind turbine HNA5.

The technologies being demonstrated at BLPH are:

1. Floating Solar farm.
2. Short-term Battery Energy Storage.
3. Long-term Hydrogen Energy Storage (Electrolyzer to create green hydrogen).
4. Fuel-Cell.

Energy harvested from both wind and sun will be stored either directly in a Battery Energy Storage System (BESS) or indirectly using water electrolysis to create hydrogen. Stored hydrogen will be consumed onboard by a fuel-cell to produce electrical power. Monitoring and control of BLPH will be remote (shore based control room) and the solar farm, battery and fuel-cell shall act cooperatively so that power from all sources will be combined to export power regardless of the prevailing weather.

NOTE: Energy stored as hydrogen will leave only in the form of electricity through the Inter-Array Cable (IAC) connecting BLPH indirectly to a grid sub- station provided by Transmission System Operator (TSO) TenneT.

The fuel-cell is slow-acting whilst the BESS is fast acting. Therefore, the BESS (whenever available) will be used as ‘lead supply’ / ‘load follower’ and operate in its most efficient / effective manner with the fuel cell operating in parallel or series to optimize both the efficiency and availability of the entire system. The CCS will be programmed to act upon multiple inputs / factors e.g. BESS Available Energy, HNA5 (EMCS will receive the data from HNA5 and based on these values will react), stored hydrogen availability, CCS operation mode, equipment operating status, equipment operating mode, circuit breaker status, etc. Whenever possible the fuel-cell will consume the platform’s stored hydrogen prior to discharging the BESS.

3. Reference Documents

This is a selection of the key documents of the project relevant for the EMCS. It is not an exhaustive list of the available documentation and not even of the relevant documentation for the EMCS. This set of documents should be enough to identify and have a first level refinement of all the requirements, operational constraints and interoperation aspects of the EMCS.

Document No.	Description
123A90-DDL-IN-RE-40095	Process Control Logics Description
123A90-DDL-EL-SP-20141	Electrical System Description & Design Philosophy
123A90-DDL-IN-SP-40098	Control System (PCS) Specification
123A90-DDL-EL-RE-20176	Electrical System Study Report - Transient In-Rush
123A90-DDL-EL-RE-20171	Electrical System Study Report - Short Circuit
K559-2254-PM-PLN-003	Basic Design Engineering Package BLPH FEED
123A90-PML-PM-TQ-00050	Reactive power control requirement for BLPH
123A90-DDL-EL-DG-20158	Overall/Key Single Line Diagram
1724000594-IN-DD-00015	System Architecture
SRN – 04270	Operations Modes Review – Base Load Power Hub
123A90-DDL-IN-SP-40097	System Specification for Main Automation Contractor
123A90-DDL-IN-SP-40100	Safety System (ESD, Fire and Gas) Specification)
123A90-MOM-RM-STAT-CW-003	Minute of Meeting - Freqcon & Statron-Control Workshop with Rosetti's MAC
123A90-MOM-RM-STAT-CW-003	123A90 - Interface control workshop with Rosetti MAC-BESS-Point 9 and 10-Synchronization Procedure-Via Mail
123A90-PML-PM-TQ-00053	Technical Query – Interface with BESS
123A90-MOM-ELO-ROS-CW-003	Minute of Meeting- Electrolyzer- CPI Interface Meeting
123A90-PML-PM-TQ-00052	Technical Query – Interface with Electrolyzer
123A90-PML-PM-TQ-00051	Technical Query – Interface with Fuel Cell
123A90-MOM-RM-BAL-CW-004	Minute of Meeting – Control Workshop with Rosetti's MAC.
123A90-PML-PM-TQ-00055	Technical Query – Interface with Solar Farm
123A90-PML-PM-TQ-00054	Technical Query – Interface with Windfarm and HNA5
123A90-MOM-ELE-ROS-CW-023	Minute of Meeting - Control Workshop with Rosetti's MAC
K559-2254-CWIWP4202201-C08-001	BESS - Control Philosophy & Block Logic Diagrams
C63-AUT-002	Electrolyzer – Communication Table
K559-2254-CWIWP4202202-C08-001	BALLARD- Control Philosophy & Block Logic Diagrams
CWHKN-INN-INP-SPC-00005	SCADA Functional Design Specification

123A90-DDL-EL-LIS-20016	Electrical Load List & Balance (CCS MODE 1 'IMPORT')
123A90-DDL-EL-LIS-20143	Electrical Load List & Balance (CCS MODE 2 'HOT STANDBY')
123A90-DDL-EL-LIS-20144	Electrical Load List & Balance (CCS MODE 3 'EXPORT')
123A90-DDL-EL-LIS-20145	Electrical Load List & Balance (CCS MODE 4 'COLD STANDBY')
123A90-DDL-EL-LIS-20146	Electrical Load List & Balance (CCS MODE 4A 'EMERGENCY MODE')
23A2007_240628_PROFINET_Register BESS_V1_0_0_3	BESS_PROFINET_SIGNAL LIST
K559-2254-CWIWP4202201-J10-001	FREQCON MSC - Product Description
MAN002 Integration Manual FCwave 2.2.0	FC Wave Marine Fuel Cell Integration Manual
CW-BALL-TQ-0008 - Fuel Cell - Rev B - BAL RESPONSE	Minute of Meeting Response
Crosswind Modbus Table - Main PLC - External Cut	Fuel Cell MODBUS Map
HKN1-02-REG-341	Manual for controlling the solar farm via the client connector REV A

3.1 Definition & Abbreviations

ALARP	As Low as Reasonably Possible
AVR/OLTC	Automatic Voltage Regulator/On Load Tap Changer
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
BPCS	Basic Process Control System
COMPANY or Client (CPY)	Crosswind
CCS	Central Control System (PCS + EMCS)
CPI	Company Provided Item
DCS	Distributed Control System
ESD	Emergency Shut down
EWS	Engineering Workstation
EMCS	Electrical Management Control System
FEED	Front-end Engineering Design
FGS	Fire & Gas System
FO	Fiber Optics
GUI	Graphical User Interface
HMI	Human Machine Interface
HKN	Hollandse Kust Noord
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA
HSE	Health, Safety & Environment
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
IACS	Industrial Automation & Control System
ITER	Instrument & Telecoms Equipment Room (located Offshore)
LV	Low Voltage
MV	Medium Voltage
OER	Onshore Equipment Room
PAS	Process Automation System
PFD	Process Flow Diagram
P&ID	Piping & Instrumentation Diagram
PSD	Process Shut Down
PV	Photo Voltaic
SCADA	Supervisory Control and Data Acquisition
SoC	State of Charge
SF	Solar Farm
SS	Safety System (SIS+FGS)
TQ	Technical Query
UCP	Unit Control Panel
UFD	Utility Flow Diagram

UPS	Uninterrupted Power Supply
WTG	Wind Turbine Generator

4. Functionalities of the EMCS

The EMCS has the following primary functionalities:

1. Enable Supervision and Control by CCS and Higher-Level SCADA
2. Power Control & Energy Management
3. Load Shedding
4. Manage the Electrical Distribution Equipment
5. Wind Farm Grid Connection Procedure

Each functionality is defined in the following sections.

4.1 Enable Supervision and Control by CCS SCADA HMI

We refer to the “CCS SCADA” as the CI Servers, which are supposed to implement the CCS HMI. The user interaction with the EMCS within the CCS will be made through such HMI.

NOTE: The communication interface between the Electrical Monitoring & Control System (EMCS) and the Process Control System (PCS) will be separated from the one between the EMCS and the CCS SCADA (CI Server).

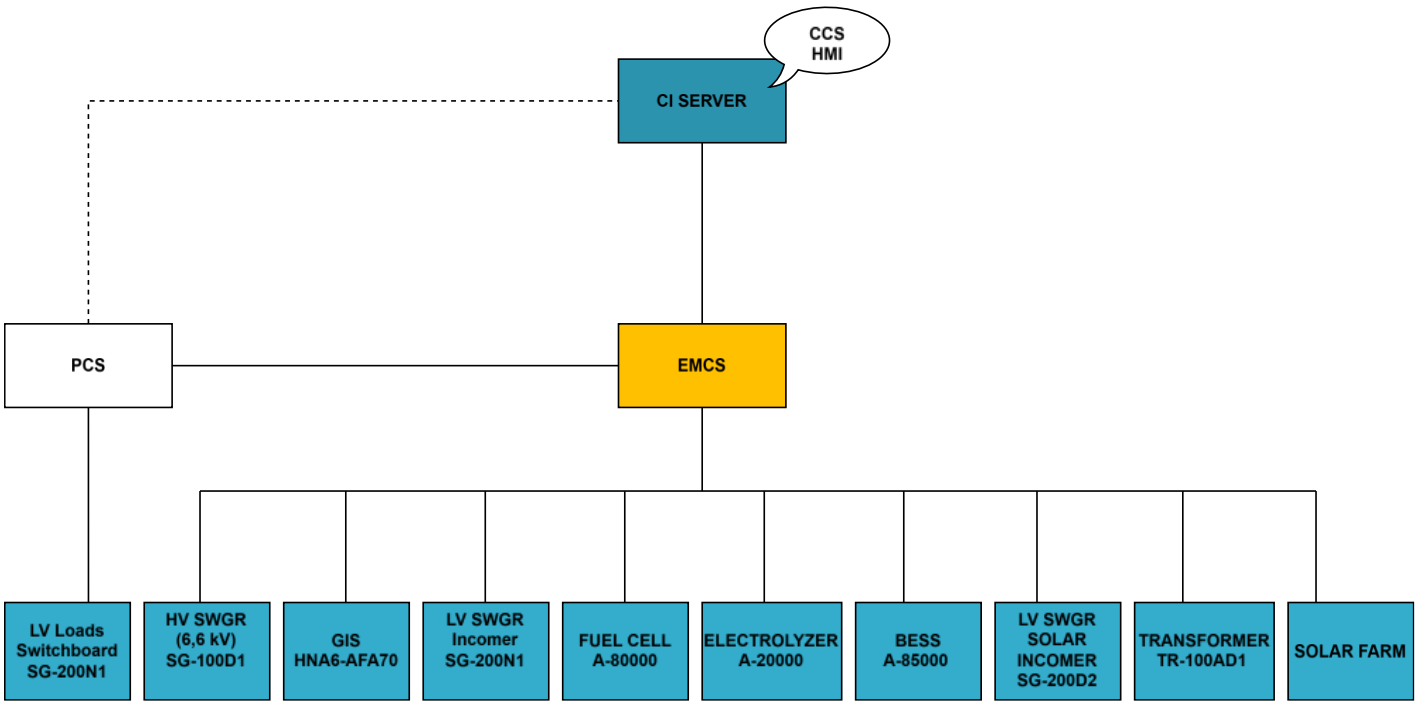

Figure 4 System Architecture Data Flow

4.1.1 Supervision

The EMCS shall gather the real-time power and status signals exposed by the peripheric elements (packages, OLTC, WF HV-SCADA…) and it shall provide these signals to the CCS SCADA, so to feed its supervision and, through the CCS SCADA, enable any higher-level supervision. Among the others, the signals exposed to the CCS SCADA shall include all the permissive signals which enable or prevent the execution of commands, so to allow the SCADA HMI to report to the operator the correct availability of the commands.

The EMCS shall provide to the CCS SCADA all the samples received from the peripheric elements, within the technical limits of the data interface selected.

The EMCS shall expose the original timestamp samples, if available in the communication protocol of the package, in its interface to the CCS SCADA.

For each signal, the EMCS shall expose the data to the CCS SCADA preserving the sequence of events of every sample reported.

In its interface to the CCS SCADA, for these signals the EMCS receives over a protocol without external timestamping, this including hardwired signals, the EMCS shall expose the reception time as the original timestamp of the data.

The EMCS shall expose to the CCS SCADA the real-time value of status and variables defining the state machine of the control policy of the EMCS. The EMCS shall expose to the CCS SCADA its real-time diagnostic signals, so to allow the CCS SCADA to detect the presence of anomalies in the EMCS.

4.1.2 Command

The EMCS shall receive real-time commands, concerning EMCS control functions, from the CCS SCADA.

The EMCS interface for real-time commands with the CCS SCADA, shall be “fire and forget”; i.e.: the reception of a single command message shall be sufficient to produce the execution of the command, without requiring, putting on hold or expecting further interaction with the CCS SCADA.

The EMCS shall not implement intentional delays of the commands received from the CCS SCADA, unless specifically required.

4.1.3 EMCS Flow Chart

In Figure 5 EMCS Flow Chart shows the transition between each mode with respect to the pre-condition.

The 1-minute transition time condition can be considered that the modes transition can take 1-minute. On the other hand, it can be configured in the software algorithm to keep the previous mode until the 1-minute transition time is completed.

These are extreme conditions, but the system knows where to be according to the Status Machine. Additionally, added the "set first execution," which is independent of the time variable. So, if the system is in EMCS automatic mode, grid-tied, and supply guarantee on, the first start/execution will be **1-minute time independent** and moves immediately to the designated mode as per the preconditions. Once the EMCS is in one mode (Export, Cold Stand-by, Hot Stand-by, Import 1A, or Import 1B), it will follow the 1-minute transition time to move from the current mode to another.

If the PCS removes the HotStandby permission, during the HotStandby MODE, the EMCS move to ColdStandby according to BLPH mode Transition.

If the PCS removes the Export permission, during the Export MODE, the EMCS move to ColdStandby according to BLPH mode Transition

If the EMCS is waiting for permission (according to BLPH mode transition) from PCS to enter in Export MODE and PCS don't give the permission within a timeout (PCS.PermissiveModeTimeout), the EMCS move to ColdStandby.

Furthermore, another possible scenario is If the system resets and switches to off-grid mode or EMCS manual mode, the timer will restart. After the reset, the system will focus on meeting the required conditions without considering the timer at first. Once the conditions are met, it will switch between modes every minute (1-minute) based on the timer.

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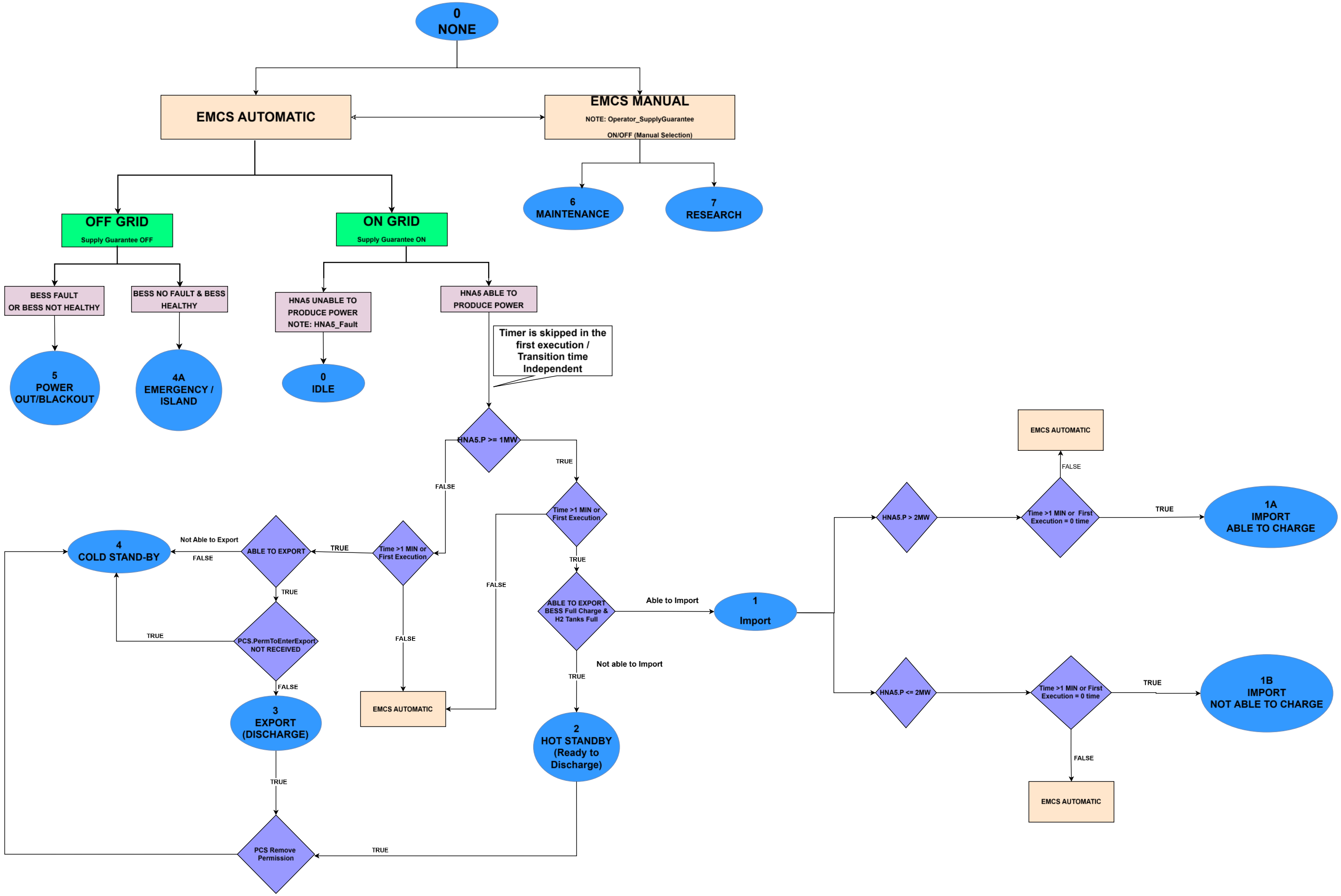


Figure 5 EMCS Flow Chart

4.1.1 EMCS Status Machine



Figure 6 EMCS Status Machine

4.2 Power Control & Energy Management

4.2.1 Energy Management

4.2.1.1 Introduction

When HNA5 is connected / operating and providing at least 1MW to the wind farm 'surplus' power will potentially be available for import to BLPH. This renewable energy will be used to run the plant whilst simultaneously charging the BESS and/or running the electrolyzer to create & store hydrogen.Conversely, when HNA5 provides less than 1MW BLPH will export solar power (if available) and/or the energy stored in the BESS or produced by Fuel Cell to ensure the wind farm continues to receive at least 1MW. NOTE: Power provided by the solar farm shall always (as per preference e.g. Solar production can be curtailed when in Emergency Mode) be used to the fullest extent possible.

The energy management design philosophy described in the project documents is founded on a BLPH logic variable, dubbed MODE, identified by the real time conditions of the BLPH and of the HNA5. The MODE is intended to univocally define the steady-state (i.e. tendential) operational mode of each subsystem of the BLPH, and in particular its power units (Solar Farm, BESS, Fuel Cell, Electrolyzer). In such a design philosophy, the MODE is function of: the ability to operate ("healthiness") of the machines (HNA5, BESS, Fuel Cell, Electrolyzer), the production of the HNA5, the status of electrical interconnection of the BLPH to the grid. The control policy was supposed to do not affect any of these conditions with its activity, with the exception of the state of the energy reserves (BESS and hydrogen), which indirectly affects the ability to operate of BESS and Fuel Cell. Such design philosophy, and particularly the provided descriptions of the MODES, introduces some constraints and deviations from the goal defined in the Functional Statement. Due to this, the latter is not supposed to be the direct basis of the functional requirement of the control.

In the following, we preserved such base structure of the design philosophy, updating it considering the additional available information, merging different statements, and finally translating it into functional requirements. In merging conflicting inputs, we have been driven primarily by the mentioned Functional Statement and secondarily by an interpretation of the aim of the constraints introduced in the definition of the MODES.

There are some main elements introduced in the present definition of the BLPH state-machine that shall be noted:

- **State-machine transitions are driven by trigger conditions**: Instead of having predefined status conditions for each mode, the state machine transitions are defined by specific trigger conditions that occur within each mode.
- **Decoupling of BLPH and subsystem state-machines**: The effect of a MODE on subsystem transitions (mainly for the packages) is clearly defined, rather than relying on a strict, one-to-one mapping between the statuses of the mode and the statuses of the subsystems' state-machines.

4.2.1.2 Assumptions & Definitions

The BLPH is always in a single MODE at a time.

The BLPH MODE state-machine is fully determined by the real-time conditions reported to the EMCS, except for stabilization control features as hysteresis and inertia implemented in the EMCS.

The BLPH MODE state-machine has the following pseudo steady-state statuses, dubbed MODES:

- MODE 0 = IDLE (Power Import Only)
- MODE 1A = IMPORT MODE (Able to Charge)
- MODE 1B = IMPORT MODE (Not Able to Charge)
- MODE 2 = HOT STANDBY (Ready to Discharge)
- MODE 3 = EXPORT MODE (Discharge)
- MODE 4 = COLD STANDBY (Power Import: Not able to Export)
- MODE 4A = EMERGENCY MODE (Island)
- MODE 5 = POWER OUT (Black-Out)
- MODE 6 = MAINTENANCE
- MODE 7 = RESEARCH
- MODE 8 = NONE MODE

The additional NONE MODE is intended for specific conditions, such as during EMCS initialization except after the BLACK START scenario because after black start scenario the initialization will start from RESEARCH MODE.

The EMCS should try to use the solar farm to the maximum extent possible.

The charging of the BESS while the Fuel Cell is producing shall be considered energy inefficient in steady-state condition.

There is no requirement to prevent in hard-lock (as with an interlock) the charging of the BESS while the Fuel Cell is producing; it is allowed to happen in transients (and it must be allowed in off-grid scenario, for system balance).

The EMCS shall be designed such that rapid cycling / quick switching of the BESS, Fuel Cell and Electrolyzer is prevented.

The fuel cell internal production balancing logic implemented by the fuel cell controller foresees committing fuel cell modules in sequence, according to the power set-point. Due to this, the raise of the set-point over specific levels produces the start of the warmup of part of the still unused modules; conversely, the decrease of the fuel cell power set-point may produce the stop of some modules in production.

The HNA5 Active Power value will be delivered to the EMCS through the interface link with the Wind Farm (HV-SCADA)

The Active Power of BLPH is calculated as the sum of BESS, Fuel Cell & HNA5 Power in EXPORT MODE.

The Supply Guarantee is defined on the based of three key signals:

- **Operator_SupplyGuarantee**: A selector configured by the operator via the SCADA HMI, which can take one of three values: AUTOMATIC, ACTIVE, or INACTIVE.
- **HNA5_SupplyGuarantee**: A signal provided by the HV SCADA, indicating whether the BLPH platform is connected to grid (TRUE) or not (FALSE).
- **HV_SCADA_Connected**: A signal confirming whether the EMCS is connected to the HV SCADA communication server.

The Supply Guarantee formula is:

SupplyGurantee (OperatorSupplyGuarantee = AUTOMATIC AND HNA5_SupplyGurantee AND HV_SCADA_Connected) OR

Operator_SupplyGuarantee = ACTIVE

“Power Surplus” definition: It refers to the HNA5 Wind Turbine producing Active Power > 1MW.

The EMCS will drive the electrolyzer as a load (ON/OFF), no partialization will be implemented.

The energy management policy implemented by the EMCS shall foresee to stop the electrolyzer only if the hydrogen storages are full.

For the Energy Management goals, in case HNA5-AFA70 power will go under zero, it shall be considered as zero production.

The EMCS has no control over the HNA5 or the wind farm, this including the related electrical equipment.

The BLPH activity has no direct or indirect effect on the ability to operate or the production of the HNA5 or the wind farm, this includes the status of the related electrical equipment. This includes the absence of any control logic of the HNA5 or wind farm that takes in input any status or level from the BLPH, so to avoid the creation of any feedback loop. The EMCS is not in charge of implementing any electrical protection function. Among the others, this holds true with specific reference to overcurrent, underfrequency, undervoltage, synchronization check functions and safety interlocks.

EMCS will open the CB of a package on SG-100D1 if the package does not apply control requests.

For example, if the EMCS will send the stop command to the Fuel Cell, and it does not stop within a timeout (parametric), the EMCS will open the related CB on the SG-100D1.

POWER GUARANTEE is defined on the basis of the signals:

- SUPPLY GUARANTEE;
- HNA5_FAULT not active

In this way BLPH will be able to compensate the production of HNA5 and ensure, to the grid, at least 1 MW of active energy exported; regardless of the availability of wind/solar energy.

The “BESS charge level” and the related BESS-MINIMUM-OPERATING-RESERVE (and the others parameters about “BESS charge levels”) are based on absolute values of energy, expressed in MWh: As per confirmation from the BESS vendor, the BESS exposes over the data interface the absolute value of energy available to discharge, and this value is representative of the BESS ability to produce power and hence to sustain the isolated grid.

4.2.1.3 Description of Requirements Priority & Evaluation Rule

Conditions						MODE	Specific exit contition
EMCS in automatic identification of the MODE	Grid-tied AND Supply Gurantee ACTIVE	HNA5 NO Fault	HNA5.P < 1 MW for a min time (1 minute)	Able to export		**EXPORT** (Discharge)	PCS.Remove Export Permission
				Not able to export		**COLD STANDBY** (Not Able to Discharge)	
			HNA5.P >= 1 MW for a min time (1 minute)	Not able to import	Able to export (BESS full charge & H2 Tanks full)	**HOT STANDBY** (Ready to Discharge)	When PCS.Remove Hot Standby Permission
				Able to import	HNA5.P > 2 MW for a min time (1 minute)	**IMPORT 1A** (Able to Charge)	
					HNA5.P <= 2 MW for a min time (1 minute)	**IMPORT 1B** (Not Able to Charge)	
		HNA5 Fault				**IDLE** (Power Import Only)	
	Off-grid (i.e. not grid-tied) OR Supply Guarantee INACTIVE	BESS → NO FAULT				**EMERGENCY** (ISLAND)	
		BESS → FAULT (ie. BESS problems, BESS SoC in low range, etc.)				**POWER OUT** (Black Out)	
Command to enter in RESEARCH MODE						**RESEARCH**	Command to return in automatic identificatio the mode
Command to enter in MAINTENANCE MODE						**MAINTENANCE**	Command to return in automatic identificatio the mode
Default / fallback						**NONE**	

Figure 7 BLPH Mode Transition Table

Figure 7 BLPH Mode Transition Table demonstrates the conditions under which the EMCS transitions between different modes take place. It categorizes these conditions based on the system being grid-tied or off-grid (i.e.: not grid-tied), with further distinctions depending on whether the HNA5 Fault or HNA5 No Fault, and specific power thresholds (HNA5.P < 1 MW and HNA5.P >= 1 MW) that determine the system's ability to export or import power. For instance, when grid-tied with the Supply Guarantee on and HNA5.P < 1 MW for a minimum time (1-minute), the system enters either in EXPORT or COLD STANDBY mode based on its export capability. Conversely, with HNA5.P >= 1 MW for a minimum time (1 minute), the system can enter HOT STANDBY (Ready to Discharge) if it can't import (able to export, when BESS is fully charged & H2 storage are full). On the other hand in the similar condition if the system is being grid-tied, Supply Guarantee ON and HNA5.P >= 1 MW but able to Import in two conditions, first condition is if HNA5.P > 2 MW for (1-minute) the system will enter in IMPORT MODE 1A (Able to Charge), second condition is if HNA5.P <= 2 MW for (1-minute) the system will enter in IMPORT MODE 1B (Not able to Charge). If the HNA5 is in Fault, the system remains in IDLE mode. Off-grid scenarios are distinguished by the status of BESS (NO FAULT) & MV 6.6kV bars, with energized bars triggering EMERGENCY mode and non-energized bars triggering POWER OUT mode BESS (FAULT). Special modes like RESEARCH and MAINTENANCE can be manually entered (protected by password), with specific commands to revert to automatic mode identification.

To ensure optimal operation and accurate mode transitions, the system prioritizes safety, placing the highest importance on modes like EMERGENCY and POWER OUT. Operational efficiency follows, prioritizing modes such as EXPORT and IMPORT. Reliability ensures the system transitions seamlessly into HOT STANDBY and COLD STANDBY when needed, while flexibility allows entry into RESEARCH and MAINTENANCE modes without disrupting performance. The system continuously monitors conditions, verifying them against mode criteria and applying transition logic to shift to the appropriate mode. It resolves conflicts using predefined priority rules and checks exit conditions for special modes, reverting to automatic identification when necessary.

If the EMCS is in Export mode and the PCS permission to stay in Export mode is removed, the BLPH will transition to Cold standby.

If the EMCS is in Hot standby mode and the PCS permission to stay in Hot standby mode is removed, or if the BESS is at fault, the BLPH will transition to Cold standby.

If the EMCS is waiting the permission (according to BLPH mode transition) from PCS to enter in Export MODE and PCS don't give the permission within a timeout (PCS.PermissiveModeTimeout), the EMCS move to ColdStandby.

NOTE: The EMCS shall always choose an operating mode. If the conditions to enter or remain in an operating mode fail or are not met, the EMCS will move the BLPH into another operational mode. While waiting for signals from other systems, the BLPH will remain in the previous mode and the HMI will blink.

In healthy status the BESS is able to operate. For the definition of HEALTHY status see paragraph 4.2.1.6.3.

Definition of HNA5_Fault: The HNA5 Fault is determined based on the Wind Turbine Status codes, which reflect the turbine's current state. The status codes are as follows:

Code	Turbine State
0	Operating - On Grid
1	Operating - Waiting for converter cut-in
2	Operating - Waiting for release
3	Operating - Waiting for wind/acceleration
4	Stopped - Pitch exercising/lubrication
5	Stopped - Untwisting cables
6	Stopped - Wind speed too high
7	Stopped - Grid error
8	Stopped - Error with auto-reset (only applicable for WTC3)
9	Stopped - Manual alarm reset required
10	Safety Stop (only applicable for WTC3)
11	Remote Stop

Fault Condition

The wind turbine is considered in a fault state if the status code matches any of the following values:

HNA5_Fault:

- Status = 7
- Status = 8
- Status = 9
- Status = 10
- Status = 11

OR if the HNA5_QA1 CB is OPEN

4.2.1.4 Layered Structure Among State-machine

The state-machine composing the system: Design includes one State Machine for the BLPH and one State Machine for each package, which is as follows:

- BLPH
- Electrolyzer
- BESS
- Fuel Cell
- Solar Farm

In Figure 8 BLPH State Machine Transition, state-machine of each package interacts with the state-machine of BLPH MODE, as the status of one can enable or trigger the transitions in another. The logic works in layer, each layer can perform the actions allowed by the lower layer.

The power control policy is implemented through the BLPH MODE state-machine, which translates these policies into specific operational modes. Subsystem state-machines then execute actions allowed by the BLPH MODE, ensuring that interlocks and permissions managed by the PCS are respected.

4.2.1.5 BLPH State-Machine

The BLPH MODE state-machine governs the overall operational mode of the system. It interacts with the state-machines of various subsystems to coordinate transitions and ensure cohesive operation. This interaction ensures that changes in one subsystem can trigger necessary transitions in others, maintaining an integrated control approach.

The hierarchy of logics is as follows:

- BLPH Power Control Policy
- BLPH MODE state-machine
- Sub-system state-machine
- Interlocks / Permissions (e.g. PCS coordination)
- Physical capability & communication limits.

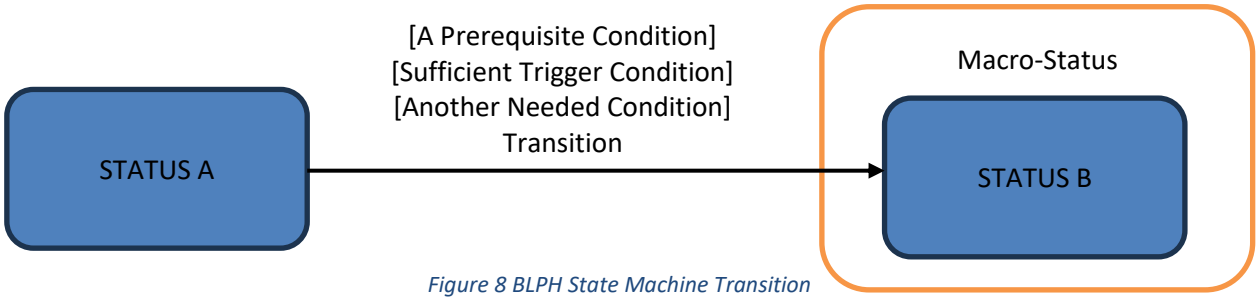


Figure 8 BLPH State Machine Transition

4.2.1.6 Electrolyzer State Machine

In Figure 9 Electrolyzer State Machine manages the electrolyzer's operation through states such as Running, Stoppable, Started, and stop. It transitions between these states based on conditions like running duration and PCS permission.(For Example: the system will transition to Stop state if PCS permission is revoked (i.e., H2 storages are full).

The BLPH State Machine will correspond with Electrolyzer State Machine, to do the following:

- EMCS requires permissive signal from PCS to start the Electrolyzer. (i.e. PCS.PermToStartEL).
- EMCS shall not partialize the Electrolyzer, requiring it either to not produce or to produce at full power (EL_MAX_SET_POINT).
- If the PCS.PermToStartEL is not fulfilled or if the signal shall be remove during the working, the Electrolyzer will be stopped by EMCS.
- If the PCS.PermToStartEL is not reached, EMCS will not give the start command to the Electrolyzer.

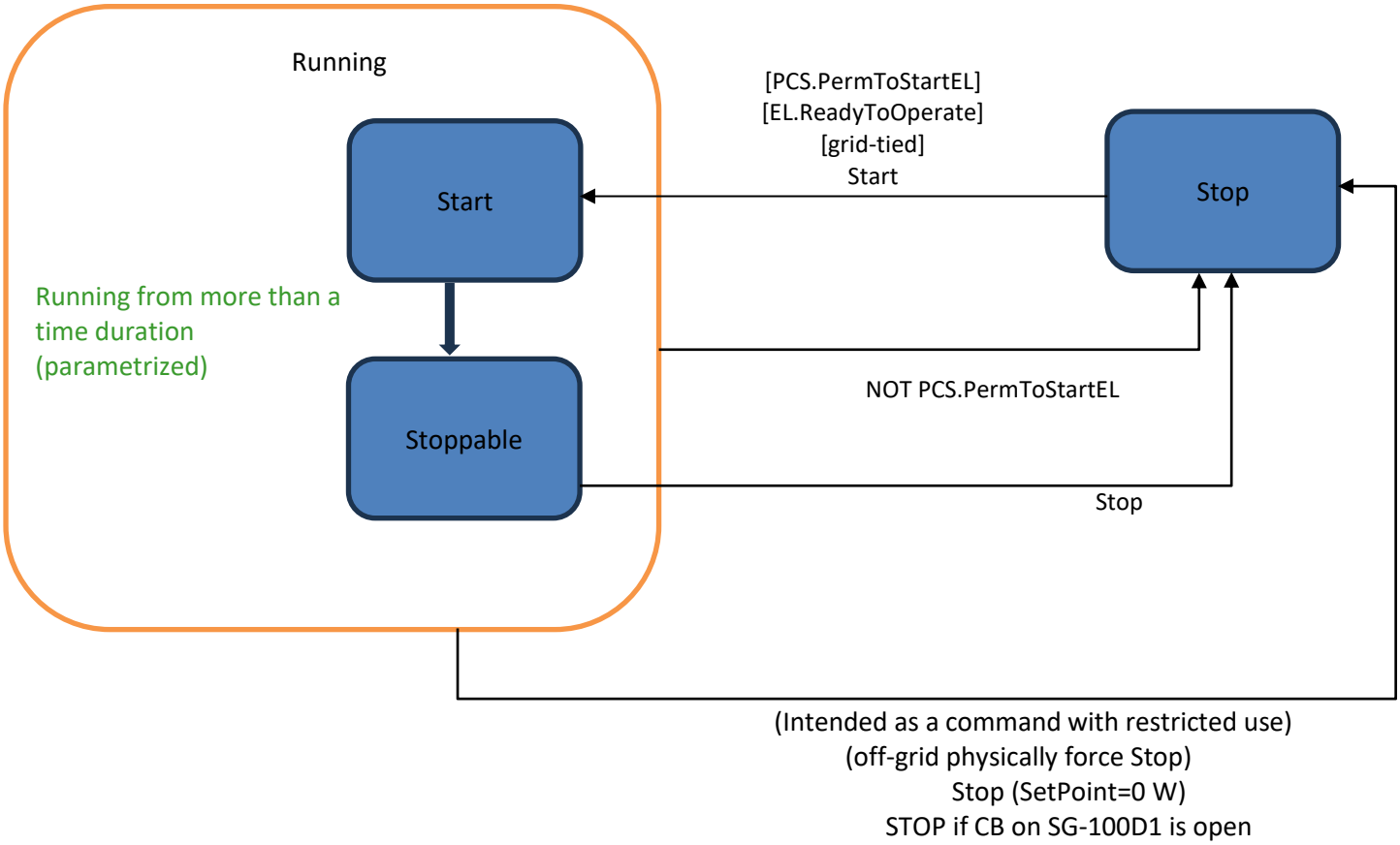


Figure 9 Electrolyzer State Machine

4.2.1.7 Fuel Cell State Machine

EMCS manages the Fuel Cell according to Figure 11 Fuel Cell Container State Machine and transitions between these states are based on conditions like running duration and PCS permission (for example: the system will transition to Stop state if PCS permission is revoked (i.e., H2 storages are empty)).

The BLPH State Machine will correspond with Figure 10 Fuel Cell State Machine , to do the following:

- EMCS requires permissive signal from PCS to start the Fuel Cell. (i.e., PCS.PermToStartFC).
- EMCS send the set point according to the Fuel Cell Setpoint.
- If the PCS.PermToStartFC is not fulfilled the Fuel Cell will be stopped by EMCS.
- If the PCS.PermToStartFC is not reached, EMCS will not give the Start command to the Fuel Cell.

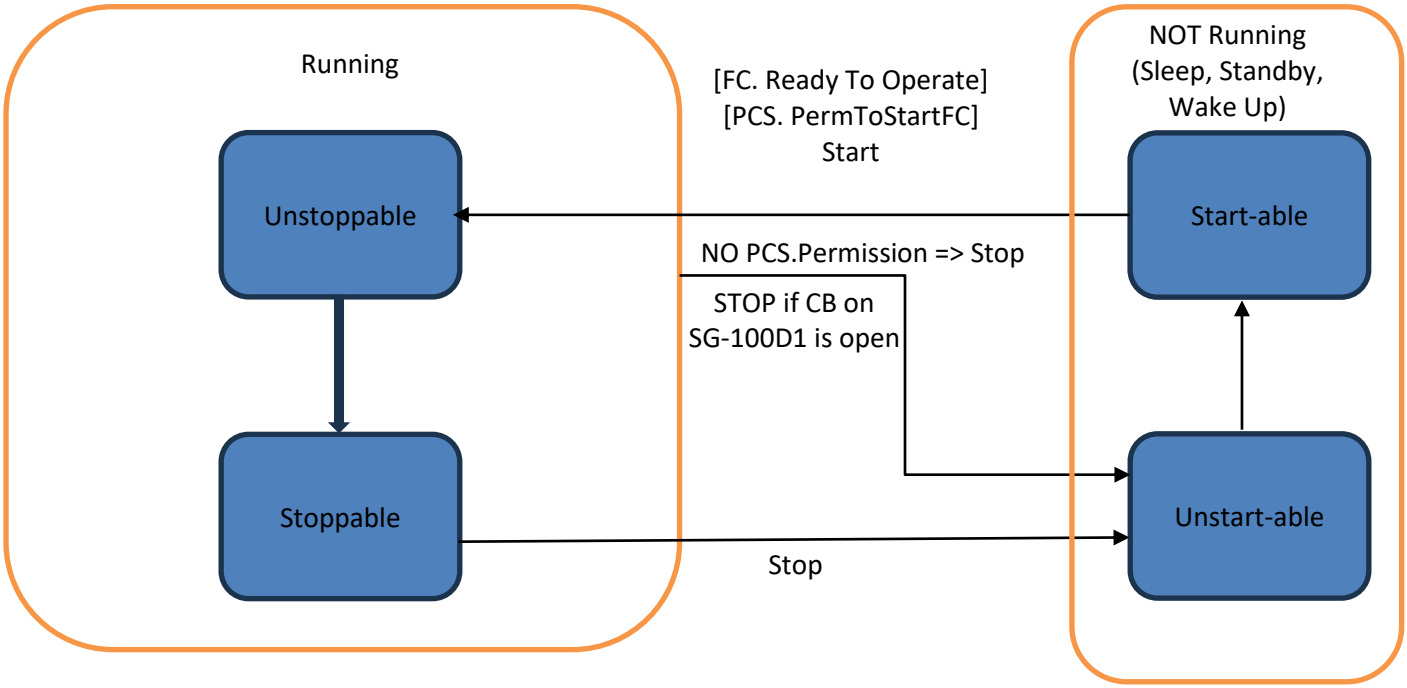


Figure 10 Fuel Cell State Machine

The commands to the Fuel Cell must be issued according to Figure 11 Fuel Cell Container State Machine, the process must follow the steps without skipping any, as detailed below:

1. FC is in SLEEP
   1. EMCS command WAKEUP
   2. FC moves to STANDBY
   3. After receiving the STANDBY feedback from FC → EMCS command START

2. FC moves to RUNNING
   4. FC is in RUNNING
   5. EMCS command STOP
   6. FC moves to STANDBY
   7. After receiving the STANDBY feedback from FC → EMCS command SLEEP (if necessary)

3. The EMCS set-point will be in kilowatts (kW) not in percentage (%), with a minimum set-point of 50 kW. It is possible to send a new set-point value every second, but repetitive toggling (e.g., set-point value → 0 → set-point value → 0 → …) is not allowed.

4. To keep the Fuel Cell in the RUNNING state, a minimum set-point of 50 kW must be provided. The Fuel Cell will then continue to produce 50 kW of energy, otherwise the STOP command is issued, and the Fuel Cell will transition to STANDBY after 5 minutes. In STANDBY state, it can remain indefinitely as needed.

5. After the STOP command from EMCS, the Fuel Cell transitions to the RAMPDOWN state, during this phase, the Fuel Cell continues to produce energy (even if the set-point is 0). In this state, energy production decreases by 100 kW every second. The starting point depends on the previous set-point set by the EMCS during RUNNING state.

6. If the Fuel Cell (CB) on the SG-100D1 panel (6.6kV) opens, there are no issues from the CPI's perspective. The Fuel Cell package will self-adapts.

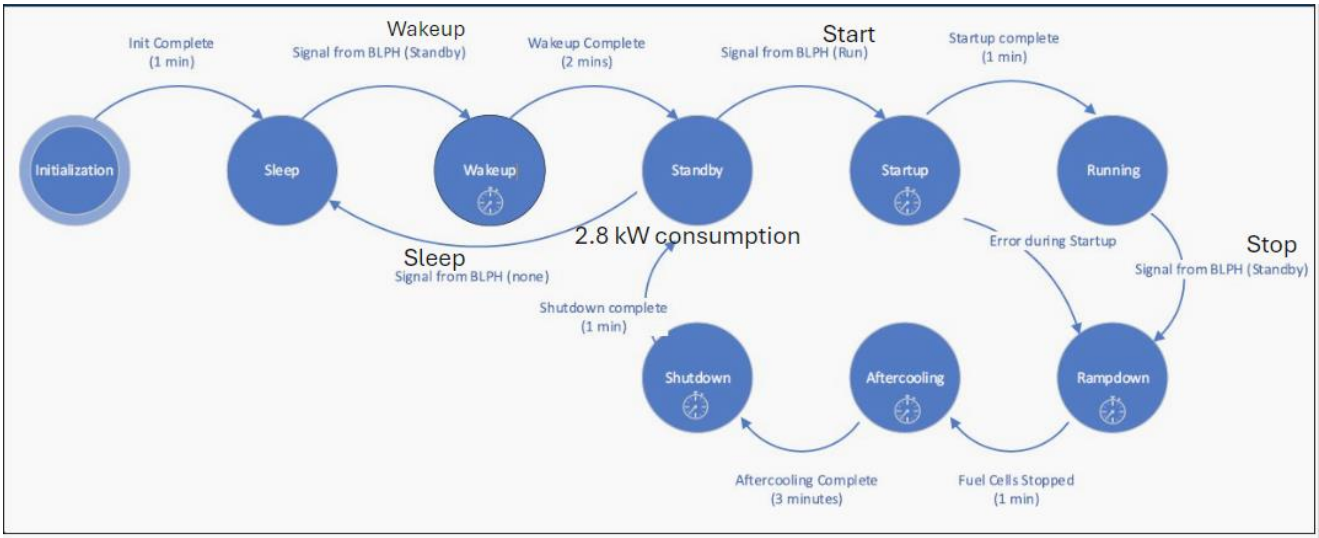


Figure 11 Fuel Cell Container State Machine

4.2.1.8 BESS State Machine

In Figure 12 BESS State Machine Figure 12 BESS State Machinemanages the charging and discharging processes of the Battery Energy Storage System. States include Charging, Discharging, and Idle, influenced by the Available Energy and PCS permissions via EMCS. The system will charge if the Available Energy is below the maximum threshold and PCS permission is granted via EMCS, and it will discharge if the Available Energy is above the minimum threshold and PCS permission is granted via EMCS. The system transitions to Idle if PCS permission is revoked via EMCS.

To start BESS, via EMCS, as per the IO list “23A2007_240628_PROFINET_Register BESS_V1_0_0_3 “ (Profile_converter_control 1.13) which: IF set to 1 = BESS start, IF set to 0 = BESS Stop.

Available Energy for charging, Profile_converter_status_3, charge_energy, defines the remaining capacity that can be charged into the BESS which (i.e., 200(Kwh), then 200(Kwh) can be stored in the BESS).

Available Energy for Discharging, Profile_converter_status_3, discharge_energy, defines the available energy for discharge from the BESS (i.e., 200(Kwh), then 200(Kwh) can be discharged from the BESS)

The Sum of Charge and Discharge Available Energy is equal to the maximum BESS capacity

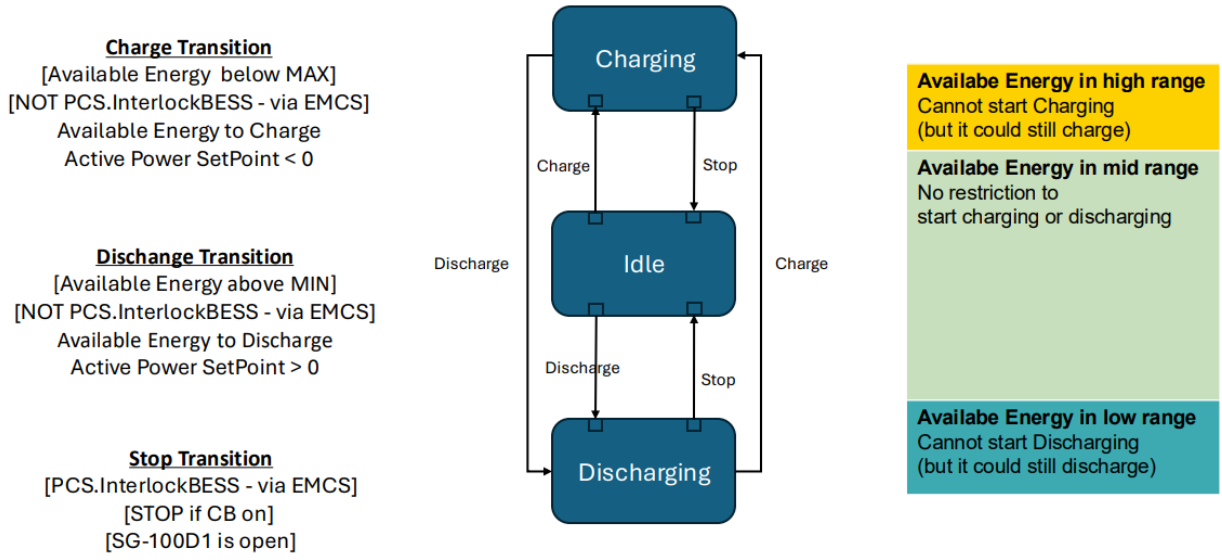


Figure 12 BESS State Machine

4.2.1.9 Solar Farm State Machine

In Figure 13 Solar Farm State Machine Figure 13 Solar Farm State Machineillustrates transitions between "Started" and "Stopped" states within the broader context of "Operating." The "Started" state indicates that the system is actively managing or generating energy, whereas the "Stopped" state signifies that the system is not operating and has been shut down. Conversely, the transition from "Started" to "Stopped," labeled as "Shutdown," can occur due to critical conditions such as emergency mode activation or the system not being grid-tied, ensuring the system is safely deactivated when necessary. Within the "Started" state, there is a loop indicating the "Curtail" action (EMERGENCY MODE only), which allows the system to reduce or adjust its output without shutting down completely, in response to conditions like excess energy production. This ability to curtail helps maintain efficient energy production while staying operational.

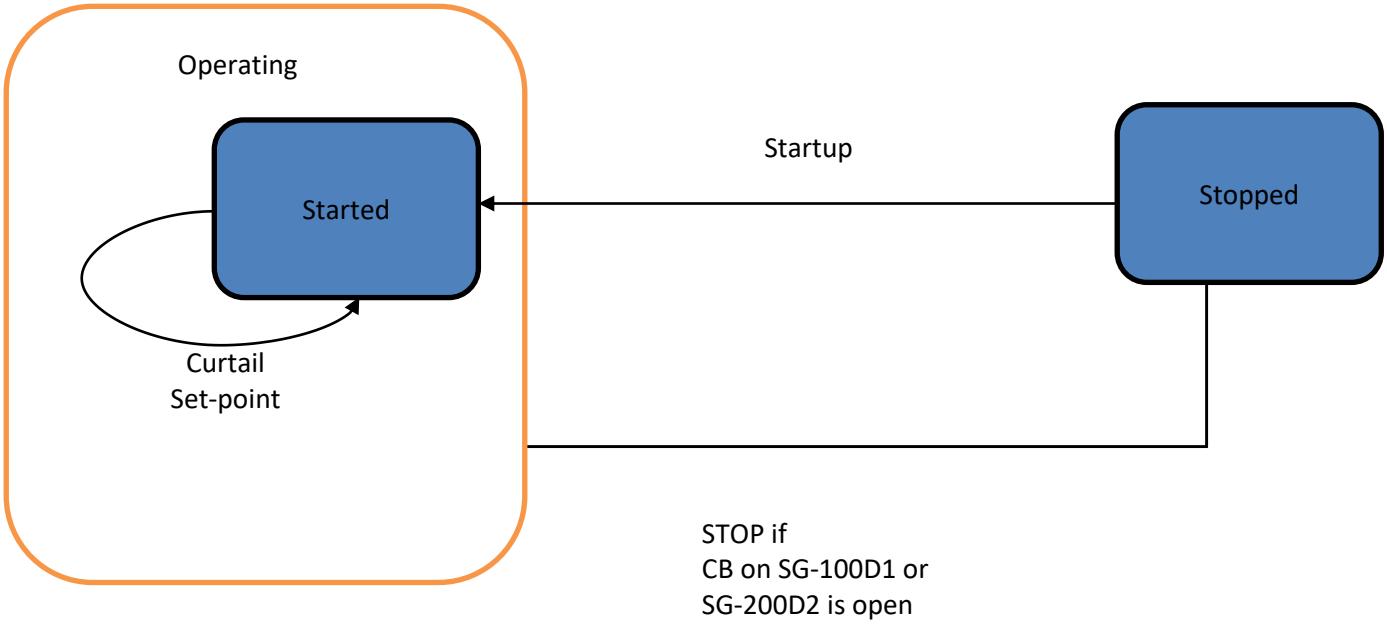


Figure 13 Solar Farm State Machine

4.2.1.10 General requirements on the Energy Management Policy

The EMCS shall drive the production and consumption of the power units in the BLPH and the Solar Farm according to a pre-defined, deterministic state-machine of the BLPH; such state-machine being defined in the present functional requirement specifications, specifically about the MODE.

The EMCS shall identify the real-time value of the BLPH MODE, reporting it over the data interface to the CCS SCADA.

The EMCS shall report the supply Guarantee request status over the data interface to the CCS SCADA.

The EMCS shall expose a command to the CCS SCADA under password protection that allows the operator to set the Operator_SupplyGuarantee to INACTIVE only in manual mode (i.e. Maintenance or Research)

The EMCS shall expose to the CCS SCADA, under password protection, the following parameters:

- WINDFARM_SURPLUS_MIN_POWER (set to +1MW)
- WINDFARM_SURPLUS_MIN_POWER_ABLE_TO_CHARGE (+2MW by HNA5)
- WINDFARM_SURPLUS_MIN_TIME_ENTRANCE_INERTIA (60sec by HNA5)

The EMCS shall expose a command to the CCS SCADA that forces the MODE into any of the listed values. NOTE: This means that the EMCS may act according to the control policy defined by a MODE, independently from the actual conditions of the system under password protection, the wind farm and the environment.

As outlined in the paragraph 4.2 Power Control & Energy Management , these parameters are used to determine the BLPH power in each mode.

The WINDFARM_SURPLUS_MIN_POWER_ABLE_TO_CHARGE parameter must be greater or equal to WINDFARM_SURPLUS_MIN_POWER , the modification of the parameters must be validated at the OPC-UA EMCS interface level. Any change that violate the above rule shall be denied and the current value of the parameter is kept.

4.2.1.11 General requirements on the Power Distribution Management

By default (i.e. unless required to open or keep open), the EMCS shall ask to close and keep closed all the MV (6.6kV) outgoing feeders of the BLPH distribution under the busbar SG-100D1, this including the Solar Farm. This requirement explicitly does not apply to the incoming MV switchgear and upstream equipment.

By default (i.e. unless required to open or keep open), the EMCS interacts with PCS to close and keep closed all the contactors of the BLPH LV loads (switchgear SG-200N1). Solar Farm interacts with EMCS interface to drive the switchgear SG-200D2 (managed by the Solar Farm via EMCS).

If an operator should manually open a circuit breaker locally (BLPH), the EMCS system must not close it automatically, even if it is in automatic logic. Instead, it should send an alarm signal to the HMI and HV-SCADA indicating the authorized opening of a circuit breaker. This is because the command to open the circuit breaker also functions as a STOP protection.

EMCS shall implement out-of-command timeout of the stop packages commands, EMCS shall implement the related open command on each 6.6kV CB on SG-100D1 (even if this is due to the package being in local).

4.2.1.12 Grid forming service

The EMCS shall provide the BESS a HW permissive signal that enables the grid-forming mode. By default, the signal shall be True. If the BESS charge level is below the BESS-MINIMUM-OPERATING-RESERVE threshold, or BESS is not HEALTHY. The EMCS shall set to False the permissive signal that enables the grid-forming mode to the BESS.

BESS will operate in Grid forming only when HW signals (1 from EMCS and 1 from SG-100D1 [parallel of open states of CB]) are active.

BESS will operate in Grid forming, following the loads without any necessity to receive the set-point from the EMCS, the maximum load allowed in Grid forming is 1MVA.

4.2.1.13 General policies on the machines transitions

4.2.1.6.2 ELECTROLYZER

The EMCS shall not partialize the Electrolyzer, requiring it either to not produce or to produce at full power (EL_MAX_SET_POINT).

All the package control signals (Status & Commands) will be exchanged with BLPH State-machine through PROFINET Communication.

The EMCS shall not stop the Electrolyzer on the sole basis of the production needs required by the energy management policy (given by the MODES).

The EMCS shall stop the hydrogen production by the Electrolyzer when the storages are full (i.e. 100% value).

The EMCS request to the PCS the permissive to start the Electrolyzer and, after receiving "PCS.PermToStartEL" (true), it commands the start.

When "PCS.PermToStartEL" (permissive signal allowing the Electrolyzer to run) is set to false, the EMCS sends a command to stop the Electrolyzer. The PCS send also the "Process Fully Charged Status" to EMCS informing that storages are full.

The PCS shall allow to start the Electrolyzer via EMCS only if the stored hydrogen level is below a threshold. When the Electrolyzer starting to produce Hydrogen, as per the EMCS requirement, PCS starts the "Process Charging Mode". The "Process Charging mode" is a normal operating mode when the hydrogen storages are not full after a process discharging mode and the storage that previously contained hydrogen shall be refilled.

"WATCHDOG" EMCS shall write a value in variable periodically, sending different values every second.

EMCS shall set the value of "Setpoint_Choice" to zero and will manage the Electrolyzer only using the PowerSetpoint (FlowSetPoint is not used).

"Status_Electrolyzer", EMCS assumes that the Electrolyzer will ignore all commands when the status is one of the "LOCAL MODE" group. On the other side, the EMCS assumes that the Electrolyzer can receive set points command when the status is one of the "DISTANT MODE/REMOTE MODE" group.

The EMCS will consider the active power of Electrolyzer measured at SG-100D1.

The EMCS shall allow the start of the Electrolyzer only if the Electrolyzer is ready to operate, status_electrolyzer (14: MODE Stand-by)

4.2.1.6.3 BESS

The EMCS shall allow the request of BESS discharge (i.e. start and keep going) only if the BESS charge level is above the BESS-MINIMUM-OPERATING-RESERVE. The EMCS shall allow to set such parameter over the data interface with the CCS SCADA.

The EMCS shall allow the request to start BESS discharge only if the BESS charge level is above the BESS_HIGH_OPERATING_RESERVE. The EMCS shall allow to set such parameter over the data interface with the CCS SCADA, and it shall be not lower than the BESS-MINIMUM-OPERATING-RESERVE value. Signal "Available Energy for Discharging" (profile_converter_status_3.Discharge_Energy in IO List) indicates the available energy for discharge.

The EMCS shall allow the request of BESS charge (i.e. start and keep going) only if the BESS charge level is below the BESS-MAXIMUM-OPERATING-RESERVE. The EMCS shall allow to set such parameter over the data interface with the CCS SCADA. Signal "Available Energy for Charging" (profile_converter_status_3. Charge_Energy in IO List) indicates the remaining capacity that can be charged into the BESS.

The EMCS shall allow the request to start BESS charge only if the BESS charge level is below the BESS_LOW_OPERATING_RESERVE. The EMCS shall allow to set such parameter over the data interface with the CCS SCADA, and it shall be not higher than the BESS-MAXIMUM-OPERATING-RESERVE value.

The figure below shows the BESS operating parameters:

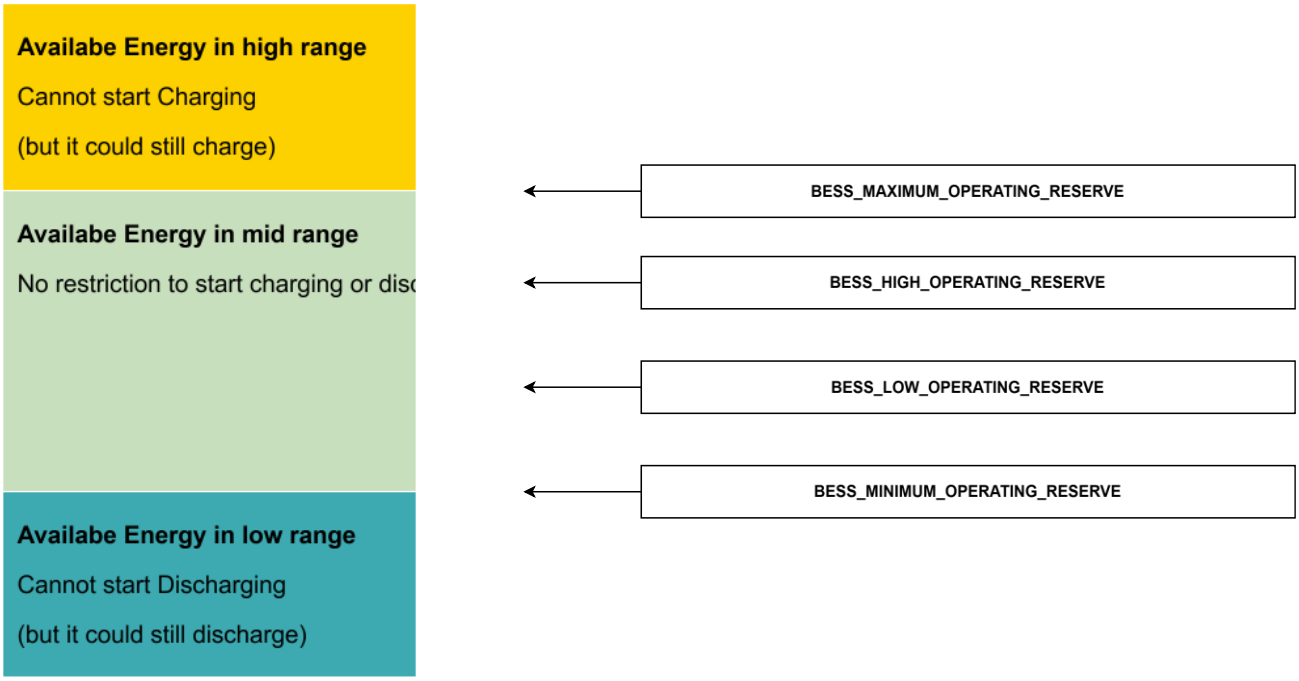


Figure 14 – BESS Operating Parameters

The EMCS shall allow to START & STOP the BESS with control variables (profile_converter_control 1.13):

IF set to 1 = BESS START

IF set to 0 = BESS STOP

The following values must be kept every time the profile_converter_control 1.13 signals are sent to BESS.

In HEALTHY status the BESS can operate in grid-forming mode, ensuring that the BLPH can operate as defined in the EMERGENCY mode (disconnected from the wind farm) providing energy for equipment and most important loads.

If the BESS is not HEALTHY, the BLPH disconnection from the grid will lead the EMCS to operate in POWER OUT mode, causing the opening of the relevant switchgears to prevent damage of the equipment.

On the basis of the BESS I/O list, a healthy status can determined by the satisfaction of the following conditions:

Healthy = Profile_converter_status_3.available == true **AND**
Profile_converter_status_3.BESS_CPI_STATUS = true **AND**
Profile_converter_status_3.SOC > [CONFIGURABLE_SOC_THRESHOLD] **AND**
Profile_converter_status_1.Statusword.BIT_1 == 0 **AND** "Error"
(Profile_converter_status_1.Statusword.BIT_3 == 1 **OR** "Standby State"
Profile_converter_status_1.Statusword.BIT_5 == 1 **OR** "Ready State"
Profile_converter_status_1.Statusword.BIT_6 == 1 **OR**) "Active State"

Give the following StatusWord definition

Bit	**Name**
0	Warning
1	Error
2	Preheat State
3	Standby State
4	Precharge State
5	Ready State
6	Active State "In Operation"
7	Safety relais triggered

When EMCS receives the "BESS in fault" signal from the PCS, the EMCS stops immediately the BESS (regardless of the BLPH operating MODE).

4.2.1.6.4 FUEL CELL

The EMCS shall allow the start of the fuel cell only if it receives the PCS.PermToStartFC permissive signal (i.e., the stored hydrogen level is above a FUEL_CELL_MIN_H2_THRESHOLD: default 0 kg). All the package control signals (Status & Commands) will be exchanged with BLPH State-machine through MODBUS TCP Communication.

The EMCS shall change the fuel cell set-point applying a deviation-vs-time filter on the requested value (the tendential set-point), unless the update is forced. Such deviation-vs-time filter shall produce an update of the signal according to the following conditions (evaluated in this given order), compared to the value and time of the last update:

1. Do not update before a FC-SETPOINT-MIN-UPDATE-TIME (default value 10 seconds);
   - This limitation is used to limit the rate of set point sent;
2. Update after FC-SETPOINT-MAX-UPDATE-TIME (default value 60 seconds);
   - The sent point will be sent after this parametric period (60 seconds) even if the setpoint is not changed;
3. Update if the upward deviation is more than FC-SETPOINT-HIGH-DEVIATION (default value 50 kW) and update if the downward deviation is more than FC-SETPOINT-LOW-DEVIATION (default value 50kW).
   - This parametric range is used as a dead-band: if the set point changes within this range, no sent point is sent to the Fuel Cell (at least before the FC-SETPOINT-MAX-UPDATE-TIME time is elapsed)

The EMCS shall allow to set the parameters of the fuel cell set-point deviation-vs-time filter over the data interface with the CCS SCADA.

The EMCS shall set a power set-point of zero on the fuel cell for any value that would otherwise be less than the FC-MIN-NONZERO-SETPOINT parameter (defined non-negative, default value 0.05 MW), so to prevent the request of set-points lower than the threshold and different from zero. The EMCS shall allow to set such parameter over the data interface with the CCS SCADA.

4.2.1.6.5 SOLAR FARM

The EMCS shall allow the start of the solar farm only if the solar farm is ready to operate.

The EMCS assumes that the Solar Farm Controller will follow a given setpoint (available for control) when the following logic is met:

Status= 0x0001 **AND**	**//**(Operating)
Remote Control Available= 0x0001 **AND**	**//**(Available)
Solar Farm Main CB Closed status = 0x0001 **AND**	**//**(Closed)
Solar Farm Main CB Open status = 0x0000 **AND**	**//**(Not Open)
External CB Closed status = 0x0001 (Closed) **AND**	**//**(Closed)
External CB Open status = 0x0000	//(Not Open)

The signals reported in the previous logical expression are taken from the IO List of the communication interface of the package.

These conditions ensure that the Solar Farm Controller is ready and able to respond to the setpoint provided by the EMCS.

NOTE: in the case the imposed set point is not followed by the solar plant controller, the EMCS will open the related SG-100D1 6.6kV CB., because the SG-200D2 is under control of Solar Farm and is not managed by EMCS. EMCS, however, is in direct communication with SG-200D2 and acts as a proxy for the control of the SG-200D2 by the Solar Farm.

4.2.1.14 Functional requirement related to the BLPH MODE

4.2.1.7.1 MODE 0 = IDLE (POWER IMPORT ONLY)

The BLPH shall enter IDLE MODE if:

- It is grid tied
- Supply Guarantee is ACTIVE.
- HNA5_Fault = True.

The EMCS shall allow to consider an inertia on the above entrance condition to IDLE MODE. Such time duration shall be parametric, positive, with default value zero seconds.

For the HNA5_Fault definition see the paragraph 4.2.1.3.

In IDLE MODE the EMCS shall charge BESS and run the electrolyzer, according to their availability and machine transition policy, as much as the machines allows and follows logic:

- EMCS requires PCS to enter in “IDLE Mode“with “PCS.EnterMode(IDLE)”
- Fuel Cell package is not in production.

NOTE: In IDLE MODE there are no constraints on the power import of BLPH related to any target power exchange level with the wind farm.

NOTE: When the EMCS is in IDLE MODE and the Electrolyzer is running and producing H2, even if the Wind Power goes below the Power Guarantee the EMCS must stay in IDLE MODE, knowing that when the Electrolyzer is started it cannot be stopped until the H2 storages are full (PCS.ProcessFullyCharged).

4.2.1.7.1 MODE 1 = IMPORT

The BLPH shall enter in IMPORT MODE 1, under following conditions:

- It is Grid Tied.
- Supply Guarantee ACTIVE.
- The HNA5 produces more than 1 MW for one minute.
- Check the BESS is NOT fully charged or NOT PCS.ProcessFullyCharge (H2 storages not full)

If the above condition is satisfied, the EMCS requests the PCS to enter in IMPORT MODE. After receiving the permissive “PCS.PermToEnterImport”, the BLPH enter in IMPORT MODE.

The EMCS shall allow to consider an inertia on the above entrance condition to IMPORT MODE. Such time duration shall be parametric, positive, with default value zero seconds. The EMCS shall allow to set such time duration parameter over the data interface with the CCS SCADA.

The BLPH is considered “able to operate in import” if it can charge the BESS or produce H2 with the electrolyzer (at least one of the two) and neither the BESS nor the Fuel Cell are committed to continue producing power (according to their transition policy and any prevailing control logic).

The BLPH shall stay in this mode until the condition to move in MODE 1A or 1B are satisfied.

4.2.1.7.2 MODE 1A = IMPORT (CHARGING)

The BLPH shall enter in IMPORT MODE 1A (Able to Charge), under the following condition:

- HNA5.P > 2 MW for one minute (Power surplus).

EMCS shall constrain the range among negative set-points only (charge), so to prevent power flow inversion (with the aim to avoid consequent possible stress on the BESS).

In IMPORT MODE 1A, the EMCS shall charge the energy storages (charge the BESS and run the electrolyzer to produce hydrogen), using the power surplus available in real-time (HNA5.P > 2MW), so to respect the Power Guarantee (1 MW of active power to the wind farm for 1 minute, at point Q0(QA1) of HNA6-AFA70 66kV), the system will enter in IMPORT 1A (Able to Charge). In this mode, the system is able to import energy, which means it can charge the BESS or store energy in the hydrogen storages. This state indicates surplus energy production that can be utilized for charging.

NOTE: To load the energy storages, the BLPH can utilize only the power surplus, so to respect the Power Guarantee; however, this constraint is subordinated to the electrolyzer and BESS status, and any other machine transition policies. Due to this, the Power Guarantee may be not respected in power reduction conditions, as the EMCS may be not allowed to stop consumption immediately (only for the electrolyzer).

In IMPORT MODE 1A, the EMCS shall allow the start of the electrolyzer only if the power surplus stays above a minimum value (i.e. a threshold relay with inertia) as per power management policy. The default values of these parameters shall be zero (i.e. no effect of the relay).NOTE: This is to avoid untimely the start of the electrolyzer. When the Electrolyzer is started it cannot be stopped until the H2 storages are full (PCS.ProcessFullyCharged).

NOTE: If the EMCS is in IMPORT or IDLE MODE and the Electrolyzer is running and producing H2, even if the Wind Power goes below the Power Guarantee the EMCS must stay in IMPORT or IDLE MODE.

In IMPORT MODE 1A, the EMCS shall give priority to the charging of the BESS over the electrolyzer in the use of the power surplus. NOTE: This means that the EMCS shall start the electrolyzer only when there is sufficient power surplus to run it after considering the BESS power draw. This is an energy requirement, and it does not impose that the BESS will start importing power after the electrolyzer.

NOTE: Electrolyzer policies may foresee to prevent the stop.

The formula for calculating the BESS set point is defined in paragraph 4.2.3.3.

4.2.1.7.3 MODE 1B = IMPORT (NOT ABLE TO CHARGE)

The BLPH shall enter in IMPORT MODE 1B (Not Able to Charge), under following condition:

- HNA5.P <= 2 MW for one minute (Power Deficit).

In IMPORT MODE 1B, the EMCS shall not be able to charge the energy utilizing the power available in real-time (WTG.P <= 2MW), so to respect the Power Guarantee (1 MW of active power to the wind farm for 1 minute, at point Q0(QA1) of HNA6-AFA70 66kV).

The Wind Farm will sustain the platform LOADs only.

4.2.1.7.4 MODE 2 = HOT STANDBY (READY TO EXPORT)

The BLPH shall enter in HOT STAND-BY MODE under following conditions:

- It is Grid Tied
- Supply Guarantee ACTIVE.
- The HNA5 produces more than 1 MW for one minute.
- Check the BESS is full charge AND PCS.ProcessFullyCharge (H2 storages full)

EMCS requires PCS to enter in Hot Standby by “PCS.EnterMode(HOT STAND-BY)”. Once the permissive signal PCS.PermToEnterStartHOTStandby is received, the EMCS moves to the HOT STAND-BY mode.

The EMCS shall allow to consider an inertia on the above entrance condition to HOT STAND-BY MODE. Such time duration shall be parametric, positive, with default value zero seconds. The EMCS shall allow to set such time duration parameter over the data interface with the CCS SCADA.

In HOT STAND-BY, the EMCS shall keep the Fuel Cell in Hot Stand-by (e.g. in the following mode neither Electrolyzer nor the Fuel Cell is required to run).

The Electrolyzer is stopped.

4.2.1.7.5 MODE 3 = EXPORT MODE (DISCHARGING)

The BLPH shall enter in EXPORT MODE under following conditions

- If it is grid tied.
- Supply Guarantee is ACTIVE.
- The HNA5 produces less than 1 MW.
- BESS is Healthy

EMCS requires PCS to enter EXPORT MODE by “PCS.EnterMode(EXPORT)”. Once the permissive signal PCS. PermToStartEXPORT arrives, the EMCS moves to the EXPORT MODE.

The EMCS shall allow to consider an inertia on the above entrance condition to EXPORT MODE. Such time duration shall be parametric, positive, with default value zero seconds. The EMCS shall allow to set such time duration parameter over the data interface with the CCS SCADA.

The BLPH is considered “able to operate in export” if it can produce power from BESS. Electrolyzer will be stopped.
EMCS requires PCS the permission to start the Fuel Cell. Once the permissive signal arrives the EMCS starts the Fuel Cell. If the permission doesn’t arrive, the EMCS stay in EXPORT MODE and continues using the BESS energy until the minimum energy threshold is reached.

EMCS shall constrain the range among positive set-points only (discharge), so to prevent power flow inversion (with the aim to avoid consequent possible stress on the BESS) which is only valid for BESS.

In EXPORT MODE, the EMCS shall not start the Electrolyzer. BLPH exports power from the Solar Farm, BESS and/or fuel Cell to support HNA5, because BLPH will use available power from Solar(day), BESS and/or Fuel Cell to export NOT more than what’s necessary to guarantee the 1 MW energy in wind farm according to the production of HNA5 (to maximize the period of assistance that will be provided) as stated in Electrical System Description & Design Philosophy.

In EXPORT MODE the EMCS shall use the BESS, Fuel Cell and HNA5 Power (if permission is received), according to their availability and machine transition policy, to generate enough power to meet the Power Guarantee of 1 MW, or at least to reduce as much as possible the related power shortfall.

$$\text{Target Power Export} = \text{BESS} + \text{FUEL CELL} + \text{HNA5 Power} \geq 1\ \text{MW}$$

In EXPORT MODE, the EMCS shall give priority to the use of the fuel cell over the BESS in the generation of power to meet the Power Guarantee. This is an energy requirement, and it does not impose that the BESS will start producing power after the fuel cell.

4.2.1.7.6 MODE 4 = COLD STANDBY (NOT ABLE TO EXPORT)

The BLPH shall enter in COLD STANDBY MODE under following conditions:

- If it is in Grid-tied
- Supply Guarantee ACTIVE.
- HNA5 produces less than 1 MW
- BESS is not able to operate in export (BESS Fault)

EMCS requires PCS to enter in COLD STAND-BY MODE by “PCS.EnterMode(COLD STANDBY)”
PCS sends to EMCS the “Permissive to start” for COLD STAND-BY MODE with “PermToStartCOLD STAND-BY”

The EMCS shall allow to consider an inertia on the above entrance condition to COLD STANDBY MODE. Such time duration shall be parametric, positive, with default value zero seconds. The EMCS shall allow to set such time duration parameter over the data interface with the CCS SCADA. In COLD STANDBY MODE the EMCS shall stop the Electrolyzer and the Fuel Cell according to their machine transition policy.

In COLD STAND-BY MODE BLPH is unable to respect the Power Guarantee.

In COLD STAND-BY MODE, all relevant auxiliaries will be operational at reduced capacity due to the equipment being out of operation. **Only those auxiliaries needed for the platform to remain safe will operate in this operation mode.**

The BLPH auxiliaries’ loads will be supported by the wind farm and solar farm.

4.2.1.7.7 MODE 4A = EMERGENCY (ISLAND)

The BLPH shall enter in EMERGENCY MODE if:

- It is islanded (off-grid) OR Supply Guarantee = INACTIVE
- BESS is healthy (NO FAULT)
- BESS charge level is above the BESS-MINIMUM-OPERATING-RESERVE threshold.

The EMCS shall allow to set the value of the BESS-MINIMUM-OPERATING-RESERVE parameter from the data interface with the CCS SCADA. The value shall be strictly positive. In EMERGENCY MODE, the EMCS shall curtail or stop the solar farm production, to prevent the overload of the system in a situation where the BESS cannot compensate the production exceedance.

Solar Farm is able to guarantee the strict respect of the active power limit provided by the EMCS, or the respect of the limit with a maximum upward tolerance (supposed within 10%, parametrized) in normal operating conditions.

In EMERGENCY MODE, if the Solar Farm is not able to guarantee the respect of the received set-point, the EMCS shall open the 6.6 kV CB on SG-100D1 and command Solar Farm to stop.

In EMERGENCY MODE, the EMCS shall curtail or stop the fuel cell production, to prevent the overload of the system in a situation where the BESS cannot compensate for the production exceedance. This also accounts for possible sudden drops in the loads.

In EMERGENCY MODE, The EMCS shall give priority to the use of the fuel cell over the BESS discharge, according to machines reaction times and capabilities.

In EMERGENCY MODE, The EMCS shall give priority to the reduction of fuel cell use over the BESS charge, according to machines reaction times and capabilities.

In EMERGENCY MODE, BLPH operates as an 'Island' and if Solar Farm is not in production, BESS and/or Fuel Cell will use their stored energy to support BLPH for the maximum time possible, CCS will be programmed to minimize the balance of plant and vendor package auxiliary demand to prepare for the potential recovery from a 'black start' condition.

NOTE: There is no requirement to charge the BESS in EMERGENCY MODE; however, the BESS is allowed to charge and may be expected to charge in temporary periods. According to that, the EMCS may act so to track a BESS charge level to a target value or within a range. Charge and discharge periods may alternate in such tracking. Due to the fluctuation of loads (a sudden reduction) and solar production (a sudden increase), there may be transient periods where BESS is charging while the fuel cell is producing.

NOTE: The "BESS charge level" will be based on the "discharge_energy" signal provided by the BESS communication interface. The value is normalized between 0% and 100% (0 to 5MWh) to be used in the calculation of the threshold.

NOTE: In Grid Forming Mode, the BESS production is determined by the energy balance of the BLPH.

EMCS – PCS coordination shall remain in place for package permissions.

For the power management of each single package see the paragraph 4.2.3.4**.**

In this mode the Load Shadding procedure will be applied according to the paragraph Load Shedding.

In EMERGENCY MODE, Formula/algorithm that will be used to estimate the remaining time before moving to POWER OUT MODE, is dependent on the following variables:

- T_{REM} = Remaining Time before Power Out mode
- E_{H2} = Energy available from Hydrogen storages (based on current H2 level)
- E_{BESS} = Remaining Energy in the BESS (based on Available Energy for Discharging)
- P_{SF} = Current Power production from Solar Farm
- P_{Aux} = Power consumption of the auxiliary loads (measured at the incoming breaker SG-200N1)
- P_{Net} = Net power required after accounting for Solar & Auxiliary loads

The net power demand on the BESS and the fuel cell is the difference of total load and the contribution from the solar farm:

$$P_{Net} = P_{Aux} - P_{SF}$$

The total available energy from the BESS and the fuel cell:

$$E_{Total} = E_{H2} + E_{BESS}$$

Where:

- $E_{H2} = H_{2Quanity}$ x Conversion Efficiency x $FC_{Efficiency}$
- E_{BESS} = Available Energy for Discharging

Variable	Description	Notes
$H_{2Quantity}$	Quantity of the H_2 for **all** storages expressed in kg	Exposed by PCS
Conversion Efficiency	kWh produced per 1 kg of H_2	Exposed by FC interface (33.33 kWh/kg)
$FC_{Efficiency}$	Fuel Cell efficiency (> 0 and < 1)	Exposed by FC interface (Input Register 1202)

The remaining time before the energy reserves are depleted:

$$T_{REM} = \frac{E_{Total}}{P_{Net}}$$

The formula to estimate the remaining time T_{REM} before moving to POWER OUT mode is:

$$T_{REM} = \frac{E_{H2} + E_{BESS}}{P_{Aux} - P_{SF}}$$

4.2.1.7.8 MODE 5 = POWER OUT (BLACK-OUT)

The BLPH shall enter in POWER OUT MODE if:

- It is islanded (Off-Grid) **OR** Supply Guarantee = INACTIVE **OR** EMCS is informed of ESD-1D activation (reference doc. “Process Safety Cause & Effect Matrix”)
- BESS NOT Healthy **OR** BESS charge level is below the BESS-MINIMUM-OPERATING-RESERVE threshold (BESS FAULT) **OR** the SG-100D1 voltage measure on the BLPH 6.6kV distribution bus is absent.

In POWER OUT MODE, the EMCS shall open all the CBs under the busbar SG-100D1, immediately.

NOTE: it shall not ensure that the CBs are held open, allowing manual closing.

Once in POWER OUT MODE, EMCS shall send a command to PCS (PCS.PowerOutMode) to trip all the valves, stop command for process items and according to their energy transition policy.

NOTE: When the ESD-1D signal (exposed by the PCS) is active, the EMCS goes in Power Out MODE from any mode except Research Mode.

4.2.1.7.9 MODE 6 = MAINTENANCE

The BLPH shall enter and remain in MAINTENANCE MODE if the EMCS receives the request to enter in this MODE from the data interface of the CCS SCADA (protected under password).

The BLPH shall exit from the MAINTENANCE MODE if, and only if, the EMCS receives the request to return in automatic identification of the MODE from the data interface of the CCS SCADA through a software exit button.

In MAINTENANCE MODE, the EMCS implements the commands arriving from the data interface of the CCS SCADA, respecting permissions.

In MAINTENANCE MODE the EMCS shall not dispatch any command required by any automatic logic in the EMCS, including any open/close command, load shedding command, change in power setpoint.

NOTE: This is to assure total manual control to the operators.

NOTE: In Maintenance Mode the Fuel Cell and the Electrolyzer must remain stopped (start-up is not permitted), also if requested by the operator via CSS SCADA.

Transition Conditions: Entrance on a command to get in the MANTENANCE MODE, Exit on a command to return in automation identification of the MODE.

EMCS performs pass-through of manual commands.

At entrance in the MODE a procedure shall be followed:

- EMCS shall stop and hold stop (prevent start command) the Electrolyzer.
- EMCS shall stop and hold stop (prevent start command) the Fuel Cell.
- EMCS shall stop the BESS.
- EMCS – PCS coordination shall remain in place for package permissions.
- EMCS sent to the PCS the command PCS.EnterMode(MANUAL).

4.2.1.7.10 MODE 7 = RESEARCH

The BLPH shall enter and remain in RESEARCH MODE if the EMCS receives the request to enter in this MODE from the data interface of the CCS SCADA (protected under password). BLPH will ignore the power output of the HNA5 wind turbine.

WARNING for the operator: while in the RESEARCH MODE one the following conditions could lead to BLPH black out:

- Intentionally opening of the QA1 of HNA6-AFA70.
- Intentionally opening the INCOMER CB of SG-100D1.
- Intentionally open the CB of SG-100D1 for supply the SG-200N1.

EMCS requires PCS to enter RESEARCH MODE by “PCS.EnterMode(RESEARCH)”.

The BLPH shall exit from the RESEARCH MODE if, and only if, the EMCS receives the request to return in automatic identification of the MODE from the data interface of the CCS SCADA through an exit button.

RESEARCH MODE shall be used for First Energization and re-energization during Black Start.

In RESEARCH MODE, the EMCS implements the commands arriving from the data interface of the CCS SCADA, respecting permissions of packages state machines.

When the EMCS transitions to Research Mode from any other mode, all machines must be stopped. However, this logic does not prevent the operator from manually performing machine operations.

In RESEARCH MODE the EMCS shall not dispatch any command required by default behavior requirements, including any open/close command, load shedding command, change in power setpoint. NOTE: This does not prevent the EMCS to automatically dispatch commands that are due to specific functional requirements which are not indicated as generic defaults behavior (e.g. it does not prevent the EMCS to automatically stop the electrolyzer when the hydrogen storages are full).

Transition Conditions: BLPH execute control commands arriving from the CCS SCADA. Entrance on a command to get in the RESEARCH MODE, exit on a command to return in automation definition of the MODE.

4.2.1.7.11 MODE 8 = NONE MODE

The EMCS shall identify NONE MODE as default BLPH MODE and during EMCS initialization.

In NONE MODE the EMCS shall not dispatch any command required by default behavior requirements, including any open/close command, load shedding command, change in power setpoint.

NOTE: This does not prevent the EMCS to dispatch commands that are due to specific functional requirements which are not indicated as generic defaults behavior (e.g. it does not prevent the EMCS to automatically stop the electrolyzer when the hydrogen storages are full).

At start-up the EMCS shall enter into an initialization status. During initialization, EMCS shall not dispatch any command, manual or automatic, including any open/close command, load shedding command, change in power setpoint. The EMCS shall exit from initialization status if the conditions to enter in a BLPH MODE (different from None) are met.

4.2.2 Management Under BLPH Internal Communication Failures

Electrolyzer, Fuel Cell, Solar Farm vendor provide heartbeat/watchdog allowing the package and the BESS to verify the presence of communication between the two systems.

In case of loss of communication, after OUT-OF-COM-TIMEOUT of that package, the EMCS shall consider that the package will auto shutdown. After MAX-GRACEFULL-SHUTDOWN- TIME (a parameter with default value zero seconds), if the package still exchange power, the EMCS shall open the related CB on SG-100D1 and EMCS will move BLPH in other MODE accordingly to CPI FAULT.

When the communication with the package is retrieve, the EMCS ensures that the package is stopped, and after the check, the EMCS commands the closing of the related CB.

4.2.3 Power Control

It is described the strategy of dynamic control of the active power tracking. The power control is intended to cope with the state machines, logic and physical constraints and limitations imposed by the system. The scope of the power control is to reach the best performance in chasing the target output, always considering the trade-off with the complexity of the design and implementation.

The EMCS shall implement power control in the following scenarios:

- When in EXPORT MODE, to guarantee the target power export, which is ideally defined as 1 MW export to the wind farm QZ93, by operating on the BESS and Fuel Cell.
- When in IMPORT MODE, to utilize the most, and only, the power surplus to charge the energy reserves of the BLPH, using BESS and electrolyzer for serial or parallel charging.
- In EMERGENCY MODE, to maintain the BESS within the Operating Parameters, by operating the Solar Farm and the Fuel Cell. NOTE: In this scenario, there might be also possible additional requirements, here not considered, to prevent frequent power inversions of the BESS, taking into account the oscillation of the power request, expected to be due to both the oscillation of the solar farm output and the loads.

NOTE: The power control is limited to active powers. No reactive power or power factor shall be controlled or accounted for by the EMCS; this holds in every BLPH operational scenario, independently from the fact that the BLPH is grid tied or islanded. At least for the EMCS purposes, there are no grid code requirements to comply with, except EMERGENCY MODE in which the BESS **is in charge of mitigation** of active power as well as reactive power.

4.2.3.2 Power Control in EXPORT MODE

The ideal goal of the BLPH in EXPORT MODE is, as stated in the Functional Statement, to guarantee 1 MW in export to the Wind Farm at QZ93. However, the measure of such quantity is not available. The goal of the BLPH is hence identified in guaranteeing the export of a quantity of power calculated and sum of BESS, FUEL CELL & HNA5 ≥ 1MW. Such value can be considered independent from the BLPH power production itself (no feedback effect).

Considering the dynamics of the machines, the following control architecture has been identified:

- Pure feedforward (open loop)

The goal of the power control in EXPORT MODE: Guarantee the minimum power export target, ideally defined as 1 MW export to the Wind Farm. The practical goal, the target for the sum of BESS exported power and Fuel Cell exported power is:

$$BESS.ExportedPower + FuelCell.ExportedPower = 1MW - HNA5.Power$$

$$System\ Target = 1\ MW - HNA5.Power$$

Whereas:

- Fuel Cell Setpoint = System Target
- BESS Setpoint = System Target - Fuel Cell Power (Formula floored to zero, i.e., negative values will be considered zero)

During the EXPORT MODE, the Loads consumption is not considered in the power provided to the Wind Farm and the Solar Farm production, because we are assuming that the production will compensate the Loads consumption. This could not guarantee the export of the required power during the night or adverse weather. Supply is guaranteed using BESS and FUEL CELL.

The Fuel Cell set point formula will actually have two parameters (C1 Default = 1; C2 Default = 0): Fuel Cell Setpoint = System Target * C1 - C2 (Formula floored to zero).

4.2.3.1 Pure Feedforward

Track the BLPH target in feedforward (open loop), defining the set-point of BESS and fuel cell as a repartition of the power target form storages according to a theoretical formula of the power need from the energy storages.

Both solar farm and loads are measured and shall not be controlled in this scenario, hence are usable as independent variables.

The repartition of the total power request between the BESS and the Fuel Cell can take into account desired energy priority, desired margins and also the different reaction time of the machines. A proposed repartition of the power request is the following:

1. Calculate the power set-point of the fuel cell (the slower machine) as a percentage of the total power request, or/and considering an absolute margin (to be always left to the BESS); apply a low pass filter in output to better respect fuel cell dynamics (i.e. average the result slowly, so to smooth any rapid movement).
2. Calculate the power set-point of the BESS as the difference between the total power request and the measured power output of the BESS (so to compensate its dynamics).

This architecture has no feedback loops at all, and it is intrinsically stable (in the limits of the internal stability of the machines in following a set-point); the resulting error is the one given by:

- The physical model approximation (i.e. the fact that the sum of the productions is not equal to the output)
- The disturbance due to the dynamics during the settling time of the machines, which is particularly relevant for the fuel cell and may be just partially limited by the BESS.
- The tracking error of the machines.

4.2.3.3 Power Control in IMPORT MODE

The goal of the BLPH in IMPORT MODE is to charge the energy reserves using the power surplus, which is the power available in excess of the Power Guarantee level of 1 MW to the Wind Farm. As already explained in the paragraph 4.2.1.7.1 the BESS will be charged and the Electrolyzer will be started when the power produced by the HNA5 is above 2 MW.

It is particularly relevant that the Electrolyzer cannot be partialized and its power is much more than that the one of the BESS.

Moreover, once the Electrolyzer starts it cannot be stopped according to power needs. It may hence happen that the Electrolyzer is still running even when there is no sufficient power surplus (or even any at all). This consideration, it is assumed that a simple control architecture based on feedforward control is the best trade-off, as there is no point in selecting a more complex architecture given the intrinsic limitations of the possible performances.

NOTE: If the EMCS is in Import Mode and the Electrolyzer is running and producing H2, even if the Wind Power goes below the Power Guarantee the EMCS must stay in Import Mode.

The proposed architecture is to identify the charging set-point of the BESS from the theoretic calculation of the powersurplus available for the BESS charge, considering and based on the power measures of HNA5, solar farm, Electrolyzer and loads consumption, plus an estimation of the internal losses. The set-point shall be limited to the maximum charge power of the BESS.

The Electrolyzer will be started when the theoretic calculation of the power surplus available for the Electrolyzer is higher than its nominal power; the power surplus available for the Electrolyzer shall be calculated considering and based on the power measures of HNA5, solar farm, BESS and loads consumption, plus an estimation of the internal losses.

In this architecture, during a progressive rise of the power from the HNA5 and solar farm, the first to operate will be the BESS, rising from zero to its maximum power. Note that the maximum possible consumption of the BESS can be zero, if it is full. After the BESS has reached it maximum power, the power surplus available to the Electrolyzer will start to rise starting from zero. When it reaches a level higher than the nominal power of the Electrolyzer, the latter will start. Then, if the power from HNA5 and solar farm will decrease, the BESS will progressively reduce its charge power according to the available power surplus, eventually stopping.

NOTE: When the Electrolyzer is not required to produce, the setpoint will be set to zero, and its operating status shall be changed to STOP.

This architecture may produce stable behavior due to the all-or-nothing dynamics of the electrolyzer. However, these behaviors are prevented by the latching policy that prevents to stop the electrolyzer independently from the power needs, in the limit of the latching period.

During a progressive rise in power from the HNA5 and Solar Farm:

- The first to operate will be the BESS, rising from zero to its maximum consumption power. NOTE: The maximum possible consumption of the BESS can be zero, if it is full.
- After the BESS has reached its maximum power, the power surplus available to the Electrolyzer will start to rise starting from zero. When it reaches a level higher than the nominal power of the Electrolyzer, the latter will start.

Afterwards, if the power from HNA5 and Solar Farm progressively decreases:

- The BESS will progressively reduce its power according to the available power surplus, eventually stopping.

- The Electrolyzer will be stopped only when its State-machine allows/impose such transition (which includes pre-conditions on the H_2 level); in case the Electrolyzer status allows the stop transition (but now impose it), the EMCS will stop the Electrolyzer if its start condition is not met (adding a hysteresis margin).

Power Surplus formula is HNA5.Power - 1 MW

The formula for calculating the BESS set point is the following:

BESS Set Point = HNA5.P – 1 MW – BLPH.AuxLoad – EL.Consumption + Solar.P

The formula for calculating the Electrolyzer set point is the following:

IF (ElectrolyzerCanRun()) THEN

Electrolyzer Set Point = ELECTROLYZER_MAX_SET_POINT

ELSE

Electrolyzer Set Point = 0

Where ELECTROLYZER_MAX_SET_POINT is a parameter preset to 2500 kW by default and ElectrolyzerCanRun() is a function taking care of the power surplus available, the permissive to start the Electrolyzer and its electrical connectivity to the 6.6 kV BUS.

4.2.3.4 Power Control In EMERGENCY MODE (Islanded Mode, BESS in Grid Forming)

The goal of the BLPH in EMERGENCY MODE is to sustain the off-grid operativity as much as possible, which means to preserve the energy reserves, especially the one of the BESS. In case of need, the energy priority shall be to utilize the fuel cell before the BESS reserves.

The charging of the BESS while the fuel cell is producing energy is considered inefficient, so it will not be implemented in the control logic.

The control shall avoid the depletion of the BESS and its overload, which would lead to a power outage.

This considering, the goal of the power control can be reduced to maintaining a good level of charge of the BESS, respecting the mentioned constraints. It is assumed that, to prevent the (potential) power overload of the BESS, the sum of the Fuel Cell set-point and the Solar Farm set-point shall be less than the BESS charge power at any moment in time, which is assumed to be always more than 0.6 MW.

The control dispatchment policy shall be to implement such constraints in a hard manner, lowering one set-point increasing the other. The proposed architecture is based on the identification of a control range AA in the BESS charge levels (e.g. SoC 60%-80%), that should be parametrized (BESS-MINIMUM-OPRATING-RESERVE, BESS-MAXIMUM-OPERATING-RESERVE, see the paragraph 4.2.1.6.3).

The term "charge level of BESS AA" refers to the Available Energy of a specific Battery Energy Storage System (BESS) identified as "AA."

If the BESS charge level is below the control range AA (low range):

- The fuel cell set-point will be calculated as the difference between the load consumption and the solar farm production, if positive, averaged over a time window: FC SetPoint = AuxLoad – SolarFarm.
- The solar farm will be NOT curtailed: SolarFarm SetPoint = 100%
- BESS absorbs the power coming from the Solar farm during the settle time of the Fuel Cell setpoint.

If the BESS charge level is within the control range AA (middle range):

- The fuel cell set-point will be calculated as the difference between the load consumption and the solar farm production, if positive, averaged over a time window and progressively limited, from 100% to 0%, linearly decreasing in the control range AA: FC SetPoint = (AuxLoad - SolarFarm) * X.
- The solar farm will be limited to the AuxLoad active power measure; no progressive limitation is applied: SolarFarm SetPoint = AuxLoad.
- BESS is in Load following.

If the BESS charge level is above the control range AA (high range):

- The solar farm will be curtailed to zero power: FC SetPoint = 0%
- The fuel cell set-point will be set to zero: SolarFarm SetPoint = 0%
- BESS is in load following.

If the Available Energy reaches the MAXIMUM_OPERATING_RESERVE, the CB on SG100D1 of Fuel Cell and Solar Farm must be open. When the Available Energy goes below the MAX_DISCHARGE_RESERVE(HIGH) the CB on SG100D1 of Fuel Cell and Solar Farm must be closed back. If the Available Energy goes below the MIN_CHARGE_RESERVE (LOW) the EMCS commands 100% set point to Solar Farm.

The progressive curtailment level of the solar farm within the control range AA is a means to avoid astable behavior.

NOTE: this control logic does not prevent the ideal scenario where the BESS gets depleted while there is still some reserve of hydrogen. To guarantee to prevent it, an intentional charging of the BESS from the Fuel Cell is foreseen when such incipient condition arises (by the operator in Research Mode).The goal of the power control in EMERGENCY MODE: Sustain the BLPH off-grid operativity as much as possible, which means to preserve the energy reserves, especially the one of the BESS, the energy priority shall be to utilize the Fuel Cell before the BESS reserves.

To avoid outages, EMCS shall guarantee that, with the given setpoints:

Fuel Cell Power + Solar Farm Power < BESS Power Charge Capability [PowerLimit]

Available Energy in low range (below the SoC limitation range):

- $FC_{SetPoint}$ = Aux.Power – SolarFarm.Power
- Solar Farm is curtailed to respect the BESS Charge Capability

Available Energy in middle range (Range is intended LOW, HIGH thresholds):

- Fuel Cell set-point defined so to ideally compensate the residual load consumption considering Solar Farm production but capped to a progressively decreasing value.
- Solar Farm is curtailed to respect BESS Charge Capability but capped to a progressively decreasing value.

Available Energy in high range (above the SoC limitation range):

  - $FC_{SetPoint}$ = 0
  - $SF_{SetPoint}$ = 0

4.2.4 Forecasts-based Control

There are no requirements at the EMCS about using or receiving any forecast of data or values.

4.2.5 Coordination with the Process Control System

The EMCS shall not run (i.e. not starting and stop if running) the BESS without a positive permissive signal from the PCS.

PCS communicates with EMCS through internal communication (Modbus TCP) and the following signals (commands, statuses and permissive) will be exchanged between the two systems:

Signal	Description
PCS.EMCS.PermToStartFC	Permissive to start Fuel Cell sent by PCS
PCS.EMCS.PermToStartEL	Permissive to start Electrolyzer sent by PCS
PCS.EMCS.ProcessFullyCharged	PCS indicates if the Fuel Tanks are full
PCS.EMCS.BESSFault	Sent by PCS. 1: fault; 0: OK. When 1 the BESS must be immediately stopped
PCS.CmdToLoadShedStage1	Request sent from EMCS to PCS to activate the Load Shedding of EMERGENCY MODE
PCS.CmdToLoadShedStage2	Request sent from EMCS to PCS to activate the Load Shedding of LOW BESS LEVEL
PCS.EntertMode	Request sent by the EMCS to the PCS to enter in a specific mode. The PCS monitors the value change to capture the mode request. POWER OUT mode is a special condition. The EMCS move to the POWER OUT mode without waiting for the PCS permission.
PCS.CurrentMode	EMCS communicates through this register which is its current MODE. The PCS listens for the mode change. If the POWER OUT MODE is reached, the PCS takes the predefined actions (trip everything).
FuelCellOperatingStatus	Signal exposed by the EMCS to communicate the operating status of the Fuel Cell.
ElectrolyzerOperatingStatus	Signal exposed by the EMCS to communicate the operating status of the Electrolyzer.
PCS.EMCS.PermToEnterMode	Permissive to enter in the mode indicated by the register value.
PCS.EMCS.HydrogenLevel	Hydrogen level in Kg. PCS communicates the level periodically to the EMCS.
PCS.EMCS.ESD-1D	PCS inform the EMCS to go in Power Out mode
PCS.PermissiveModeTimeout	Parameter set by the PCS (default 3 sec). This parameter is used by the EMCS as waiting time for the permissive signal to enter in a MODE.

If the Permissive to stay in **Export** or in **Hot Standby** MODE is removed or if the permission request to enter in these modes is not received within the timeout, the EMCS moves automatically in Cold Standby.

The EMCS before entering the **Emergency**, **Power Out**, **Idle**, **Cold Standby**, **Maintenance** or **Research** MODEs sends the request to enter in the MODE but does not wait until the permission is received. The purpose of the request is to inform the PCS what is the next MODE where the EMCS will transit.

If the EMCS wants to move to the **Import** MODE and the PCS permission is not received, the EMCS stays in the

current MODE until the permission is received or the preconditions to move to some other MODE are satisfied.

The EMCS monitors continuously the permissive signals communicated by the PCS. If the permissive signal to run a package is removed, the EMCS sends the stop command to the related package and, if required by the EMCS MODE transition logic, the EMCS moves to the MODE which preconditions are satisfied.
In some cases, even if the permission to run a package is removed and the package is stopped, the EMCS stays in the current MODE.
For example, if the EMCS is in EXPORT MODE and the permission to run the Fuel Cell is removed, the EMCS continues to operate in EXPORT MODE until it is supported by the BESS.
Another example is, when the EMCS is in IMPORT MODE and the permission to run the Electrolyzer is removed, the EMCS continues to operate in IMPORT until the BESS can be charged.

4.3 Load Shedding

In EMERGENCY MODE, the EMCS shall shed the loads in the list LOAD-TO-SHED-IN-EMERGENCY-MODE, by requesting the PCS “Cmd.To.LoadShed” to open the related LV contactors on the switchboard SG-200N1.

The EMCS shall allow to mark each load, singularly, as included or excluded in the LOAD-TO-SHED-IN-EMERGENCY-MODE from the data interface of the CCS SCADA.

The default list LOAD-TO-SHED-IN-EMERGENCY-MODE(Island) “Cmd.To.LoadShed_1” immediately upon entry is the following:

- PCS Stop Electrolyzer auxiliaries
- PCS Stop Water package
- PCS Stop Sea Water Pumps

The EMCS shall allow to reset the default value of LOAD-TO-SHED-IN-EMERGENCY-MODE from the data interface of the CCS SCADA.

In EMERGENCY MODE, if the Available Energy is below BESS-LIMIT-FOR-ADV-LOAD-SHEDDING parameter value, the EMCS shall shed the loads in the list LOAD-TO-SHED-IN-LOW-BESS-LEVEL, by requesting to the PCS to open the related LV contactors on the switchboard SG-200N1.

The EMCS shall allow to set the value of the parameter BESS-LIMIT-FOR-ADV-LOAD-SHEDDING over the data interface with the CCS SCADA. The default value of the parameter being 25% Available Energy .

The EMCS shall allow to mark each load, singularly, as included or excluded in the LOAD-TO-SHED-IN-LOW-BESS-LEVEL from the data interface of the CCS SCADA.

The list LOAD-TO-SHED-IN-LOW-BESS-LEVEL “Cmd.To.LoadShed_2” is the following:

- HVAC
- Welding Sockets
- BOP Distribution Panel
- Crane

During the electrical mode these systems are DISABLE to START according to Load Shedding:

- Electrolyzer
- Sea Water Pumps
- Water Treatment System
- HVAC
- Welding Sockets
- BOP Distribution Panel
- Crane

The EMCS shall allow to reset the default value of LOAD-TO-SHED-IN-LOW-BESS-LEVEL from the datainterface of the CCS SCADA.

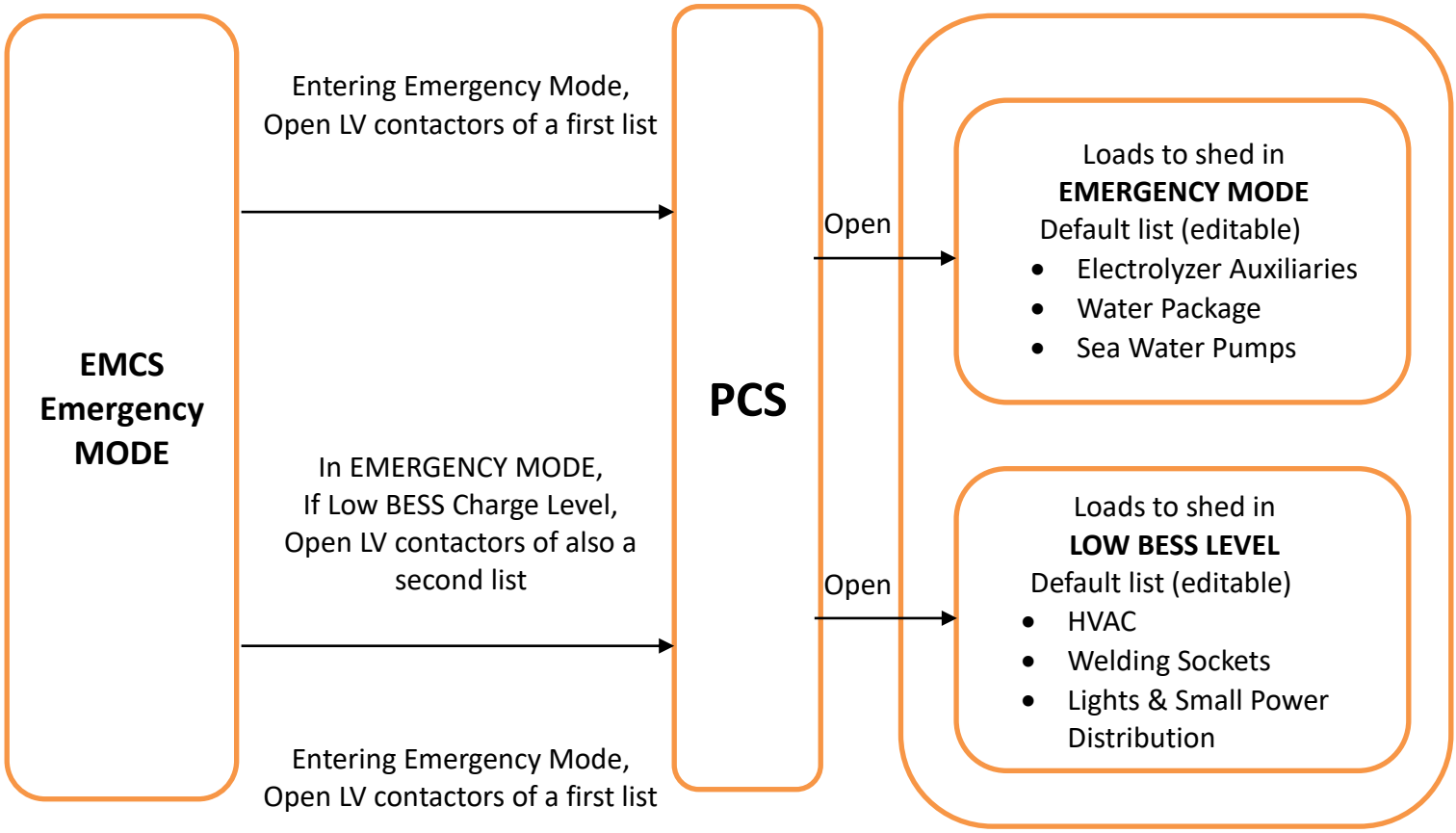


Figure 15 Load Shedding Procedure

The EMCS removes the commands to PCS for CmdToLoadShedStage1 and CmdToLoadShedStage2 when it exit from Emergency mode. PCS manages the contactor on the LV Switchboard SG-200N1 according to the control logic.
EMCS manages the CBs on the 6.6kV Switchgear SG-100D1 and HNA6-AFA70 according to the control logic.

4.4 Management of Electrical Distribution Equipment

If IEC 61850 communication between the HV-SCADA & 66kV HNA6-AFA70 is lost, the HNA6-AFA70 will not take any automatic action.

If OPC-UA communication between the HV-SCADA and EMCS is lost, the EMCS does not take any automatic action on 66kV HNA6-AFA70. In conjunction with this communication loss, the EMCS will immediately command the platform in IDLE MODE “PCS.EnterMode(IDLE)”.

The EMCS shall allow the operator to open the HNA6-AFA70 Q0(QA1) from the data interface of the CCS SCADA.

The EMCS shall allow the operator to close the HNA6-AFA70 Q0(QA1) from the CCS SCADA data interface only in presence of a permissive signal from the wind farm SCADA (and there is communication with the wind farm SCADA).

The HV-SCADA can open any time the HNA6-AFA70 Q0(QA1) through the direct link (IEC-61850), while simultaneously removing the permissive signal to close.

The control of OLTC through AVR command has signals from the EMCS that allow to put the AVR/OLTC in MANUAL mode or AUTO mode, only software manual command by operator will be available (password protected). See the paragraph for the control logic 5.7. The set point of the AVR shall be in the range of 6.6 kV ± 5%

The exiting from any island mode (RESEARCH or EMERGENCY), once the voltage is back on the Wind Farm up to the BLPH 66 kV HNA6-AFA70, it is possible to reconnect the system to the grid by means of manual procedure.

The operator first of all has to close the line switches and the circuit breaker of the 66 kV HNA6-AFA70 in order to energize the step-up transformer, to be ready to take the load from the 6.6 kV system.

Once the transformer is energized, the operator will request from the CCS SCADA to close the incoming breaker on the 6.6 kV switchgear (only after black start scenario or first energization). The closure of the breaker will be managed by the BESS system (only in EMERGENCY mode), which has the capabilities necessary to synchronize the isolated 6.6 kV system with the grid.

With the closure of the 6.6 kV incoming breaker, the 6.6 kV system will be connected back to the grid and the BLPH platform will return in the operating mode requested in that moment.

4.5 Wind Farm Grid Connection and BLPH Synchronization After Emergency Mode

In Figure 16 Status of Signals & Electrical Sequence defines the status of signals and electrical sequence to manage the closing of the HNA6-AFA70 on BLPH. Windfarm will have a direct connection to the BLPH 66kV HNA6-AFA70 CB for control and monitoring, the electrical sequence is as follows:

- Q0(QA1) “CB Open” command, directly to the BLPH HNA6-AFA70 from HV-SCADA
- Q0(QA1) “Ready to close” permissive to EMCS from HV-SCADA
- Full control of QZ92 line and earthing switches from HV-SCADA (not controlled by EMCS)

BLPH Q0(QA1) “CB Close” command and “CB Open” commands will also be available to BLPH HNA6-AFA70 by the EMCS.

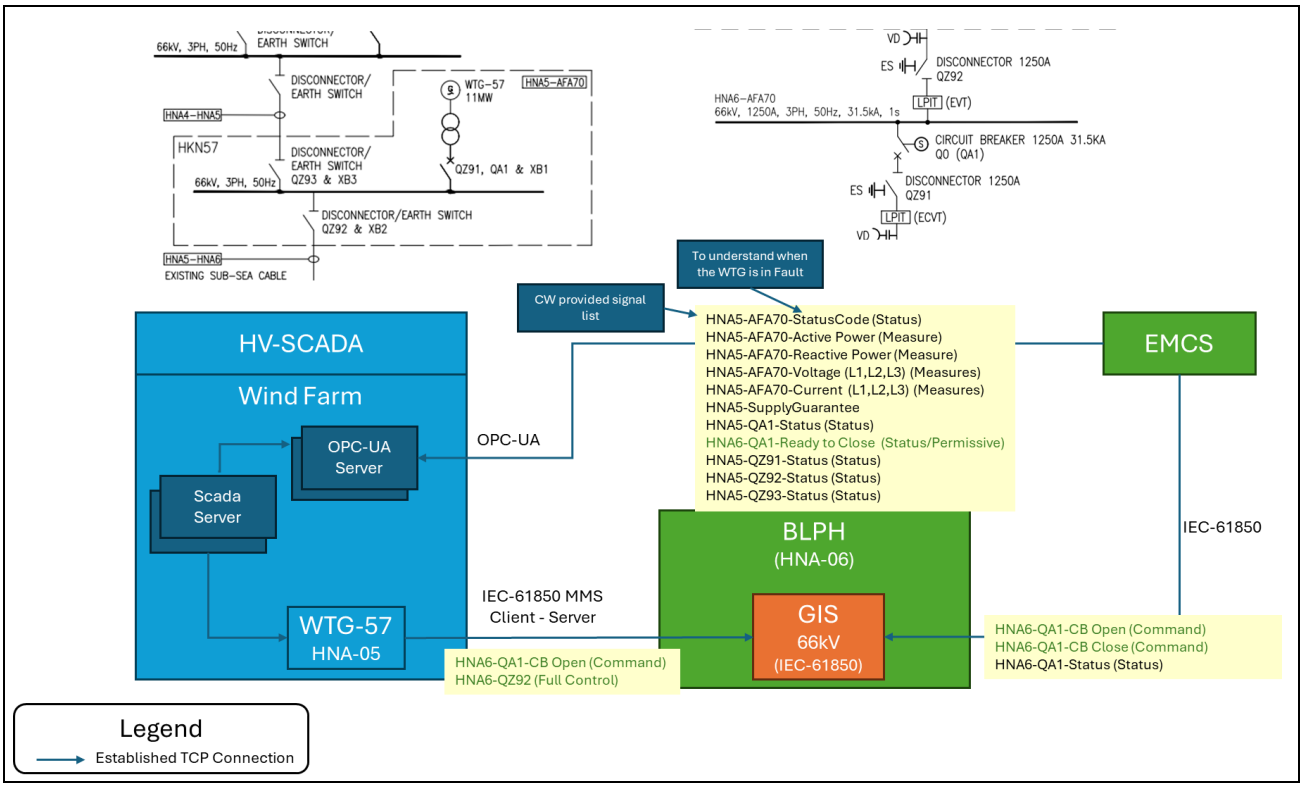


Figure 16 Status of Signals & Electrical Sequence

- The synchronization with the grid is performed by the BESS, by means of hardwired voltagemeasures connected directly to the BESS (from the SG-100D1).
- The BESS will provide the (hardwired) closing command directly to the 6.6kV incoming CB to perform the parallel with the grid.
- A hardwired signal will identify off-grid condition (an OR between Open status of Q0(QA1) HNA6-AFA70 and open status of 6.6kV SG INCOMMER CB).
- The EMCS will provide a hardwired permissive signal as described in Figure 17 BESS-Hardwired Interface_rev5_FREQ to the BESS allowing the Grid-Forming mode (enter and stay in such mode = 1)

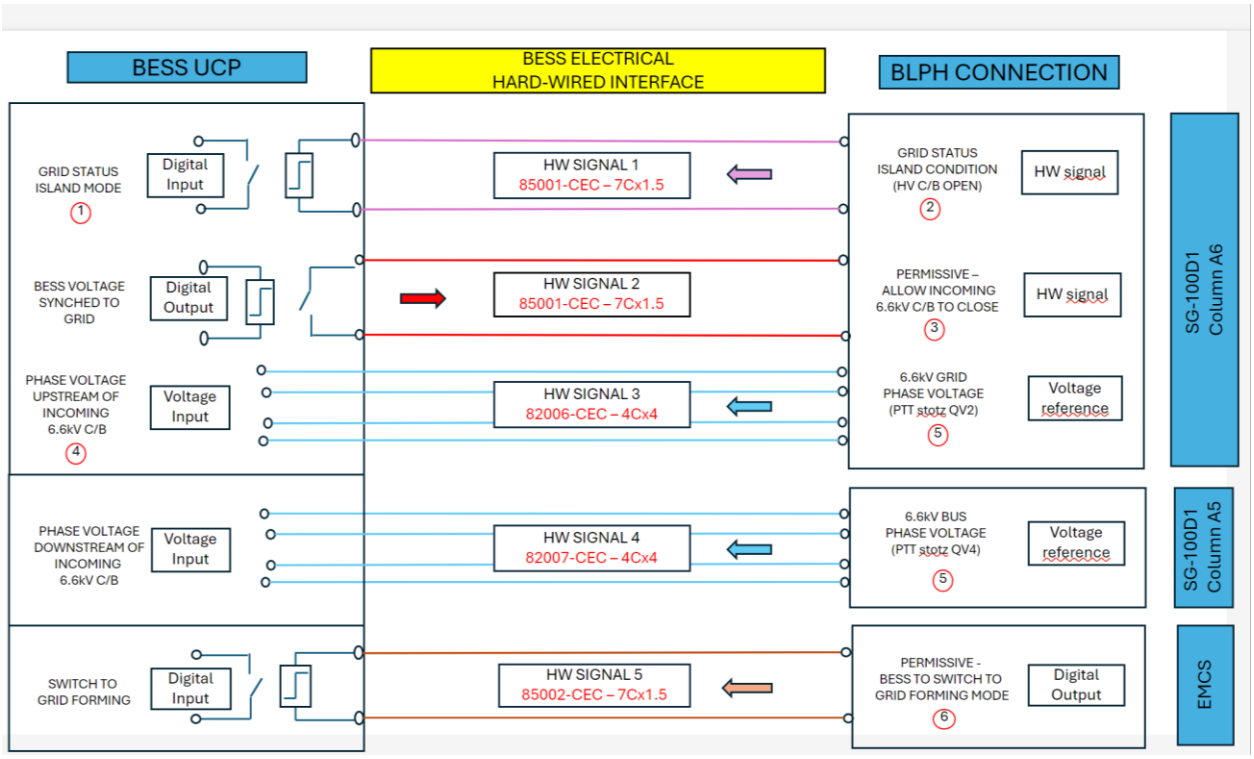
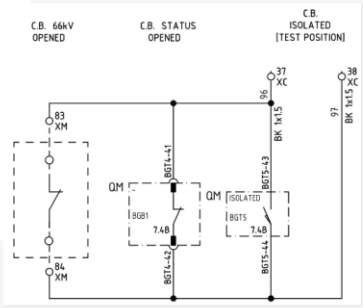


Figure 17 BESS-Hardwired Interface_rev5_FREQ

Signals as described in Figure 18:

1 GRID STATUS ISLAND MODE: 0 = 6.6 kV System is synchronized with the grid and BESS has to operate in grid following
1 = 6.6 kV System is islanded from the grid and BESS has to operate in grid forming IF the permissive is received

2 GRID STATUS ISLAND MODE: the signal is generated as OR of the 66 kV CB open status and the 6.6 kV incoming CB open status as per following scheme



3 PERMISSIVE – ALLOW INCOMING 6.6kV C/B TO CLOSE: This signal is connected as input to the REX 640 protection relay on the 6.6 kV incoming CB in order to close the breaker, provided that the synchrocheck function gives the permissive. The input BI6 on card D will be used.

4 PHASE VOLTAGE UPSTREAM OF INCOMING 6.6 kV CB: Once BESS read a voltage 110 V on this signal it has automatically to start the synchronization to the grid in order to reach the synchronization and send the permissive to close signal to the incoming CB.

5 VOLTAGES FROM 6.6 kV SWITCHGEAR: These signals are voltage references from secondary side of voltage transformers, so they are at 110 V 50 Hz, with 4 wires.

6 PERMISSIVE - BESS TO SWITCH TO GRID FORMING MODE: This signal will be maintained at 1 until the operator will not reset it manually, in order to prevent the islanding or the automatic return from the island (as per note 4)

Figure 18

The BESS performs the parallel closing request to the INCOMMER CB SG-100D1 automatically after the synchronization, without waiting for any input from the EMCS.

5. Data Interoperation

5.1 BESS Data Interface

The EMCS commands and supervises the BESS. The data interface between the EMCS and the BESS will be based on MODBUS TCP/IP.

The signal list of the data interface with the BESS will be as reported in the document “23A2007_240628_PROFINET_Register BESS_V1_0_0_3”.

5.2 Electrolyzer Data Interface

EMCS commands and supervises the Electrolyzer. The data interface between the EMCS and the electrolyzer will be based on PROFINET. No hardwired signals are shared between the EMCS and the electrolyzer.

The electrolyzer PLC requires a custom time synchronization interface, based on dedicated signals (specifically: year, month, day, hour, minute, second) to be updated by the EMCS; it is assumed that the precision required is equal to the resolution.

The signal list of the data interface with the Electrolyzer will be as reported in the document “C63-AUT-002_04_ PLC Communication Table”.

5.3 Fuel Cell Data Interface

EMCS commands and supervises the fuel cell.

The data interface between the EMCS and the fuel cell will be based on Modbus TCP.

The interface will allow to read the power set-point received by the EMCS. It will also provide information on the capability of the fuel cell to respect the power limitation imposed by such set-point within the given design tolerance (as opposite to the presence of an internal fault that prevents it).

No hardwired signals are shared between the EMCS and the fuel cell.

The signal list of the data interface with the Fuel Cell will be as reported in the document “Crosswind Modbus Table - Main PLC - External Cut v3”.

5.4 Solar farm Data Interface

EMCS commands and supervises the solar farm.

The data interface between the EMCS and the solar farm will be based on ModbusTCP.

The interface will allow to read the power set-point received by the EMCS.

It will also provide information on the capability of the solar farm to respect the power limitation imposed by such set-point within the given design tolerance (as opposite to the presence of an internal fault that prevents it) and the signals that allows to communicate the commands to the EMCS regarding the solar farm CB SG-200D2.

No hardwired signals are shared between the EMCS and the solar farm.

The signal list of the data interface with the Electrolyzer will be as reported in the document “HKN1-02-REG-341 Manual for controlling the solar farm via the client connector REV A”.

5.5 Wind Farm Data Interface

The EMCS receives information from the data interface of the Wind Farm SCADA (HV-SCADA).

The data interface between the EMCS and the Wind Farm SCADA (HV-SCADA) will be based on OPC-UA.

The presence of communication between the EMCS and the HV-SCADA is checked intrinsically by the OPC-UA client running in the EMCS.

The IEC-61850 network connection from HNA5 and HNA6-AFA70 on BLPH will not be redundant and it shall be directly connected to HNA6-AFA70, since the EMCS is not allowed to share the same IEC-61850 connection.

The details of the signals exposed by the SCADA refers to Figure 16 Status of Signals & Electrical Sequence.

NOTE: The HNA5 power signal has a sampling rate of 5 seconds and resolution 0.1 MW.

5.6 Electrical Distribution Equipment

The EMCS will supervise and command the equipment of the electrical distribution of the BLPH, including switchgears on the 6.6kV and 66kV sides incoming CB SG-200N1 and 800V SG-200D2 directly. However, the other outgoing feeders of SG-200N1 or main items (UPSs) are supervised and directly controlled by PCS.

The data interface of the EMCS with the electrical distribution equipment of the BLPH will be based on IEC-61850 and Modbus TCP/IP.

5.7 OLTC/AVR Data Interface

The EMCS supervises and controls the AVR/OLTC of the TR-100AD1 6.6kV/66kV transformer.

The HMI can set the AVR/OLTC in AUTO or MANUAL mode, the latter mode intended to enable the possibility to directly control the OLTC position.

EMCS can provide the command to RAISE and the command to LOWER the position of the OLTC directly to the AVR, allowing the OLTC remote control by operator.

The data interface between the EMCS and the AVR will be based on Modbus TCP.

In MANUAL mode the operator pushes the buttons on the HMI which will allow EMCS to INCREASE and DECREASE movements of the OLTC position (one request, one step). In more details, the HMI will write the value 1 in the TapLower or TapRaise signal (of the EMCS OPC UA interface) to perform the related operation. Once the EMCS sends the commands to the AVR interface, it auto resets to zero the TapLower and TapRaise signals.

The EMCS shall provide to the AVR of the OLTC the set-point voltage target on the secondary winding (the 6.6 kV side). Such value being a parameter with default value 6.6 kV. The EMCS shall allow to set this value from the data interface of the CCS SCADA.

Only in RESEARCH MODE, the EMCS shall allow to set the AVR/OLTC in MANUAL mode or AUTO mode, from the data interface of the CCS SCADA.

In AUTO mode the operator writes a SET-POINTs, EMCS checks the error between BLPH voltage and the set-point and EMCS sends the command to AVR to move the OLTC cursors INCREASE or DECREASE (one request, one step) at each step EMCS re-check the error, reiterating the control and commands if necessary.

5.8 PCS and LV Loads

The EMCS exchange real-time signals with the Process Control System (PCS) in order to:

- Coordinate the operation of the packages with PCS (by requests and permissive signals);
- Request the opening/closing of the LV contactors (which are controlled by means of the PCS), in order to manage the load shedding.
- Obtain the hydrogen storage level;
- Obtain time reference for its time synchronization of server's clocks.

The data interface between the EMCS and the PCS will be based on the protocol Modbus TCP.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-5.4 Power Consumption and Heat Dissipation

1724000594-IN-CA-00006

Base Load Power Hub (BLPH)

INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

Power Consumption and Heat Dissipation

Document Number: 1724000594-IN-CA-00006

Document Class: 3

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	10/03/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
03	30/01/2025	Issue for Information (IFI)	A.Giorgetti	A.Berra	S.Corradi
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						POWER					HEAT				WEIGHT
						UPS A 220Vac		UPS B		NOT UPS (Light, Socket)	DISSIP. (W)		DISSIP. (BTU/hr)		Weight (Kg)
LOCATION	CABINET NAME	CABINET DESCRIPTION	MATERIAL CODE	QTY	W	Tot W	CONSUM. (W)	Tot W	CONSUM. (W)	Tot W NOT UPS	max	typical	max	typical	Approx. (avg)
PCS SYSTEM (Two cabinets assembled)											565	452	1,928	1,542	530
ITER	B400-PCS-001	PCS System Cabinet		1	-		1,218		1,218						280
			AFV30D-A41262	1	230	230		230							
			ANB10D-426/CU2N	3	120	360		360							
ITER	B400-PCS-002	PCS Marshalling Cabinet													250
			POWER SUPPLY Module 24VDC 20A	2	550	550		550							
		(3)	PLC-RSC-24DC/21	18	0.22	-		-							
			POWER SUPPLY Module 12VDC 1.25A	2	50	50		50							
			COOLING FAN	2	14	28		28							
			INTERNAL LIGHT	2	7					14					
			SERVICE SOCKET	1	130					130					
			MISCELLANEOUS												
SIS SYSTEM (One cabinet)											360	288	1,228	982	250
ITER	B400-SIS-001	SIS System / Marshalling Cabinet			-		930		930						
		(1)	S2SC70D-FA12010	1	227	227		227							
		(1)	SNB10D-425/LCU2N	2	69.5	139		139							
			POWER SUPPLY Module 24VDC 20A	2	550	550		550							
		(2)	KFD0-RSH-1.4S.PS2	23	1.5	-		-							
			COOLING FAN	1	14	14		14							
			INTERNAL LIGHT	1	7					7					
			SERVICE SOCKET	1	130					130					
			MISCELLANEOUS (Only dissipation)												
FGS SYSTEM (Three cabinets assembled)											720	576	2,458	1,966	790
ITER	B400-FGS-001	FGS System Cabinet			-		1,377		1,377						290
		(1)	S2SC70D-FA12010	1	257	257		257							
		(1)	SNB10D-425/CU2N (or SNB10D-425/CU2T)	5	105.6	528		528							
ITER	B400-FGS-002 / 003	FGS Marshalling Cabinet 1 & 2													500
			POWER SUPPLY Module 24VDC 20A	2	550	550		550							
		(6)	IS BARRIER HiC2025	30	1.1	-		-							
		(2)	KFD0-RSH-1.4S.PS2	95	1.5	-		-							
			COOLING FAN	3	14	42		42							
			INTERNAL LIGHT	3	7					21					
			SERVICE SOCKET	1	130					130					
			MISCELLANEOUS (Only dissipation)												
ITER	B400-EMCS-001	EMCS System Cabinet		1	-		564		564		225	180	768	614	300
			POWER SUPPLY Module 24VDC 20A	2	550	550		550							
			I/O Module (SEL-2240 Axion or equivalent converter)	2	-	-		-							
			COOLING FAN	1	14	14		14							
			INTERNAL LIGHT	1	7					7					
			SERVICE SOCKET	1	130					130					
			MISCELLANEOUS												
ITER	B400-SRV-001	Server cabinet ITER (5)		1			734		710	130	743	594	2,534	2,027	200
			8-Port Slideaway with 17" LCD KVM Switch	1	24	24		-							
			Lantime NTP server incl. 8 (2)x 10/100 Mbit ports	1	50	50		50							
			CI-Core (Server) - ITER	2	750	330		330							
			EWS (PCS , SAFETY)	1	750	165		165							
			IAMS Server	1	750	165		165							
ITER	B400-NET-001	Network cabinet ITER (5)		1			1,255		1,255	130	863	691	2,945	2,356	300
			FortiGate Firewall FG-100 F	2	26.5	53		53							
			FortiGate Firewall FG-80 F	2	8	16		16							
		(6)	Managed Switch L2, Hirschmann, 12 port Gb	4	-	-		-							
		(6)	Managed Switch L2, Hirschmann, 24 port Gb	5	-	-		-							
		(6)	Managed Switch L2, Hirschmann, 16 port Gb	1	-	-		-							
			RTACs (SEL-3555)	2	240	384		384							
			L2 Switch 24 Port (Vnet/IP) AC Red.	4	35	140		140							
			Netgear fully managed switch	2	80	112		112							
			ALIM.24VDCD 20A	2	550	550		550							
		(2)	KFD0-RSH-1.4S.PS2	8	1.5	-		-							
		(6)	Profinet Converter Mgate5103	2	5.5	-		-							
			COOLING FAN	1	14	14		14							
			INTERNAL LIGHT	1	7					7					
			SERVICE SOCKET	1	130					130					
			TOTAL ESTIMATED ITER CONSUMPTION (W)				6,078		6,054	966	2,911	2,329	9,932	7,946	2,370

						POWER					HEAT				WEIGHT
						UPS A		UPS B		NOT UPS (Light, Socket)	DISSIP. (W)		DISSIP. (BTU/hr)		Weight (Kg)
LOCATION	CABINET NAME	CABINET DESCRIPTION	MATERIAL CODE	QTY	W	Tot W	CONSUM. (W)	Tot W	CONSUM. (W)	Tot W NOT UPS	max	typical	max	typical	Approx. (avg)
OER	HKN-WPO1-BLPH-NET-01 HKN-WPO1-BLPH-SRV-01	Server/Network cabinet 1 / 2 (7)		1			2,074		2,050	(8)	1,673	1,338	5,709	4,567	570
			FG-40 F/Equivalent	4	12	48		48							
		(6)	Managed Switch L2, Hirschmann, 12 port Gb	4	-	-		-							
		(6)	Managed Switch L2, Hirschmann, 24 port Gb	2	-	-		-							
			8-Port Slideaway with 17" LCD KVM Switch	1	24	24		-							
			CI-Portal server	2	750	330		330							
			CI-Portal / View (AMS, OWS, CAP)	1	750	165		165							
			EWS Client PC for RDP	1	750	165		165							
			AV Server	1	600	132		132							
			WSUS Server	1	600	132		132							
			Domain Controller	2	600	264		264							
			B&R Server	1	600	132		132							
			NMS Server (Domain Controller)	1	600	132		132							
			ALIM.24VDCD 20A	2	550	550		550							
		(6)	AXL F BK ETH	1	16	-		-							
		(6)	AXL F DI8/2 24DC 1F	1	5	-		-							
			INTERNAL LIGHT	1	7	7		7							
			SERVICE SOCKET	1	130	130		130							
			TOTAL ESTIMATED OER CONSUMPTION (W)				2,074		2,050	-	1,673	1,338	5,709	4,567	570

						POWER					HEAT				WEIGHT
						UPS A		UPS B		NOT UPS (Light, Socket)	DISSIP. (W)		DISSIP. (BTU/hr)		Weight (Kg)
LOCATION	CABINET NAME	CABINET DESCRIPTION	MATERIAL CODE	QTY	W	Tot W	CONSUM. (W)	Tot W	CONSUM. (W)	Tot W NOT UPS	max	typical	max	typical	Approx. (avg)
CCR	-	-		1			918		773		1,025	820	3,498	2,799	
(9)			Client Workstation (2 LCDs)	2	490	490		490							40
			Client Workstation	1	350	175		175							20
			65inch Large Screen	1	100			100							20
		(4)	Printer	1	245	245		-							15
			Fortigate firewall FG-40 F	1	8	8		8							10
			TOTAL ESTIMATED CCR CONSUMPTION (W)				918		773	-	1,025	820	3,498	2,799	105

notes

(1) Consumption and Dissipation hestimated with Yokogawa official tool for SIS system
(2) Coil powered by ProSAFE System
(3) Coil powered by CENTUM System
(4) Considered consumption during operation mode
(5) Cabinets mechanically assembled
(6) Device powerd with 24Vdc from bulk power distribution module
(7) Cabinets mechanically assembled with common incoming lines and power distribution
(8) NOT UPS line not available on OER
(9) Location to be confirmed by RM

2-6 Instrumental Calculations (instrument sizing, SIL, etc)

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-6.1 Safety Controller loading estimation

1724000594-IN-RE-00008

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Safety Controller loading estimation	Sheet 1 of 11 Date: 31/01/2025 Rev: 02

Base Load Power Hub (BLPH)

Safety Controller loading estimation

Document Number: 1724000594-IN-RE-00008

Supplier Document Number: E366772C00-SLE

Document Class: 3

ROSETTI MARINO

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Sign	Date
	03/03/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Safety Controller loading estimation	Sheet 2 of 11 Date: 31/01/2025 Rev: 02

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)
02	Issue for Information (IFI)

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.



Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

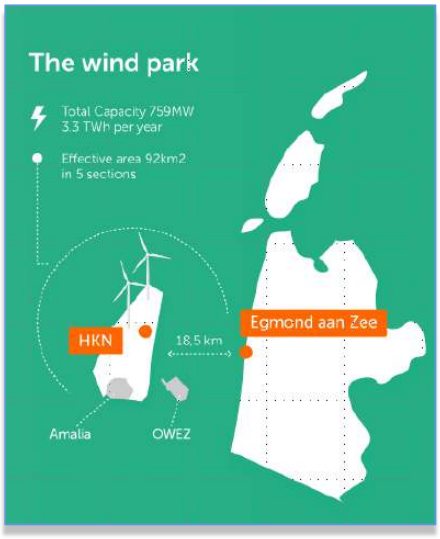

Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

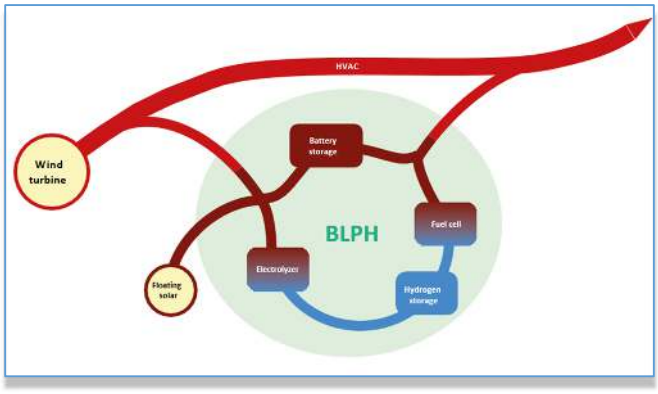

Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

Scope of this document is to provide an approximate calculation for controller loading for SIS.

This document can be taken as a reference for detail engineering based on controller loading calculation provided. Refer to attachment-1.

2.1 REFERENCES

Doc. No.	Description
K559-2254-IC-SPE-001 YEF240101055_rev00	System specification for Main Automation ContractorYokogawa Technical Proposal - Crosswind BLPH Project
K559-2254-IC-PHI-001	Control System Philosophy
1724000594-IN-DD-00015	System Architecture
1724000594-IN-LIS-00004	PCS and Safety System IO List (HW and SW)
1724000594-IN-DG-00021	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS
123A90-DDL-IN-LIS-40089	Instrument I/O ListIODB
GS 32P06D10-01EN	ProSafe-RS Safety Node Unit, Duplexed Safety Node Unit (for N-IO/FIO, Rack Mountable Type)
GS 32Q06K10-31E	ProSafe-RS Safety Node Unit (Rack Mountable Type)
GS 32Q06L11-31E	ProSafe-RS ESB Bus Coupler Module
GS 32Q06K30-31E	ProSafe-RS Analog I/O Modules (for FIO)
GS 32Q06K40-31E	ProSafe-RS Digital I/O Modules (for FIO)
GS 32Q06M10-31E	ProSafe-RS/ProSafe-RS Lite Cable
GS 32Q06L20-31E	ProSafe-RS/ProSafe-RS Lite Terminal Boards/Relay Boards
TI 32P01A10-01EN	Safety Instrumented System ProSafe-RS System Overview

Table 1 - Reference Documents

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2.2 DEFINITIONS AND ABBREVIATIONS

COMPANY or Client (CPY):	Crosswind
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
IO	Input/Output
SCS	Safety Controller System
SIS	Safety Integrated System
FGS	Fire and Gas Detection System

Table 2 - Definitions and Abbreviations

2.3 ASSUMPTIONS

NIL

2.4 BASIS OF CALCULATION

- Controller loading is done based on IODB 123A90-DDL-IN-LIS-40089
- Only 1 SCS Link transmission is configured between SIS and FGS.

ATTACHMENT-1

Safety Controller loading estimation-SIS

Safety Controller loading estimation-FGS

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Crosswind BLPH
Doc No: 1724000594-IN-RE-00008
SIS Controller - SCS0110

Attachment - 1

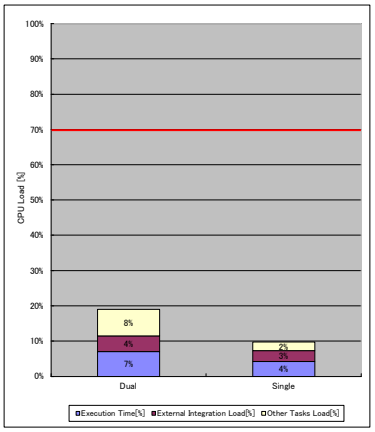
This tool is for SCS R4.01.00 or later with S2SC70

Item	Input Parameters		
Common	Scan Period [ms]	300	
I/O (The sum of I/O groups)	Number of IOM *11	10	The maximum number of IOM is 110.
	N-IO (Single)	0	(Read Only)
	N-IO (Dual-redundant)	0	(Read Only)
	FIO (Single)	0	(Read Only)
	FIO (Dual-redundant)	10	(Read Only)
	Number Of ALR1x1/ALE111 for Subsystem comm.	0	(Read Only)
	Number Of CommWord	0	(Read Only)
	Number Of S2LP131 for Safety Subsystem comm.	0	(Read Only)
	Number Of Safety Subsystem CommWord	0	(Read Only)
	Number Of Safety Device for Safety Subsystem comm.	0	(Read Only)
N-IO group1	Maximum Extention Distance[km] *7	0	Classify the N-IO nodes into three or less groups as to the maximum length of optical cable. Input necessary parameters in each group. In case of no Optical N-ESB Bus Repeaters, input 0 to Maximum Extension Distance.
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
N-IO group2	Maximum Extention Distance[km] *7	0	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
N-IO group3	Maximum Extention Distance[km] *7	0	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
FIO group 1	Maximum Extention Distance[km] *7	0	Classify the FIO nodes into three or less groups as to the maximum length of optical cable. Input necessary parameters in each group. In case of no Optical ESB Bus Repeaters, input 0 to Maximum Extension Distance.
	N-IO Node Connection (True/False) *10	FALSE	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	10	
	Number Of ALR1x1/ALE111 for Subsystem comm. *5	0	
	Number Of CommWord *6	0	
	Number Of S2LP131 for Safety Subsystem comm.	0	
	Number Of Safety Subsystem CommWord *12	0	
	Number Of Safety Device for Safety Subsystem comm. *1	0	
FIO group 2	Maximum Extention Distance[km] *7	0	
	N-IO Node Connection (True/False) *10	FALSE	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
	Number Of ALR1x1/ALE111 for Subsystem comm. *5	0	
	Number Of CommWord *6	0	
	Number Of S2LP131 for Safety Subsystem comm.	0	
	Number Of Safety Subsystem CommWord *12	0	
	Number Of Safety Device for Safety Subsystem comm. *1	0	
FIO group 3	Maximum Extention Distance[km] *7	0	
	N-IO Node Connection (True/False) *10	FALSE	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
	Number Of ALR1x1/ALE111 for Subsystem comm. *5	0	
	Number Of CommWord *6	0	
	Number Of S2LP131 for Safety Subsystem comm.	0	
	Number Of Safety Subsystem CommWord *12	0	
	Number Of Safety Device for Safety Subsystem comm. *1	0	
IEC Logic *2	POU Large	4	(According to the input POU numbers, the total IO channels processed by all POUs are presumed at least 128 ch, at max 236ch.)
	POU Middle	10	
	POU Small	16	
	Locking of Internal Variables (True/False) *9	TRUE	
CENTUM Integration	External Scan Period [sec]	1	
	Mapping Blocks	0	
	Mapping Elements	0	
Modbus Slave	Number of Connection *4	0	
SCS Safety Communication	Number of Station	1	
	Number of Data for each station *3	18	
SCS Link Transmission	Number of Station for receiving data *8	0	

Main CPU Performance

Main CPU Performance

	Estimated Performance	
	Dual	Single
CPU Idle Time[%]	81%	90%
CPU Idle Time[sec/60sec]	49	54
Total Load[%]	19%	10%
Total Execution Time[ms/scan]	57	29
Execution Time[%]	7%	4%
Execution Time[ms/scan]	21	13
External Integration Load[%]	4%	3%
External Integration Exec Time[ms/scan]	13	9
Other Tasks Load[%]	8%	2%
Other Tasks Exec Time[ms/scan]	23	7



Limitation on R4.01.00:
When the CPU load or I/O coprocessor load exceeds 70%, the input processing of SCS is stopped. This causes all the input status to become BAD.
This occurs only when the scan period shorter than 250ms is specified.
This limitation was released with R4.01.01 and R4.02.00.

IO Coprocessor Performance

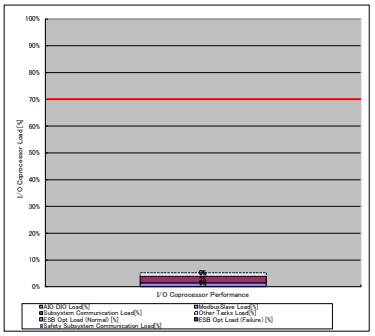
I/O Coprocessor Performance

	Estimated Performance
IO_Cop Idle Time[%]	95%
IO_Cop Idle Time[sec/60sec]	57
Total Load[%]	5%
Total Execution Time[ms/scan]	16
AIO DIO Load[%]	1%
AIO DIO Time[ms/scan]	4
ModbusSlave Load[%]	0%
ModbusSlave Time[ms/scan]	0
Subsystem Communication Load[%]	2%
Subsystem Communication Time[ms/scan]	7.48
Safety Subsystem Communication Load[%]	0%
Safety Subsystem Communication Time[ms/sca	0
Other Tasks Load[%]	1%
Other Tasks ExecutionTime[ms/scan]	4
ESB Opt Load (Normal) [%]	0%
ESB Opt Load (Normal) [ms/scan]	0
ESB Opt Load (Failure) [%]	0%
ESB Opt Load (Failure) [ms/scan]	0

IO_Cop:
"IO_Cop" is the coprocessor for IO processing on SCP461 and S2CP471. On these CPUs, IO processing was separated from main CPU to improve the performance of IEC logic execution.

ESB Opt Load (Normal):
The load about the optical ESB bus commniuication when the ESB communication is normal.

ESB Opt Load (Failure):
The maximal increased load about the optical ESB bus communication when at least one of the ESB communication bus fails. While both of the ESB communication bus are normal, the ESB Opt Load (Failure) remains 0%



Limitation on R4.01.00:
When the CPU load or I/O coprocessor load exceeds 70%, the input processing of SCS is stopped. This causes all the input status to become BAD.
This occurs only when the scan period shorter than 250ms is specified.
This limitation was released with R4.01.01 and R4.02.00.

*1 Input the number of the single IOMs and the number of the pair of dual-redundant IOMs respectively.
ex. If two DI modules are used dual-redundantly, enter 1 into the IOM (Dual-redundant) cell.

*2 Input number of Programs which classified it's complexity.
See below complexity guide. See also the "Example of complexity of a POU" sheet.

	Description	Channels	Size
Large	VOTER, SYS_*,... Rich	10+	2+ KB
Middle	AI/DI mixed, Ordinary Logic	4 to 8	1 to 2KB
Small	DI Rich, Simple Logic	1 to 6	1- KB

1 POU is estimated to have the following resources approximately.
5 ch/POU (In case of 12ch/IOM)
0 Mapping block/POU

*3 Input average number of data for each connection.
ex. If SCS0101 communicates SCS0102 with 50 send data and 50 receive data,
then input "50" for this parameter. In this case, input "1" for the "Number of Station".

*4 Input number of Modbus Slave connection (sum of ALR1x1 ports and ALE111 connections)
whose access period is faster than 100ms.
(If the access period of a Modbus Slave connection is longer than 100ms,
the load of the Modbus Slave connection is negligible.)

*5 Input the number of ALR1x1/ALE111 for SubSystem Communication.
ex. If one ALR1x1 for two PLCs is implemented for SubSystem connection,
input "1" for the "Number Of ALR1x1".
If two ALR1x1s for redundant configuration are implemented for SubSystem connection,
input "2" for the "Number Of ALR1x1".

*6 Input the total word number to be communicated by SubSystem Communication.
(A word is two bytes.)
ex. If the SCS reads 50 words data from PLC1, and writes 50 words data to PLC1,
and reads 50 words data from PLC2, input 150 for the "Number Of CommWord".

*7 Input the following data.
No Optical ESB Bus Repeaters : 0
Using Optical ESB Bus Repeaters :
Maximum length (km) of optical cable from the CPU node to the farthest I/O node. The length is up to 50km.

For better accuracy, input the calculated distance according to the following formula.
$\Sigma i\ Yi*Xi/Z$
i= from 1 to number of the I/O nodes extended by the Optical N-ESB/ESB Bus Repeaters
Xi = number of the IOMs mounted in the I/O node i
Yi = length of optical cable from the CPU node to the I/O node i (km)
Z= Total number of the IOMs in the group

*8 ex. If the SCS receives the link transmission data from 3 station, input 3 into the parameter.
Number of Station includes SCS and FCS.
If the SCS receives the link transmission data from 2 SCS and 3 FCS, input 5 into the parameter.

*9 Set "True" when "Locking of Internal Variables" on SCS Constants Builder is set to "Enable".
If you set "Enable" to "Locking of Internal Variable", the Execution Time of SCS increases.
Please refer to "Engineering Guide Vol. 1" (IM 32P01C10-01EN) in detail.

*10 Set "True" if N-IO node is connected to the path from the CPU node to the FIO node.
If you set "True" to "N-IO Node Connection", the load about the optical ESB bus commniuication increases.

*11 Note that "Number of IOM" is the sum of the following:
"N-IO (Single)", "N-IO (Dual-redundant)", "FIO (Single)" and "FIO (Dual-redundant)".
This is not including the number of ALR1x1/ALE111 for Subsystem communication or Modbus slave communication (hereinafter referred to as ALR1x1/ALE111),
while the maximum number of IOM that can be mounted on a SCS, that is 110, is including the number of ALR1x1/ALE111.
So this tool can not check whether the number of IOM exceeds 110 if ALR1x1/ALE111 are implemented.
For detail of maximum configuration, please refer to "ProSafe-RS Safety Instrumented System Overview (for Vnet/IP)" (GS 32P01B10-01EN).

*12 Input the total word number to be communicated by Safety Subsystem Communication.
Maximum number of CommWord per S2LP131 is 1000 words(a word = two bytes).
ex. When acquiring data(a safety data(8 words) and two non-safety data(2 words each)) from each of 50 GS01 devices,
input 600 (=(8+(2*2))*50) for the "Number Of Safety Subsystem CommWord".

*13 Applicable target is GS01.

Crosswind BLPH
Doc No: 1724000594-IN-RE-00008
FGS Controller - SCS0120

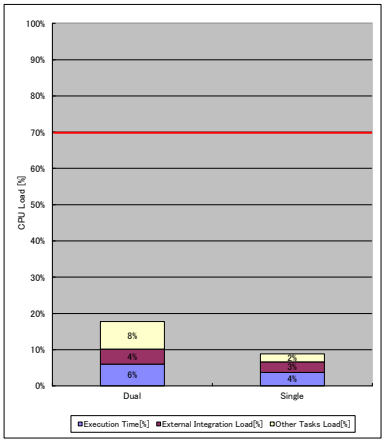
Attachment - 1

This tool is for SCS R4.01.00 or later with S2SC70

Item	Input Parameters		
Common	Scan Period [ms]	500	
I/O (The sum of I/O groups)	Number of IOM *11	23	(Read Only) The maximum number of IOM is 110.
	N-IO (Single)	0	(Read Only)
	N-IO (Dual-redundant)	0	(Read Only)
	FIO (Single)	0	(Read Only)
	FIO (Dual-redundant)	23	(Read Only)
	Number Of ALR1x1/ALE111 for Subsystem comm.	0	(Read Only)
	Number Of CommWord	0	(Read Only)
	Number Of S2LP131 for Safety Subsystem comm.	0	(Read Only)
	Number Of Safety Subsystem CommWord	0	(Read Only)
	Number Of Safety Device for Safety Subsystem comm.	0	(Read Only)
N-IO group1	Maximum Extention Distance[km] *7	0	Classify the N-IO nodes into three or less groups as to the maximum length of optical cable. Input necessary parameters in each group. In case of no Optical N-ESB Bus Repeaters, input 0 to Maximum Extension Distance.
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
N-IO group2	Maximum Extention Distance[km] *7	0	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
N-IO group3	Maximum Extention Distance[km] *7	0	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
FIO group 1	Maximum Extention Distance[km] *7	0	Classify the FIO nodes into three or less groups as to the maximum length of optical cable. Input necessary parameters in each group. In case of no Optical ESB Bus Repeaters, input 0 to Maximum Extension Distance.
	N-IO Node Connection (True/False) *10	FALSE	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	23	
	Number Of ALR1x1/ALE111 for Subsystem comm. *5	0	
	Number Of CommWord *6	0	
	Number Of S2LP131 for Safety Subsystem comm.	0	
	Number Of Safety Subsystem CommWord *12	0	
	Number Of Safety Device for Safety Subsystem comm. *13	0	
FIO group 2	Maximum Extention Distance[km] *7	0	
	N-IO Node Connection (True/False) *10	FALSE	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
	Number Of ALR1x1/ALE111 for Subsystem comm. *5	0	
	Number Of CommWord *6	0	
	Number Of S2LP131 for Safety Subsystem comm.	0	
	Number Of Safety Subsystem CommWord *12	0	
	Number Of Safety Device for Safety Subsystem comm. *13	0	
FIO group 3	Maximum Extention Distance[km] *7	0	
	N-IO Node Connection (True/False) *10	FALSE	
	IOM (Single) *1	0	
	IOM (Dual-redundant) *1	0	
	Number Of ALR1x1/ALE111 for Subsystem comm. *5	0	
	Number Of CommWord *6	0	
	Number Of S2LP131 for Safety Subsystem comm.	0	
	Number Of Safety Subsystem CommWord *12	0	
	Number Of Safety Device for Safety Subsystem comm. *13	0	
IEC Logic *2	POU Large	11	(According to the input POU numbers, the total IO channels processed by all POUs are presumed at least 230 ch, at max 405ch.)
	POU Middle	24	
	POU Small	8	
	Locking of Internal Variables (True/False) *9	TRUE	
CENTUM Integration	External Scan Period [sec]	1	
	Mapping Blocks	0	
	Mapping Elements	0	
Modbus Slave	Number of Connection *4	0	
SCS Safety Communication	Number of Station	1	
SCS Link Transmission	Number of Data for each station *3	13	
	Number of Station for receiving data *8	0	

Main CPU Performance

Main CPU Performance	Estimated Performance	
	Dual	Single
CPU Idle Time[%]	82%	91%
CPU Idle Time[sec/60sec]	49	55
Total Load[%]	18%	9%
Total Execution Time[ms/scan]	89	44
Execution Time[%]	6%	4%
Execution Time[ms/scan]	30	19
External Integration Load[%]	4%	3%
External Integration Exec Time[ms/scan]	21	15
Other Tasks Load[%]	8%	2%
Other Tasks Exec Time[ms/scan]	38	11



Limitation on R4.01.00:
When the CPU load or I/O coprocessor load exceeds 70%, the input processing of SCS is stopped. This causes all the input status to become BAD.
This occurs only when the scan period shorter than 250ms is specified.
This limitation was released with R4.01.01 and R4.02.00.

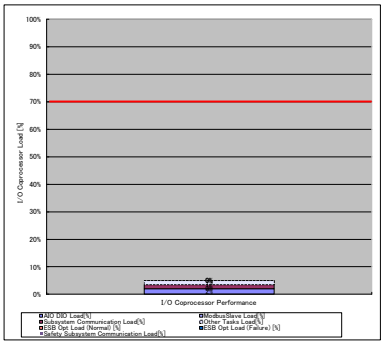
IO Coprocessor Performance

I/O Coprocessor Performance	Estimated Performance
IO_Cop Idle Time[%]	95%
IO_Cop Idle Time[sec/60sec]	57
Total Load[%]	5%
Total Execution Time[ms/scan]	25
AIO DIO Load[%]	2%
AIO DIO Time[ms/scan]	10
ModbusSlave Load[%]	0%
ModbusSlave Time[ms/scan]	0
Subsystem Communication Load[%]	1%
Subsystem Communication Time[ms/scan]	7.48
Safety Subsystem Communication Load[%]	0%
Safety Subsystem Communication Time[ms/sc	0
Other Tasks Load[%]	1%
Other Tasks ExecutionTime[ms/scan]	7
ESB Opt Load (Normal) [%]	0%
ESB Opt Load (Normal) [ms/scan]	0
ESB Opt Load (Failure) [%]	0%
ESB Opt Load (Failure) [ms/scan]	0

IO_Cop:
"IO_Cop" is the coprocessor for IO processing on SCP461 and S2CP471. On these CPUs, IO processing was separated from main CPU to improve the performance of IEC logic execution.

ESB Opt Load (Normal):
The load about the optical ESB bus commnuication when the ESB communication is normal.

ESB Opt Load (Failure):
The maximal increased load about the optical ESB bus communication when at least one of the ESB communicaiton bus fails. While both of the ESB communication bus are normal, the ESB Opt Load (Failure) remains 0%



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*1 Input the number of the single IOMs and the number of the pair of dual-redundant IOMs respectively.
ex. If two DI modules are used dual-redundantly, enter 1 into the IOM (Dual-redundant) cell.

*2 Input number of Programs which classified it's complexity.
See below complexity guide. See also the "Example of complexity of a POU" sheet.

	Description	Channels	Size
Large	VOTER, SYS_*,... Rich	10<	2< KB
Middle	AI/DI mixed, Ordinary Logic	4 to 8	1 to 2KB
Small	DI Rich, Simple Logic	1 to 6	1- KB

1 POU is estimated to have the following resources approximately.
9 ch/POU (In case of 12ch/IOM)
0 Mapping block/POU

*3 Input average number of data for each connection.
ex. If SCS0101 communicates SCS0102 with 50 send data and 50 receive data,
then input "50" for this parameter. In this case, input "1" for the "Number of Station".

*4 Input number of Modbus Slave connection (sum of ALR1x1 ports and ALE111 connections)
whose access period is faster than 100ms.
(If the access period of a Modbus Slave connection is longer than 100ms,
the load of the Modbus Slave connection is negligible.)

*5 Input the number of ALR1x1/ALE111 for SubSystem Communication.
ex. If one ALR1x1 for two PLCs is implemented for SubSystem connection,
input "1" for the "Number Of ALR1x1".
If two ALR1x1s for redundant configuration are implemented for SubSystem connection,
input "2" for the "Number Of ALR1x1".

*6 Input the total word number to be communicated by SubSystem Communication.
(A word is two bytes.)
ex. If the SCS reads 50 words data from PLC1, and writes 50 words data to PLC1,
and reads 50 words data from PLC2, input 150 for the "Number Of CommWord".

*7 Input the following data.
No Optical ESB Bus Repeaters : 0
Using Optical ESB Bus Repeaters :
Maximum length (km) of optical cable from the CPU node to the farthest I/O node. The length is up to 50km.

For better accuracy, input the calculated distance according to the following formula.
$\Sigma i\ Yi*Xi/Z$
i= from 1 to number of the I/O nodes extended by the Optical N-ESB/ESB Bus Repeaters
Xi = number of the IOMs mounted in the I/O node i
Yi = length of optical cable from the CPU node to the I/O node i (km)
Z= Total number of the IOMs in the group

*8 ex. If the SCS receives the link transmission data from 3 station, input 3 into the parameter.
Number of Station includes SCS and FCS.
If the SCS receives the link transmission data from 2 SCS and 3 FCS, input 5 into the parameter.

*9 Set "True" when "Locking of Internal Variables" on SCS Constants Builder is set to "Enable".
If you set "Enable" to "Locking of Internal Variable", the Execution Time of SCS increases.
Please refer to "Engineering Guide Vol. 1" (IM 32P01C10-01EN) in detail.

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If you set "True" to "N-IO Node Connection", the load about the optical ESB bus commnuication increases.

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"N-IO (Single)", "N-IO (Dual-redundant)", "FIO (Single)" and "FIO (Dual-redundant)".
This is not including the number of ALR1x1/ALE111 for Subsystem communication or Modbus slave communication (hereinafter referred to as ALR1x1/ALE111),
while the maximum number of IOM that can be mounted on a SCS, that is 110, is including the number of ALR1x1/ALE111.
So this tool can not check whether the number of IOM exceeds 110 if ALR1x1/ALE111 are implemeted.
For detail of maximum configuration, please refer to "ProSafe-RS Safety Instrumented System Overview (for Vnet/IP)" (GS 32P01R10-01EN).

*12 Input the total word number to be communicated by Safety Subsystem Communication.
Maximum number of CommWord per S2LP131 is 1000 words(a word = two bytes).
ex. When acquiring data(a safety data(8 words) and two non-safety data(2 words each)) from each of 50 GS01 devices,
input 600 (=(8+(2*2))*50) for the "Number Of Safety Subsystem CommWord".

*13 Applicable target is GS01.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7 Instrumental wiring diagrams: Interconnection diagrams, DCS/PLC interfacing diagrams

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7.1 Systems Cables List

1724000594-IN-LIS-00007

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Systems Cables List	Sh. 1 of 15 Date: 30/07/2025 Rev. 05

Base Load Power Hub (BLPH)

ICSS

Systems Cables List

Document Number: 1724000594-IN-LIS-00007

Subpplier Document Number: E366772C00-CL

Document Class: 2

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED
NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.	
Sign	Date
	17/09/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
05	30/07/2025	Accepted for Construction (AFC)	SKR	MP/KN/AB	SC
04	07/05/2025	Accepted for Construction (AFC)	SKR	MP/KN/AB	SC
03	06/02/2025	Accepted for Construction (AFC)	SKR	MP/KN/AB	SC
02	11/11/2024	Accepted for Construction (AFC)	SKR	MP/KN/AB	SC
01	23/09/2024	Issue for Review (IFR)	SKR	MP/KN/AB	SC
00	16/05/2024	Issue for Review (IFR)	SKR	MP/KN/AB	SC

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Document Title:	Systems Cables List	Sh. 2 of 15 Date: 30/07/2025 Rev. 05

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		00	01	02	03	04	5		
1	Cover	X	X	X	X	X	X		
2	Table of Contents	X	X	X	X	X	X		
3	Revision / Holds List	X	X	X	X	X	X		
4	General Notes	X	X	X	X	X	X		
5	Systems Cables List - Vnet_IP-B1	X	X	X	X	X	X		
6	Systems Cables List - Vnet_IP-B2	X	X	X	X	X	X		
7	Systems Cables List - PIN	X	X	X	X	X	X		
8	Systems Cables List - PIN	X	X	X	X	X	X		
9	Systems Cables List - PRE-FAB Cables	X	X	X	X	X	X		
10	Systems Cables List - PRE-FAB Cables	X	X	X	X	X	X		
11	Systems Cables List - PRE-FAB Cables	X	X	X	X	X	X		
12	Systems Cables List - M-TCP_IEC,SERVICE	X	X	X	X	X	X		
13	Systems Cables List - M-TCP_IEC,SERVICE	X	X	X	X	X	X		
14	Systems Cables List MODBUS & Profinet		X	X	X	X	X		

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Systems Cables List	Sh. 3 of 15 Date: 30/07/2025 Rev. 05

Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ISSUE FOR REVIEW (IFR)
02	Accepted for Construction (AFC)
03	Accepted for Construction (AFC)
04	Accepted for Construction (AFC)
05	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1	
2	
3	
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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Systems Cables List	Sh. 4 of 15 Date: 30/07/2025 Rev. 05

GENERAL NOTES:

1 System Cable Schedule is prepared based on the following reference documents:
A) Network Architecture for Crosswind BLPH : 1724000594-IN-DD-00015
2 Details of System Cables used are as follows

IT| CABLE	SERVICE	DESCRIPTION
a. CAT6 S/UTP	Vnet/IP BUS-1 and BUS-2	Yokogawa Control Network (Vnet/IP)
b. CAT6 S/UTP	Safety Network	SIS Vnet/IP Network
c. CAT6 S/UTP	PIN	Plant Information Network (Ethernet)
d. CAT6 S/UTP	Modbus/Profinet	Ethernet Communication Module
e. CAT6 S/UTP	Modbus	MODBUS Protocal communication to CI Server
f. CAT6 S/UTP	NTP Interface	Time Synchronising
g. PRE-FAB cables	Conditioned Electrical Signals	PCS IO Card Signal Processing
h. FO Cable	PTP Interface	PTP Interface

3 Colour code summary for cables

S.No	Item	Cable Type	Color
1	Vnet/IP Bus 1	CAT-6	Red
2	Vnet/IP Bus 2	CAT-6	Blue
3	PIN Network	CAT-6	Green
4	FO Patch Cable	Single Mode Fiber optic cable	Yellow
5	Modbus/Profinet TCP/IP	CAT-6	Green
6	KVM Connectivity	CAT-6	Grey
7	NTP Interface	CAT-6	Grey
8	IEC61850/Service	CAT-6	Grey
9	OPC UA	CAT-6	Grey
10	PTP	Multi Mode Fiber optic cable	Aqua
11			
12			

*NOTE: Cable colour code shall be changed during detailed design
4 Solar Farm, Wind Farm ,ICPP and Splice box connections are considered outside battery limits

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ITEM	FROM				TO					CABLE TAG	CABLE TAG	CABLE		SERVICE	REMARKS
NO	CABINET NO.	EQUIPMENT	PORT	LOCATION	CABINET NO.	EQUIPMENT	PORT	LOCATION	Cable Name			TYPE	LENGTH (M)		
A	Control Bus Cables - Vnet/IP Bus-1														
1	B400-NET-001	CNSWL2-001	P7	ITER	B400-PCS-001	FCS0101	CPU-L-B1	ITER	B400-NET1-A1	CNSWL2-001:P7 / FCS0101:CPU-L-B1	FCS0101:CPU-L-B1 / CNSWL2-001:P7	CAT6 UTP, RED	15	Vnet/IP-B1	CABLE INSTALLED IN YARD
2	B400-NET-001	CNSWL2-001	P8	ITER	B400-PCS-001	FCS0101	CPU-R-B1	ITER	B400-NET1-A2	CNSWL2-001:P8 / FCS0101:CPU-R-B1	FCS0101:CPU-R-B1 / CNSWL2-001:P8	CAT6 UTP, RED	15	Vnet/IP-B1	CABLE INSTALLED IN YARD
3	B400-NET-001	CNSWL2-001	P9	ITER	B400-SRV-001	EWS0164	Bus-1	ITER	B400-NET1-A3	CNSWL2-001:P9 / EWS0164:Bus-1	EWS0164:Bus-1 / CNSWL2-001:P9	CAT6 UTP, RED	10	Vnet/IP-B1	PCS, SIS+FGS
4	B400-NET-001	CNSWL2-001	P10	ITER	B400-SRV-001	CISVR01	Bus-1	ITER	B400-NET1-A4	CNSWL2-001:P10 / CISVR01:Bus-1	CISVR01:Bus-1 / CNSWL2-001:P10	CAT6 UTP, RED	10	Vnet/IP-B1	CI Server-1
5	B400-NET-001	CNSWL2-001	P19	ITER	B400-SRV-001	CISVR02	Bus-1	ITER	B400-NET1-A5	CNSWL2-001:P19 / CISVR02:Bus-1	CISVR02:Bus-1 / CNSWL2-001:P19	CAT6 UTP, RED	10	Vnet/IP-B1	CI Server-2
6	B400-NET-001	CNSWL2-001	P16	ITER	B400-SRV-001	IAMSSVR	Bus-1	ITER	B400-NET1-A6	CNSWL2-001:P16 / IAMSSVR:Bus-1	IAMSSVR:Bus-1 / CNSWL2-001:P16	CAT6 UTP, RED	10	Vnet/IP-B1	IAMS
7	B400-NET-001	SNSWL2-003	P7	ITER	B400-SIS-001	SCS0110	CPU-L-B1	ITER	B400-NET1-A7	SNSWL2-003:P7 / SCS0110:CPU-L-B1	SCS0110:CPU-L-B1 / SNSWL2-003:P7	CAT6 UTP, RED	20	Vnet/IP-B1	CABLE INSTALLED IN YARD
8	B400-NET-001	SNSWL2-003	P8	ITER	B400-SIS-001	SCS0110	CPU-R-B1	ITER	B400-NET1-A8	SNSWL2-003:P8 / SCS0110:CPU-R-B1	SCS0110:CPU-R-B1 / SNSWL2-003:P8	CAT6 UTP, RED	20	Vnet/IP-B1	CABLE INSTALLED IN YARD
9	B400-NET-001	SNSWL2-003	P9	ITER	B400-FGS-001	SCS0120	CPU-L-B1	ITER	B400-NET1-A9	SNSWL2-003:P9 / SCS0120:CPU-L-B1	SCS0120:CPU-L-B1 / SNSWL2-003:P9	CAT6 UTP, RED	15	Vnet/IP-B1	CABLE INSTALLED IN YARD
10	B400-NET-001	SNSWL2-003	P10	ITER	B400-FGS-001	SCS0120	CPU-R-B1	ITER	B400-NET1-A10	SNSWL2-003:P10 / SCS0120:CPU-R-B1	SCS0120:CPU-R-B1 / SNSWL2-003:P10	CAT6 UTP, RED	15	Vnet/IP-B1	CABLE INSTALLED IN YARD
11	B400-NET-001	CNSWL2-001	P17	ITER	B400-NET-001	FW-001	WAN1	ITER	B400-NET1-A11	CNSWL2-001:P17 / FW-001:WAN1	FW-001:WAN1 / CNSWL2-001:P17	CAT6 UTP, RED	5	Vnet/IP-B1	
12	B400-NET-001	SNSWL2-003	P15	ITER	B400-NET-001	FW-001	P1	ITER	B400-NET1-A12	SNSWL2-003:P15 / FW-001:P1	FW-001:P1 / SNSWL2-003:P15	CAT6 UTP, RED	5	Vnet/IP-B1	
13	B400-NET-001	CNSWL2-001	P18	ITER	B400-NET-001	TMSSWL2-001	P7	ITER	B400-NET1-A13	CNSWL2-001:P18 / TMSSWL2-001:P7	TMSSWL2-001:P7 / CNSWL2-001:P18	CAT6 UTP, Grey	5	mgmt	management Services
14	B400-NET-001	SNSWL2-003	P18	ITER	B400-NET-001	TMSSWL2-001	P19	ITER	B400-NET1-A14	SNSWL2-003:P18 / TMSSWL2-001:P19	TMSSWL2-001:P19 / SNSWL2-003:P18	CAT6 UTP, Grey	5	mgmt	management Services
15	B400-NET-001	FW-001	P2	ITER	B400-SRV-001	TMSSVR01	P3	ITER	B400-NET1-B15	FW-001:P2 / TMSSVR01:P3	TMSSVR01:P3 / FW-001:P2	CAT6 UTP, Grey	5	SNTP	Time sync

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Document No. 1724000594-IN-LIS-00007_R05 Date:10/07/2025 09:00:08 Work Package: 1724000594

ITEM	FROM				TO					CABLE TAG	CABLE TAG	CABLE		SERVICE	REMARKS
NO	CABINET NO.	EQUIPMENT	PORT	LOCATION	CABINET NO.	EQUIPMENT	PORT	LOCATION	Cable Name			TYPE	LENGTH (M)		
B	Control Bus Cables - Vnet/IP Bus-2														
1	B400-NET-001	CNSWL2-002	P7	ITER	B400-PCS-001	FCS0101	CPU-L-B2	ITER	B400-NET1-B1	CNSWL2-002:P7 / FCS0101:CPU-L-B2	FCS0101:CPU-L-B2 / CNSWL2-002:P7	CAT6 UTP, BLUE	15	Vnet/IP-B2	CABLE INSTALLED IN YARD
2	B400-NET-001	CNSWL2-002	P8	ITER	B400-PCS-001	FCS0101	CPU-R-B2	ITER	B400-NET1-B2	CNSWL2-002:P8 / FCS0101:CPU-R-B2	FCS0101:CPU-R-B2 / CNSWL2-002:P8	CAT6 UTP, BLUE	15	Vnet/IP-B2	CABLE INSTALLED IN YARD
3	B400-NET-001	CNSWL2-002	P9	ITER	B400-SRV-001	EWS0164	Bus-2	ITER	B400-NET1-B3	CNSWL2-002:P9 / EWS0164:Bus-2	EWS0164:Bus-2 / CNSWL2-002:P9	CAT6 UTP, BLUE	10	Vnet/IP-B2	PCS, SIS+FGS
4	B400-NET-001	CNSWL2-002	P10	ITER	B400-SRV-001	CISVR01	Bus-2	ITER	B400-NET1-B4	CNSWL2-002:P10 / CISVR01:Bus-2	CISVR01:Bus-2 / CNSWL2-002:P10	CAT6 UTP, BLUE	10	Vnet/IP-B2	CI Server-1
5	B400-NET-001	CNSWL2-002	P19	ITER	B400-SRV-001	CISVR02	Bus-2	ITER	B400-NET1-B5	CNSWL2-002:P19 / CISVR02:Bus-2	CISVR02:Bus-2 / CNSWL2-002:P19	CAT6 UTP, BLUE	10	Vnet/IP-B2	CI Server-2
6	B400-NET-001	CNSWL2-002	P16	ITER	B400-SRV-001	IAMSSVR	Bus-2	ITER	B400-NET1-B6	CNSWL2-002:P16 / IAMSSVR:Bus-2	IAMSSVR:Bus-2 / CNSWL2-002:P16	CAT6 UTP, BLUE	10	Vnet/IP-B2	IAMS
7	B400-NET-001	SNSWL2-004	P7	ITER	B400-SIS-001	SCS0110	CPU-L-B2	ITER	B400-NET1-B7	SNSWL2-004:P7 / SCS0110:CPU-L-B2	SCS0110:CPU-L-B2 / SNSWL2-004:P7	CAT6 UTP, BLUE	20	Vnet/IP-B2	CABLE INSTALLED IN YARD
8	B400-NET-001	SNSWL2-004	P8	ITER	B400-SIS-001	SCS0110	CPU-R-B2	ITER	B400-NET1-B8	SNSWL2-004:P8 / SCS0110:CPU-R-B2	SCS0110:CPU-R-B2 / SNSWL2-004:P8	CAT6 UTP, BLUE	20	Vnet/IP-B2	CABLE INSTALLED IN YARD
9	B400-NET-001	SNSWL2-004	P9	ITER	B400-FGS-001	SCS0120	CPU-L-B2	ITER	B400-NET1-B9	SNSWL2-004:P9 / SCS0120:CPU-L-B2	SCS0120:CPU-L-B2 / SNSWL2-004:P9	CAT6 UTP, BLUE	15	Vnet/IP-B2	CABLE INSTALLED IN YARD
10	B400-NET-001	SNSWL2-004	P10	ITER	B400-FGS-001	SCS0120	CPU-R-B2	ITER	B400-NET1-B10	SNSWL2-004:P10 / SCS0120:CPU-R-B2	SCS0120:CPU-R-B2 / SNSWL2-004:P10	CAT6 UTP, BLUE	15	Vnet/IP-B2	CABLE INSTALLED IN YARD
11	B400-NET-001	CNSWL2-002	P17	ITER	B400-NET-001	FW-002	WAN1	ITER	B400-NET1-B11	CNSWL2-002:P17 / FW-002:WAN1	FW-002:WAN1 / CNSWL2-002:P17	CAT6 UTP, BLUE	5	Vnet/IP-B2	
12	B400-NET-001	SNSWL2-004	P15	ITER	B400-NET-001	FW-002	P1	ITER	B400-NET1-B12	SNSWL2-004:P15 / FW-002:P1	FW-002:P1 / SNSWL2-004:P15	CAT6 UTP, BLUE	5	Vnet/IP-B2	
13	B400-NET-001	CNSWL2-002	P18	ITER	B400-NET-001	TMSSWL2-001	P8	ITER	B400-NET1-B13	CNSWL2-002:P18 / TMSSWL2-001:P8	TMSSWL2-001:P8 / CNSWL2-002:P18	CAT6 UTP, Gray	5	mgmt	Management Services
14	B400-NET-001	SNSWL2-004	P18	ITER	B400-NET-001	TMSSWL2-001	P20	ITER	B400-NET1-B14	SNSWL2-004:P18 / TMSSWL2-001:P20	TMSSWL2-001:P20 / SNSWL2-004:P18	CAT6 UTP, Gray	5	mgmt	management Services
15	B400-SRV-001	TMSSVR01	P7	ITER	B400-NET-001	FW-002	P2	ITER	B400-SRV1-B15	TMSSVR01:P7 / FW-002:P2	FW-002:P2 / TMSSVR01:P7	CAT6 UTP, Grey	5	SNTP	Time sync

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Document No. : 1724000594-IQC-000033- Rev:03

HAN4F2K7WBR6 R6E OSRD MOB [TAL] 55055 [EBT]

ITEM NO	FROM CABINET NO.	FROM EQUIPMENT	FROM PORT	FROM LOCATION	TO CABINET NO.	TO EQUIPMENT	TO PORT	TO LOCATION	Cable Name	CABLE TAG	CABLE TAG	CABLE TYPE	CABLE LENGTH (M)	SERVICE	REMARKS
C	PIN Network Cables														
1	B400-NET-001	PINSWL2-001	P1	ITER	B400-NET-001	FOPP-001	P1-LEFT	ITER	B400-NET1-C1	PINSWL2-001:P1 / FOPP-001:P1-LEFT	FOPP-001:P1-LEFT / PINSWL2-001:P1	1xFOSM	2	PIN	FO PANEL
2	B400-NET-001	PINSWL2-002	P1	ITER	B400-NET-001	FOPP-001	P1-RIGHT	ITER	B400-NET1-C2	PINSWL2-002:P1 / FOPP-001:P1-RIGHT	FOPP-001:P1-RIGHT / PINSWL2-002:P1	1xFOSM	2	PIN	FO PANEL
3	B400-NET-001	PINSWL2-001	P5	ITER	B400-SVR-001	EWS0164	P1	ITER	B400-NET1-C3	PINSWL2-001:P5 / EWS0164:P1	EWS0164:P1 / PINSWL2-001:P5	CAT6 UTP, GREEN	10	PIN	EWS
4	B400-NET-001	PINSWL2-001	P6	ITER	B400-SVR-001	CISVR01	P1	ITER	B400-NET1-C4	PINSWL2-001:P6 / CISVR01:P1	CISVR01:P1 / PINSWL2-001:P6	CAT6 UTP, GREEN	10	PIN	CI SERVER (HISTORIAN)
5	B400-NET-001	PINSWL2-001	P7	ITER	B400-SVR-001	CISVR02	P1	ITER	B400-NET1-C5	PINSWL2-001:P7 / CISVR02:P1	CISVR02:P1 / PINSWL2-001:P7	CAT6 UTP, GREEN	10	PIN	CI SERVER (HISTORIAN)
6	B400-NET-001	PINSWL2-001	P8	ITER	B400-SVR-001	IAMSSVR	P1	ITER	B400-NET1-C6	PINSWL2-001:P8 / IAMSSVR:P1	IAMSSVR:P1 / PINSWL2-001:P8	CAT6 UTP, GREEN	10	PIN	PRM
7	B400-NET-001	PINSWL2-001	P9	ITER	B400-SVR-001	EMCSSVR01	P1	ITER	B400-NET1-C7	PINSWL2-001:P9 / EMCSSVR01:P1	EMCSSVR01:P1 / PINSWL2-001:P9	CAT6 UTP, GREEN	10	PIN	EMCS-1 PIN connection
8	B400-NET-001	PINSWL2-001	P10	ITER	B400-SVR-001	EMCSSVR02	P1	ITER	B400-NET1-C8	PINSWL2-001:P10 / EMCSSVR02:P1	EMCSSVR02:P1 / PINSWL2-001:P10	CAT6 UTP, GREEN	10	PIN	EMC-2 PIN connection
9	B400-NET-001	PINSWL2-001	P11	ITER	B400-NET-001	TMSSWL2-001	P5	ITER	B400-NET1-C9	PINSWL2-001:P11 / TMSSWL2-001:P5	TMSSWL2-001:P5 / PINSWL2-001:P11	CAT6 UTP GREY	5	MGMT	Management Trunk Port
10	B400-NET-001	PINSWL2-002	P5	ITER	B400-SVR-001	EWS0164	P2	ITER	B400-NET1-C10	PINSWL2-002:P5 / EWS0164:P2	EWS0164:P2 / PINSWL2-002:P5	CAT6 UTP, GREEN	10	PIN	EWS
11	B400-NET-001	PINSWL2-002	P6	ITER	B400-SVR-001	CISVR01	P2	ITER	B400-NET1-C11	PINSWL2-002:P6 / CISVR01:P2	CISVR01:P2 / PINSWL2-002:P6	CAT6 UTP, GREEN	10	PIN	CI SERVER (HISTORIAN)
12	B400-NET-001	PINSWL2-002	P7	ITER	B400-SVR-001	CISVR02	P2	ITER	B400-NET1-C12	PINSWL2-002:P7 / CISVR02:P2	CISVR02:P2 / PINSWL2-002:P7	CAT6 UTP, GREEN	10	PIN	CI SERVER (HISTORIAN)
13	B400-NET-001	PINSWL2-002	P8	ITER	B400-SVR-001	IAMSSVR	P2	ITER	B400-NET1-C13	PINSWL2-002:P8 / IAMSSVR:P2	IAMSSVR:P2 / PINSWL2-002:P8	CAT6 UTP, GREEN	10	PIN	PRM
14	B400-NET-001	PINSWL2-002	P9	ITER	B400-SVR-001	EMCSSVR01	P2	ITER	B400-NET1-C14	PINSWL2-002:P9 / EMCSSVR01:P2	EMCSSVR01:P2 / PINSWL2-002:P9	CAT6 UTP, GREEN	10	PIN	EMCS-1 PIN connection
15	B400-NET-001	PINSWL2-002	P10	ITER	B400-SVR-001	EMCSSVR02	P2	ITER	B400-NET1-C15	PINSWL2-002:P10 / EMCSSVR02:P2	EMCSSVR02:P2 / PINSWL2-002:P10	CAT6 UTP, GREEN	10	PIN	EMCS-1 PIN connection
16	B400-NET-001	PINSWL2-002	P11	ITER	B400-NET-001	TMSSWL2-001	P6	ITER	B400-NET1-C16	PINSWL2-002:P11 / TMSSWL2-001:P6	TMSSWL2-001:P6 / PINSWL2-002:P11	CAT6 UTP, GREY	5	MGMT	Management Trunk Port
17	HKN-WPO1-BLPH-NET-01	PINSWL2-003	P1	OER	HKN-WPO1-BLPH-NET-01	FOPP-003	P1-LEFT	OER	HKN-WPO11-C17	PINSWL2-003:P1 / FOPP-003:P1-LEFT	FOPP-003:P1-LEFT / PINSWL2-003:P1	1xFOSM	2	PIN	FO PANEL
18	HKN-WPO1-BLPH-NET-01	PINSWL2-004	P1	OER	HKN-WPO1-BLPH-NET-01	FOPP-003	P1-RIGHT	OER	HKN-WPO11-C18	PINSWL2-004:P1 / FOPP-003:P1-RIGHT	FOPP-003:P1-RIGHT / PINSWL2-004:P1	1xFOSM	2	PIN	FO PANEL
19	HKN-WPO1-BLPH-NET-01	PINSWL2-003	P6	OER	HKN-WPO1-BLPH-SRV-01	CIPO03	P1	OER	HKN-WPO11-C19	PINSWL2-003:P6 / CIPO03:P1	CIPO03:P1 / PINSWL2-003:P6	CAT6 UTP, GREEN	10	PIN	
20	HKN-WPO1-BLPH-NET-01	PINSWL2-003	P7	OER	HKN-WPO1-BLPH-SRV-01	REWSSVR	P1	OER	HKN-WPO11-C20	PINSWL2-003:P7 / REWSSVR:P1	REWSSVR:P1 / PINSWL2-003:P7	CAT6 UTP, GREEN	10	PIN	
21	HKN-WPO1-BLPH-NET-01	PINSWL2-003	P5	OER	HKN-WPO1-BLPH-SRV-01	FW-007	P1	OER	HKN-WPO11-C21	PINSWL2-003:P5 / FW-007:P1	FW-007:P1 / PINSWL2-003:P5	CAT6 UTP, GREEN	10	PIN	
22	HKN-WPO1-BLPH-NET-01	PINSWL2-004	P6	OER	HKN-WPO1-BLPH-SRV-01	CIPO03	P2	OER	HKN-WPO11-C22	PINSWL2-004:P6 / CIPO03:P2	CIPO03:P2 / PINSWL2-004:P6	CAT6 UTP, GREEN	10	PIN	
23	HKN-WPO1-BLPH-NET-01	PINSWL2-004	P7	OER	HKN-WPO1-BLPH-SRV-01	REWSSVR	P2	OER	HKN-WPO11-C23	PINSWL2-004:P7 / REWSSVR:P2	REWSSVR:P2 / PINSWL2-004:P7	CAT6 UTP, GREEN	10	PIN	
24	HKN-WPO1-BLPH-NET-01	PINSWL2-004	P5	OER	HKN-WPO1-BLPH-SRV-01	FW-007	P2	OER	HKN-WPO11-C24	PINSWL2-004:P5 / FW-007:P2	FW-007:P2 / PINSWL2-004:P5	CAT6 UTP, GREEN	10	PIN	
25	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P5	OER	HKN-WPO1-BLPH-SRV-01	DCSVR01	P1	OER	HKN-WPO11-C25	PINSWL2-005:P5 / DCSVR01:P1	DCSVR01:P1 / PINSWL2-005:P5	CAT6 UTP, GREEN	10	PIN	DC01 SERVER
26	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P6	OER	HKN-WPO1-BLPH-SRV-01	DCSVR02	P1	OER	HKN-WPO11-C26	PINSWL2-005:P6 / DCSVR02:P1	DCSVR02:P1 / PINSWL2-005:P6	CAT6 UTP, GREEN	10	PIN	DC02 SERVER
27	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P7	OER	HKN-WPO1-BLPH-SRV-01	CIPOSVR01	P1	OER	HKN-WPO11-C27	PINSWL2-005:P7 / CIPOSVR01:P1	CIPOSVR01:P1 / PINSWL2-005:P7	CAT6 UTP, GREEN	10	PIN	CI-PORTAL 01
28	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P8	OER	HKN-WPO1-BLPH-SRV-01	CIPOSVR02	P1	OER	HKN-WPO11-C28	PINSWL2-005:P8 / CIPOSVR02:P1	CIPOSVR02:P1 / PINSWL2-005:P8	CAT6 UTP, GREEN	10	PIN	CI-PORTAL 02
29	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P9	OER	HKN-WPO1-BLPH-SRV-01	NMSSVR	P1	OER	HKN-WPO11-C29	PINSWL2-005:P9 / NMSSVR:P1	NMSSVR:P1 / PINSWL2-005:P9	CAT6 UTP, GREEN	10	PIN	NMS SERVER
30	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P10	OER	HKN-WPO1-BLPH-SRV-01	BCKSVR	P1	OER	HKN-WPO11-C30	PINSWL2-005:P10 / BCKSVR:P1	BCKSVR:P1 / PINSWL2-005:P10	CAT6 UTP, GREEN	10	PIN	BCK01 Server(Backup Recovery Server)
31	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P11	OER	HKN-WPO1-BLPH-SRV-01	AVSVR	P1	OER	HKN-WPO11-C31	PINSWL2-005:P11 / AVSVR:P1	AVSVR:P1 / PINSWL2-005:P11	CAT6 UTP, GREEN	10	PIN	AV Server
32	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P12	OER	HKN-WPO1-BLPH-SRV-01	WSUSSVR	P1	OER	HKN-WPO11-C32	PINSWL2-005:P12 / WSUSSVR:P1	WSUSSVR:P1 / PINSWL2-005:P12	CAT6 UTP, GREEN	10	PIN	WSUS Server
33	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P13	OER	HKN-WPO1-BLPH-SRV-01	FW-007	P3	OER	HKN-WPO11-C33	PINSWL2-005:P13 / FW-007:P3	FW-007:P3 / PINSWL2-005:P13	CAT6 UTP, GREEN	10	PIN	
34	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P13	OER	HKN-WPO1-BLPH-SRV-01	FW-007	P4	OER	HKN-WPO11-C34	PINSWL2-006:P13 / FW-007:P4	FW-007:P4 / PINSWL2-006:P13	CAT6 UTP, GREEN	10	PIN	
35	HKN-WPO1-BLPH-NET-01	PINSWL2-005	P14	OER	HKN-WPO1-BLPH-SRV-01	FW-008	P3	OER	HKN-WPO11-C35	PINSWL2-005:P14 / FW-008:P3	FW-008:P3 / PINSWL2-005:P14	CAT6 UTP, GREEN	10	PIN	EXISTING CUSTOMER FIREWALL for HV SCADA **(Hold-5)**
36	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P5	OER	HKN-WPO1-BLPH-SRV-01	DCSVR01	P2	OER	HKN-WPO11-C36	PINSWL2-006:P5 / DCSVR01:P2	DCSVR01:P2 / PINSWL2-006:P5	TBD(HOLD-1)	10	PIN	DC01 SERVER
37	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P6	OER	HKN-WPO1-BLPH-SRV-01	DCSVR02	P2	OER	HKN-WPO11-C37	PINSWL2-006:P6 / DCSVR02:P2	DCSVR02:P2 / PINSWL2-006:P6	CAT6 UTP, GREEN	10	PIN	DC02 SERVER
38	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P7	OER	HKN-WPO1-BLPH-SRV-01	CIPOSVR01	P2	OER	HKN-WPO11-C38	PINSWL2-006:P7 / CIPOSVR01:P2	CIPOSVR01:P2 / PINSWL2-006:P7	CAT6 UTP, GREEN	10	PIN	CI-PORTAL 01
39	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P8	OER	HKN-WPO1-BLPH-SRV-01	CIPOSVR02	P2	OER	HKN-WPO11-C39	PINSWL2-006:P8 / CIPOSVR02:P2	CIPOSVR02:P2 / PINSWL2-006:P8	CAT6 UTP, GREEN	10	PIN	CI-PORTAL 02
40	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P9	OER	HKN-WPO1-BLPH-SRV-01	NMSSVR	P2	OER	HKN-WPO11-C40	PINSWL2-006:P9 / NMSSVR:P2	NMSSVR:P2 / PINSWL2-006:P9	CAT6 UTP, GREEN	10	PIN	NMS SERVER
41	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P10	OER	HKN-WPO1-BLPH-SRV-01	BCKSVR	P2	OER	HKN-WPO11-C41	PINSWL2-006:P10 / BCKSVR:P2	BCKSVR:P2 / PINSWL2-006:P10	CAT6 UTP, GREEN	10	PIN	BCK01 Server(Backup Recovery Server)
42	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P11	OER	HKN-WPO1-BLPH-SRV-01	AVSVR	P2	OER	HKN-WPO11-C42	PINSWL2-006:P11 / AVSVR:P2	AVSVR:P2 / PINSWL2-006:P11	CAT6 UTP, GREEN	10	PIN	AV Server
43	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P12	OER	HKN-WPO1-BLPH-SRV-01	WSUSSVR	P2	OER	HKN-WPO11-C43	PINSWL2-006:P12 / WSUSSVR:P2	WSUSSVR:P2 / PINSWL2-006:P12	CAT6 UTP, GREEN	10	PIN	WSUS Server
44	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P14	OER	HKN-WPO1-BLPH-SRV-01	FW-008	P4	OER	HKN-WPO11-C44	PINSWL2-006:P14 / FW-008:P4	FW-008:P4 / PINSWL2-006:P14	CAT6 UTP, GREEN	10	PIN	EXISTING CUSTOMER FIREWALL for HV SCADA **(Hold-5)**
45	HKN-WPO1-BLPH-SRV-01	FW-008	A	OER	TBD(HOLD-6)	FW-009	P1	CCR	HKN-WPO11-C45	FW-008:A / FW-009:P1	FW-009:P1 / FW-008:A	CAT6 UTP, GREEN	10	PIN	FW TO FW ON COMPANY ENTERPRISE NETWORK TBD **(Hold-5)**
46	TBD (HOLD-6)	FW-009	P2	CCR	TBD(HOLD-6)	CIPO04	P1	CCR	TBD (HOL)-C46	FW-009:P2 / CIPO04:P1	CIPO04:P1 / FW-009:P2	TBD(HOLD-1)	TBD(HOLD-1)	PIN	CI OWS CCR (TBD)
47	TBD (HOLD-6)	FW-009	P3	CCR	TBD(HOLD-6)	CIPO05	P1	CCR	TBD (HOL)-C47	FW-009:P3 / CIPO05:P1	CIPO05:P1 / FW-009:P3	CAT6 UTP, GREEN	TBD(HOLD-1)	PIN	CI OWS CCR(TBD)
48	TBD (HOLD-6)	FW-009	P4	CCR	TBD(HOLD-6)	IAMSCLT	P1	CCR	TBD (HOL)-C48	FW-009:P4 / IAMSCLT:P1	IAMSCLT:P1 / FW-009:P4	CAT6 UTP, GREEN	TBD(HOLD-1)	PIN	IAMS CLIENT(TBD)
49	TBD (HOLD-6)	FW-009	P5	CCR	TBD(HOLD-6)	CRPRT01	P1	CCR	TBD (HOL)-C49	FW-009:P5 / CRPRT01:P1	CRPRT01:P1 / FW-009:P5	CAT6 UTP, GREEN	TBD(HOLD-1)	PIN	PRINTER(TBD)
50	HKN-WPO1-BLPH-NET-01	PINSWL2-003	P12	OER	B400-SVR-002	FW-008	P1	OER	HKN-WPO11-C50	PINSWL2-003:P12 / FW-008:P1	FW-008:P1 / PINSWL2-003:P12	CAT6 UTP, GREEN	5	PIN	
51	HKN-WPO1-BLPH-NET-01	PINSWL2-004	P12	OER	B400-SVR-002	FW-008	P2	OER	HKN-WPO11-C51	PINSWL2-004:P12 / FW-008:P2	FW-008:P2 / PINSWL2-004:P12	CAT6 UTP, GREEN	5	PIN	
~~52~~	~~HKN-WPO1-BLPH-SRV-01~~	~~FW-007~~	~~WAN1~~	~~OER~~	~~B400-SVR-002~~	~~FW-008~~	~~WAN1~~	~~OER~~	~~HKN-WPO11-C52~~	~~FW-007:WAN1 / FW-008:WAN1~~	~~FW-008:WAN1 / FW-007:WAN1~~	~~CAT6 UTP, WHITE~~	~~2~~	~~HA~~	~~REDUNDANCY~~
~~53~~	~~HKN-WPO1-BLPH-SRV-01~~	~~FW-007~~	~~WAN2~~	~~OER~~	~~B400-SVR-002~~	~~FW-008~~	~~WAN2~~	~~OER~~	~~HKN-WPO11-C53~~	~~FW-007:WAN2 / FW-008:WAN2~~	~~FW-008:WAN2 / FW-007:WAN2~~	~~CAT6 UTP, WHITE~~	~~2~~	~~HA~~	~~REDUNDANCY~~
54	HKN-WPO1-BLPH-NET-01	PINSWL2-003	P8	OER	B400-NET-002	PINSWL2-004	P8	OER	HKN-WPO11-C54	PINSWL2-003:P8 / PINSWL2-004:P8	PINSWL2-004:P8 / PINSWL2-003:P8	CAT6 UTP, GREEN	5	PIN	REDUNDANCY
55	HKN-WPO1-BLPH-NET-01	PINSWL2-005	18	OER	HKN-WPO1-BLPH-NET-01	PINSWL2-006	P18	OER	HKN-WPO11-C55	PINSWL2-005:18 / PINSWL2-006:P18	PINSWL2-006:P18 / PINSWL2-005:18	CAT6 UTP, GREEN	5	PIN	REDUNDANCY
56	B400-SVR-001	TMSVR01	P1	ITER	-	C-GPSANTB40ET-001	X1	ITER	B400-SVR1-C56	TMSVR01:P1 / C-GPSANTB40ET-001:X1	C-GPSANTB40ET-001:X1 / TMSVR01:P1	Coaxial Cable	50	SNTP	GPS ANTENNA CONNECTION
57	B400-NET-001	FLT-COM01	X1	OER	B400-NET-001	PINSWL2-003	P10	OER	B400-NET1-C57	FLT-COM01:X1 / PINSWL2-003:P10	PINSWL2-003:P10 / FLT-COM01:X1	CAT6 UTP, GREEN	5	PIN	AXIOLINE MODULE
58	B400-NET-001	PINSWL2-001	23	ITER	B400-NET-001	PINSWL2-002	P23	ITER	B400-NET1-C58	PINSWL2-001:23 / PINSWL2-002:P23	PINSWL2-002:P23 / PINSWL2-001:23	CAT6 UTP, GREEN	2	PIN	REDUNDANCY

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ITEM	FROM					TO					CABLE TAG	CABLE TAG	CABLE		SERVICE	REMARKS
NO	CABINET NO.	CONTROL NO	EQUIPMENT	PORT	LOCATION	CABINET NO.	EQUIPMENT	PORT	LOCATION	Cable Name			TYPE	LENGTH (M)		
D	PRE-FAB Cables															
1	B400-PCS-001	FCS0101	FNU1-1	CN1	ITER	B400-PCS-002	TB-01-01	CN-1	ITER	-	B400-PCS-001:FNU1-1:CN1 / B400-PCS-002:TB-01-01	B400-PCS-002:TB-01-01-CN-1 / B400-PCS-001:FNU1-1:CN1	KS1-07/HF	7	PRE-FAB Cable	
2	B400-PCS-001	FCS0101	FNU1-2	CN1	ITER	B400-PCS-002	TB-01-01	CN-2	ITER	-	B400-PCS-001:FNU1-2:CN1 / B400-PCS-002:TB-01-01	B400-PCS-002:TB-01-01-CN-2 / B400-PCS-001:FNU1-2:CN1	KS1-07/HF	7	PRE-FAB Cable	
3	B400-PCS-001	FCS0101	FNU1-3	CN1	ITER	B400-PCS-002	TB-01-03	CN-1	ITER	-	B400-PCS-001:FNU1-3:CN1 / B400-PCS-002:TB-01-03	B400-PCS-002:TB-01-03-CN-1 / B400-PCS-001:FNU1-3:CN1	KS1-07/HF	7	PRE-FAB Cable	
4	B400-PCS-001	FCS0101	FNU1-4	CN1	ITER	B400-PCS-002	TB-01-03	CN-2	ITER	-	B400-PCS-001:FNU1-4:CN1 / B400-PCS-002:TB-01-03	B400-PCS-002:TB-01-03-CN-2 / B400-PCS-001:FNU1-4:CN1	KS1-07/HF	7	PRE-FAB Cable	
5	B400-PCS-001	FCS0101	FNU1-5	CN1	ITER	B400-PCS-002	TB-01-05	CN-1	ITER	-	B400-PCS-001:FNU1-5:CN1 / B400-PCS-002:TB-01-05	B400-PCS-002:TB-01-05-CN-1 / B400-PCS-001:FNU1-5:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
6	B400-PCS-001	FCS0101	FNU1-6	CN1	ITER	B400-PCS-002	TB-01-05	CN-2	ITER	-	B400-PCS-001:FNU1-6:CN1 / B400-PCS-002:TB-01-05	B400-PCS-002:TB-01-05-CN-2 / B400-PCS-001:FNU1-6:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
7	B400-PCS-001	FCS0101	NU2-1	CN1	ITER	B400-PCS-002	TB-02-01	CN-1	ITER	-	B400-PCS-001:NU2-1:CN1 / B400-PCS-002:TB-02-01	B400-PCS-002:TB-02-01-CN-1 / B400-PCS-001:NU2-1:CN1	KS1-07/HF	7	PRE-FAB Cable	
8	B400-PCS-001	FCS0101	NU2-2	CN1	ITER	B400-PCS-002	TB-02-01	CN-2	ITER	-	B400-PCS-001:NU2-2:CN1 / B400-PCS-002:TB-02-01	B400-PCS-002:TB-02-01-CN-2 / B400-PCS-001:NU2-2:CN1	KS1-07/HF	7	PRE-FAB Cable	
9	B400-PCS-001	FCS0101	NU2-3	CN1	ITER	B400-PCS-002	TB-02-03	CN-1	ITER	-	B400-PCS-001:NU2-3:CN1 / B400-PCS-002:TB-02-03	B400-PCS-002:TB-02-03-CN-1 / B400-PCS-001:NU2-3:CN1	KS1-07/HF	7	PRE-FAB Cable	
10	B400-PCS-001	FCS0101	NU2-4	CN1	ITER	B400-PCS-002	TB-02-03	CN-2	ITER	-	B400-PCS-001:NU2-4:CN1 / B400-PCS-002:TB-02-03	B400-PCS-002:TB-02-03-CN-2 / B400-PCS-001:NU2-4:CN1	KS1-07/HF	7	PRE-FAB Cable	
11	B400-PCS-001	FCS0101	NU2-5	CN1	ITER	B400-PCS-002	TB-02-05	CN-1	ITER	-	B400-PCS-001:NU2-5:CN1 / B400-PCS-002:TB-02-05	B400-PCS-002:TB-02-05-CN-1 / B400-PCS-001:NU2-5:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
12	B400-PCS-001	FCS0101	NU2-6	CN1	ITER	B400-PCS-002	TB-02-05	CN-2	ITER	-	B400-PCS-001:NU2-6:CN1 / B400-PCS-002:TB-02-05	B400-PCS-002:TB-02-05-CN-2 / B400-PCS-001:NU2-6:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
15	B400-PCS-001	FCS0101	NU3-1	CN1	ITER	B400-PCS-002	TB-03-01	CN-1	ITER	-	B400-PCS-001:NU3-1:CN1 / B400-PCS-002:TB-03-01	B400-PCS-002:TB-03-01-CN-1 / B400-PCS-001:NU3-1:CN1	KS1-07/HF	7	PRE-FAB Cable	
16	B400-PCS-001	FCS0101	NU3-2	CN1	ITER	B400-PCS-002	TB-03-01	CN-2	ITER	-	B400-PCS-001:NU3-2:CN1 / B400-PCS-002:TB-03-01	B400-PCS-002:TB-03-01-CN-2 / B400-PCS-001:NU3-2:CN1	KS1-07/HF	7	PRE-FAB Cable	
17	B400-PCS-001	FCS0101	NU3-3	CN1	ITER	B400-PCS-002	TB-03-03	CN-1	ITER	-	B400-PCS-001:NU3-3:CN1 / B400-PCS-002:TB-03-03	B400-PCS-002:TB-03-03-CN-1 / B400-PCS-001:NU3-3:CN1	KS1-07/HF	7	PRE-FAB Cable	
18	B400-PCS-001	FCS0101	NU3-4	CN1	ITER	B400-PCS-002	TB-03-03	CN-2	ITER	-	B400-PCS-001:NU3-4:CN1 / B400-PCS-002:TB-03-03	B400-PCS-002:TB-03-03-CN-2 / B400-PCS-001:NU3-4:CN1	KS1-07/HF	7	PRE-FAB Cable	
19	B400-PCS-001	FCS0101	NU3-5	CN1	ITER	B400-PCS-002	TB-03-05	CN-1	ITER	-	B400-PCS-001:NU3-5:CN1 / B400-PCS-002:TB-03-05	B400-PCS-002:TB-03-05-CN-1 / B400-PCS-001:NU3-5:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
20	B400-PCS-001	FCS0101	NU3-6	CN1	ITER	B400-PCS-002	TB-03-05	CN-2	ITER	-	B400-PCS-001:NU3-6:CN1 / B400-PCS-002:TB-03-05	B400-PCS-002:TB-03-05-CN-2 / B400-PCS-001:NU3-6:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
23	B400-PCS-001	FCS0101	NU4-1	CN1	-	-	-	-	-	-	-	-	-	-	-	ALE111 Refer Modbus Cable List
24	B400-PCS-001	FCS0101	NU4-2	CN1	-	-	-	-	-	-	-	-	-	-	-	ALE111 Module Refer F
25	B400-PCS-001	FCS0101	NU4-3	CN1	-	-	-	-	-	-	-	-	-	-	-	A2LP131 Refer Section E
27	B400-PCS-001	FCS0101	NU4-5	CN1	ITER	B400-PCS-002	TB-04-05	CN-1	ITER	-	B400-PCS-001:NU4-5:CN1 / B400-PCS-002:TB-04-05	B400-PCS-002:TB-04-05-CN-1 / B400-PCS-001:NU4-5:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
28	B400-PCS-001	FCS0101	NU4-6	CN1	ITER	B400-PCS-002	TB-04-05	CN-2	ITER	-	B400-PCS-001:NU4-6:CN1 / B400-PCS-002:TB-04-05	B400-PCS-002:TB-04-05-CN-2 / B400-PCS-001:NU4-6:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
29	B400-PCS-001	FCS0101	NU4-7	CN1	ITER	B400-PCS-002	TB-04-07	CN-1	ITER	-	B400-PCS-001:NU4-7:CN1 / B400-PCS-002:TB-04-07	B400-PCS-002:TB-04-07-CN-1 / B400-PCS-001:NU4-7:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
30	B400-PCS-001	FCS0101	NU4-8	CN1	ITER	B400-PCS-002	TB-04-07	CN-2	ITER	-	B400-PCS-001:NU4-8:CN1 / B400-PCS-002:TB-04-07	B400-PCS-002:TB-04-07-CN-2 / B400-PCS-001:NU4-8:CN1	AKB331-M007/HF	7	PRE-FAB Cable	
31	B400-SIS-001	SCS0110	SNU1-1	CN1	ITER	B400-SIS-001	TB-01-01	CN-1	ITER	-	B400-SIS-001:SNU1-1:CN1 / B400-SIS-001:TB-01-01	B400-SIS-001:TB-01-01-CN-1 / B400-SIS-001:SNU1-1:CN1	KS1-10/HF	5	PRE-FAB Cable	
32	B400-SIS-001	SCS0110	SNU1-2	CN1	ITER	B400-SIS-001	TB-01-01	CN-2	ITER	-	B400-SIS-001:SNU1-2:CN1 / B400-SIS-001:TB-01-01	B400-SIS-001:TB-01-01-CN-2 / B400-SIS-001:SNU1-2:CN1	KS1-10/HF	5	PRE-FAB Cable	
33	B400-SIS-001	SCS0110	SNU1-3	CN1	ITER	B400-SIS-001	TB-01-03	CN-1	ITER	-	B400-SIS-001:SNU1-3:CN1 / B400-SIS-001:TB-01-03	B400-SIS-001:TB-01-03-CN-1 / B400-SIS-001:SNU1-3:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
34	B400-SIS-001	SCS0110	SNU1-4	CN1	ITER	B400-SIS-001	TB-01-03	CN-2	ITER	-	B400-SIS-001:SNU1-4:CN1 / B400-SIS-001:TB-01-03	B400-SIS-001:TB-01-03-CN-2 / B400-SIS-001:SNU1-4:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
35	B400-SIS-001	SCS0110	SNU1-5	CN1	ITER	B400-SIS-001	TB-01-05	CN-1	ITER	-	B400-SIS-001:SNU1-5:CN1 / B400-SIS-001:TB-01-05	B400-SIS-001:TB-01-05-CN-1 / B400-SIS-001:SNU1-5:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
36	B400-SIS-001	SCS0110	SNU1-6	CN1	ITER	B400-SIS-001	TB-01-05	CN-2	ITER	-	B400-SIS-001:SNU1-6:CN1 / B400-SIS-001:TB-01-05	B400-SIS-001:TB-01-05-CN-2 / B400-SIS-001:SNU1-6:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
37	B400-SIS-001	SCS0110	NU2-1	CN1	ITER	B400-SIS-001	TB-02-01	CN-1	ITER	-	B400-SIS-001:NU2-1:CN1 / B400-SIS-001:TB-02-01	B400-SIS-001:TB-02-01-CN-1 / B400-SIS-001:NU2-1:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
38	B400-SIS-001	SCS0110	NU2-2	CN1	ITER	B400-SIS-001	TB-02-01	CN-2	ITER	-	B400-SIS-001:NU2-2:CN1 / B400-SIS-001:TB-02-01	B400-SIS-001:TB-02-01-CN-2 / B400-SIS-001:NU2-2:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
39	B400-SIS-001	SCS0110	NU2-3	CN1	ITER	B400-SIS-001	TB-02-03	CN-1	ITER	-	B400-SIS-001:NU2-3:CN1 / B400-SIS-001:TB-02-03	B400-SIS-001:TB-02-03-CN-1 / B400-SIS-001:NU2-3:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
40	B400-SIS-001	SCS0110	NU2-4	CN1	ITER	B400-SIS-001	TB-02-03	CN-2	ITER	-	B400-SIS-001:NU2-4:CN1 / B400-SIS-001:TB-02-03	B400-SIS-001:TB-02-03-CN-2 / B400-SIS-001:NU2-4:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
41	B400-SIS-001	SCS0110	NU2-5	CN1	ITER	B400-SIS-001	TB-02-05	CN-1	ITER	-	B400-SIS-001:NU2-5:CN1 / B400-SIS-001:TB-02-05	B400-SIS-001:TB-02-05-CN-1 / B400-SIS-001:NU2-5:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
42	B400-SIS-001	SCS0110	NU2-6	CN1	ITER	B400-SIS-001	TB-02-05	CN-2	ITER	-	B400-SIS-001:NU2-6:CN1 / B400-SIS-001:TB-02-05	B400-SIS-001:TB-02-05-CN-2 / B400-SIS-001:NU2-6:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
43	B400-SIS-001	SCS0110	NU2-7	CN1	ITER	B400-SIS-001	TB-02-07	CN-1	ITER	-	B400-SIS-001:NU2-7:CN1 / B400-SIS-001:TB-02-07	B400-SIS-001:TB-02-07-CN-1 / B400-SIS-001:NU2-7:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
44	B400-SIS-001	SCS0110	NU2-8	CN1	ITER	B400-SIS-001	TB-02-07	CN-2	ITER	-	B400-SIS-001:NU2-8:CN1 / B400-SIS-001:TB-02-07	B400-SIS-001:TB-02-07-CN-2 / B400-SIS-001:NU2-8:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
45	B400-SIS-001	SCS0110	NU3-1	CN1	ITER	B400-SIS-001	TB-03-01	CN-1	ITER	-	B400-SIS-001:NU3-1:CN1 / B400-SIS-001:TB-03-01	B400-SIS-001:TB-03-01-CN-1 / B400-SIS-001:NU3-1:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
46	B400-SIS-001	SCS0110	NU3-2	CN1	ITER	B400-SIS-001	TB-03-01	CN-2	ITER	-	B400-SIS-001:NU3-2:CN1 / B400-SIS-001:TB-03-01	B400-SIS-001:TB-03-01-CN-2 / B400-SIS-001:NU3-2:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
47	B400-SIS-001	SCS0110	NU3-3	CN1	ITER	B400-SIS-001	TB-03-03	CN-1	ITER	-	B400-SIS-001:NU3-3:CN1 / B400-SIS-001:TB-03-03	B400-SIS-001:TB-03-03-CN-1 / B400-SIS-001:NU3-3:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
48	B400-SIS-001	SCS0110	NU3-4	CN1	ITER	B400-SIS-001	TB-03-03	CN-2	ITER	-	B400-SIS-001:NU3-4:CN1 / B400-SIS-001:TB-03-03	B400-SIS-001:TB-03-03-CN-2 / B400-SIS-001:NU3-4:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
49	B400-SIS-001	SCS0110	NU3-5	CN1	ITER	B400-SIS-001	TB-03-05	CN-1	ITER	-	B400-SIS-001:NU3-5:CN1 / B400-SIS-001:TB-03-05	B400-SIS-001:TB-03-05-CN-1 / B400-SIS-001:NU3-5:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
50	B400-SIS-001	SCS0110	NU3-6	CN1	ITER	B400-SIS-001	TB-03-05	CN-2	ITER	-	B400-SIS-001:NU3-6:CN1 / B400-SIS-001:TB-03-05	B400-SIS-001:TB-03-05-CN-2 / B400-SIS-001:NU3-6:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
51	B400-SIS-001	SCS0110	NU3-7	CN1	ITER	B400-SIS-001	TB-03-07	CN-1	ITER	-	B400-SIS-001:NU3-7:CN1 / B400-SIS-001:TB-03-07	B400-SIS-001:TB-03-07-CN-1 / B400-SIS-001:NU3-7:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
52	B400-SIS-001	SCS0110	NU3-8	CN1	ITER	B400-SIS-001	TB-03-07	CN-2	ITER	-	B400-SIS-001:NU3-8:CN1 / B400-SIS-001:TB-03-07	B400-SIS-001:TB-03-07-CN-2 / B400-SIS-001:NU3-8:CN1	AKB331-M005/HF	5	PRE-FAB Cable	
53	B400-FGS-001	SCS0120	NU1-1	CN1	ITER	B400-FGS-002	TB-01-01	CN-1	ITER	-	B400-FGS-001:NU1-1:CN1 / B400-FGS-002:TB-01-01	B400-FGS-002:TB-01-01 -CN-1 / B400-FGS-001:NU1-1:CN1	KS1-10/HF	10	PRE-FAB Cable	
54	B400-FGS-001	SCS0120	NU1-2	CN1	ITER	B400-FGS-002	TB-01-01	CN-2	ITER	-	B400-FGS-001:NU1-2:CN1 / B400-FGS-002:TB-01-01	B400-FGS-002:TB-01-01 -CN-2 / B400-FGS-001:NU1-2:CN1	KS1-10/HF	10	PRE-FAB Cable	
55	B400-FGS-001	SCS0120	NU1-3	CN1	ITER	B400-FGS-002	TB-01-03	CN-1	ITER	-	B400-FGS-001:NU1-3:CN1 / B400-FGS-002:TB-01-03	B400-FGS-002:TB-01-03-CN-1 / B400-FGS-001:NU1-3:CN1	KS1-10/HF	10	PRE-FAB Cable	
56	B400-FGS-001	SCS0120	NU1-4	CN1	ITER	B400-FGS-002	TB-01-03	CN-2	ITER	-	B400-FGS-001:NU1-4:CN1 / B400-FGS-002:TB-01-03	B400-FGS-002:TB-01-03-CN-2 / B400-FGS-001:NU1-4:CN1	KS1-10/HF	10	PRE-FAB Cable	
57	B400-FGS-001	SCS0120	NU1-5	CN1	ITER	B400-FGS-002	TB-01-05	CN-1	ITER	-	B400-FGS-001:NU1-5:CN1 / B400-FGS-002:TB-01-05	B400-FGS-002:TB-01-05-CN-1 / B400-FGS-001:NU1-5:CN1	KS1-10/HF	10	PRE-FAB Cable	
58	B400-FGS-001	SCS0120	NU1-6	CN1	ITER	B400-FGS-002	TB-01-05	CN-2	ITER	-	B400-FGS-001:NU1-6:CN1 / B400-FGS-002:TB-01-05	B400-FGS-002:TB-01-05-CN-2 / B400-FGS-001:NU1-6:CN1	KS1-10/HF	10	PRE-FAB Cable	
59	B400-FGS-001	SCS0120	NU2-1	CN1	ITER	B400-FGS-002	TB-02-01	CN-1	ITER	-	B400-FGS-001:NU2-1:CN1 / B400-FGS-002:TB-02-01	B400-FGS-002:TB-02-01-CN-1 / B400-FGS-001:NU2-1:CN1	KS1-10/HF	10	PRE-FAB Cable	
60	B400-FGS-001	SCS0120	NU2-2	CN1	ITER	B400-FGS-002	TB-02-01	CN-2	ITER	-	B400-FGS-001:NU2-2:CN1 / B400-FGS-002:TB-02-01	B400-FGS-002:TB-02-01-CN-2 / B400-FGS-001:NU2-2:CN1	KS1-10/HF	10	PRE-FAB Cable	
61	B400-FGS-001	SCS0120	NU2-3	CN1	ITER	B400-FGS-002	TB-02-03	CN-1	ITER	-	B400-FGS-001:NU2-3:CN1 / B400-FGS-002:TB-02-03	B400-FGS-002:TB-02-03-CN-1 / B400-FGS-001:NU2-3:CN1	KS1-10/HF	10	PRE-FAB Cable	
62	B400-FGS-001	SCS0120	NU2-4	CN1	ITER	B400-FGS-002	TB-02-03	CN-2	ITER	-	B400-FGS-001:NU2-4:CN1 / B400-FGS-002:TB-02-03	B400-FGS-002:TB-02-03-CN-2 / B400-FGS-001:NU2-4:CN1	KS1-10/HF	10	PRE-FAB Cable	
63	B400-FGS-001	SCS0120	NU2-5	CN1	ITER	B400-FGS-002	TB-02-05	CN-1	ITER	-	B400-FGS-001:NU2-5:CN1 / B400-FGS-002:TB-02-05	B400-FGS-002:TB-02-05-CN-1 / B400-FGS-001:NU2-5:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
64	B400-FGS-001	SCS0120	NU2-6	CN1	ITER	B400-FGS-002	TB-02-05	CN-2	ITER	-	B400-FGS-001:NU2-6:CN1 / B400-FGS-002:TB-02-05	B400-FGS-002:TB-02-05-CN-2 / B400-FGS-001:NU2-6:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
65	B400-FGS-001	SCS0120	NU2-7	CN1	ITER	B400-FGS-002	TB-02-07	CN-1	ITER	-	B400-FGS-001:NU2-7:CN1 / B400-FGS-002:TB-02-07	B400-FGS-002:TB-02-07-CN-1 / B400-FGS-001:NU2-7:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
66	B400-FGS-001	SCS0120	NU2-8	CN1	ITER	B400-FGS-002	TB-02-07	CN-2	ITER	-	B400-FGS-001:NU2-8:CN1 / B400-FGS-002:TB-02-07	B400-FGS-002:TB-02-07-CN-2 / B400-FGS-001:NU2-8:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
67	B400-FGS-001	SCS0120	NU3-1	CN1	ITER	B400-FGS-002	TB-03-01	CN-1	ITER	-	B400-FGS-001:NU3-1:CN1 / B400-FGS-002:TB-03-01	B400-FGS-002:TB-03-01-CN-1 / B400-FGS-001:NU3-1:CN1	KS1-10/HF	10	PRE-FAB Cable	
68	B400-FGS-001	SCS0120	NU3-2	CN1	ITER	B400-FGS-002	TB-03-01	CN-2	ITER	-	B400-FGS-001:NU3-2:CN1 / B400-FGS-002:TB-03-01	B400-FGS-002:TB-03-01-CN-2 / B400-FGS-001:NU3-2:CN1	KS1-10/HF	10	PRE-FAB Cable	
69	B400-FGS-001	SCS0120	NU3-3	CN1	ITER	B400-FGS-002	TB-03-03	CN-1	ITER	-	B400-FGS-001:NU3-3:CN1 / B400-FGS-002:TB-03-03	B400-FGS-002:TB-03-03-CN-1 / B400-FGS-001:NU3-3:CN1	KS1-10/HF	10	PRE-FAB Cable	
70	B400-FGS-001	SCS0120	NU3-4	CN1	ITER	11/11/2024	TB-03-03	CN-2	ITER	-	B400-FGS-001:NU3-4:CN1 / 45607:TB-03-03	45607:TB-03-03-CN-2 / B400-FGS-001:NU3-4:CN1	KS1-10/HF	10	PRE-FAB Cable	
71	B400-FGS-001	SCS0120	NU3-5	CN1	ITER	B400-FGS-002	TB-03-05	CN-1	ITER	-	B400-FGS-001:NU3-5:CN1 / B400-FGS-002:TB-03-05	B400-FGS-002:TB-03-05-CN-1 / B400-FGS-001:NU3-5:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
72	B400-FGS-001	SCS0120	NU3-6	CN1	ITER	B400-FGS-002	TB-03-05	CN-2	ITER	-	B400-FGS-001:NU3-6:CN1 / B400-FGS-002:TB-03-05	B400-FGS-002:TB-03-05-CN-2 / B400-FGS-001:NU3-6:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
73	B400-FGS-001	SCS0120	NU3-7	CN1	ITER	B400-FGS-002	TB-03-07	CN-1	ITER	-	B400-FGS-001:NU3-7:CN1 / B400-FGS-002:TB-03-07	B400-FGS-002:TB-03-07-CN-1 / B400-FGS-001:NU3-7:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
74	B400-FGS-001	SCS0120	NU3-8	CN1	ITER	B400-FGS-002	TB-03-07	CN-2	ITER	-	B400-FGS-001:NU3-8:CN1 / B400-FGS-002:TB-03-07	B400-FGS-002:TB-03-07-CN-2 / B400-FGS-001:NU3-8:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
75	B400-FGS-001	SCS0120	NU4-1	CN1	ITER	B400-FGS-003	TB-04-01	CN-1	ITER	-	B400-FGS-001:NU4-1:CN1 / B400-FGS-003:TB-04-01	B400-FGS-003:TB-04-01-CN-1 / B400-FGS-001:NU4-1:CN1	KS1-10/HF	10	PRE-FAB Cable	
76	B400-FGS-001	SCS0120	NU4-2	CN1	ITER	B400-FGS-003	TB-04-01	CN-2	ITER	-	B400-FGS-001:NU4-2:CN1 / B400-FGS-003:TB-04-01	B400-FGS-003:TB-04-01-CN-2 / B400-FGS-001:NU4-2:CN1	KS1-10/HF	10	PRE-FAB Cable	
77	B400-FGS-001	SCS0120	NU4-3	CN1	ITER	B400-FGS-003	TB-04-03	CN-1	ITER	-	B400-FGS-001:NU4-3:CN1 / B400-FGS-003:TB-04-03	B400-FGS-003:TB-04-03-CN-1 / B400-FGS-001:NU4-3:CN1	KS1-10/HF	10	PRE-FAB Cable	
78	B400-FGS-001	SCS0120	NU4-4	CN1	ITER	B400-FGS-003	TB-04-03	CN-2	ITER	-	B400-FGS-001:NU4-4:CN1 / B400-FGS-003:TB-04-03	B400-FGS-003:TB-04-03-CN-2 / B400-FGS-001:NU4-4:CN1	KS1-10/HF	10	PRE-FAB Cable	
79	B400-FGS-001	SCS0120	NU4-5	CN1	ITER	B400-FGS-003	TB-04-05	CN-1	ITER	-	B400-FGS-001:NU4-5:CN1 / B400-FGS-003:TB-04-05	B400-FGS-003:TB-04-05-CN-1 / B400-FGS-001:NU4-5:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
80	B400-FGS-001	SCS0120	NU4-6	CN1	ITER	B400-FGS-003	TB-04-05	CN-2	ITER	-	B400-FGS-001:NU4-6:CN1 / B400-FGS-003:TB-04-05	B400-FGS-003:TB-04-05-CN-2 / B400-FGS-001:NU4-6:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
81	B400-FGS-001	SCS0120	NU4-7	CN1	ITER	B400-FGS-003	TB-04-07	CN-1	ITER	-	B400-FGS-001:NU4-7:CN1 / B400-FGS-003:TB-04-07	B400-FGS-003:TB-04-07-CN-1 / B400-FGS-001:NU4-7:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
82	B400-FGS-001	SCS0120	NU4-8	CN1	ITER	B400-FGS-003	TB-04-07	CN-2	ITER	-	B400-FGS-001:NU4-8:CN1 / B400-FGS-003:TB-04-07	B400-FGS-003:TB-04-07-CN-2 / B400-FGS-001:NU4-8:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
83	B400-FGS-001	SCS0120	NU5-1	CN1	ITER	B400-FGS-003	TB-05-01	CN-1	ITER	-	B400-FGS-001:NU5-1:CN1 / B400-FGS-003:TB-05-01	B400-FGS-003:TB-05-01-CN-1 / B400-FGS-001:NU5-1:CN1	KS1-10/HF	10	PRE-FAB Cable	
84	B400-FGS-001	SCS0120	NU5-2	CN1	ITER	B400-FGS-003	TB-05-01	CN-2	ITER	-	B400-FGS-001:NU5-2:CN1 / B400-FGS-003:TB-05-01	B400-FGS-003:TB-05-01-CN-2 / B400-FGS-001:NU5-2:CN1	KS1-10/HF	10	PRE-FAB Cable	
85	B400-FGS-001	SCS0120	NU5-3	CN1	ITER	B400-FGS-003	TB-05-03	CN-1	ITER	-	B400-FGS-001:NU5-3:CN1 / B400-FGS-003:TB-05-03	B400-FGS-003:TB-05-03-CN-1 / B400-FGS-001:NU5-3:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
86	B400-FGS-001	SCS0120	NU5-4	CN1	ITER	B400-FGS-003	TB-05-03	CN-2	ITER	-	B400-FGS-001:NU5-4:CN1 / B400-FGS-003:TB-05-03	B400-FGS-003:TB-05-03-CN-2 / B400-FGS-001:NU5-4:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
87	B400-FGS-001	SCS0120	NU5-5	CN1	ITER	B400-FGS-003	TB-05-05	CN-1	ITER	-	B400-FGS-001:NU5-5:CN1 / B400-FGS-003:TB-05-05	B400-FGS-003:TB-05-05-CN-1 / B400-FGS-001:NU5-5:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
88	B400-FGS-001	SCS0120	NU5-6	CN1	ITER	B400-FGS-003	TB-05-05	CN-2	ITER	-	B400-FGS-001:NU5-6:CN1 / B400-FGS-003:TB-05-05	B400-FGS-003:TB-05-05-CN-2 / B400-FGS-001:NU5-6:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
89	B400-FGS-001	SCS0120	NU5-7	CN1	ITER	B400-FGS-003	TB-05-07	CN-1	ITER	-	B400-FGS-001:NU5-7:CN1 / B400-FGS-003:TB-05-07	B400-FGS-003:TB-05-07-CN-1 / B400-FGS-001:NU5-7:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
90	B400-FGS-001	SCS0120	NU5-8	CN1	ITER	B400-FGS-003	TB-05-07	CN-2	ITER	-	B400-FGS-001:NU5-8:CN1 / B400-FGS-003:TB-05-07	B400-FGS-003:TB-05-07-CN-2 / B400-FGS-001:NU5-8:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
93	B400-FGS-001	SCS0120	NU6-3	CN1	ITER	B400-FGS-003	TB-06-03	CN-1	ITER	-	B400-FGS-001:NU6-3:CN1 / B400-FGS-003:TB-06-03	B400-FGS-003:TB-06-03-CN-1 / B400-FGS-001:NU6-3:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
94	B400-FGS-001	SCS0120	NU6-4	CN1	ITER	B400-FGS-003	TB-06-03	CN-2	ITER	-	B400-FGS-001:NU6-4:CN1 / B400-FGS-003:TB-06-03	B400-FGS-003:TB-06-03-CN-2 / B400-FGS-001:NU6-4:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
95	B400-FGS-001	SCS0120	NU6-5	CN1	ITER	B400-FGS-003	TB-06-05	CN-1	ITER	-	B400-FGS-001:NU6-5:CN1 / B400-FGS-003:TB-06-05	B400-FGS-003:TB-06-05-CN-1 / B400-FGS-001:NU6-5:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
96	B400-FGS-001	SCS0120	NU6-6	CN1	ITER	B400-FGS-003	TB-06-05	CN-2	ITER	-	B400-FGS-001:NU6-6:CN1 / B400-FGS-003:TB-06-05	B400-FGS-003:TB-06-05-CN-2 / B400-FGS-001:NU6-6:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
97	B400-FGS-001	SCS0120	NU6-7	CN1	ITER	B400-FGS-003	TB-06-07	CN-1	ITER	-	B400-FGS-001:NU6-7:CN1 / B400-FGS-003:TB-06-07	B400-FGS-003:TB-06-07-CN-1 / B400-FGS-001:NU6-7:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
98	B400-FGS-001	SCS0120	NU6-8	CN1	ITER	B400-FGS-003	TB-06-07	CN-2	ITER	-	B400-FGS-001:NU6-8:CN1 / B400-FGS-003:TB-06-07	B400-FGS-003:TB-06-07-CN-2 / B400-FGS-001:NU6-8:CN1	AKB331-M010/HF	10	PRE-FAB Cable	
99	B400-PCS-002	FCS0101	TB-04-05	21A	ITER	B400-NET-001	X_FAULT	1	ITER	-	B400-PCS-002:TB-04-05:21A / B400-NET-001:X_FAULT	B400-NET-001:X_FAULT-1 / B400-PCS-002:TB-04-05:21A

ITEM NO	FROM CABINET NO.	FROM EQUIPMENT	FROM PORT	FROM LOCATION	TO CABINET NO.	TO EQUIPMENT	TO PORT	TO LOCATION	Cable Name	CABLE TAG	CABLE TAG	CABLE TYPE	CABLE LENGTH (M)	SERVICE	REMARKS
E	MODBUS TCP/IP, IEC61850, SERVICE NETWORK														
1	B400-NET-001	FW-003	P1	ITER	B400-EMCS-001	RTAC SEL 2241 1	ETH2	ITER	B400-NET1-E1	FW-003:P1 / RTAC SEL 2241 1:ETH2	RTAC SEL 2241 1:ETH2 / FW-003:P1	CAT6 UTP, GREY	10	IEC61850	EMCS IEC61850 CONNECTION TO SWGRs CABLE INSTALLED IN YARD
2	B400-NET-001	FW-004	P1	ITER	B400-EMCS-001	RTAC SEL 2242 2	ETH2	ITER	B400-NET1-E2	FW-004:P1 / RTAC SEL 2242 2:ETH2	RTAC SEL 2242 2:ETH2 / FW-004:P1	CAT6 UTP, GREY	10	IEC61850	EMCS IEC61850 CONNECTION TO SWGRs CABLE INSTALLED IN YARD
3	B400-NET-001	COMSWL2-001	P5	ITER	B400-SVR-001	CISVR01	P3	ITER	B400-NET1-E3	COMSWL2-001:P5 / CISVR01:P3	CISVR01:P3 / COMSWL2-001:P5	CAT6 UTP, GREY	10	OPC UA	CISVR-01 and EMCSSVR OPC UA
4	B400-NET-001	COMSWL2-001	P6	ITER	B400-SVR-001	CISVR02	P3	ITER	B400-NET1-E4	COMSWL2-001:P6 / CISVR02:P3	CISVR02:P3 / COMSWL2-001:P6	CAT6 UTP, GREY	10	OPC UA	CISVR-02 and EMCSSVR OPC UA
5	B400-NET-001	COMSWL2-001	P7	ITER	B400-NET-001	EMCSSVR01	P3	ITER	B400-NET1-E5	COMSWL2-001:P7 / EMCSSVR01:P3	EMCSSVR01:P3 / COMSWL2-001:P7	CAT6 UTP, GREY	10	OPC UA	CISVR-01 and EMCSSVR OPC UA
6	B400-NET-001	COMSWL2-002	P3	ITER	B400-NET-001	EMCSSVR02	P3	ITER	B400-NET1-E6	COMSWL2-002:P3 / EMCSSVR02:P3	EMCSSVR02:P3 / COMSWL2-002:P3	CAT6 UTP, GREY	10	OPC UA	CISVR-02 and EMCSSVR OPC UA
7	B400-NET-001	COMSWL2-002	P1	ITER	B400-SVR-001	CISVR01	P4	ITER	B400-NET1-E7	COMSWL2-002:P1 / CISVR01:P4	CISVR01:P4 / COMSWL2-002:P1	CAT6 UTP, GREY	10	OPC UA	CISVR-01 and EMCSSVR OPC UA
8	B400-NET-001	COMSWL2-002	P2	ITER	B400-SVR-001	CISVR02	P4	ITER	B400-NET1-E8	COMSWL2-002:P2 / CISVR02:P4	CISVR02:P4 / COMSWL2-002:P2	CAT6 UTP, GREY	10	OPC UA	CISVR-02 and EMCSSVR OPC UA
9	B400-NET-001	IECSWL2-001	P5	ITER	B400-NET-001	EMCSSVR01	P4	ITER	B400-NET1-E9	IECSWL2-001:P5 / EMCSSVR01:P4	EMCSSVR01:P4 / IECSWL2-001:P5	CAT6 UTP, GREY	10	IEC61850	EMCS to IEC SW
10	B400-NET-001	IECSWL2-001	P6	ITER	B400-EMCS-001	RTAC SEL 2241 1	P1	ITER	B400-NET1-E10	IECSWL2-001:P6 / RTAC SEL 2241 1:P1	RTAC SEL 2241 1:P1 / IECSWL2-001:P6	CAT6 UTP, GREY	10	IEC61850	IEC SW to EMCS Controller CABLE INSTALLED IN YARD
11	B400-NET-001	IECSWL2-002	P5	ITER	B400-NET-001	EMCSSVR02	P4	ITER	B400-NET1-E11	IECSWL2-002:P5 / EMCSSVR02:P4	EMCSSVR02:P4 / IECSWL2-002:P5	CAT6 UTP, GREY	10	IEC61850	EMCS to IEC SW
12	B400-NET-001	IECSWL2-002	P6	ITER	B400-EMCS-001	RTAC SEL 2242 2	P1	ITER	B400-NET1-E12	IECSWL2-002:P6 / RTAC SEL 2242 2:P1	RTAC SEL 2242 2:P1 / IECSWL2-002:P6	CAT6 UTP, GREY	10	IEC61850	IEC SW to EMCS Controller CABLE INSTALLED IN YARD
13	B400-NET-001	FW-001	WAN2	ITER	B400-NET-001	TMSSWL2-001	P9	ITER	B400-NET1-E13	FW-001:WAN2 / TMSSWL2-001:P9	TMSSWL2-001:P9 / FW-001:WAN2	CAT6 UTP, GREY	5	mgmt	Management Services
14	B400-NET-001	SERVSWL2-001	P1	ITER	B400-NET-001	FOPP-001	P2-LEFT	ITER	B400-NET1-E14	SERVSWL2-001:P1 / FOPP-001:P2-LEFT	FOPP-001:P2-LEFT / SERVSWL2-001:P1	1xFOSM	5	SERVICE NETWORK	FO PANEL
15	B400-NET-001	SERVSWL2-002	P1	ITER	B400-NET-001	FOPP-001	P2-RIGHT	ITER	B400-NET1-E15	SERVSWL2-002:P1 / FOPP-001:P2-RIGHT	FOPP-001:P2-RIGHT / SERVSWL2-002:P1	1xFOSM	5	SERVICE NETWORK	FO PANEL
16	B400-NET-001	COMSWL2-001	P14	ITER	B400-SVR-001	TMSVR01	P12	ITER	B400-NET1-E16	COMSWL2-001:P14 / TMSVR01:P12	TMSVR01:P12 / COMSWL2-001:P14	CAT6 UTP, GREY	5	PTP	GIS PTP
17	B400-NET-001	FW-002	WAN2	ITER	B400-NET-001	TMSSWL2-001	P10	ITER	B400-NET1-E17	FW-002:WAN2 / TMSSWL2-001:P10	TMSSWL2-001:P10 / FW-002:WAN2	CAT6 UTP, GREY	5	mgmt	Management Services
18	B400-NET-001	FW-003	P3	ITER	SG-100D1	COPP-01	P1	ITER	B400-NET1-E19	FW-003:P3 / COPP-01:P1	COPP-01:P1 / FW-003:P3	CAT6 UTP, GREY	5	IEC61850	6.6 kV MV Switchgear SG-100D1
19	B400-NET-001	FW-003	P4	ITER	SG-200N1	COPP-01	P2	ITER	B400-NET1-E20	FW-003:P4 / COPP-01:P2	COPP-01:P2 / FW-003:P4	CAT6 UTP, GREY	5	IEC61850	LV Switchgear SG-200N1
20	B400-NET-001	FW-003	P20	ITER	B400-NET-001	TMSSWL2-001	P11	ITER	B400-NET1-E21	FW-003:P20 / TMSSWL2-001:P11	TMSSWL2-001:P11 / FW-003:P20	CAT6 UTP, GREY	5	mgmt	Management Services
21	B400-NET-001	FW-004	P3	ITER	SG-100D1	COPP-01	P3	ITER	B400-NET1-E23	FW-004:P3 / COPP-01:P3	COPP-01:P3 / FW-004:P3	CAT6 UTP, GREY	5	IEC61850	6.6 kV MV Switchgear SG-100D1
22	B400-NET-001	FW-004	P4	ITER	SG-200N1	COPP-01	P4	ITER	B400-NET1-E24	FW-004:P4 / COPP-01:P4	COPP-01:P4 / FW-004:P4	CAT6 UTP, GREY	5	IEC61850	LV Switchgear SG-200N1
23	B400-NET-001	FW-004	P20	ITER	B400-NET-001	TMSSWL2-001	P12	ITER	B400-NET1-E26	FW-004:P20 / TMSSWL2-001:P12	TMSSWL2-001:P12 / FW-004:P20	CAT6 UTP, GREY	5	mgmt	Management Services
24	HKN-WPO1-BLPH-NET-01	SERVSWL2-003	P1	OER	HKN-WPO1-BLPH-NET-01	FOPP-003	P2-LEFT	OER	HKN-WPO11-E27	SERVSWL2-003:P1 / FOPP-003:P2-LEFT	FOPP-003:P2-LEFT / SERVSWL2-003:P1	1xFOSM	5	SERVICE NETWORK	SERVICE NETWORK
25	HKN-WPO1-BLPH-NET-01	SERVSWL2-004	P1	OER	HKN-WPO1-BLPH-NET-01	FOPP-003	P2-RIGHT	OER	HKN-WPO11-E28	SERVSWL2-004:P1 / FOPP-003:P2-RIGHT	FOPP-003:P2-RIGHT / SERVSWL2-004:P1	1xFOSM	5	SERVICE NETWORK	SERVICE NETWORK
26	HKN-WPO1-BLPH-NET-01	SERVSWL2-003	P5	OER	HKN-WPO1-BLPH-SRV-01	SERVFWL2-001	P1	OER	HKN-WPO11-E29	SERVSWL2-003:P5 / SERVFWL2-001:P1	SERVFWL2-001:P1 / SERVSWL2-003:P5	CAT6 UTP, GREY	5	SERVICE NETWORK	SERVICE NETWORK
27	HKN-WPO1-BLPH-NET-01	SERVSWL2-003	P6	OER	HKN-WPO1-BLPH-SRV-01	SERVFWL2-002	P4	OER	HKN-WPO11-E30	SERVSWL2-003:P6 / SERVFWL2-002:P4	SERVFWL2-002:P4 / SERVSWL2-003:P6	CAT6 UTP, GREY	5	SERVICE NETWORK	SERVICE NETWORK
28	B400-SVR-001	TMSSVR01	P4	ITER	B400-NET-001	TMSSWL2-001	P16	ITER	B400-SVR1-E31	TMSSVR01:P4 / TMSSWL2-001:P16	TMSSWL2-001:P16 / TMSSVR01:P4	CAT6 UTP, GREY	5	NTP	
29	B400-NET-001	IECSWL2-001	P7	ITER	B400-NET-001	IECSWL2-002	P7	ITER	B400-NET1-E32	IECSWL2-001:P7 / IECSWL2-002:P7	IECSWL2-002:P7 / IECSWL2-001:P7	CAT6 UTP, GREY	3		REDUNDANCY
30	B400-NET-001	SERVSWL2-001	P2	ITER	B400-NET-001	FOPP-001	P3	ITER	B400-NET1-E38	SERVSWL2-001:P2 / FOPP-001:P3	FOPP-001:P3 / SERVSWL2-001:P2	2xFOSM	2	IEC61850	Solar farm
31	B400-NET-001	SERVSWL2-002	P2	ITER	B400-NET-001	FOPP-001	P4	ITER	B400-NET1-E39	SERVSWL2-002:P2 / FOPP-001:P4	FOPP-001:P4 / SERVSWL2-002:P2	2xFOSM	2	IEC61850	Solar farm
32	HKN-WPO1-BLPH-SRV-01	SERVFWL2-001	WAN1	OER	HKN-WPO1-BLPH-NET-01	SERVFWL2-002	WAN1	OER	HKN-WPO11-E40	SERVFWL2-001:WAN1 / SERVFWL2-002:WAN1	SERVFWL2-002:WAN1 / SERVFWL2-001:WAN1	CAT6 UTP, WHITE	2	HA	REDUNDANCY
33	HKN-WPO1-BLPH-SRV-01	SERVFWL2-001	WAN2	OER	HKN-WPO1-BLPH-NET-01	SERVFWL2-002	WAN2	OER	HKN-WPO11-E41	SERVFWL2-001:WAN2 / SERVFWL2-002:WAN2	SERVFWL2-002:WAN2 / SERVFWL2-001:WAN2	CAT6 UTP, WHITE	2	HA	REDUNDANCY
34	HKN-WPO1-BLPH-NET-01	SERVSWL2-004	P5	OER	HKN-WPO1-BLPH-SRV-01	SERVFWL2-001	P4	OER	HKN-WPO11-E42	SERVSWL2-004:P5 / SERVFWL2-001:P4	SERVFWL2-001:P4 / SERVSWL2-004:P5	CAT6 UTP, GREY	5	SERVICE NETWORK	SERVICE NETWORK
35	HKN-WPO1-BLPH-NET-01	SERVSWL2-004	P6	OER	HKN-WPO1-BLPH-SRV-01	SERVFWL2-002	P1	OER	HKN-WPO11-E43	SERVSWL2-004:P6 / SERVFWL2-002:P1	SERVFWL2-002:P1 / SERVSWL2-004:P6	CAT6 UTP, GREY	5	SERVICE NETWORK	SERVICE NETWORK
36	B400-NET-001	SERVSWL2-001	P8	ITER	B400-NET-001	COPP-02	P9	ITER	B400-NET1-E44	SERVSWL2-001:P8 / COPP-02:P9	COPP-02:P9 / SERVSWL2-001:P8	CAT6 UTP, GREY	5	SERVICE NETWORK	ELECTROLYSER
37	B400-NET-001	SERVSWL2-001	P9	ITER	B400-NET-001	COPP-02	P10	ITER	B400-NET1-E45	SERVSWL2-001:P9 / COPP-02:P10	COPP-02:P10 / SERVSWL2-001:P9	CAT6 UTP, GREY	5	SERVICE NETWORK	FUEL CELL
38	B400-NET-001	SERVSWL2-001	P10	ITER	B400-NET-001	COPP-02	P11	ITER	B400-NET1-E46	SERVSWL2-001:P10 / COPP-02:P11	COPP-02:P11 / SERVSWL2-001:P10	CAT6 UTP, GREY	5	SERVICE NETWORK	BESS
39	HKN-WPO1-BLPH-NET-01	SERVSWL2-003	P12	OER	HKN-WPO1-BLPH-NET-01	SERVFWL2-004	P12	OER	HKN-WPO11-E53	SERVSWL2-003:P12 / SERVFWL2-004:P12	SERVFWL2-004:P12 / SERVSWL2-003:P12	CAT6 UTP, GREY	5	SERVICE NETWORK	REDUNDANCY
40	B400-NET-001	SERVSWL2-001	P12	ITER	B400-NET-001	SERVSWL2-002	P12	ITER	B400-NET1-E54	SERVSWL2-001:P12 / SERVSWL2-002:P12	SERVSWL2-002:P12 / SERVSWL2-001:P12	CAT6 UTP, GREY	2	SERVICE NETWORK	REDUNDANCY
41	B400-NET-001	COMSWL2-001	P1	ITER	B400-NET-001	FOPP-002	P5	ITER	B400-NET1-E55	COMSWL2-001:P1 / FOPP-002:P5	FOPP-002:P5 / COMSWL2-001:P1	CAT6 UTP, GREY	10	OPC UA	CISVR-02 and EMCSSVR OPC UA
42	B400-NET-001	COMSWL2-001	P23	ITER	B400-NET-001	TMSSWL2-001	P23	ITER	B400-NET1-E56	COMSWL2-001:P23 / TMSSWL2-001:P23	TMSSWL2-001:P23 / COMSWL2-001:P23	CAT6 UTP, GREY	10	OPC UA	Management Services
43	B400-NET-001	FW-003	P8	ITER	B400-NET-001	IECSWL2-001	P8	ITER	B400-NET1-E57	FW-003:P8 / IECSWL2-001:P8	IECSWL2-001:P8 / FW-003:P8	CAT6 UTP, GREY	5	IEC61850	EMCS IEC61850 CONNECTION TO SWGRs CABLE INSTALLED IN YARD
44	B400-NET-001	FW-004	P8	ITER	B400-NET-001	IECSWL2-002	P8	ITER	B400-NET1-E58	FW-004:P8 / IECSWL2-002:P8	IECSWL2-002:P8 / FW-004:P8	CAT6 UTP, GREY	5	IEC61850	EMCS IEC61850 CONNECTION TO SWGRs CABLE INSTALLED IN YARD
45	B400-NET-001	IECSWL2-001	P1	ITER	B400-NET-001	FOPP-002	P1	ITER	B400-NET1-E59	IECSWL2-001:P1 / FOPP-002:P1	FOPP-002:P1 / IECSWL2-001:P1	2xFOMM		IEC61850	HV Switchgear (GIS)
46	B400-NET-001	IECSWL2-001	P2	ITER	B400-NET-001	FOPP-002	P2	ITER	B400-NET1-E60	IECSWL2-001:P2 / FOPP-002:P2	FOPP-002:P2 / IECSWL2-001:P2	2xFOMM		IEC61850	HV Switchgear (GIS)
47	B400-NET-001	IECSWL2-002	P1	ITER	B400-NET-001	FOPP-002	P7	ITER	B400-NET1-E61	IECSWL2-002:P1 / FOPP-002:P7	FOPP-002:P7 / IECSWL2-002:P1	2xFOMM		IEC61850	HV Switchgear (GIS)
48	B400-NET-001	IECSWL2-002	P2	ITER	B400-NET-001	FOPP-002	P8	ITER	B400-NET1-E62	IECSWL2-002:P2 / FOPP-002:P8	FOPP-002:P8 / IECSWL2-002:P2	2xFOMM		IEC61850	HV Switchgear (GIS)
49	B400-NET-001	IECSWL2-001	P12	ITER	B400-NET-001	TMSSWL2-001	P21	ITER	B400-NET1-E63	IECSWL2-001:P12 / TMSSWL2-001:P21	TMSSWL2-001:P21 / IECSWL2-001:P12	CAT6 UTP, GREY		IEC61850	
50	B400-NET-001	IECSWL2-002	P12	ITER	B400-NET-001	TMSSWL2-001	P22	ITER	B400-NET1-E64	IECSWL2-002:P12 / TMSSWL2-001:P22	TMSSWL2-001:P22 / IECSWL2-002:P12	CAT6 UTP, GREY		IEC61850	
51	B400-NET-001	COMSWL2-002	P15	ITER	B400-NET-001	TMSSWL2-001	P24	ITER	B400-NET1-E65	COMSWL2-002:P15 / TMSSWL2-001:P24	TMSSWL2-001:P24 / COMSWL2-002:P15	CAT6 UTP, GREY	10	OPC UA	Management Services

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ITEM	FROM				TO					CABLE TAG	CABLE TAG	CABLE		SERVICE	REMARKS
NO	CABINET NO.	EQUIPMENT	PORT	LOCATION	CABINET NO.	EQUIPMENT	PORT	LOCATION	Cable Name			TYPE	LENGTH (M)		
F	SNTP to MODBUS / PROFINET Cables - Sub system cable														
1	B400-NET-001	FW-005	P1	ITER	B400-PCS-001	ALE111	NU4-S1	ITER	B400-NET1-F1	FW-005:P1 / ALE111:NU4-S1	ALE111:NU4-S1 / FW-005:P1	CAT6 UTP, GREEN	15	Modbus	REDUNDANT MODBUS EMCS TO PCS CABLE INSTALLED IN YARD
2	B400-NET-001	FW-006	P1	ITER	B400-PCS-001	ALE111	NU4-S2	ITER	B400-NET1-F2	FW-006:P1 / ALE111:NU4-S2	ALE111:NU4-S2 / FW-006:P1	CAT6 UTP, GREEN	15	Modbus	REDUNDANT MODBUS EMCS TO PCS CABLE INSTALLED IN YARD
3	B400-NET-001	MODSWL2-001	P5	ITER	B400-PCS-001	ALE111	NU4-S3	ITER	B400-NET1-F3	MODSWL2-001:P5 / ALE111:NU4-S3	ALE111:NU4-S3 / MODSWL2-001:P5	CAT6 UTP, GREEN	15	Modbus	HVAC,UPS,Instrument Air, Nitrogen, Fresh Water Modbus to FCS0101 ALE111 CABLE INSTALLED IN YARD
4	B400-NET-001	MODSWL2-001	P6	ITER	B400-NET-001	TMSSWL2-001	P13	ITER	B400-NET1-F4	MODSWL2-001:P6 / TMSSWL2-001:P13	TMSSWL2-001:P13 / MODSWL2-001:P6	CAT6 UTP, GREY	2	mgmt	Mangament Services
5	B400-NET-001	MODSWL2-002	P5	ITER	B400-NET-001	TMSSWL2-001	P15	ITER	B400-NET1-F5	MODSWL2-002:P5 / TMSSWL2-001:P15	TMSSWL2-001:P15 / MODSWL2-002:P5	CAT6 UTP, GREY	2	mgmt	Management Services
6	B400-NET-001	MODSWL2-001	P7	ITER	B400-NET-001	COPP-01	P5	ITER	B400-NET1-F6	MODSWL2-001:P7 / COPP-01:P5	COPP-01:P5 / MODSWL2-001:P7	CAT6 UTP, GREEN	5	Modbus	UP -200F3
7	B400-NET-001	MODSWL2-001	P8	ITER	B400-NET-001	COPP-01	P23	ITER	B400-NET1-F8	MODSWL2-001:P8 / COPP-01:P23	COPP-01:P23 / MODSWL2-001:P8	CAT6 UTP, GREEN	5	Modbus	UP -200F4
8	B400-NET-001	MODSWL2-002	P7	ITER	B400-NET-001	COPP-01	P8	ITER	B400-NET1-F9	MODSWL2-002:P7 / COPP-01:P8	COPP-01:P8 / MODSWL2-002:P7	CAT6 UTP, GREEN	5	Modbus	UP -200F4
9	B400-NET-001	MODSWL2-001	P9	ITER	B400-NET-001	COPP-01	P9	ITER	B400-NET1-F10	MODSWL2-001:P9 / COPP-01:P9	COPP-01:P9 / MODSWL2-001:P9	CAT6 UTP, GREEN	5	Modbus	UP-200F1
10	B400-NET-001	MODSWL2-002	P8	ITER	B400-NET-001	COPP-01	P10	ITER	B400-NET1-F11	MODSWL2-002:P8 / COPP-01:P10	COPP-01:P10 / MODSWL2-002:P8	CAT6 UTP, GREEN	5	Modbus	UP-200F1
11	B400-NET-001	MODSWL2-001	P10	ITER	B400-NET-001	COPP-01	P11	ITER	B400-NET1-F12	MODSWL2-001:P10 / COPP-01:P11	COPP-01:P11 / MODSWL2-001:P10	CAT6 UTP, GREEN	5	Modbus	B100-HSB-001
~~12~~	~~B400-NET-001~~	~~MODSWL2-001~~	~~P11~~	~~ITER~~	~~B400-NET-001~~	~~MODSWL2-002~~	~~P24~~	~~ITER~~	~~B400-NET1-F13~~	~~MODSWL2-001:P11 / MODSWL2-002:P24~~	~~MODSWL2-002:P24 / MODSWL2-001:P11~~	~~CAT6 UTP, GREEN~~	~~5~~	~~Modbus~~	~~B200-HSB-001~~
13	B400-NET-001	MODSWL2-001	P12	ITER	B400-NET-001	COPP-01	P13	ITER	B400-NET1-F14	MODSWL2-001:P12 / COPP-01:P13	COPP-01:P13 / MODSWL2-001:P12	CAT6 UTP, GREEN	5	Modbus	B300-HSB-001
14	B400-NET-001	MODSWL2-001	P13	ITER	B400-NET-001	COPP-01	P14	ITER	B400-NET1-F15	MODSWL2-001:P13 / COPP-01:P14	COPP-01:P14 / MODSWL2-001:P13	CAT6 UTP, GREEN	5	Modbus	B400-HSB-001
15	B400-NET-001	MODSWL2-001	P14	ITER	B400-NET-001	COPP-01	P12	ITER	B400-NET1-F16	MODSWL2-001:P14 / COPP-01:P12	COPP-01:P12 / MODSWL2-001:P14	CAT6 UTP, GREEN	5	Modbus	SG-200N1
16	B400-NET-001	MODSWL2-001	P15	ITER	B400-NET-001	COPP-01	P16	ITER	B400-NET1-F17	MODSWL2-001:P15 / COPP-01:P16	COPP-01:P16 / MODSWL2-001:P15	CAT6 UTP, GREEN	5	Modbus	50-LP-001
17	B400-NET-001	PRFNSW001	P10	ITER	B400-PCS-001	A2LP131	NU4-S4	ITER	B400-NET1-F18	PRFNSW001:P10 / A2LP131:NU4-S4	A2LP131:NU4-S4 / PRFNSW001:P10	CAT6 UTP, GREEN	15	Profinet	CABLE INSTALLED IN YARD
18	B400-NET-001	PRFNSW001	P6	ITER	B400-NET-001	TMSSWL2-001	P14	ITER	B400-NET1-F19	PRFNSW001:P6 / TMSSWL2-001:P14	TMSSWL2-001:P14 / PRFNSW001:P6	CAT6 UTP, GREY	2	mgmt	Management Services
19	B400-NET-001	PRFNSW001	P7	ITER	B400-NET-001	COPP-01	P17	ITER	B400-NET1-F20	PRFNSW001:P7 / COPP-01:P17	COPP-01:P17 / PRFNSW001:P7	CAT6 UTP, GREEN	5	Profinet	63-LP-001
20	B400-NET-001	PRFNSW001	P8	ITER	B400-NET-001	COPP-01	P18	ITER	B400-NET1-F21	PRFNSW001:P8 / COPP-01:P18	COPP-01:P18 / PRFNSW001:P8	CAT6 UTP, GREEN	5	Profinet	64-LP-001
21	B400-NET-001	FW-005	P2	ITER	B400-SRV-001	EMCSSVR01	P8	ITER	B400-NET1-F22	FW-005:P2 / EMCSSVR01:P8	EMCSSVR01:P8 / FW-005:P2	CAT6 UTP, GREEN	10	Modbus	EMCS to PCS modbus for control
22	B400-NET-001	FW-006	P2	ITER	B400-SRV-001	EMCSSVR02	P8	ITER	B400-NET1-F23	FW-006:P2 / EMCSSVR02:P8	EMCSSVR02:P8 / FW-006:P2	CAT6 UTP, GREEN	10	Modbus	EMCS to PCS modbus for control
23	B400-NET-001	MODSWL2-001	P16	ITER	B400-NET-001	COPP-01	P19	ITER	B400-NET1-F24	MODSWL2-001:P16 / COPP-01:P19	COPP-01:P19 / MODSWL2-001:P16	CAT6 UTP, GREEN	5	Modbus	TR-100AD1 AVR
24	B400-NET-001	MODSWL2-001	P17	ITER	B400-NET-001	COPP-01	P20	ITER	B400-NET1-F25	MODSWL2-001:P17 / COPP-01:P20	COPP-01:P20 / MODSWL2-001:P17	CAT6 UTP, GREEN	5	Modbus	SG-100D1
25	B400-NET-001	MODSWL2-001	P18	ITER	B400-NET-001	COPP-01	P21	ITER	B400-NET1-F26	MODSWL2-001:P18 / COPP-01:P21	COPP-01:P21 / MODSWL2-001:P18	CAT6 UTP, GREEN	5	Modbus	SG-200D2
26	B400-NET-001	MODSWL2-001	P19	ITER	B400-NET-001	EMCSSVR01	P10	ITER	B400-NET1-F27	MODSWL2-001:P19 / EMCSSVR01:P10	EMCSSVR01:P10 / MODSWL2-001:P19	CAT6 UTP, GREEN	5	Modbus	EMCS to PCS modbus for control
~~27~~	~~B400-NET-001~~	~~MODSWL2-002~~	~~P9~~	~~ITER~~	~~B400-NET-001~~	~~SERVSWL2-002~~	~~P6~~	~~ITER~~	~~B400-NET1-F28~~	~~MODSWL2-002:P9 / SERVSWL2-002:P6~~	~~SERVSWL2-002:P6 / MODSWL2-002:P9~~	~~CAT6 UTP, GREEN~~	~~5~~	~~Modbus~~	~~MV SWGR~~
28	B400-NET-001	COPP-2	P2	ITER	B400-NET-001	PROCONV-002	P1	ITER	B400-NET1-F29	COPP-2:P2 / PROCONV-002:P1	PROCONV-002:P1 / COPP-2:P2	CAT6 UTP, GREEN	5	Modbus	ELECTROLYSER
29	B400-NET-001	MODSWL2-001	P21	ITER	B400-NET-001	FW-005	P3	ITER	B400-NET1-F30	MODSWL2-001:P21 / FW-005:P3	FW-005:P3 / MODSWL2-001:P21	CAT6 UTP, GREEN	5	Modbus	FW-005 to Modbus Switch
30	B400-NET-001	MODSWL2-002	P10	ITER	B400-NET-001	FW-006	P3	ITER	B400-NET1-F31	MODSWL2-002:P10 / FW-006:P3	FW-006:P3 / MODSWL2-002:P10	CAT6 UTP, GREEN	5	Modbus	FW-005 to Modbus Switch Routed Mode
31	B400-NET-001	MODSWL2-001	P20	ITER	B400-NET-001	PROCONV-002	P2	ITER	B400-NET1-F32	MODSWL2-001:P20 / PROCONV-002:P2	PROCONV-002:P2 / MODSWL2-001:P20	CAT6 UTP, GREEN	5	Modbus	ELECTROLYSER
32	B400-NET-001	MODSWL2-001	P23	ITER	B400-NET-001	COPP-02	P3	ITER	B400-NET1-F33	MODSWL2-001:P23 / COPP-02:P3	COPP-02:P3 / MODSWL2-001:P23	CAT6 UTP, GREEN	3	Modbus	FUEL CELL
33	B400-NET-001	FW-005	WAN1	ITER	B400-NET-001	TMSSWL2-001	P17	ITER	B400-NET1-F34	FW-005:WAN1 / TMSSWL2-001:P17	TMSSWL2-001:P17 / FW-005:WAN1	CAT6 UTP, GREY	5	mgmt	Management Services
34	B400-NET-001	FW-006	WAN1	ITER	B400-NET-001	TMSSWL2-001	P18	ITER	B400-NET1-F35	FW-006:WAN1 / TMSSWL2-001:P18	TMSSWL2-001:P18 / FW-006:WAN1	CAT6 UTP, GREY	5	mgmt	Management Services
35	B400-NET-001	MODSWL2-002	P6	ITER	B400-NET-001	COPP-01	P24	ITER	B400-NET1-F36	MODSWL2-002:P6 / COPP-01:P24	COPP-01:P24 / MODSWL2-002:P6	CAT6 UTP, GREEN	5	Modbus	UP -200F4
36	B400-NET-001	MODSWL2-002	P24	ITER	B400-NET-001	MODSWL2-001	P11	ITER	B400-NET1-F37	MODSWL2-002:P24 / MODSWL2-001:P11	MODSWL2-001:P11 / MODSWL2-002:P24	CAT6 UTP, GREEN	5	Modbus	BESS
37	B400-NET-001	MODSWL2-002	P12	ITER	B400-NET-001	COPP-02	P15	ITER	B400-NET1-F38	MODSWL2-002:P12 / COPP-02:P15	COPP-02:P15 / MODSWL2-002:P12	CAT6 UTP, GREEN	5	Modbus	BESS
38	B400-NET-001	MODSWL2-002	P16	ITER	B400-NET-001	EMCSSVR02	P10	ITER	B400-NET1-F39	MODSWL2-002:P16 / EMCSSVR02:P10	EMCSSVR02:P10 / MODSWL2-002:P16	CAT6 UTP, GREEN	5	Modbus	EMCS to PCS modbus for control
39	B400-NET-001	MODSWL2-001	P22	ITER	B400-NET-001	COPP-02	P1	ITER	B400-NET1-F40	MODSWL2-001:P22 / COPP-02:P1	COPP-02:P1 / MODSWL2-001:P22	CAT6 UTP, GREEN	5	Modbus	EMCS to PCS modbus for control
40	B400-NET-001	FW-005	A	ITER	B400-NET-001	MODSWL2-001	P24	ITER	B400-NET1-F41	FW-005:A / MODSWL2-001:P24	MODSWL2-001:P24 / FW-005:A	CAT6 UTP, GREY	5	mgmt	Management Services
41	B400-NET-001	FW-006	A	ITER	B400-PCS-001	MODSWL2-002	P23	ITER	B400-NET1-F42	FW-006:A / MODSWL2-002:P23	MODSWL2-002:P23 / FW-006:A	CAT6 UTP, GREEN	15	Modbus	FW-005 to Modbus Switch Transparent Mode
42	B400-NET-001	MODSWL2-002	P11	ITER	B400-PCS-001	ALE111	NU3-S7	ITER	B400-NET1-F43	MODSWL2-002:P11 / ALE111:NU3-S7	ALE111:NU3-S7 / MODSWL2-002:P11	CAT6 UTP, GREEN	5	Modbus	LVSWGR to PCS modbus for control

Manufacturer Serial Number (MSN) 000 (TEN) 10033181

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7.2 PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS

1724000594-IN-DG-0002

BASE LOAD POWER HUB (BLPH)
PCS CABINETS
WIRING DIAGRAMS AND TERMINAL STRIPS

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	19/09/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00020 | SHEET 001 | REV. 3

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X							BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X							BASE LOAD POWER HUB (BLPH) INDEX
003	X									BASE LOAD POWER HUB (BLPH) LEGEND
004	X	X								BASE LOAD POWER HUB (BLPH) SYMBOL LEGEND
005	X	X								BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X		X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
007		X								BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
008	X		X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
009		X								BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
010	X		X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
011	X	X								BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
012	X	X	X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN
013	X		X							BASE LOAD POWER HUB (BLPH) PCS PANEL - TB FAULT SIGNALS
014	X	X	X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION
015	X	X	X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 230Vac/12Vdc POWER DISTRIBUTION
016	X	X								BASE LOAD POWER HUB (BLPH) PCS PANEL - BREAKER FAULT ALARM CIRCUIT
017	X		X							BASE LOAD POWER HUB (BLPH) PCS PANEL - SHIELD / GROUND CONNECTION
018	X	X	X							BASE LOAD POWER HUB (BLPH) PCS PANEL - FAULT ALARM SIGNALS TO DCS
019		X								BASE LOAD POWER HUB (BLPH) PCS PANEL - FAULT ALARM SIGNALS TO DCS
020	X		X							BASE LOAD POWER HUB (BLPH) PCS PANEL - 24Vdc POWER DISTRIBUTION

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL - RACK "1" POWER DISTRIBUTION
022	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL - RACK "2" POWER DISTRIBUTION
023	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL - RACK "3" POWER DISTRIBUTION
024	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL - RACK "4" POWER DISTRIBUTION
025	X	X		X						BASE LOAD POWER HUB (BLPH) PCS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT
026	X	X		X						BASE LOAD POWER HUB (BLPH) PCS PANEL - TYPICAL WIRING ANALOG INPUT/OUTPUT
027	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
028	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-11001
029	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-11002
030	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-11003
031	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-11004
032	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-11005
033	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-12001
034	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-12002
035	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-12003
036	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-12004
037	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-12005
038	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-12006
039	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-13001
040	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-13002

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
041	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-13003
042	X	X	X	X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-00-JE-BX00
043	X	X		X						BASE LOAD POWER HUB (BLPH) PCS PANEL -TB-C-63-PT-003

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 002

REV. 3

NUMBER	SYMBOL	REFERENCE	DESCRIPTION
01		IEC 60417-5031	DIRECT CURRENT
02		IEC 60417-5032	ALTERNATING CURRENT
03		IEC 60417-5033	BOTH DIRECT AND ALTERNATING CURRENT
04	3	.	THREE-PHASE ALTERNATING CURRENT
05		IEC 60417-5017	EARTH (GROUND) TERMINAL
06		IEC 60417-5019	PROTECTIVE CONDUCTOR TERMINAL
07		IEC 60417-5020	FRAME OR CHASSIS TERMINAL
08		IEC 60417-5021	EQUIPOTENTIALITY
09		IEC 60417-5007	ON (SUPPLY)
10		IEC 60417-5008	OFF (SUPPLY)
11		IEC 60417-5172	EQUIPMENT PROTECTED THROUGHOUT BY DOUBLE INSULATION OR REINFORCED INSULATION
12		.	CAUTION RISK OF ELECTRIC SHOCK
13		IEC 60417-5041	CAUTION HOT SURFACE
14		ISO 7000-0434	CAUTION RISK OF DANGER
15		IEC 60417-5266	IN POSITION OF A BI-STABLE PUSH CONTROL
16		IEC 60417-5269	OUT POSITION OF A BI-STABLE PUSH CONTROL

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DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
LEGEND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

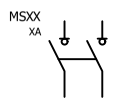
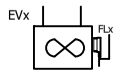
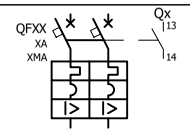
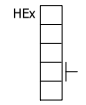
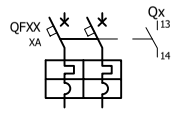
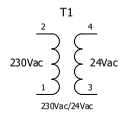
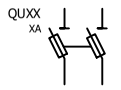
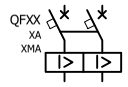
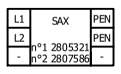
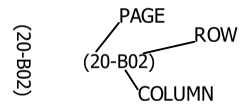
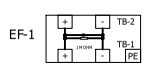
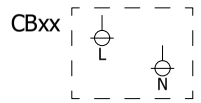
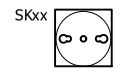
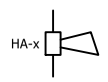
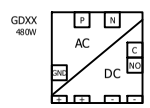
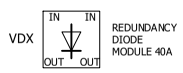
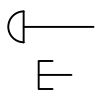
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 003

REV. 3

	ROTATIVE MAIN SWITCH -		ELECTRIC FAN WITH FAULT DETECTION		I.S. BARRIER (NOTE: AB-xx FOR ACTIVE BARRIERS, ZB-xx FOR ZENER BARRIERS)
	DIFFERENTIAL RESIDUAL CURRENT CIRCUIT BREAKER WITH AUXILIARY CONTACT		PANEL ELECTRIC HEATER -		GALVANIC ISOLATOR -
	AUTOMATIC CIRCUIT BREAKER WITH AUXILIARY CONTACT		AC/AC VOLTAGE TRANSFORMER -		FUSED TERMINAL -
	DISCONNECTOR WITH FUSE -		THERMOSTATE NO CONTACT -		KNIFE TERMINAL -
	PURE RESIDUAL CURRENT CIRCUIT BREAKER		NO CONTACT -		FEED THROUGH TERMINAL -
	SURGE ARRESTOR -		NC CONTACT -		PAGE CROSS REFERENCE INDICATION -
	LINE FILTER MODULE -		DOOR LIMIT SWITCH -		COMMON BOX -
	SERVICE SOCKET -		FRONT PANEL ALARM BUZZER -		- -
	AC/DC FEEDER -		INTERNAL LIGHT OR FRONT PANEL LIGHT		- -
	REDUNDANCY DIODE MODULE -		MUSHROOM PUSHBUTTON INDICATOR NORMAL PUSHBUTTON INDICATOR		- -
	RELAYS -		ROTATIVE SELECTOR INDICATOR -		- -
	- -		RESISTOR -		- -
	- -		- -		- -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
SYMBOL LEGEND

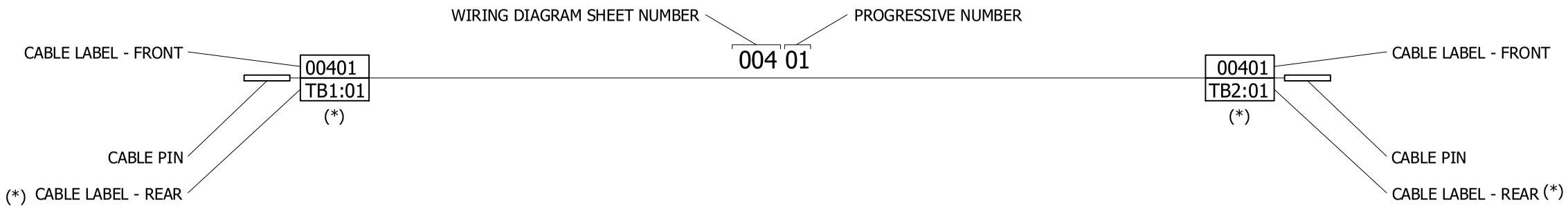
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00020 | SHEET 004 | REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	○○○○○○○○○○○○○○○
I.E. EARTH	○○○○○○○○○○○○○○○

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 005

REV. 3

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9 MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PCS PANEL - POWER DISTRIBUTION FROM UPS LINE 1

230Vac-50Hz
FROM UPS#1
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS2 1 2 3

00601 BR 6 mm² — 00603 LB 6 mm² — 00611 YG 6 mm² — PE

CB_UPS1
(007-B02)

N P N P N P N P N P N P N P

(007-C02)
(007-C02)

MS1
230Vac
32A

00604 BR 6 mm² — 00602 LB 6 mm²

	Q6	Q7	Q8	Q9	Q10	Q11
Cable	00605 BR 2,5 mm² / 00606 LB 2,5 mm²	00607 BR 2,5 mm² / 00608 LB 2,5 mm²	00609 BR 2,5 mm² / 00610 LB 2,5 mm²	00612 BR 2,5 mm² / 00613 LB 2,5 mm²	00614 BR 2,5 mm² / 00615 LB 2,5 mm²	00616 BR 2,5 mm² / 00617 LB 2,5 mm²
Device	Q6 230Vac 16A "C" CURVE	Q7 230Vac 6A "D" CURVE	Q8 230Vac 6A "D" CURVE	Q9 230Vac 6A "D" CURVE	Q10 230Vac 6A "D" CURVE	Q11 230Vac 10A "C" CURVE
Aux	13–14	13–14	13–14	13–14	13–14	13–14 / 21–22
	(016-B02)	(016-A02)	(016-A03)	(016-B03)	(016-C03)	(016-E03)
Cable	01401 BR 2,5 mm² / 01402 LB 2,5 mm²	02101 BR 1,5 mm² / 02102 LB 1,5 mm²	02201 BR 1,5 mm² / 02202 LB 1,5 mm²	02301 BR 1,5 mm² / 02302 LB 1,5 mm²	02401 BR 1,5 mm² / 02402 LB 1,5 mm²	
	(014-B02) / (014-B02)	(021-G02) / (021-G02)	(022-G02) / (022-G02)	(023-G02) / (023-G02)	(024-G02) / (024-G02)	
	POWER SUPPLY G1	POWER SUPPLY (1) RACK "1" PW482-51	POWER SUPPLY (1) RACK "2" PW482-51	POWER SUPPLY (1) RACK "3" PW482-51	POWER SUPPLY (1) RACK "4" PW482-51	

SPARE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND — ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

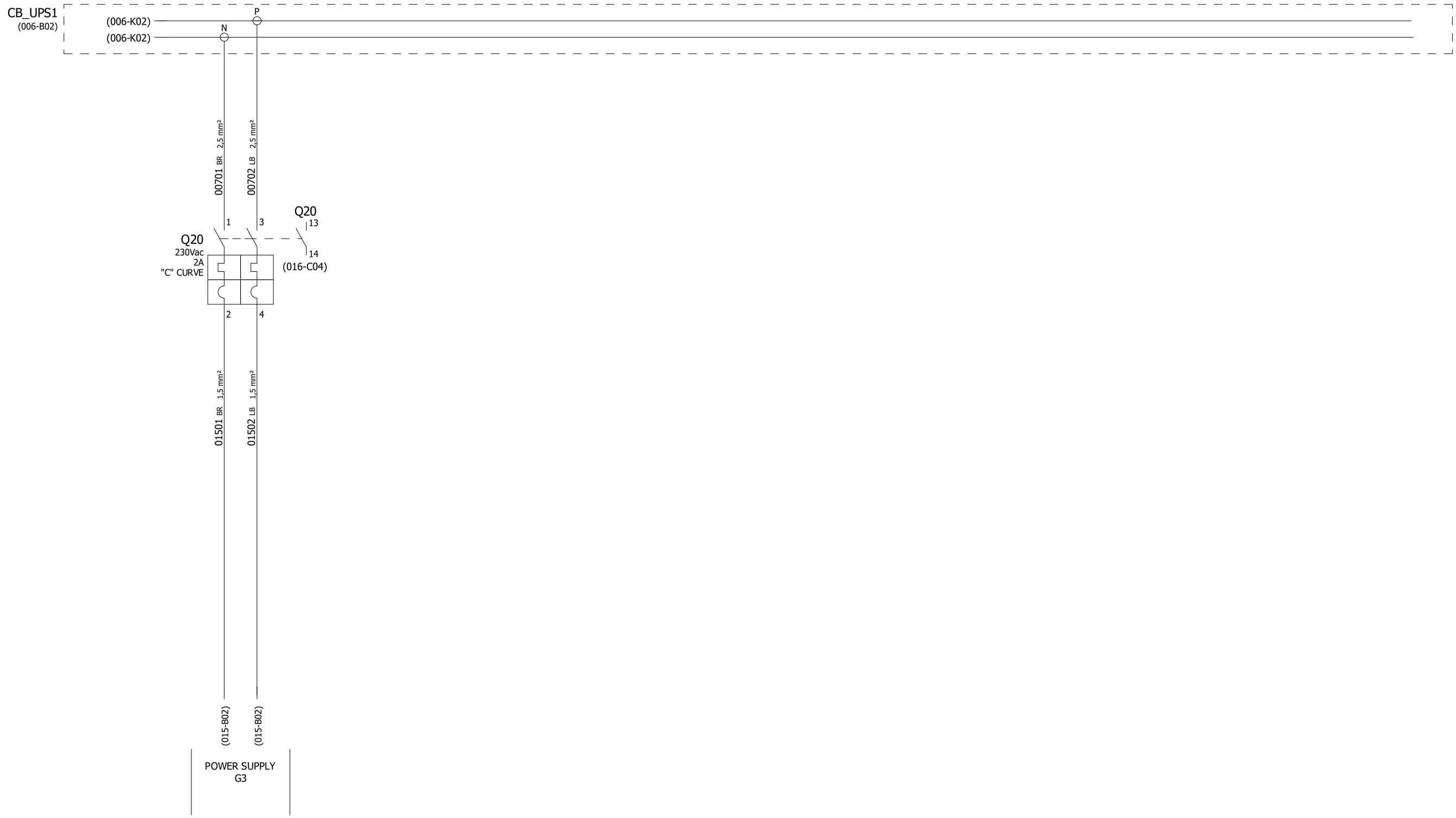
A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 006

REV. 3

PCS PANEL - POWER DISTRIBUTION FROM UPS LINE 1



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 007

REV. 3

PCS PANEL - POWER DISTRIBUTION FROM UPS LINE 2

230Vac-50Hz
FROM UPS#2
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS2 1 2 3

00801 BR 6 mm² — 00803 LB 6 mm² — 00611 YG 6 mm² — PE

CB_UPS2
(009-B02)

(009-C02)
(009-C02)

MS2
230Vac
32A

00804 BR 6 mm² — 00802 LB 6 mm²

	Q12	Q13	Q14	Q15	Q16	Q17
00805 BR 2,5 mm² / 00806 LB 2,5 mm²	00807 BR 2,5 mm² / 00808 LB 2,5 mm²	00809 BR 2,5 mm² / 00810 LB 2,5 mm²	00811 BR 2,5 mm² / 00812 LB 2,5 mm²	00813 BR 2,5 mm² / 00814 LB 2,5 mm²	00815 BR 2,5 mm² / 00816 LB 2,5 mm²	
230Vac 16A "C" CURVE	230Vac 6A "D" CURVE	230Vac 6A "D" CURVE	230Vac 6A "D" CURVE	230Vac 6A "D" CURVE	230Vac 10A "C" CURVE	
(016-E03)	(016-F03)	(016-G03)	(016-F04)	(016-E04)	(016-E04)	
01403 BR 2,5 mm² / 01404 LB 2,5 mm²	02103 BR 1,5 mm² / 02104 LB 1,5 mm²	02203 BR 1,5 mm² / 02204 LB 1,5 mm²	02303 BR 1,5 mm² / 02304 LB 1,5 mm²	02403 BR 1,5 mm² / 02404 LB 1,5 mm²		
(014-H02) / (014-H02)	(021-H02) / (021-H02)	(022-H02) / (022-H02)	(023-H02) / (023-H02)	(024-H02) / (024-H02)		
POWER SUPPLY G2	POWER SUPPLY (2) RACK "1" PW482-51	POWER SUPPLY (2) RACK "2" PW482-51	POWER SUPPLY (2) RACK "3"" PW482-51	POWER SUPPLY (2) RACK "4" PW482-51 <2>	SPARE	

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

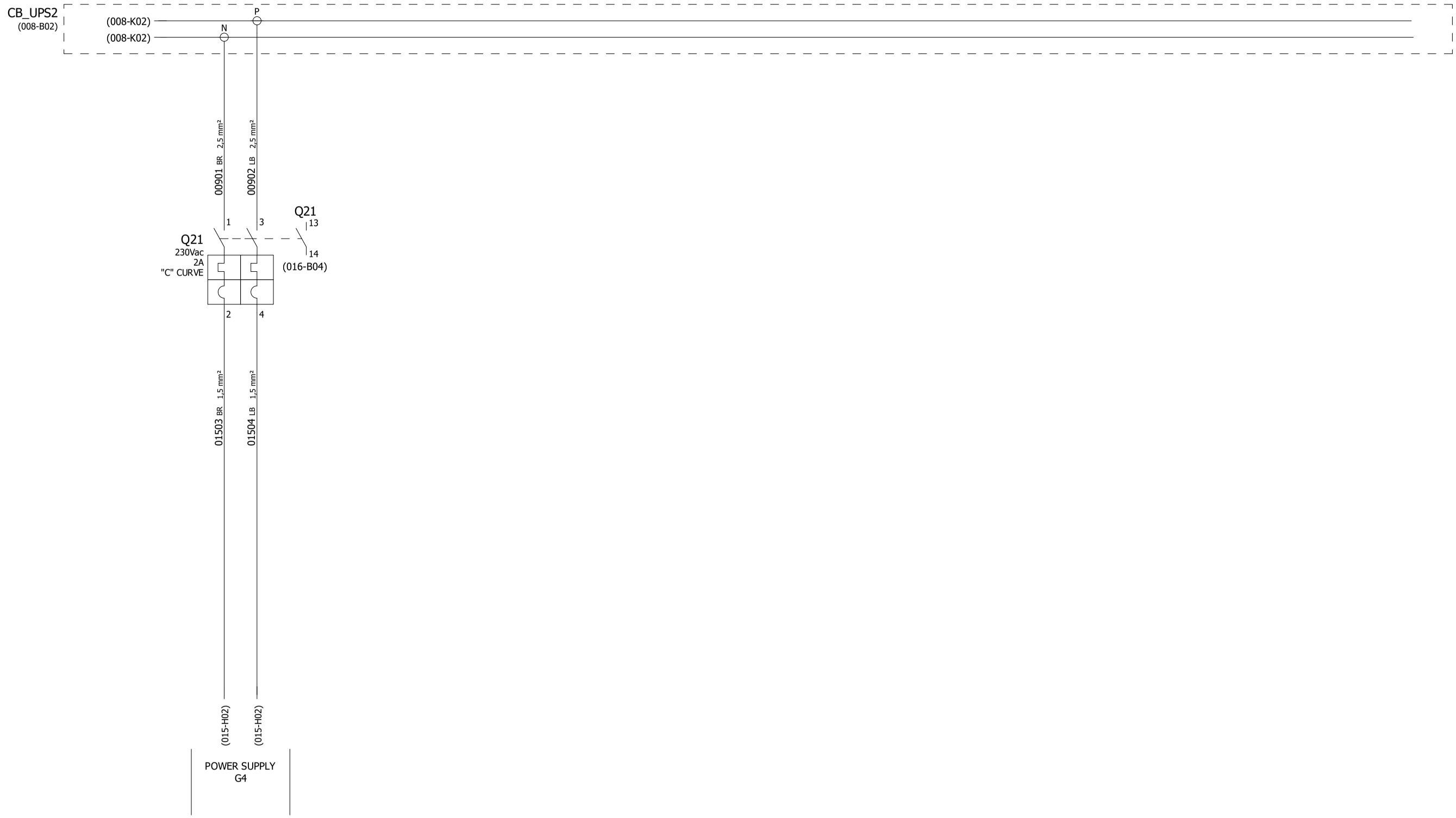
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 008

REV. 3



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 009

REV. 3

PCS PANEL - POWER DISTRIBUTION FROM NON UPS

230Vac-50Hz
FROM MCC
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS3 1 2 3

01001 BR 6 mm² — 01003 LB 6 mm² — 00611 YG 6 mm² — PE

CB_SER
(011-A01)

N P P N P P N P P N

(011-A01)
(011-A01)

01004 LB 6 mm² — 01002 BR 6 mm²

01005 BR 2.5 mm² — 01007 LB 2.5 mm²

01009 BR 2.5 mm² — 01014 LB 2.5 mm²

01017 BR 2.5 mm² — 01018 LB 2.5 mm²

Q1 — 230Vac — 25A — Id 30mA — (016-G02)

Q2 — 230Vac — 16A — "C" CURVE — (016-F02)

Q3 — 230Vac — 2A — "C" CURVE — (016-E02)

Q4 — 230Vac — 4A — "C" CURVE — (016-D02)

SPARE

01006 BR 2.5 mm² — 01008 LB 2.5 mm²

TB-LAMP 5 — 01010 BR 1.5 mm² — 01011 BR 1.5 mm²

S1 — S2

01012 BR 1.5 mm² — 01016 BR 1.5 mm²

TB-LAMP 1 — x1 — H1 — x2 — 2

TB-LAMP 5 — x1 — H2 — x2 — 6

SK1 — 00611 YG 2,5 mm² — PE

01013 LB 1,5 mm² — 6 — 01015 LB 1,5 mm²

TB-LAMP

SERVICE SOCKET
230Vac 50Hz

INTERNAL LIGHT (LEFT SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

INTERNAL LIGHT (RIGHT SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND — ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

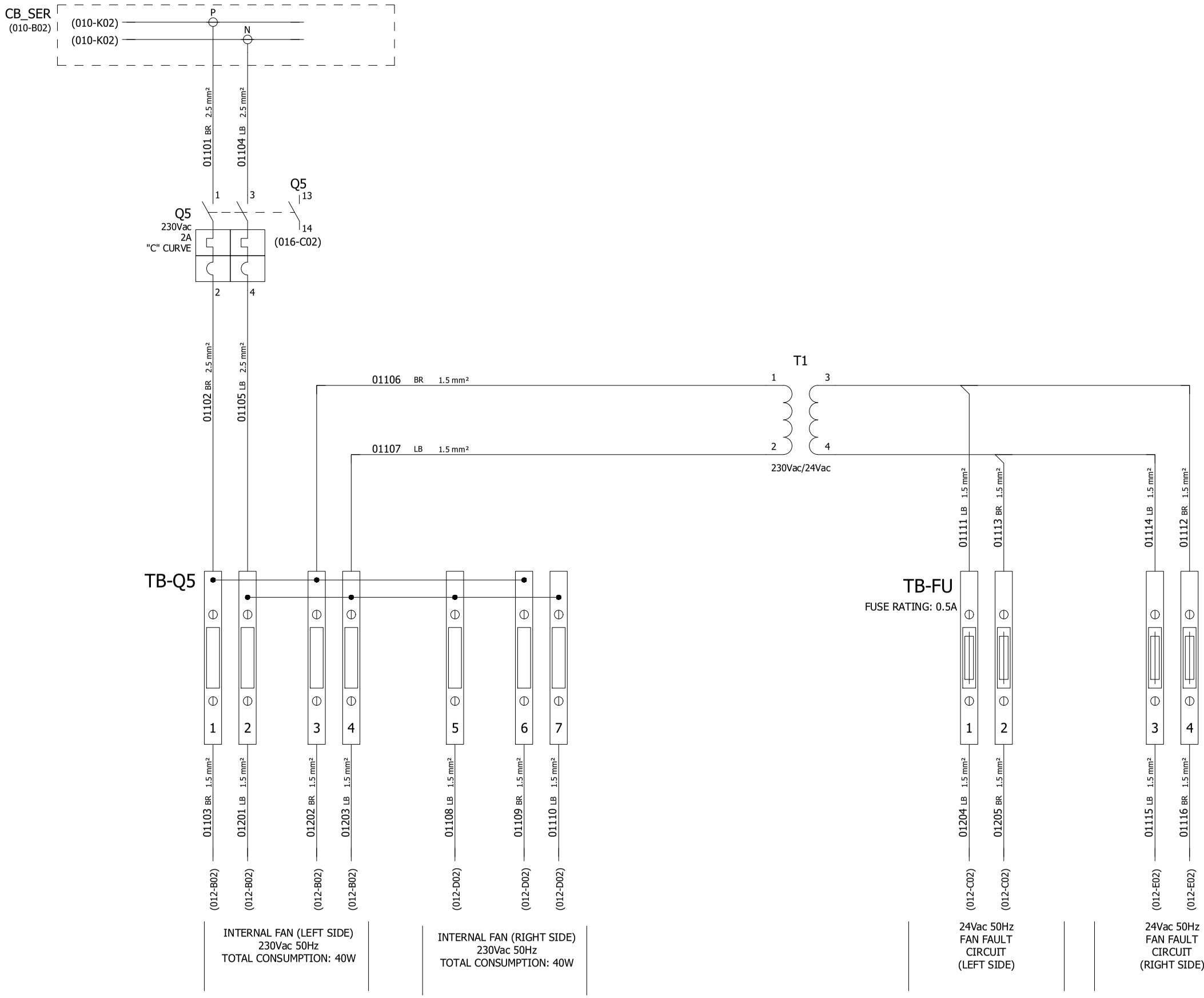
SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 010

REV. 3



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DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

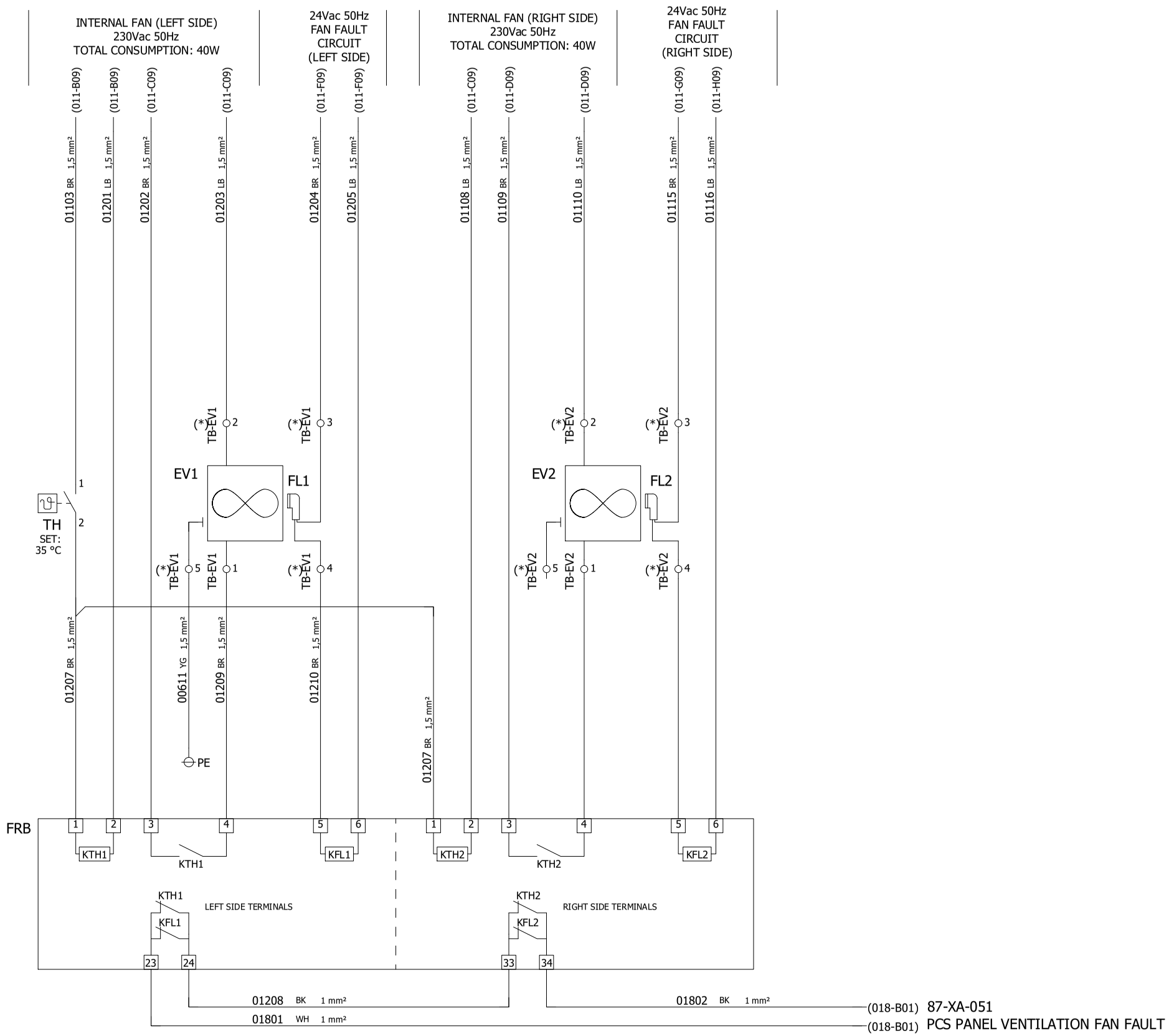
A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 011

REV. 3

PCS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN & HEATER



NOTE (*):
TB-EV IS A FEED THROUGH TERMINAL BOARD FOR
PRE-WIRED ITEMS CONNECTION. FOR THIS REASON,
WIRE NUMBERS WILL BE THE SAME ON BOTH SIDES.

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

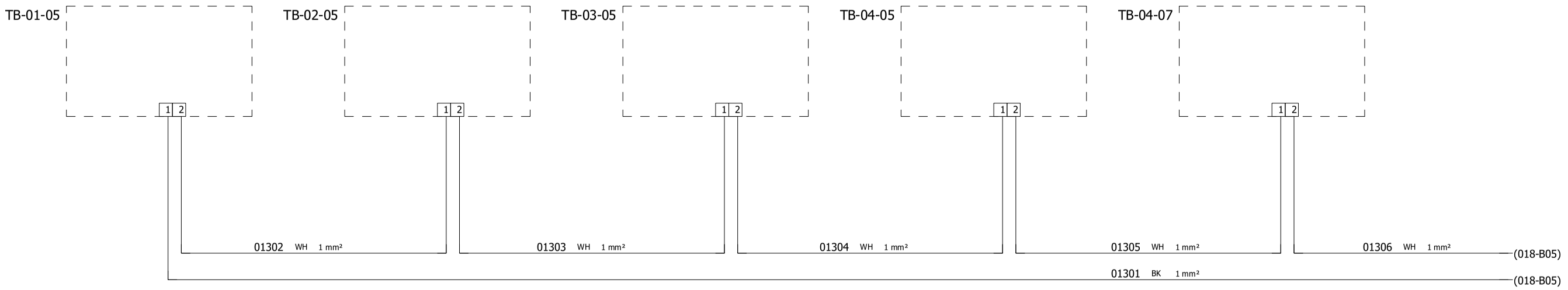
CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3 DRAWING NO. 1724000594-IN-DG-00020
SHEET 012
REV. 3

PCS PANEL - TB FAULT SIGNALS



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - TB FAULT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 013

REV. 3

PCS PANEL - 230Vac/24Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(006-D09) 01401 BR 2.5 mm² — L(+)
(006-D09) 01402 LB 2.5 mm² — N(-)

G1
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

AC / DC

13 — 01803 WH 1 mm² — (018-B02)
14 — 01413 WH 1 mm²
PE — 00611 YG 2,5 mm² — PE

87-XA-052
PCS PANEL POWER SUPPLY
24Vdc FAILURE

+ + - - → 01405 RD 4 mm², 01407 BU 4 mm², 01406 RD 4 mm², 01410 BU 4 mm²

VD1
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN2-
OUT+ OUT-

01408 RD 6 mm², 01411 BU 6 mm²

Q18
24Vdc
32A
"C" CURVE
1 3 13 14 (016-B05)
2 4

01409 RD 6 mm², 01412 BU 6 mm²

CB_24Vdc
(020-A01) + -

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(008-D08) 01403 BR 2.5 mm² — L(+)
(008-D08) 01404 LB 2.5 mm² — N(-)

G2
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

AC / DC

13 — 01413 WH 1 mm²
14 — 01808 BK 1 mm² — (018-B02)
PE — 00611 YG 2,5 mm² — PE

87-XA-052
PCS PANEL POWER SUPPLY
24Vdc FAILURE

+ + - - → 01415 RD 4 mm², 01417 BU 4 mm², 01416 RD 4 mm², 01420 BU 4 mm²

VD2
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN1-
OUT+ OUT-

01418 RD 6 mm², 01421 BU 6 mm²

Q19
24Vdc
32A
"C" CURVE
1 3 13 14 (016-C05)
2 4

01419 RD 6 mm², 01422 BU 6 mm²

(020-A01)
(020-A01)

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YOKOGAWA ◆ CROSSWIND ROSETTI MARINO

PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DG-00020
SHEET 014
REV. 3

PCS PANEL - 230Vac/12Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(007-C09) 01501 BR 2.5 mm²
(007-C09) 01502 LB 2.5 mm²

G3
IN: 230Vac
OUT: 12Vdc
15W
1,25A
MEAN WELL
HDR-15-12

AC / DC

1 2 PE + -

00611 YG 2,5 mm² → PE

01505 RD 1,5 mm²
01506 BU 1,5 mm²

KA1 A1 A2

13 — 14 (018-B02)

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(009-C09) 01503 BR 2.5 mm²
(009-C09) 01504 LB 2.5 mm²

G4
IN: 230Vac
OUT: 12Vdc
15W
1,25A
MEAN WELL
HDR-15-12

AC / DC

1 2 PE + -

00611 YG 2,5 mm² → PE

01509 RD 1,5 mm²
01510 BU 1,5 mm²

KA2 A1 A2

13 — 14 (018-D02)

TB_D
DIODE 1N4007

1 2 3 4

01507 RD 0.5 mm²
01508 BU 0.5 mm²

CB_12Vdc

TB-00-JE-BX00

04207	RD	1.5 mm²	7
04208	BU	1.5 mm²	8
04215	RD	1.5 mm²	15
04216	BU	1.5 mm²	16
04223	RD	1.5 mm²	23
04224	BU	1.5 mm²	24
04231	RD	1.5 mm²	31
04232	BU	1.5 mm²	32

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CROSSWIND

ROSETTI MARINO

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PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 230Vac/12Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

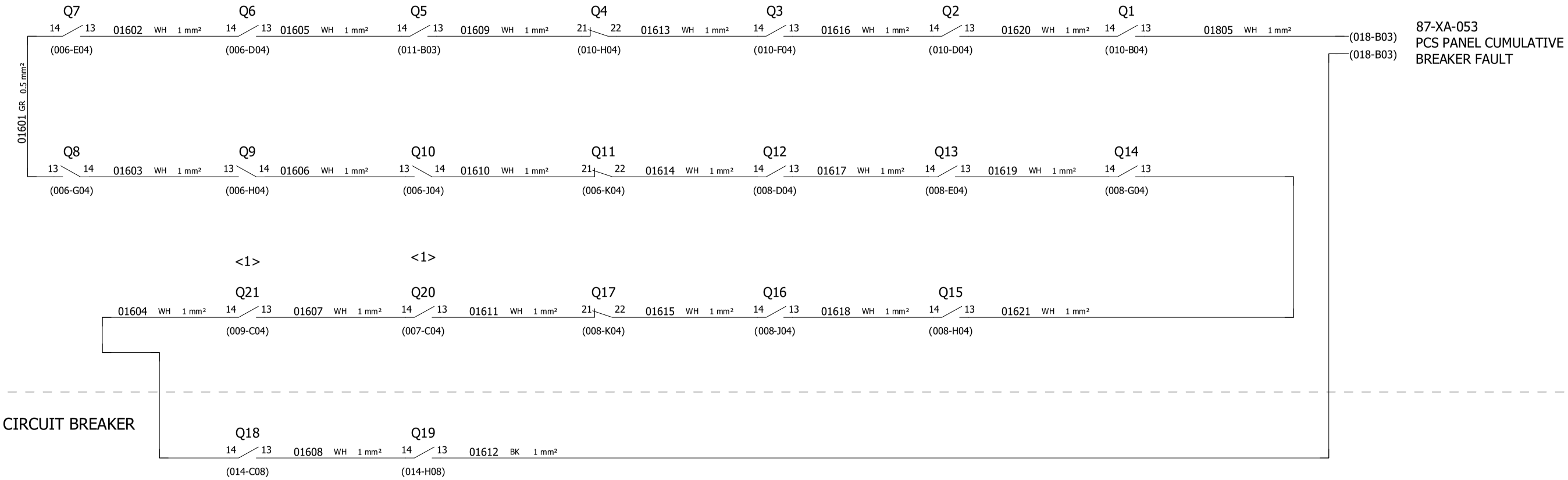
DRAWING NO. 1724000594-IN-DG-00020

SHEET 015

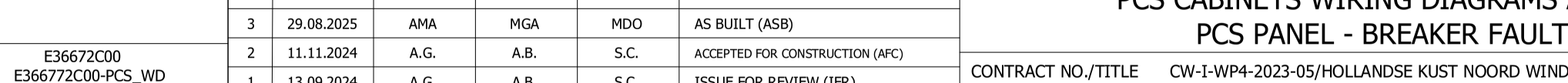
REV. 3

PCS PANEL - BRAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



24Vdc CIRCUIT BREAKER



NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

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CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - BREAKER FAULT ALARM CIRCUIT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

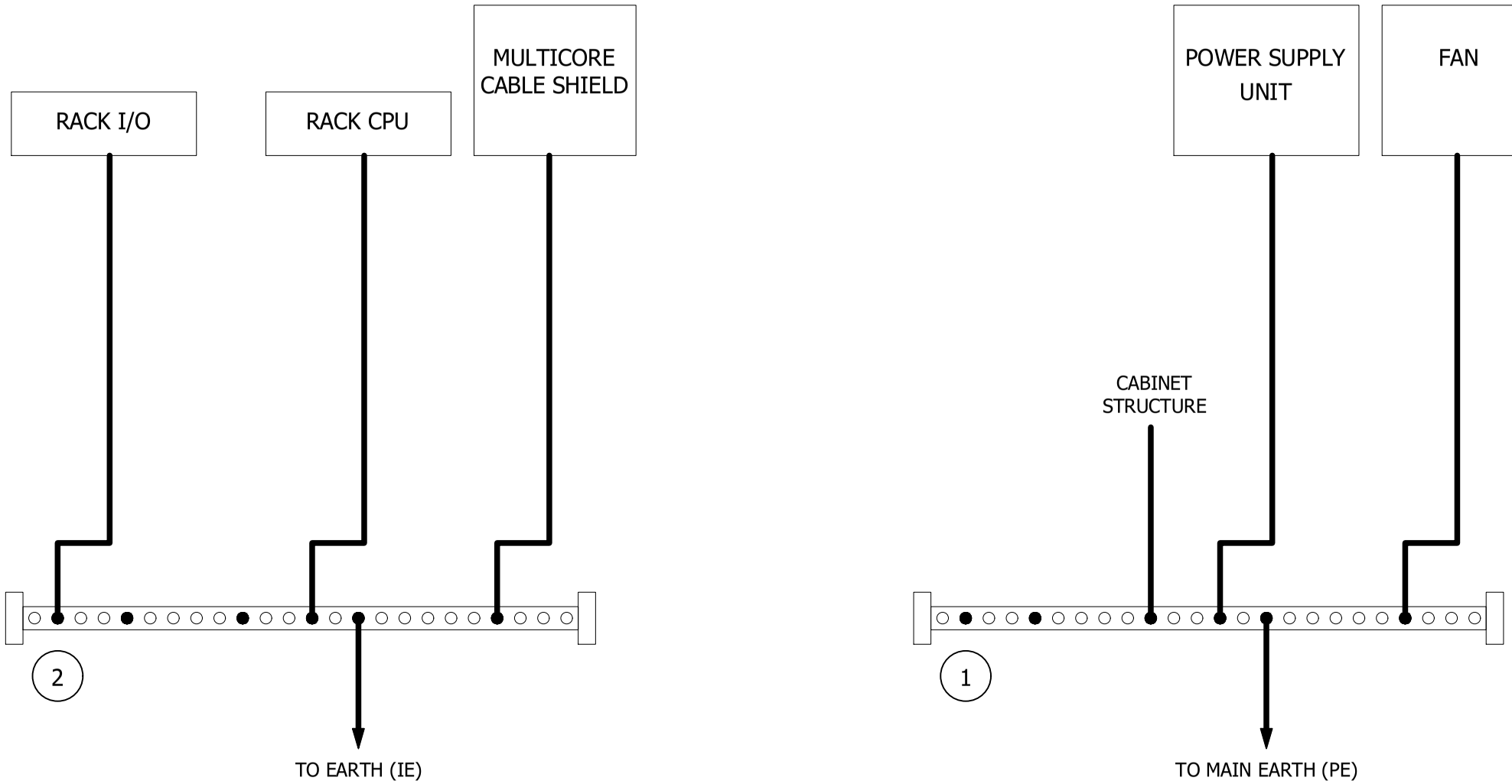
SCALE : 1

A3 DRAWING NO. 1724000594-IN-DG-00020

SHEET 016 REV. 3

PCS PANEL - SHIELD/GROUND CONNECTION

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)
2	I.E. EARTH	INSTRUMENTAL EARTH



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YOKOGAWA ◆ PROJECT Nr. E36672C00
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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

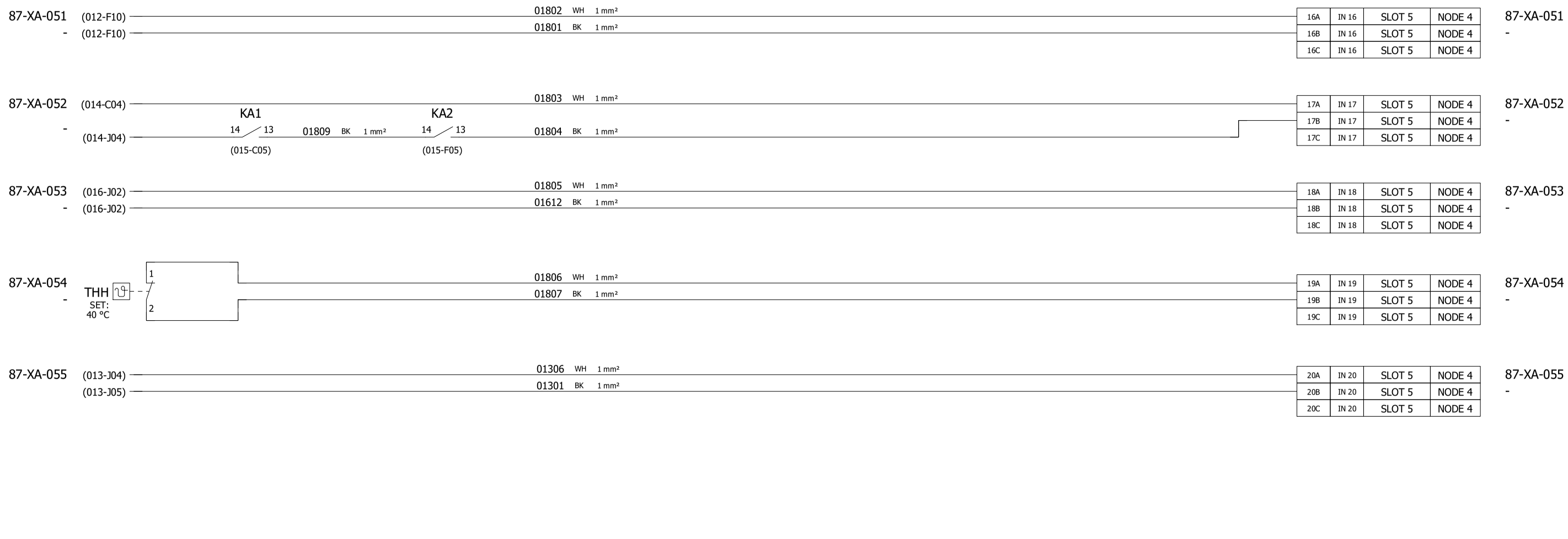
A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 017

REV. 3

PCS PANEL - FAULT ALARM SIGNALS TO PCS



CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
87-XA-051	PCS PANEL VENTILATION FAN FAULT
87-XA-052	PCS PANEL POWER SUPPLY & DIODES FAILURE
87-XA-053	PCS PANEL CUMULATIVE BREAKER FAULT
<2> 87-XA-054	PCS PANEL HIGH TEMPERATURE ALARM
<2> 87-XA-055	PCS PANEL DIGITAL TB CUMULATIVE FAULT

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
-	-
-	-
-	-
-	-
-	-

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2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - FAULT ALARM SIGNALS TO DCS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

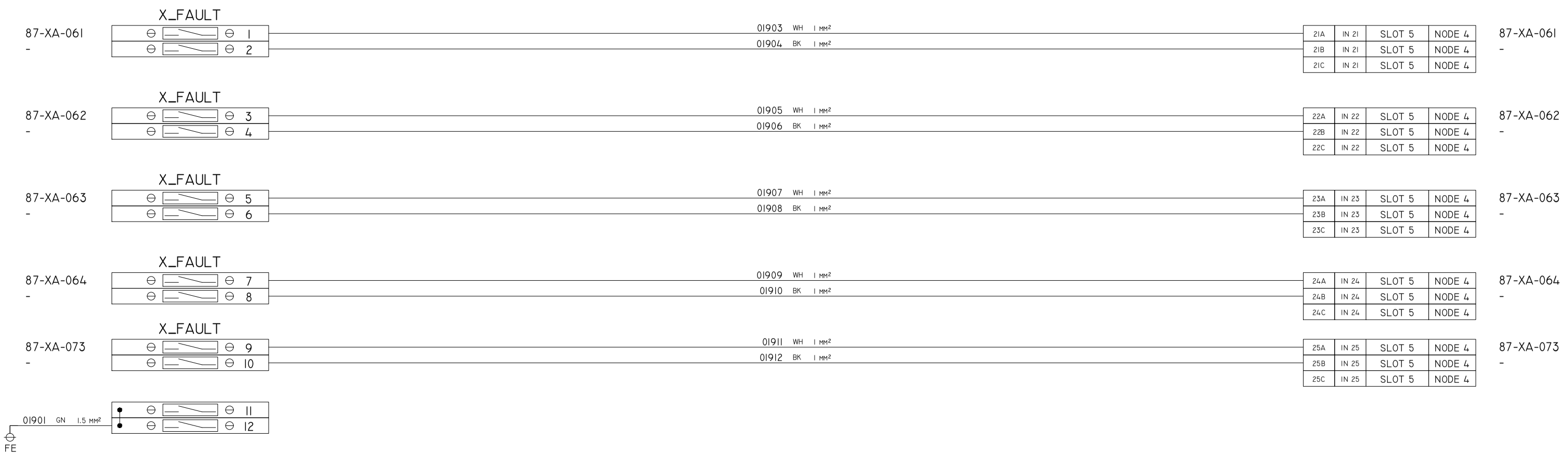
A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 018

REV. 3

PCS PANEL - FAULT ALARM SIGNALS TO PCS



CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
87-XA-061	NET PANEL VENTILATION FAN FAULT
87-XA-062	NET PANEL POWER SUPPLY & DIODES FAILURE
87-XA-063	NET PANEL CUMULATIVE BREAKER FAULT
97-XA-064	NET&SERV PANEL HIGH TEMPERATURE ALARM
87-XA-073	SERV PANEL CUMULATIVE BREAKER FAULT

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
-	-
-	-
-	-
-	-
-	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA

PROJECT NR. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - FAULT ALARM SIGNALS TO DCS

CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

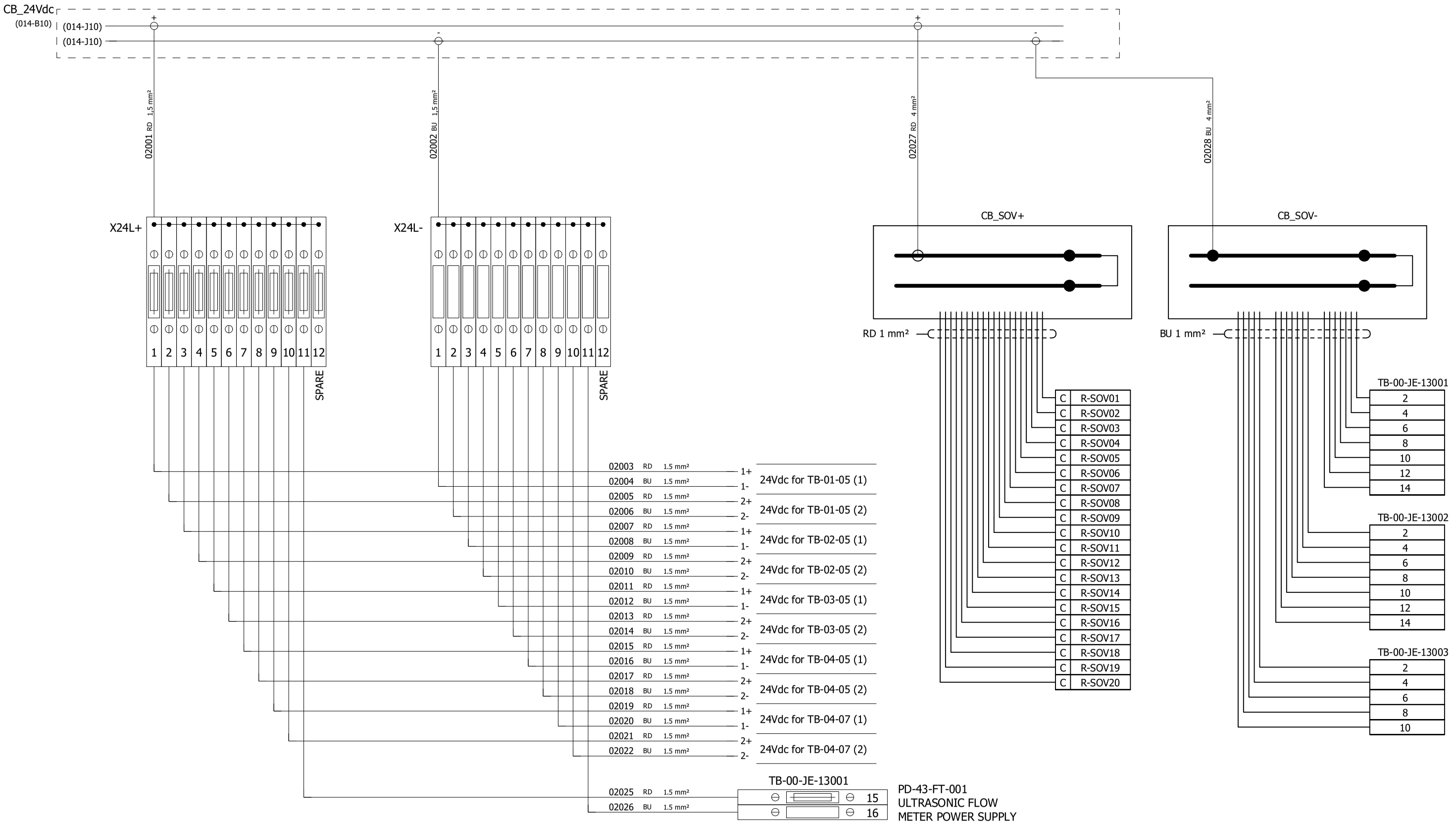
A3

DRAWING NO.
I724000594-IN-DG-00020

SHEET 019

REV. 3

PCS PANEL - 24Vdc POWER DISTRIBUTION



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

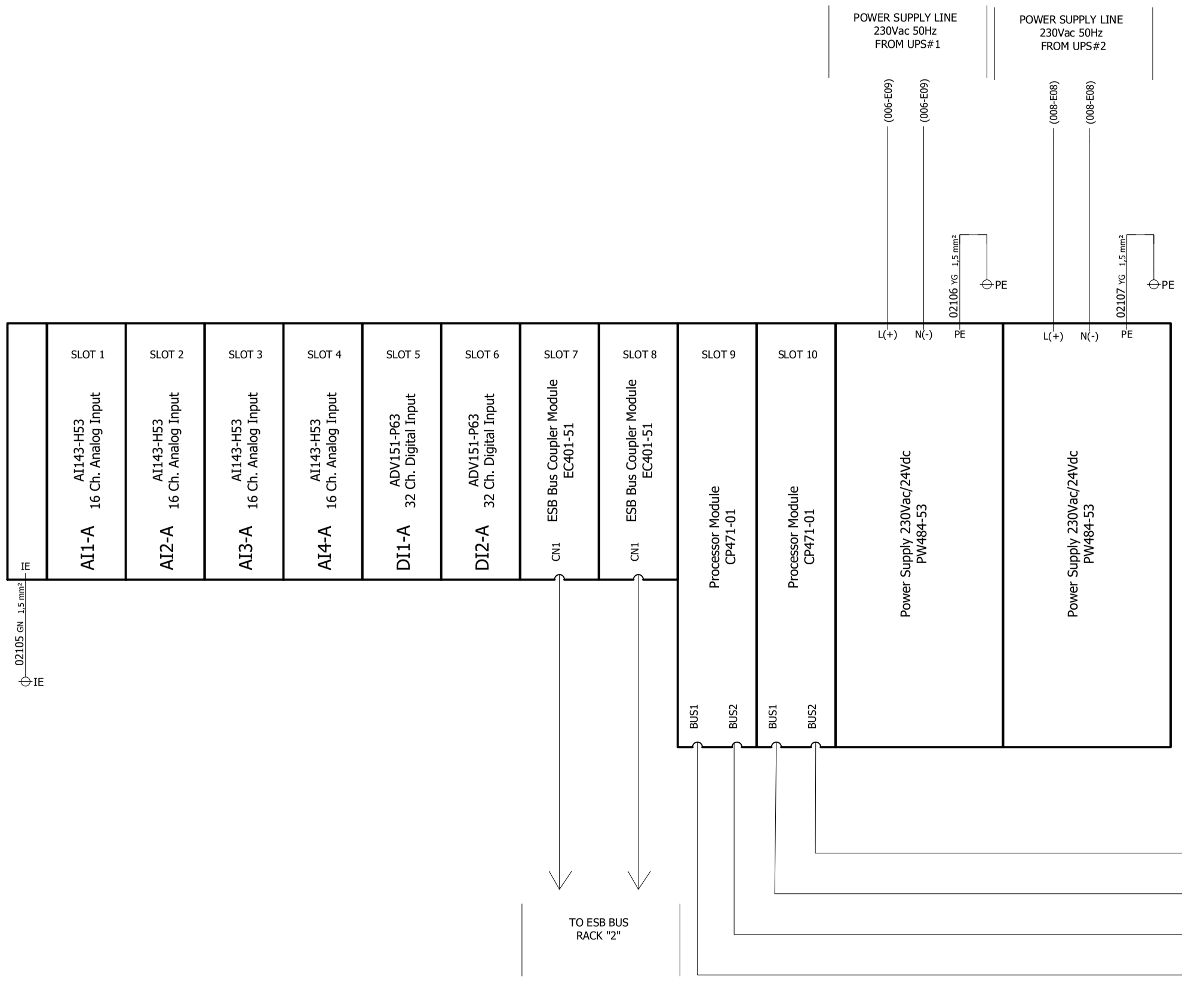
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 020

REV. 3



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - RACK "1" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

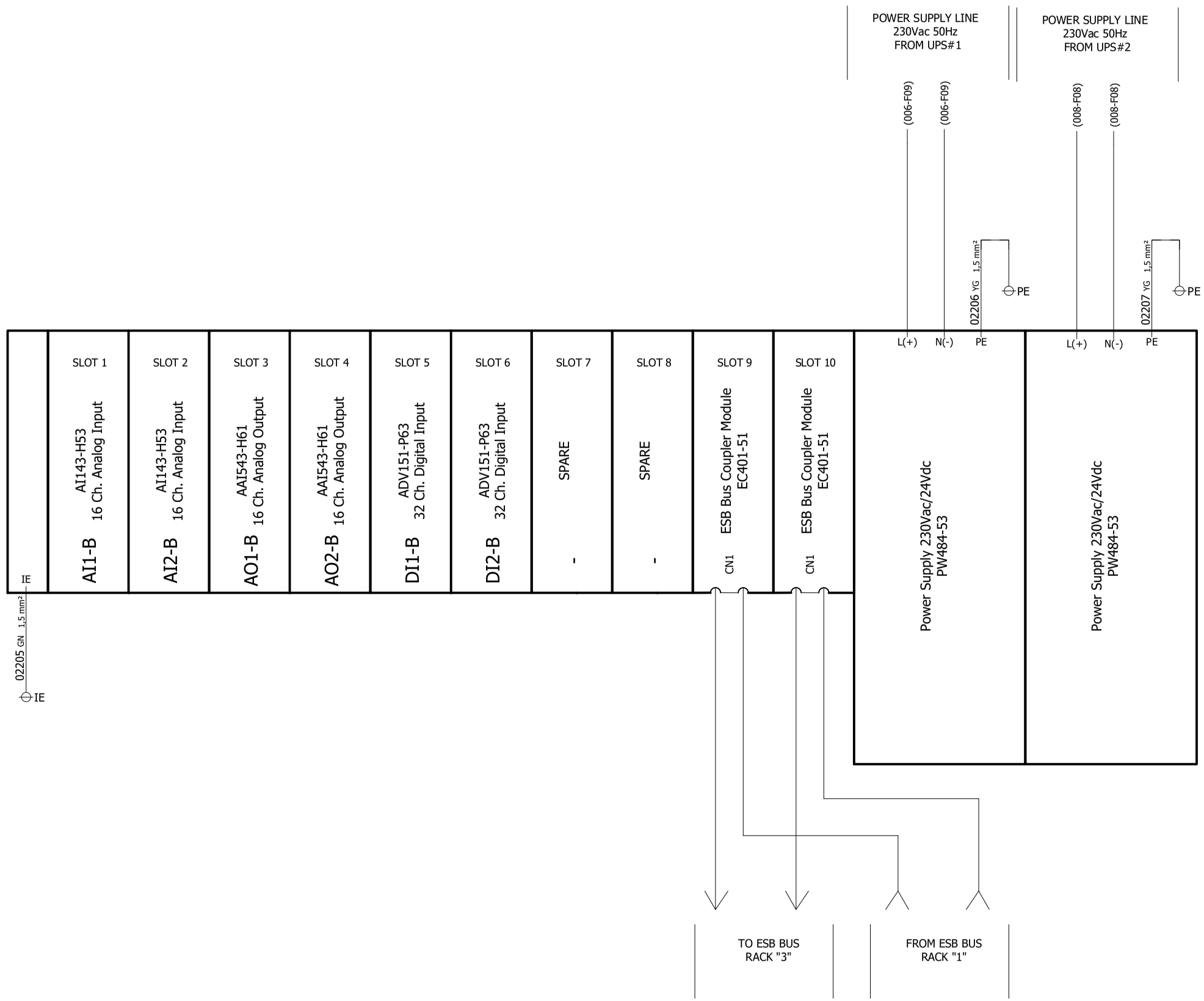
A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 021

REV. 3

PCS PANEL - RACK "2" POWER DISTRIBUTION <2>



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM" <2>

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - RACK "2" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

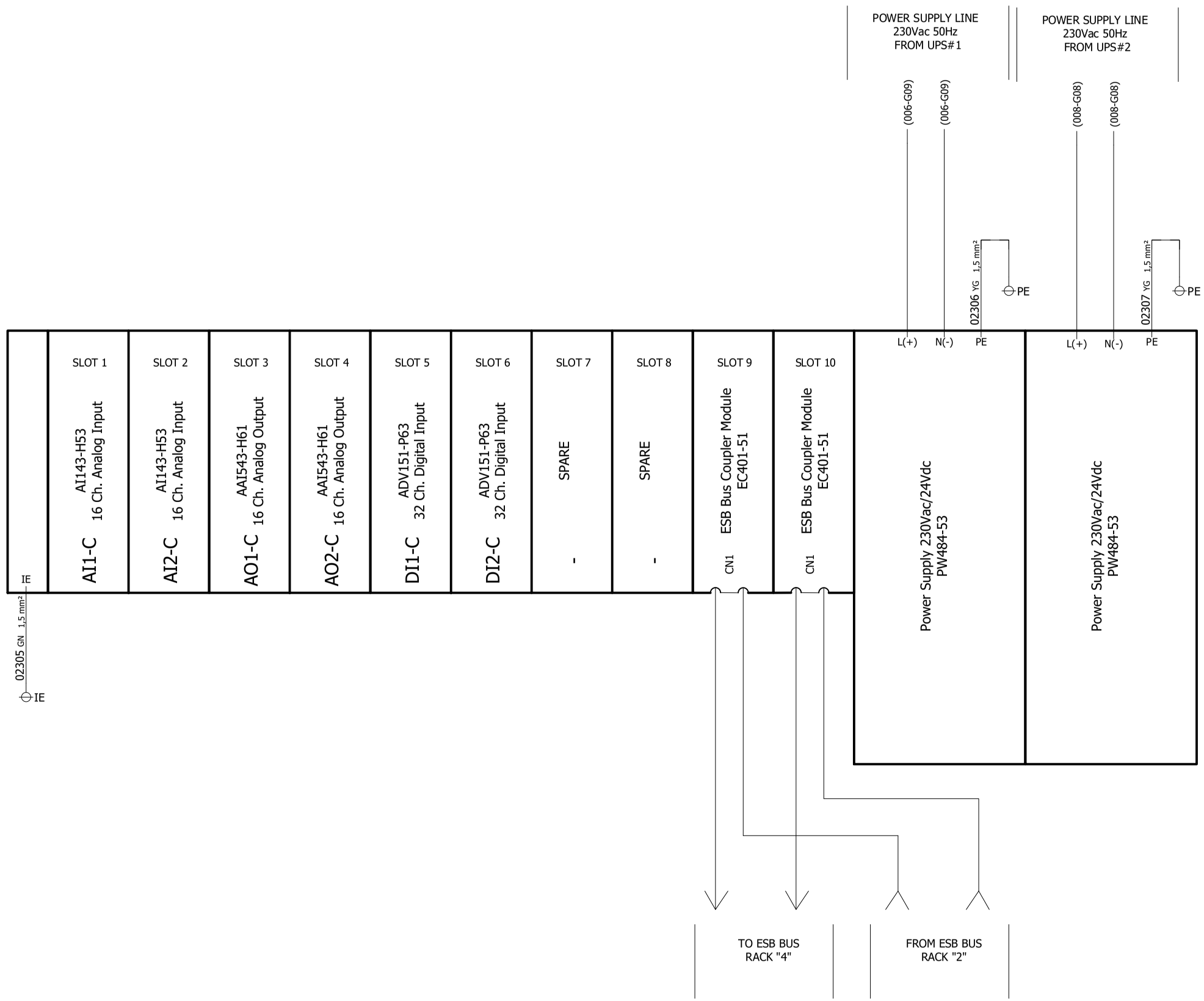
A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 022

REV. 3

PCS PANEL - RACK "3" POWER DISTRIBUTION <2>



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM" <2>

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

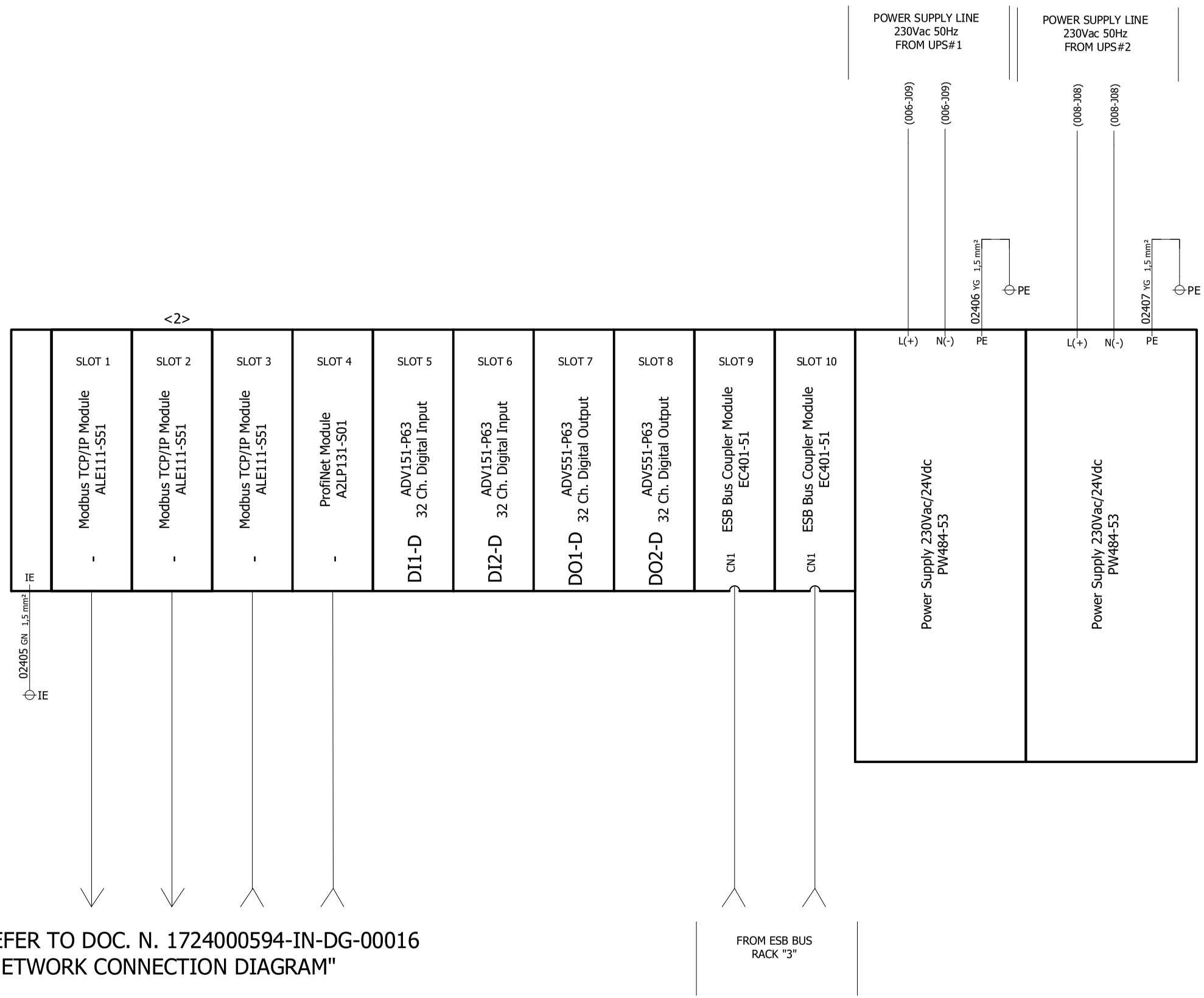
CROSSWIND ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - RACK "3" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3
DRAWING NO. 1724000594-IN-DG-00020
SHEET 023
REV. 3

PCS PANEL - RACK "4" POWER DISTRIBUTION <2>



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - RACK "4" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

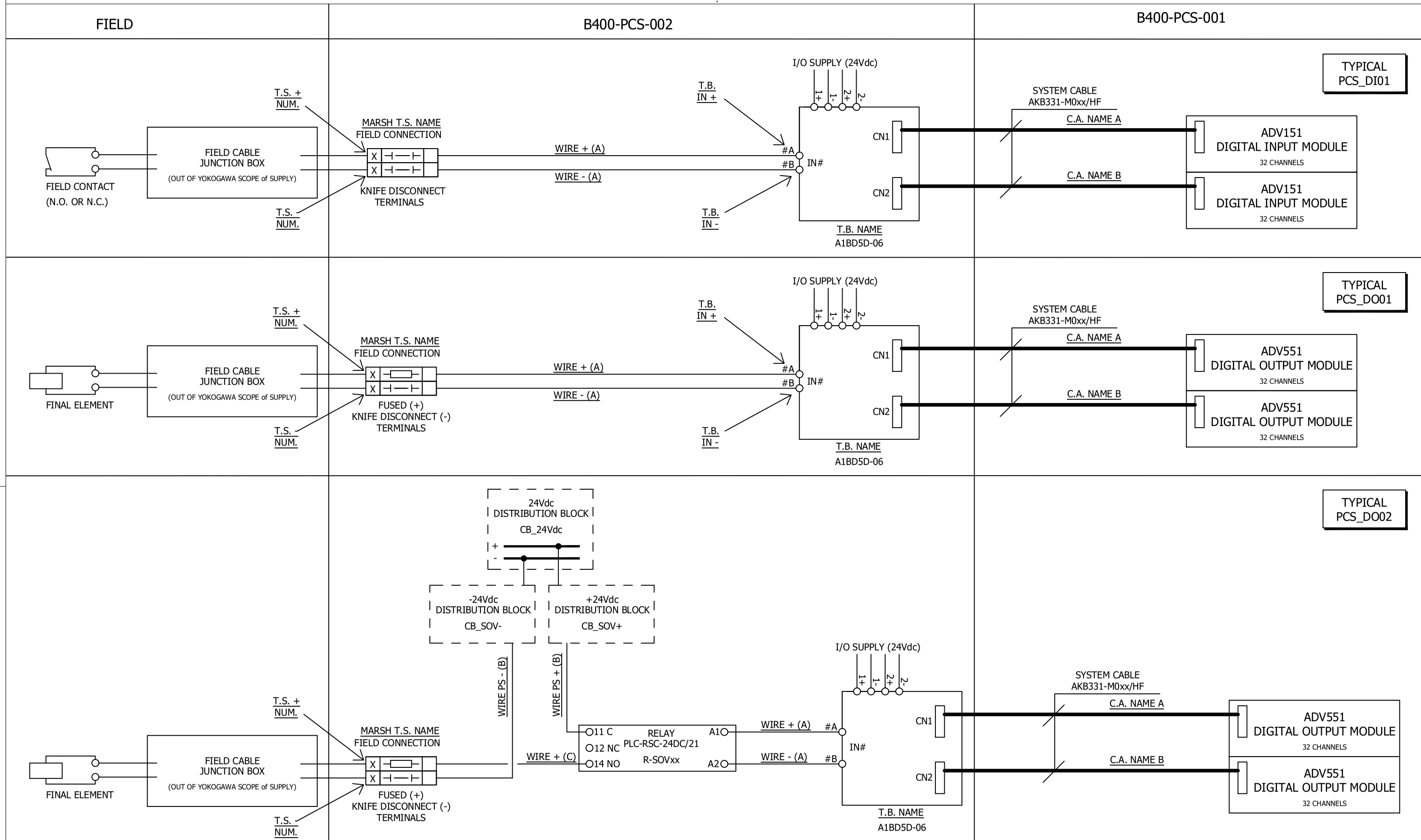
A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 024

REV. 3

PCS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

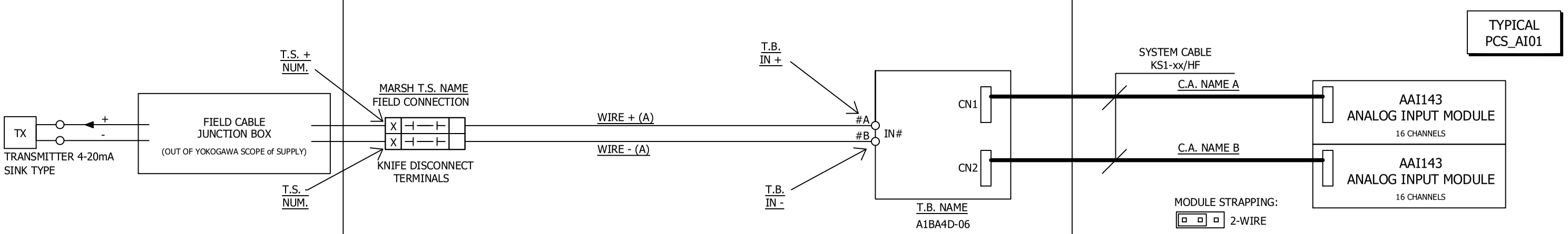
A3

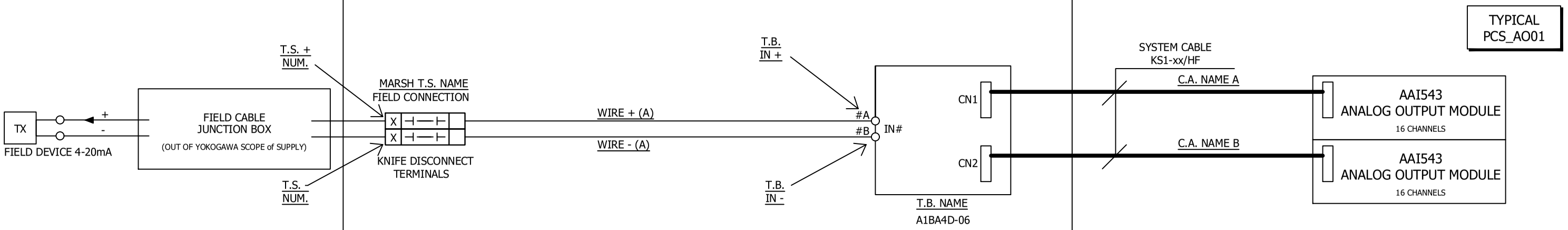
DRAWING NO. 1724000594-IN-DG-00020

SHEET 025

REV. 3

PCS PANEL - TYPICAL WIRING ANALOG INPUT/OUTPUT





REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL - TYPICAL WIRING ANALOG INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 026

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA

PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 027

REV. 3

PCS PANEL -TB-00-JE-11001

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-PT-035	AI	TB-00-JE-11001	01	02	02801	02802	1mm²	BK	WH	TB-01-01	01A	01B	01	01	01	CA_01_01	CA_01_02	PCS_AI01
25-PT-037	AI	TB-00-JE-11001	03	04	02803	02804	1mm²	BK	WH	TB-01-01	02A	02B	01	01	02	CA_01_01	CA_01_02	PCS_AI01
25-PT-040	AI	TB-00-JE-11001	05	06	02805	02806	1mm²	BK	WH	TB-01-01	03A	03B	01	01	03	CA_01_01	CA_01_02	PCS_AI01
25-PT-043	AI	TB-00-JE-11001	07	08	02807	02808	1mm²	BK	WH	TB-01-01	04A	04B	01	01	04	CA_01_01	CA_01_02	PCS_AI01
25-PT-046	AI	TB-00-JE-11001	09	10	02809	02810	1mm²	BK	WH	TB-01-01	05A	05B	01	01	05	CA_01_01	CA_01_02	PCS_AI01
25-PT-049	AI	TB-00-JE-11001	11	12	02811	02812	1mm²	BK	WH	TB-01-01	06A	06B	01	01	06	CA_01_01	CA_01_02	PCS_AI01
25-PY-035	AO	TB-00-JE-11001	13	14	02813	02814	1mm²	BK	WH	TB-02-03	03A	03B	02	03	03	CA_02_03	CA_02_04	PCS_AO01
25-PY-037	AO	TB-00-JE-11001	15	16	02815	02816	1mm²	BK	WH	TB-02-03	04A	04B	02	03	04	CA_02_03	CA_02_04	PCS_AO01
25-PY-040	AO	TB-00-JE-11001	17	18	02817	02818	1mm²	BK	WH	TB-02-03	05A	05B	02	03	05	CA_02_03	CA_02_04	PCS_AO01
25-PY-043	AO	TB-00-JE-11001	19	20	02819	02820	1mm²	BK	WH	TB-02-03	06A	06B	02	03	06	CA_02_03	CA_02_04	PCS_AO01
WS0101010114	AI	TB-00-JE-11001	21	22	02821	02822	1mm²	BK	WH	TB-01-01	14A	14B	01	01	14	CA_01_01	CA_01_02	PCS_AI01
WS0101010115	AI	TB-00-JE-11001	23	24	02823	02824	1mm²	BK	WH	TB-01-01	15A	15B	01	01	15	CA_01_01	CA_01_02	PCS_AI01
25-PY-046	AO	TB-00-JE-11001	25	26	02825	02826	1mm²	BK	WH	TB-02-03	07A	07B	02	03	07	CA_02_03	CA_02_04	PCS_AO01
25-PY-049	AO	TB-00-JE-11001	27	28	02827	02828	1mm²	BK	WH	TB-02-03	08A	08B	02	03	08	CA_02_03	CA_02_04	PCS_AO01
25-ZT-035	AI	TB-00-JE-11001	29	30	02829	02830	1mm²	BK	WH	TB-01-01	08A	08B	01	01	08	CA_01_01	CA_01_02	PCS_AI01
25-ZT-037	AI	TB-00-JE-11001	31	32	02831	02832	1mm²	BK	WH	TB-01-01	09A	09B	01	01	09	CA_01_01	CA_01_02	PCS_AI01
25-ZT-040	AI	TB-00-JE-11001	33	34	02833	02834	1mm²	BK	WH	TB-01-01	10A	10B	01	01	10	CA_01_01	CA_01_02	PCS_AI01
25-ZT-043	AI	TB-00-JE-11001	35	36	02835	02836	1mm²	BK	WH	TB-01-01	11A	11B	01	01	11	CA_01_01	CA_01_02	PCS_AI01
25-ZT-046	AI	TB-00-JE-11001	37	38	02837	02838	1mm²	BK	WH	TB-01-01	12A	12B	01	01	12	CA_01_01	CA_01_02	PCS_AI01
25-ZT-049	AI	TB-00-JE-11001	39	40	02839	02840	1mm²	BK	WH	TB-01-01	13A	13B	01	01	13	CA_01_01	CA_01_02	PCS_AI01
WS0101010317	AI	TB-00-JE-11001	41	42	02841	02842	1mm²	BK	WH	TB-01-01	16A	16B	01	01	16	CA_01_01	CA_01_02	PCS_AI01
WS0101010314	AI	TB-00-JE-11001	43	44	02843	02844	1mm²	BK	WH	TB-01-03	14A	14B	01	03	14	CA_01_03	CA_01_04	PCS_AI01
WS0110010315	AI	TB-00-JE-11001	45	46	02845	02846	1mm²	BK	WH	TB-01-03	15A	15B	01	03	15	CA_01_03	CA_01_04	PCS_AI01
WS0101010318	AI	TB-00-JE-11001	47	48	02847	02848	1mm²	BK	WH	TB-01-03	16A	16B	01	03	16	CA_01_03	CA_01_04	PCS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-11001

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00020 | SHEET 028 | REV. 3

PCS PANEL -TB-00-JE-11002

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-PT-055A	AI	TB-00-JE-11002	01	02	02901	02902	1mm²	BK	WH	TB-02-01	01A	01B	02	01	01	CA_02_01	CA_02_02	PCS_AI01
25-PT-055B	AI	TB-00-JE-11002	03	04	02903	02904	1mm²	BK	WH	TB-03-01	01A	01B	03	01	01	CA_03_01	CA_03_02	PCS_AI01
25-PY-055A	AO	TB-00-JE-11002	05	06	02905	02906	1mm²	BK	WH	TB-02-03	01A	01B	02	03	01	CA_02_03	CA_02_04	PCS_AO01
25-PY-055B	AO	TB-00-JE-11002	07	08	02907	02908	1mm²	BK	WH	TB-03-03	01A	01B	03	03	01	CA_03_03	CA_03_04	PCS_AO01
25-ZT-055A	AI	TB-00-JE-11002	09	10	02909	02910	1mm²	BK	WH	TB-02-01	02A	02B	02	01	02	CA_02_01	CA_02_02	PCS_AI01
25-ZT-055B	AI	TB-00-JE-11002	11	12	02911	02912	1mm²	BK	WH	TB-03-01	02A	02B	03	01	02	CA_03_01	CA_03_02	PCS_AI01
43-PT-001	AI	TB-00-JE-11002	13	14	02913	02914	1mm²	BK	WH	TB-02-01	03A	03B	02	01	03	CA_02_01	CA_02_02	PCS_AI01
SPARE	AI	TB-00-JE-11002	15	16	02915	02916	1mm²	BK	WH	TB-02-01	04A	04B	02	01	04	CA_02_01	CA_02_02	PCS_AI01
43-FT-001	AI	TB-00-JE-11002	17	18	02917	02918	1mm²	BK	WH	TB-01-01	07A	07B	01	01	07	CA_01_01	CA_01_02	PCS_AI01
43-LT-003	AI	TB-00-JE-11002	19	20	02919	02920	1mm²	BK	WH	TB-02-01	05A	05B	02	01	05	CA_02_01	CA_02_02	PCS_AI01
WS0101020108	AI	TB-00-JE-11002	21	22	02921	02922	1mm²	BK	WH	TB-02-01	08A	08B	02	01	08	CA_02_01	CA_02_02	PCS_AI01
SPARE	AI	TB-00-JE-11002	23	24	02923	02924	1mm²	BK	WH	TB-02-01	09A	09B	02	01	09	CA_02_01	CA_02_02	PCS_AI01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-11002

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 029

REV. 3

PCS PANEL -TB-00-JE-11003

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-FT-031	AI	TB-00-JE-11003	01	02	03001	03002	1mm²	BK	WH	TB-01-03	01A	01B	01	03	01	CA_01_03	CA_01_04	PCS_AI01
25-FT-032	AI	TB-00-JE-11003	03	04	03003	03004	1mm²	BK	WH	TB-01-03	02A	02B	01	03	02	CA_01_03	CA_01_04	PCS_AI01
25-FT-033	AI	TB-00-JE-11003	05	06	03005	03006	1mm²	BK	WH	TB-01-03	03A	03B	01	03	03	CA_01_03	CA_01_04	PCS_AI01
25-FT-034	AI	TB-00-JE-11003	07	08	03007	03008	1mm²	BK	WH	TB-01-03	04A	04B	01	03	04	CA_01_03	CA_01_04	PCS_AI01
25-FT-038	AI	TB-00-JE-11003	09	10	03009	03010	1mm²	BK	WH	TB-01-03	05A	05B	01	03	05	CA_01_03	CA_01_04	PCS_AI01
25-FT-036	AI	TB-00-JE-11003	11	12	03011	03012	1mm²	BK	WH	TB-01-03	06A	06B	01	03	06	CA_01_03	CA_01_04	PCS_AI01
25-FY-031	AO	TB-00-JE-11003	13	14	03013	03014	1mm²	BK	WH	TB-03-03	03A	03B	03	03	03	CA_03_03	CA_03_04	PCS_AO01
25-FY-032	AO	TB-00-JE-11003	15	16	03015	03016	1mm²	BK	WH	TB-03-03	04A	04B	03	03	04	CA_03_03	CA_03_04	PCS_AO01
25-FY-033	AO	TB-00-JE-11003	17	18	03017	03018	1mm²	BK	WH	TB-03-03	05A	05B	03	03	05	CA_03_03	CA_03_04	PCS_AO01
WS0110030309	AO	TB-00-JE-11003	19	20	03019	03020	1mm²	BK	WH	TB-03-03	09A	09B	03	03	09	CA_03_03	CA_03_04	PCS_AO01
WS0110030310	AO	TB-00-JE-11003	21	22	03021	03022	1mm²	BK	WH	TB-03-03	10A	10B	03	03	10	CA_03_03	CA_03_04	PCS_AO01
SPARE	AO	TB-00-JE-11003	23	24	03023	03024	1mm²	BK	WH	TB-03-03	11A	11B	03	03	11	CA_03_03	CA_03_04	PCS_AO01
25-FY-038	AO	TB-00-JE-11003	25	26	03025	03026	1mm²	BK	WH	TB-03-03	06A	06B	03	03	06	CA_03_03	CA_03_04	PCS_AO01
25-FY-036	AO	TB-00-JE-11003	27	28	03027	03028	1mm²	BK	WH	TB-03-03	07A	07B	03	03	07	CA_03_03	CA_03_04	PCS_AO01
25-FY-034	AO	TB-00-JE-11003	29	30	03029	03030	1mm²	BK	WH	TB-03-03	08A	08B	03	03	08	CA_03_03	CA_03_04	PCS_AO01
25-ZT-031	AI	TB-00-JE-11003	31	32	03031	03032	1mm²	BK	WH	TB-01-03	07A	07B	01	03	07	CA_01_03	CA_01_04	PCS_AI01
25-ZT-032	AI	TB-00-JE-11003	33	34	03033	03034	1mm²	BK	WH	TB-01-03	08A	08B	01	03	08	CA_01_03	CA_01_04	PCS_AI01
25-ZT-033	AI	TB-00-JE-11003	35	36	03035	03036	1mm²	BK	WH	TB-01-03	09A	09B	01	03	09	CA_01_03	CA_01_04	PCS_AI01
25-ZT-034	AI	TB-00-JE-11003	37	38	03037	03038	1mm²	BK	WH	TB-01-03	10A	10B	01	03	10	CA_01_03	CA_01_04	PCS_AI01
25-ZT-036	AI	TB-00-JE-11003	39	40	03039	03040	1mm²	BK	WH	TB-01-03	11A	11B	01	03	11	CA_01_03	CA_01_04	PCS_AI01
25-ZT-038	AI	TB-00-JE-11003	41	42	03041	03042	1mm²	BK	WH	TB-01-03	12A	12B	01	03	12	CA_01_03	CA_01_04	PCS_AI01
25-PT-001	AI	TB-00-JE-11003	43	44	03043	03044	1mm²	BK	WH	TB-01-03	13A	13B	01	03	13	CA_01_03	CA_01_04	PCS_AI01
SPARE	AO	TB-00-JE-11003	45	46														
SPARE	AO	TB-00-JE-11003	47	48														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-11003

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 030

REV. 3

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
50-PT-001	AI	TB-00-JE-11004	01	02	03101	03102	1mm²	BK	WH	TB-03-01	03A	03B	03	01	03	CA_03_01	CA_03_02	PCS_AI01
50-PT-002	AI	TB-00-JE-11004	03	04	03103	03104	1mm²	BK	WH	TB-03-01	04A	04B	03	01	04	CA_03_01	CA_03_02	PCS_AI01
50-TT-001	AI	TB-00-JE-11004	05	06	03105	03106	1mm²	BK	WH	TB-03-01	07A	07B	03	01	07	CA_03_01	CA_03_02	PCS_AI01
50-TT-002	AI	TB-00-JE-11004	07	08	03107	03108	1mm²	BK	WH	TB-03-01	08A	08B	03	01	08	CA_03_01	CA_03_02	PCS_AI01
64-PT-031A	AI	TB-00-JE-11004	09	10	03109	03110	1mm²	BK	WH	TB-02-01	06A	06B	02	01	06	CA_02_01	CA_02_02	PCS_AI01
64-PT-031B	AI	TB-00-JE-11004	11	12	03111	03112	1mm²	BK	WH	TB-03-01	05A	05B	03	01	05	CA_03_01	CA_03_02	PCS_AI01
64-PY-031A	AO	TB-00-JE-11004	13	14	03113	03114	1mm²	BK	WH	TB-02-03	02A	02B	02	03	02	CA_02_03	CA_02_04	PCS_AO01
64-PY-031B	AO	TB-00-JE-11004	15	16	03115	03116	1mm²	BK	WH	TB-03-03	02A	02B	03	03	02	CA_03_03	CA_03_04	PCS_AO01
50-PT-014	AI	TB-00-JE-11004	17	18	03117	03118	1mm²	BK	WH	TB-03-01	09A	09B	03	01	09	CA_03_01	CA_03_02	PCS_AI01
WS0110030112	AI	TB-00-JE-11004	19	20	03119	03120	1mm²	BK	WH	TB-03-01	12A	12B	03	01	12	CA_03_01	CA_03_02	PCS_AI01
WS0101030113	AI	TB-00-JE-11004	21	22	03121	03122	1mm²	BK	WH	TB-03-01	13A	13B	03	01	13	CA_03_01	CA_03_02	PCS_AI01
WS0101030114	AI	TB-00-JE-11004	23	24	03123	03124	1mm²	BK	WH	TB-03-01	14A	14B	03	01	14	CA_03_01	CA_03_02	PCS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-11004

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 031

REV. 3

PCS PANEL -TB-00-JE-11005

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
55-LIT-001	AI	TB-00-JE-11005	01	02	03201	03202	1mm²	BK	WH	TB-03-01	10A	10B	03	01	10	CA_03_01	CA_03_02	PCS_AI01
64-ZT-031A	AI	TB-00-JE-11005	03	04	03203	03204	1mm²	BK	WH	TB-02-01	07A	07B	02	01	07	CA_02_01	CA_02_02	PCS_AI01
64-ZT-031B	AI	TB-00-JE-11005	05	06	03205	03206	1mm²	BK	WH	TB-03-01	06A	06B	03	01	06	CA_03_01	CA_03_02	PCS_AI01
WS0101030111	AI	TB-00-JE-11005	07	08	03207	03208	1mm²	BK	WH	TB-02-01	10A	10B	02	01	10	CA_02_01	CA_02_02	PCS_AI01
WS0101030112	AI	TB-00-JE-11005	09	10	03209	03210	1mm²	BK	WH	TB-02-01	11A	11B	02	01	11	CA_02_01	CA_02_02	PCS_AI01
WS0101030112	AI	TB-00-JE-11005	11	12	03211	03212	1mm²	BK	WH	TB-02-01	12A	12B	02	01	12	CA_02_01	CA_02_02	PCS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-11005

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00020 | SHEET 032 | REV. 3

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-ZSL-006	DI	TB-00-JE-12001	01	02	03301	03302	1mm²	BK	WH	TB-01-05	01A	01B	01	05	01	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-006	DI	TB-00-JE-12001	03	04	03303	03304	1mm²	BK	WH	TB-01-05	02A	02B	01	05	02	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-009	DI	TB-00-JE-12001	05	06	03305	03306	1mm²	BK	WH	TB-01-05	03A	03B	01	05	03	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-009	DI	TB-00-JE-12001	07	08	03307	03308	1mm²	BK	WH	TB-01-05	04A	04B	01	05	04	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-012	DI	TB-00-JE-12001	09	10	03309	03310	1mm²	BK	WH	TB-01-05	05A	05B	01	05	05	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-012	DI	TB-00-JE-12001	11	12	03311	03312	1mm²	BK	WH	TB-01-05	06A	06B	01	05	06	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-015	DI	TB-00-JE-12001	13	14	03313	03314	1mm²	BK	WH	TB-01-05	07A	07B	01	05	07	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-015	DI	TB-00-JE-12001	15	16	03315	03316	1mm²	BK	WH	TB-01-05	08A	08B	01	05	08	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-018	DI	TB-00-JE-12001	17	18	03317	03318	1mm²	BK	WH	TB-01-05	09A	09B	01	05	09	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-018	DI	TB-00-JE-12001	19	20	03319	03320	1mm²	BK	WH	TB-01-05	10A	10B	01	05	10	CA_01_05	CA_01_06	PCS_DI01
WS0101010525	DI	TB-00-JE-12001	21	22	03321	03322	1mm²	BK	WH	TB-01-05	25A	25B	01	05	25	CA_01_05	CA_01_06	PCS_DI01
WS0101010526	DI	TB-00-JE-12001	23	24	03323	03324	1mm²	BK	WH	TB-01-05	26A	26B	01	05	26	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-021	DI	TB-00-JE-12001	25	26	03325	03326	1mm²	BK	WH	TB-01-05	11A	11B	01	05	11	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-021	DI	TB-00-JE-12001	27	28	03327	03328	1mm²	BK	WH	TB-01-05	12A	12B	01	05	12	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-046	DI	TB-00-JE-12001	29	30	03329	03330	1mm²	BK	WH	TB-01-05	13A	13B	01	05	13	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-046	DI	TB-00-JE-12001	31	32	03331	03332	1mm²	BK	WH	TB-01-05	14A	14B	01	05	14	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-049	DI	TB-00-JE-12001	33	34	03333	03334	1mm²	BK	WH	TB-01-05	15A	15B	01	05	15	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-049	DI	TB-00-JE-12001	35	36	03335	03336	1mm²	BK	WH	TB-01-05	16A	16B	01	05	16	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-040	DI	TB-00-JE-12001	37	38	03337	03338	1mm²	BK	WH	TB-01-05	17A	17B	01	05	17	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-040	DI	TB-00-JE-12001	39	40	03339	03340	1mm²	BK	WH	TB-01-05	18A	18B	01	05	18	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-043	DI	TB-00-JE-12001	41	42	03341	03342	1mm²	BK	WH	TB-01-05	19A	19B	01	05	19	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-043	DI	TB-00-JE-12001	43	44	03343	03344	1mm²	BK	WH	TB-01-05	20A	20B	01	05	20	CA_01_05	CA_01_06	PCS_DI01
WS0101010527	DI	TB-00-JE-12001	45	46	03345	03346	1mm²	BK	WH	TB-01-05	27A	27B	01	05	27	CA_01_05	CA_01_06	PCS_DI01
WS0101010528	DI	TB-00-JE-12001	47	48	03347	03348	1mm²	BK	WH	TB-01-05	28A	28B	01	05	28	CA_01_05	CA_01_06	PCS_DI01

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-12001

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 033

REV. 3

PCS PANEL -TB-00-JE-12002

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-ZSL-035	DI	TB-00-JE-12002	01	02	03401	03402	1mm²	BK	WH	TB-01-05	21A	21B	01	05	21	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-035	DI	TB-00-JE-12002	03	04	03403	03404	1mm²	BK	WH	TB-01-05	22A	22B	01	05	22	CA_01_05	CA_01_06	PCS_DI01
25-ZSL-037	DI	TB-00-JE-12002	05	06	03405	03406	1mm²	BK	WH	TB-01-05	23A	23B	01	05	23	CA_01_05	CA_01_06	PCS_DI01
25-ZSH-037	DI	TB-00-JE-12002	07	08	03407	03408	1mm²	BK	WH	TB-01-05	24A	24B	01	05	24	CA_01_05	CA_01_06	PCS_DI01
SPARE	DI	TB-00-JE-12002	09	10														
SPARE	DI	TB-00-JE-12002	11	12														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-12002

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 034

REV. 3

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
80-ZSL-001	DI	TB-00-JE-12003	01	02	03501	03502	1mm²	BK	WH	TB-02-05	05A	05B	02	05	05	CA_02_05	CA_02_06	PCS_DI01
80-ZSH-001	DI	TB-00-JE-12003	03	04	03503	03504	1mm²	BK	WH	TB-02-05	06A	06B	02	05	06	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-055A	DI	TB-00-JE-12003	05	06	03505	03506	1mm²	BK	WH	TB-02-05	01A	01B	02	05	01	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-055A	DI	TB-00-JE-12003	07	08	03507	03508	1mm²	BK	WH	TB-02-05	02A	02B	02	05	02	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-055B	DI	TB-00-JE-12003	09	10	03509	03510	1mm²	BK	WH	TB-03-05	01A	01B	03	05	01	CA_03_05	CA_03_06	PCS_DI01
25-ZSH-055B	DI	TB-00-JE-12003	11	12	03511	03512	1mm²	BK	WH	TB-03-05	02A	02B	03	05	02	CA_03_05	CA_03_06	PCS_DI01
SPARE	DI	TB-00-JE-12003	13	14														
SPARE	DI	TB-00-JE-12003	15	16														
SPARE	DI	TB-00-JE-12003	17	18														
SPARE	DI	TB-00-JE-12003	19	20														
SPARE	DI	TB-00-JE-12003	21	22														
SPARE	DI	TB-00-JE-12003	23	24														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-12003

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 035

REV. 3

PCS PANEL -TB-00-JE-12004

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-ZSL-004	DI	TB-00-JE-12004	01	02	03601	03602	1mm²	BK	WH	TB-02-05	07A	07B	02	05	07	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-004	DI	TB-00-JE-12004	03	04	03603	03604	1mm²	BK	WH	TB-02-05	08A	08B	02	05	08	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-008	DI	TB-00-JE-12004	05	06	03605	03606	1mm²	BK	WH	TB-02-05	09A	09B	02	05	09	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-008	DI	TB-00-JE-12004	07	08	03607	03608	1mm²	BK	WH	TB-02-05	10A	10B	02	05	10	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-011	DI	TB-00-JE-12004	09	10	03609	03610	1mm²	BK	WH	TB-02-05	11A	11B	02	05	11	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-011	DI	TB-00-JE-12004	11	12	03611	03612	1mm²	BK	WH	TB-02-05	12A	12B	02	05	12	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-014	DI	TB-00-JE-12004	13	14	03613	03614	1mm²	BK	WH	TB-02-05	13A	13B	02	05	13	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-014	DI	TB-00-JE-12004	15	16	03615	03616	1mm²	BK	WH	TB-02-05	14A	14B	02	05	14	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-017	DI	TB-00-JE-12004	17	18	03617	03618	1mm²	BK	WH	TB-02-05	15A	15B	02	05	15	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-017	DI	TB-00-JE-12004	19	20	03619	03620	1mm²	BK	WH	TB-02-05	16A	16B	02	05	16	CA_02_05	CA_02_06	PCS_DI01
WS0101020527	DI	TB-00-JE-12004	21	22	03621	03622	1mm²	BK	WH	TB-02-05	27A	27B	02	05	27	CA_02_05	CA_02_06	PCS_DI01
WS0101020528	DI	TB-00-JE-12004	23	24	03623	03624	1mm²	BK	WH	TB-02-05	28A	28B	02	05	28	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-020	DI	TB-00-JE-12004	25	26	03625	03626	1mm²	BK	WH	TB-02-05	17A	17B	02	05	17	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-020	DI	TB-00-JE-12004	27	28	03627	03628	1mm²	BK	WH	TB-02-05	18A	18B	02	05	18	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-031	DI	TB-00-JE-12004	29	30	03629	03630	1mm²	BK	WH	TB-02-05	19A	19B	02	05	19	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-031	DI	TB-00-JE-12004	31	32	03631	03632	1mm²	BK	WH	TB-02-05	20A	20B	02	05	20	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-032	DI	TB-00-JE-12004	33	34	03633	03634	1mm²	BK	WH	TB-02-05	21A	21B	02	05	21	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-032	DI	TB-00-JE-12004	35	36	03635	03636	1mm²	BK	WH	TB-02-05	22A	22B	02	05	22	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-033	DI	TB-00-JE-12004	37	38	03637	03638	1mm²	BK	WH	TB-02-05	23A	23B	02	05	23	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-033	DI	TB-00-JE-12004	39	40	03639	03640	1mm²	BK	WH	TB-02-05	24A	24B	02	05	24	CA_02_05	CA_02_06	PCS_DI01
25-ZSL-034	DI	TB-00-JE-12004	41	42	03641	03642	1mm²	BK	WH	TB-02-05	25A	25B	02	05	25	CA_02_05	CA_02_06	PCS_DI01
25-ZSH-034	DI	TB-00-JE-12004	43	44	03643	03644	1mm²	BK	WH	TB-02-05	26A	26B	02	05	26	CA_02_05	CA_02_06	PCS_DI01
WS0110020529	DI	TB-00-JE-12004	45	46	03645	03646	1mm²	BK	WH	TB-02-05	29A	29B	02	05	29	CA_02_05	CA_02_06	PCS_DI01
WS0110020530	DI	TB-00-JE-12004	47	48	03647	03648	1mm²	BK	WH	TB-02-05	30A	30B	02	05	30	CA_02_05	CA_02_06	PCS_DI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-12004

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00020 | SHEET 036 | REV. 3

PCS PANEL -TB-00-JE-12005

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-ZSL-036	DI	TB-00-JE-12005	01	02	03701	03702	1mm²	BK	WH	TB-03-05	05A	05B	03	05	05	CA_03_05	CA_03_06	PCS_DI01
25-ZSH-036	DI	TB-00-JE-12005	03	04	03703	03704	1mm²	BK	WH	TB-03-05	06A	06B	03	05	06	CA_03_05	CA_03_06	PCS_DI01
25-ZSL-038	DI	TB-00-JE-12005	05	06	03705	03706	1mm²	BK	WH	TB-03-05	07A	07B	03	05	07	CA_03_05	CA_03_06	PCS_DI01
25-ZSH-038	DI	TB-00-JE-12005	07	08	03707	03708	1mm²	BK	WH	TB-03-05	08A	08B	03	05	08	CA_03_05	CA_03_06	PCS_DI01
25-ZSL-024	DI	TB-00-JE-12005	09	10	03709	03710	1mm²	BK	WH	TB-03-05	09A	09B	03	05	09	CA_03_05	CA_03_06	PCS_DI01
25-ZSH-024	DI	TB-00-JE-12005	11	12	03711	03712	1mm²	BK	WH	TB-03-05	10A	10B	03	05	10	CA_03_05	CA_03_06	PCS_DI01
WS0101030519	DI	TB-00-JE-12005	13	14	03713	03714	1mm²	BK	WH	TB-03-05	19A	19B	03	05	19	CA_03_05	CA_03_06	PCS_DI01
WS0101030520	DI	TB-00-JE-12005	15	16	03715	03716	1mm²	BK	WH	TB-03-05	20A	20B	03	05	20	CA_03_05	CA_03_06	PCS_DI01
WS0101030521	DI	TB-00-JE-12005	17	18	03717	03718	1mm²	BK	WH	TB-03-05	21A	21B	03	05	21	CA_03_05	CA_03_06	PCS_DI01
WS0101030522	DI	TB-00-JE-12005	19	20	03719	03720	1mm²	BK	WH	TB-03-05	22A	22B	03	05	22	CA_03_05	CA_03_06	PCS_DI01
SPARE	DI	TB-00-JE-12005	21	22														
SPARE	DI	TB-00-JE-12005	23	24														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-12005

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 037

REV. 3

PCS PANEL -TB-00-JE-12006

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
50-ZSL-001	DI	TB-00-JE-12006	01	02	03801	03802	1mm²	BK	WH	TB-03-05	11A	11B	03	05	11	CA_03_05	CA_03_06	PCS_DI01
50-ZSH-001	DI	TB-00-JE-12006	03	04	03803	03804	1mm²	BK	WH	TB-03-05	12A	12B	03	05	12	CA_03_05	CA_03_06	PCS_DI01
50-ZSL-002	DI	TB-00-JE-12006	05	06	03805	03806	1mm²	BK	WH	TB-03-05	13A	13B	03	05	13	CA_03_05	CA_03_06	PCS_DI01
50-ZSH-002	DI	TB-00-JE-12006	07	08	03807	03808	1mm²	BK	WH	TB-03-05	14A	14B	03	05	14	CA_03_05	CA_03_06	PCS_DI01
50-ZSL-003	DI	TB-00-JE-12006	09	10	03809	03810	1mm²	BK	WH	TB-03-05	15A	15B	03	05	15	CA_03_05	CA_03_06	PCS_DI01
50-ZSH-003	DI	TB-00-JE-12006	11	12	03811	03812	1mm²	BK	WH	TB-03-05	16A	16B	03	05	16	CA_03_05	CA_03_06	PCS_DI01
50-ZSL-004	DI	TB-00-JE-12006	13	14	03813	03814	1mm²	BK	WH	TB-03-05	17A	17B	03	05	17	CA_03_05	CA_03_06	PCS_DI01
50-ZSH-004	DI	TB-00-JE-12006	15	16	03815	03816	1mm²	BK	WH	TB-03-05	18A	18B	03	05	18	CA_03_05	CA_03_06	PCS_DI01
50-ZSL-005	DI	TB-00-JE-12006	17	18	03817	03818	1mm²	BK	WH	TB-03-05	25A	25B	03	05	25	CA_03_05	CA_03_06	PCS_DI01
50-ZSH-005	DI	TB-00-JE-12006	19	20	03819	03820	1mm²	BK	WH	TB-03-05	26A	26B	03	05	26	CA_03_05	CA_03_06	PCS_DI01
SPARE	DI	TB-00-JE-12006	21	22														
SPARE	DI	TB-00-JE-12006	23	24														
64-ZSL-031A	DI	TB-00-JE-12006	25	26	03825	03826	1mm²	BK	WH	TB-02-05	03A	03B	02	05	03	CA_02_05	CA_02_06	PCS_DI01
64-ZSH-031A	DI	TB-00-JE-12006	27	28	03827	03828	1mm²	BK	WH	TB-02-05	04A	04B	02	05	04	CA_02_05	CA_02_06	PCS_DI01
64-ZSL-031B	DI	TB-00-JE-12006	29	30	03829	03830	1mm²	BK	WH	TB-03-05	03A	03B	03	05	03	CA_03_05	CA_03_06	PCS_DI01
64-ZSH-031B	DI	TB-00-JE-12006	31	32	03831	03832	1mm²	BK	WH	TB-03-05	04A	04B	03	05	04	CA_03_05	CA_03_06	PCS_DI01
SPARE	DI	TB-00-JE-12006	33	34														
SPARE	DI	TB-00-JE-12006	35	36														
SPARE	DI	TB-00-JE-12006	37	38														
SPARE	DI	TB-00-JE-12006	39	40														
WS0101040513	DI	TB-00-JE-12006	41	42	03841	03842	1mm²	BK	WH	TB-04-05	13A	13B	04	05	13	CA_04_05	CA_04_06	PCS_DI01
WS0110040514	DI	TB-00-JE-12006	43	44	03843	03844	1mm²	BK	WH	TB-04-05	14A	14B	04	05	14	CA_04_05	CA_04_06	PCS_DI01
WS0110040515	DI	TB-00-JE-12006	45	46	03845	03846	1mm²	BK	WH	TB-04-05	15A	15B	04	05	15	CA_04_05	CA_04_06	PCS_DI01
SPARE	DI	TB-00-JE-12006	47	48														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-12006

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 038

REV. 3

PCS PANEL -TB-00-JE-13001

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	RELAY	WIRE PS + (B)	WIRE PS - (B)	WIRE NUMBER + (C)	WIRE COLOUR + (B)	WIRE COLOUR - (B)	WIRE SECTION (B)	WIRE COLOUR + (C)	WIRE SECTION (C)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-XY-006	DO	TB-00-JE-13001	01	02	03901	03902	1mm²	BK	WH	R-SOV01	039025	039026	039027	RD	BL	1mm²	BK	1mm²	TB-04-07	01A	01B	04	07	01	CA_04_07	CA_04_08	PCS_DO02
25-XY-009	DO	TB-00-JE-13001	03	04	03903	03904	1mm²	BK	WH	R-SOV02	039028	039029	039030	RD	BL	1mm²	BK	1mm²	TB-04-07	02A	02B	04	07	02	CA_04_07	CA_04_08	PCS_DO02
25-XY-012	DO	TB-00-JE-13001	05	06	03905	03906	1mm²	BK	WH	R-SOV03	039031	039032	039033	RD	BL	1mm²	BK	1mm²	TB-04-07	03A	03B	04	07	03	CA_04_07	CA_04_08	PCS_DO02
25-XY-015	DO	TB-00-JE-13001	07	08	03907	03908	1mm²	BK	WH	R-SOV04	039034	039035	039036	RD	BL	1mm²	BK	1mm²	TB-04-07	04A	04B	04	07	04	CA_04_07	CA_04_08	PCS_DO02
25-XY-018	DO	TB-00-JE-13001	09	10	03909	03910	1mm²	BK	WH	R-SOV05	039037	039038	039039	RD	BL	1mm²	BK	1mm²	TB-04-07	05A	05B	04	07	05	CA_04_07	CA_04_08	PCS_DO02
25-XY-021	DO	TB-00-JE-13001	11	12	03911	03912	1mm²	BK	WH	R-SOV06	039040	039041	039042	RD	BL	1mm²	BK	1mm²	TB-04-07	06A	06B	04	07	06	CA_04_07	CA_04_08	PCS_DO02
80-XY-001	DO	TB-00-JE-13001	13	14	03913	03914	1mm²	BK	WH	R-SOV07	039043	039044	039045	RD	BL	1mm²	BK	1mm²	TB-04-07	18A	18B	04	07	18	CA_04_07	CA_04_08	PCS_DO02
PD-43-FT-001	DO	TB-00-JE-13001	15	16	02025	02026	1.5mm²	RD	BL																		
WS0101040719	DO	TB-00-JE-13001	17	18	03917	03918	1mm²	BK	WH										TB-04-07	19A	19B	04	07	19	CA_04_07	CA_04_08	PCS_DO01
WS0101040720	DO	TB-00-JE-13001	19	20	03919	03920	1mm²	BK	WH										TB-04-07	20A	20B	04	07	20	CA_04_07	CA_04_08	PCS_DO01
WS0101040721	DO	TB-00-JE-13001	21	22	03921	03922	1mm²	BK	WH										TB-04-07	21A	21B	04	07	21	CA_04_07	CA_04_08	PCS_DO01
WS0101040722	DO	TB-00-JE-13001	23	24	03923	03924	1mm²	BK	WH										TB-04-07	22A	22B	04	07	22	CA_04_07	CA_04_08	PCS_DO01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-13001

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 039

REV. 3

PCS PANEL -TB-00-JE-13002

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	RELAY	WIRE PS + (B)	WIRE PS - (B)	WIRE NUMBER + (C)	WIRE COLOUR + (B)	WIRE COLOUR - (B)	WIRE SECTION (B)	WIRE COLOUR + (C)	WIRE SECTION (C)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-XY-004	DO	TB-00-JE-13002	01	02	04001	04002	1mm²	BK	WH	R-SOV08	04015	04016	04017	RD	BL	1mm²	BK	1mm²	TB-04-07	07A	07B	04	07	07	CA_04_07	CA_04_08	PCS_DO02
25-XY-008	DO	TB-00-JE-13002	03	04	04003	04004	1mm²	BK	WH	R-SOV09	04018	04019	04020	RD	BL	1mm²	BK	1mm²	TB-04-07	08A	08B	04	07	08	CA_04_07	CA_04_08	PCS_DO02
25-XY-011	DO	TB-00-JE-13002	05	06	04005	04006	1mm²	BK	WH	R-SOV10	04021	04022	04023	RD	BL	1mm²	BK	1mm²	TB-04-07	09A	09B	04	07	09	CA_04_07	CA_04_08	PCS_DO02
25-XY-014	DO	TB-00-JE-13002	07	08	04007	04008	1mm²	BK	WH	R-SOV11	04024	04025	04026	RD	BL	1mm²	BK	1mm²	TB-04-07	10A	10B	04	07	10	CA_04_07	CA_04_08	PCS_DO02
25-XY-017	DO	TB-00-JE-13002	09	10	04009	04010	1mm²	BK	WH	R-SOV12	04027	04028	04029	RD	BL	1mm²	BK	1mm²	TB-04-07	11A	11B	04	07	11	CA_04_07	CA_04_08	PCS_DO02
25-XY-020	DO	TB-00-JE-13002	11	12	04011	04012	1mm²	BK	WH	R-SOV13	04030	04031	04032	RD	BL	1mm²	BK	1mm²	TB-04-07	12A	12B	04	07	12	CA_04_07	CA_04_08	PCS_DO02
25-XY-024	DO	TB-00-JE-13002	13	14	04013	04014	1mm²	BK	WH	R-SOV14	04033	04034	04035	RD	BL	1mm²	BK	1mm²	TB-04-07	23A	23B	04	07	23	CA_04_07	CA_04_08	PCS_DO02
SPARE	DO	TB-00-JE-13002	15	16																							
SPARE	DO	TB-00-JE-13002	17	18																							
SPARE	DO	TB-00-JE-13002	19	20																							
SPARE	DO	TB-00-JE-13002	21	22																							
SPARE	DO	TB-00-JE-13002	23	24																							

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-13002

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 040

REV. 3

PCS PANEL -TB-00-JE-13003

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	RELAY	WIRE PS + (B)	WIRE PS - (B)	WIRE NUMBER + (C)	WIRE COLOUR + (B)	WIRE COLOUR - (B)	WIRE SECTION (B)	WIRE COLOUR + (C)	WIRE SECTION (C)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
50-XY-001	DO	TB-00-JE-13003	01	02	04101	04102	1mm²	BK	WH	R-SOV15	04111	04112	04113	RD	BL	1mm²	BK	1mm²	TB-04-07	14A	14B	04	07	14	CA_04_07	CA_04_08	PCS_DO02
50-XY-002	DO	TB-00-JE-13003	03	04	04103	04104	1mm²	BK	WH	R-SOV16	04114	04115	04116	RD	BL	1mm²	BK	1mm²	TB-04-07	15A	15B	04	07	15	CA_04_07	CA_04_08	PCS_DO02
50-XY-003	DO	TB-00-JE-13003	05	06	04105	04106	1mm²	BK	WH	R-SOV17	04117	04118	04119	RD	BL	1mm²	BK	1mm²	TB-04-07	16A	16B	04	07	16	CA_04_07	CA_04_08	PCS_DO02
50-XY-004	DO	TB-00-JE-13003	07	08	04107	04108	1mm²	BK	WH	R-SOV18	04120	04121	04122	RD	BL	1mm²	BK	1mm²	TB-04-07	17A	17B	04	07	17	CA_04_07	CA_04_08	PCS_DO02
50-XY-005	DO	TB-00-JE-13003	09	10	04109	04110	1mm²	BK	WH	R-SOV19	04123	04123	04125	RD	BL	1mm²	BK	1mm²	TB-04-07	29A	29B	04	07	29	CA_04_07	CA_04_08	PCS_DO02

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-13003

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 041

REV. 3

PCS PANEL -TB-00-JE-BX00

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
B100-TDC-001	DI	TB-00-JE-BX00	01	02	04201	04202	1mm²	BK	WH	TB-04-05	01A	01B	04	05	01	CA_04_05	CA_04_06	PCS_DI01
B100-TDC-002	DI	TB-00-JE-BX00	03	04	04203	04204	1mm²	BK	WH	TB-04-05	02A	02B	04	05	02	CA_04_05	CA_04_06	PCS_DI01
B100-TIR-001	DI	TB-00-JE-BX00	05 & 07	06 & 08	04205 / 04207	04206 / 04208	1mm²	BK	WH	TB-04-05	03A	03B	04	05	03	CA_04_05	CA_04_06	PCS_DI01
B200-TDC-001	DI	TB-00-JE-BX00	09	10	04209	04210	1mm²	BK	WH	TB-04-05	04A	04B	04	05	04	CA_04_05	CA_04_06	PCS_DI01
B200-TDC-002	DI	TB-00-JE-BX00	11	12	04211	04212	1mm²	BK	WH	TB-04-05	05A	05B	04	05	05	CA_04_05	CA_04_06	PCS_DI01
B200-TIR-001	DI	TB-00-JE-BX00	13 & 15	14 & 16	04213 / 04215	04214 / 04216	1mm²	BK	WH	TB-04-05	06A	06B	04	05	06	CA_04_05	CA_04_06	PCS_DI01
B300-TDC-001	DI	TB-00-JE-BX00	17	18	04217	04218	1mm²	BK	WH	TB-04-05	07A	07B	04	05	07	CA_04_05	CA_04_06	PCS_DI01
B300-TDC-002	DI	TB-00-JE-BX00	19	20	04219	04220	1mm²	BK	WH	TB-04-05	08A	08B	04	05	08	CA_04_05	CA_04_06	PCS_DI01
B300-TIR-001	DI	TB-00-JE-BX00	21 & 23	22 & 24	04221 / 04223	04222 / 04224	1mm²	BK	WH	TB-04-05	09A	09B	04	05	09	CA_04_05	CA_04_06	PCS_DI01
B400-TDC-001	DI	TB-00-JE-BX00	25	26	04225	04226	1mm²	BK	WH	TB-04-05	10A	10B	04	05	10	CA_04_05	CA_04_06	PCS_DI01
B400-TDC-002	DI	TB-00-JE-BX00	27	28	04227	04228	1mm²	BK	WH	TB-04-05	11A	11B	04	05	11	CA_04_05	CA_04_06	PCS_DI01
B400-TIR-001	DI	TB-00-JE-BX00	29 & 31	30 & 32	04229 / 04231	04230 / 04232	1mm²	BK	WH	TB-04-05	12A	12B	04	05	12	CA_04_05	CA_04_06	PCS_DI01

TERMINALS 07/08/15/16/23/24/31/32 ARE DEDICATED TO 12Vdc POWER SUPPLY TO "TIR" MOTION DETECTORS (COMING FROM SHEET 015)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-00-JE-BX00

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00020

SHEET 042

REV. 3

PCS PANEL -TB-C-63-PT-003

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE NUMBER + (A)	WIRE NUMBER - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
63-PT-003	AI	TB-C-63-PT-003	01	02	04301	04302	1mm²	BK	WH	TB-03-01	11A	11B	03	01	11	CA_03_01	CA_03_02	PCS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	13.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	03.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
PCS PANEL -TB-C-63-PT-003

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00020

SHEET 043

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7.3 SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS

1724000594-IN-DG-00021

BASE LOAD POWER HUB (BLPH)
SIS AND FGS
WIRING DIAGRAMS AND TERMINAL STRIPS

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	19/09/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 001

REV. 3

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X						BASE LOAD POWER HUB (BLPH) INDEX
003			X	X						BASE LOAD POWER HUB (BLPH) INDEX
03A	X			X						BASE LOAD POWER HUB (BLPH) LEGEND
004	X	X		X						BASE LOAD POWER HUB (BLPH) SYMBOL LEGEND
005	X	X		X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
007	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
008	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
009	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
010	X			X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
011	X			X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
012	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN
013		X		X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac 50Hz POWER DISTRIBUTION SECURITY PROSAFE FAN
014	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
015	X	X		X						BASE LOAD POWER HUB (BLPH) FGS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION
016	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - TB FAULT SIGNALS
017	X	X		X						BASE LOAD POWER HUB (BLPH) FGS PANEL - BREAKER FAULT ALARM CIRCUIT
018	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - SHIELD / GROUND CONNECTION
019	X		X	X						BASE LOAD POWER HUB (BLPH) 24Vdc POWER DISTRIBUTION

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
020	X	X	X	X						BASE LOAD POWER HUB (BLPH) 24Vdc POWER DISTRIBUTION
021	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - FAULT ALARM SIGNALS TO DCS & "GDZ" SIGNALS P.S.
022	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - RACK "1" POWER DISTRIBUTION
023	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - RACK "2" POWER DISTRIBUTION
024	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - RACK "3" POWER DISTRIBUTION
025	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - RACK "4" POWER DISTRIBUTION
026	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - RACK "5" POWER DISTRIBUTION
027	X		X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - RACK "6" POWER DISTRIBUTION
028	X	X		X						BASE LOAD POWER HUB (BLPH) FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT
029	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - TYPICAL WIRING ANALOG INPUT
030 030A 030B	X	X		X						BASE LOAD POWER HUB (BLPH) FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT
031	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL INPUT SIGNALS
032	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL INPUT SIGNALS
033	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL INPUT SIGNALS
034	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
035	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL OUTPUT SIGNALS
036	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL OUTPUT SIGNALS
037	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL OUTPUT SIGNALS
038	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - DIGITAL OUTPUT SIGNALS
039	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
040	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - NIS ANALOG INPUT SIGNALS
041	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - NIS ANALOG INPUT SIGNALS
042	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - NIS ANALOG INPUT SIGNALS
043	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - NIS ANALOG INPUT SIGNALS
044	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - NIS ANALOG INPUT SIGNALS
045	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
046	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS PANEL - IS ANALOG INPUT SIGNALS
047	X		X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
048		X		X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
049	X		X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
050		X		X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
051	X			X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
052	X			X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
053	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN
054		X		X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac 50Hz POWER DISTRIBUTION SECURITY PROSAFE FAN
055	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
056	X	X		X						BASE LOAD POWER HUB (BLPH) SIS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION
057	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
058	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - BREAKER FAULT ALARM CIRCUIT
059	X		X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - SHIELD / GROUND CONNECTION

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 002

REV. 3

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
060	X		X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - TB FAULT SIGNALS
061	X	X	X	X						BASE LOAD POWER HUB (BLPH) 24Vdc POWER DISTRIBUTION
062	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - FAULT ALARM SIGNALS TO DCS
063	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - RACK "1" POWER DISTRIBUTION
064	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - RACK "2" POWER DISTRIBUTION
065	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - RACK "3" POWER DISTRIBUTION
066	X			X						BASE LOAD POWER HUB (BLPH) SIS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT
067	X			X						BASE LOAD POWER HUB (BLPH) SIS PANEL - TYPICAL WIRING ANALOG INPUT
068	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
069	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - DIGITAL OUTPUT SIGNALS
070	X	X		X						BASE LOAD POWER HUB (BLPH) SIS PANEL - DIGITAL OUTPUT SIGNALS
071	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - DIGITAL OUTPUT SIGNALS
072	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
073	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - DIGITAL INPUT SIGNALS
074	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - DIGITAL INPUT SIGNALS
075	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - DIGITAL INPUT SIGNALS
076	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
077	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS PANEL - ANALOG INPUT SIGNALS
				X						
				X						

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 003

REV. 3

NUMBER	SYMBOL	REFERENCE	DESCRIPTION
01		IEC 60417-5031	DIRECT CURRENT
02		IEC 60417-5032	ALTERNATING CURRENT
03		IEC 60417-5033	BOTH DIRECT AND ALTERNATING CURRENT
04		.	THREE-PHASE ALTERNATING CURRENT
05		IEC 60417-5017	EARTH (GROUND) TERMINAL
06		IEC 60417-5019	PROTECTIVE CONDUCTOR TERMINAL
07		IEC 60417-5020	FRAME OR CHASSIS TERMINAL
08		IEC 60417-5021	EQUIPOTENTIALITY
09		IEC 60417-5007	ON (SUPPLY)
10		IEC 60417-5008	OFF (SUPPLY)
11		IEC 60417-5172	EQUIPMENT PROTECTED THROUGHOUT BY DOUBLE INSULATION OR REINFORCED INSULATION
12		.	CAUTION RISK OF ELECTRIC SHOCK
13		IEC 60417-5041	CAUTION HOT SURFACE
14		ISO 7000-0434	CAUTION RISK OF DANGER
15		IEC 60417-5266	IN POSITION OF A BI-STABLE PUSH CONTROL
16		IEC 60417-5269	OUT POSITION OF A BI-STABLE PUSH CONTROL

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
LEGEND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

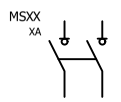
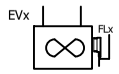
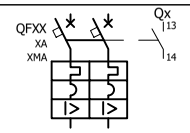
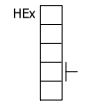
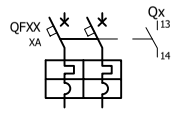
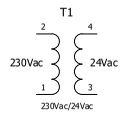
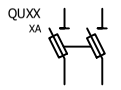
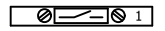
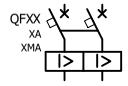
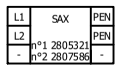
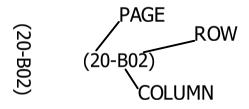
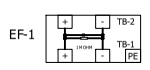
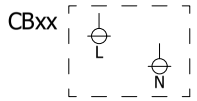
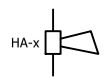
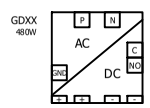
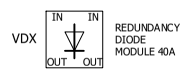
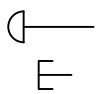
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 03A

REV. 3

	ROTATIVE MAIN SWITCH -		ELECTRIC FAN WITH FAULT DETECTION		I.S. BARRIER (NOTE: AB-xx FOR ACTIVE BARRIERS, ZB-xx FOR ZENER BARRIERS)
	DIFFERENTIAL RESIDUAL CURRENT CIRCUIT BREAKER WITH AUXILIARY CONTACT		PANEL ELECTRIC HEATER -		GALVANIC ISOLATOR -
	AUTOMATIC CIRCUIT BREAKER WITH AUXILIARY CONTACT		AC/AC VOLTAGE TRANSFORMER -		FUSED TERMINAL -
	DISCONNECTOR WITH FUSE -		THERMOSTATE NO CONTACT -		KNIFE TERMINAL -
	PURE RESIDUAL CURRENT CIRCUIT BREAKER		NO CONTACT -		FEED THROUGH TERMINAL -
	SURGE ARRESTOR -		NC CONTACT -		PAGE CROSS REFERENCE INDICATION -
	LINE FILTER MODULE -		DOOR LIMIT SWITCH -		COMMON BOX -
	SERVICE SOCKET -		FRONT PANEL ALARM BUZZER -		- -
	AC/DC FEEDER -		INTERNAL LIGHT OR FRONT PANEL LIGHT		- -
	REDUNDANCY DIODE MODULE -		MUSHROOM PUSHBUTTON INDICATOR NORMAL PUSHBUTTON INDICATOR		- -
	RELAYS -		ROTATIVE SELECTOR INDICATOR -		- -
	- -		RESISTOR -		- -
	- -		- -		- -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SYMBOL LEGEND

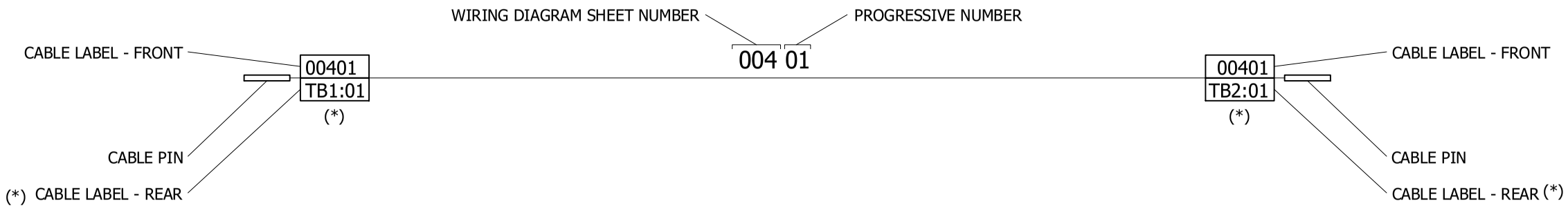
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00021 | SHEET 004 | REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	○○○○○○○○○○○○○○○
I.E. EARTH	○○○○○○○○○○○○○○○
I.S.E. EARTH	○○○○○○○○○○○○○○○

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (I.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH
I.S.E. (I.S.E.) - INTRINSICALLY SAFE EARTH

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 005

REV. 3

FGS PANEL - POWER DISTRIBUTION FROM UPS LINE 1

230Vac-50Hz
FROM UPS#1
(BY CUSTOMER)

TB-PS1_F 1 2 3 — CUSTOMER CONNECTION POINT

00601 BR 6 mm² — 00603 LB 6 mm² — 00611 YG 6 mm² — PE

CB_UPS1_F
(007-B02)
N P P N P N P N P N P N
(007-C02)
(007-C02)

MS1_F
230Vac
32A
1 3 / 2 4

00604 BR 6 mm² — 00602 LB 6 mm²

	Q6	Q7	Q8	Q9	Q10
Cable	00605 BR 2,5 mm² / 00606 LB 2,5 mm²	00607 BR 2,5 mm² / 00608 LB 2,5 mm²	00609 BR 2,5 mm² / 00610 LB 2,5 mm²	00612 BR 2,5 mm² / 00613 LB 2,5 mm²	00614 BR 2,5 mm² / 00615 LB 2,5 mm²
Device	Q6 230Vac 16A "C" CURVE	Q7 230Vac 6A "D" CURVE	Q8 230Vac 6A "D" CURVE	Q9 230Vac 6A "D" CURVE	Q10 230Vac 6A "D" CURVE
Contacts	1 3 / 13 14 / 2 4	1 3 / 13 14 / 2 4	1 3 / 13 14 / 2 4	1 3 / 13 14 / 2 4	1 3 / 13 14 / 2 4
	(017-B02)	(017-A02)	(017-A03)	(017-B03)	(017-C03)
Cable	01501 BR 2,5 mm² / 01502 LB 2,5 mm²	02201 BR 1,5 mm² / 02202 LB 1,5 mm²	02301 BR 1,5 mm² / 02302 LB 1,5 mm²	02401 BR 1,5 mm² / 02402 LB 1,5 mm²	02501 BR 1,5 mm² / 02502 LB 1,5 mm²
	(015-B02) (015-B02)	(022-G02) (022-G02)	(023-G02) (023-G02)	(024-G02) (024-G02)	(025-G02) (025-G02)
	POWER SUPPLY G1_F	POWER SUPPLY (1) RACK "1" PW482-51	POWER SUPPLY (1) RACK "2" PW482-51	POWER SUPPLY (1) RACK "3" PW482-51	POWER SUPPLY (1) RACK "4" PW482-51

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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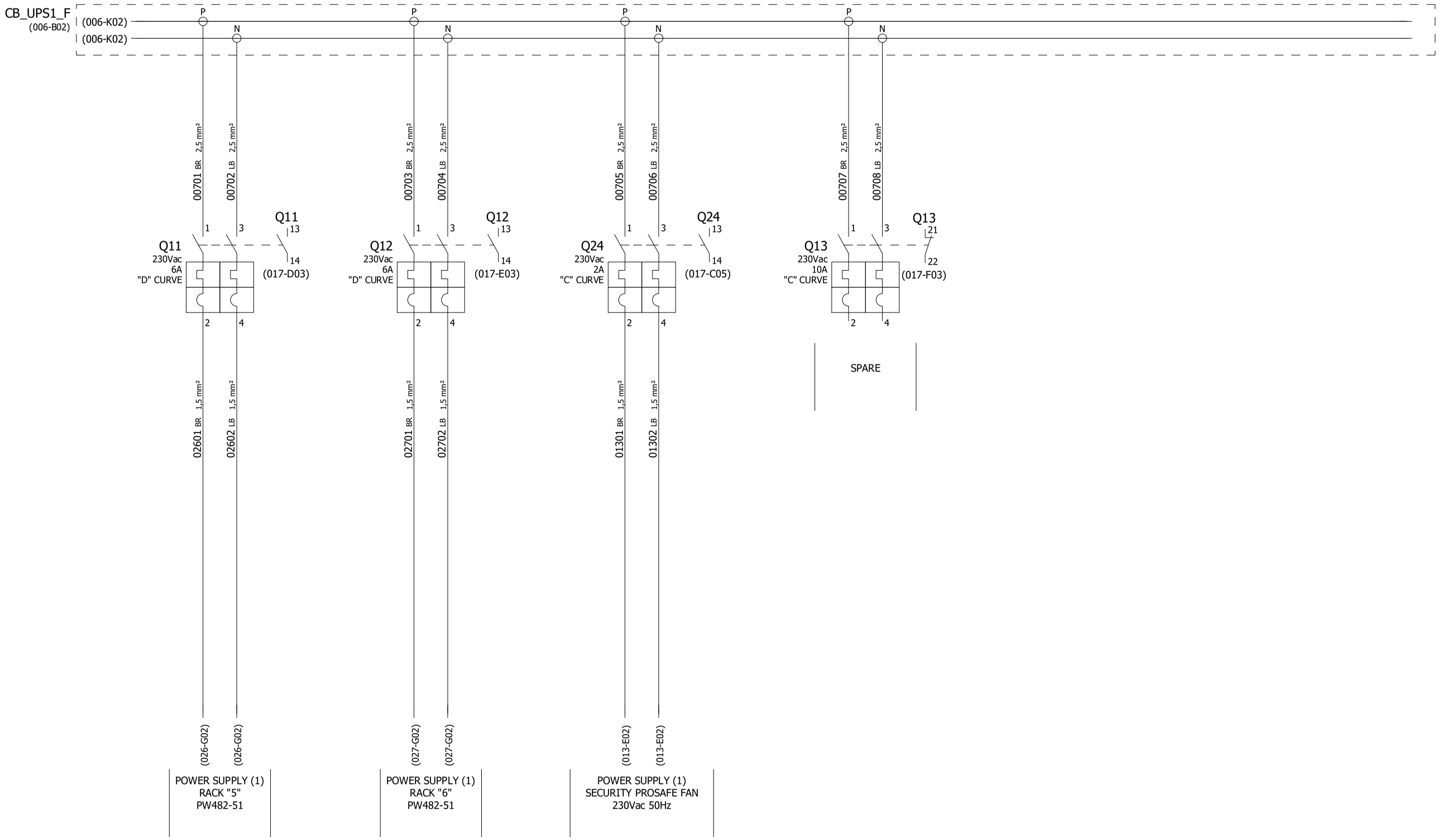
YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND — ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DG-00021
SHEET 006
REV. 3

FGS PANEL - POWER DISTRIBUTION FROM UPS LINE 1



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 007

REV. 3

FGS PANEL - POWER DISTRIBUTION FROM UPS LINE 2

230Vac-50Hz
FROM UPS#2
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS2_F 1 2 3

00801 BR 6 mm² — 00803 LB 6 mm² — 00611 YG 6 mm² — PE

CB_UPS2_F (009-B02)

(009-C02)
(009-C02)

MS2_F
230Vac
32A

00804 BR 6 mm² — 00802 LB 6 mm²

	Q14	Q15	Q16	Q17	Q18
230Vac	16A "C" CURVE	6A "D" CURVE	6A "D" CURVE	6A "D" CURVE	6A "D" CURVE
00805 BR 2,5 mm² / 00806 LB 2,5 mm²	Q14	Q15	Q16	Q17	Q18
	(017-G03)	(017-F04)	(017-E04)	(017-D04)	(017-C04)
01503 BR 2,5 mm² / 01504 LB 2,5 mm²	(015-H02) (015-H02)				
02203 BR 1,5 mm² / 02204 LB 1,5 mm²		(022-H02) (022-H02)			
02303 BR 1,5 mm² / 02304 LB 1,5 mm²			(023-H02) (023-H02)		
02403 BR 1,5 mm² / 02404 LB 1,5 mm²				(024-H02) (024-H02)	
02503 BR 1,5 mm² / 02504 LB 1,5 mm²					(025-H02) (025-H02)
	POWER SUPPLY G2_F	POWER SUPPLY (2) RACK "1" PW482-51	POWER SUPPLY (2) RACK "2" PW482-51	POWER SUPPLY (2) RACK "3" PW482-51	POWER SUPPLY (2) RACK "4" PW482-51

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND — ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

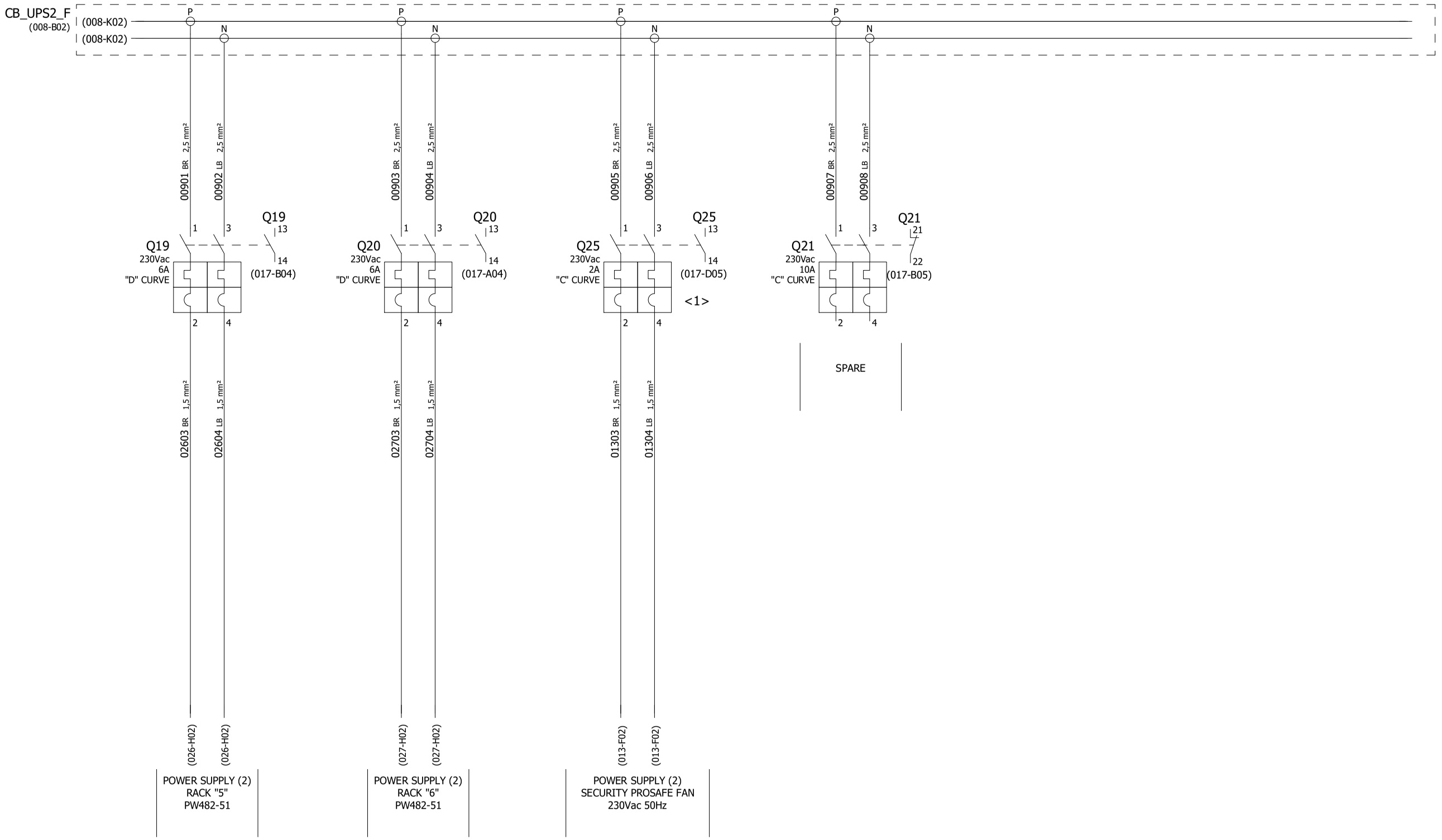
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 008

REV. 3

FGS PANEL - POWER DISTRIBUTION FROM UPS LINE 2



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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 009

REV. 3

FGS PANEL - POWER DISTRIBUTION FROM NON UPS

230Vac-50Hz
FROM MCC
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS3_F 1 2 3

01001 BR 6 mm²
01003 LB 6 mm²
00611 YG 6 mm²
PE

CB_SER_F
(011-A01)

P N P N P N P N
(011-A01)
(011-A01)

01004 LB 6 mm²
01002 BR 6 mm²

01005 BR 2.5 mm²
01007 LB 2.5 mm²
01009 BR 2.5 mm²
01015 LB 2.5 mm²
01020 BR 2.5 mm²
01021 LB 2.5 mm²

Q1 1 3 13 14
Q1
230Vac
25A
Id 30mA
2 4
(017-G02)

Q2 1 3 13 14
Q2
230Vac
16A
"C" CURVE
2 4
(017-F02)

Q3 1 3 13 14
Q3
230Vac
2A
"C" CURVE
2 4
(017-E02)

Q4 1 3 21 22
Q4
230Vac
4A
"C" CURVE
2 4
(017-D02)

SPARE

01006 BR 2.5 mm²
01008 LB 2.5 mm²

01010 BR 1.5 mm²
01011 BR 1.5 mm²
01012 BR 1.5 mm²

S1_F 11 12
S2_F 11 12
S3_F 11 12

01013 BR 1.5 mm²
01018 BR 1.5 mm²
01019 BR 1.5 mm²

H1_F x1 x2
H2_F x1 x2
H3_F x1 x2

SK1_F PE
00611 YG 2,5 mm²
PE

01014 LB 1,5 mm²
01017 LB 1,5 mm²
01017 LB 1,5 mm²

SERVICE SOCKET
230Vac 50Hz

INTERNAL LIGHT (LEFT SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

INTERNAL LIGHT (CENTRAL SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

INTERNAL LIGHT (RIGHT SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

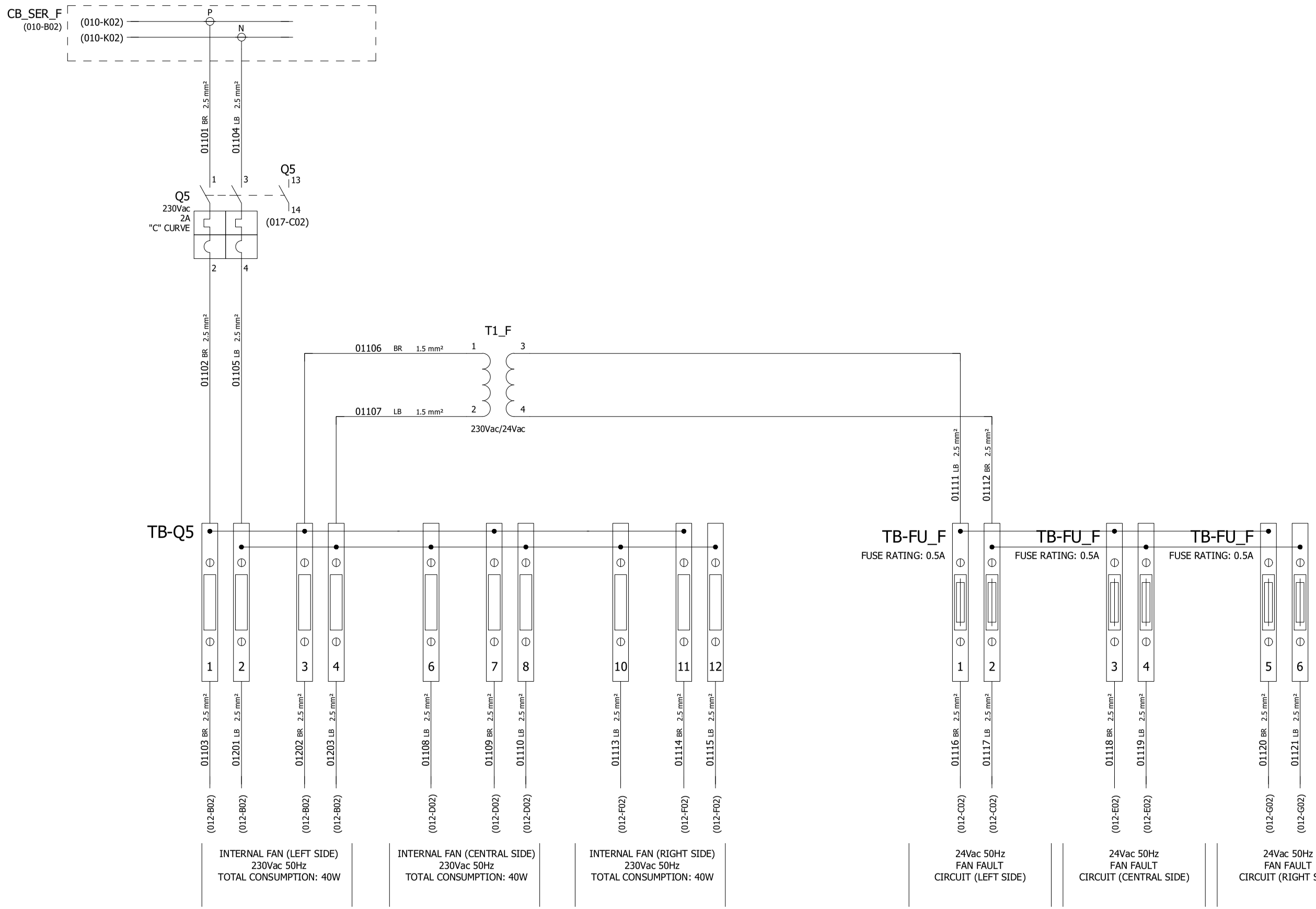
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 010

REV. 3

FGS PANEL - POWER DISTRIBUTION FROM NON UPS



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

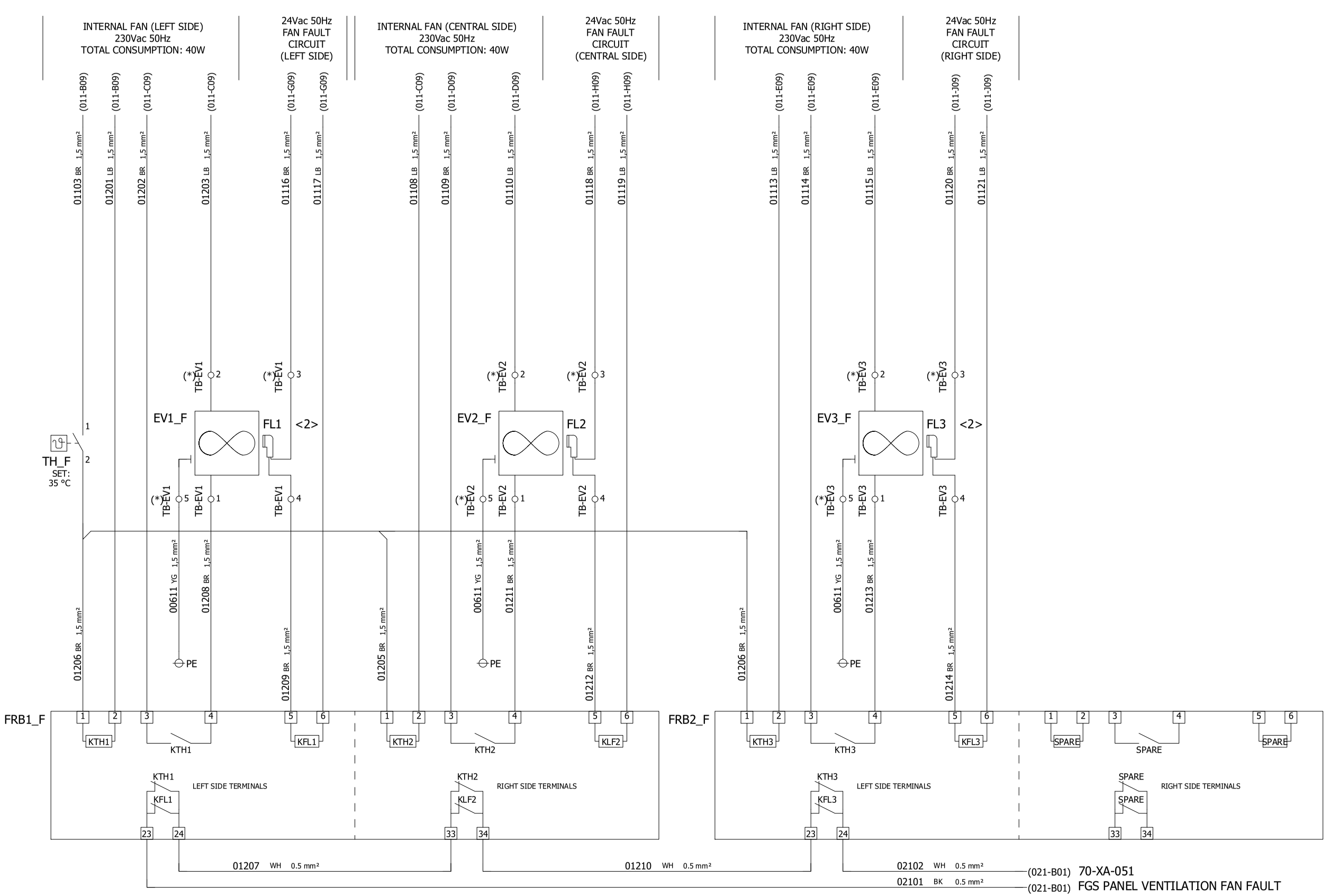
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 011

REV. 3

FGS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN & HEATER



NOTE (*):
TB-EV IS A FEED THROUGH TERMINAL BOARD FOR
PRE-WIRED ITEMS CONNECTION. FOR THIS REASON,
WIRE NUMBERS WILL BE THE SAME ON BOTH SIDES.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

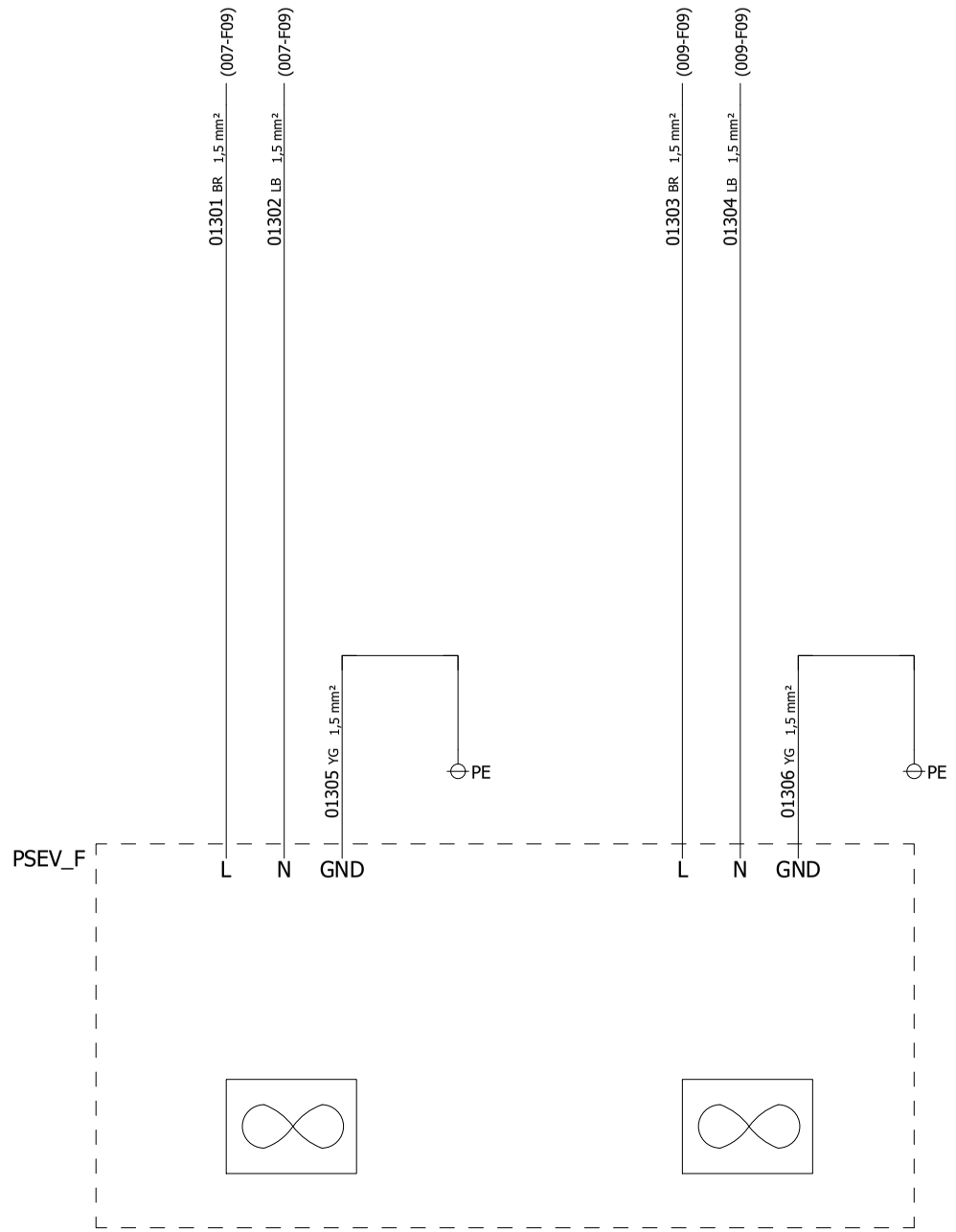
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3
DRAWING NO. 1724000594-IN-DG-00021
SHEET 012
REV. 3

FGS PANEL - 230Vac 50Hz POWER DISTRIBUTION SECURITY PROSAFE FAN



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac 50Hz POWER DISTRIBUTION SECURITY PROSAFE FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 013

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 014

REV. 3

FGS PANEL - 230Vac/24Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(006-D09)
(006-D09)

01501 BR 2.5 mm²
01502 LB 2.5 mm²

G1_F
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-)
AC
DC
13 14 PE
+ + - -

02103 WH 1 mm² (021-B02)
01414 WH 1 mm²
00611 YG 2,5 mm² PE

70-XA-052
FGS PANEL POWER SUPPLY
24Vdc FAILURE

01505 RD 4 mm²
01507 BU 4 mm²
01506 RD 4 mm²
01510 BU 4 mm²

VD1_F
20A
WEIDMULLER PRO DM 20
code 2486080000

IN1+ IN1- IN2+ IN2-
OUT+ OUT-

01508 RD 6 mm²
01511 BU 6 mm²

Q22
24Vdc
32A
"C" CURVE
1 3 13
2 4 14 (017-D07)

01509 RD 6 mm²
01512 BU 6 mm²

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(008-D08)
(008-D08)

01503 BR 2.5 mm²
01504 LB 2.5 mm²

G2_F
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-)
AC
DC
13 14 PE
+ + - -

01415 WH 1 mm²
02104 BK 1 mm² (021-B02)
00611 YG 2,5 mm² PE

70-XA-052
FGS PANEL POWER SUPPLY
24Vdc FAILURE

01513 RD 4 mm²
01515 BU 4 mm²
01514 RD 4 mm²
01518 BU 4 mm²

VD2_F
20A
WEIDMULLER PRO DM 20
code 2486080000

IN1+ IN1- IN2+ IN1-
OUT+ OUT-

01516 RD 6 mm²
01519 BU 6 mm²

Q23
24Vdc
32A
"C" CURVE
1 3 13
2 4 14 (017-C07)

01517 RD 6 mm²
01520 BU 6 mm²

CB_24Vdc_F
(019-A01)
(020-A01)
+
-
(019-A01)
(019-A01)

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

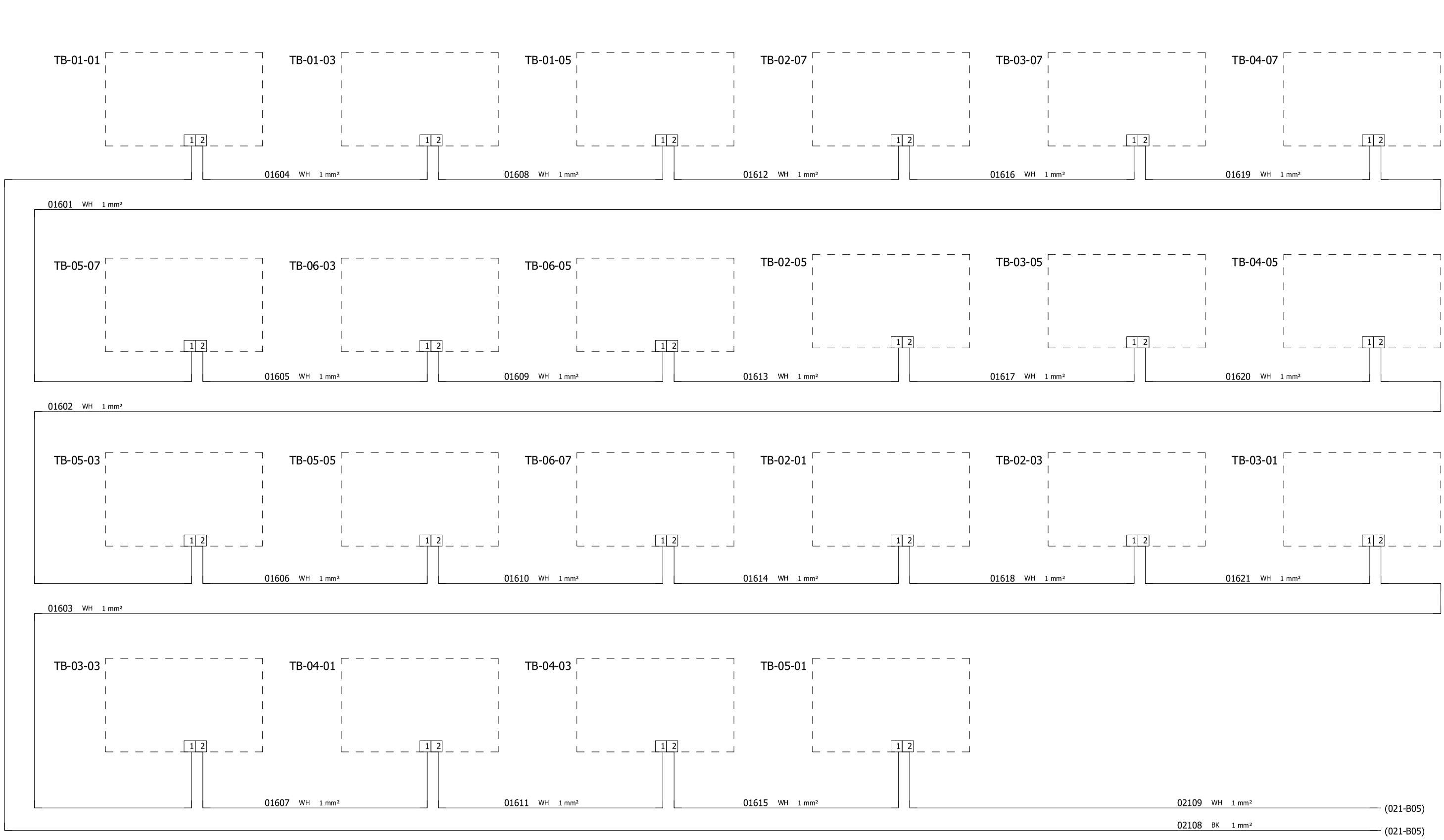
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 015

REV. 3

FGS PANEL - TB FAULT SIGNALS



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - TB FAULT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

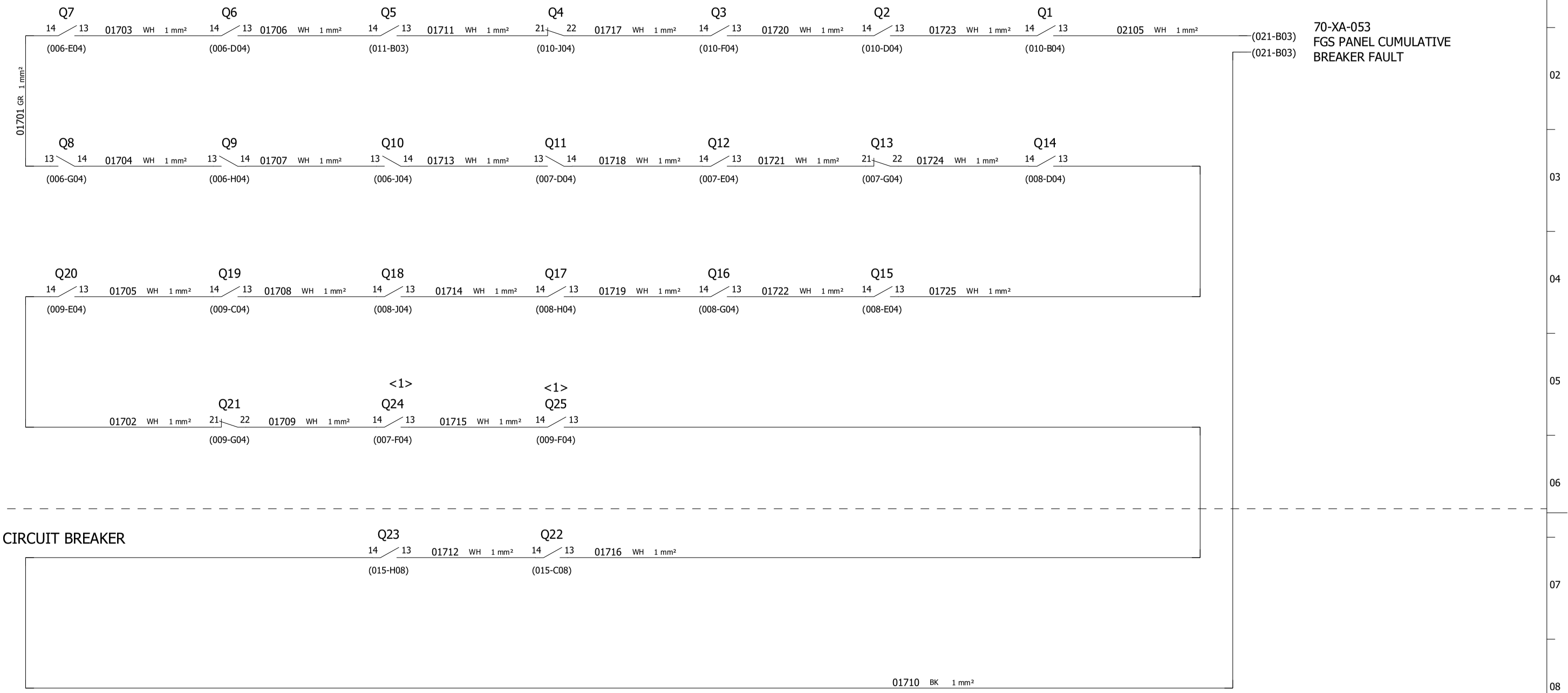
DRAWING NO. 1724000594-IN-DG-00021

SHEET 016

REV. 3

FGS PANEL - BRAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



70-XA-053
FGS PANEL CUMULATIVE BREAKER FAULT

24Vdc CIRCUIT BREAKER

NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - BREAKER FAULT ALARM CIRCUIT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

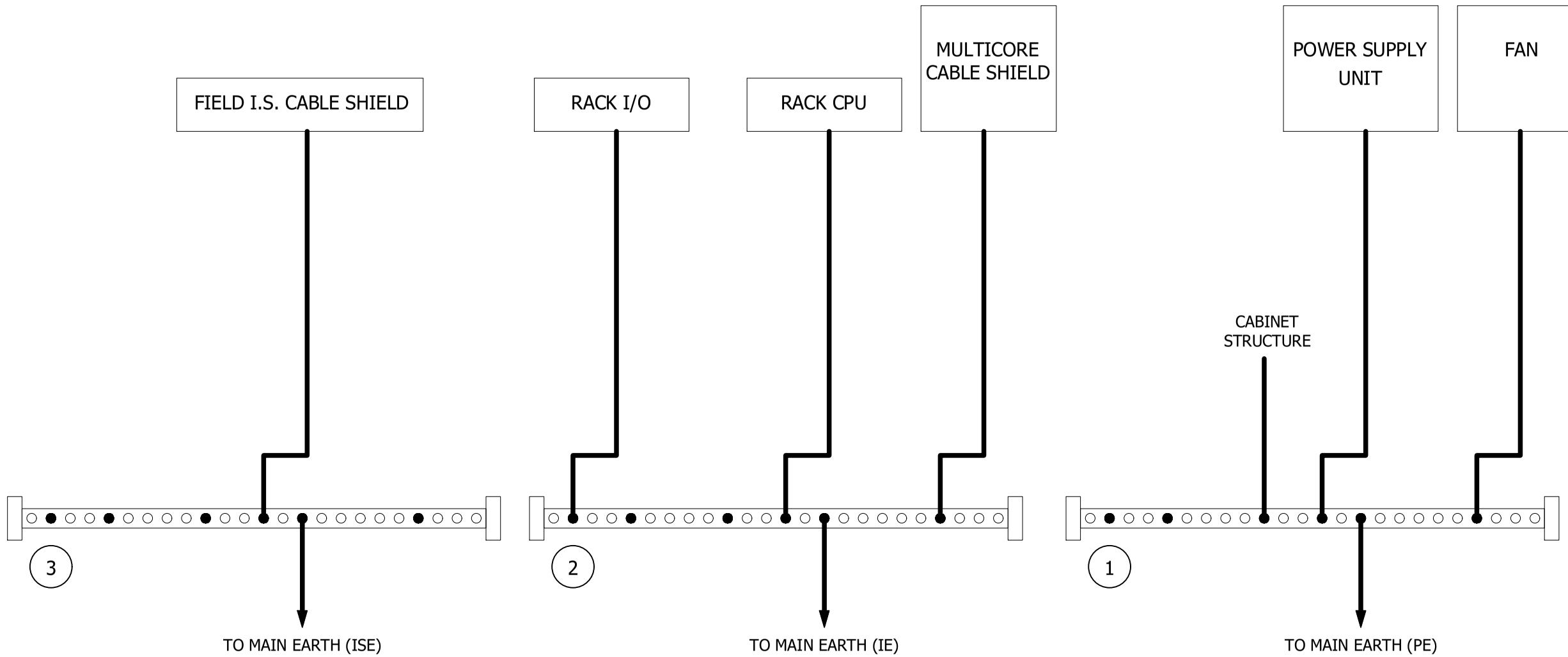
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 017

REV. 3

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)
2	I.E. EARTH	INSTRUMENTAL EARTH
3	I.S.E. EARTH	INTRINSICALLY SAFE EARTH



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

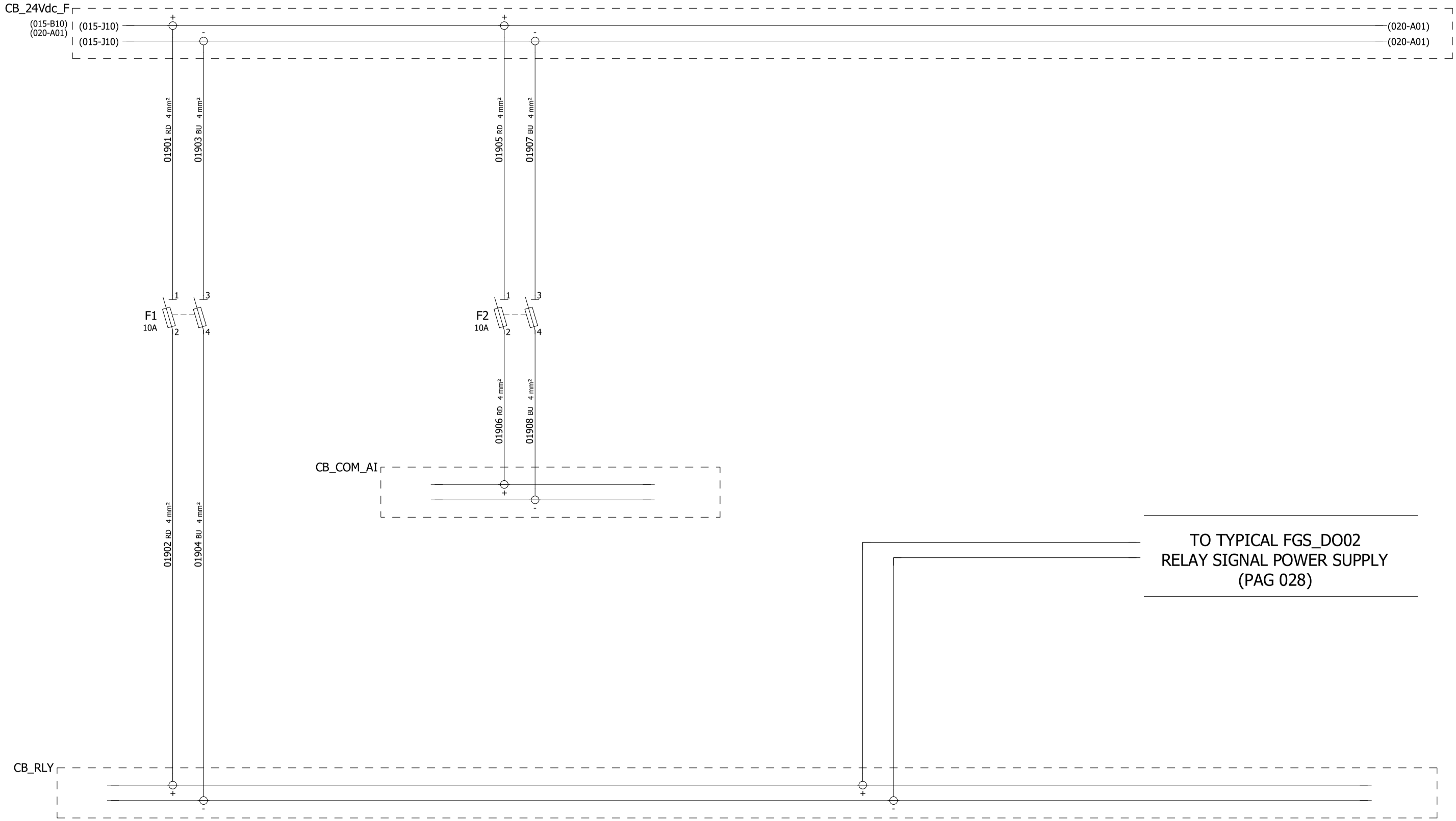
DRAWING NO. 1724000594-IN-DG-00021

SHEET 018

REV. 3

FGS PANEL - 24Vdc POWER DISTRIBUTION

-



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 019

REV. 3

FGS PANEL - 24Vdc POWER DISTRIBUTION

-

CB_24Vdc_F

(015-B10) (019-K01)
(019-A01) (019-K01)

02001 RD 4 mm² | 02003 BU 4 mm² | 02066 BU 4 mm² | 02065 RD 4 mm² | 02063 RD 4 mm² | 02064 BU 4 mm²

XL24+_F
XL24-_F

1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 11 11 12 12 13 13 14 14 15 15 16 16 17 17 18 18 19 19 20 20 21 21 22 22 23 23 24 24 25 25 26 26 27 27 28 28 29 29 30 30 31 31 32 32 33 33 34 34

SPARE SPARE SPARE SPARE SPARE SPARE SPARE SPARE

| | | |

FGS PANEL - FAULT ALARM SIGNALS TO DCS & "GDZ" SIGNALS POWER SUPPLY

70-XA-051	(012-G10)	02102 WH 1 mm²	09A	IN 09	SLOT 7	NODE 6	70-XA-051
	(012-G10)	02101 BK 1 mm²	09B	IN 09	SLOT 7	NODE 6	
			09C	IN 09	SLOT 7	NODE 6	
70-XA-052	(015-C04)	02103 WH 1 mm²	10A	IN 10	SLOT 7	NODE 6	70-XA-052
	(015-J04)	02104 BK 1 mm²	10B	IN 10	SLOT 7	NODE 6	
			10C	IN 10	SLOT 7	NODE 6	
70-XA-053	(017-J02)	02105 WH 1 mm²	11A	IN 11	SLOT 7	NODE 6	70-XA-053
	(017-J02)	01710 BK 1 mm²	11B	IN 11	SLOT 7	NODE 6	
			11C	IN 11	SLOT 7	NODE 6	
70-XA-054	21 / THH_F SET: 40 °C / 24	02106 WH 1 mm²	12A	IN 12	SLOT 7	NODE 6	70-XA-054
		02107 BK 1 mm²	12B	IN 12	SLOT 7	NODE 6	
			12C	IN 12	SLOT 7	NODE 6	
70-XA-055	(016-K10)	02109 WH 1 mm²	13A	IN 13	SLOT 7	NODE 6	70-XA-055
	(016-K10)	02108 BK 1 mm²	13B	IN 13	SLOT 7	NODE 6	
			13C	IN 13	SLOT 7	NODE 6	
FGS001-UA-05	13 / AT_01_F / 14	03301 WH 1 mm²	10A	IN 10	SLOT 5	NODE 2	FGS001-UA-05
		03302 BK 1 mm²	10B	IN 10	SLOT 5	NODE 2	
			10C	IN 10	SLOT 5	NODE 2	

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
70-XA-051	FGS PANEL VENTILATION FAN FAULT
70-XA-052	FGS PANEL POWER SUPPLY & DIODES FAILURE
70-XA-053	FGS PANEL CUMULATIVE BREAKER FAULT
70-XA-054	FGS PANEL HIGH TEMPERATURE ALARM
70-XA-055	FGS PANEL DIGITAL / ANALOG TB CUMULATIVE FAULT

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
FGS001-UA-05	FGS PANEL KEY SELECTOR
-	-
-	-
-	-
-	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - FAULT ALARM SIGNALS TO DCS & "GDZ" SIGNALS P.S.

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

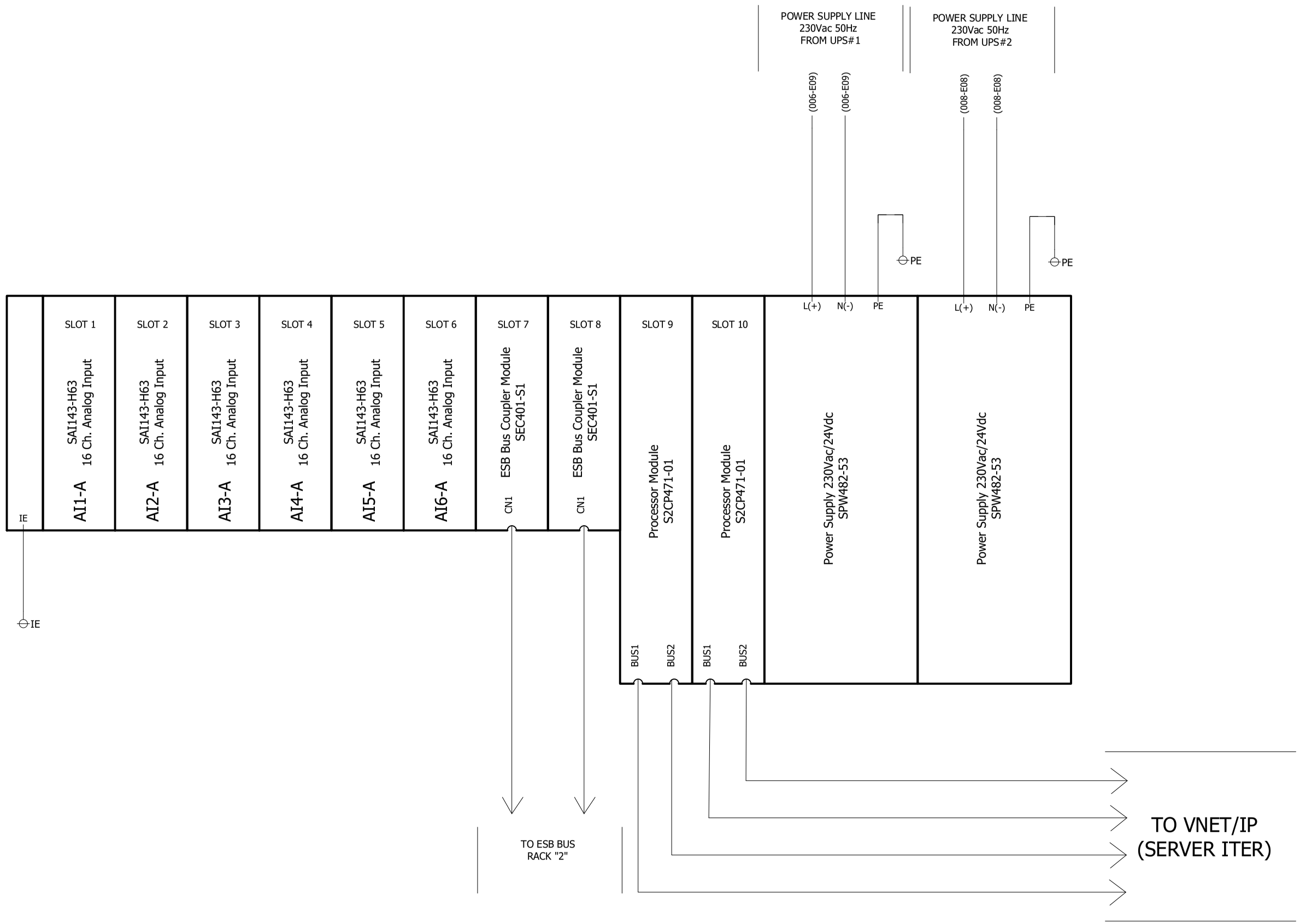
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 021

REV. 3

FGS PANEL - RACK "1" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - RACK "1" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

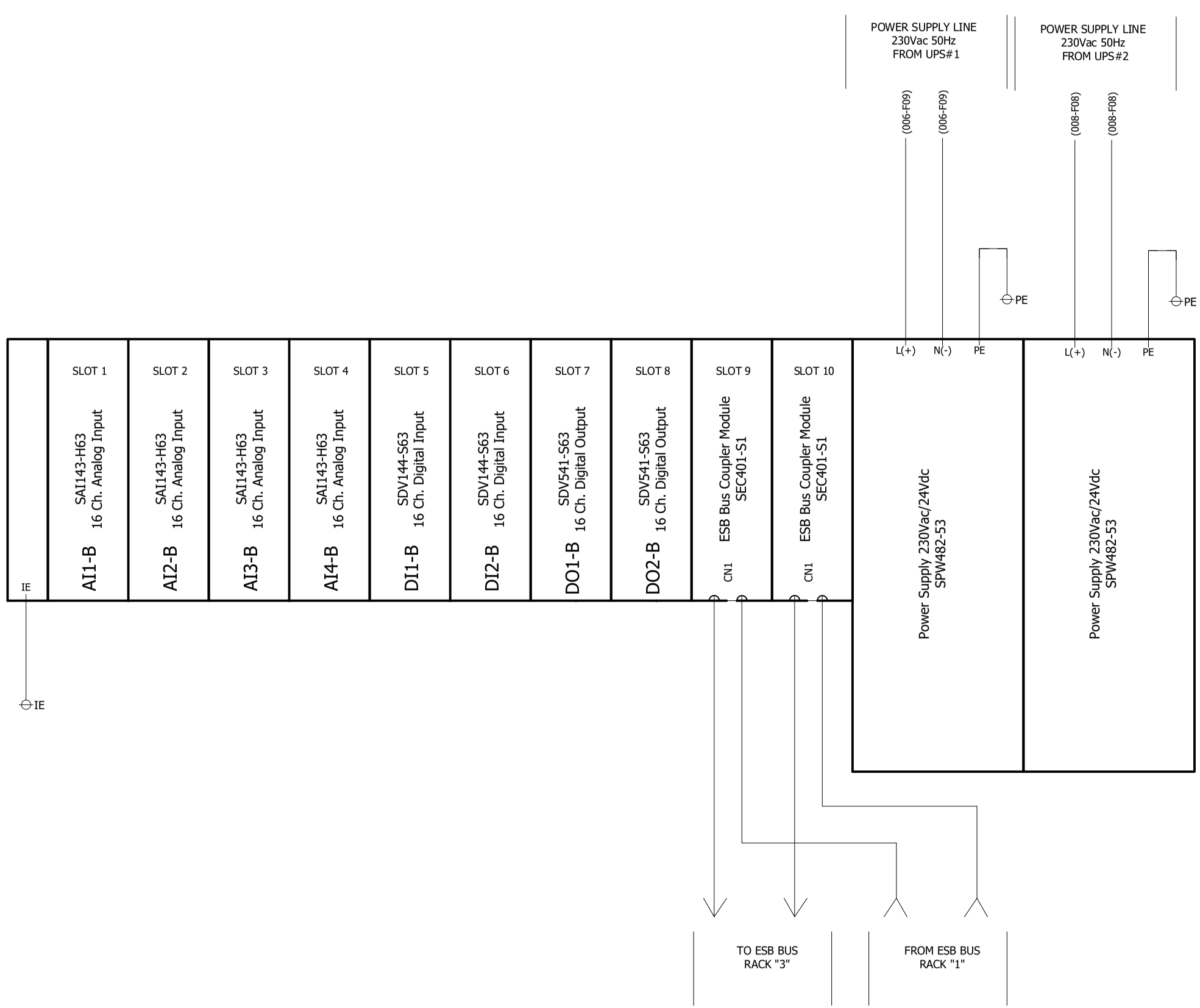
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 022

REV. 3

FGS PANEL - RACK "2" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - RACK "2" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

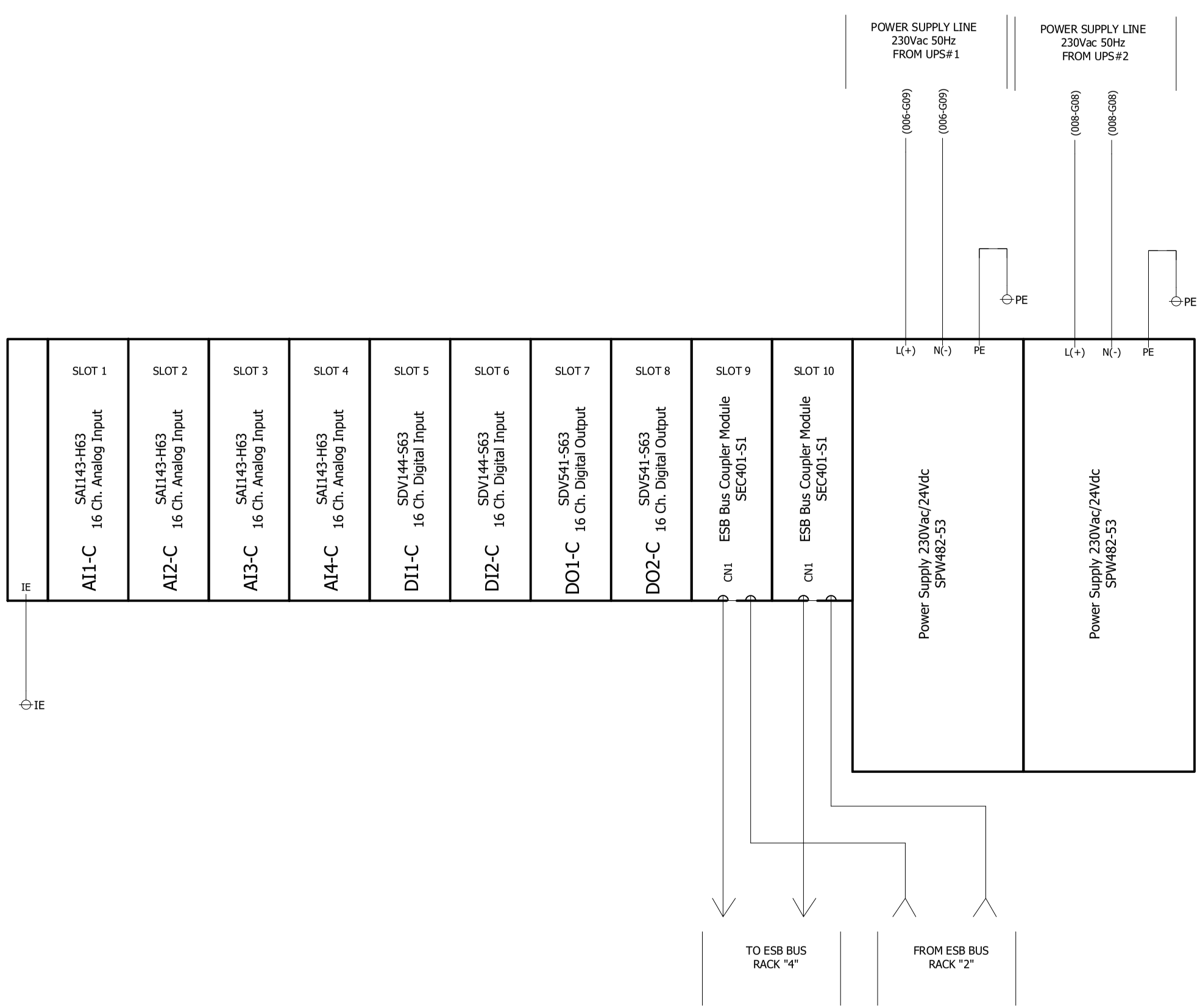
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 023

REV. 3

FGS PANEL - RACK "3" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - RACK "3" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

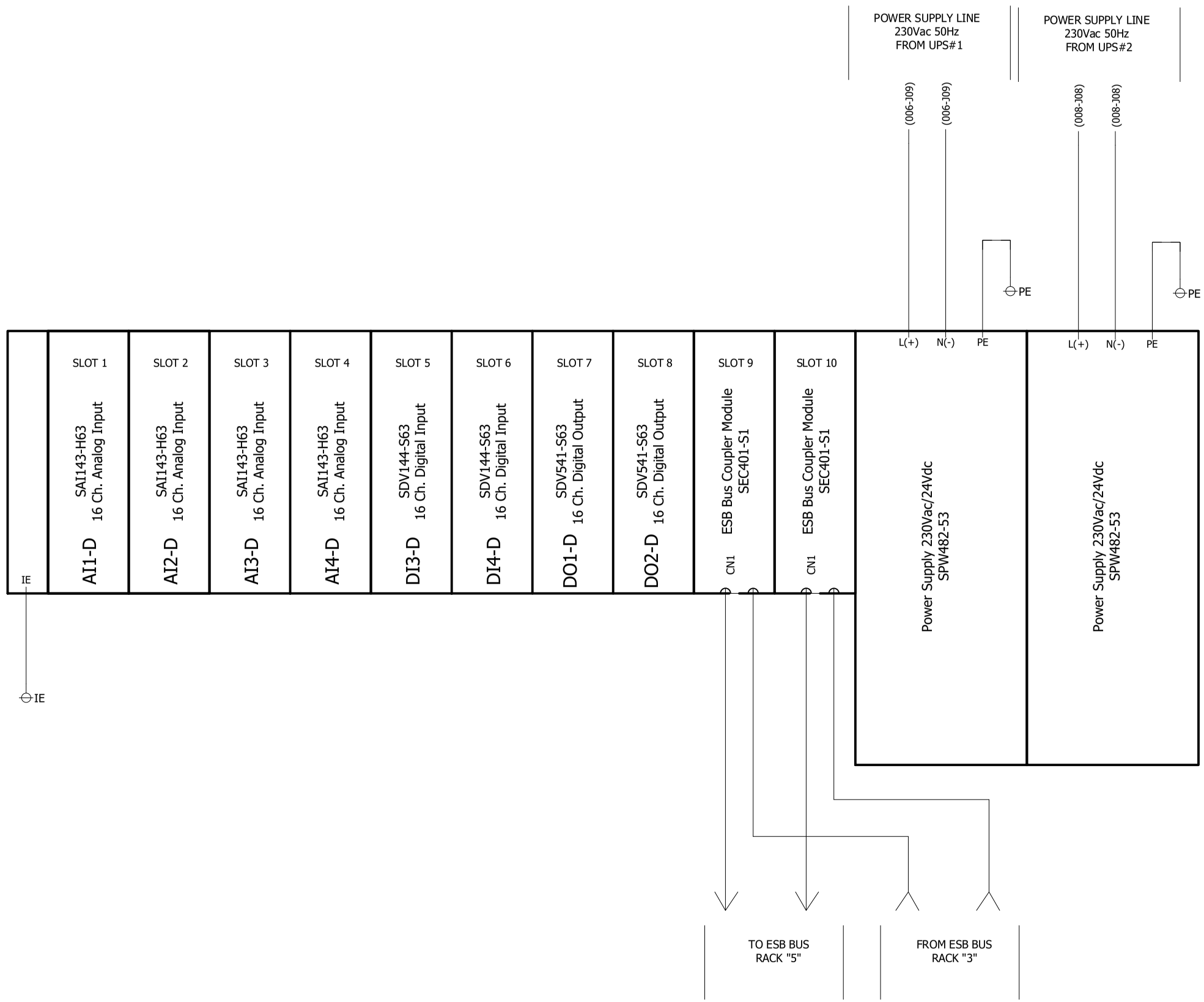
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 024

REV. 3

FGS PANEL - RACK "4" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - RACK "4" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

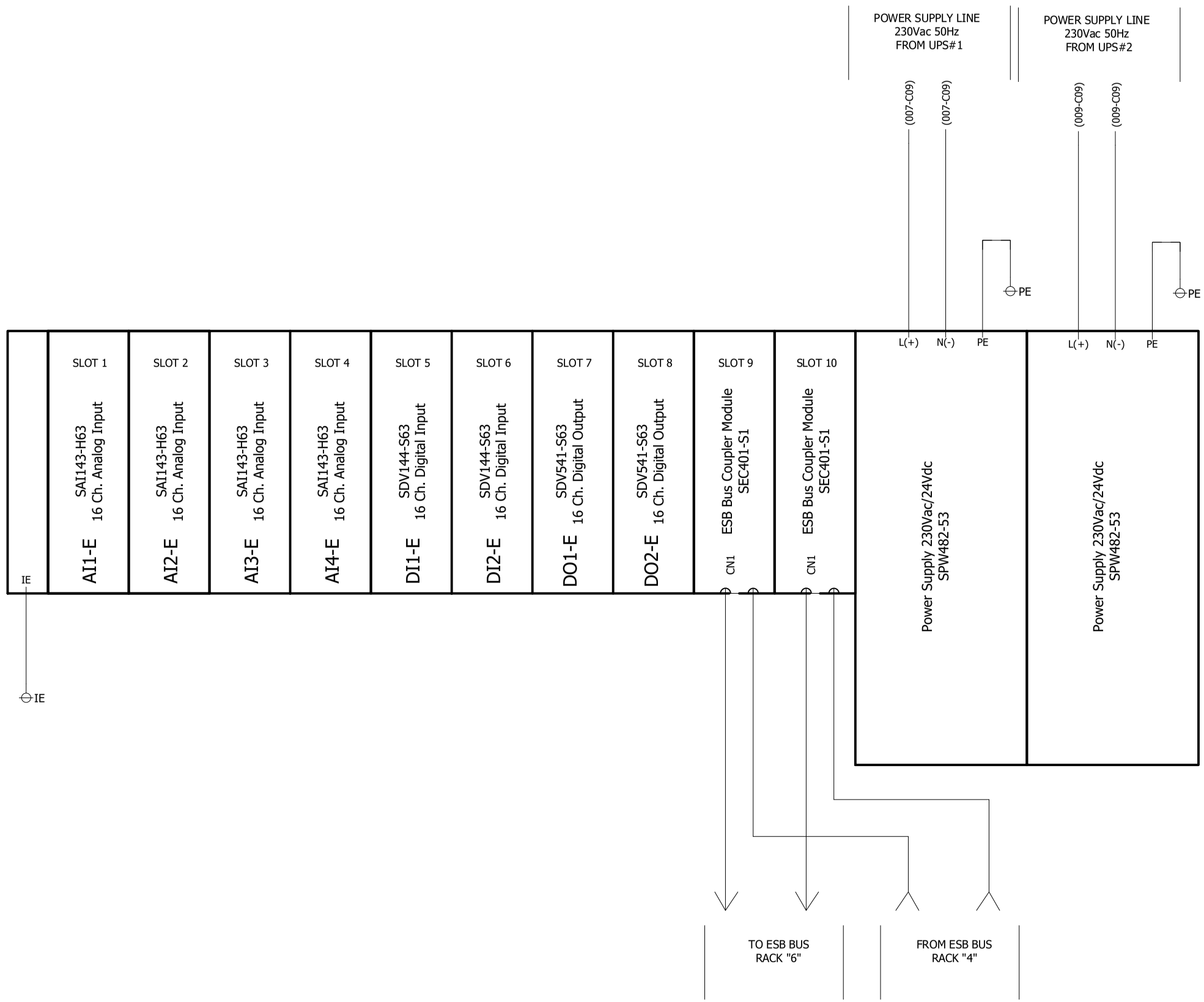
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 025

REV. 3

FGS PANEL - RACK "5" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - RACK "5" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

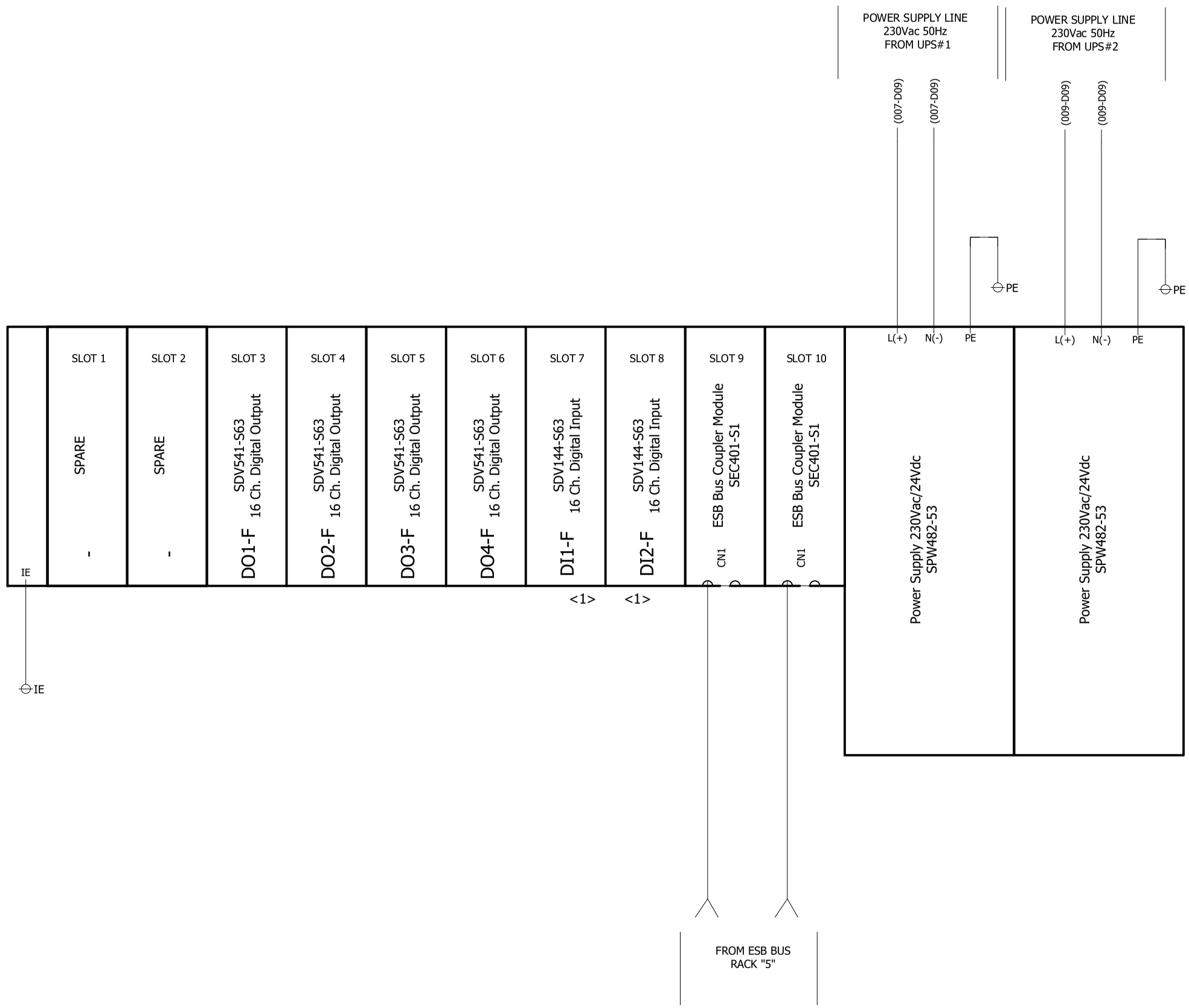
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 026

REV. 3

FGS PANEL - RACK "6" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - RACK "6" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

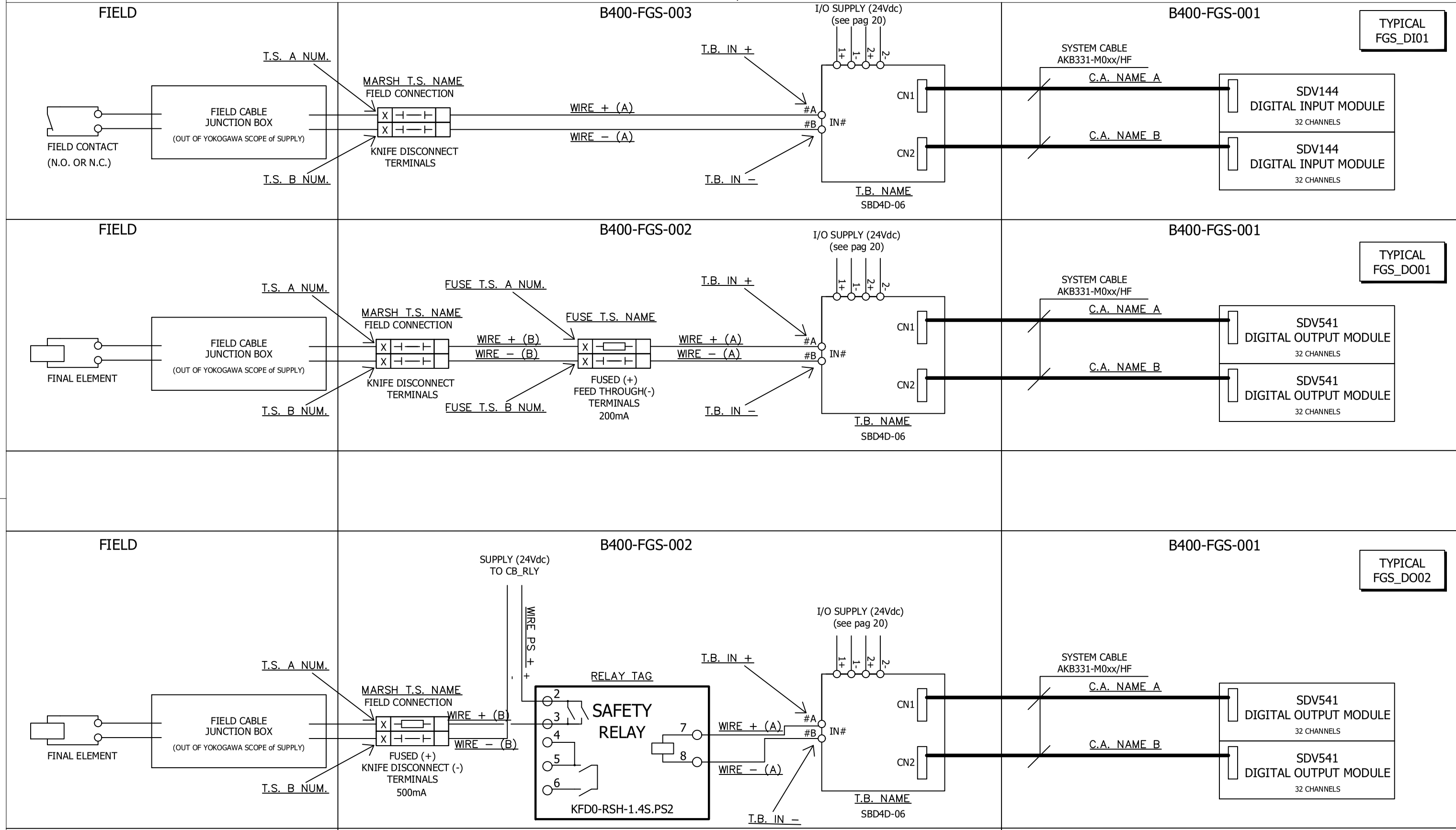
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 027

REV. 3

FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

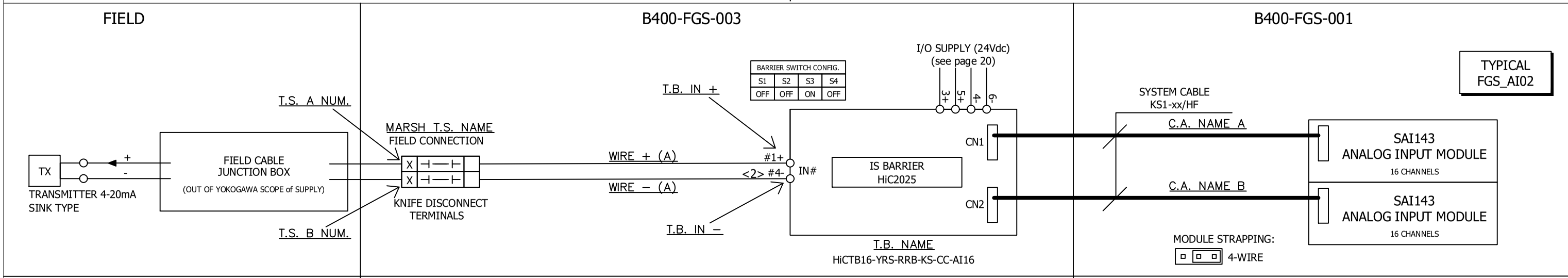
A3

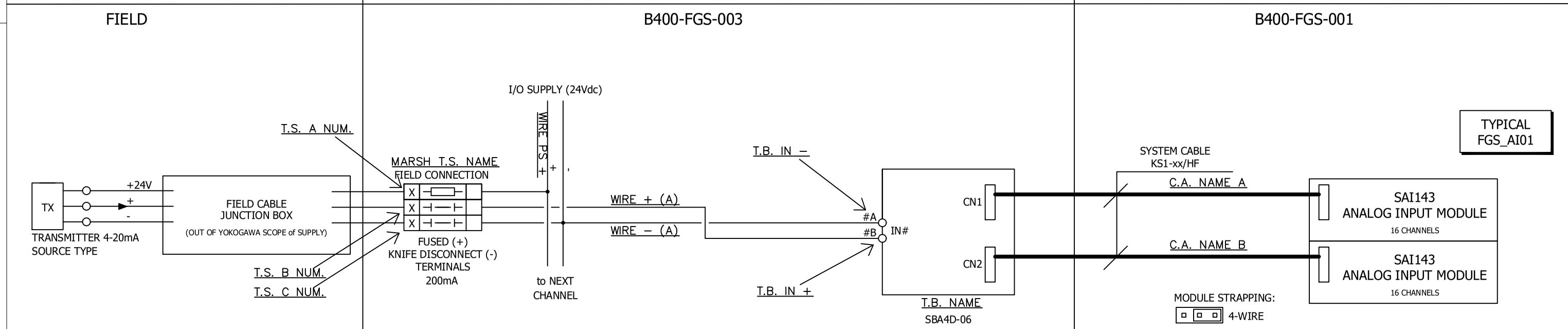
DRAWING NO.
1724000594-IN-DG-00021

SHEET 028

REV. 3

FGS PANEL - TYPICAL WIRING ANALOG INPUT





REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - TYPICAL WIRING ANALOG INPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 029

REV. 3

FIELD

FGS CABINET B400–FGS–003

RIGHT SIDE

BOTTOM PLATE

77–ZSL–001
LIMIT SWITCH DUMPER

TB–B100–HSB–001
1
2
BK 1mmq 03001
WH 1mmq 03002

77–ZSL–002
LIMIT SWITCH DUMPER

3
4
BK 1mmq 03003
WH 1mmq 03004

77–ZSL–003
LIMIT SWITCH DUMPER

5
6
BK 1mmq 03005
WH 1mmq 03006

SAFETY RELAY R1
4
6
7
8
KFD0–RSH–1.4S.PS2

SAFETY RELAY R2
KFD0–RSH–1.4S.PS2

SAFETY RELAY R3
KFD0–RSH–1.4S.PS2

SAFETY RELAY R4
KFD0–RSH–1.4S.PS2

SAFETY RELAY R5
KFD0–RSH–1.4S.PS2

SAFETY RELAY R6
KFD0–RSH–1.4S.PS2

BK 1mmq 03017
WH 1mmq 03018

TB–RELAY
1
2

BK 1mmq 03019
WH 1mmq 03020

TB–RELAY
3
4

I/O SUPPLY (24Vdc)
1+
1–
2+
2–

BK 1mmq 03007
WH 1mmq 03008
1A
1B
IN1 77–ZSL–001

BK 1mmq 03009
WH 1mmq 03010
2A
2B
IN2 77–ZSL–002

BK 1mmq 03011
WH 1mmq 03012
3A
3B
IN3 77–ZSL–003

TB–05–03

TERMINAL BOARD SBD4D–06

I/O SUPPLY (24Vdc)

BK 1mmq 03013
WH 1mmq 03014
13A
13B
OUT13 70–XS–011A

BK 1mmq 03015
WH 1mmq 03016
14A
14B
OUT14 70–XS–011B

TB–06–05

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 030

REV. 3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FIELD

FGS CABINET B400-FGS-003

RIGHT SIDE

BOTTOM PLATE

77-ZSL-004

LIMIT SWITCH DUMPER

TB-B200-HSB-001

1 BK 1mmq 030A01

2 WH 1mmq 030A02

77-ZSL-005

LIMIT SWITCH DUMPER

3 BK 1mmq 030A03

4 WH 1mmq 030A04

77-ZSL-006

LIMIT SWITCH DUMPER

5 BK 1mmq 030A05

6 WH 1mmq 030A06

SAFETY RELAY R7 — KFD0-RSH-1.4S.PS2 (4, 6, 7, 8)

SAFETY RELAY R8 — KFD0-RSH-1.4S.PS2 (4, 6, 7, 8)

SAFETY RELAY R9 — KFD0-RSH-1.4S.PS2 (4, 6, 7, 8)

SAFETY RELAY R10 — KFD0-RSH-1.4S.PS2 (4, 6, 7, 8)

SAFETY RELAY R11 — KFD0-RSH-1.4S.PS2 (4, 6, 7, 8)

SAFETY RELAY R12 — KFD0-RSH-1.4S.PS2 (4, 6, 7, 8)

BK 1mmq 030A17

WH 1mmq 030A18

TB-RELAY 5, 6

BK 1mmq 030A19

WH 1mmq 030A20

TB-RELAY 7, 8

I/O SUPPLY (24Vdc) 1+ 1- 2+ 2-

BK 1mmq 030A07 — 4A

WH 1mmq 030A08 — 4B IN4 77-ZSL-004

BK 1mmq 030A09 — 5A

WH 1mmq 030A10 — 5B IN5 77-ZSL-005

BK 1mmq 030A11 — 6A

WH 1mmq 030A12 — 6B IN6 77-ZSL-006

TB-05-03

TERMINAL BOARD SBD4D-06

I/O SUPPLY (24Vdc) 1+ 1- 2+ 2-

BK 1mmq 030A13 — 15A

WH 1mmq 030A14 — 15B OUT15 70-XS-012A

BK 1mmq 030A15 — 16A

WH 1mmq 030A16 — 16B OUT16 70-XS-012B

TB-06-05

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00

DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

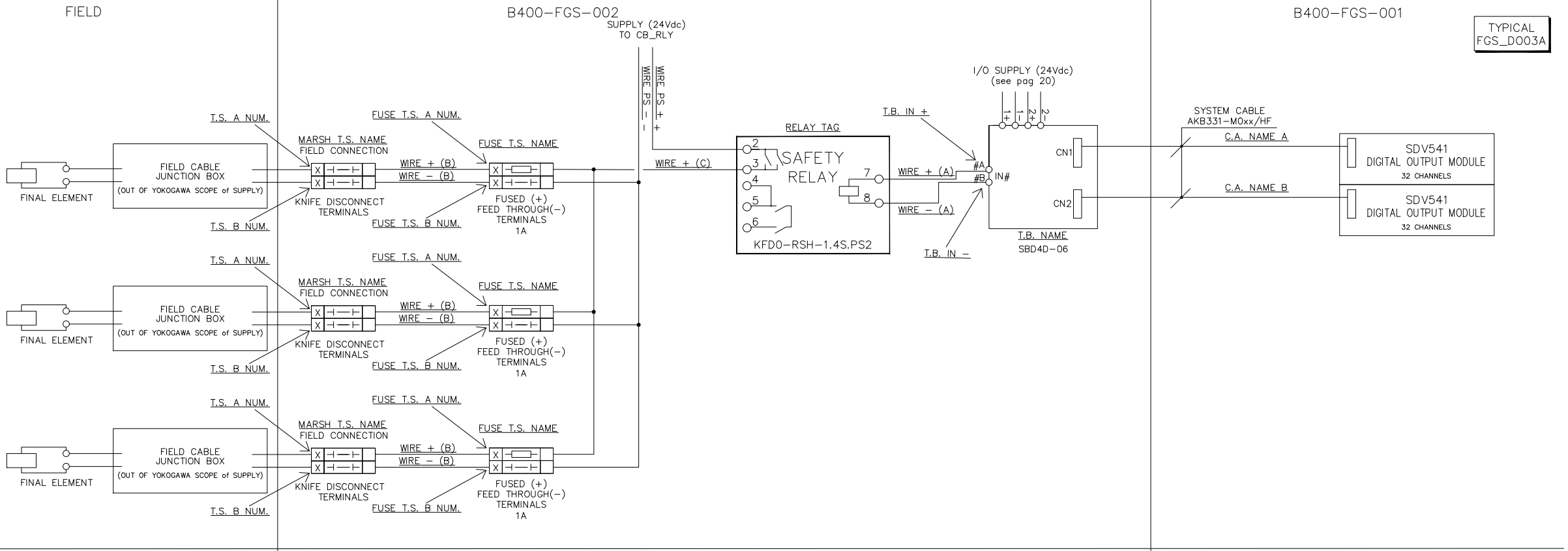
SCALE : 1

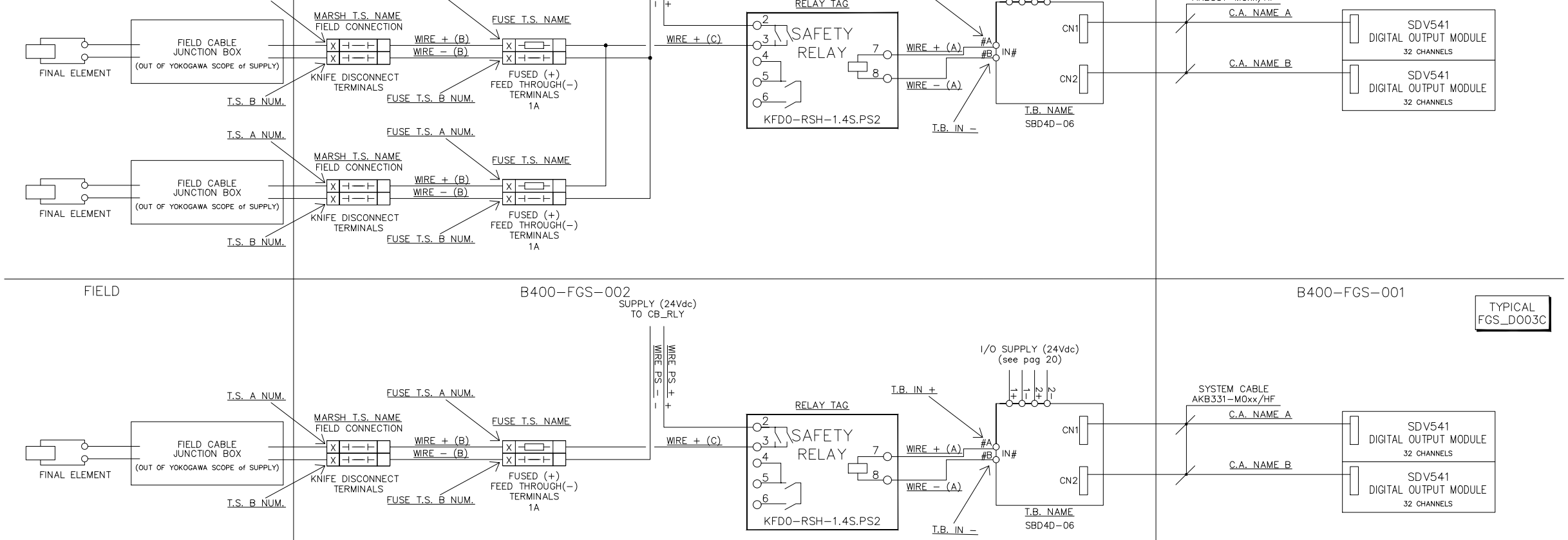
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 030A

REV. 3





REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 030B

REV. 3

FGS PANEL - TB-950-JE-01103 + TB-950-JE-03103 + TB-950-JE-04102 + TB-950-JE-05102 + TB-950-JE-06102

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-MFA-01101	DI	TB-950-JE-01103	01	02	03101	03102	1mm²	BK	WH	TB-02-05	01A	01B	02	05	01	CA_02_05	CA_02_06	FGS_DI01
950-MFA-01102	DI	TB-950-JE-01103	03	04	03103	03104	1mm²	BK	WH	TB-02-05	02A	02B	02	05	02	CA_02_05	CA_02_06	FGS_DI01
950-MFA-01103	DI	TB-950-JE-01103	05	06	03105	03106	1mm²	BK	WH	TB-02-05	03A	03B	02	05	03	CA_02_05	CA_02_06	FGS_DI01
SPARE	DI	TB-950-JE-01103	07	08														
SPARE	DI	TB-950-JE-01103	09	10														
SPARE	DI	TB-950-JE-01103	11	12														
950-MFA-03101	DI	TB-950-JE-03103	01	02	03107	03108	1mm²	BK	WH	TB-02-05	04A	04B	02	05	04	CA_02_05	CA_02_06	FGS_DI01
950-MFA-03102	DI	TB-950-JE-03103	03	04	03109	03110	1mm²	BK	WH	TB-02-05	05A	05B	02	05	05	CA_02_05	CA_02_06	FGS_DI01
950-MFA-03103	DI	TB-950-JE-03103	05	06	03111	03112	1mm²	BK	WH	TB-02-05	06A	06B	02	05	06	CA_02_05	CA_02_06	FGS_DI01
950-MFA-03104	DI	TB-950-JE-03103	07	08	03113	03114	1mm²	BK	WH	TB-02-05	07A	07B	02	05	07	CA_02_05	CA_02_06	FGS_DI01
WS0120020508	DI	TB-950-JE-03103	09	10	03115	03116	1mm²	BK	WH	TB-02-05	08A	08B	02	05	08	CA_02_05	CA_02_06	FGS_DI01
WS0120020509	DI	TB-950-JE-03103	11	12	03117	03118	1mm²	BK	WH	TB-02-05	09A	09B	02	05	09	CA_02_05	CA_02_06	FGS_DI01
950-MFA-04101	DI	TB-950-JE-04102	01	02	03119	03120	1mm²	BK	WH	TB-03-05	01A	01B	03	05	01	CA_03_05	CA_03_06	FGS_DI01
950-MFA-04102	DI	TB-950-JE-04102	03	04	03121	03122	1mm²	BK	WH	TB-03-05	02A	02B	03	05	02	CA_03_05	CA_03_06	FGS_DI01
SPARE	DI	TB-950-JE-04102	05	06														
SPARE	DI	TB-950-JE-04102	07	08														
SPARE	DI	TB-950-JE-04102	09	10														
SPARE	DI	TB-950-JE-04102	11	12														
950-MFA-05101	DI	TB-950-JE-05102	01	02	03123	03124	1mm²	BK	WH	TB-03-05	03A	03B	03	05	03	CA_03_05	CA_03_06	FGS_DI01
950-MFA-05102	DI	TB-950-JE-05102	03	04	03125	03126	1mm²	BK	WH	TB-03-05	04A	04B	03	05	04	CA_03_05	CA_03_06	FGS_DI01
950-MFA-05103	DI	TB-950-JE-05102	05	06	03127	03128	1mm²	BK	WH	TB-03-05	05A	05B	03	05	05	CA_03_05	CA_03_06	FGS_DI01
950-MFA-05104	DI	TB-950-JE-05102	07	08	03129	03130	1mm²	BK	WH	TB-03-05	06A	06B	03	05	06	CA_03_05	CA_03_06	FGS_DI01
SPARE	DI	TB-950-JE-05102	09	10														
SPARE	DI	TB-950-JE-05102	11	12														
950-MFA-06101	DI	TB-950-JE-06102	01	02	03131	03132	1mm²	BK	WH	TB-03-05	07A	07B	03	05	07	CA_03_05	CA_03_06	FGS_DI01
950-MFA-06102	DI	TB-950-JE-06102	03	04	03133	03134	1mm²	BK	WH	TB-03-05	08A	08B	03	05	08	CA_03_05	CA_03_06	FGS_DI01
WS0120030509	DI	TB-950-JE-06102	05	06	03135	03136	1mm²	BK	WH	TB-03-05	09A	09B	03	05	09	CA_03_05	CA_03_06	FGS_DI01
WS0120030510	DI	TB-950-JE-06102	07	08	03137	03138	1mm²	BK	WH	TB-03-05	10A	10B	03	05	10	CA_03_05	CA_03_06	FGS_DI01
SPARE	DI	TB-950-JE-06102	09	10														
SPARE	DI	TB-950-JE-06102	11	12														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 031

REV. 3

FGS PANEL - TB-B400-FGS-002-1 + TB-B100-HSB-001 + TB-B200-HSB-001 + TB-B300-HSB-001 + TB-B400-HSB-001

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-MFA-02101	DI	TB-B400-FGS-002-1	01	02	03201	03202	1mm²	BK	WH	TB-04-05	01A	01B	04	05	01	CA_04_05	CA_04_06	FGS_DI01
950-MFA-04201	DI	TB-B400-FGS-002-1	03	04	03203	03204	1mm²	BK	WH	TB-04-05	02A	02B	04	05	02	CA_04_05	CA_04_06	FGS_DI01
950-MFA-04202	DI	TB-B400-FGS-002-1	05	06	03205	03206	1mm²	BK	WH	TB-04-05	03A	03B	04	05	03	CA_04_05	CA_04_06	FGS_DI01
950-MFA-04203	DI	TB-B400-FGS-002-1	07	08	03207	03208	1mm²	BK	WH	TB-04-05	04A	04B	04	05	04	CA_04_05	CA_04_06	FGS_DI01
950-MFA-05201	DI	TB-B400-FGS-002-1	09	10	03209	03210	1mm²	BK	WH	TB-04-05	05A	05B	04	05	05	CA_04_05	CA_04_06	FGS_DI01
950-MFA-06201	DI	TB-B400-FGS-002-1	11	12	03211	03212	1mm²	BK	WH	TB-04-05	06A	06B	04	05	06	CA_04_05	CA_04_06	FGS_DI01
950-MFA-07101	DI	TB-B400-FGS-002-1	13	14	03213	03214	1mm²	BK	WH	TB-04-05	07A	07B	04	05	07	CA_04_05	CA_04_06	FGS_DI01
77-ZSL-001	DI	TB-B100-HSB-001	01	02	03215	03216	1mm²	BK	WH	TB-05-03	01A	01B	05	03	01	CA_05_03	CA_05_04	FGS_DI01
77-ZSL-002	DI	TB-B100-HSB-001	03	04	03217	03218	1mm²	BK	WH	TB-05-03	02A	02B	05	03	02	CA_05_03	CA_05_04	FGS_DI01
77-ZSL-003	DI	TB-B100-HSB-001	05	06	03219	03220	1mm²	BK	WH	TB-05-03	03A	03B	05	03	03	CA_05_03	CA_05_04	FGS_DI01
SPARE	DI	TB-B100-HSB-001	07	08														
SPARE	DI	TB-B100-HSB-001	09	10														
SPARE	DI	TB-B100-HSB-001	11	12														
77-ZSL-004	DI	TB-B200-HSB-001	01	02	03221	03222	1mm²	BK	WH	TB-05-03	04A	04B	05	03	04	CA_05_03	CA_05_04	FGS_DI01
77-ZSL-005	DI	TB-B200-HSB-001	03	04	03223	03224	1mm²	BK	WH	TB-05-03	05A	05B	05	03	05	CA_05_03	CA_05_04	FGS_DI01
77-ZSL-006	DI	TB-B200-HSB-001	05	06	03225	03226	1mm²	BK	WH	TB-05-03	06A	06B	05	03	06	CA_05_03	CA_05_04	FGS_DI01
SPARE	DI	TB-B200-HSB-001	07	08														
SPARE	DI	TB-B200-HSB-001	09	10														
SPARE	DI	TB-B200-HSB-001	11	12														
77-ZSL-007	DI	TB-B300-HSB-001	01	02	03227	03228	1mm²	BK	WH	TB-05-03	07A	07B	05	03	07	CA_05_03	CA_05_04	FGS_DI01
77-ZSL-008	DI	TB-B300-HSB-001	03	04	03229	03230	1mm²	BK	WH	TB-05-03	08A	08B	05	03	08	CA_05_03	CA_05_04	FGS_DI01
77-ZSL-009	DI	TB-B300-HSB-001	05	06	03231	03232	1mm²	BK	WH	TB-06-07	01A	01B	06	07	01	CA_06_07	CA_06_08	FGS_DI01
77-ZSL-010	DI	TB-B300-HSB-001	07	08	03233	03234	1mm²	BK	WH	TB-06-07	02A	02B	06	07	02	CA_06_07	CA_06_08	FGS_DI01
77-ZSL-011	DI	TB-B300-HSB-001	09	10	03235	03236	1mm²	BK	WH	TB-06-07	03A	03B	06	07	03	CA_06_07	CA_06_08	FGS_DI01
SPARE	DI	TB-B300-HSB-001	11	12														
77-ZSL-012	DI	TB-B400-HSB-001	01	02	03237	03238	1mm²	BK	WH	TB-06-07	04A	04B	06	07	04	CA_06_07	CA_06_08	FGS_DI01
77-ZSL-013	DI	TB-B400-HSB-001	03	04	03239	03240	1mm²	BK	WH	TB-06-07	05A	05B	06	07	05	CA_06_07	CA_06_08	FGS_DI01
77-ZSL-014	DI	TB-B400-HSB-001	05	06	03241	03242	1mm²	BK	WH	TB-06-07	06A	06B	06	07	06	CA_06_07	CA_06_08	FGS_DI01
77-ZSL-015	DI	TB-B400-HSB-001	07	08	03243	03244	1mm²	BK	WH	TB-06-07	07A	07B	06	07	07	CA_06_07	CA_06_08	FGS_DI01
77-ZSL-016	DI	TB-B400-HSB-001	09	10	03245	03246	1mm²	BK	WH	TB-06-07	08A	08B	06	07	08	CA_06_07	CA_06_08	FGS_DI01

FOR SIGNALS: 70-XA-051 - 70-XA-052 - 70-XA-053 - 70-XA-054 SEE PAG 021

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 032

REV. 3

FGS PANEL - AT02 + TB-P320PLC + TB-20-UCP-001 + TB-80-UCP-001 + TB-50-LP-002

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
FGS001-UA-05	DI				03301	03302	1mm²	BK	WH	TB-02-05	10A	10B	02	05	10	CA_02_05	CA_02_06	FGS_DI01
85-XA-001	DI	TB-P320PLC	01	02	03303	03304	1mm²	BK	WH	TB-05-05	01A	01B	05	05	01	CA_05_05	CA_05_06	FGS_DI01
85-XA-002	DI	TB-P320PLC	03	04	03305	03306	1mm²	BK	WH	TB-05-05	02A	02B	05	05	02	CA_05_05	CA_05_06	FGS_DI01
20-XA-001	DI	TB-20-UCP-001	01	02	03307	03308	1mm²	BK	WH	TB-05-05	03A	03B	05	05	03	CA_05_05	CA_05_06	FGS_DI01
20-XA-002	DI	TB-20-UCP-001	03	04	03309	03310	1mm²	BK	WH	TB-05-05	04A	04B	05	05	04	CA_05_05	CA_05_06	FGS_DI01
80-XA-001	DI	TB-80-UCP-001	01	02	03311	03312	1mm²	BK	WH	TB-05-05	05A	05B	05	05	05	CA_05_05	CA_05_06	FGS_DI01
80-XA-002	DI	TB-80-UCP-001	03	04	03313	03314	1mm²	BK	WH	TB-05-05	06A	06B	05	05	06	CA_05_05	CA_05_06	FGS_DI01
50-XA-001	DI	TB-50-LP-002	01	02	03315	03316	1mm²	BK	WH	TB-05-05	07A	07B	05	05	07	CA_05_05	CA_05_06	FGS_DI01
50-XA-002	DI	TB-50-LP-002	03	04	03317	03318	1mm²	BK	WH	TB-05-05	08A	08B	05	05	08	CA_05_05	CA_05_06	FGS_DI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 033

REV. 3

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Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 034

REV. 3

FGS PANEL - TB-950-JE-01104 + TB-950-JE-02104 + TB-950-JE-03104 + TB-950-JE-04103

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	WIRE PS	FUSE T.S. NAME	FUSE T.S. A NUM.	FUSE T.S. B NUM.	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY TAG	TYPICAL	WIRE + (C)
950-XZ-01101	DO	TB-950-JE-01104	01	02	03501	03502	03503	03504	03592	1mm²	BK	WH	03593	TS_02_07	1	2	TB-02-07	01A	01B	02	07	01	CA_02_07	CA_02_08	R102	FGS_DO03B	03594
950-XZ-01102	DO	TB-950-JE-01104	03	04	03505	03506	03507	03508	03589	1mm²	BK	WH	03590	TS_02_07	3	4	TB-02-07	02A	02B	02	07	02	CA_02_07	CA_02_08	R101	FGS_DO03A	03591
950-XL-01101	DO	TB-950-JE-01104	05	06	03509	03510	03511	03512	N/A	1mm²	BK	WH	N/A	TS_02_07	5	6	TB-02-07	03A	03B	02	07	03	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XL-01102	DO	TB-950-JE-01104	07	08	03513	03514	03515	03516	N/A	1mm²	BK	WH	N/A	TS_02_07	7	8	TB-02-07	04A	04B	02	07	04	CA_02_07	CA_02_08	-	FGS_DO01	-
SPARE	DO	TB-950-JE-01104	09	10																							
SPARE	DO	TB-950-JE-01104	11	12																							
950-XZ-02101	DO	TB-950-JE-02104	01	02	03517	03518	03519	03520	03589	1mm²	BK	WH	03590	TS_02_07	9	10	TB-02-07	05A	05B	02	07	05	CA_02_07	CA_02_08	R101	FGS_DO03A	03591
950-XL-02101	DO	TB-950-JE-02104	03	04	03521	03522	03523	03524	N/A	1mm²	BK	WH	N/A	TS_02_07	11	12	TB-02-07	06A	06B	02	07	06	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XL-02102	DO	TB-950-JE-02104	05	06	03525	03526	03527	03528	N/A	1mm²	BK	WH	N/A	TS_02_07	13	14	TB-02-07	07A	07B	02	07	07	CA_02_07	CA_02_08	-	FGS_DO01	-
WS0120020714	DO	TB-950-JE-02104	07	08	03529	03530	03531	03532	N/A	1mm²	BK	WH	N/A	TS_02_07	15	16	TB-02-07	14A	14B	02	07	14	CA_02_07	CA_02_08	-	FGS_DO01	-
WS0120020715	DO	TB-950-JE-02104	09	10	03533	03534	03535	03536	N/A	1mm²	BK	WH	N/A	TS_02_07	17	18	TB-02-07	15A	15B	02	07	15	CA_02_07	CA_02_08	-	FGS_DO01	-
WS0120020716	DO	TB-950-JE-02104	11	12	03537	03538	03539	03540	N/A	1mm²	BK	WH	N/A	TS_02_07	19	20	TB-02-07	16A	16B	02	07	16	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XZ-03101	DO	TB-950-JE-03104	01	02	03541	03542	03543	03544	03592	1mm²	BK	WH	03593	TS_02_07	21	22	TB-02-07	08A	08B	02	07	08	CA_02_07	CA_02_08	R102	FGS_DO03B	03594
950-XZ-03102	DO	TB-950-JE-03104	03	04	03545	03546	03547	03548	03589	1mm²	BK	WH	03590	TS_02_07	23	24	TB-02-07	09A	09B	02	07	09	CA_02_07	CA_02_08	R101	FGS_DO03A	03591
950-XL-03101	DO	TB-950-JE-03104	05	06	03549	03550	03551	03552	N/A	1mm²	BK	WH	N/A	TS_02_07	25	26	TB-02-07	10A	10B	02	07	10	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XL-03102	DO	TB-950-JE-03104	07	08	03553	03554	03555	03556	N/A	1mm²	BK	WH	N/A	TS_02_07	27	28	TB-02-07	11A	11B	02	07	11	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XL-03103	DO	TB-950-JE-03104	09	10	03557	03558	03559	03560	N/A	1mm²	BK	WH	N/A	TS_02_07	29	30	TB-02-07	12A	12B	02	07	12	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XL-03104	DO	TB-950-JE-03104	11	12	03561	03562	03563	03564	N/A	1mm²	BK	WH	N/A	TS_02_07	31	32	TB-02-07	13A	13B	02	07	13	CA_02_07	CA_02_08	-	FGS_DO01	-
950-XZ-04101	DO	TB-950-JE-04103	01	02	03565	03566	03567	03568	03598	1mm²	BK	WH	03599	TS_03_07	1	2	TB-03-07	01A	01B	03	07	01	CA_03_07	CA_03_08	R108	FGS_DO03B	035100
950-XZ-04102	DO	TB-950-JE-04103	03	04	03569	03570	03571	03572	03595	1mm²	BK	WH	03596	TS_03_07	3	4	TB-03-07	02A	02B	03	07	02	CA_03_07	CA_03_08	R105	FGS_DO03A	03597
950-XL-04101	DO	TB-950-JE-04103	05	06	03573	03574	03575	03576	N/A	1mm²	BK	WH	N/A	TS_03_07	5	6	TB-03-07	03A	03B	03	07	03	CA_03_07	CA_03_08	-	FGS_DO01	-
950-XL-04102	DO	TB-950-JE-04103	07	08	03577	03578	03579	03580	N/A	1mm²	BK	WH	N/A	TS_03_07	7	8	TB-03-07	04A	04B	03	07	04	CA_03_07	CA_03_08	-	FGS_DO01	-
950-XL-04103	DO	TB-950-JE-04103	09	10	03581	03582	03583	03584	N/A	1mm²	BK	WH	N/A	TS_03_07	9	10	TB-03-07	05A	05B	03	07	05	CA_03_07	CA_03_08	-	FGS_DO01	-
950-XL-04104	DO	TB-950-JE-04103	11	12	03585	03586	03587	03588	N/A	1mm²	BK	WH	N/A	TS_03_07	11	12	TB-03-07	06A	06B	03	07	06	CA_03_07	CA_03_08	-	FGS_DO01	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 035

REV. 3

FGS PANEL - TB-950-JE-04203 + TB-950-JE-04207 + TB-950-JE-05103

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	WIRE PS COLOUR	FUSE T.S. NAME	FUSE T.S. A NUM.	FUSE T.S. B NUM.	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY TAG	TYPICAL	WIRE + (C)
950-XZ-04203	DO	TB-950-JE-04203	01	02	03601	03602	03603	03604	036102	1mm²	BK	WH	036103	TS_03_07	13	14	TB-03-07	07A	07B	03	07	07	CA_03_07	CA_03_08	R104	FGS_DO03B	036104
950-XL-04205	DO	TB-950-JE-04203	03	04	03605	03606	03607	03608	N/A	1mm²	BK	WH	N/A	TS_03_07	15	16	TB-03-07	08A	08B	03	07	08	CA_03_07	CA_03_08	-	FGS_DO01	-
950-XL-04206	DO	TB-950-JE-04203	05	06	03609	03610	03611	03612	N/A	1mm²	BK	WH	N/A	TS_03_07	17	18	TB-03-07	09A	09B	03	07	09	CA_04_07	CA_04_08	-	FGS_DO01	-
77-HY-004	DO	TB-950-JE-04203	07	08	03613	03614	03615	03616	03617	1mm²	BK	WH	RD	N/A			TB-03-07	11A	11B	03	07	11	CA_04_07	CA_04_08	KA2	FGS_DO02	-
77-HY-005	DO	TB-950-JE-04203	09	10	03618	03619	03620	03621	03622	1mm²	BK	WH	RD	N/A			TB-04-07	04A	04B	04	07	04	CA_04_07	CA_04_08	KA3	FGS_DO02	-
77-HY-006	DO	TB-950-JE-04203	11	12	03623	03624	03625	03626	03627	1mm²	BK	WH	RD	N/A			TB-04-07	05A	05B	04	07	05	CA_04_07	CA_04_08	KA4	FGS_DO02	-
950-XZ-04202	DO	TB-950-JE-04207	1	2	03628	03629	03630	03631	036108	1mm²	BK	WH	036109	TS_04_07	19	20	TB-04-07	01A	01B	04	07	01	CA_04_07	CA_04_08	R107	FGS_DO03B	036110
950-XL-04203	DO	TB-950-JE-04207	3	4	03631	03632	03633	03634	N/A	1mm²	BK	WH	N/A	TS_04_07	21	22	TB-04-07	02A	02B	04	07	02	CA_04_07	CA_04_08	-	FGS_DO01	-
950-XL-04204	DO	TB-950-JE-04207	5	6	03634	03635	03636	03637	N/A	1mm²	BK	WH	N/A	TS_04_07	23	24	TB-04-07	03A	03B	04	07	03	CA_04_07	CA_04_08	-	FGS_DO01	-
77-HY-007	DO	TB-950-JE-04207	7	8	03638	03639	03640	03641	03642	1mm²	BK	WH	RD	N/A			TB-06-03	07A	07B	06	03	07	CA_06_05	CA_06_06	KA7	FGS_DO02	-
77-HY-008	DO	TB-950-JE-04207	9	10	03643	03644	03645	03646	03647	1mm²	BK	WH	RD	N/A			TB-06-03	08A	08B	06	03	08	CA_06_05	CA_06_06	KA8	FGS_DO02	-
77-HY-009	DO	TB-950-JE-04207	11	12	03648	03649	03650	03651	03652	1mm²	BK	WH	RD	N/A			TB-06-05	01A	01B	06	05	01	CA_06_05	CA_06_06	KA9	FGS_DO02	-
77-HY-010	DO	TB-950-JE-04207	13	14	03653	03654	03655	03656	03657	1mm²	BK	WH	RD	N/A			TB-06-05	02A	02B	06	05	02	CA_06_05	CA_06_06	KA10	FGS_DO02	-
77-HY-011	DO	TB-950-JE-04207	15	16	03658	03659	03660	03661	03662	1mm²	BK	WH	RD	N/A			TB-06-05	03A	03B	06	05	03	CA_06_05	CA_06_06	KA11	FGS_DO02	-
WS0120060509	DO	TB-950-JE-04207	17	18	03663	03664	03665	03666	03667	1mm²	BK	WH	RD	N/A			TB-06-05	09A	09B	06	05	09	CA_06_05	CA_06_06	KA17	FGS_DO02	-
WS0120060510	DO	TB-950-JE-04207	19	20	03668	03669	03670	03671	03672	1mm²	BK	WH	RD	N/A			TB-06-05	10A	10B	06	05	10	CA_06_05	CA_06_06	KA18	FGS_DO02	-
WS0120030712	DO	TB-950-JE-04207	21	22	03673	03674	03675	03676	03677	1mm²	BK	WH	RD	N/A			TB-03-07	12A	12B	03	07	12	CA_04_07	CA_04_08	KA19	FGS_DO02	-
WS0120030713	DO	TB-950-JE-04207	23	24	03678	03679	03680	03681	03682	1mm²	BK	WH	RD	N/A			TB-03-07	13A	13B	03	07	13	CA_04_07	CA_04_08	KA20	FGS_DO02	-
950-XZ-05101	DO	TB-950-JE-05103	01	02	03683	03684	03685	03686	03699	1mm²	BK	WH	036100	TS_04_07	1	2	TB-04-07	06A	06B	04	07	06	CA_04_07	CA_04_08	R103	FGS_DO03B	036101
950-XZ-05102	DO	TB-950-JE-05103	03	04	03687	03688	03689	03690	036105	1mm²	BK	WH	036106	TS_04_07	3	4	TB-04-07	07A	07B	04	07	07	CA_04_07	CA_04_08	R106	FGS_DO03B	036107
950-XZ-05103	DO	TB-950-JE-05103	05	06	03691	03692	03693	03694	03699	1mm²	BK	WH	036100	TS_04_07	5	6	TB-04-07	08A	08B	04	07	08	CA_04_07	CA_04_08	R103	FGS_DO03B	036101
950-XZ-05104	DO	TB-950-JE-05103	07	08	03695	03696	03697	03698	036105	1mm²	BK	WH	036106	TS_04_07	7	8	TB-04-07	09A	09B	04	07	09	CA_04_07	CA_04_08	R106	FGS_DO03B	036107
SPARE	DO	TB-950-JE-05103	09	10																							
SPARE	DO	TB-950-JE-05103	11	12																							

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 036

REV. 3

FGS PANEL - TB-950-JE-05104 + TB-950-JE-06103 + TB-950-JE-06203 + TB-950-JE-07101

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	WIRE PS COLOUR	FUSE T.S. NAME	WIRE PS-	FUSE T.S. A NUM.	FUSE T.S. B NUM.	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY TAG	TYPICAL	WIRE + (C)
950-XZ-05201	DO	TB-950-JE-05104	01	02	03701	03702	03703	03704	03595	1mm²	BK	WH	N/A	TS_04_07	03596	9	10	TB-04-07	10A	10B	04	07	10	CA_04_07	CA_04_08	R105	FGS_DO03B	03597
950-XL-05201	DO	TB-950-JE-05104	03	04	03705	03706	03707	03708	037102	1mm²	BK	WH	N/A	TS_04_07	037103	11	12	TB-04-07	11A	11B	04	07	11	CA_05_07	CA_05_08	R111	FGS_DO03C	037104
950-XL-05202	DO	TB-950-JE-05104	05	06	03709	03710	03711	03712	03799	1mm²	BK	WH	N/A	TS_04_07	037100	13	14	TB-04-07	12A	12B	04	07	12	CA_05_07	CA_05_08	R110	FGS_DO03C	037101
WS0120040713	DO	TB-950-JE-05104	07	08	03713	03714	03715	03716	N/A	1mm²	BK	WH	N/A	TS_04_07		15	16	TB-04-07	13A	13B	04	07	13	CA_05_07	CA_05_08	-	FGS_DO01	
WS0120040714	DO	TB-950-JE-05104	09	10	03717	03718	03719	03720	N/A	1mm²	BK	WH	N/A	TS_04_07		17	18	TB-04-07	14A	14B	04	07	14	CA_05_07	CA_05_08	-	FGS_DO01	
SPARE	DO	TB-950-JE-05104	11	12																								
950-XZ-06101	DO	TB-950-JE-06103	01	02	03721	03722	03723	03724	03598	1mm²	BK	WH	N/A	TS_05_07	03599	1	2	TB-05-07	01A	01B	05	07	01	CA_05_07	CA_05_08	R108	FGS_DO03B	035100
950-XL-06101	DO	TB-950-JE-06103	03	04	03725	03726	03727	03728	N/A	1mm²	BK	WH	N/A	TS_05_07		3	4	TB-05-07	02A	02B	05	07	02	CA_05_07	CA_05_08	-	FGS_DO01	
950-XL-06102	DO	TB-950-JE-06103	05	06	03729	03730	03731	03732	N/A	1mm²	BK	WH	N/A	TS_05_07		5	6	TB-05-07	03A	03B	05	07	03	CA_06_03	CA_06_04	-	FGS_DO01	
950-XL-06103	DO	TB-950-JE-06103	07	08	03733	03734	03735	03736	N/A	1mm²	BK	WH	N/A	TS_05_07		7	8	TB-05-07	04A	04B	05	07	04	CA_06_03	CA_06_04	-	FGS_DO01	
950-XL-06104	DO	TB-950-JE-06103	09	10	03737	03738	03739	03740	N/A	1mm²	BK	WH	N/A	TS_05_07		9	10	TB-05-07	05A	05B	05	07	05	CA_06_05	CA_06_06	-	FGS_DO01	
WS0120050711	DO	TB-950-JE-06103	11	12	03741	03742	03743	03744	N/A	1mm²	BK	WH	N/A	TS_05_07		11	12	TB-05-07	11A	11B	05	07	11	CA_06_05	CA_06_06	-	FGS_DO01	
950-XZ-06201	DO	TB-950-JE-06203	01	02	03745	03746	03747	03748	036108	1mm²	BK	WH	N/A	TS_05_07	035109	13	14	TB-05-07	06A	06B	05	07	06	CA_05_07	CA_05_08	R107	FGS_DO03B	036110
950-XL-06201	DO	TB-950-JE-06203	03	04	03749	03750	03751	03752	N/A	1mm²	BK	WH	N/A	TS_05_07		15	16	TB-05-07	07A	07B	05	07	07	CA_05_07	CA_05_08	-	FGS_DO01	
950-XL-06202	DO	TB-950-JE-06203	05	06	03753	03754	03755	03756	N/A	1mm²	BK	WH	N/A	TS_05_07		17	18	TB-05-07	08A	08B	05	07	08	CA_05_07	CA_05_08	-	FGS_DO01	
77-HY-001	DO	TB-950-JE-06203	07	08	03757	03758	03759	03760	03761	1mm²	BK	WH	RD	N/A				TB-05-07	09A	09B	05	07	09	CA_05_07	CA_05_08	KA5	FGS_DO02	
77-HY-002	DO	TB-950-JE-06203	09	10	03762	03763	03764	03765	03766	1mm²	BK	WH	RD	N/A				TB-05-07	10A	10B	05	07	10	CA_05_07	CA_05_08	KA6	FGS_DO02	
77-HY-003	DO	TB-950-JE-06203	11	12	03767	03768	03769	03770	03771	1mm²	BK	WH	RD	N/A				TB-03-07	10A	10B	03	07	10	CA_03_07	CA_03_08	KA1	FGS_DO02	
950-XZ-07101	DO	TB-950-JE-07101	01	02	03772	03773	03774	03775	03796	1mm²	BK	WH	N/A	TS_06_03	03797	1	2	TB-06-03	01A	01B	06	03	01	CA_06_03	CA_06_04	R109	FGS_DO03C	03798
950-XL-07101	DO	TB-950-JE-07101	03	04	03776	03777	03778	03779	N/A	1mm²	BK	WH	N/A	TS_06_03		3	4	TB-06-03	02A	02B	06	03	02	CA_06_03	CA_06_04	-	FGS_DO01	
950-XL-07102	DO	TB-950-JE-07101	05	06	03780	03781	03782	03783	N/A	1mm²	BK	WH	N/A	TS_06_03		5	6	TB-06-03	03A	03B	06	03	03	CA_06_03	CA_06_04	-	FGS_DO01	
WS0120050712	DO	TB-950-JE-07101	07	08	03784	03785	03786	03787	N/A	1mm²	BK	WH	N/A	TS_05_07		19	20	TB-05-07	12A	12B	05	07	12	CA_05_07	CA_05_08	-	FGS_DO01	
WS0120060310	DO	TB-950-JE-07101	09	10	03788	03789	03790	03791	N/A	1mm²	BK	WH	N/A	TS_06_03		7	8	TB-06-03	10A	10B	06	03	10	CA_06_03	CA_06_04	-	FGS_DO01	
WS0120060311	DO	TB-950-JE-07101	11	12	03792	03793	03794	03795	N/A	1mm²	BK	WH	N/A	TS_06_03		9	10	TB-06-03	11A	11B	06	03	11	CA_06_03	CA_06_04	-	FGS_DO01	

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 037

REV. 3

FGS PANEL - TB-B400-FGS-002-4 + TB-B400-FGS-002-5 + TB-B400-FGS-002-6 + TB-NC-200F2.01

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S.B NUM.	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	WIRE PS COLOUR	FUSE T.S. NAME	WIRE PS -	FUSE T.S. A NUM.	FUSE T.S. B NUM.	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY TAG	TYPICAL	WIRE + (C)
77-HY-015	DO	TB-B400-FGS-002-4	01	02	03801	03802	03803	03804	03805	1mm²	BK	WH	RD	N/A				TB-06-05	07A	07B	06	05	07	CA_06_05	CA_06_06	KA15	FGS_DO02	
77-HY-016	DO	TB-B400-FGS-002-4	03	04	03806	03807	03808	03809	03810	1mm²	BK	WH	RD	N/A				TB-06-05	08A	08B	06	05	08	CA_06_05	CA_06_06	KA16	FGS_DO02	
77-HY-012	DO	TB-B400-FGS-002-5	01	02	03811	03812	03813	03814	03815	1mm²	BK	WH	RD	N/A				TB-06-05	04A	04B	06	05	04	CA_06_05	CA_06_06	KA12	FGS_DO02	
77-HY-013	DO	TB-B400-FGS-002-5	03	04	03816	03817	03818	03819	03820	1mm²	BK	WH	RD	N/A				TB-06-05	05A	05B	06	05	05	CA_06_05	CA_06_06	KA13	FGS_DO02	
77-HY-014	DO	TB-B400-FGS-002-5	05	06	03821	03822	03823	03824	03825	1mm²	BK	WH	RD	N/A				TB-06-05	06A	06B	06	05	06	CA_06_05	CA_06_06	KA14	FGS_DO02	
950-XZ-04201	DO	TB-B400-FGS-002-6	01	02	03826	03827	03828	03829	036102	1mm²	BK	WH	N/A	TS_06_03	036103	11	12	TB-06-03	04A	04B	06	03	04	CA_06_03	CA_06_04	R104	FGS_DO03B	036104
950-XL-04201	DO	TB-B400-FGS-002-6	03	04	03830	03831	03832	03833	N/A	1mm²	BK	WH	N/A	TS_06_03		13	14	TB-06-03	05A	05B	06	03	05	CA_06_03	CA_06_04	-	FGS_DO01	
950-XL-04202	DO	TB-B400-FGS-002-6	05	06	03834	03835	03836	03837	N/A	1mm²	BK	WH	N/A	TS_06_03		15	16	TB-06-03	06A	06B	06	03	06	CA_06_03	CA_06_04	-	FGS_DO01	
72-XS-001	DO	TB-NC-200F2.01	01	02	03838	03839	03840	03841	N/A	1mm²	BK	WH	N/A	TS_06_03		17	18	TB-06-03	09A	09B	06	03	09	CA_06_03	CA_06_04	-	FGS_DO01	
72-XS-002	DO	TB-NC-200F2.01	03	04	03842	03843	03844	03845	N/A	1mm²	BK	WH	N/A	TS_06_05		19	20	TB-06-05	11A	11B	06	05	11	CA_06_05	CA_06_06	-	FGS_DO01	

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 038

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 039

REV. 3

FGS PANEL - TB-950-JE-01101 + TB-950-JE-01102 + TB-950-JE-02101

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	T.S. C NUM.	WIRE + (A)	WIRE - (A)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR +(A)	WIRE COLOUR - (B)	WIRE PS COLOUR	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-FDZ-01101	AI	TB-950-JE-01101	01	02	03	04001	04002	04003	1mm²	BK	WH	RD	TB-02-01	05A	05B	02	01	05	CA_01_02	CA_01_03	FGS_AI01
950-FDZ-01102	AI	TB-950-JE-01101	04	05	06	04004	04005	04006	1mm²	BK	WH	RD	TB-02-03	05A	05B	02	03	05	CA_04_05	CA_04_06	FGS_AI01
950-FDZ-01103	AI	TB-950-JE-01101	07	08	09	04007	04008	04009	1mm²	BK	WH	RD	TB-03-01	05A	05B	03	01	05	CA_07_08	CA_07_09	FGS_AI01
950-FDZ-01104	AI	TB-950-JE-01101	10	11	12	04010	04011	04012	1mm²	BK	WH	RD	TB-03-03	05A	05B	03	03	05	CA_10_11	CA_10_012	FGS_AI01
WS0120020112	AI	TB-950-JE-01101	13	14	15	04013	04014	04015	1mm²	BK	WH	RD	TB-02-01	12A	12B	02	01	12	CA_13_14	CA_13_015	FGS_AI01
SPARE	AI	TB-950-JE-01101	16	17	18																
950-GDZ-01101	AI	TB-950-JE-01102	1	2	3	04016	04017	04018	1mm²	BK	WH	RD	TB-02-01	11A	11B	02	01	11	CA_1_2	CA_1_03	FGS_AI01
950-GDZ-01102	AI	TB-950-JE-01102	4	5	6	04019	04020	04021	1mm²	BK	WH	RD	TB-02-03	13A	13B	02	03	13	CA_4_5	CA_4_06	FGS_AI01
950-GDZ-01103	AI	TB-950-JE-01102	7	8	9	04022	04023	04024	1mm²	BK	WH	RD	TB-04-01	16A	16B	04	01	16	CA_7_8	CA_7_09	FGS_AI01
WS0120020113	AI	TB-950-JE-01102	10	11	12	04025	04026	04027	1mm²	BK	WH	RD	TB-02-01	13A	13B	02	01	13	CA_10_11	CA_10_012	FGS_AI01
WS0120020315	AI	TB-950-JE-01102	13	14	15	04028	04029	04030	1mm²	BK	WH	RD	TB-02-03	15A	15B	02	03	15	CA_13_14	CA_13_015	FGS_AI01
SPARE	AI	TB-950-JE-01102	16	17	18																
950-FDZ-02101	AI	TB-950-JE-02101	01	02	03	04031	04032	04033	1mm²	BK	WH	RD	TB-02-01	04A	04B	02	01	04	CA_01_02	CA_01_03	FGS_AI01
950-FDZ-02102	AI	TB-950-JE-02101	04	05	06	04034	04035	04036	1mm²	BK	WH	RD	TB-02-03	04A	04B	02	03	04	CA_04_05	CA_04_06	FGS_AI01
950-FDZ-02103	AI	TB-950-JE-02101	07	08	09	04037	04038	04039	1mm²	BK	WH	RD	TB-03-01	04A	04B	03	01	04	CA_07_08	CA_07_09	FGS_AI01
950-FDZ-02104	AI	TB-950-JE-02101	10	11	12	04040	04041	04042	1mm²	BK	WH	RD	TB-03-03	04A	04B	03	03	04	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-02101	AI	TB-950-JE-02101	13	14	15	04043	04044	04045	1mm²	BK	WH	RD	TB-02-01	01A	01B	02	01	01	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-02102	AI	TB-950-JE-02101	16	17	18	04046	04047	04048	1mm²	BK	WH	RD	TB-02-01	02A	02B	02	01	02	CA_16_17	CA_16_018	FGS_AI01
950-GDZ-02103	AI	TB-950-JE-02101	19	20	21	04049	04050	04051	1mm²	BK	WH	RD	TB-02-01	03A	03B	02	01	03	CA_19_20	CA_19_021	FGS_AI01
950-GDZ-02104	AI	TB-950-JE-02101	22	23	24	04052	04053	04054	1mm²	BK	WH	RD	TB-02-03	01A	01B	02	03	01	CA_22_23	CA_22_024	FGS_AI01
950-GDZ-02105	AI	TB-950-JE-02101	25	26	27	04055	04056	04057	1mm²	BK	WH	RD	TB-02-03	02A	02B	02	03	02	CA_25_26	CA_25_027	FGS_AI01
950-GDZ-02106	AI	TB-950-JE-02101	28	29	30	04058	04059	04060	1mm²	BK	WH	RD	TB-02-03	03A	03B	02	03	03	CA_28_29	CA_28_030	FGS_AI01
WS0120020316	AI	TB-950-JE-02101	31	32	33	04061	04062	04063	1mm²	BK	WH	RD	TB-02-03	16A	16B	02	03	16	CA_31_32	CA_31_033	FGS_AI01
WS0120030114	AI	TB-950-JE-02101	34	35	36	04064	04065	04066	1mm²	BK	WH	RD	TB-03-01	14A	14B	03	01	14	CA_34_35	CA_34_036	FGS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - NIS ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 040

REV. 3

FGS PANEL - TB-950-JE-02102 + TB-950-JE-03101 + TB-950-JE-02103

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	T.S. C NUM.	WIRE + (A)	WIRE - (A)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A)	WIRE COLOUR - (B)	WIRE PS COLOUR	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-GDZ-02107	AI	TB-950-JE-02102	01	02	03	04101	04102	04103	1mm²	BK	WH	RD	TB-03-01	01A	01B	03	01	01	CA_01_02	CA_01_03	FGS_AI01
950-GDZ-02108	AI	TB-950-JE-02102	04	05	06	04104	04105	04106	1mm²	BK	WH	RD	TB-03-01	02A	02B	03	01	02	CA_04_05	CA_04_06	FGS_AI01
950-GDZ-02109	AI	TB-950-JE-02102	07	08	09	04107	04108	04109	1mm²	BK	WH	RD	TB-03-01	03A	03B	03	01	03	CA_07_08	CA_07_09	FGS_AI01
950-GDZ-02110	AI	TB-950-JE-02102	10	11	12	04110	04111	04112	1mm²	BK	WH	RD	TB-03-03	01A	01B	03	03	01	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-02111	AI	TB-950-JE-02102	13	14	15	04113	04114	04115	1mm²	BK	WH	RD	TB-03-03	02A	02B	03	03	02	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-02112	AI	TB-950-JE-02102	16	17	18	04116	04117	04118	1mm²	BK	WH	RD	TB-03-03	03A	03B	03	03	03	CA_16_17	CA_16_018	FGS_AI01
950-GDZ-02113	AI	TB-950-JE-02102	19	20	21	04119	04120	04121	1mm²	BK	WH	RD	TB-04-01	01A	01B	04	01	01	CA_19_20	CA_19_021	FGS_AI01
950-GDZ-02114	AI	TB-950-JE-02102	22	23	24	04122	04123	04124	1mm²	BK	WH	RD	TB-04-01	02A	02B	04	01	02	CA_22_23	CA_22_024	FGS_AI01
950-GDZ-02115	AI	TB-950-JE-02102	25	26	27	04125	04126	04127	1mm²	BK	WH	RD	TB-04-01	03A	03B	04	01	03	CA_25_26	CA_25_027	FGS_AI01
950-GDZ-02116	AI	TB-950-JE-02102	28	29	30	04128	04129	04130	1mm²	BK	WH	RD	TB-04-03	01A	01B	04	03	01	CA_28_29	CA_28_030	FGS_AI01
WS0120040113	AI	TB-950-JE-02102	31	32	33	04131	04132	04133	1mm²	BK	WH	RD	TB-04-01	13A	13B	04	01	13	CA_31_32	CA_31_033	FGS_AI01
WS0120040314	AI	TB-950-JE-02102	34	35	36	04134	04135	04136	1mm²	BK	WH	RD	TB-04-03	14A	14B	04	03	14	CA_34_35	CA_34_036	FGS_AI01
950-GDZ-02117	AI	TB-950-JE-02103	1	2	3	04140	04141	04142	1mm²	BK	WH	RD	TB-04-03	02A	02B	04	03	02	CA_1_2	CA_1_03	FGS_AI01
950-GDZ-02118	AI	TB-950-JE-02103	4	5	6	04143	04144	04145	1mm²	BK	WH	RD	TB-04-03	03A	03B	04	03	03	CA_4_5	CA_4_06	FGS_AI01
950-GDZ-02119	AI	TB-950-JE-02103	7	8	9	04146	04147	04148	1mm²	BK	WH	RD	TB-05-01	01A	01B	05	01	01	CA_7_8	CA_7_09	FGS_AI01
950-GDZ-02120	AI	TB-950-JE-02103	10	11	12	04149	04150	04151	1mm²	BK	WH	RD	TB-05-01	02A	02B	05	01	02	CA_10_11	CA_10_012	FGS_AI01
WS0110040315	AI	TB-950-JE-02103	13	14	15	04152	04153	04154	1mm²	BK	WH	RD	TB-04-03	15A	15B	04	03	15	CA_13_14	CA_13_015	FGS_AI01
SPARE	AI	TB-950-JE-02103	16	17	18																

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - NIS ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 041

REV. 3

FGS PANEL - TB-950-JE-03101 + TB-950-JE-03102 + TB-950-JE-04101

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	T.S. C NUM.	WIRE + (A)	WIRE - (A)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A)	WIRE COLOUR - (B)	WIRE PS COLOUR	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-GDZ-03101	AI	TB-950-JE-03101	01	02	03	04201	04202	04203	1mm²	BK	WH	RD	TB-03-01	13A	13B	03	01	13	CA_01_02	CA_01_03	FGS_AI01
950-GDZ-03102	AI	TB-950-JE-03101	04	05	06	04204	04205	04206	1mm²	BK	WH	RD	TB-03-03	08A	08B	03	03	08	CA_04_05	CA_04_06	FGS_AI01
950-GDZ-03103	AI	TB-950-JE-03101	07	08	09	04207	04208	04209	1mm²	BK	WH	RD	TB-04-01	08A	08B	04	01	08	CA_07_08	CA_07_09	FGS_AI01
950-GDZ-03104	AI	TB-950-JE-03101	10	11	12	04210	04211	04212	1mm²	BK	WH	RD	TB-04-03	08A	08B	04	03	08	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-03105	AI	TB-950-JE-03101	13	14	15	04213	04214	04215	1mm²	BK	WH	RD	TB-05-01	08A	08B	05	01	08	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-03107	AI	TB-950-JE-03101	16	17	18	04216	04217	04218	1mm²	BK	WH	RD	TB-02-01	08A	08B	02	01	08	CA_16_17	CA_16_018	FGS_AI01
950-GDZ-03108	AI	TB-950-JE-03101	19	20	21	04219	04220	04221	1mm²	BK	WH	RD	TB-02-03	08A	08B	02	03	08	CA_19_20	CA_19_021	FGS_AI01
950-GDZ-03109	AI	TB-950-JE-03101	22	23	24	04222	04223	04224	1mm²	BK	WH	RD	TB-03-01	08A	08B	03	01	08	CA_22_23	CA_22_024	FGS_AI01
WS0120020115	AI	TB-950-JE-03101	25	26	27	04225	04226	04227	1mm²	BK	WH	RD	TB-02-01	15A	15B	02	01	15	CA_25_26	CA_25_027	FGS_AI01
WS0120030115	AI	TB-950-JE-03101	28	29	30	04228	04229	04230	1mm²	BK	WH	RD	TB-03-01	15A	15B	03	01	15	CA_28_29	CA_28_030	FGS_AI01
WS0120030116	AI	TB-950-JE-03101	31	32	33	04231	04232	04233	1mm²	BK	WH	RD	TB-03-01	16A	16B	03	01	16	CA_31_32	CA_31_033	FGS_AI01
WS0120030311	AI	TB-950-JE-03101	34	35	36	04234	04235	04236	1mm²	BK	WH	RD	TB-03-03	11A	11B	03	03	11	CA_34_35	CA_34_036	FGS_AI01
950-FDZ-03101	AI	TB-950-JE-03102	1	2	3	04237	04238	04239	1mm²	BK	WH	RD	TB-02-01	07A	07B	02	01	07	CA_1_2	CA_1_03	FGS_AI01
950-FDZ-03102	AI	TB-950-JE-03102	4	5	6	04240	04241	04242	1mm²	BK	WH	RD	TB-02-03	07A	07B	02	03	07	CA_4_5	CA_4_06	FGS_AI01
950-FDZ-03103	AI	TB-950-JE-03102	7	8	9	04243	04244	04245	1mm²	BK	WH	RD	TB-03-01	07A	07B	03	01	07	CA_7_8	CA_7_09	FGS_AI01
950-FDZ-03104	AI	TB-950-JE-03102	10	11	12	04246	04247	04248	1mm²	BK	WH	RD	TB-03-03	07A	07B	03	03	07	CA_10_11	CA_10_012	FGS_AI01
WS0120020114	AI	TB-950-JE-03102	13	14	15	04249	04250	04251	1mm²	BK	WH	RD	TB-02-01	14A	14B	02	01	14	CA_13_14	CA_13_015	FGS_AI01
WS0120030312	AI	TB-950-JE-03102	16	17	18	04252	04253	04254	1mm²	BK	WH	RD	TB-03-03	12A	12B	03	03	12	CA_16_17	CA_16_018	FGS_AI01
950-FDZ-04101	AI	TB-950-JE-04101	01	02	03	04255	04256	04257	1mm²	BK	WH	RD	TB-02-01	06A	06B	02	01	06	CA_01_02	CA_01_03	FGS_AI01
950-FDZ-04102	AI	TB-950-JE-04101	04	05	06	04258	04259	04260	1mm²	BK	WH	RD	TB-02-03	06A	06B	02	03	06	CA_04_05	CA_04_06	FGS_AI01
950-FDZ-04103	AI	TB-950-JE-04101	07	08	09	04261	04262	04263	1mm²	BK	WH	RD	TB-03-01	06A	06B	03	01	06	CA_07_08	CA_07_09	FGS_AI01
950-FDZ-04104	AI	TB-950-JE-04101	10	11	12	04264	04265	04266	1mm²	BK	WH	RD	TB-03-03	06A	06B	03	03	06	CA_10_11	CA_10_012	FGS_AI01
SPARE	AI	TB-950-JE-04101	13	14	15																
SPARE	AI	TB-950-JE-04101	16	17	18																

FOR SIGNALS: 950-GDZ-03101-PS, 950-GDZ-03102-PS, 950-GDZ-03103-PS, 950-GDZ-03104-PS, 950-GDZ-03105-PS SEE PAG 021

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - NIS ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 042

REV. 3

FGS PANEL - TB-950-JE-04201 + TB-950-JE-04205 + TB-950-JE-05101

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	T.S. C NUM.	WIRE + (A)	WIRE - (A)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A)	WIRE COLOUR - (B)	WIRE PS COLOUR	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-GDZ-04213	AI	TB-950-JE-04201	01	02	03	04301	04302	04303	1mm²	BK	WH	RD	TB-02-01	09A	09B	02	01	09	CA_01_02	CA_01_03	FGS_AI01
950-GDZ-04214	AI	TB-950-JE-04201	04	05	06	04304	04305	04306	1mm²	BK	WH	RD	TB-02-03	11A	11B	02	03	11	CA_04_05	CA_04_06	FGS_AI01
950-GDZ-04215	AI	TB-950-JE-04201	07	08	09	04307	04308	04309	1mm²	BK	WH	RD	TB-03-01	11A	11B	03	01	11	CA_07_08	CA_07_09	FGS_AI01
950-GDZ-04216	AI	TB-950-JE-04201	10	11	12	04310	04311	04312	1mm²	BK	WH	RD	TB-02-01	10A	10B	02	01	10	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-04217	AI	TB-950-JE-04201	13	14	15	04313	04314	04315	1mm²	BK	WH	RD	TB-02-03	12A	12B	02	03	12	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-04218	AI	TB-950-JE-04201	16	17	18	04316	04317	04318	1mm²	BK	WH	RD	TB-03-01	12A	12B	03	01	12	CA_16_17	CA_16_018	FGS_AI01
950-GDZ-04207	AI	TB-950-JE-04205	01	02	03	04319	04320	04321	1mm²	BK	WH	RD	TB-04-01	04A	04B	04	01	04	CA_01_02	CA_01_03	FGS_AI01
950-GDZ-04208	AI	TB-950-JE-04205	04	05	06	04322	04323	04324	1mm²	BK	WH	RD	TB-04-03	04A	04B	04	03	04	CA_04_05	CA_04_06	FGS_AI01
950-GDZ-04209	AI	TB-950-JE-04205	07	08	09	04325	04326	04327	1mm²	BK	WH	RD	TB-05-01	04A	04B	05	01	04	CA_07_08	CA_07_09	FGS_AI01
950-GDZ-04210	AI	TB-950-JE-04205	10	11	12	04328	04329	04330	1mm²	BK	WH	RD	TB-04-01	05A	05B	04	01	05	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-04211	AI	TB-950-JE-04205	13	14	15	04331	04332	04333	1mm²	BK	WH	RD	TB-04-03	05A	05B	04	03	05	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-04212	AI	TB-950-JE-04205	16	17	18	04334	04335	04336	1mm²	BK	WH	RD	TB-05-01	05A	05B	05	01	05	CA_16_17	CA_16_018	FGS_AI01
950-FDZ-05101	AI	TB-950-JE-05101	01	02	03	04337	04338	04339	1mm²	BK	WH	RD	TB-02-03	10A	10B	02	03	10	CA_01_02	CA_01_03	FGS_AI01
950-FDZ-05102	AI	TB-950-JE-05101	04	05	06	04340	04341	04342	1mm²	BK	WH	RD	TB-03-01	10A	10B	03	01	10	CA_04_05	CA_04_06	FGS_AI01
950-FDZ-05103	AI	TB-950-JE-05101	07	08	09	04343	04344	04345	1mm²	BK	WH	RD	TB-03-03	10A	10B	03	03	10	CA_07_08	CA_07_09	FGS_AI01
950-FDZ-05104	AI	TB-950-JE-05101	10	11	12	04346	04347	04348	1mm²	BK	WH	RD	TB-04-01	10A	10B	04	01	10	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-05101	AI	TB-950-JE-05101	13	14	15	04349	04350	04351	1mm²	BK	WH	RD	TB-02-03	09A	09B	02	03	09	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-05102	AI	TB-950-JE-05101	16	17	18	04352	04353	04354	1mm²	BK	WH	RD	TB-03-01	09A	09B	03	01	09	CA_16_17	CA_16_018	FGS_AI01
950-GDZ-05103	AI	TB-950-JE-05101	19	20	21	04355	04356	04357	1mm²	BK	WH	RD	TB-03-03	09A	09B	03	03	09	CA_19_20	CA_19_021	FGS_AI01
950-GDZ-05104	AI	TB-950-JE-05101	22	23	24	04358	04359	04360	1mm²	BK	WH	RD	TB-04-01	09A	09B	04	01	09	CA_22_23	CA_22_024	FGS_AI01
950-GDZ-05105	AI	TB-950-JE-05101	25	26	27	04361	04362	04363	1mm²	BK	WH	RD	TB-04-03	09A	09B	04	03	09	CA_25_26	CA_25_027	FGS_AI01
950-GDZ-05106	AI	TB-950-JE-05101	28	29	30	04364	04365	04366	1mm²	BK	WH	RD	TB-05-01	09A	09B	05	01	09	CA_28_29	CA_28_030	FGS_AI01
WS0120040114	AI	TB-950-JE-05101	31	32	33	04367	04368	04369	1mm²	BK	WH	RD	TB-04-01	14A	14B	04	01	14	CA_31_32	CA_31_033	FGS_AI01
WS0120040115	AI	TB-950-JE-05101	34	35	36	04370	04371	04372	1mm²	BK	WH	RD	TB-04-01	15A	15B	04	01	15	CA_34_35	CA_34_036	FGS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - NIS ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 043

REV. 3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FGS PANEL - TB-950-JE-06101 + TB-950-JE-06201 + TB-B400-FGS-002-3

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	T.S. C NUM.	WIRE + (A)	WIRE - (A)	WIRE PS +	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A)	WIRE COLOUR - (B)	WIRE PS COLOUR	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-FDZ-06101	AI	TB-950-JE-06101	01	02	03	04401	04402	04403	1mm²	BK	WH	RD	TB-04-03	10A	10B	04	03	10	CA_01_02	CA_01_03	FGS_AI01
950-FDZ-06102	AI	TB-950-JE-06101	04	05	06	04404	04405	04406	1mm²	BK	WH	RD	TB-05-01	10A	10B	05	01	10	CA_04_05	CA_04_06	FGS_AI01
WS0120050113	AI	TB-950-JE-06101	07	08	09	04407	04408	04409	1mm²	BK	WH	RD	TB-05-01	13A	13B	05	01	13	CA_07_08	CA_07_09	FGS_AI01
WS0120050114	AI	TB-950-JE-06101	10	11	12	04410	04411	04412	1mm²	BK	WH	RD	TB-05-01	14A	14B	05	01	14	CA_10_11	CA_10_012	FGS_AI01
SPARE	AI	TB-950-JE-06101	13	14	15																
SPARE	AI	TB-950-JE-06101	16	17	18																
950-GDZ-06201	AI	TB-950-JE-06201	01	02	03	04413	04414	04415	1mm²	BK	WH	RD	TB-04-01	06A	06B	04	01	06	CA_01_02	CA_01_03	FGS_AI01
950-GDZ-06202	AI	TB-950-JE-06201	04	05	06	04416	04417	04418	1mm²	BK	WH	RD	TB-04-03	06A	06B	04	03	06	CA_04_05	CA_04_06	FGS_AI01
950-GDZ-06203	AI	TB-950-JE-06201	07	08	09	04419	04420	04421	1mm²	BK	WH	RD	TB-05-01	06A	06B	05	01	06	CA_07_08	CA_07_09	FGS_AI01
950-GDZ-06204	AI	TB-950-JE-06201	10	11	12	04422	04423	04424	1mm²	BK	WH	RD	TB-04-01	07A	07B	04	01	07	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-06205	AI	TB-950-JE-06201	13	14	15	04425	04426	04427	1mm²	BK	WH	RD	TB-04-03	07A	07B	04	03	07	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-06206	AI	TB-950-JE-06201	16	17	18	04428	04429	04430	1mm²	BK	WH	RD	TB-05-01	07A	07B	05	01	07	CA_16_17	CA_16_018	FGS_AI01
950-GDZ-04201	AI	TB-B400-FGS-002-3	01	02	03	04431	04432	04433	1mm²	BK	WH	RD	TB-04-01	11A	11B	04	01	11	CA_01_02	CA_01_03	FGS_AI01
950-GDZ-04202	AI	TB-B400-FGS-002-3	04	05	06	04434	04435	04436	1mm²	BK	WH	RD	TB-04-03	11A	11B	04	03	11	CA_04_05	CA_04_06	FGS_AI01
950-GDZ-04203	AI	TB-B400-FGS-002-3	07	08	09	04437	04438	04439	1mm²	BK	WH	RD	TB-05-01	11A	11B	05	01	11	CA_07_08	CA_07_09	FGS_AI01
950-GDZ-04204	AI	TB-B400-FGS-002-3	10	11	12	04440	04441	04442	1mm²	BK	WH	RD	TB-04-01	12A	12B	04	01	12	CA_10_11	CA_10_012	FGS_AI01
950-GDZ-04205	AI	TB-B400-FGS-002-3	13	14	15	04443	04444	04445	1mm²	BK	WH	RD	TB-04-03	12A	12B	04	03	12	CA_13_14	CA_13_015	FGS_AI01
950-GDZ-04206	AI	TB-B400-FGS-002-3	16	17	18	04446	04447	04448	1mm²	BK	WH	RD	TB-05-01	12A	12B	05	01	12	CA_16_17	CA_16_018	FGS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - NIS ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 044

REV. 3

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Page 1367 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 045

REV. 3

FGS PANEL - TB-950-JE-04204 + TB-950-JE-04208 + TB-950-JE-06204 + TB-B400-FGS-002-2

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM	WIRE + (A)	WIRE - (A)	WIRE SECTION (A+B+PS)	WIRE COLOUR + (A)	WIRE COLOUR - (B)	T.B. NAME	T.B. IN +	T.B.IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
950-SDZ-04213	AI	TB-950-JE-04204	01	02	04601	04602	1mm²	LB	LB	TB-01-01	05A	05B	01	01	05	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-04214	AI	TB-950-JE-04204	03	04	04603	04604	1mm²	LB	LB	TB-01-03	05A	05B	01	03	05	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-04215	AI	TB-950-JE-04204	05	06	04605	04606	1mm²	LB	LB	TB-01-05	05A	05B	01	05	05	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-04216	AI	TB-950-JE-04204	07	08	04607	04608	1mm²	LB	LB	TB-01-01	06A	06B	01	01	06	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-04217	AI	TB-950-JE-04204	09	10	04609	04610	1mm²	LB	LB	TB-01-03	06A	06B	01	03	06	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-04218	AI	TB-950-JE-04204	11	12	04611	04612	1mm²	LB	LB	TB-01-05	06A	06B	01	05	06	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-04207	AI	TB-950-JE-04208	01	02	04613	04614	1mm²	LB	LB	TB-01-01	03A	03B	01	01	03	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-04208	AI	TB-950-JE-04208	03	04	04615	04616	1mm²	LB	LB	TB-01-03	03A	03B	01	03	03	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-04209	AI	TB-950-JE-04208	05	06	04617	04618	1mm²	LB	LB	TB-01-05	03A	03B	01	05	03	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-04210	AI	TB-950-JE-04208	07	08	04619	04620	1mm²	LB	LB	TB-01-01	04A	04B	01	01	04	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-04211	AI	TB-950-JE-04208	09	10	04621	04622	1mm²	LB	LB	TB-01-03	04A	04B	01	03	04	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-04212	AI	TB-950-JE-04208	11	12	04623	04624	1mm²	LB	LB	TB-01-05	04A	04B	01	05	04	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-06201	AI	TB-950-JE-06204	01	02	04625	04626	1mm²	LB	LB	TB-01-01	07A	07B	01	01	07	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-06202	AI	TB-950-JE-06204	03	04	04627	04628	1mm²	LB	LB	TB-01-03	07A	07B	01	03	07	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-06203	AI	TB-950-JE-06204	05	06	04629	04630	1mm²	LB	LB	TB-01-05	07A	07B	01	05	07	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-06204	AI	TB-950-JE-06204	07	08	04631	04632	1mm²	LB	LB	TB-01-01	08A	08B	01	01	08	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-06205	AI	TB-950-JE-06204	09	10	04633	04634	1mm²	LB	LB	TB-01-03	08A	08B	01	03	08	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-06206	AI	TB-950-JE-06204	11	12	04635	04636	1mm²	LB	LB	TB-01-05	08A	08B	01	05	08	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-04201	AI	TB-B400-FGS-002-2	01	02	04637	04638	1mm²	LB	LB	TB-01-01	01A	01B	01	01	01	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-04202	AI	TB-B400-FGS-002-2	03	04	04639	04640	1mm²	LB	LB	TB-01-03	01A	01B	01	03	01	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-04203	AI	TB-B400-FGS-002-2	05	06	04641	04642	1mm²	LB	LB	TB-01-05	01A	01B	01	05	01	CA_01_05	CA_01_06	FGS_AI02
950-SDZ-04204	AI	TB-B400-FGS-002-2	07	08	04643	04644	1mm²	LB	LB	TB-01-01	02A	02B	01	01	02	CA_01_01	CA_01_02	FGS_AI02
950-SDZ-04205	AI	TB-B400-FGS-002-2	09	10	04645	04646	1mm²	LB	LB	TB-01-03	02A	02B	01	03	02	CA_01_03	CA_01_04	FGS_AI02
950-SDZ-04206	AI	TB-B400-FGS-002-2	11	12	04647	04648	1mm²	LB	LB	TB-01-05	02A	02B	01	05	02	CA_01_05	CA_01_06	FGS_AI02
WS0110010109	AI	TB-B400-FGS-002-2	13	14	04649	04650	1mm²	LB	LB	TB-01-01	09A	09B	01	01	09	CA_01_01	CA_01_02	FGS_AI02
WS0110010110	AI	TB-B400-FGS-002-2	15	16	04651	04652	1mm²	LB	LB	TB-01-01	10A	10B	01	01	10	CA_01_01	CA_01_02	FGS_AI02
WS0110010309	AI	TB-B400-FGS-002-2	17	18	04653	04654	1mm²	LB	LB	TB-01-03	09A	09B	01	03	09	CA_01_03	CA_01_04	FGS_AI02
WS0110010310	AI	TB-B400-FGS-002-2	19	20	04655	04656	1mm²	LB	LB	TB-01-03	10A	10B	01	03	10	CA_01_03	CA_01_04	FGS_AI02
WS0110010509	AI	TB-B400-FGS-002-2	21	22	04657	04658	1mm²	LB	LB	TB-01-05	09A	09B	01	05	09	CA_01_05	CA_01_06	FGS_AI02
WS0110010510	AI	TB-B400-FGS-002-2	23	24	04659	04660	1mm²	LB	LB	TB-01-05	10A	10B	01	05	10	CA_01_05	CA_01_06	FGS_AI02

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
FGS PANEL - IS ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 046

REV. 3

SIS PANEL - POWER DISTRIBUTION FROM UPS LINE 1

230Vac-50Hz
FROM UPS#1
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS1_S 1 2 3

04701 BR 6 mm² | 04703 LB 6 mm² | 00611 YG 6 mm² | PE

CB_UPS1_S
(048-B02)

(048-C02)
(048-C02)

MS1_S
230Vac
32A

04704 BR 6 mm² | 04702 LB 6 mm²

	Q55	Q56	Q57	Q58	Q59
Cable	04705 BR 2,5 mm² / 04706 LB 2,5 mm²	04707 BR 2,5 mm² / 04708 LB 2,5 mm²	04709 BR 2,5 mm² / 04710 LB 2,5 mm²	04711 BR 2,5 mm² / 04712 LB 2,5 mm²	04713 BR 2,5 mm² / 04714 LB 2,5 mm²
Device	Q55 230Vac 16A "C" CURVE	Q56 230Vac 6A "D" CURVE	Q57 230Vac 6A "D" CURVE	Q58 230Vac 6A "D" CURVE	Q59 230Vac 10A "C" CURVE
Aux	13-14 (058-B02)	13-14 (058-A02)	13-14 (058-A03)	13-14 (058-B03)	21-22 (058-C03)
Load cable	05601 BR 2,5 mm² / 05602 LB 2,5 mm²	06301 BR 1,5 mm² / 06302 LB 1,5 mm²	06401 BR 1,5 mm² / 06402 LB 1,5 mm²	06501 BR 1,5 mm² / 06502 LB 1,5 mm²	SPARE
Load	(056-B02) / (056-B02) POWER SUPPLY G1_S	(063-G02) / (063-G02) POWER SUPPLY (1) RACK "1" SPW482-53	(064-G02) / (064-G02) POWER SUPPLY (1) RACK "2" SPW482-53	(065-G02) / (065-G02) POWER SUPPLY (1) RACK "3" SPW482-53	

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 047

REV. 3



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 048

REV. 3

SIS PANEL - POWER DISTRIBUTION FROM UPS LINE 2

230Vac-50Hz
FROM UPS#2
(BY CUSTOMER)

TB-PS2_S 1 2 3 — CUSTOMER CONNECTION POINT

04901 BR 6 mm² — 04903 LB 6 mm² — 00611 YG 6 mm² — PE

CB_UPS2_S
(050-B02)
N P P N P N P N P N P N P N
(050-C02)
(050-C02)

MS2_S
230Vac
32A
1 3 2 4

04904 BR 6 mm² — 04902 LB 6 mm²

	04905 BR 2,5 mm² / 04906 LB 2,5 mm²	04907 BR 2,5 mm² / 04908 LB 2,5 mm²	04909 BR 2,5 mm² / 04910 LB 2,5 mm²	04911 BR 2,5 mm² / 04912 LB 2,5 mm²	04913 BR 2,5 mm² / 04914 LB 2,5 mm²
	Q60	Q61	Q62	Q63	Q64
	230Vac 16A "C" CURVE	230Vac 6A "D" CURVE	230Vac 6A "D" CURVE	230Vac 6A "D" CURVE	230Vac 10A "C" CURVE
	(058-D03)	(058-E03)	(058-F03)	(058-G03)	(058-F04)
	05603 BR 2,5 mm² / 05604 LB 2,5 mm²	06303 BR 1,5 mm² / 06304 LB 1,5 mm²	06403 BR 1,5 mm² / 06404 LB 1,5 mm²	06503 BR 1,5 mm² / 06504 LB 1,5 mm²	SPARE
	(056-H02) (056-H02)	(063-H02) (063-H02)	(064-H02) (064-H02)	(065-H02) (065-H02)	
	POWER SUPPLY G2_S	POWER SUPPLY (2) RACK "1" SPW482-53	POWER SUPPLY (2) RACK "2" SPW482-53	POWER SUPPLY (2) RACK "3" SPW482-53	

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND — ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK — SCALE : 1

A3 — DRAWING NO. 1724000594-IN-DG-00021 — SHEET 049 — REV. 3



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

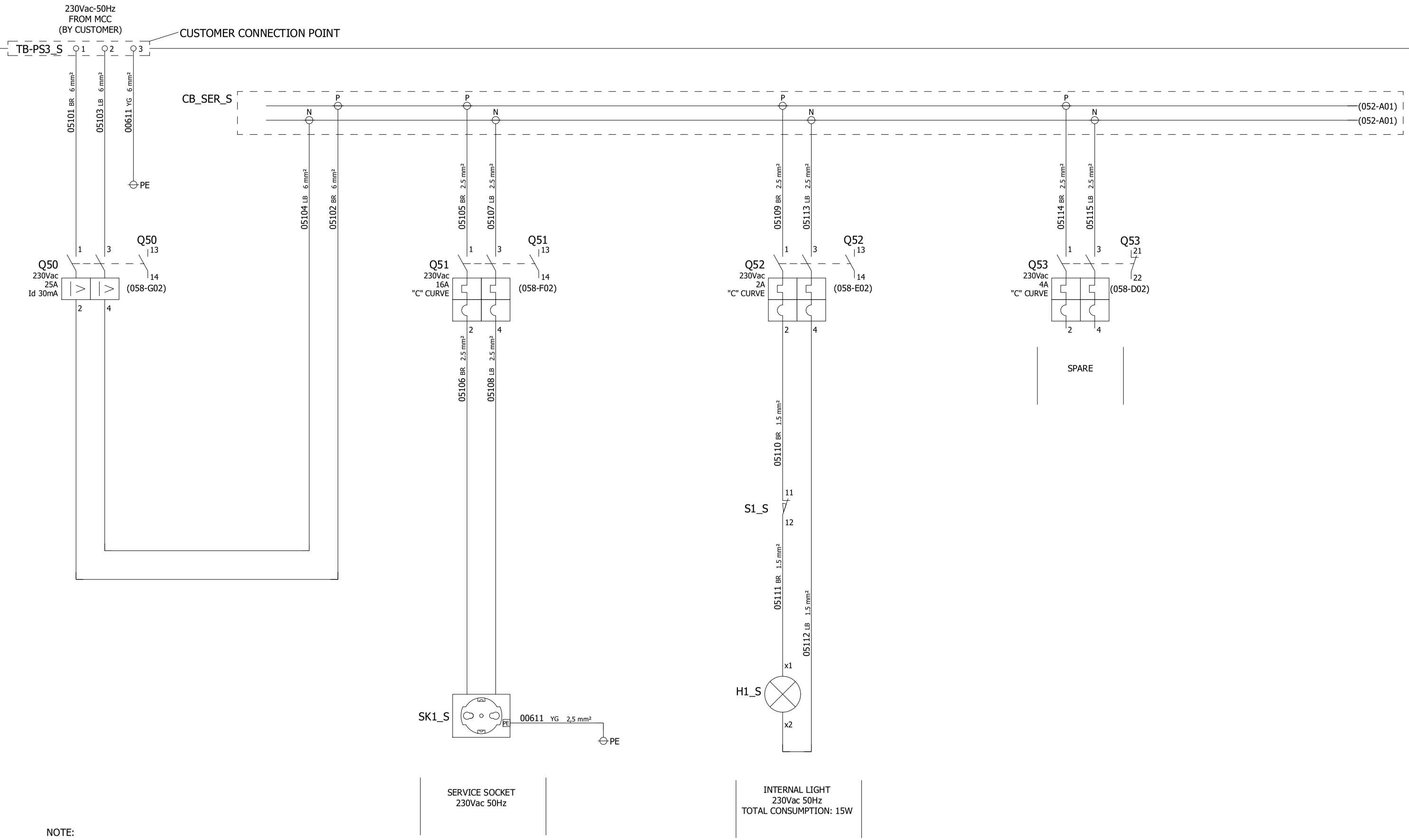
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 050

REV. 3

SIS PANEL - POWER DISTRIBUTION FROM NON UPS



NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

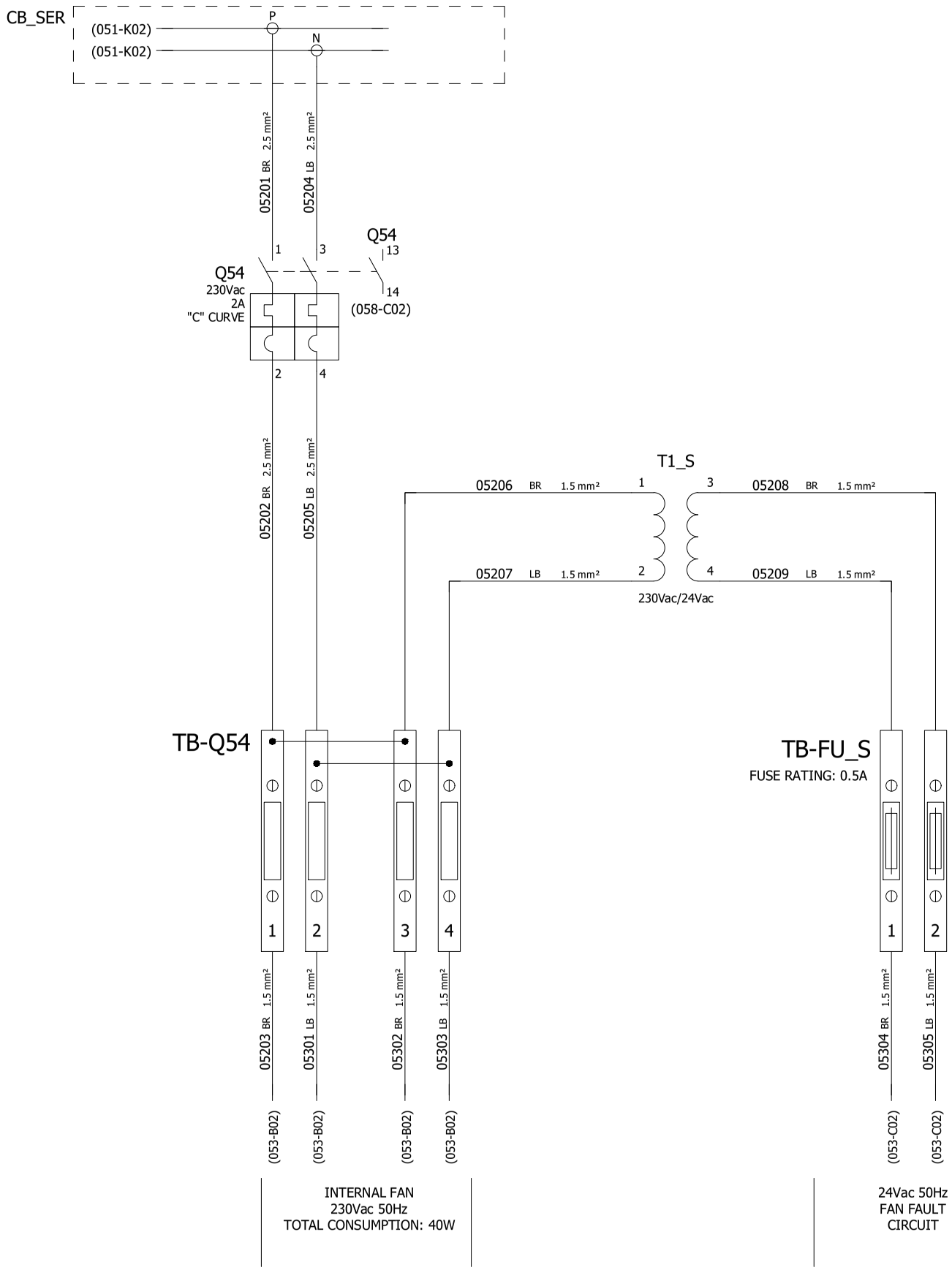
SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 051

REV. 3



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

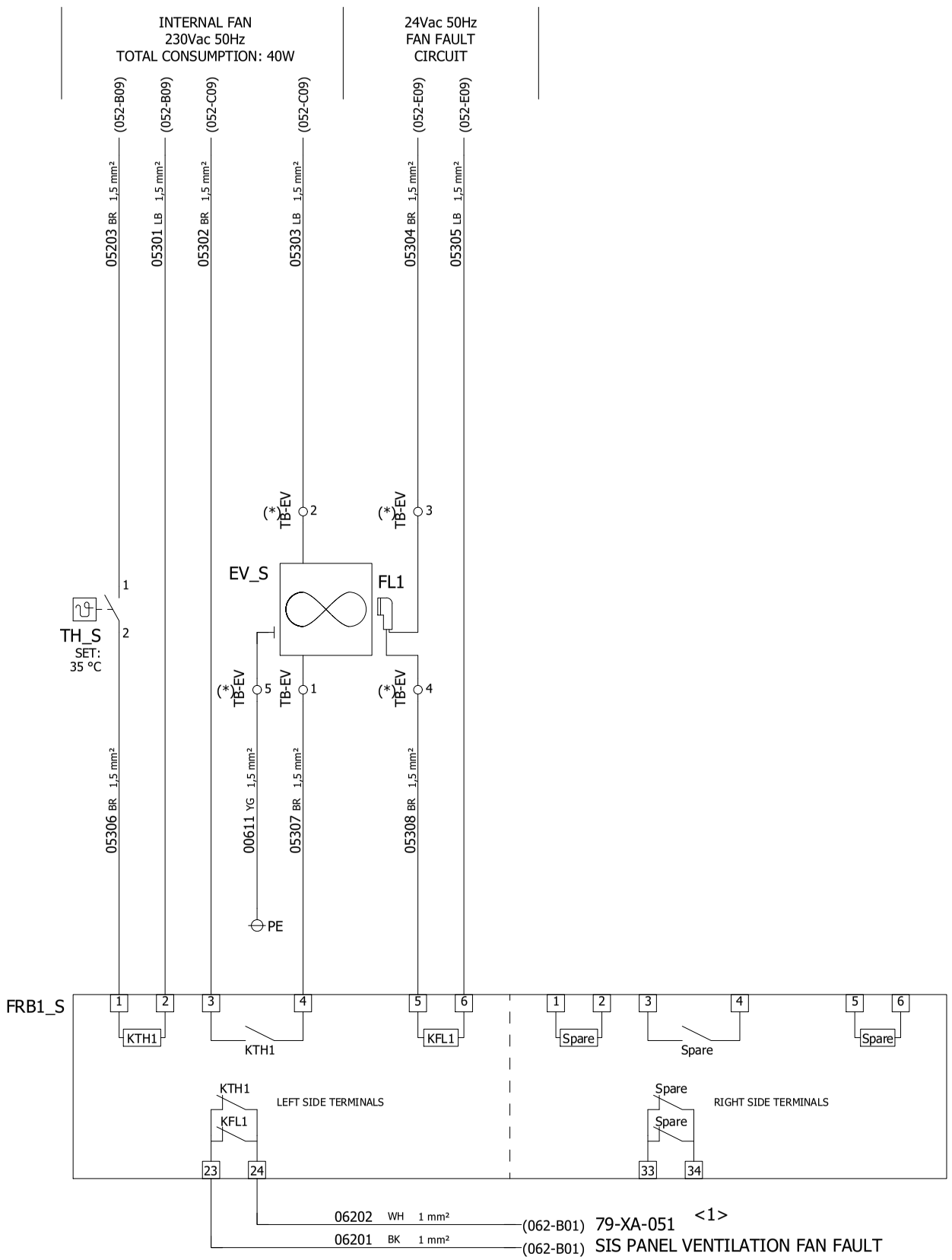
SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 052

REV. 3



NOTE (*):
TB-EV IS A FEED THROUGH TERMINAL BOARD FOR
PRE-WIRED ITEMS CONNECTION. FOR THIS REASON,
WIRE NUMBERS WILL BE THE SAME ON BOTH SIDES.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

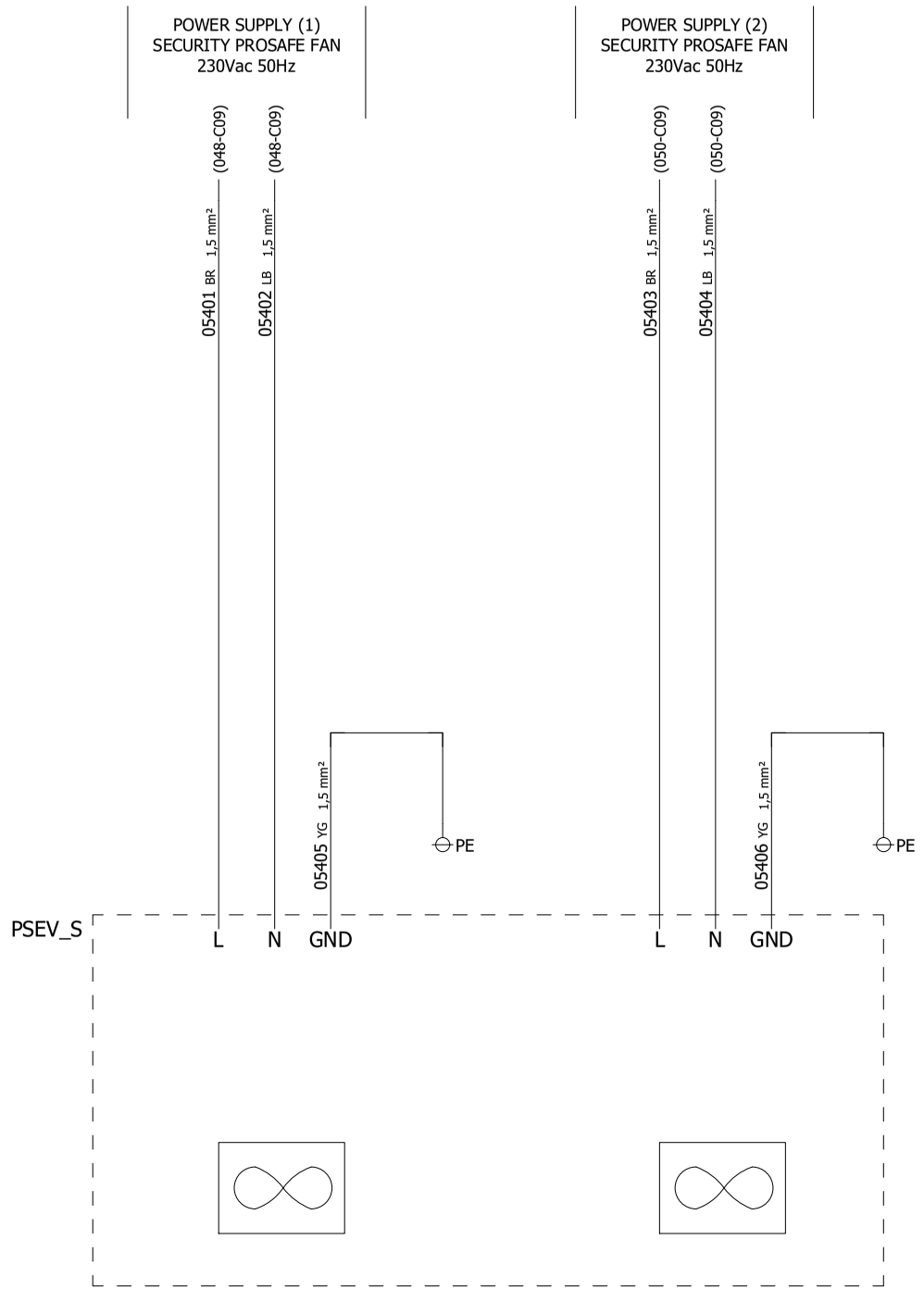
CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3 DRAWING NO. 1724000594-IN-DG-00021
SHEET 053
REV. 3

SIS PANEL - 230Vac 50Hz POWER DISTRIBUTION SECURITY PROSAFE FAN



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac 50Hz POWER DISTRIBUTION SECURITY PROSAFE FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 054

REV. 3

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Page 1377 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 055

REV. 3

SIS PANEL - 230Vac/24Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(047-D09) 05601 BR 2.5 mm²
(047-D09) 05602 LB 2.5 mm²

G1_S
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-) AC DC 13 14 PE + + - -

06203 WH 1 mm² (062-B02)
05613 WH 1 mm²
00611 YG 2,5 mm² PE

79-XA-052
SIS PANEL POWER SUPPLY
24Vdc FAILURE

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(049-D09) 05603 BR 2.5 mm²
(049-D09) 05604 LB 2.5 mm²

G2_S
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-) AC DC 13 14 PE + + - -

05613 WH 1 mm²
06204 BK 1 mm² (062-B02)
00611 YG 2,5 mm² PE

79-XA-052
SIS PANEL POWER SUPPLY
24Vdc FAILURE

05605 RD 4 mm² 05607 BU 4 mm² 05606 RD 4 mm² 05610 BU 4 mm²

VD1_S
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN2- OUT+ OUT-

05608 RD 6 mm² 05611 BU 6 mm²

Q65
24Vdc
32A
"C" CURVE
1 3 13 14 (058-E05)
2 4

05609 RD 6 mm² 05612 BU 6 mm²

CB_24Vdc_S
(061-A01) + -

05614 RD 4 mm² 05616 BU 4 mm² 05615 RD 4 mm² 05619 BU 4 mm²

VD2_S
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN1- OUT+ OUT-

05617 RD 6 mm² 05620 BU 6 mm²

Q66
24Vdc
32A
"C" CURVE
1 3 13 14 (058-D05)
2 4

05618 RD 6 mm² 05621 BU 6 mm²

(061-A01)
(061-A01)

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 056

REV. 3

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REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

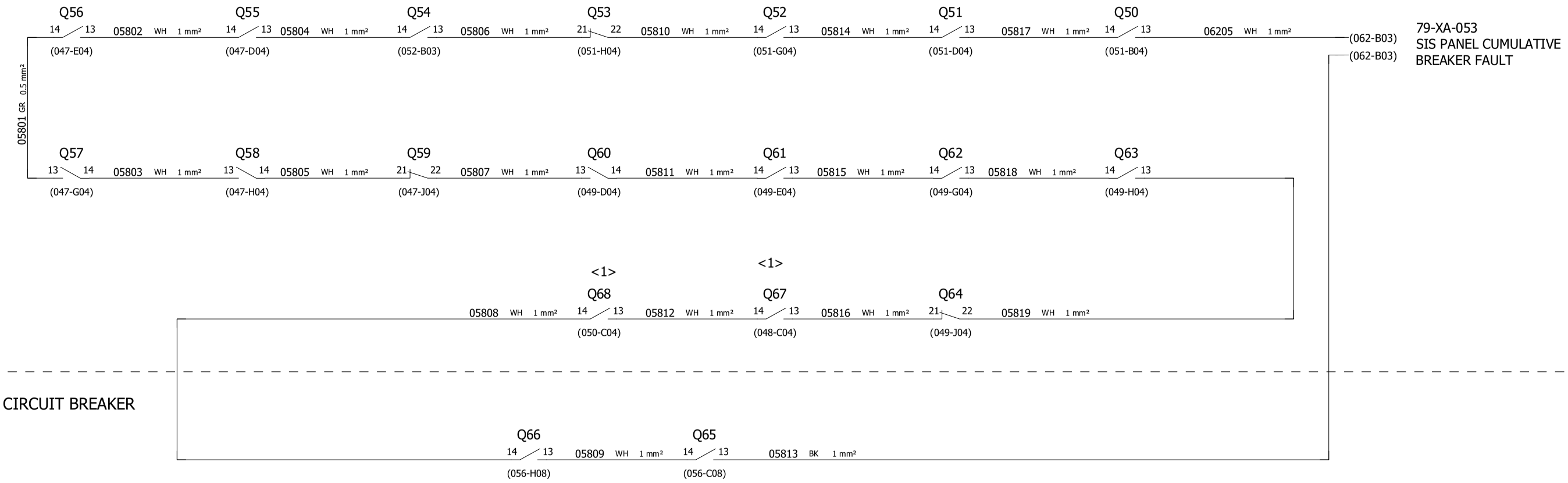
DRAWING NO. 1724000594-IN-DG-00021

SHEET 057

REV. 3

SIS PANEL - BRAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



79-XA-053
SIS PANEL CUMULATIVE
BREAKER FAULT

24Vdc CIRCUIT BREAKER

NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - BREAKER FAULT ALARM CIRCUIT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

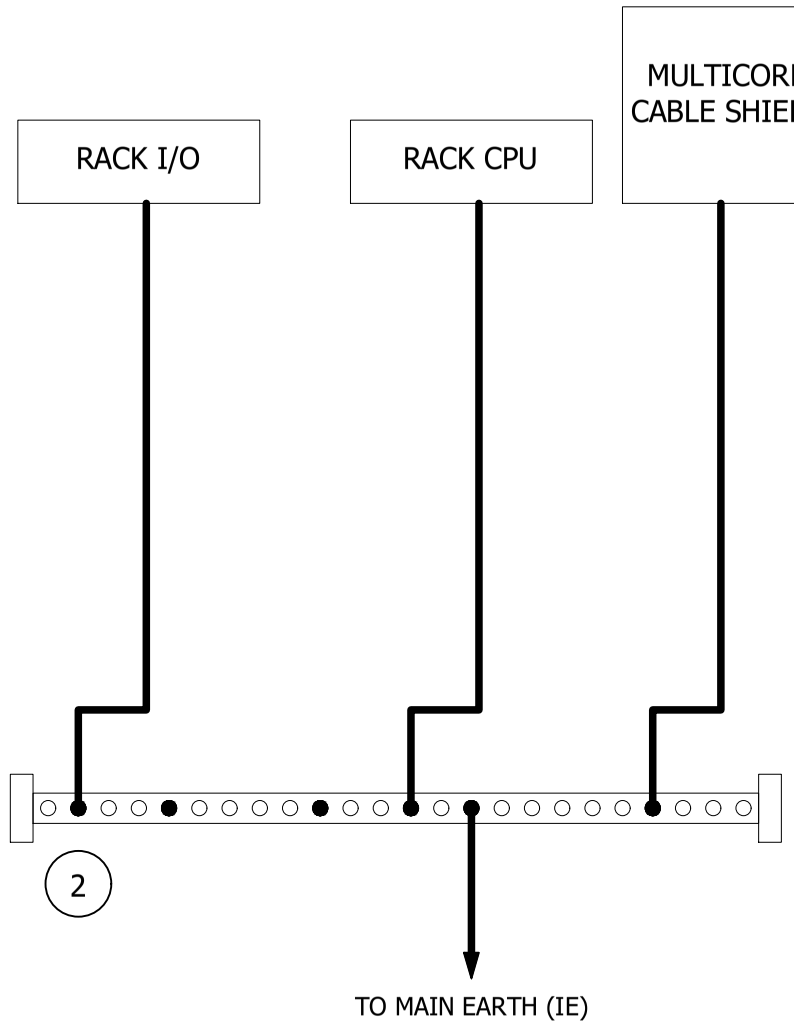
DRAWING NO.
1724000594-IN-DG-00021

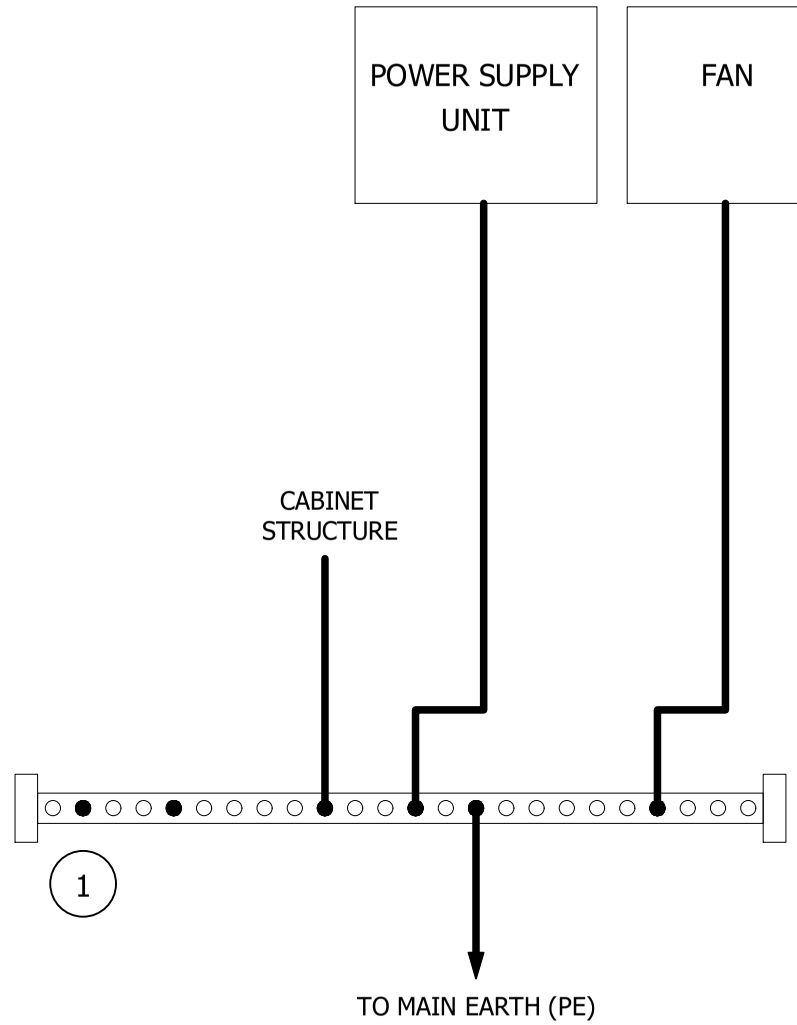
SHEET 058

REV. 3

SIS PANEL - SHIELD/GROUND CONNECTION

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)
2	I.E. EARTH	INSTRUMENTAL EARTH





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CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

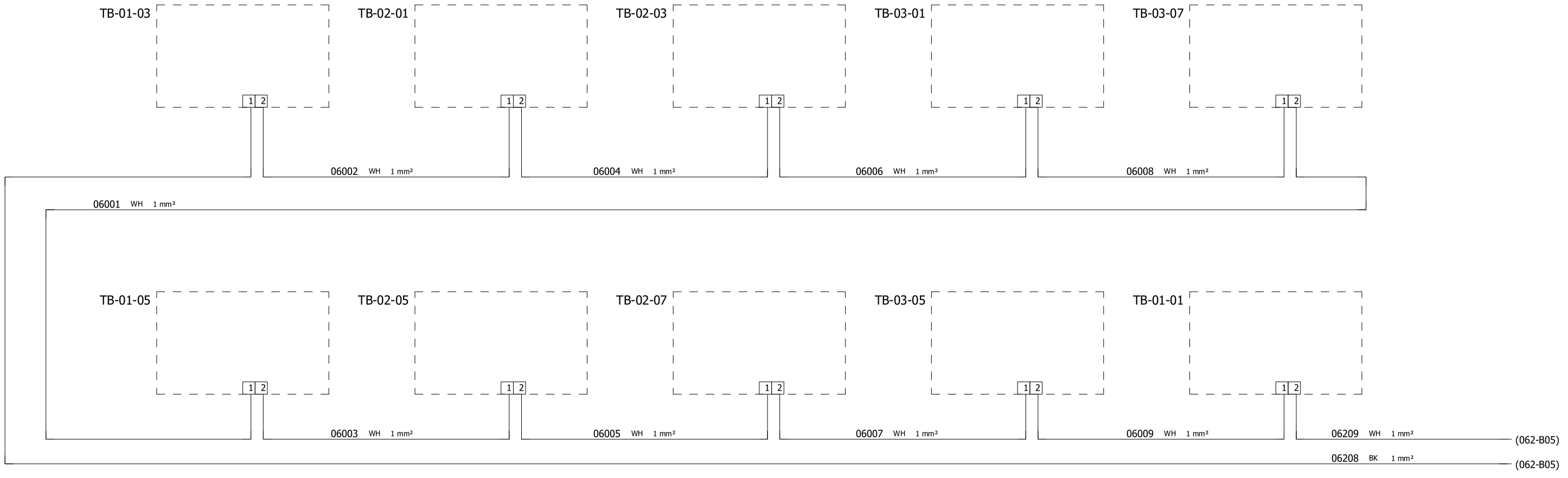
A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 059

REV. 3

SIS PANEL - TB FAULT SIGNALS



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - TB FAULT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

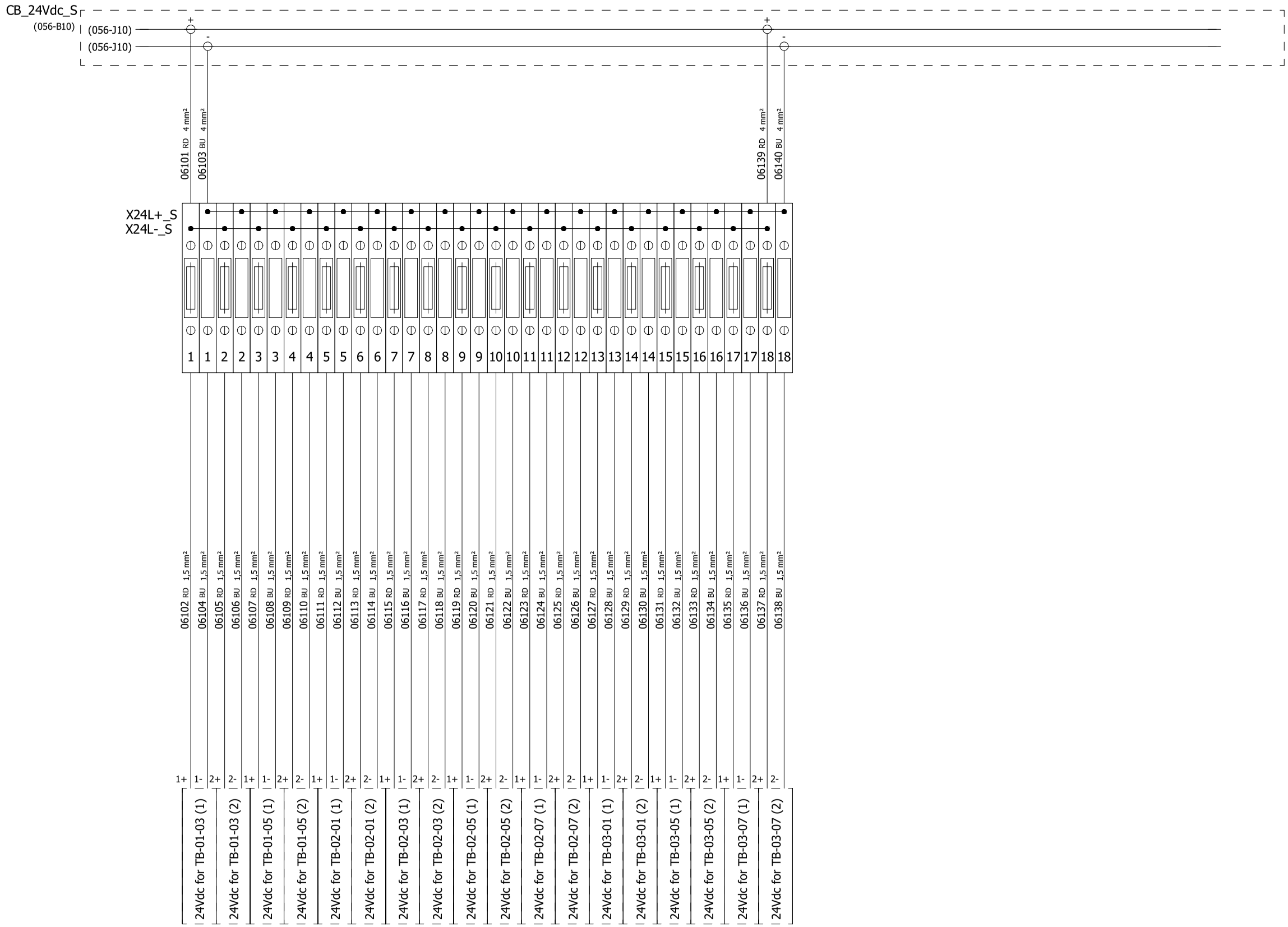
DRAWING NO.
1724000594-IN-DG-00021

SHEET 060

REV. 3

SIS PANEL - 24Vdc POWER DISTRIBUTION

-



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 061

REV. 3

SIS PANEL - FAULT ALARM SIGNALS TO DCS

79-XA-051	(053-C10)	06202	WH	1 mm²	01A	IN 01	SLOT 7	NODE 3	79-XA-051
-	(053-C10)	06201	BK	1 mm²	01B	IN 01	SLOT 7	NODE 3	-
					01C	IN 01	SLOT 7	NODE 3	
79-XA-052	(056-C04)	06203	WH	1 mm²	02A	IN 02	SLOT 7	NODE 3	79-XA-052
-	(056-J04)	06204	BK	1 mm²	02B	IN 02	SLOT 7	NODE 3	-
					02C	IN 02	SLOT 7	NODE 3	
79-XA-053	(058-J02)	06205	WH	1 mm²	03A	IN 03	SLOT 7	NODE 3	79-XA-053
-	(058-J02)	05813	BK	1 mm²	03B	IN 03	SLOT 7	NODE 3	-
					03C	IN 03	SLOT 7	NODE 3	
79-XA-054	1 THH_S 2 SET: 40 °C	06206	WH	1 mm²	04A	IN 04	SLOT 7	NODE 3	79-XA-054
-		06207	BK	1 mm²	04B	IN 04	SLOT 7	NODE 3	-
					04C	IN 04	SLOT 7	NODE 3	
79-XA-055	(060-K06)	06209	WH	1 mm²	<2> 05A	IN 05	SLOT 7	NODE 3	79-XA-055
-	(060-K06)	06208	BK	1 mm²	<2> 05B	IN 05	SLOT 7	NODE 3	-
					<2> 05C	IN 05	SLOT 7	NODE 3	
SIS001-UA-05	13 AT_01_S 14	07533	WH	1 mm²	<2> 14A	IN 14	SLOT 3	NODE 1	SIS001-UA-05
-		07534	BK	1 mm²	<2> 14B	IN 14	SLOT 3	NODE 1	-
					<2> 14C	IN 14	SLOT 3	NODE 1	

	CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
<2>	79-XA-051	SIS PANEL VENTILATION FAN FAULT
<2>	79-XA-052	SIS PANEL POWER SUPPLY & DIODES FAILURE
<2>	79-XA-053	SIS PANEL CUMULATIVE BREAKER FAULT
<2>	79-XA-054	SIS PANEL HIGH TEMPERATURE ALARM
<2>	79-XA-055	SIS PANEL DIGITAL / ANALOG TB CUMULATIVE FAULT

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
SIS001-UA-05	SIS PANEL KEY SELECTOR
-	-
-	-
-	-
-	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - FAULT ALARM SIGNALS TO DCS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

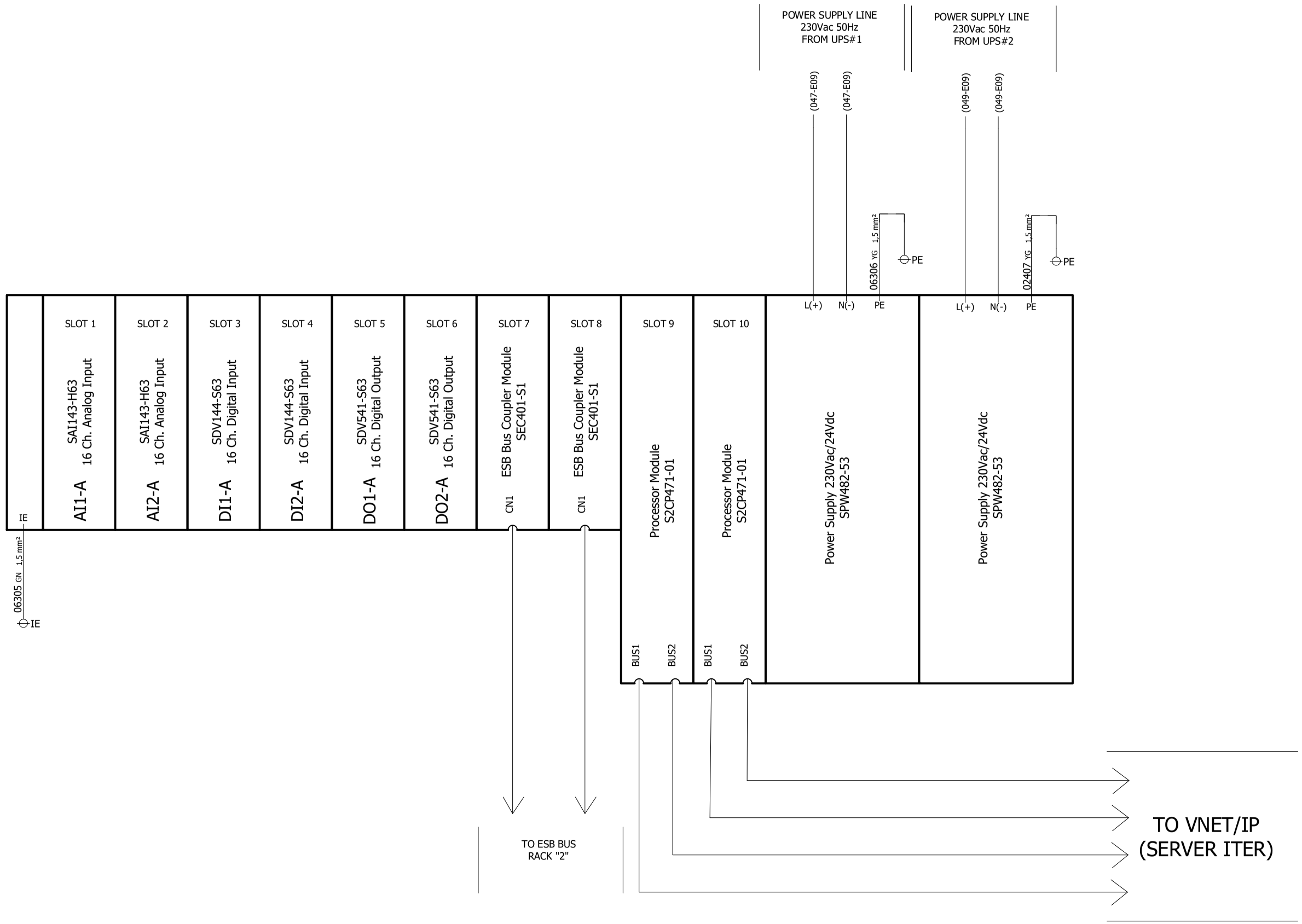
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 062

REV. 3

SIS PANEL - RACK "1" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - RACK "1" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

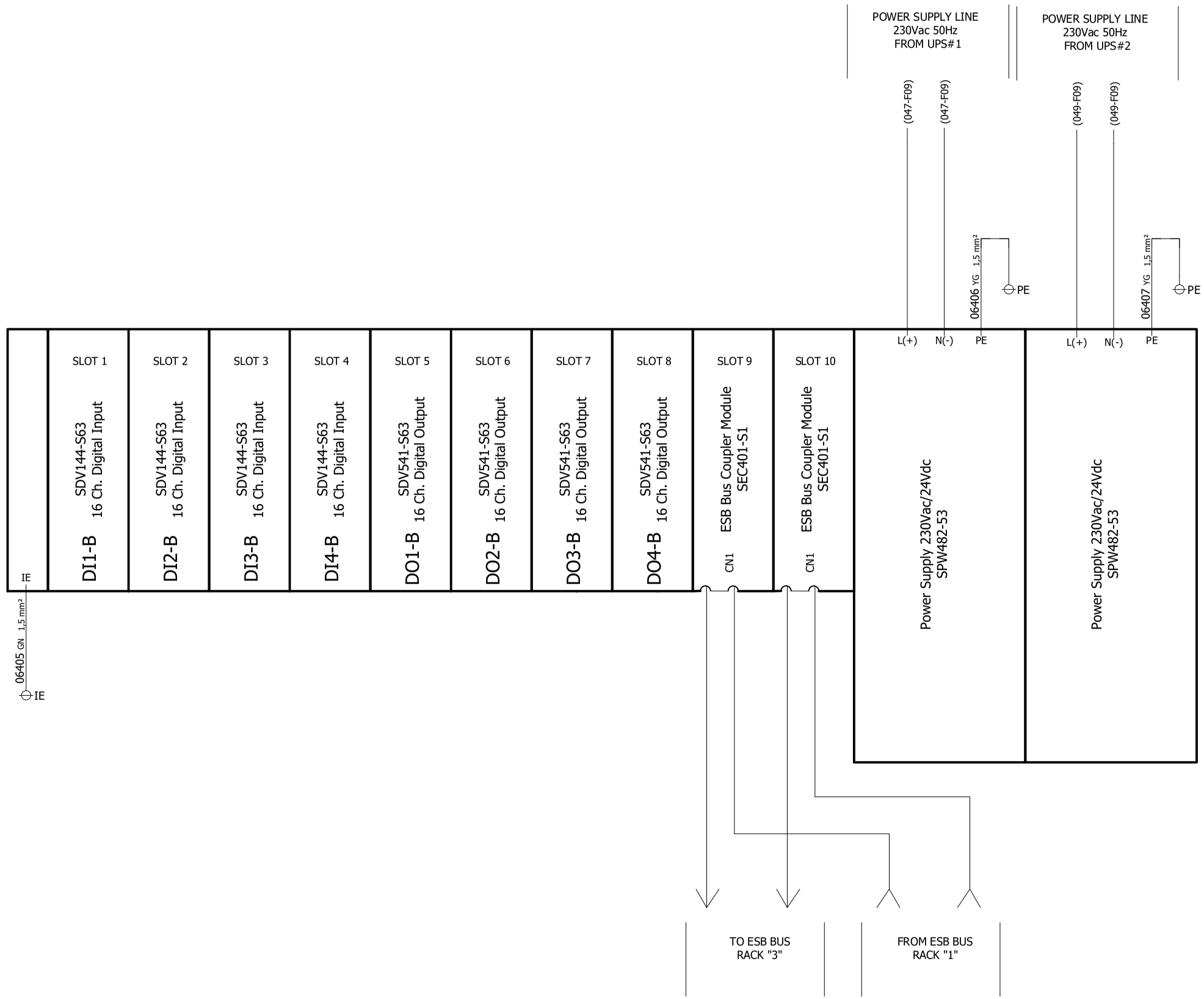
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 063

REV. 3

SIS PANEL - RACK "2" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - RACK "2" POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

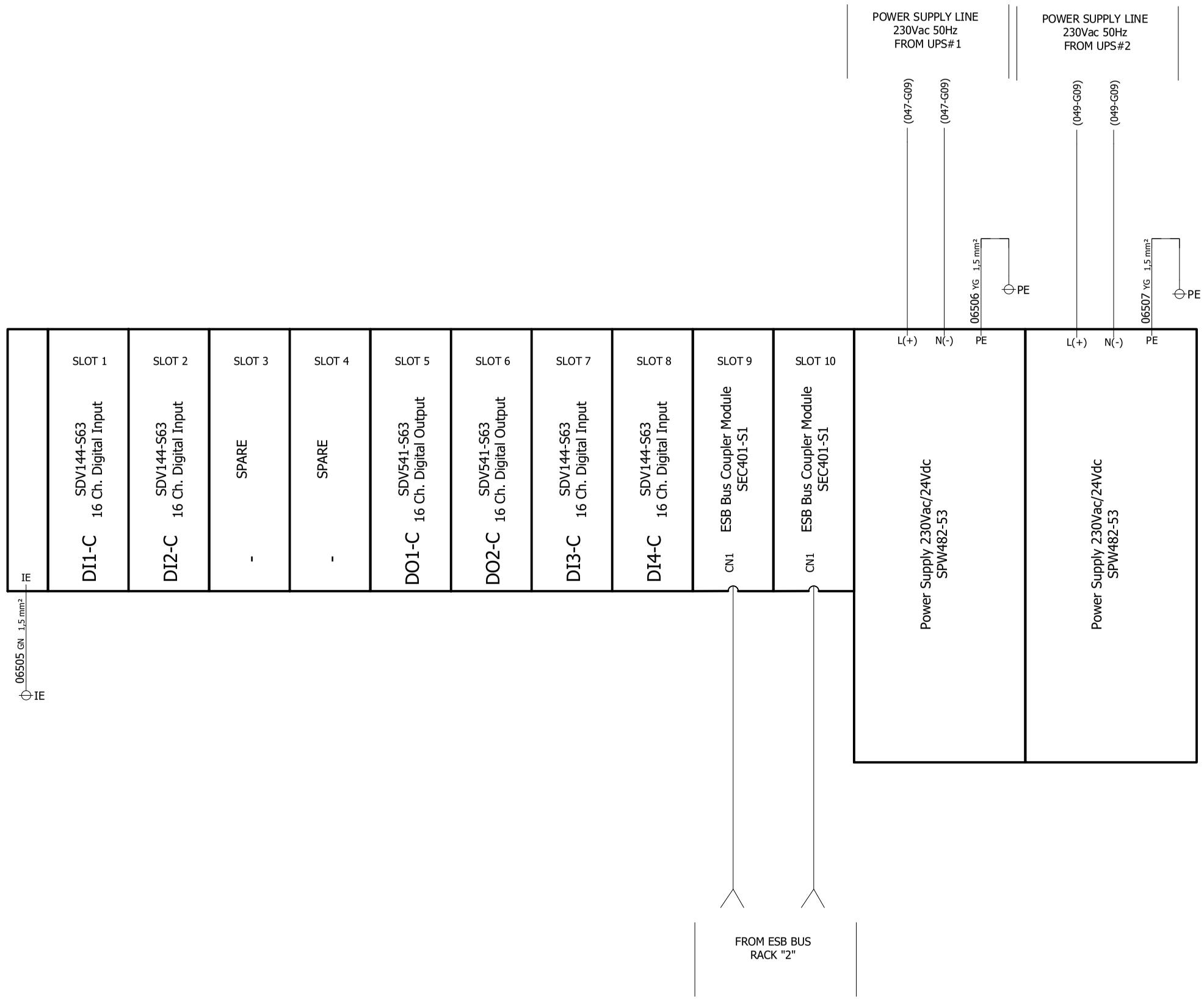
A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 064

REV. 3

SIS PANEL - RACK "3" POWER DISTRIBUTION



REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

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CROSSWIND

ROSETTI MARINO

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SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - RACK "3" POWER DISTRIBUTION

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SCALE : 1

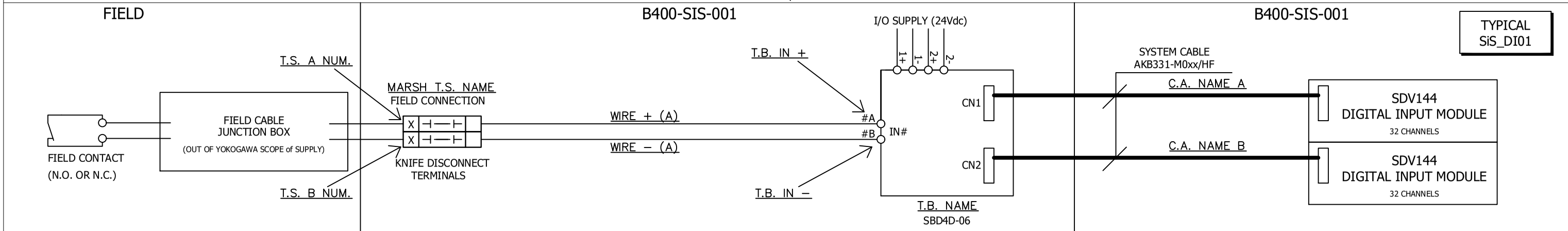
A3

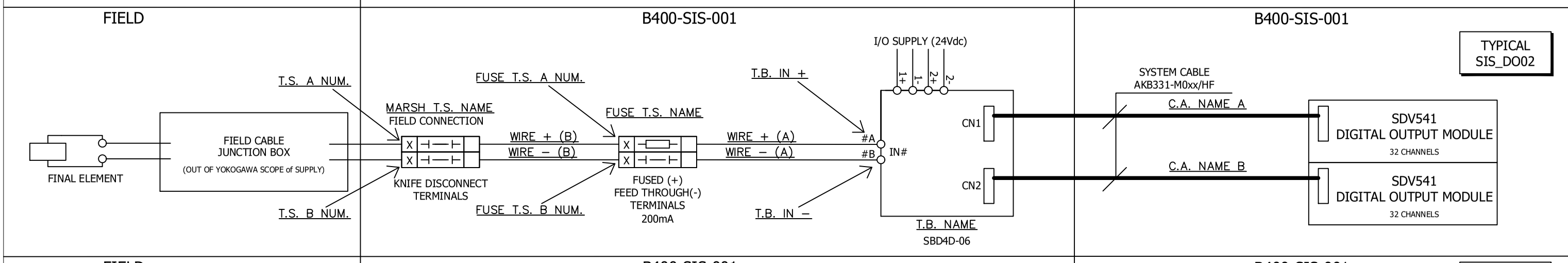
DRAWING NO. 1724000594-IN-DG-00021

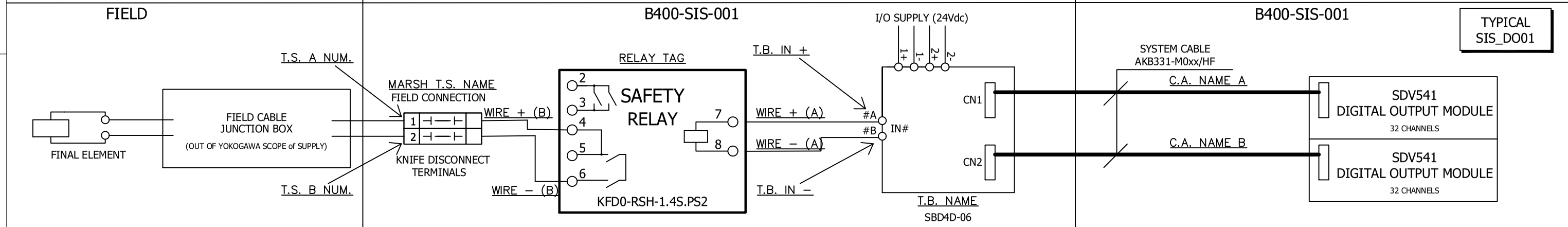
SHEET 065

REV. 3

SIS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT







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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - TYPICAL WIRING DIGITAL INPUT/OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

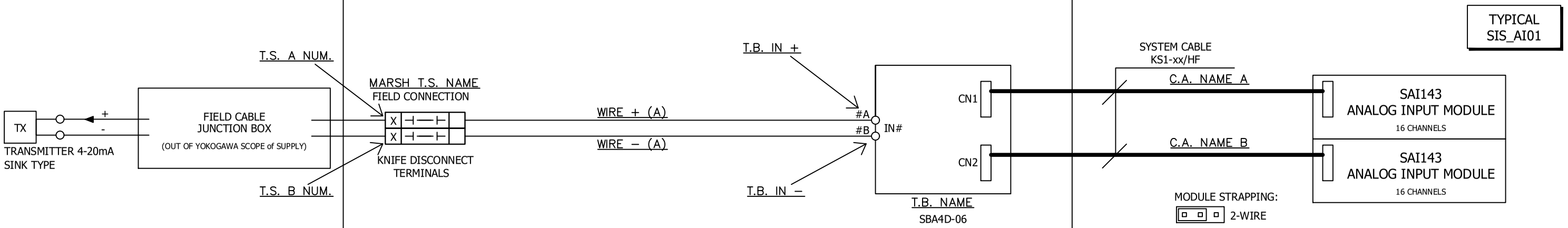
DRAWING NO. 1724000594-IN-DG-00021

SHEET 066

REV. 3

SIS PANEL - TYPICAL WIRING ANALOG INPUT

FIELD | B400-SIS-001 | B400-SIS-001



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - TYPICAL WIRING ANALOG INPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00021 | SHEET 067 | REV. 3

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2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 068

REV. 3

SIS PANEL - TB-00-JE-23001 + TB-00-JE-23002 + TB-UP-200F3

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM.	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE SECTION (A+B)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	FUSE T.S. NAME	FUSE T.S. A NUM	FUSE T.S. B NUM	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY	TYPICAL
25-BDY-005	DO	TB-00-JE-23001	1	2	06901	06902	06903	06904	1mm²	BK	WH	TS-01-05	1	2	TB-01-05	05A	05B	01	05	05	CA_01_05	CA_01_06	-	ESD_DO2
25-BDY-007	DO	TB-00-JE-23001	3	4	06905	06906	06907	06908	1mm²	BK	WH	TS-01-05	3	4	TB-01-05	06A	06B	01	05	06	CA_01_05	CA_01_06	-	ESD_DO2
25-BDY-010	DO	TB-00-JE-23001	5	6	06909	06910	06911	06912	1mm²	BK	WH	TS-01-05	5	6	TB-01-05	07A	07B	01	05	07	CA_01_05	CA_01_06	-	ESD_DO2
25-BDY-013	DO	TB-00-JE-23001	7	8	06913	06914	06915	06916	1mm²	BK	WH	TS-01-05	7	8	TB-01-05	08A	08B	01	05	08	CA_01_05	CA_01_06	-	ESD_DO2
25-BDY-016	DO	TB-00-JE-23001	9	10	06917	06918	06919	06920	1mm²	BK	WH	TS-01-05	9	10	TB-01-05	09A	09B	01	05	09	CA_01_05	CA_01_06	-	ESD_DO2
25-BDY-019	DO	TB-00-JE-23001	11	12	06921	06922	06923	06924	1mm²	BK	WH	TS-01-05	11	12	TB-01-05	10A	10B	01	05	10	CA_01_05	CA_01_06	-	ESD_DO2
SPARE	DO	TB-00-JE-23001	13	14																				
SPARE	DO	TB-00-JE-23001	15	16																				
SPARE	DO	TB-00-JE-23001	17	18																				
SPARE	DO	TB-00-JE-23001	19	20																				
SPARE	DO	TB-00-JE-23001	21	22																				
SPARE	DO	TB-00-JE-23001	23	24																				
25-SDY-001	DO	TB-00-JE-23002	1	2	06925	06926	06927	06928	1mm²	BK	WH	TS-01-05	13	14	TB-01-05	12A	12B	01	05	12	CA_01_05	CA_01_06	-	ESD_DO2
WS0110010513	DO	TB-00-JE-23002	3	4	06929	06930	06931	06932	1mm²	BK	WH	TS-01-05	15	16	TB-01-05	13A	13B	01	05	13	CA_01_05	CA_01_06	-	ESD_DO2
25-BDY-022	DO	TB-00-JE-23002	5	6	06933	06934	06935	06936	1mm²	BK	WH	TS-01-05	17	18	TB-01-05	11A	11B	01	05	11	CA_01_05	CA_01_06	-	ESD_DO2
25-SDY-023	DO	TB-00-JE-23002	7	8	06937	06938	06939	06940	1mm²	BK	WH	TS-02-05	1	2	TB-02-05	04A	04B	02	05	04	CA_02_05	CA_02_06	-	ESD_DO2
64-SDY-001	DO	TB-00-JE-23002	9	10	06941	06942	06943	06944	1mm²	BK	WH	TS-02-05	3	4	TB-02-05	09A	09B	02	05	09	CA_02_05	CA_02_06	-	ESD_DO2
WS0110010514	DO	TB-00-JE-23002	11	12	06945	06946	06947	06948	1mm²	BK	WH	TS-01-05	19	20	TB-01-05	14A	14B	01	05	14	CA_01_05	CA_01_06	-	ESD_DO2
84-XS-001	DO	TB-UP-200F3	1	2	06949	06950	06951	06952	1mm²	BK	WH	TS-02-07	1	2	TB-02-07	12A	12B	02	07	12	CA_02_07	CA_02_08	-	ESD_DO2
84-XS-002	DO	TB-UP-200F3	3	4	06953	06954	06955	06956	1mm²	BK	WH	TS-03-05	1	2	TB-03-05	01A	01B	03	05	01	CA_03_05	CA_03_06	-	ESD_DO2
84-XS-003	DO	TB-UP-200F3	5	6	06957	06958	06959	06960	1mm²	BK	WH	TS-03-05	3	4	TB-03-05	02A	02B	03	05	02	CA_03_05	CA_03_06	-	ESD_DO2
84-XS-004	DO	TB-UP-200F3	7	8	06961	06962	06963	06964	1mm²	BK	WH	TS-03-05	5	6	TB-03-05	03A	03B	03	05	03	CA_03_05	CA_03_06	-	ESD_DO2
84-XS-005	DO	TB-UP-200F3	9	10	06965	06966	06967	06968	1mm²	BK	WH	TS-03-05	7	8	TB-03-05	04A	04B	03	05	04	CA_03_05	CA_03_06	-	ESD_DO2
84-XS-010	DO	TB-UP-200F3	11	12	06969	06970	06971	06972	1mm²	BK	WH	TS-03-05	9	10	TB-03-05	07A	07B	03	05	07	CA_03_05	CA_03_06	-	ESD_DO2

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 069

REV. 3

SIS PANEL - TB-XS-000

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM.	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE SECTION (A+B)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	FUSE T.S. NAME	FUSE T.S. A NUM	FUSE T.S. B NUM	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY	TYPICAL
83-XS-001A	DO	TB-XS-000	1	2	07001	07002	07003	07004	1mm²	BK	WH	TS-01-05	21	22	TB-01-05	01A	01B	01	05	01	CA_01_05	CA_01_06	-	ESD_DO2
84-XS-007A	DO	TB-XS-000	3	4	07005	07006	07007	07008	1mm²	BK	WH	TS-01-05	23	24	TB-01-05	02A	02B	01	05	02	CA_01_05	CA_01_06	-	ESD_DO2
84-XS-008A	DO	TB-XS-000	5	6	07009	07010	07011	07012	1mm²	BK	WH	TS-01-05	25	26	TB-01-05	03A	03B	01	05	03	CA_01_05	CA_01_06	-	ESD_DO2
20-XS-001	DO	TB-XS-000	7	8	07013	07014	07015	07016	1mm²	BK	WH	TS-01-05	27	28	TB-01-05	04A	04B	01	05	04	CA_01_05	CA_01_06	-	ESD_DO2
83-XS-001B	DO	TB-XS-000	9	10	07017	07018	07019	07020	1mm²	BK	WH	TS-02-05	5	6	TB-02-05	01A	01B	02	05	01	CA_02_05	CA_02_06	-	ESD_DO2
84-XS-007B	DO	TB-XS-000	11	12	07021	07022	07023	07024	1mm²	BK	WH	TS-02-05	7	8	TB-02-05	02A	02B	02	05	02	CA_02_05	CA_02_06	-	ESD_DO2
84-XS-008B	DO	TB-XS-000	13	14	07025	07026	07027	07028	1mm²	BK	WH	TS-02-05	9	10	TB-02-05	03A	03B	02	05	03	CA_02_05	CA_02_06	-	ESD_DO2
50-XS-001	DO	TB-XS-000	15	16	07029	07030	07031	07032	1mm²	BK	WH	TS-02-05	11	12	TB-02-05	05A	05B	02	05	05	CA_02_05	CA_02_06	-	ESD_DO2
63-XS-001	DO	TB-XS-000	17	18	07033	07034	07035	07036	1mm²	BK	WH	TS-02-05	13	14	TB-02-05	08A	08B	02	05	08	CA_02_05	CA_02_06	-	ESD_DO2
64-XS-001	DO	TB-XS-000	19	20	07037	07038	07039	07040	1mm²	BK	WH	TS-02-05	15	16	TB-02-05	10A	10B	02	05	10	CA_02_05	CA_02_06	-	ESD_DO2
77-XS-001	DO	TB-XS-000	21	22	07041	07042	07043	07044	1mm²	BK	WH	TS-02-05	17	18	TB-02-05	11A	11B	02	05	11	CA_02_05	CA_02_06	-	ESD_DO2
77-XS-002	DO	TB-XS-000	23	24	07045	07046	07047	07048	1mm²	BK	WH	TS-02-05	19	20	TB-02-05	12A	12B	02	05	12	CA_02_05	CA_02_06	-	ESD_DO2
77-XS-003	DO	TB-XS-000	25	26	07049	07050	07051	07052	1mm²	BK	WH	TS-02-07	3	4	TB-02-07	01A	01B	02	07	01	CA_02_07	CA_02_08	-	ESD_DO2
77-XS-004	DO	TB-XS-000	27	28	07053	07054	07055	07056	1mm²	BK	WH	TS-02-07	5	6	TB-02-07	02A	02B	02	07	02	CA_02_07	CA_02_08	-	ESD_DO2
80-XS-001	DO	TB-XS-000	29	30	07057	07058	07059	07060	1mm²	BK	WH	TS-02-07	7	8	TB-02-07	07A	07B	02	07	07	CA_02_07	CA_02_08	-	ESD_DO2
81-XS-001	DO	TB-XS-000	31	32	07061	07062	07063	07064	1mm²	BK	WH	TS-02-07	9	10	TB-02-07	08A	08B	02	07	08	CA_02_07	CA_02_08	-	ESD_DO2
82-XS-001	DO	TB-XS-000	33	34	07065	07066	07067	07068	1mm²	BK	WH	TS-02-07	11	12	TB-02-07	09A	09B	02	07	09	CA_02_07	CA_02_08	-	ESD_DO2
82-XS-002	DO	TB-XS-000	35	36	07069	07070	07071	07072	1mm²	BK	WH	TS-02-07	13	14	TB-02-07	10A	10B	02	07	10	CA_02_07	CA_02_08	-	ESD_DO2
82-XS-003	DO	TB-XS-000	37	38	07073	07074	07075	07076	1mm²	BK	WH	TS-02-07	15	16	TB-02-07	11A	11B	02	07	11	CA_02_07	CA_02_08	-	ESD_DO2

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 070

REV. 3

SIS PANEL - DIGITAL SIGNALS

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S.A NUM.	WIRE + (A)	WIRE - (A)	WIRE + (B)	WIRE - (B)	WIRE SECTION (A+B)	WIRE COLOUR + (A+B)	WIRE COLOUR - (A+B)	FUSE T.S. NAME	FUSE T.S. A NUM	FUSE T.S. B NUM	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	RELAY	TYPICAL
84-XS-006	DO	TB-XS-000	39	40	07101	07102	07103	07104	1mm²	BK	WH	TS-03-05	11	12	TB-03-05	05A	05B	03	05	05	CA_03_05	CA_03_06	-	ESD_DO2
84-XS-009	DO	TB-XS-000	41	42	07105	07106	07107	07108	1mm²	BK	WH	TS-03-05	13	14	TB-03-05	06A	06B	03	05	06	CA_03_05	CA_03_06	-	ESD_DO2
84-XS-011	DO	TB-XS-000	43	44	07109	07110	07111	07112	1mm²	BK	WH	TS-03-05	15	16	TB-03-05	08A	08B	03	05	08	CA_03_05	CA_03_06	-	ESD_DO2
85-XS-001	DO	TB-XS-000	45	46	07113	07114	07115	07116	1mm²	BK	WH	TS-03-05	17	18	TB-03-05	09A	09B	03	05	09	CA_03_05	CA_03_06	-	ESD_DO2
79-XS-010	DO	TB-XS-000	47	48	07117	07118	07119	07120	1mm²	BK	WH	TS-03-05	19	20	TB-03-05	10A	10B	03	05	10	CA_03_05	CA_03_06	-	ESD_DO2
WS0110030511	DO	TB-XS-000	49	50	07121	07122	07123	07124	1mm²	BK	WH	TS-03-05	21	22	TB-03-05	11A	11B	03	05	11	CA_03_05	CA_03_06	-	ESD_DO2
WS0110020513	DO	TB-XS-000	51	52	07125	07126	07127	07128	1mm²	BK	WH	-	-	-	TB-02-05	13A	13B	02	05	13	CA_02_05	CA_02_06	KA1	ESD_DO1
WS0110020514	DO	TB-XS-000	53	54	07129	07130	07131	07132	1mm²	BK	WH	-	-	-	TB-02-05	14A	14B	02	05	14	CA_02_05	CA_02_06	KA2	ESD_DO1
SPARE	DO	TB-XS-000	55	56																				
SPARE	DO	TB-XS-000	57	58																				

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00021 | SHEET 071 | REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 072

REV. 3

SIS PANEL - TB-00-JE-22001

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM.	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-ZSL-005	DI	TB-00-JE-22001	1	2	07301	07302	1mm²	BK	WH	TB-01-03	01A	01B	01	03	01	CA_01_03	CA_01_04	SIS_DI01
25-ZSH-005	DI	TB-00-JE-22001	3	4	07303	07304	1mm²	BK	WH	TB-01-03	02A	02B	01	03	02	CA_01_03	CA_01_04	SIS_DI01
25-ZSL-007	DI	TB-00-JE-22001	5	6	07305	07306	1mm²	BK	WH	TB-01-03	03A	03B	01	03	03	CA_01_03	CA_01_04	SIS_DI01
25-ZSH-007	DI	TB-00-JE-22001	7	8	07307	07308	1mm²	BK	WH	TB-01-03	04A	04B	01	03	04	CA_01_03	CA_01_04	SIS_DI01
25-ZSL-010	DI	TB-00-JE-22001	9	10	07309	07310	1mm²	BK	WH	TB-01-03	05A	05B	01	03	05	CA_01_03	CA_01_04	SIS_DI01
25-ZSH-010	DI	TB-00-JE-22001	11	12	07311	07312	1mm²	BK	WH	TB-01-03	06A	06B	01	03	06	CA_01_03	CA_01_04	SIS_DI01
25-ZSL-013	DI	TB-00-JE-22001	13	14	07313	07314	1mm²	BK	WH	TB-01-03	07A	07B	01	03	07	CA_01_03	CA_01_04	SIS_DI01
25-ZSH-013	DI	TB-00-JE-22001	15	16	07315	07316	1mm²	BK	WH	TB-01-03	08A	08B	01	03	08	CA_01_03	CA_01_04	SIS_DI01
25-ZSL-016	DI	TB-00-JE-22001	17	18	07317	07318	1mm²	BK	WH	TB-01-03	09A	09B	01	03	09	CA_01_03	CA_01_04	SIS_DI01
25-ZSH-016	DI	TB-00-JE-22001	19	20	07319	07320	1mm²	BK	WH	TB-01-03	10A	10B	01	03	10	CA_01_03	CA_01_04	SIS_DI01
WS0110010315	DI	TB-00-JE-22001	21	22	07327	07328	1mm²	BK	WH	TB-01-03	15A	15B	01	03	15	CA_01_03	CA_01_04	SIS_DI01
WS0110010316	DI	TB-00-JE-22001	23	24	07329	07330	1mm²	BK	WH	TB-01-03	16A	16B	01	03	16	CA_01_03	CA_01_04	SIS_DI01
25-ZSL-019	DI	TB-00-JE-22001	25	26	07321	07322	1mm²	BK	WH	TB-01-03	11A	11B	01	03	11	CA_01_03	CA_01_04	SIS_DI01
25-ZSH-019	DI	TB-00-JE-22001	27	28	07323	07324	1mm²	BK	WH	TB-01-03	12A	12B	01	03	12	CA_01_03	CA_01_04	SIS_DI01
950-ASD-01101	DI	TB-00-JE-22001	29	30	07325	07326	1mm²	BK	WH	TB-01-03	13A	13B	01	03	13	CA_01_03	CA_01_04	SIS_DI01
950-MOB-01101	DI	TB-00-JE-22001	31	32	07331	07332	1mm²	BK	WH	TB-02-01	01A	01B	02	01	01	CA_02_01	CA_02_02	SIS_DI01
950-ESD-01101	DI	TB-00-JE-22001	33	34	07333	07334	1mm²	BK	WH	TB-02-01	02A	02B	02	01	02	CA_02_01	CA_02_02	SIS_DI01
950-ESDD-01101	DI	TB-00-JE-22001	35	36	07335	07336	1mm²	BK	WH	TB-02-01	03A	03B	02	01	03	CA_02_01	CA_02_02	SIS_DI01
950-ASD-04101	DI	TB-00-JE-22001	37	38	07337	07338	1mm²	BK	WH	TB-02-01	04A	04B	02	01	04	CA_02_01	CA_02_02	SIS_DI01
950-MOB-04101	DI	TB-00-JE-22001	39	40	07339	07340	1mm²	BK	WH	TB-02-01	05A	05B	02	01	05	CA_02_01	CA_02_02	SIS_DI01
950-ESD-04101	DI	TB-00-JE-22001	41	42	07341	07342	1mm²	BK	WH	TB-02-01	06A	06B	02	01	06	CA_02_01	CA_02_02	SIS_DI01
950-ESDD-04101	DI	TB-00-JE-22001	43	44	07343	07344	1mm²	BK	WH	TB-02-01	07A	07B	02	01	07	CA_02_01	CA_02_02	SIS_DI01
WS0110020316	DI	TB-00-JE-22001	45	46	07345	07346	1mm²	BK	WH	TB-02-03	16A	16B	02	03	16	CA_02_03	CA_02_04	SIS_DI01
SPARE	DI	TB-00-JE-22001	47	48														

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 073

REV. 3

SIS PANEL - TB-00-JE-22002

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM.	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-ZSL-001	DI	TB-00-JE-22002	1	2	07401	07402	1mm²	BK	WH	TB-02-01	08A	08B	02	01	08	CA_02_01	CA_02_02	SIS_DI01
25-ZSH-001	DI	TB-00-JE-22002	3	4	07403	07404	1mm²	BK	WH	TB-02-01	09A	09B	02	01	09	CA_02_01	CA_02_02	SIS_DI01
25-ZSL-023	DI	TB-00-JE-22002	5	6	07405	07406	1mm²	BK	WH	TB-02-01	10A	10B	02	01	10	CA_02_01	CA_02_02	SIS_DI01
25-ZSH-023	DI	TB-00-JE-22002	7	8	07407	07408	1mm²	BK	WH	TB-02-01	11A	11B	02	01	11	CA_02_01	CA_02_02	SIS_DI01
25-ZSL-022	DI	TB-00-JE-22002	9	10	07409	07410	1mm²	BK	WH	TB-02-01	12A	12B	02	01	12	CA_02_01	CA_02_02	SIS_DI01
25-ZSH-022	DI	TB-00-JE-22002	11	12	07411	07412	1mm²	BK	WH	TB-02-01	13A	13B	02	01	13	CA_02_01	CA_02_02	SIS_DI01
64-ZSL-001	DI	TB-00-JE-22002	13	14	07419	07420	1mm²	BK	WH	TB-02-03	01A	01B	02	03	01	CA_02_03	CA_02_04	SIS_DI01
64-ZSH-001	DI	TB-00-JE-22002	15	16	07421	07422	1mm²	BK	WH	TB-02-03	02A	02B	02	03	02	CA_02_03	CA_02_04	SIS_DI01
950-ASD-03101	DI	TB-00-JE-22002	17	18	07423	07424	1mm²	BK	WH	TB-02-03	03A	03B	02	03	03	CA_02_03	CA_02_04	SIS_DI01
WS0110020114	DI	TB-00-JE-22002	19	20	07413	07414	1mm²	BK	WH	TB-02-01	14A	14B	02	01	14	CA_02_01	CA_02_02	SIS_DI01
WS0110020115	DI	TB-00-JE-22002	21	22	07415	07416	1mm²	BK	WH	TB-02-01	15A	15B	02	01	15	CA_02_01	CA_02_02	SIS_DI01
WS0110020116	DI	TB-00-JE-22002	23	24	07417	07418	1mm²	BK	WH	TB-02-01	16A	16B	02	01	16	CA_02_01	CA_02_02	SIS_DI01
950-MOB-03101	DI	TB-00-JE-22002	25	26	07425	07426	1mm²	BK	WH	TB-02-03	04A	04B	02	03	04	CA_02_03	CA_02_04	SIS_DI01
950-ESD-03101	DI	TB-00-JE-22002	27	28	07427	07428	1mm²	BK	WH	TB-02-03	05A	05B	02	03	05	CA_02_03	CA_02_04	SIS_DI01
950-ESDD-03101	DI	TB-00-JE-22002	29	30	07429	07430	1mm²	BK	WH	TB-02-03	06A	06B	02	03	06	CA_02_03	CA_02_04	SIS_DI01
950-ASD-06101	DI	TB-00-JE-22002	31	32	07431	07432	1mm²	BK	WH	TB-02-03	07A	07B	02	03	07	CA_02_03	CA_02_04	SIS_DI01
950-MOB-06101	DI	TB-00-JE-22002	33	34	07433	07434	1mm²	BK	WH	TB-02-03	08A	08B	02	03	08	CA_02_03	CA_02_04	SIS_DI01
950-ESD-06101	DI	TB-00-JE-22002	35	36	07435	07436	1mm²	BK	WH	TB-02-03	09A	09B	02	03	09	CA_02_03	CA_02_04	SIS_DI01
950-ESDD-06101	DI	TB-00-JE-22002	37	38	07437	07438	1mm²	BK	WH	TB-02-03	10A	10B	02	03	10	CA_02_03	CA_02_04	SIS_DI01
950-ASD-07101	DI	TB-00-JE-22002	39	40	07439	07440	1mm²	BK	WH	TB-02-03	11A	11B	02	03	11	CA_02_03	CA_02_04	SIS_DI01
950-MOB-07101	DI	TB-00-JE-22002	41	42	07441	07442	1mm²	BK	WH	TB-02-03	12A	12B	02	03	12	CA_02_03	CA_02_04	SIS_DI01
950-ESD-07101	DI	TB-00-JE-22002	43	44	07443	07444	1mm²	BK	WH	TB-02-03	13A	13B	02	03	13	CA_02_03	CA_02_04	SIS_DI01
950-ESDD-07101	DI	TB-00-JE-22002	45	46	07445	07446	1mm²	BK	WH	TB-02-03	14A	14B	02	03	14	CA_02_03	CA_02_04	SIS_DI01
WS0110020315	DI	TB-00-JE-22002	47	48	07447	07448	1mm²	BK	WH	TB-02-03	15A	15B	02	03	15	CA_02_03	CA_02_04	SIS_DI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 074

REV. 3

SIS PANEL - TB-P320PLC + TB-XA-000 + AT01

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM.	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
85-XA-003	DI	TB-P320PLC	1	2	07501	07502	1mm²	BK	WH	TB-03-01	01A	01B	03	01	01	CA_03_01	CA_03_02	SIS_DI01
85-XA-004	DI	TB-P320PLC	3	4	07523	07524	1mm²	BK	WH	TB-03-01	12A	12B	03	01	12	CA_03_01	CA_03_02	SIS_DI01
20-XA-003	DI	TB-XA-000	1	2	07503	07504	1mm²	BK	WH	TB-03-01	02A	02B	03	01	02	CA_03_01	CA_03_02	SIS_DI01
80-XA-003	DI	TB-XA-000	3	4	07505	07506	1mm²	BK	WH	TB-03-01	03A	03B	03	01	03	CA_03_01	CA_03_02	SIS_DI01
50-XA-003	DI	TB-XA-000	5	6	07507	07508	1mm²	BK	WH	TB-03-01	04A	04B	03	01	04	CA_03_01	CA_03_02	SIS_DI01
63-XA-003	DI	TB-XA-000	7	8	07509	07510	1mm²	BK	WH	TB-03-01	05A	05B	03	01	05	CA_03_01	CA_03_02	SIS_DI01
64-XA-003	DI	TB-XA-000	9	10	07511	07512	1mm²	BK	WH	TB-03-01	06A	06B	03	01	06	CA_03_01	CA_03_02	SIS_DI01
77-XA-001	DI	TB-XA-000	11	12	07513	07514	1mm²	BK	WH	TB-03-01	07A	07B	03	01	07	CA_03_01	CA_03_02	SIS_DI01
77-XA-002	DI	TB-XA-000	13	14	07515	07516	1mm²	BK	WH	TB-03-01	08A	08B	03	01	08	CA_03_01	CA_03_02	SIS_DI01
77-XA-003	DI	TB-XA-000	15	16	07517	07518	1mm²	BK	WH	TB-03-01	09A	09B	03	01	09	CA_03_01	CA_03_02	SIS_DI01
77-XA-004	DI	TB-XA-000	17	18	07519	07520	1mm²	BK	WH	TB-03-01	10A	10B	03	01	10	CA_03_01	CA_03_02	SIS_DI01
72-XA-001	DI	TB-XA-000	19	20	07521	07522	1mm²	BK	WH	TB-03-01	11A	11B	03	01	11	CA_03_01	CA_03_02	SIS_DI01
WS0110030113	DI	TB-XA-000	21	22	07525	07526	1mm²	BK	WH	TB-03-01	13A	13B	03	01	13	CA_03_01	CA_03_02	SIS_DI01
WS0110030114	DI	TB-XA-000	23	24	07527	07528	1mm²	BK	WH	TB-03-01	14A	14B	03	01	14	CA_03_01	CA_03_02	SIS_DI01
WS0110030115	DI	TB-XA-000	25	26	07529	07530	1mm²	BK	WH	TB-03-01	15A	15B	03	01	15	CA_03_01	CA_03_02	SIS_DI01
WS0110030116	DI	TB-XA-000	27	28	07531	07532	1mm²	BK	WH	TB-03-01	16A	16B	03	01	16	CA_03_01	CA_03_02	SIS_DI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 075

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00021

SHEET 076

REV. 3

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. A NUM.	T.S. B NUM.	WIRE + (A)	WIRE - (A)	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	T.B. NAME	T.B. IN +	T.B. IN -	NODE	SLOT	CHANNEL	C.A. NAME A	C.A. NAME B	TYPICAL
25-PT-004	AI	TB-00-JE-21001	1	2	07701	07702	1mm²	BK	WH	TB-01-01	01A	01B	01	01	01	CA_01_01	CA_01_02	SIS_AI01
25-PT-006	AI	TB-00-JE-21001	3	4	07703	07704	1mm²	BK	WH	TB-01-01	02A	02B	01	01	02	CA_01_01	CA_01_02	SIS_AI01
25-PT-008	AI	TB-00-JE-21001	5	6	07705	07706	1mm²	BK	WH	TB-01-01	03A	03B	01	01	03	CA_01_01	CA_01_02	SIS_AI01
25-PT-009	AI	TB-00-JE-21001	7	8	07707	07708	1mm²	BK	WH	TB-01-01	04A	04B	01	01	04	CA_01_01	CA_01_02	SIS_AI01
25-PT-011	AI	TB-00-JE-21001	9	10	07709	07710	1mm²	BK	WH	TB-01-01	05A	05B	01	01	05	CA_01_01	CA_01_02	SIS_AI01
25-PT-012	AI	TB-00-JE-21001	11	12	07711	07712	1mm²	BK	WH	TB-01-01	06A	06B	01	01	06	CA_01_01	CA_01_02	SIS_AI01
WS0110010113	AI	TB-00-JE-21001	13	14	07713	07714	1mm²	BK	WH	TB-01-01	13A	13B	01	01	13	CA_01_01	CA_01_02	SIS_AI01
WS0110010114	AI	TB-00-JE-21001	15	16	07715	07716	1mm²	BK	WH	TB-01-01	15A	15B	01	01	15	CA_01_01	CA_01_02	SIS_AI01
WS0110010115	AI	TB-00-JE-21001	17	18	07717	07718	1mm²	BK	WH	TB-01-01	16A	16B	01	01	16	CA_01_01	CA_01_02	SIS_AI01
SPARE	AI	TB-00-JE-21001	19	20														
SPARE	AI	TB-00-JE-21001	21	22														
SPARE	AI	TB-00-JE-21001	23	24														
25-PT-002	AI	TB-00-JE-21002	1	2	07719	07720	1mm²	BK	WH	TB-01-01	07A	07B	01	01	07	CA_01_01	CA_01_02	SIS_AI01
80-PT-002	AI	TB-00-JE-21002	3	4	07721	07722	1mm²	BK	WH	TB-01-01	08A	08B	01	01	08	CA_01_01	CA_01_02	SIS_AI01
43-LT-001	AI	TB-00-JE-21002	5	6	07723	07724	1mm²	BK	WH	TB-01-01	14A	14B	01	01	14	CA_01_01	CA_01_02	SIS_AI01
64-PT-002	AI	TB-00-JE-21002	7	8	07725	07726	1mm²	BK	WH	TB-01-01	09A	09B	01	01	09	CA_01_01	CA_01_02	SIS_AI01
WS0110010111	AI	TB-00-JE-21002	9	10	07727	07728	1mm²	BK	WH	TB-01-01	11A	11B	01	01	11	CA_01_01	CA_01_02	SIS_AI01
WS0110010112	AI	TB-00-JE-21002	11	12	07729	07730	1mm²	BK	WH	TB-01-01	12A	12B	01	01	12	CA_01_01	CA_01_02	SIS_AI01
63-PT-004	AI	TB-63-PT-004	1	2	07731	07732	1mm²	BK	WH	TB-01-01	10A	10B	01	01	10	CA_01_01	CA_01_02	SIS_AI01

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SIS AND FGS WIRING DIAGRAMS AND TERMINAL STRIPS
SIS PANEL - ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00021

SHEET 077

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7.4 NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS

1724000594-IN-DG-00022

BASE LOAD POWER HUB (BLPH) NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED
NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.	
Sign	Date
	13/11/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	19.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	21.06.2024	A.G.	A.B.	S.C.	ISSUE FOR APPROVAL

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 001

REV. 3

Page 1401 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X		X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X		X						BASE LOAD POWER HUB (BLPH) INDEX
003	X			X						BASE LOAD POWER HUB (BLPH) LEGEND
004	X	X		X						BASE LOAD POWER HUB (BLPH) SYMBOL LEGEND
005	X			X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X			X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
007	X			X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
008	X	X		X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
009	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
010	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - BREAKER FAULT ALARM CIRCUIT
011	X	X		X						BASE LOAD POWER HUB (BLPH) SERV PANEL - SHIELD / GROUND CONNECTION
012	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
013	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - POWER STRIPS DISTRIBUTION
014	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
015	X	X		X						BASE LOAD POWER HUB (BLPH) NET. PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
016	X	X		X						BASE LOAD POWER HUB (BLPH) NET. PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
017	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET. PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
018	X	X		X						BASE LOAD POWER HUB (BLPH) NET. PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
019	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET. PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN
020	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET PANEL - 230Vac / 24Vdc POWER DISTRIBUTION
022	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET. PANEL - POWER STRIPS DISTRIBUTION
023	X	X		X						BASE LOAD POWER HUB (BLPH) NET PANEL - POWER STRIPS DISTRIBUTION
024	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET PANEL - BREAKER FAULT ALARM CIRCUIT
025	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET PANEL - SHIELD / GROUND CONNECTION
026	X	X		X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
027	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET PANEL - FAULT ALARM SIGNALS TO PCS
028	X	X	X	X						BASE LOAD POWER HUB (BLPH) NET. PANEL - POWER STRIPS DISTRIBUTION

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

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2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	19.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	21.06.2024	A.G.	A.B.	S.C.	ISSUE FOR APPROVAL

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 002

REV. 3

NUMBER	SYMBOL	REFERENCE	DESCRIPTION
01		IEC 60417-5031	DIRECT CURRENT
02		IEC 60417-5032	ALTERNATING CURRENT
03		IEC 60417-5033	BOTH DIRECT AND ALTERNATING CURRENT
04		.	THREE-PHASE ALTERNATING CURRENT
05		IEC 60417-5017	EARTH (GROUND) TERMINAL
06		IEC 60417-5019	PROTECTIVE CONDUCTOR TERMINAL
07		IEC 60417-5020	FRAME OR CHASSIS TERMINAL
08		IEC 60417-5021	EQUIPOTENTIALITY
09		IEC 60417-5007	ON (SUPPLY)
10		IEC 60417-5008	OFF (SUPPLY)
11		IEC 60417-5172	EQUIPMENT PROTECTED THROUGHOUT BY DOUBLE INSULATION OR REINFORCED INSULATION
12		.	CAUTION RISK OF ELECTRIC SHOCK
13		IEC 60417-5041	CAUTION HOT SURFACE
14		ISO 7000-0434	CAUTION RISK OF DANGER
15		IEC 60417-5266	IN POSITION OF A BI-STABLE PUSH CONTROL
16		IEC 60417-5269	OUT POSITION OF A BI-STABLE PUSH CONTROL

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	19.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	21.06.2024	A.G.	A.B.	S.C.	ISSUE FOR APPROVAL

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS LEGEND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

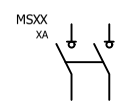
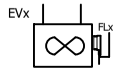
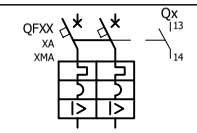
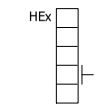
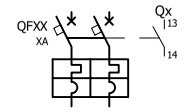
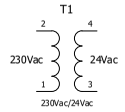
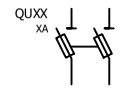
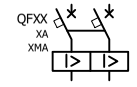
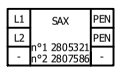
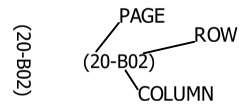
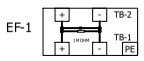
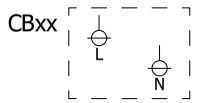
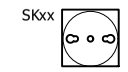
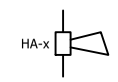
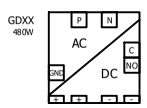
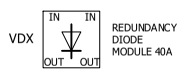
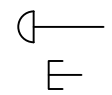
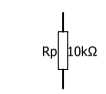
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 003

REV. 3

	ROTATIVE MAIN SWITCH -		ELECTRIC FAN WITH FAULT DETECTION		I.S. BARRIER (NOTE: AB-xx FOR ACTIVE BARRIERS, ZB-xx FOR ZENER BARRIERS)
	DIFFERENTIAL RESIDUAL CURRENT CIRCUIT BREAKER WITH AUXILIARY CONTACT		PANEL ELECTRIC HEATER -		GALVANIC ISOLATOR -
	AUTOMATIC CIRCUIT BREAKER WITH AUXILIARY CONTACT		AC/AC VOLTAGE TRANSFORMER -		FUSED TERMINAL -
	DISCONNECTOR WITH FUSE -		THERMOSTATE NO CONTACT -		KNIFE TERMINAL -
	PURE RESIDUAL CURRENT CIRCUIT BREAKER		NO CONTACT -		FEED THROUGH TERMINAL -
	SURGE ARRESTOR -		NC CONTACT -		PAGE CROSS REFERENCE INDICATION -
	LINE FILTER MODULE -		DOOR LIMIT SWITCH -		COMMON BOX -
	SERVICE SOCKET -		FRONT PANEL ALARM BUZZER -		- -
	AC/DC FEEDER -		INTERNAL LIGHT OR FRONT PANEL LIGHT		- -
	REDUNDANCY DIODE MODULE -		MUSHROOM PUSHBUTTON INDICATOR NORMAL PUSHBUTTON INDICATOR		- -
	RELAYS -		ROTATIVE SELECTOR INDICATOR -		- -
	- -		RESISTOR -		- -
	- -		- -		- -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS SYMBOL LEGEND

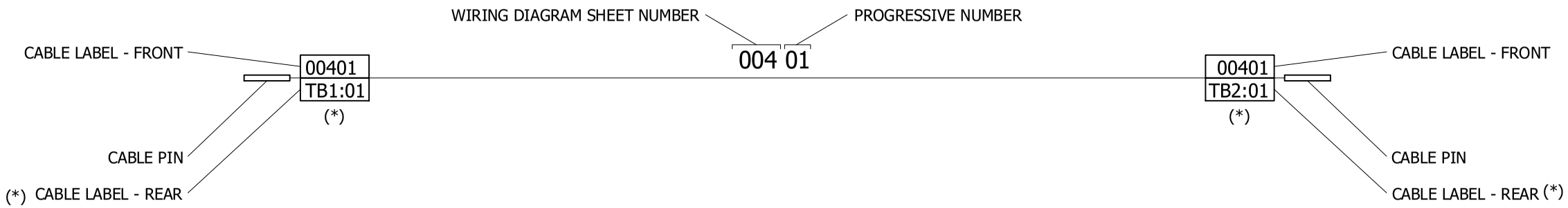
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00022 | SHEET 004 | REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	○○○○○○○○○○○○○○○
I.E. EARTH	○○○○○○○○○○○○○○○

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

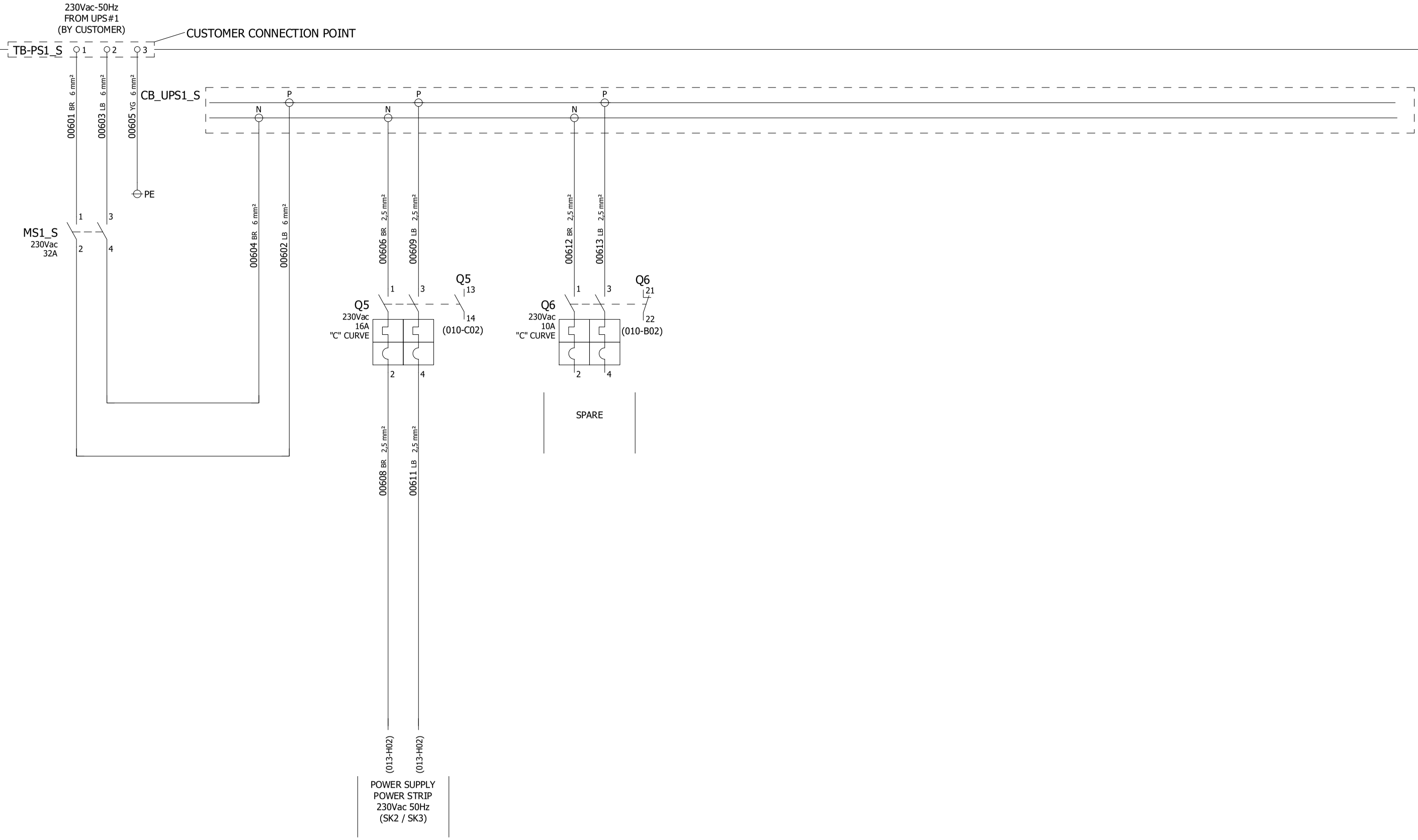
A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 005

REV. 3

SERV. PANEL - POWER DISTRIBUTION FROM UPS LINE 1



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

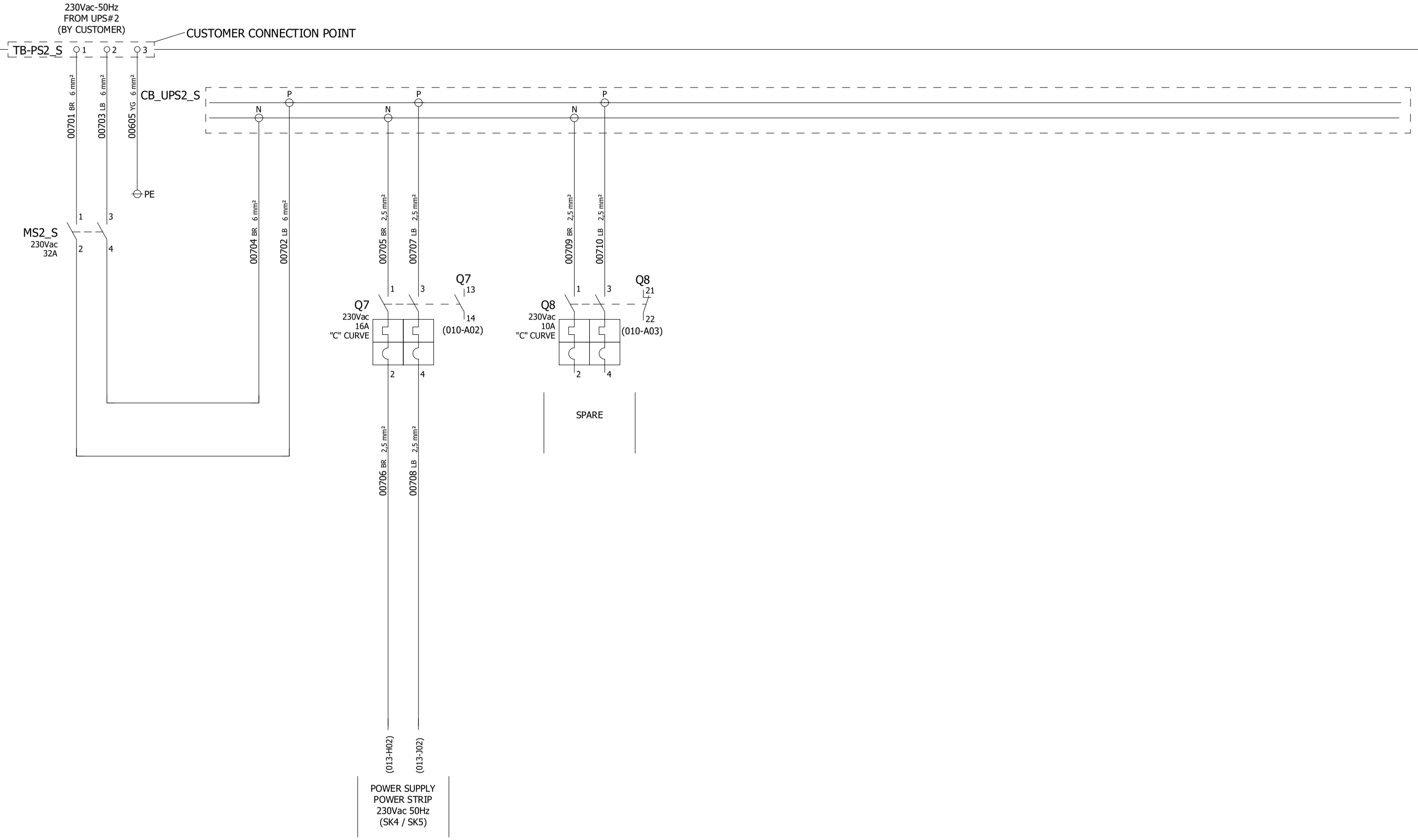
A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 006

REV. 3

SERV. PANEL - POWER DISTRIBUTION FROM UPS LINE 2



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

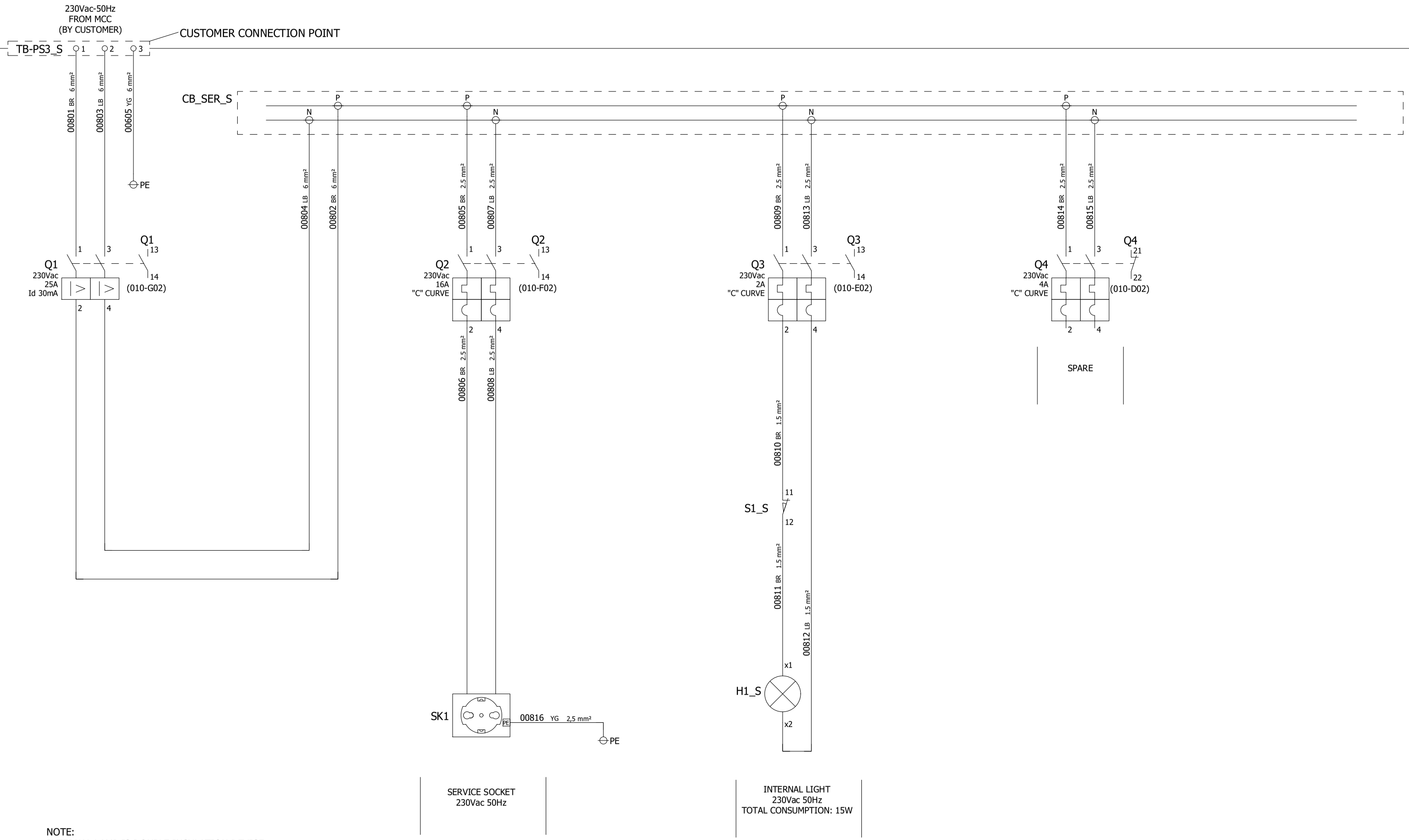
A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 007

REV. 3

SERV. PANEL - POWER DISTRIBUTION FROM NON UPS



NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 008

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

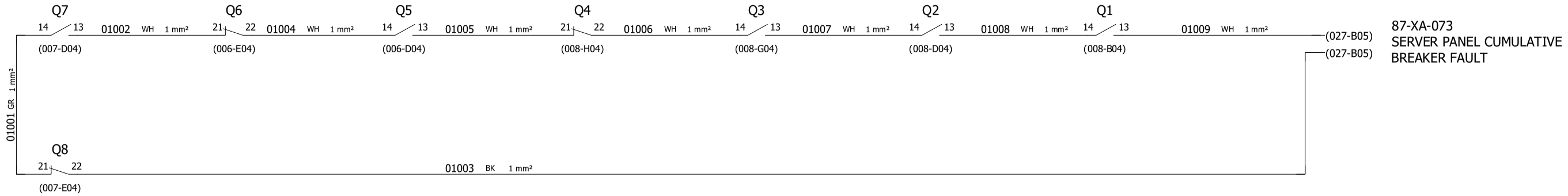
DRAWING NO.
1724000594-IN-DG-00022

SHEET 009

REV. 3

SERV. PANEL - BRAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



87-XA-073
SERVER PANEL CUMULATIVE
BREAKER FAULT

NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	19.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - BREAKER FAULT ALARM CIRCUIT

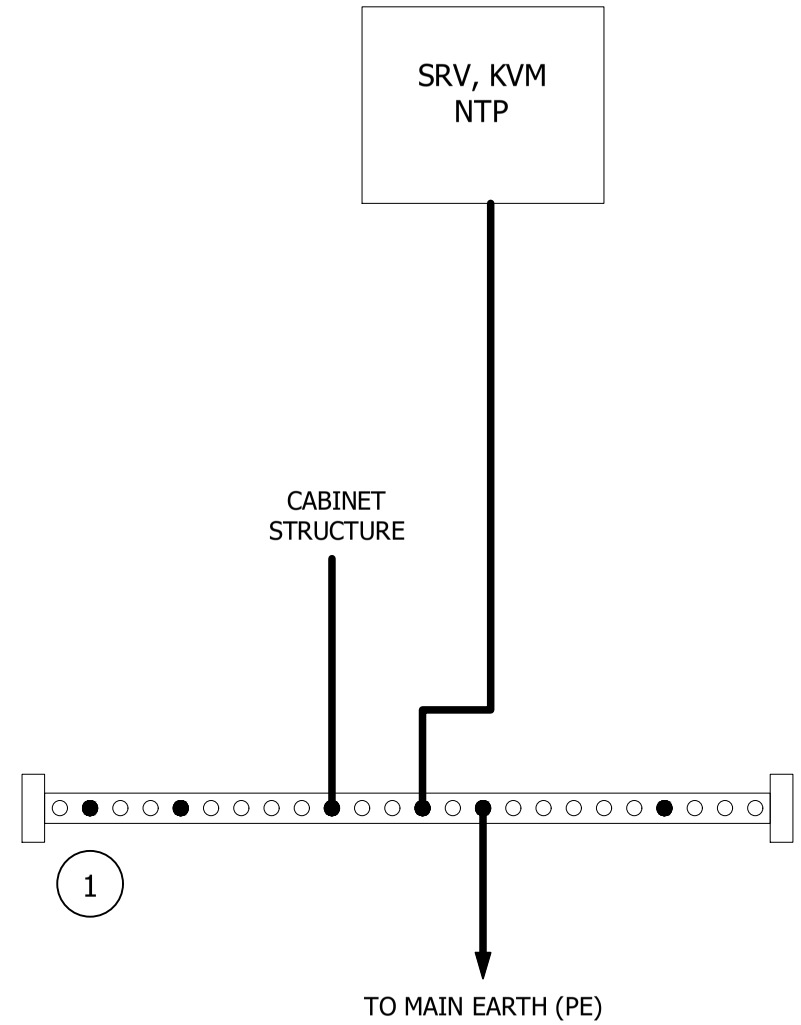
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3
DRAWING NO. 1724000594-IN-DG-00022
SHEET 010
REV. 3

SERV. PANEL - SHIELD/GROUND CONNECTION

-

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 011

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

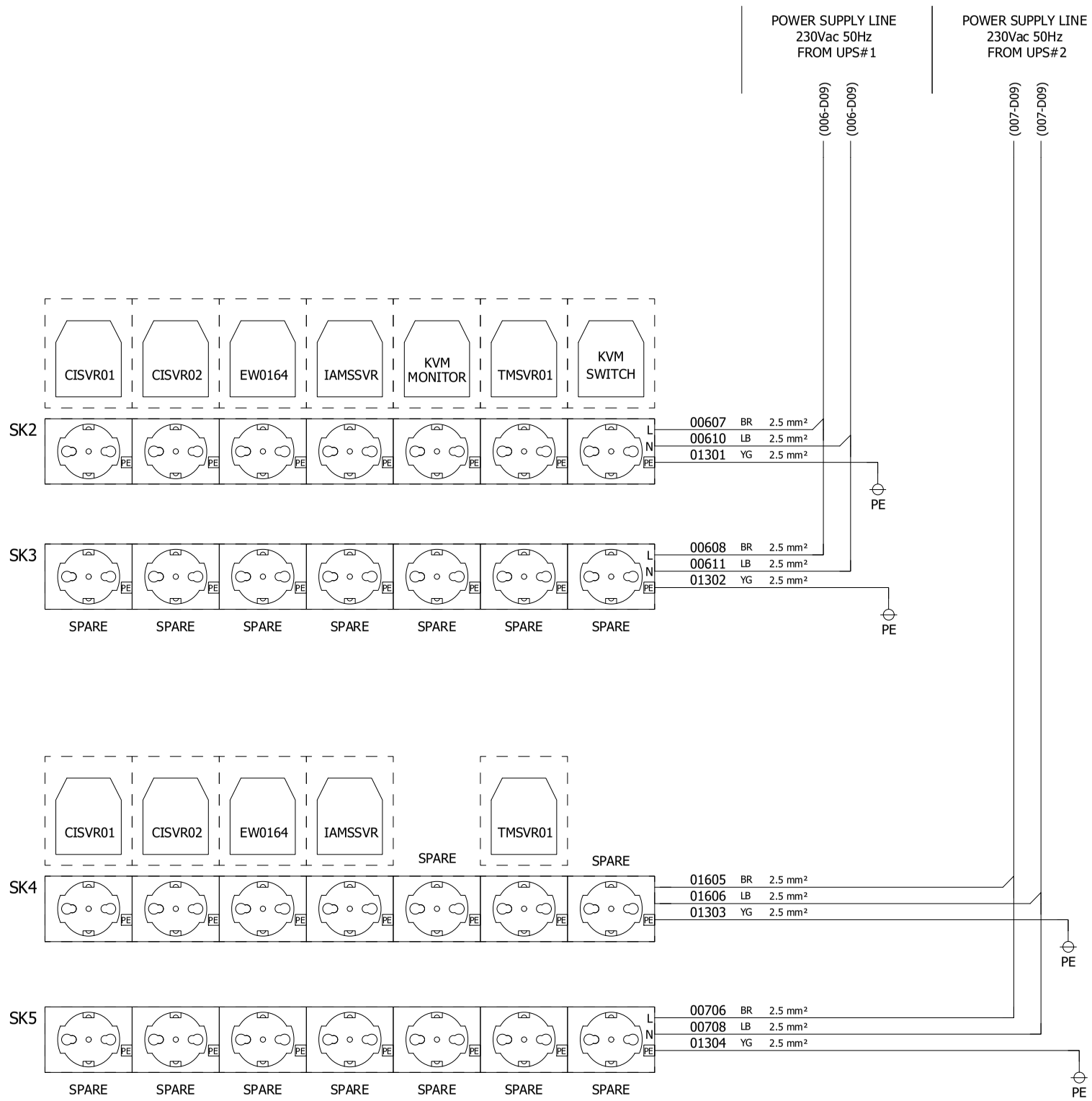
A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 012

REV. 3

SERV. PANEL - POWER STRIPS DISTRIBUTION



NOTE 1: For details on network cables connections, refer to doc. "1724000594-IN-DG-00016 - Network Connection Diagram

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	19.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	21.06.2024	A.G.	A.B.	S.C.	ISSUE FOR APPROVAL

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - POWER STRIPS DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 013

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

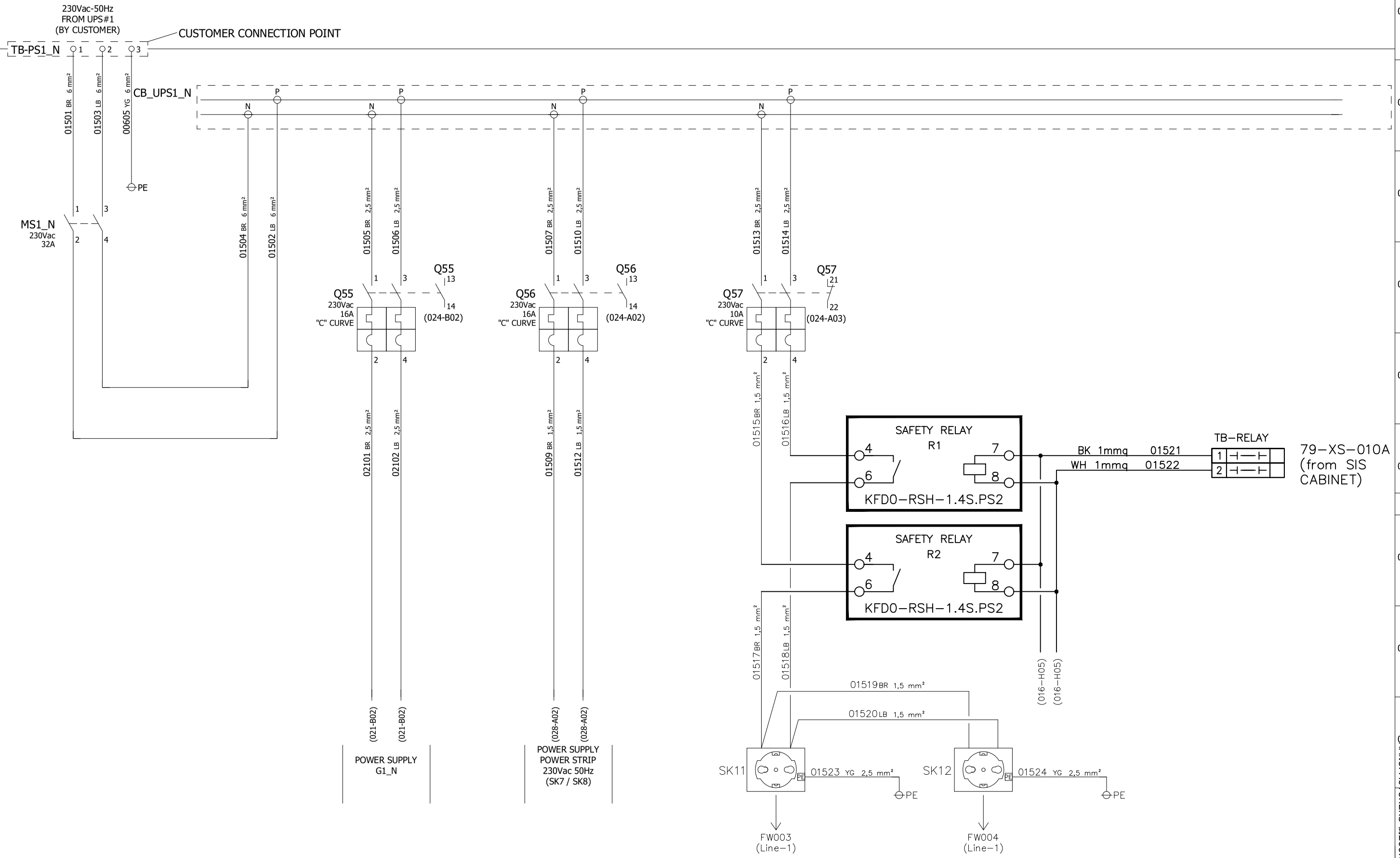
A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 014

REV. 3

NET PANEL - POWER DISTRIBUTION FROM UPS LINE 1



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

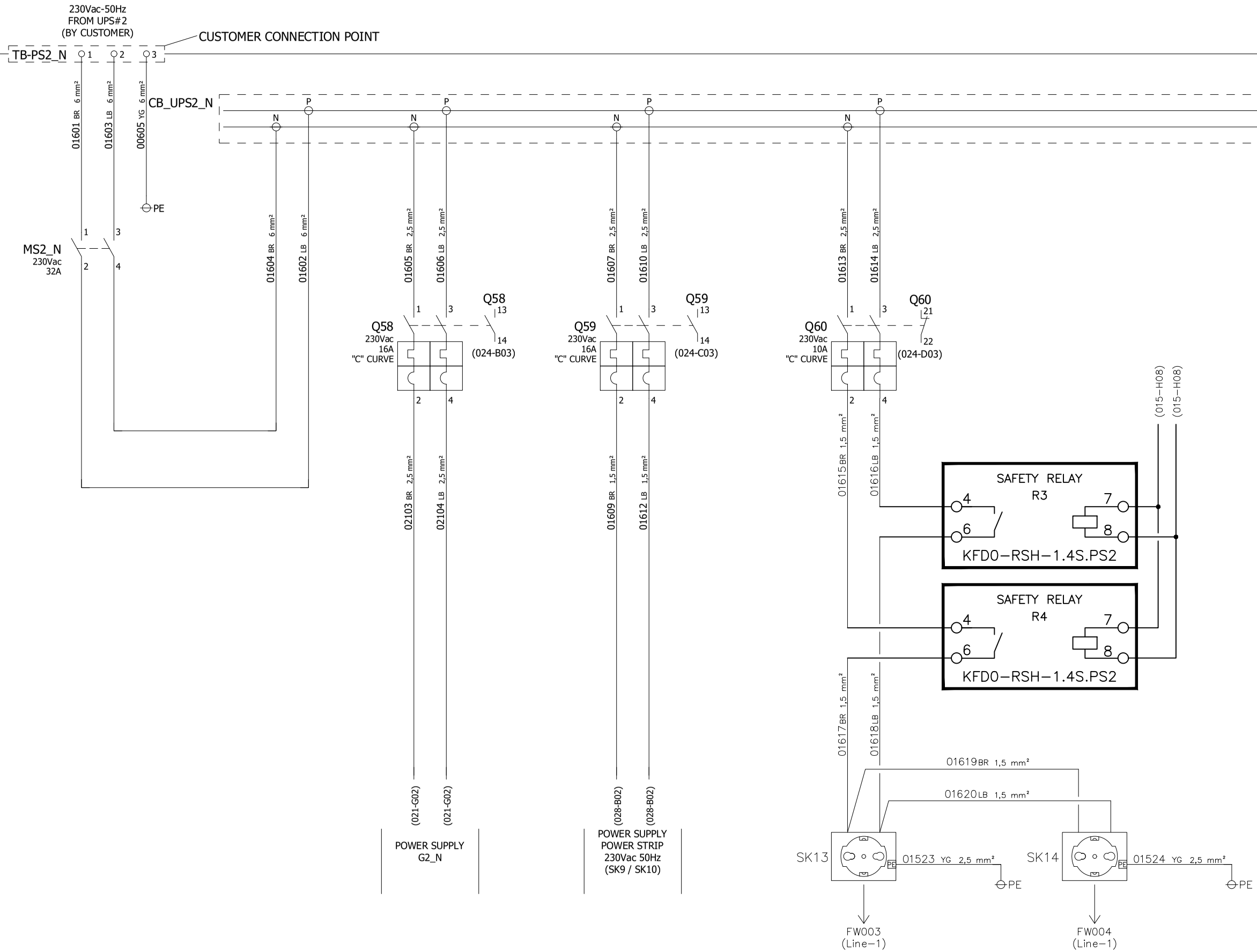
A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 015

REV. 3

NET PANEL - POWER DISTRIBUTION FROM UPS LINE 2



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 016

REV. 3

NET PANEL - POWER DISTRIBUTION FROM NON UPS

230Vac-50Hz
FROM MCC
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS3_N 1 2 3

01701 BR 6 mm² — 01703 LB 6 mm² — 00605 YG 6 mm² — PE

CB_SER_N (018-A01)

P N P N P N P N (018-A01) (018-A01)

01704 LB 6 mm² — 01702 BR 6 mm²

01705 BR 2.5 mm² — 01707 LB 2.5 mm²

01709 BR 2.5 mm² — 01713 LB 2.5 mm²

01714 BR 2.5 mm² — 01715 LB 2.5 mm²

Q50 230Vac 25A Id 30mA (024-G02) — 1 3 13 14 — 2 4

Q51 230Vac 16A "C" CURVE (024-F02) — 1 3 13 14 — 2 4

Q52 230Vac 2A "C" CURVE (024-E02) — 1 3 13 14 — 2 4

Q53 230Vac 4A "C" CURVE (024-D02) — 1 3 13 21 14 22 — 2 4

SPARE

01706 BR 2.5 mm² — 01708 LB 2.5 mm²

01710 BR 1.5 mm²

S1_N 11 12

01711 BR 1.5 mm² — 01712 LB 1.5 mm²

H1_N x1 x2

SK1_N PE 00605 YG 2,5 mm² PE

SERVICE SOCKET
230Vac 50Hz

INTERNAL LIGHT
230Vac 50Hz
TOTAL CONSUMPTION: 15W

NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND — ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

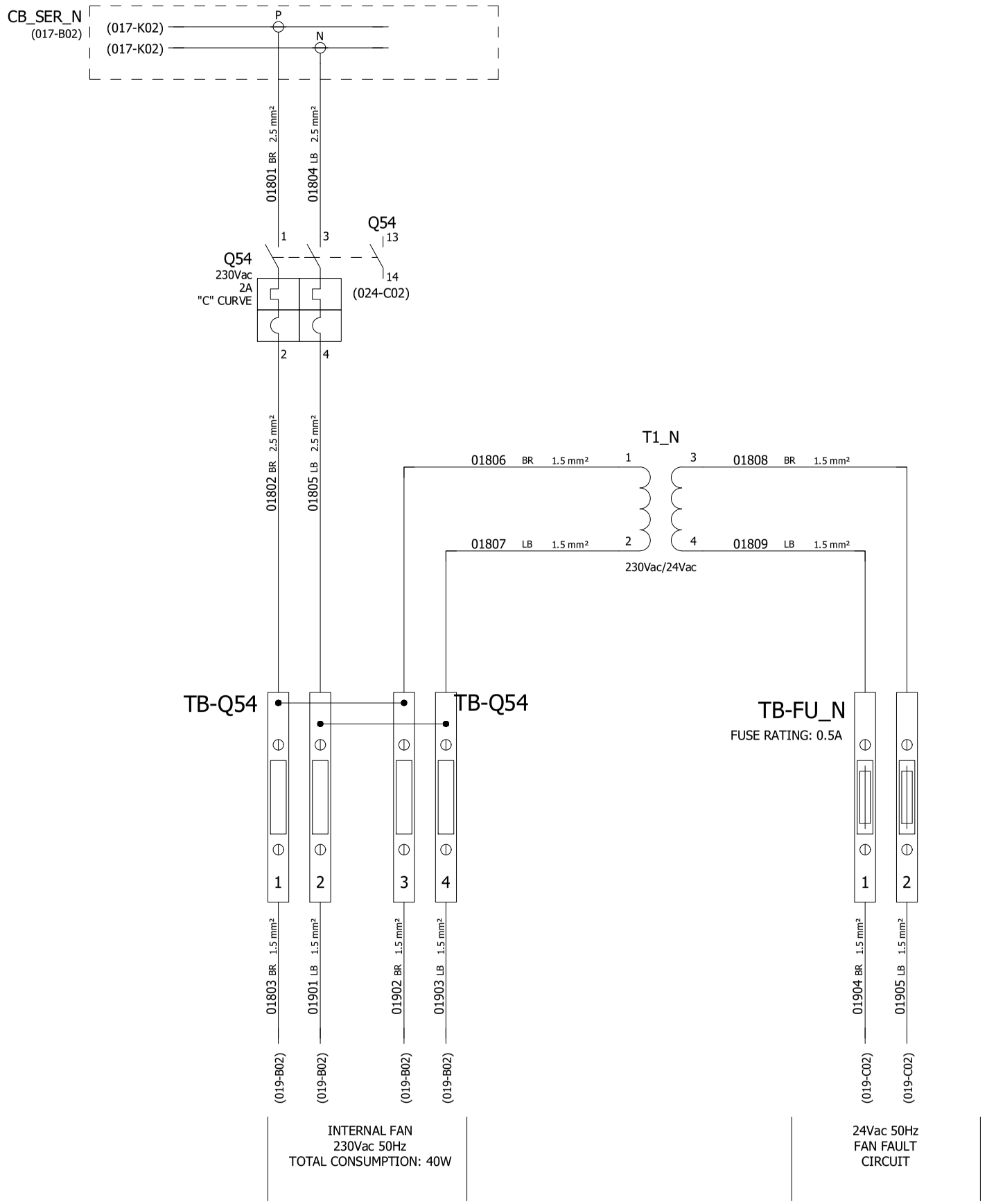
SHEET 017

REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

NET PANEL - POWER DISTRIBUTION FROM NON UPS



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

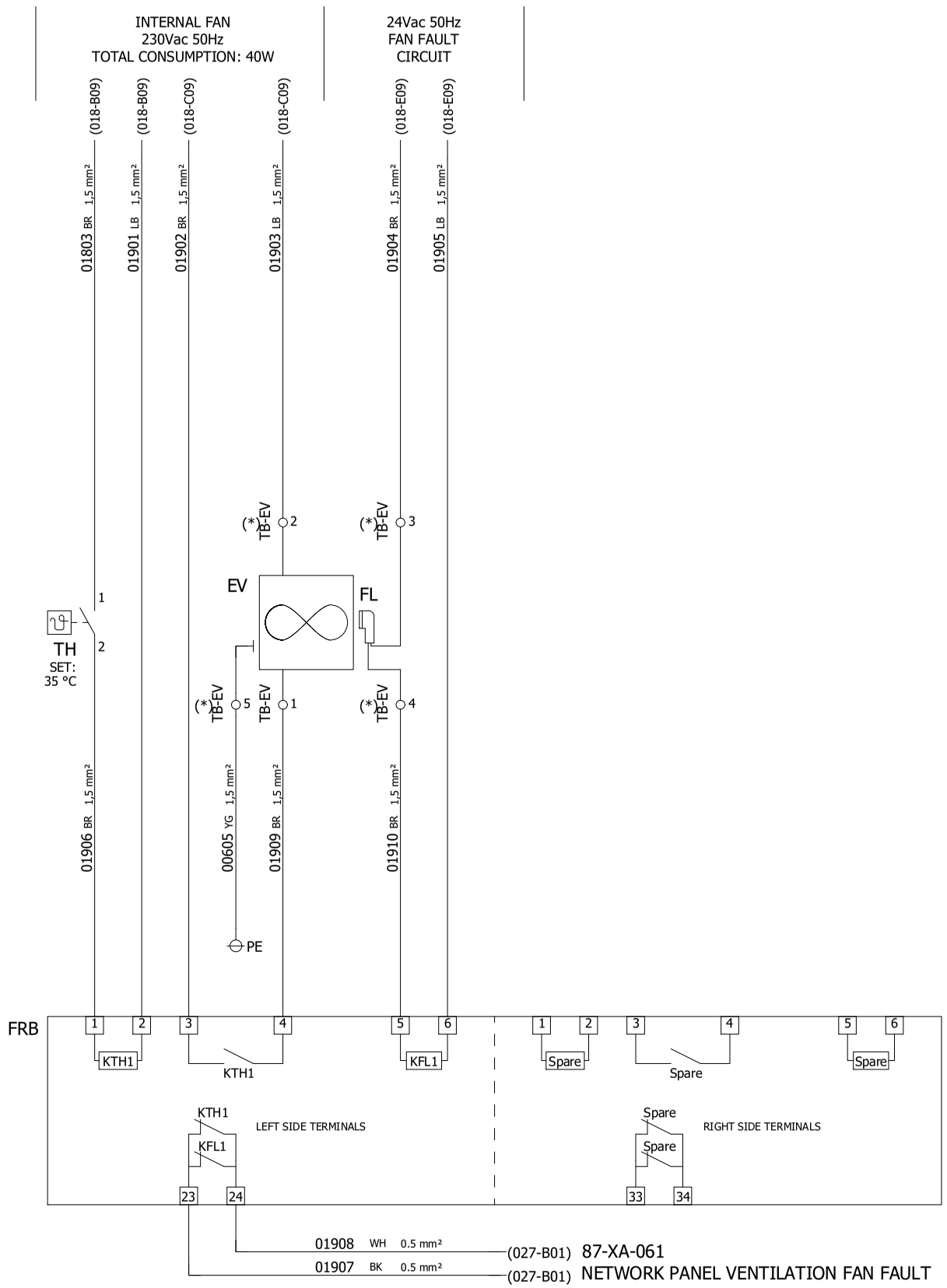
A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 018

REV. 3

NET PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN



NOTE (*):
TB-EV IS A FEED THROUGH TERMINAL BOARD FOR
PRE-WIRED ITEMS CONNECTION. FOR THIS REASON,
WIRE NUMBERS WILL BE THE SAME ON BOTH SIDES.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3 DRAWING NO. 1724000594-IN-DG-00022
SHEET 019
REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 020

REV. 3

NET PANEL - 230Vac/24Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

02101 BR 2.5 mm² (015-D09)
02102 LB 2.5 mm² (015-D09)

G1_N
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-) AC DC 13 14 PE + + - -

02113 WH 1 mm² (027-B02)
02114 WH 1 mm²
00605 YG 2,5 mm² PE

87-XA-062
NETWORK PANEL POWER SUPPLY
24Vdc FAILURE

02105 RD 4 mm²
02107 BU 4 mm²
02106 RD 4 mm²
02110 BU 4 mm²

VD1
20A
WEIDMULLER PRO DM 20
code 2486080000

IN1+ IN1- IN2+ IN2- OUT+ OUT-

02108 RD 6 mm²
02111 BU 6 mm²

Q61
24Vdc
32A
"C" CURVE
1 3 13 14 2 4
Q61 13 14 (024-F04)

02109 RD 6 mm²
02112 BU 6 mm²

CB_24Vdc_N
(022-A01)
(022-A06)
+ -

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

02103 BR 2.5 mm² (016-D09)
02104 LB 2.5 mm² (016-D09)

G2_N
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-) AC DC 13 14 PE + + - -

02115 WH 1 mm² (027-B02)
00605 YG 2,5 mm² PE

87-XA-062
NETWORK PANEL POWER SUPPLY
24Vdc FAILURE

02116 RD 4 mm²
02118 BU 4 mm²
02117 RD 4 mm²
02121 BU 4 mm²

VD2
20A
WEIDMULLER PRO DM 20
code 2486080000

IN1+ IN1- IN2+ IN1- OUT+ OUT-

02119 RD 6 mm²
02122 BU 6 mm²

Q62
24Vdc
32A
"C" CURVE
1 3 13 14 2 4
Q62 13 14 (024-E04)

02120 RD 6 mm²
02123 BU 6 mm²

(022-A01)
(022-A06)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

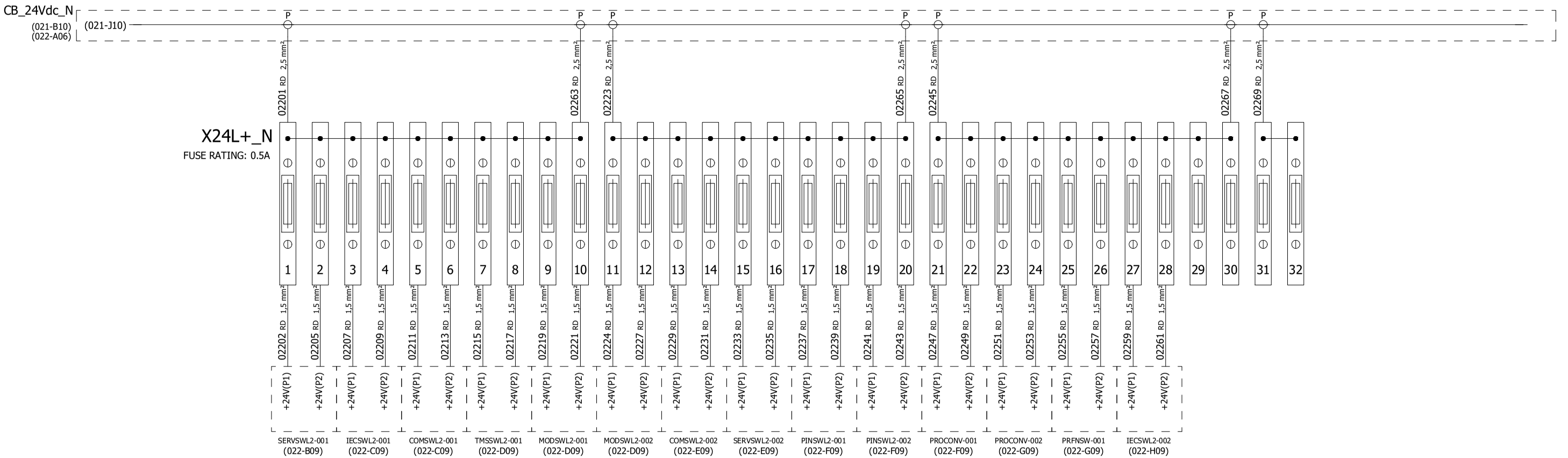
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET PANEL - 230Vac / 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3
DRAWING NO. 1724000594-IN-DG-00022
SHEET 021
REV. 3

NET PANEL - 230Vac/24Vdc POWER DISTRIBUTION



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - POWER STRIPS DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 022

REV. 3

CB_24Vdc_N (+)

(022-K01)

02301 RD 2,5 mm²

02302 RD 2,5 mm²

SAFETY RELAY R5

4 6 7 8

KFD0-RSH-1.4S.PS2

SAFETY RELAY R6

4 6 7 8

KFD0-RSH-1.4S.PS2

02303 RD 2,5 mm²

02304 RD 2,5 mm²

(022-K02)

(022-K02)

BK 1mmq 02311

WH 1mmq 02312

TB-RELAY

3

4

79-XS-010B (from SIS CABINET)

CB_24Vdc_N (-)

(022-K06)

02305 BU 2,5 mm²

02306 BU 2,5 mm²

SAFETY RELAY R7

4 6 7 8

KFD0-RSH-1.4S.PS2

SAFETY RELAY R8

4 6 7 8

KFD0-RSH-1.4S.PS2

02307 RD 2,5 mm²

02308 RD 2,5 mm²

(022-K07)

(022-K07)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET PANEL - POWER STRIPS DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

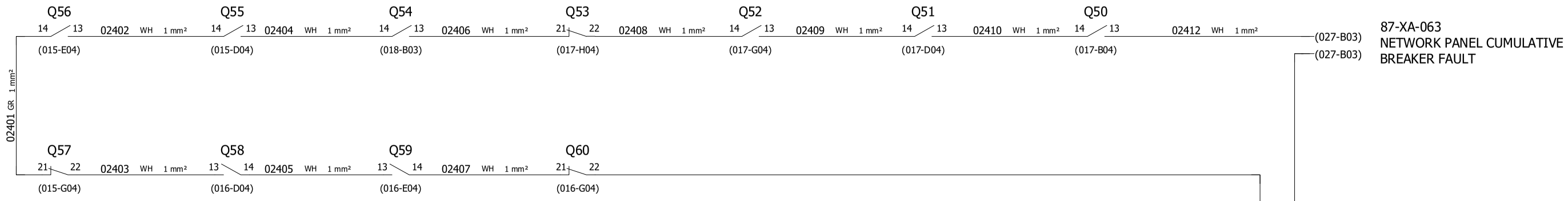
DRAWING NO. 1724000594-IN-DG-00022

SHEET 023

REV. 3

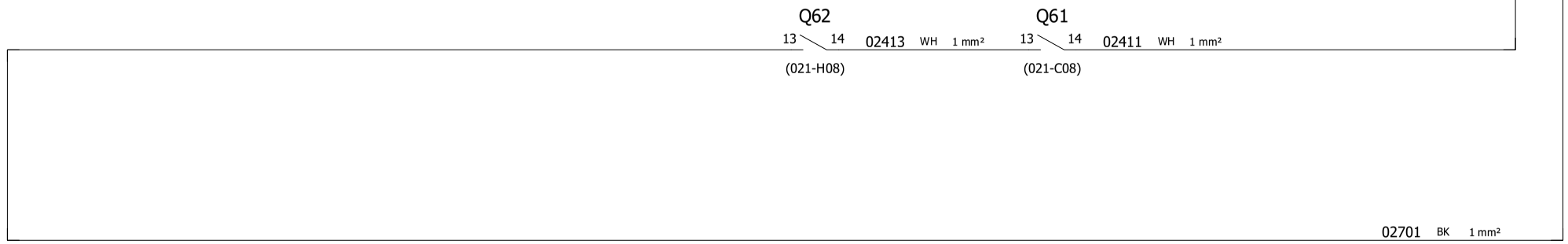
NET PANEL - BREAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



87-XA-063
NETWORK PANEL CUMULATIVE
BREAKER FAULT

24Vdc CIRCUIT BREAKER



NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET PANEL - BREAKER FAULT ALARM CIRCUIT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

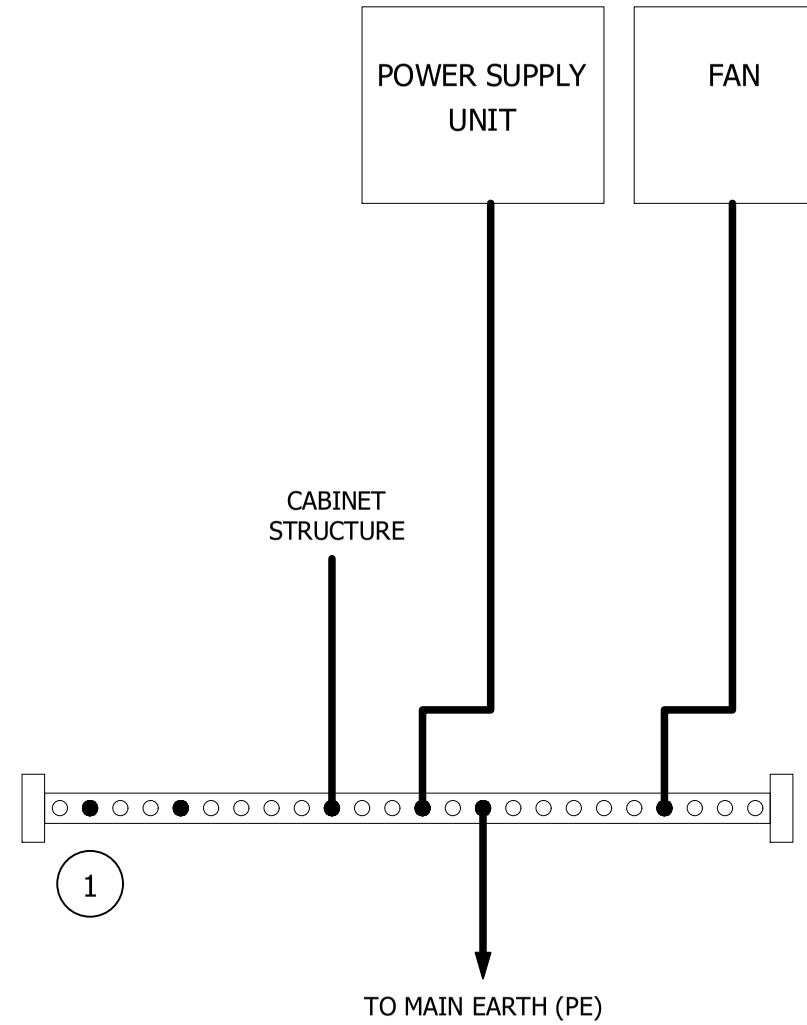
SHEET 024

REV. 3

NET PANEL - SHIELD/GROUND CONNECTION

-

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)



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CROSSWIND

ROSETTI MARINO

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NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 025

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 026

REV. 3

NET PANEL - FAULT ALARM SIGNALS TO PCS



CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
87-XA-061	NETWORK PANEL VENTILATION FAN FAULT
87-XA-062	NETWORK PANEL POWER SUPPLY FAILURE
87-XA-063	NETWORK PANEL CUMULATIVE BREAKER FAULT
87-XA-064	NETWORK + SERVER PANEL HIGH TEMPERATURE ALARM
87-XA-073	SERVER PANEL CUMULATIVE BREAKER FAULT

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
-	-
-	-
-	-
-	-
-	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET PANEL - FAULT ALARM SIGNALS TO PCS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00022

SHEET 027

REV. 3

NET PANEL - POWER STRIPS DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(015-E09)
(015-E09)

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(016-E09)
(016-E09)

PE

PE

PE

PE

01508 BR 2.5 mm²
01511 LB 2.5 mm²
02803 YG 2.5 mm²

01509 BR 2.5 mm²
01512 LB 2.5 mm²
02804 YG 2.5 mm²

01608 BR 2.5 mm²
01611 LB 2.5 mm²
02801 YG 2.5 mm²

01609 BR 2.5 mm²
01612 LB 2.5 mm²
02802 YG 2.5 mm²

SK7

EMCSSVR02	EMCSSVR01	CNSWL2-002	CNSWL2-001	SNSWL2-004	SNSWL2-003
SPARE					

L	N	PE	PE	PE	PE	PE	PE	PE
1			2	3	4	5	6	7

<2> FW-002 (12Vdc) POWERSUPPLY	SPARE	SPARE	<2> FW-004	<2> FW-003	SPARE	<2> FW-006

SK8

L	N	PE	PE	PE	PE	PE	PE	PE
1			2	3	4	5	6	7

SK9

EMCSSVR02	EMCSSVR01	CNSWL2-002	CNSWL2-001	SNSWL2-004	SNSWL2-003
SPARE					

L	N	PE	PE	PE	PE	PE	PE	PE
1			2	3	4	5	6	7

<2> FW-001 (12Vdc) POWERSUPPLY	SPARE	SPARE	<2> FW-004	<2> FW-003	SPARE	<2> FW-005

SK10

L	N	PE	PE	PE	PE	PE	PE	PE
1			2	3	4	5	6	7

NOTE 1: For details on network cables connections, refer to doc. "1724000594-IN-DG-00016 - Network Connection Diagram

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	19.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	21.06.2024	A.G.	A.B.	S.C.	ISSUE FOR APPROVAL

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN ITER WIRING DIAGRAMS AND TERMINAL STRIPS
NET. PANEL - POWER STRIPS DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00022

SHEET 028

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7.5 NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS

1724000594-IN-DG-00023

BASE LOAD POWER HUB (BLPH) NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED
NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.	
Sign	Date
	13/11/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00023 | SHEET 001 | REV. 3

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X						BASE LOAD POWER HUB (BLPH) INDEX
003	X			X						BASE LOAD POWER HUB (BLPH) LEGEND
004	X			X						BASE LOAD POWER HUB (BLPH) SYMBOL LEGEND
005	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
006	X	X		X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
007	X	X		X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
008	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER SELECTION FOR NON-UPS LINE
009	X			X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
010	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
011	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 230Vac / 24Vdc POWER DISTRIBUTION
012	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
013	X			X						BASE LOAD POWER HUB (BLPH) SERV PANEL - BREAKER FAULT ALARM CIRCUIT
014	X			X						BASE LOAD POWER HUB (BLPH) SERV PANEL - SHIELD / GROUND CONNECTION
015	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
016	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - FAULT ALARM SIGNALS TO PCS
017	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - POWER STRIPS DISTRIBUTION
018	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - 24Vdc POWER DISTRIBUTION
019	X		X	X						BASE LOAD POWER HUB (BLPH) SERV PANEL - AXIOLINE MODULE FOR FAULT ALARM SIGNALS

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 002

REV. 3

NUMBER	SYMBOL	REFERENCE	DESCRIPTION
01		IEC 60417-5031	DIRECT CURRENT
02		IEC 60417-5032	ALTERNATING CURRENT
03		IEC 60417-5033	BOTH DIRECT AND ALTERNATING CURRENT
04		.	THREE-PHASE ALTERNATING CURRENT
05		IEC 60417-5017	EARTH (GROUND) TERMINAL
06		IEC 60417-5019	PROTECTIVE CONDUCTOR TERMINAL
07		IEC 60417-5020	FRAME OR CHASSIS TERMINAL
08		IEC 60417-5021	EQUIPOTENTIALITY
09		IEC 60417-5007	ON (SUPPLY)
10		IEC 60417-5008	OFF (SUPPLY)
11		IEC 60417-5172	EQUIPMENT PROTECTED THROUGHOUT BY DOUBLE INSULATION OR REINFORCED INSULATION
12		.	CAUTION RISK OF ELECTRIC SHOCK
13		IEC 60417-5041	CAUTION HOT SURFACE
14		ISO 7000-0434	CAUTION RISK OF DANGER
15		IEC 60417-5266	IN POSITION OF A BI-STABLE PUSH CONTROL
16		IEC 60417-5269	OUT POSITION OF A BI-STABLE PUSH CONTROL

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS LEGEND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

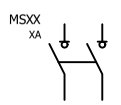
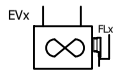
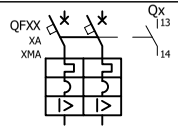
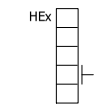
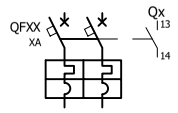
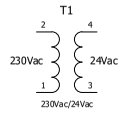
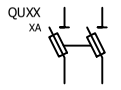
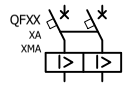
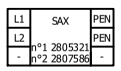
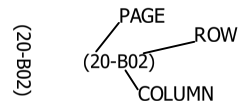
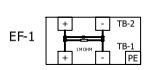
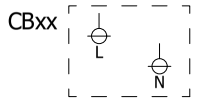
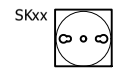
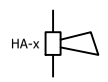
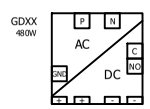
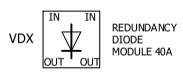
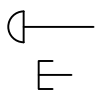
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 003

REV. 3

	ROTATIVE MAIN SWITCH -		ELECTRIC FAN WITH FAULT DETECTION		I.S. BARRIER (NOTE: AB-xx FOR ACTIVE BARRIERS, ZB-xx FOR ZENER BARRIERS)
	DIFFERENTIAL RESIDUAL CURRENT CIRCUIT BREAKER WITH AUXILIARY CONTACT		PANEL ELECTRIC HEATER -		GALVANIC ISOLATOR -
	AUTOMATIC CIRCUIT BREAKER WITH AUXILIARY CONTACT		AC/AC VOLTAGE TRANSFORMER -		FUSED TERMINAL -
	DISCONNECTOR WITH FUSE -		THERMOSTATE NO CONTACT -		KNIFE TERMINAL -
	PURE RESIDUAL CURRENT CIRCUIT BREAKER		NO CONTACT -		FEED THROUGH TERMINAL -
	SURGE ARRESTOR -		NC CONTACT -		PAGE CROSS REFERENCE INDICATION -
	LINE FILTER MODULE -		DOOR LIMIT SWITCH -		COMMON BOX -
	SERVICE SOCKET -		FRONT PANEL ALARM BUZZER -		- -
	AC/DC FEEDER -		INTERNAL LIGHT OR FRONT PANEL LIGHT		- -
	REDUNDANCY DIODE MODULE -		MUSHROOM PUSHBUTTON INDICATOR NORMAL PUSHBUTTON INDICATOR		- -
	RELAYS -		ROTATIVE SELECTOR INDICATOR -		- -
	- -		RESISTOR -		- -
	- -		- -		- -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS SYMBOL LEGEND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00023 | SHEET 004 | REV. 3

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REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

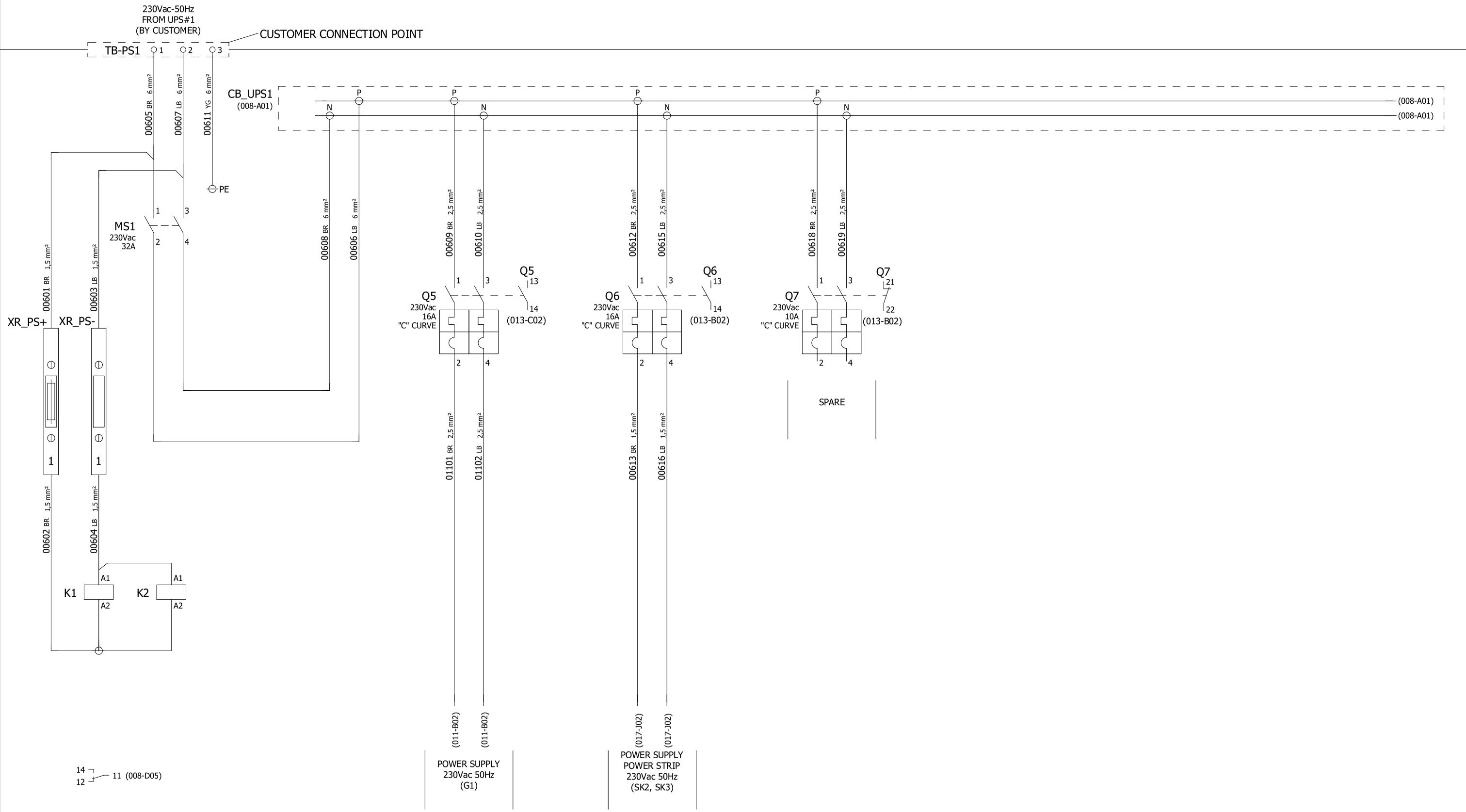
A3

DRAWING NO.
1724000594-IN-DG-00023

SHEET 005

REV. 3

SERV. PANEL - POWER DISTRIBUTION FROM UPS LINE 1



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

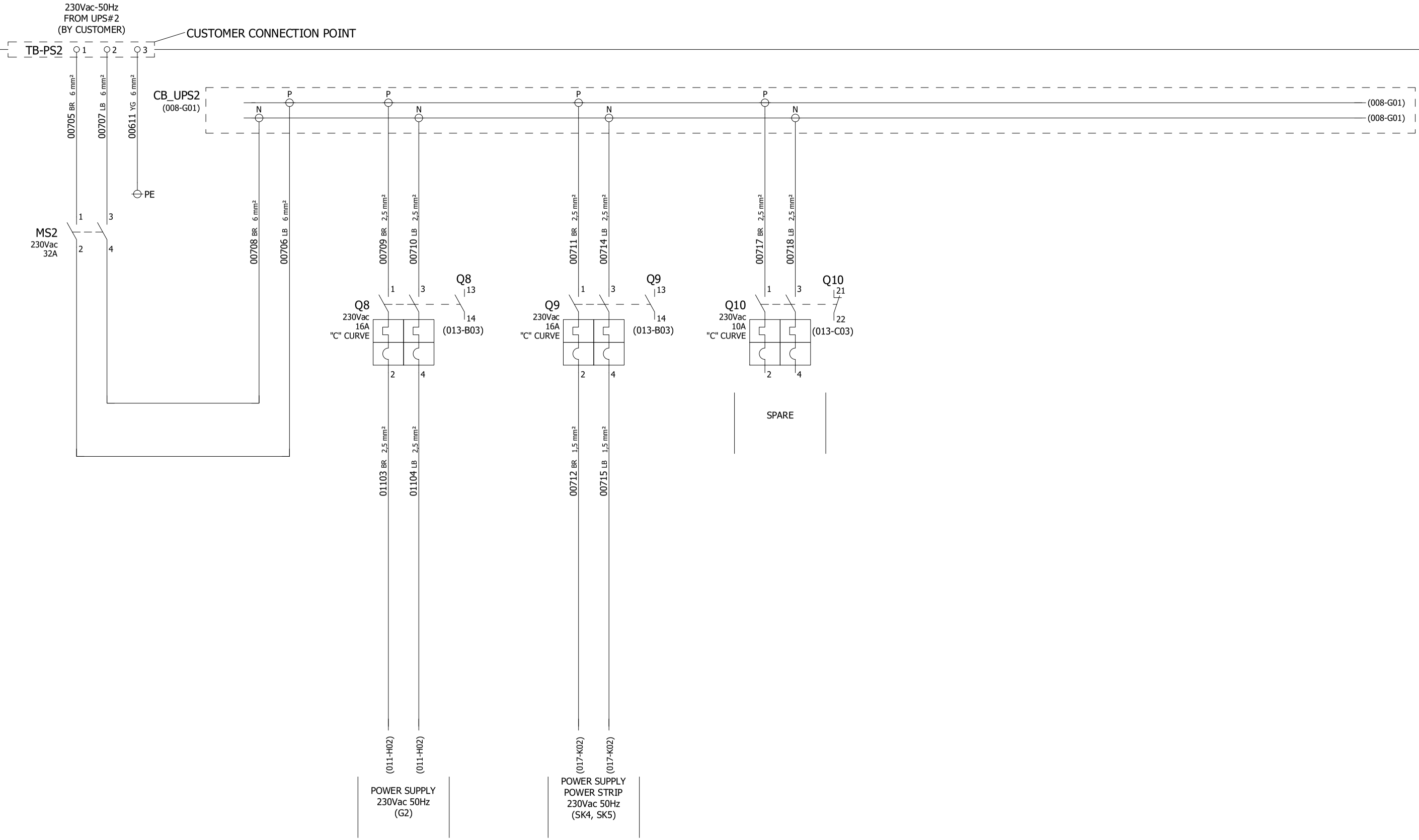
A3

DRAWING NO.
1724000594-IN-DG-00023

SHEET 006

REV. 3

SERV. PANEL - POWER DISTRIBUTION FROM UPS LINE 2



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

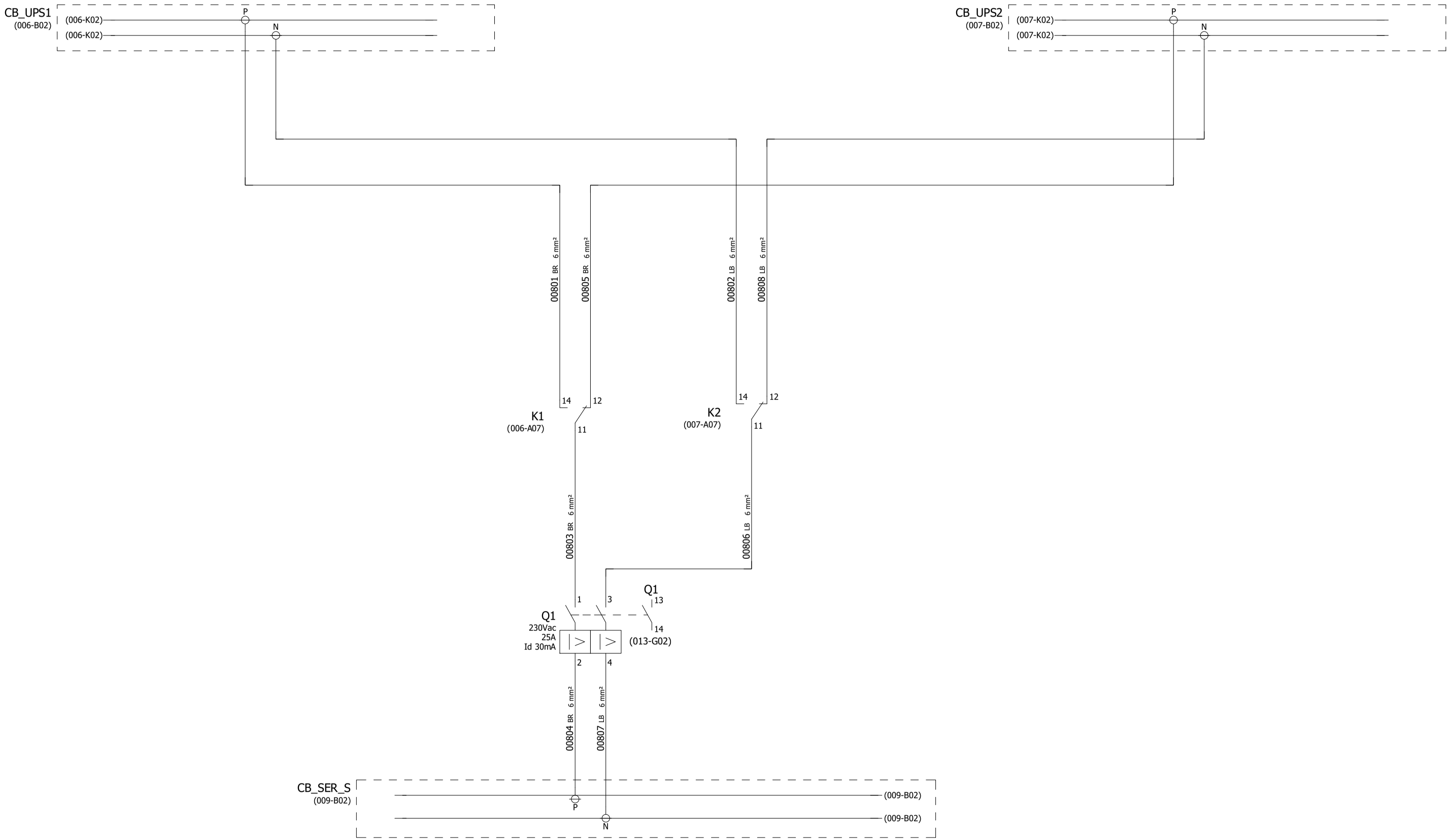
A3

DRAWING NO.
1724000594-IN-DG-00023

SHEET 007

REV. 3

SERV PANEL - 230Vac POWER SELECTION FOR NON-UPS LINE



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER SELECTION FOR NON-UPS LINE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

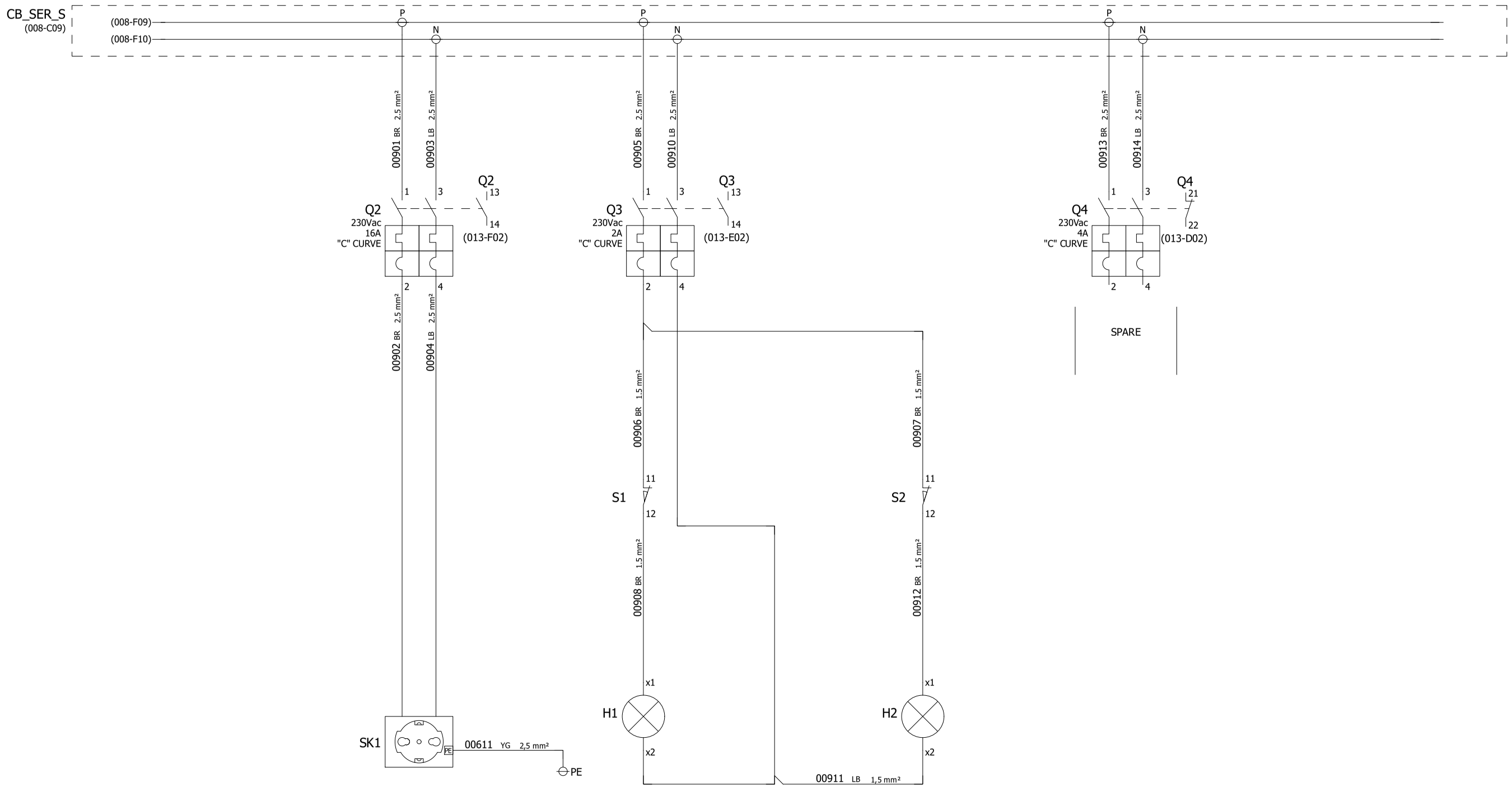
A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 008

REV. 3

SERV. PANEL - POWER DISTRIBUTION FROM NON UPS



SERVICE SOCKET
230Vac 50Hz

INTERNAL LIGHT (LEFT SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

INTERNAL LIGHT (RIGHT SIDE)
230Vac 50Hz
TOTAL CONSUMPTION: 15W

NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00023

SHEET 009

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 010

REV. 3

NET PANEL - 230Vac/24Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(006-D09)
(006-D09)
01101 BR 2.5 mm²
01102 LB 2.5 mm²

G1
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

AC
DC
L(+) N(-)
13 14 PE
+ + - -

01113 WH 1 mm² (016-B01)
01114 WH 1 mm²
00611 YG 2,5 mm² PE

87-XA-082
FGS PANEL POWER SUPPLY
24Vdc FAILURE

<1>

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(007-D09)
(007-D09)
01103 BR 2.5 mm²
01104 LB 2.5 mm²

G2
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

AC
DC
L(+) N(-)
13 14 PE
+ + - -

01114 WH 1 mm²
01123 BK 1 mm² (016-B01)
00611 YG 2,5 mm² PE

87-XA-082
FGS PANEL POWER SUPPLY
24Vdc FAILURE

01105 RD 4 mm²
01107 BU 4 mm²
01106 RD 4 mm²
01110 BU 4 mm²

VD1
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN2-
OUT+ OUT-
13 14

01115 RD 4 mm²
01117 BU 4 mm²
01116 RD 4 mm²
01120 BU 4 mm²

VD2
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN1-
OUT+ OUT-
13 14

01108 RD 6 mm²
01111 BU 6 mm²

<2> Q11
24Vdc
32A
"C" CURVE
1 3 2 4
Q11 13 14 (013-G04)

01118 RD 6 mm²
01121 BU 6 mm²

<2> Q12
24Vdc
32A
"C" CURVE
1 3 2 4
Q12 13 14 (013-F04)

01109 RD 6 mm²
01112 BU 6 mm²

CB_24Vdc
(018-A01)
(019-A01)
+ -

01119 RD 6 mm²
01122 BU 6 mm²

(018-A01)
(018-A01)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 230Vac / 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 011

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

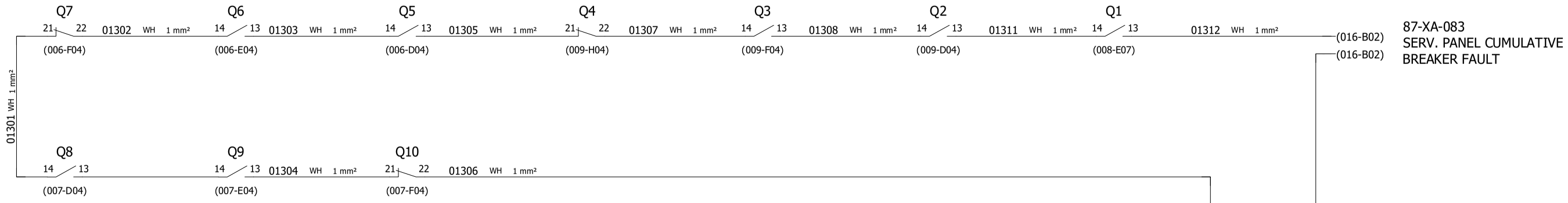
DRAWING NO.
1724000594-IN-DG-00023

SHEET 012

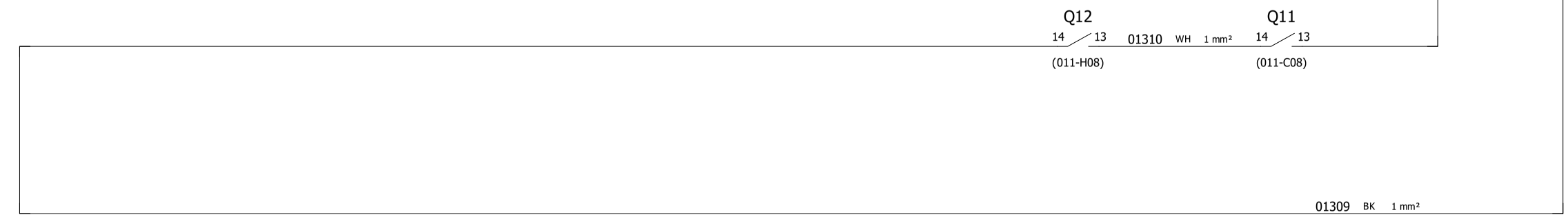
REV. 3

SERV. PANEL - BRAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



24Vdc CIRCUIT BREAKER



NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - BREAKER FAULT ALARM CIRCUIT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00023

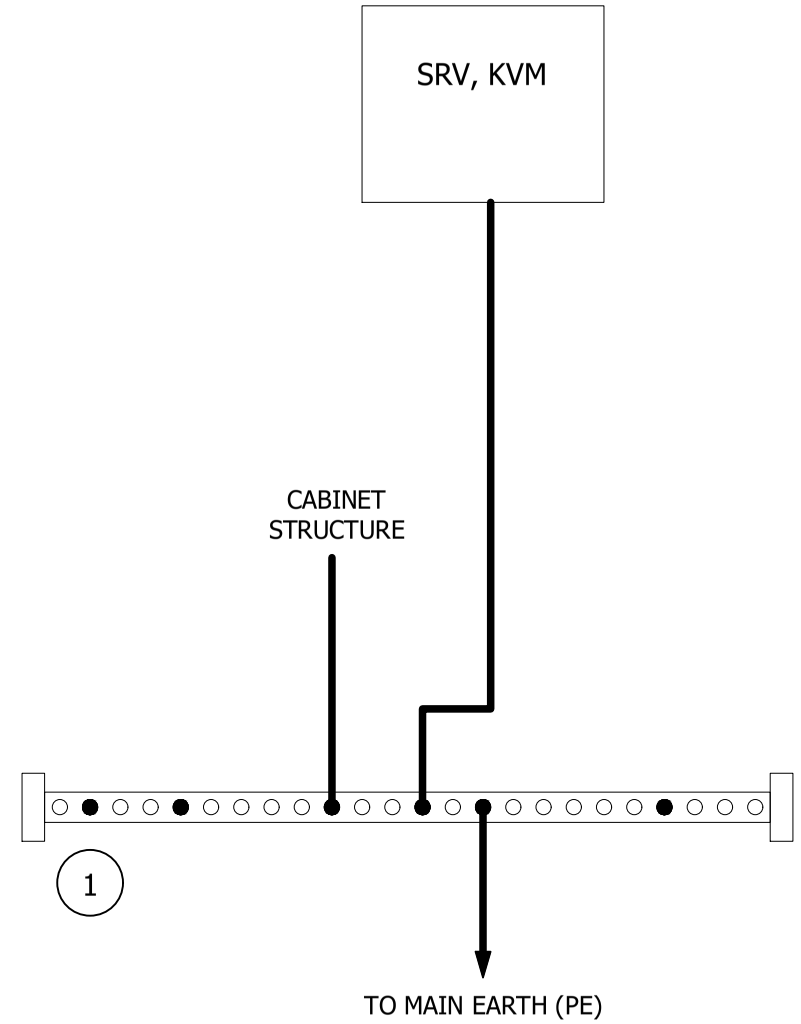
SHEET 013

REV. 3

SERV. PANEL - SHIELD/GROUND CONNECTION

-

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00023

SHEET 014

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 015

REV. 3

SERV. PANEL - FAULT ALARM SIGNALS TO DCS

87-XA-082 (011-D04) — 01113 WH 1 mm² — X-FAULT 1+ — 87-XA-082
- (011-J04) — 01123 BK 1 mm² — X-FAULT 1- — -
X-FAULT G

87-XA-083 (013-J02) — 01312 WH 1 mm² — X-FAULT 2+ — 87-XA-083
- (013-J02) — 01309 BK 1 mm² — X-FAULT 2- — -
X-FAULT G

87-XA-084 — THH (21 / 22) — 01601 WH 1 mm² — X-FAULT 3+ — 87-XA-084
- — 01602 BK 1 mm² — X-FAULT 3- — -
X-FAULT G

X-FAULT 4+
4-
G
6+
01603 GN 1.5 mm² — IE
6-
G

X-FAULT G

REFER TO SHEET 019

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
87-XA-082	SERV PANEL POWER SUPPLY & DIODES FAILURE
87-XA-083	SERV. PANEL CUMULATIVE BREAKER FAULT
87-XA-084	SERV PANEL HIGH TEMPERATURE ALARM
-	-
-	-

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
-	-
-	-
-	-
-	-
-	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

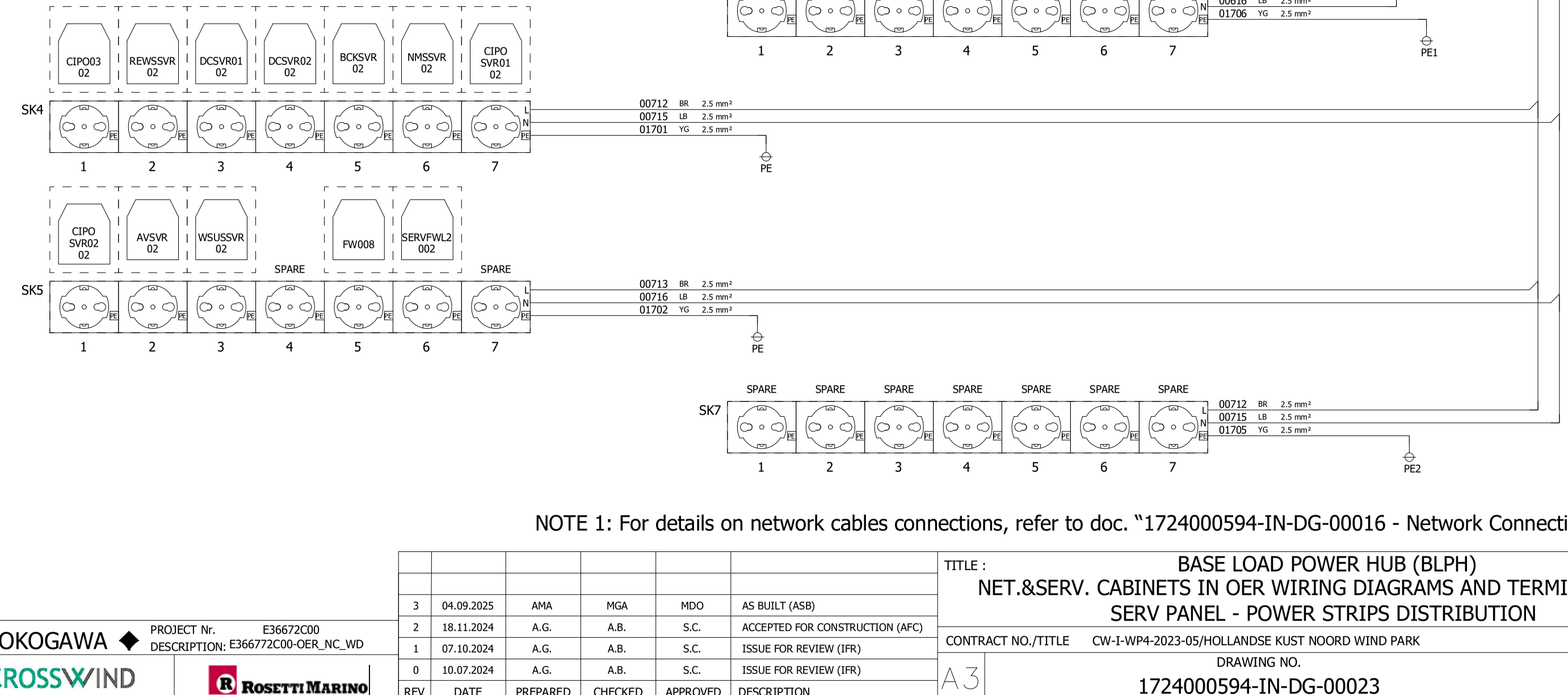
YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND — ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - FAULT ALARM SIGNALS TO PCS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DG-00023
SHEET 016
REV. 3

SERV. PANEL - POWER STRIPS DISTRIBUTION



NOTE 1: For details on network cables connections, refer to doc. "1724000594-IN-DG-00016 - Network Connection Diagram

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - POWER STRIPS DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

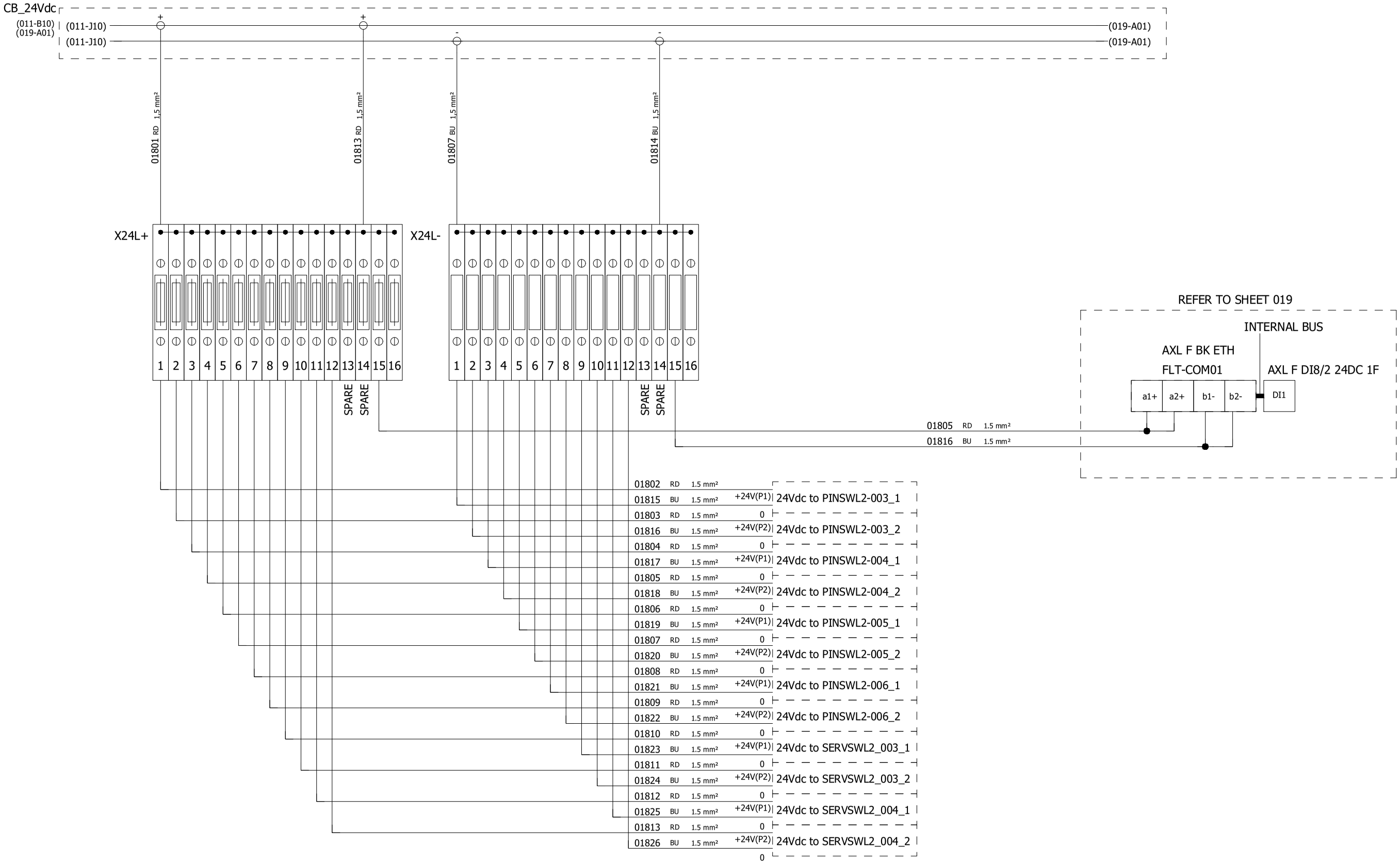
A3

DRAWING NO.
1724000594-IN-DG-00023

SHEET 017

REV. 3

SERV. PANEL - POWER STRIPS DISTRIBUTION



NOTE 1: For details on network cables connections, refer to doc. "1724000594-IN-DG-00016 - Network Connection Diagram

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00023

SHEET 018

REV. 3

CB_24Vdc

(011-B10) | (018-H01)
(018-A01) | (018-H01)

+ + +
- - -

DI-01

00 01 02 03
10 11 12 13
20 21 22 23
30 31 32 33

X-FAULT
87-XA-082
-
1+
1-
G

01901 RD 1 mm²
01902 BU 1 mm²

X-FAULT
87-XA-083
-
2+
2-
G

01903 RD 1 mm²
01904 BU 1 mm²

X-FAULT
87-XA-084
-
3+
3-
G

01905 RD 1 mm²
01906 BU 1 mm²

X-FAULT
4+
4-
G
6+
6-
G

X-FAULT
G

REFER TO SHEET 016

01907 BU 1 mm²
01908 BU 1 mm²
01909 BU 1 mm²

AXL F BK ETH FLT-COM01
AXL F DI8/2 24DC 1F DI-01

X1
X2

ETHERNET CABLE
GREEN CAT6 (XXm)
TO PINSWL2-003 p.10

REFER TO SHEET 018

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	07.10.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NC_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
NET.&SERV. CABINETS IN OER WIRING DIAGRAMS AND TERMINAL STRIPS
SERV PANEL - AXIOLINE MODULE FOR FAULT ALARM SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DG-00023
SHEET 019
REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-7.6 EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS

1724000594-IN-DG-00024

BASE LOAD POWER HUB (BLPH)
EMCS CABINET
WIRING DIAGRAMS AND TERMINAL STRIPS

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	27/10/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	25.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 001

REV. 3

PAG. NR.	REVISION									TITLE
	0	1	2	3	4	5	6	7	8	
001	X	X	X	X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X						BASE LOAD POWER HUB (BLPH) INDEX
003	X			X						BASE LOAD POWER HUB (BLPH) LEGEND
004	X	X	X	X						BASE LOAD POWER HUB (BLPH) SYMBOL LEGEND
005	X	X		X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
016	X			X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1
017	X			X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2
018	X			X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
019	X			X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS
020	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN
021	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
022	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION
023	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
024	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - BREAKER FAULT ALARM CIRCUIT
025	X			X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - SHIELD / GROUND CONNECTION
026	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - FAULT ALARM SIGNALS TO DCS
027	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - 24Vdc POWER DISTRIBUTION
028	X	X		X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - AO SWITCH COMMAND
029	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - RACK "1"-SEL-2241
030	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - RACK "2"-SEL-2241

PAG. NR.	REVISION									TITLE
	0	1	2	3	4	5	6	7	8	
031	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - TYPICAL WIRING DIGITAL INPUT
032	X	X	X	X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
033	X	X		X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - TYPICAL WIRING DIGITAL OUTPUT
034	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - TYPICAL WIRING ANALOG INPUT
035	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - TYPICAL WIRING ANALOG OUTPUT
036	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - DIGITAL INPUT SIGNALS
037		X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - DIGITAL OUTPUT SIGNALS
038		X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - ANALOG INPUT SIGNALS
039		X	X	X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - ANALOG OUTPUT SIGNALS (SIGNAL PART)
040		X		X						BASE LOAD POWER HUB (BLPH) EMCS PANEL - ANALOG OUTPUT SIGNALS (SWITCH PART)

PAG. NR.	REVISION									TITLE
	0	1	2	3	4	5	6	7	8	

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	25.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 002

REV. 3

NUMBER	SYMBOL	REFERENCE	DESCRIPTION
01		IEC 60417-5031	DIRECT CURRENT
02		IEC 60417-5032	ALTERNATING CURRENT
03		IEC 60417-5033	BOTH DIRECT AND ALTERNATING CURRENT
04		.	THREE-PHASE ALTERNATING CURRENT
05		IEC 60417-5017	EARTH (GROUND) TERMINAL
06		IEC 60417-5019	PROTECTIVE CONDUCTOR TERMINAL
07		IEC 60417-5020	FRAME OR CHASSIS TERMINAL
08		IEC 60417-5021	EQUIPOTENTIALITY
09		IEC 60417-5007	ON (SUPPLY)
10		IEC 60417-5008	OFF (SUPPLY)
11		IEC 60417-5172	EQUIPMENT PROTECTED THROUGHOUT BY DOUBLE INSULATION OR REINFORCED INSULATION
12		.	CAUTION RISK OF ELECTRIC SHOCK
13		IEC 60417-5041	CAUTION HOT SURFACE
14		ISO 7000-0434	CAUTION RISK OF DANGER
15		IEC 60417-5266	IN POSITION OF A BI-STABLE PUSH CONTROL
16		IEC 60417-5269	OUT POSITION OF A BI-STABLE PUSH CONTROL

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
LEGEND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

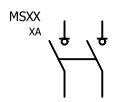
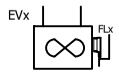
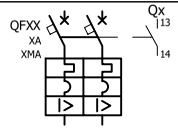
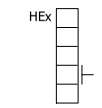
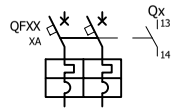
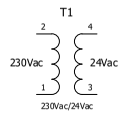
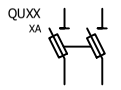
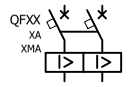
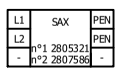
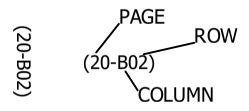
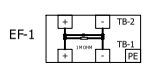
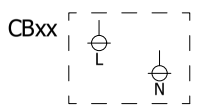
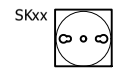
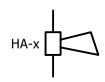
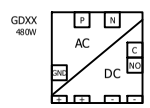
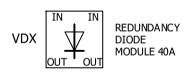
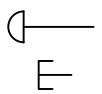
SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 003

REV. 3

	ROTATIVE MAIN SWITCH -		ELECTRIC FAN WITH FAULT DETECTION		I.S. BARRIER (NOTE: AB-xx FOR ACTIVE BARRIERS, ZB-xx FOR ZENER BARRIERS)
	DIFFERENTIAL RESIDUAL CURRENT CIRCUIT BREAKER WITH AUXILIARY CONTACT		PANEL ELECTRIC HEATER -		GALVANIC ISOLATOR -
	AUTOMATIC CIRCUIT BREAKER WITH AUXILIARY CONTACT		AC/AC VOLTAGE TRANSFORMER -		FUSED TERMINAL -
	DISCONNECTOR WITH FUSE -		THERMOSTATE NO CONTACT -		KNIFE TERMINAL -
	PURE RESIDUAL CURRENT CIRCUIT BREAKER		NO CONTACT -		FEED THROUGH TERMINAL -
	SURGE ARRESTOR -		NC CONTACT -		PAGE CROSS REFERENCE INDICATION -
	LINE FILTER MODULE -		DOOR LIMIT SWITCH -		COMMON BOX -
	SERVICE SOCKET -		FRONT PANEL ALARM BUZZER -		- -
	AC/DC FEEDER -		INTERNAL LIGHT OR FRONT PANEL LIGHT		- -
	REDUNDANCY DIODE MODULE -		MUSHROOM PUSHBUTTON INDICATOR NORMAL PUSHBUTTON INDICATOR		- -
	RELAYS -		ROTATIVE SELECTOR INDICATOR -		- -
	STEP RELAYS -		RESISTOR -		- -
	- -		- -		- -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
SYMBOL LEGEND

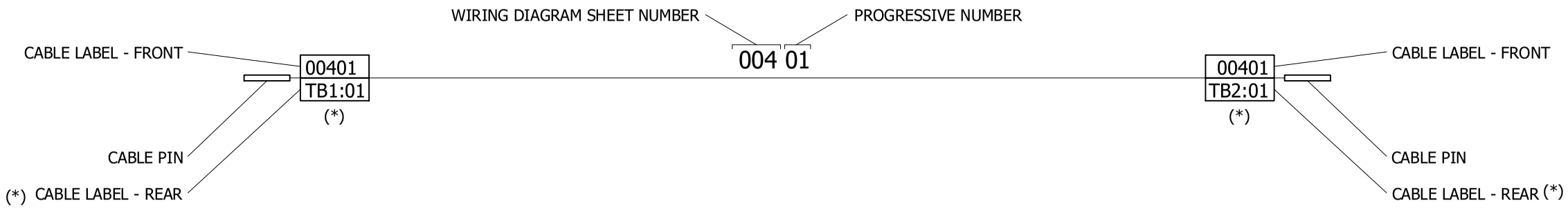
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DG-00024 | SHEET 004 | REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	
I.E. EARTH	

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 005

REV. 3

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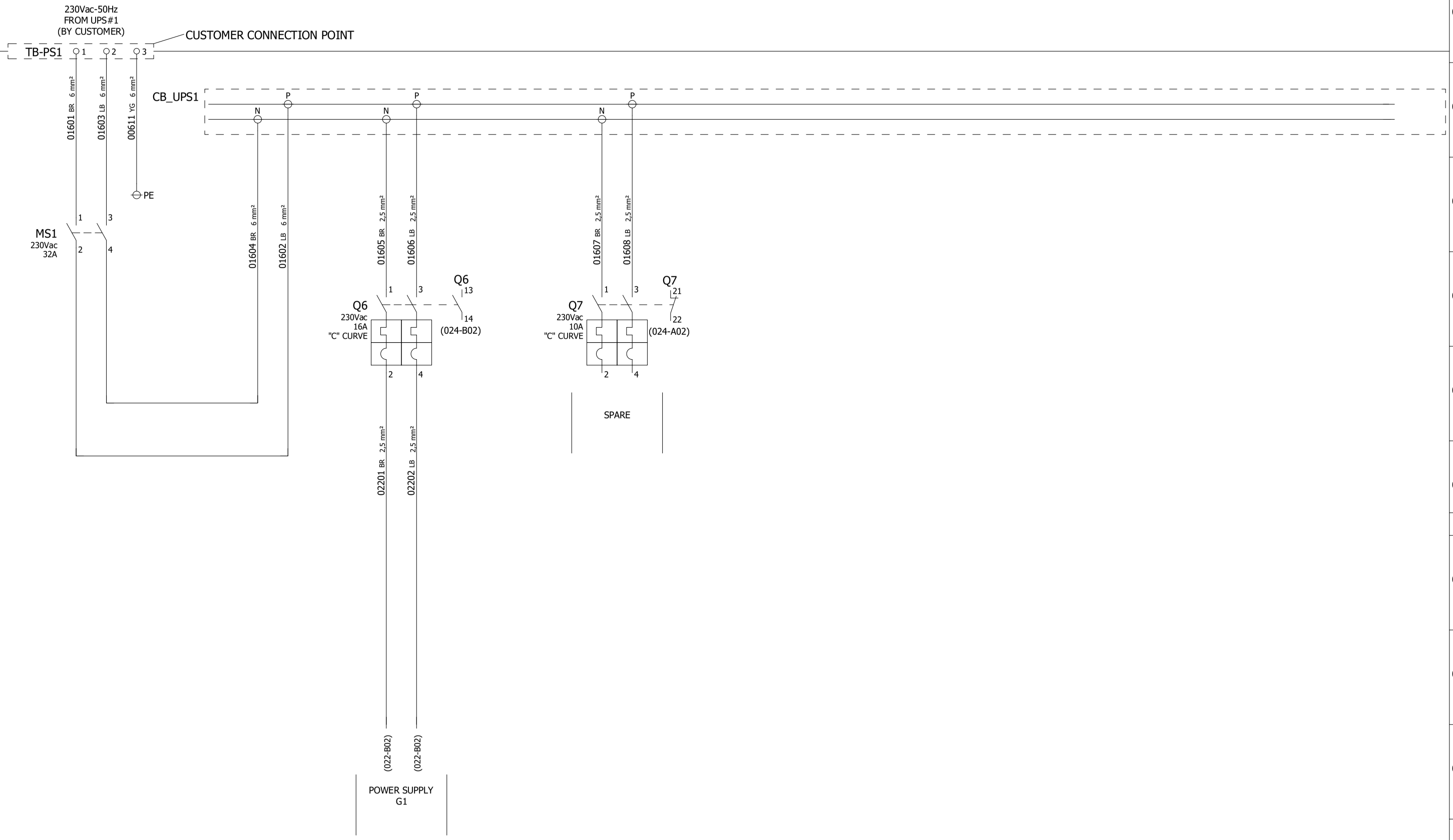
Document Nr. 1724000594-QC-DB-00033 - Rev.01
9 MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS PANEL - POWER DISTRIBUTION FROM UPS LINE 1



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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

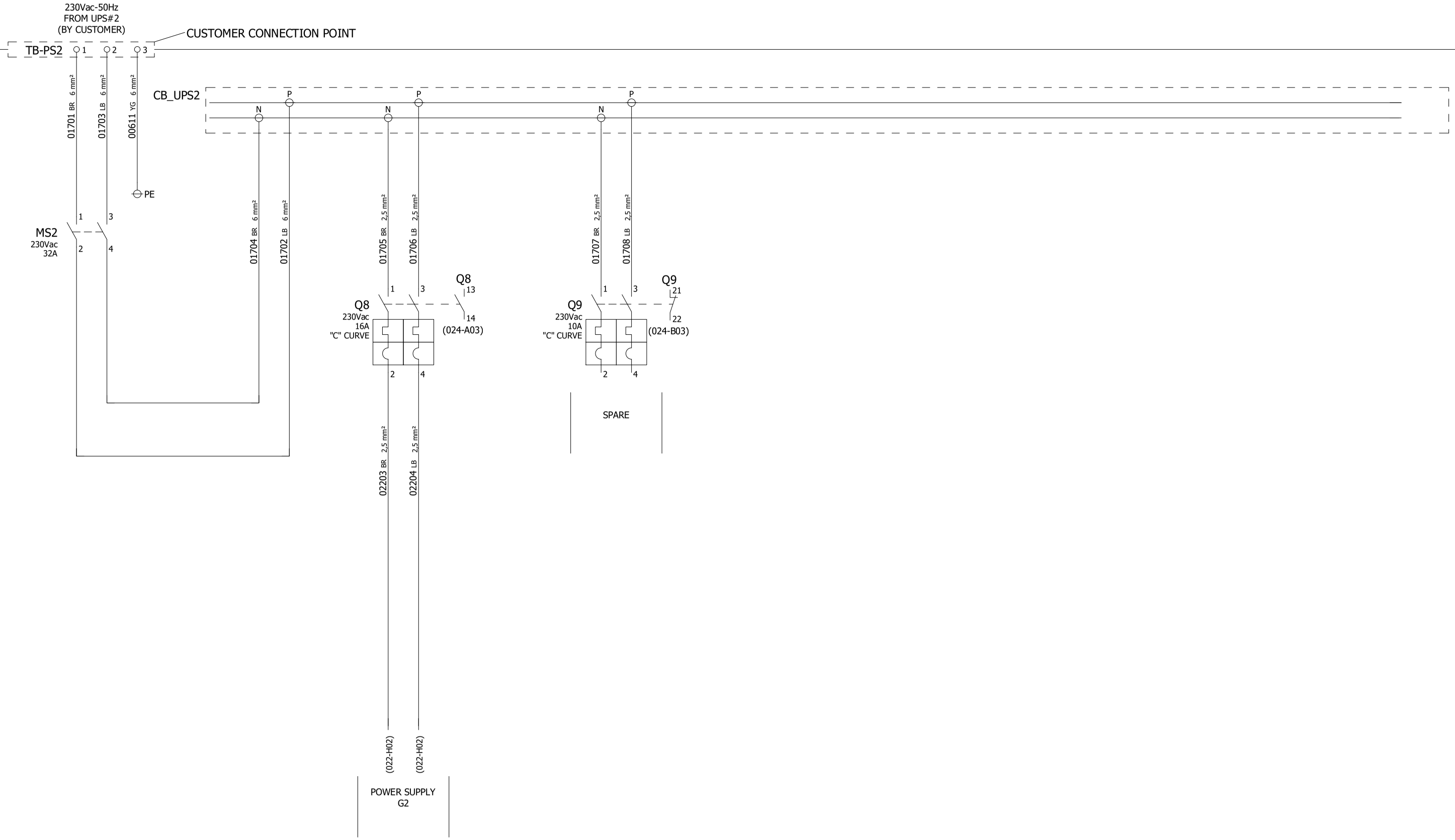
A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 016

REV. 3

EMCS PANEL - POWER DISTRIBUTION FROM UPS LINE 2



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DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 230Vac POWER DISTRIBUTION FROM UPS LINE 2

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00024

SHEET 017

REV. 3

EMCS PANEL - POWER DISTRIBUTION FROM NON UPS

230Vac-50Hz
FROM MCC
(BY CUSTOMER)

CUSTOMER CONNECTION POINT

TB-PS3 1 2 3

01801 BR 6 mm² — 01803 LB 6 mm² — 00611 YG 6 mm² — PE

CB_SER
(019-A01)

N P N P N P N P

(019-A01)
(019-A01)

01804 LB 6 mm² — 01802 BR 6 mm²

01805 BR 2.5 mm² — 01807 LB 2.5 mm²

01809 BR 2.5 mm² — 01813 LB 2.5 mm²

01814 BR 2.5 mm² — 01815 LB 2.5 mm²

Q1
230Vac
25A
Id 30mA
1 3 13 14
2 4
(024-G02)

Q2
230Vac
16A
"C" CURVE
1 3 13 14
2 4
(024-F02)

Q3
230Vac
2A
"C" CURVE
1 3 13 14
2 4
(024-E02)

Q4
230Vac
4A
"C" CURVE
1 3 21 22
2 4
(024-D02)

SPARE

01806 BR 2.5 mm² — 01808 LB 2.5 mm²

SK1
PE
00611 YG 2,5 mm²
PE

SERVICE SOCKET
230Vac 50Hz

01810 BR 1.5 mm²

S1 11 12

01811 BR 1.5 mm² — 01812 LB 1.5 mm²

H1 x1 x2

INTERNAL LIGHT
230Vac 50Hz
TOTAL CONSUMPTION: 15W

NOTE:
INTERNAL LAMP IS DOUBLE INSULATION DEVICE.
NO EARTH CONNECTION REQUIRED.

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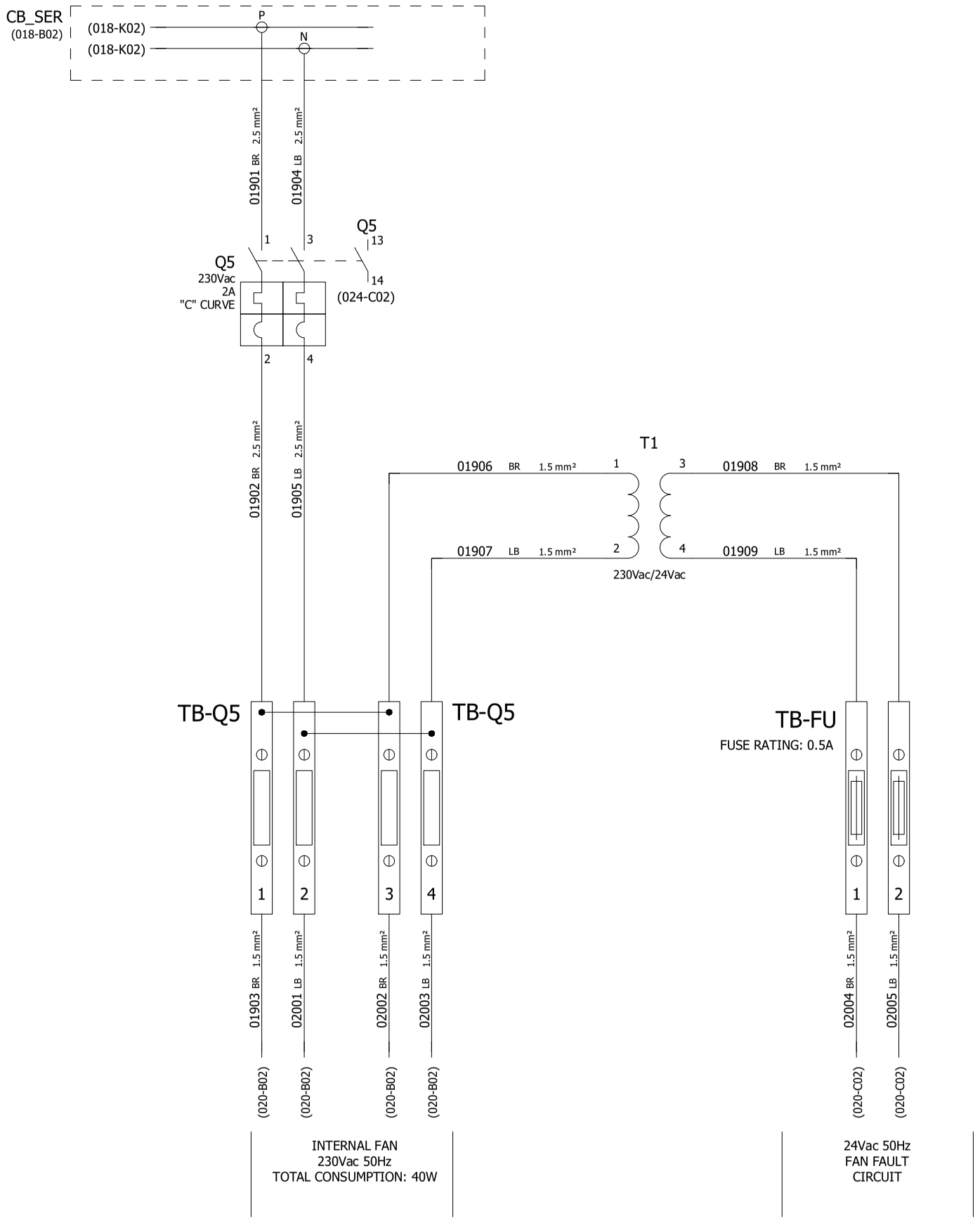
YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND — ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DG-00024
SHEET 018
REV. 3

EMCS PANEL - POWER DISTRIBUTION FROM NON UPS



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DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 230Vac POWER DISTRIBUTION FROM NON-UPS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

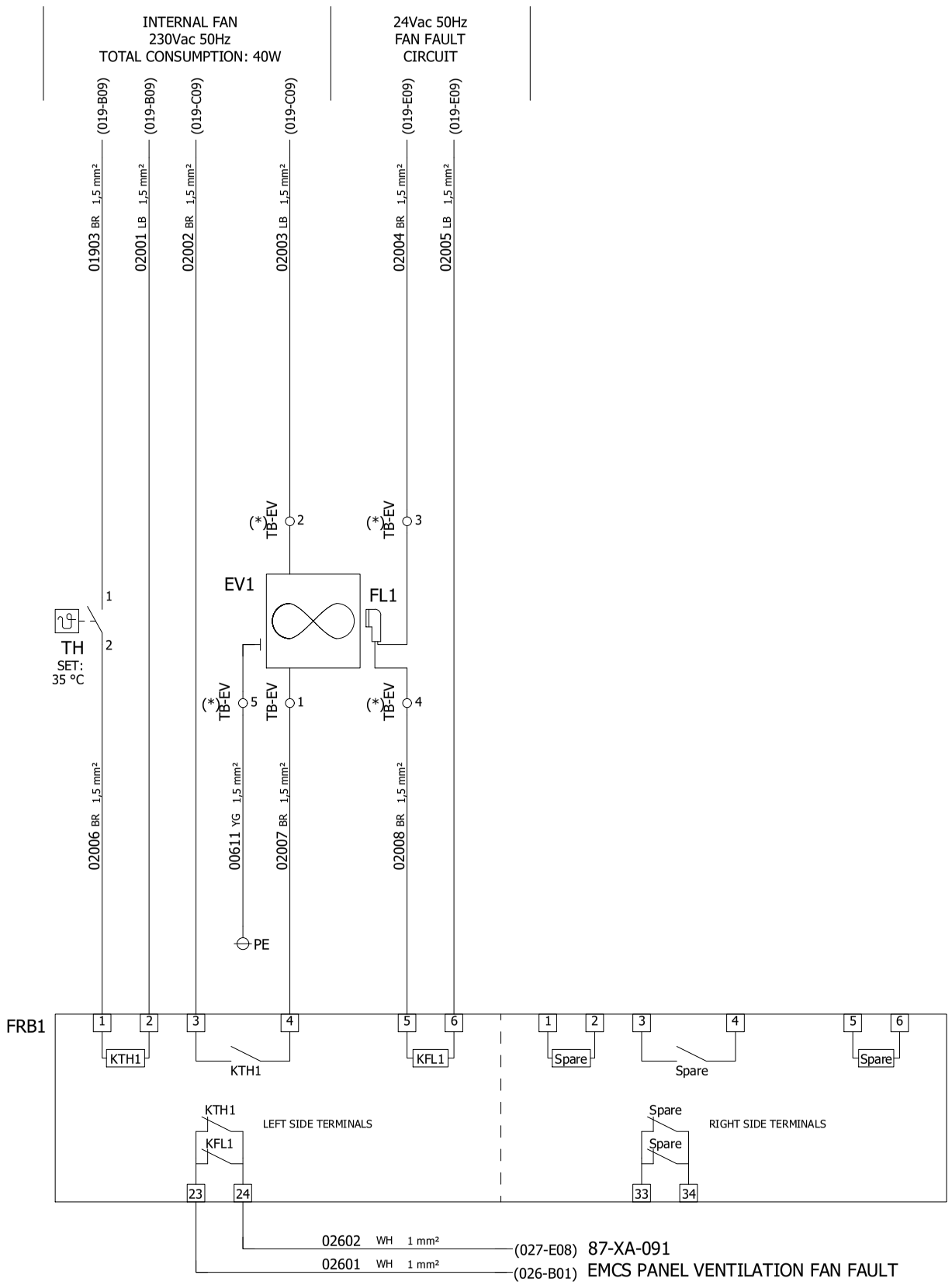
A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 019

REV. 3

EMCS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN & HEATER



NOTE (*):
TB-EV IS A FEED THROUGH TERMINAL BOARD FOR
PRE-WIRED ITEMS CONNECTION. FOR THIS REASON,
WIRE NUMBERS WILL BE THE SAME ON BOTH SIDES.

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 230Vac 50Hz POWER DISTRIBUTION VENTILATION FAN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 020

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 021

REV. 3

EMCS PANEL - 230Vac/24Vdc POWER DISTRIBUTION

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#1

(016-D09) 02201 BR 2.5 mm²
(016-D09) 02202 LB 2.5 mm²

G1
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-) AC DC 13 14 PE + + - -

02603 WH 1 mm² (027-F09)
00611 YG 2,5 mm² PE

87-XA-092
EMCS PANEL POWER SUPPLY
24Vdc FAILURE

02205 RD 4 mm²
02207 BU 4 mm²
02206 RD 4 mm²
02210 BU 4 mm²

VD1
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN2-
OUT+ OUT-

02208 RD 6 mm²
02211 BU 6 mm²

Q10
24Vdc
32A
"C" CURVE
1 3 13 14 (024-G04)
2 4

02209 RD 6 mm²
02212 BU 6 mm²

CB_24Vdc
(027-A01)
+ -

POWER SUPPLY LINE
230Vac 50Hz
FROM UPS#2

(017-D09) 02203 BR 2.5 mm²
(017-D09) 02204 LB 2.5 mm²

G2
IN: 230Vac
OUT: 24Vdc
480W
20A
WEIDMULLER PRO ECO
code 1469510000

L(+) N(-) AC DC 13 14 PE + + - -

02213 WH 1 mm²
02604 WH 1 mm² (026-B02)
00611 YG 2,5 mm² PE

87-XA-092
EMCS PANEL POWER SUPPLY
24Vdc FAILURE

02214 RD 4 mm²
02216 BU 4 mm²
02215 RD 4 mm²
02219 BU 4 mm²

VD2
20A
WEIDMULLER PRO DM 20
code 2486080000
IN1+ IN1- IN2+ IN1-
OUT+ OUT-

02217 RD 6 mm²
02220 BU 6 mm²

Q11
24Vdc
32A
"C" CURVE
1 3 13 14 (024-F04)
2 4

02218 RD 6 mm²
02221 BU 6 mm²

(027-A01)
(027-A01)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 230Vac / 24Vdc POWER DISTRIBUTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 022

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

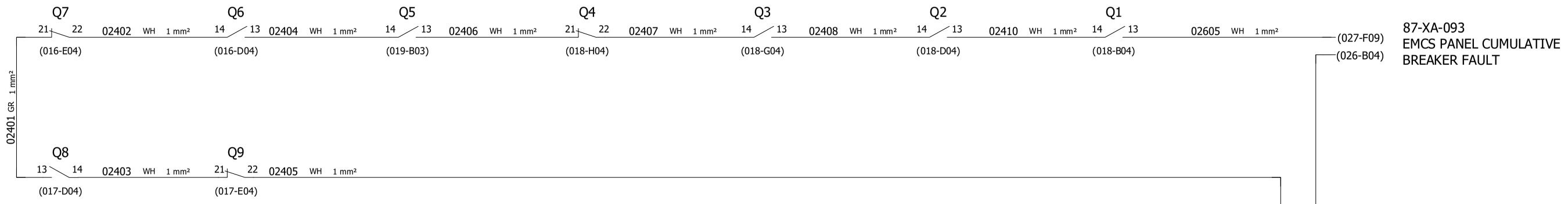
DRAWING NO. 1724000594-IN-DG-00024

SHEET 023

REV. 3

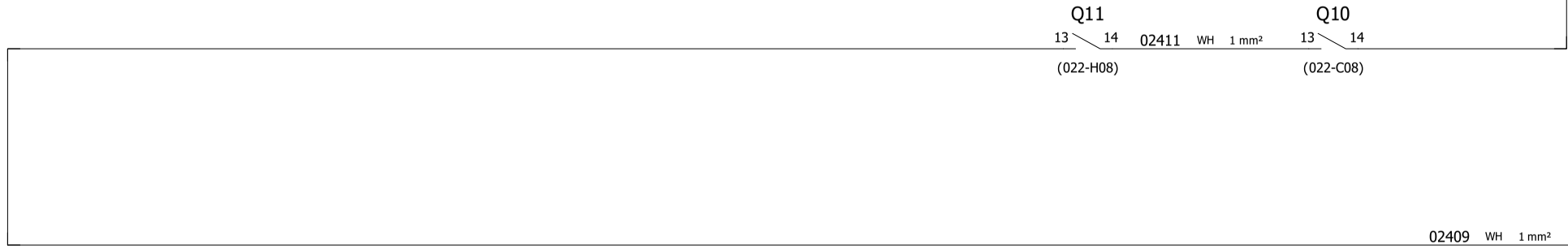
EMCS PANEL - BRAKER FAULT ALARM CIRCUIT

230Vac CIRCUIT BREAKER



87-XA-093
EMCS PANEL CUMULATIVE
BREAKER FAULT

24Vdc CIRCUIT BREAKER



NOTE : SPARE CIRCUIT BREAKER FAULT CONTACT TO BE CONNECTED ON NORMALLY CLOSE CONTACT.
CHANGE CONNECTION TO NORMALLY OPEN CONTACT WHEN THE BREAKER WILL BE USED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - BREAKER FAULT ALARM CIRCUIT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

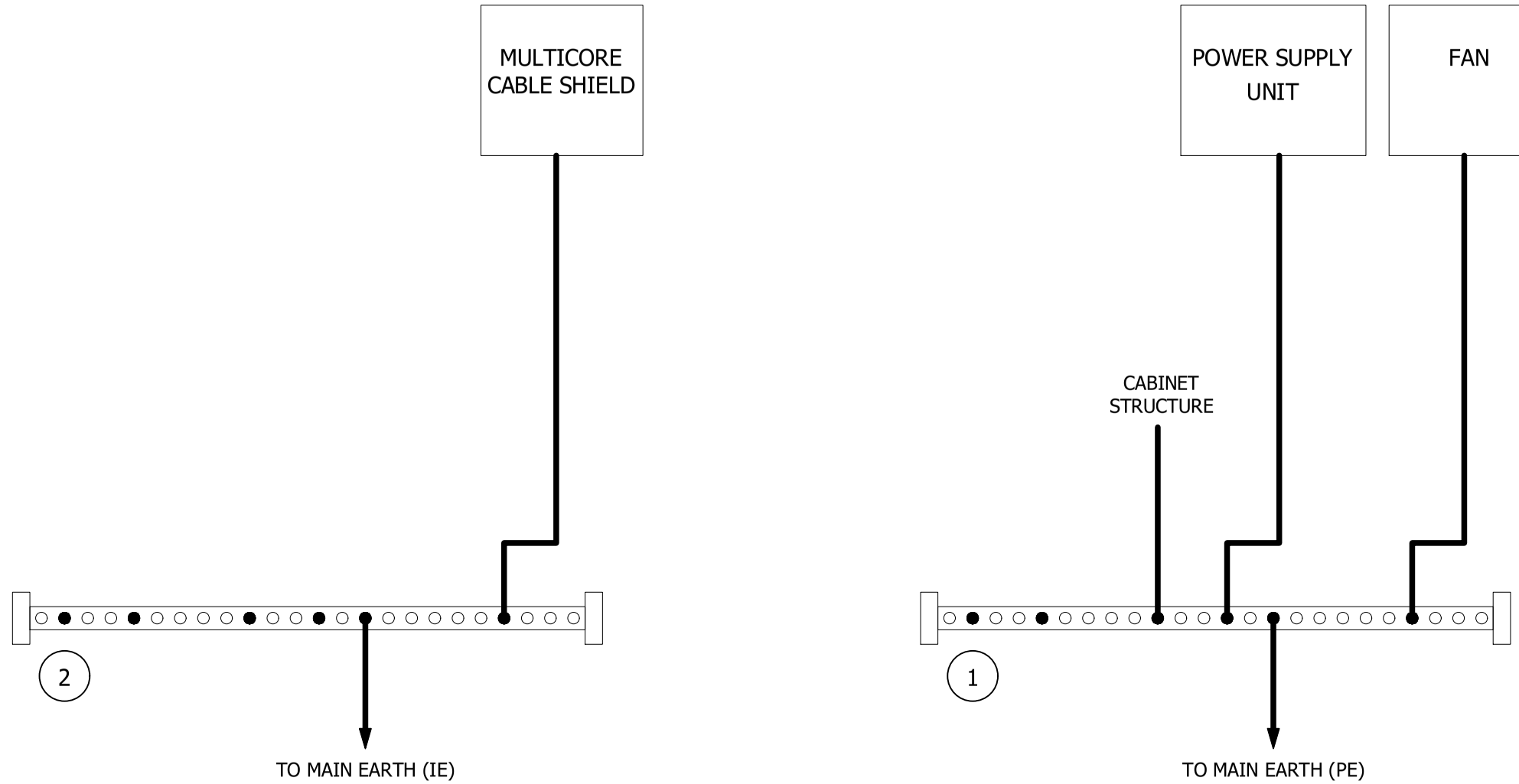
A3

DRAWING NO.
1724000594-IN-DG-00024

SHEET 024

REV. 3

POS.	EARTH TYPE	DESCRIPTION SYSTEM EARTH
1	P.E. EARTH	PROTECTION EARTH (GROUND, FRAME CHASSIS)
2	I.E. EARTH	INSTRUMENTAL EARTH



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - SHIELD / GROUND CONNECTION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

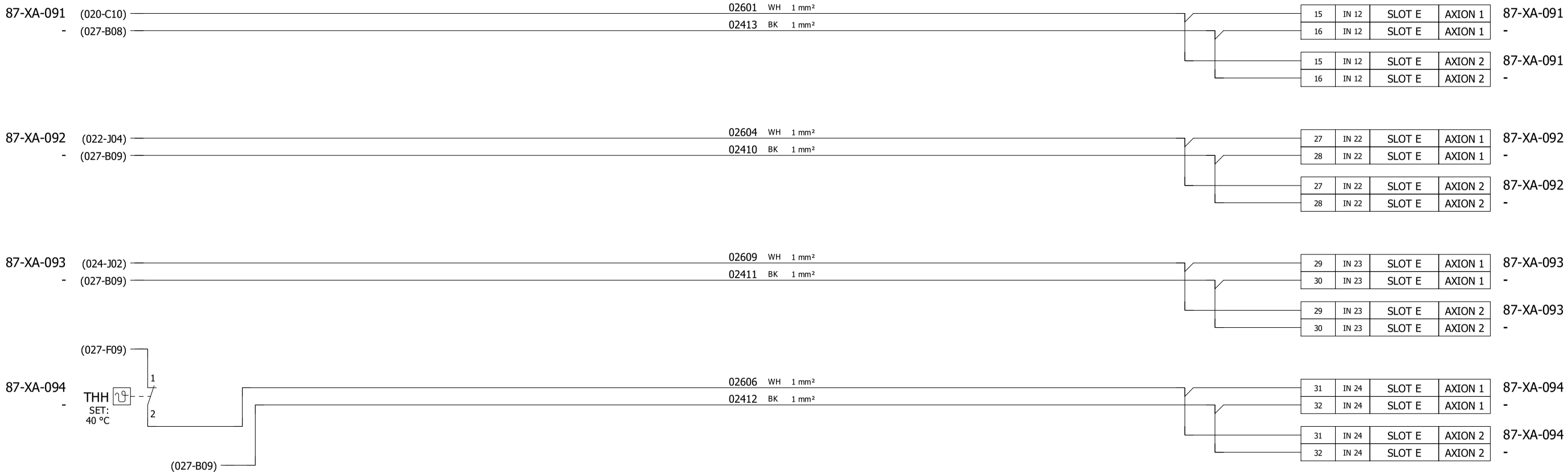
A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 025

REV. 3

EMCS PANEL - FAULT ALARM SIGNALS TO DCS



CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
87-XA-091	EMCS PANEL VENTILATION FAN FAULT
87-XA-092	EMCS PANEL POWER SUPPLY & DIODES FAILURE
87-XA-093	EMCS PANEL CUMULATIVE BREAKER FAULT
87-XA-094	EMCS PANEL HIGH TEMPERATURE ALARM

CUSTOMER TAG	SIGNAL DESCRIPTION FROM IO LIST
-	-
-	-
-	-
-	-
-	-

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - FAULT ALARM SIGNALS TO DCS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

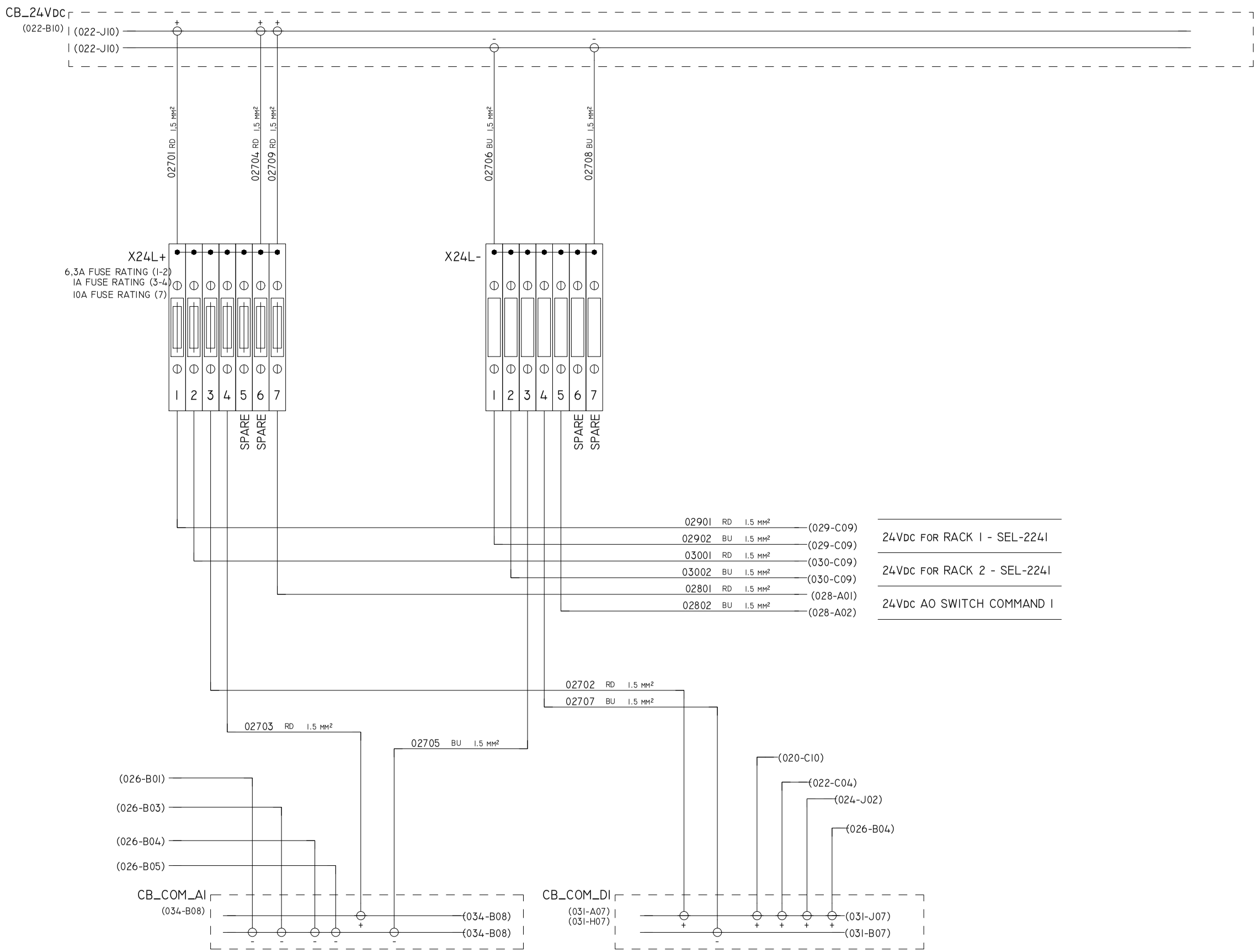
A3

DRAWING NO.
1724000594-IN-DG-00024

SHEET 026

REV. 3

EMCS PANEL - 24VDC POWER DISTRIBUTION



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT NR. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - 24VDC POWER DISTRIBUTION

CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
I724000594-IN-DG-00024

SHEET 027

REV. 3

EMCS PANEL - AO SWITCH COMMAND

-

(027-E07)
(027-E07)

02802 BU 1.5 mm²
02801 RD 1.5 mm²
02803 BK 1.5 mm²
02805 BK 1.5 mm²
02806 BK 1.5 mm²
02804 BK 1.5 mm²

29	OUT 15	SLOT F	AXION 1	87-XA-054
30	OUT 15	SLOT F	AXION 1	-
31	OUT 16	SLOT F	AXION 1	87-XA-054
32	OUT 16	SLOT F	AXION 1	-
29	OUT 15	SLOT F	AXION 2	87-XA-054
30	OUT 15	SLOT F	AXION 2	-
31	OUT 16	SLOT F	AXION 2	87-XA-054
32	OUT 16	SLOT F	AXION 2	-

CB_AO_COMMAND_1
(035-A06)
+
+
-
(035-B06)
(035-B06)

CB_AO_COMMAND_2
(035-A08)
+
+
-
(035-B08)
(035-B08)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - AO SWITCH COMMAND

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00024

SHEET 028

REV. 3

A	B	C	D	E	F	G	H	I	J
SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10
RTAC MODULE CARD SEL-2241	POWER SUPPLY (24Vdc) SEL-2243	ANALOG INPUT CARD SEL-2245-2	ANALOG OUTPUT CARD SEL-2245-3	DIGITAL INPUT CARD SEL-2244-2	DIGITAL OUTPUT CARD SEL-2244-3	SPARE	SPARE	SPARE	SPARE

TO VNET/IP
IEC61850 LINKS
(SERVER ITER)

\+ 02901 RD 1,5 mm² (027-E06)

\- 02902 BU 1,5 mm² (027-E06)

POWER SUPPLY LINE
24Vdc FROM X24L

REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	25.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - RACK "1"-SEL-2241

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 029

REV. 3

A	B	C	D	E	F	G	H	I	J
SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10
RTAC MODULE CARD SEL-2241	POWER SUPPLY (24Vdc) SEL-2243	ANALOG INPUT CARD SEL-2245-2	ANALOG OUTPUT CARD SEL-2245-3	DIGITAL INPUT CARD SEL-2244-2	DIGITAL OUTPUT CARD SEL-2244-3	SPARE	SPARE	SPARE	SPARE

TO VNET/IP
IEC61850 LINKS
(SERVER ITER)

\+ 03001 RD 1,5 mm² (027-E06)

\- 03002 BU 1,5 mm² (027-E07)

POWER SUPPLY LINE
24Vdc FROM X24L

REFER TO DOC. N. 1724000594-IN-DG-00016
"NETWORK CONNECTION DIAGRAM"

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - RACK "2"-SEL-2241

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 030

REV. 3

EMCS PANEL - TYPICAL WIRING DIGITAL INPUT (COMMON NEGATIVE)

EMCS_DI01

SEL - DIGITAL INPUT CARD - SEL-2244-2 - AXION RACK FIRST CARD
DIGITAL INPUT - 24 POINTS

CARD A + CHANNEL

CARD A − CHANNEL

SEL - DIGITAL INPUT CARD - SEL-2244-2 - AXION RACK SECOND CARD
DIGITAL INPUT - 24 POINTS

CARD B + CHANNEL

CARD B − CHANNEL

WIRE A1 +

WIRE A2 −

WIRE A1 −

WIRE +

T.S. − NUM.

T.S. + NUM.

KNIFE DISCONNECT TERMINALS

MARSH T.S. NAME

CB_COM_DI
(027-D10)
(031-H07)
(027-F10)
-
-

CB_COM_DI
(027-D10)
(031-A07)
(027-F10)
+

TO FIELD

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	25.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - TYPICAL WIRING DIGITAL INPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 031

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

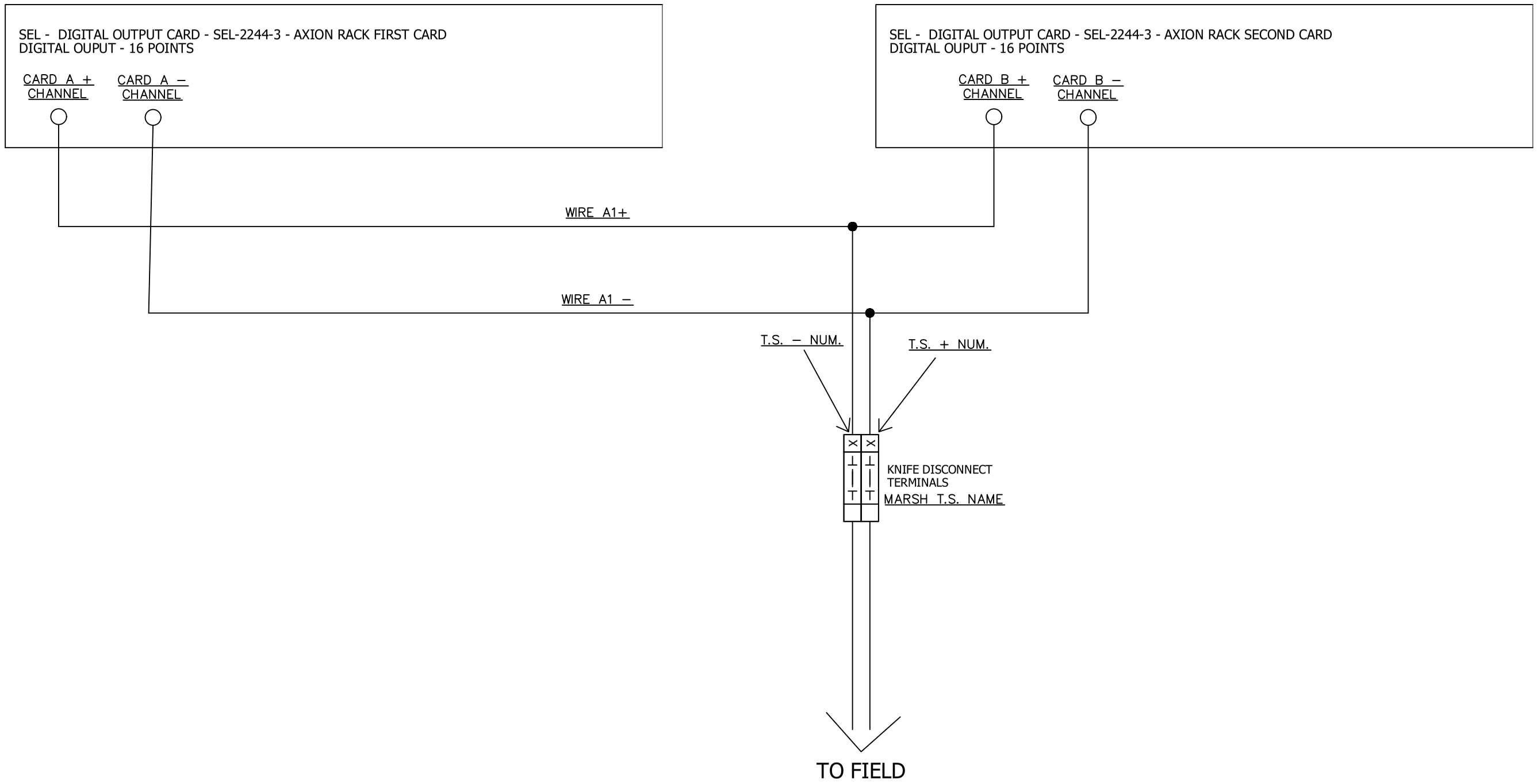
DRAWING NO. 1724000594-IN-DG-00024

SHEET 032

REV. 3

EMCS PANEL - TYPICAL WIRING DIGITAL OUTPUT

EMCS_D001



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - TYPICAL WIRING DIGITAL OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 033

REV. 3

EMCS PANEL - TYPICAL WIRING ANALOG INPUT

EMCS_AI01

SEL - ANALOG INPUT CARD - SEL-2245-2 - AXION RACK FIRST CARD
ANALOG INPUT - 16 POINTS

CARD A + CHANNEL

CARD A – CHANNEL

SEL - ANALOG INPUT CARD - SEL-2245-2 - AXION RACK SECOND CARD
ANALOG INPUT - 16 POINTS

CARD B + CHANNEL

CARD B – CHANNEL

WIRE A1–

WIRE A1+

WIRE B1+

WIRE B1–

10 11 12 7 8 9

Output2 (4...20A)

Output1 (4...20A)

KFD2-STC5-1.2O <1>

SIGNAL_SPLITTER

P.S. 24Vdc

Input (4÷20mA)

14 15 1 2 3

WIRE PS+

WIRE PS–

WIRE +

WIRE –

CB_COM_AI

(027-B10)

(027-C10) +

(027-C10) -

POWER SUPPLY (24Vdc)

T.S. + NUM.

T.S. – NUM.

MARSH T.S. NAME

KNIFE DISCONNECT TERMINALS

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - TYPICAL WIRING ANALOG INPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

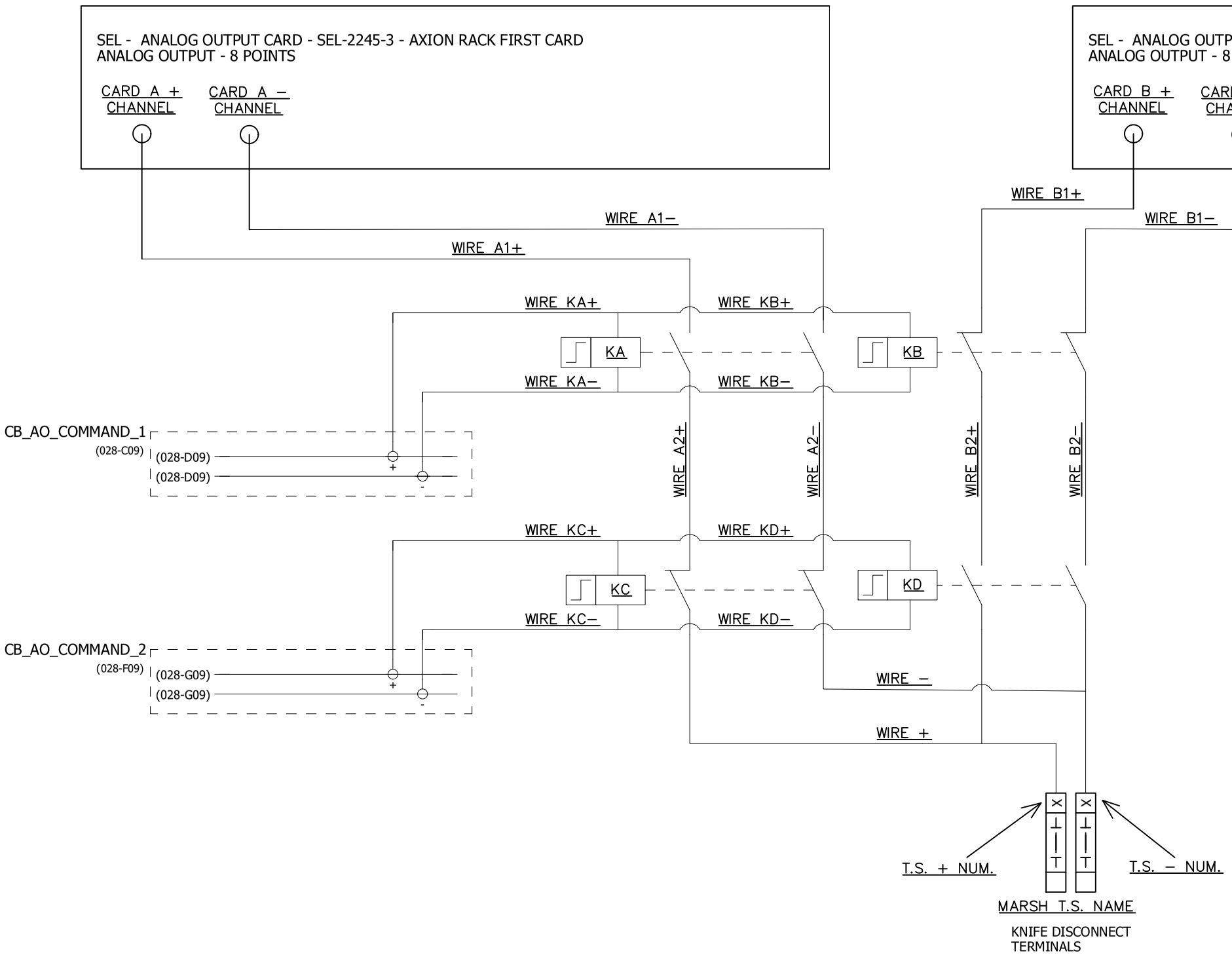
DRAWING NO. 1724000594-IN-DG-00024

SHEET 034

REV. 3

EMCS PANEL - TYPICAL WIRING ANALOG OUTPUT

EMCS_A001



REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - TYPICAL WIRING ANALOG OUTPUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 035

REV. 3

<2> EMCS PANEL - DIGITAL INPUT SIGNALS

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE A1+	WIRE A1-	WIRE A2-	WIRE +	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	CARD (A&B) + CHANNEL	CARD (A&B) - CHANNEL	SLOT A&B	TYIPICAL	CHANNEL NUMBER
WS_DI01	DI	TB_DI	01	02	03601	03602	03603	03604	1mm²	BK	WH	1	10	E	EMCS_DI01	1
WS_DI02	DI	TB_DI	03	04	03605	==	==	03606	1mm²	BK	WH	2	10	E	EMCS_DI01	2
WS_DI03	DI	TB_DI	05	06	03607	==	==	03608	1mm²	BK	WH	3	10	E	EMCS_DI01	3
WS_DI04	DI	TB_DI	07	08	03609	==	==	03610	1mm²	BK	WH	4	10	E	EMCS_DI01	4
WS_DI05	DI	TB_DI	09	10	03611	==	==	03612	1mm²	BK	WH	5	10	E	EMCS_DI01	5
WS_DI06	DI	TB_DI	11	12	03613	==	==	03614	1mm²	BK	WH	6	10	E	EMCS_DI01	6
WS_DI07	DI	TB_DI	13	14	03615	==	==	03616	1mm²	BK	WH	7	10	E	EMCS_DI01	7
WS_DI08	DI	TB_DI	15	16	03617	==	==	03618	1mm²	BK	WH	8	10	E	EMCS_DI01	8
WS_DI09	DI	TB_DI	17	18	03619	==	==	03620	1mm²	BK	WH	9	10	E	EMCS_DI01	9
WS_DI13	DI	TB_DI	19	20	03621	03622	03623	03624	1mm²	BK	WH	17	26	E	EMCS_DI01	13
WS_DI14	DI	TB_DI	21	22	03625	==	==	03626	1mm²	BK	WH	18	26	E	EMCS_DI01	14
WS_DI15	DI	TB_DI	23	24	03627	==	==	03628	1mm²	BK	WH	19	26	E	EMCS_DI01	15
WS_DI16	DI	TB_DI	25	26	03629	==	==	03630	1mm²	BK	WH	20	26	E	EMCS_DI01	16
WS_DI17	DI	TB_DI	27	28	03631	==	==	03632	1mm²	BK	WH	21	26	E	EMCS_DI01	17
WS_DI18	DI	TB_DI	29	30	03633	==	==	03634	1mm²	BK	WH	22	26	E	EMCS_DI01	18
WS_DI19	DI	TB_DI	31	32	03635	==	==	03636	1mm²	BK	WH	23	26	E	EMCS_DI01	19
WS_DI20	DI	TB_DI	33	34	03637	==	==	03638	1mm²	BK	WH	24	26	E	EMCS_DI01	20
WS_DI21	DI	TB_DI	35	36	03639	==	==	03640	1mm²	BK	WH	25	26	E	EMCS_DI01	21
SPARE	DI	TB_DI	37	38	03641	03642	N/A	N/A	1mm²	BK	WH	11	12	E	EMCS_DI01	10
SPARE	DI	TB_DI	39	40	03643	03644	N/A	N/A	1mm²	BK	WH	13	14	E	EMCS_DI01	11

NOTE: FOR CHANNEL NUMBER 12, 22, 23, 24 CHECK PAGE 26 (INTERNAL FAULT SYSTEM)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - DIGITAL INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 036

REV. 3

EMCS PANEL - DIGITAL OUTPUT SIGNALS

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE A1+	WIRE A1-	WIRE A2-	WIRE +	WIRE SECTION (A)	WIRE COLOUR + (A)	WIRE COLOUR - (A)	CARD (A&B) + CHANNEL	CARD (A&B) - CHANNEL	SLOT A&B	TYIPICAL	CHANNEL NUMBER
CMD ISLAND MODE TO BESS (TB KNIVES TEMPORARILY OPEN)	DO	TB_DO	01	02	03701	03702	N/A	N/A	1mm²	BK	WH	1	2	F	EMCS_DO01	1
WS_DO02	DO	TB_DO	03	04	03703	03704	N/A	N/A	1mm²	BK	WH	3	4	F	EMCS_DO01	2
WS_DO03	DO	TB_DO	05	06	03705	03706	N/A	N/A	1mm²	BK	WH	5	6	F	EMCS_DO01	3
WS_DO04	DO	TB_DO	07	08	03707	03708	N/A	N/A	1mm²	BK	WH	7	8	F	EMCS_DO01	4
WS_DO05	DO	TB_DO	09	10	03709	03710	N/A	N/A	1mm²	BK	WH	9	10	F	EMCS_DO01	5
WS_DO06	DO	TB_DO	11	12	03711	03712	N/A	N/A	1mm²	BK	WH	11	12	F	EMCS_DO01	6
WS_DO07	DO	TB_DO	13	14	03713	03714	N/A	N/A	1mm²	BK	WH	13	14	F	EMCS_DO01	7
WS_DO08	DO	TB_DO	15	16	03715	03716	N/A	N/A	1mm²	BK	WH	15	16	F	EMCS_DO01	8
WS_DO09	DO	TB_DO	17	18	03717	03718	N/A	N/A	1mm²	BK	WH	17	18	F	EMCS_DO01	9
WS_DO10	DO	TB_DO	19	20	03719	03720	N/A	N/A	1mm²	BK	WH	19	20	F	EMCS_DO01	10
WS_DO11	DO	TB_DO	21	22	03721	03722	N/A	N/A	1mm²	BK	WH	21	22	F	EMCS_DO01	11
WS_DO12	DO	TB_DO	23	24	03723	03724	N/A	N/A	1mm²	BK	WH	23	24	F	EMCS_DO01	12
WS_DO13	DO	TB_DO	25	26	03725	03726	N/A	N/A	1mm²	BK	WH	25	26	F	EMCS_DO01	13
WS_DO14	DO	TB_DO	27	28	03727	03728	N/A	N/A	1mm²	BK	WH	27	28	F	EMCS_DO01	14
SPARE	DO	TB_DO	29	30												
SPARE	DO	TB_DO	31	32												

NOTE: FOR CHANNEL NUMBER OUT15, 16 CHECK PAGE 28 (AO SWITCH COMMAND)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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0	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - DIGITAL OUTPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DG-00024

SHEET 037

REV. 3

EMCS PANEL - ANALOG INPUT SIGNALS

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE +	WIRE -	WIRE A1+	WIRE A1-	WIRE B1+	WIRE B1-	WIRE SECTION (A&B)	WIRE COLOUR + (A&B)	WIRE COLOUR - (A&B)	WIRE PS+	WIRE PS-	WIRE SECTION PS	WIRE COLOUR PS +	WIRE COLOUR PS -	SIGNAL SPLITTER	CARD (A&B) + CHANNEL	CARD (A&B) - CHANNEL	SLOT	TYPICAL	CHANNEL NUMBER
WS_AI01	AI	TB_AI	1	2	03801	03802	03803	03804	03805	03806	1mm²	BK	WH	02811	02812	1,5mm²	RD	BU	SSP1	1	2	C	EMCS_AI01	1
WS_AI02	AI	TB_AI	3	4	03807	03808	03809	03810	03811	03812	1mm²	BK	WH	02813	02814	1,5mm²	RD	BU	SSP2	4	5	C	EMCS_AI01	2
WS_AI03	AI	TB_AI	5	6	03813	03814	03815	03816	03817	03818	1mm²	BK	WH	02815	02816	1,5mm²	RD	BU	SSP3	6	7	C	EMCS_AI01	3
WS_AI04	AI	TB_AI	7	8	03819	03820	03821	03822	03823	03824	1mm²	BK	WH	02817	02818	1,5mm²	RD	BU	SSP4	9	10	C	EMCS_AI01	4
WS_AI05	AI	TB_AI	9	10	03825	03826	03827	03828	03829	03830	1mm²	BK	WH	02819	02820	1,5mm²	RD	BU	SSP5	11	12	C	EMCS_AI01	5
WS_AI06	AI	TB_AI	11	12	03831	03832	03833	03834	03835	03836	1mm²	BK	WH	02821	02822	1,5mm²	RD	BU	SSP6	14	15	C	EMCS_AI01	6
WS_AI07	AI	TB_AI	13	14	03837	03838	03839	03840	03841	03842	1mm²	BK	WH	02823	02824	1,5mm²	RD	BU	SSP7	16	17	C	EMCS_AI01	7
WS_AI08	AI	TB_AI	15	16	03843	03844	03845	03846	03847	03848	1mm²	BK	WH	02825	02826	1,5mm²	RD	BU	SSP8	19	20	C	EMCS_AI01	8
WS_AI09	AI	TB_AI	17	18	03849	03850	03851	03852	03853	03854	1mm²	BK	WH	02827	02828	1,5mm²	RD	BU	SSP9	21	22	C	EMCS_AI01	9
WS_AI10	AI	TB_AI	19	20	03855	03856	03857	03858	03859	03860	1mm²	BK	WH	02829	02830	1,5mm²	RD	BU	SSP10	24	25	C	EMCS_AI01	10
WS_AI11	AI	TB_AI	21	22	03861	03862	03863	03864	03865	03866	1mm²	BK	WH	02831	02832	1,5mm²	RD	BU	SSP11	26	27	C	EMCS_AI01	11
WS_AI12	AI	TB_AI	23	24	03867	03868	03869	03870	03871	03872	1mm²	BK	WH	02833	02834	1,5mm²	RD	BU	SSP12	29	30	C	EMCS_AI01	12
WS_AI13	AI	TB_AI	25	26	03873	03874	03875	03876	03877	03878	1mm²	BK	WH	02835	02836	1,5mm²	RD	BU	SSP13	31	32	C	EMCS_AI01	13
WS_AI14	AI	TB_AI	27	28	03879	03880	03881	03882	03883	03884	1mm²	BK	WH	02837	02838	1,5mm²	RD	BU	SSP14	34	35	C	EMCS_AI01	14
WS_AI15	AI	TB_AI	29	30	03885	03886	03887	03888	03889	03890	1mm²	BK	WH	02839	02840	1,5mm²	RD	BU	SSP15	36	37	C	EMCS_AI01	15
WS_AI16	AI	TB_AI	31	32	03891	03892	03893	03894	03895	03896	1mm²	BK	WH	02841	02842	1,5mm²	RD	BU	SSP16	39	40	C	EMCS_AI01	16

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - ANALOG INPUT SIGNALS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 038

REV. 3

EMCS PANEL - ANALOG OUTPUT SIGNALS (SIGNAL PART)

TAG NAME	IO TYPE	MARSH T.S. NAME	T.S. + NUM.	T.S. - NUM.	WIRE +	WIRE -	WIRE A1+	WIRE A1-	WIRE B1+	WIRE B1-	WIRE A2+	WIRE A2-	WIRE B2+	WIRE B2-	WIRE SECTION (A&B)	WIRE COLOUR + (A&B)	WIRE COLOUR - (A&B)	CARD (A&B) + CHANNEL	CARD (A&B) - CHANNEL	SLOT	CHANNEL NUMBER
SPARE	AO	TB_AO	1	2	03901	03902	03903	03904	03905	03906	03907	03908	03909	03910	1mm²	BK	WH	1	2	D	1
WS_AO02	AO	TB_AO	3	4	03911	03912	03913	03914	03915	03916	03917	03918	03919	03920	1mm²	BK	WH	4	5	D	2
WS_AO03	AO	TB_AO	5	6	03921	03922	03923	03924	03925	03926	03927	03928	03929	03930	1mm²	BK	WH	6	7	D	3
WS_AO04	AO	TB_AO	7	8	03931	03932	03933	03934	03935	03936	03937	03938	03939	03940	1mm²	BK	WH	9	10	D	4
WS_AO05	AO	TB_AO	9	10	03941	03942	03943	03944	03945	03946	03947	03948	03949	03950	1mm²	BK	WH	11	12	D	5
WS_AO06	AO	TB_AO	11	12	03951	03952	03953	03954	03955	03956	03957	03958	03959	03960	1mm²	BK	WH	14	15	D	6
WS_AO07	AO	TB_AO	13	14	03961	03962	03963	03964	03965	03966	03967	03968	03969	03970	1mm²	BK	WH	16	17	D	7
WS_AO08	AO	TB_AO	15	16	03971	03972	03973	03974	03975	03976	03977	03978	03979	03980	1mm²	BK	WH	19	20	D	8

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DESCRIPTION: E366772C00-EMCS_WD

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS CABINET WIRING DIAGRAMS AND TERMINAL STRIPS
EMCS PANEL - ANALOG OUTPUT SIGNALS (SIGNAL PART)

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DG-00024

SHEET 039

REV. 3

EMCS PANEL - ANALOG OUTPUT SIGNALS (SWITCH PART)

KA	KB	KC	KD	WIRE KA+	WIRE KA-	WIRE KB+	WIRE KB-	WIRE KC+	WIRE KC-	WIRE KD+	WIRE KD-	TYPICAL
KA1	KA2	KA3	KA4	04001	04002	04003	04004	04005	04006	04007	04008	EMCS_AO1
KA5	KA6	KA7	KA8	04009	04010	04011	04012	04013	04014	04015	04016	EMCS_AO1
KA9	KA10	KA11	KA12	04017	04018	04019	04020	04021	04022	04023	04024	EMCS_AO1
KA13	KA14	KA15	KA16	04025	04026	04027	04028	04029	04030	04031	04032	EMCS_AO1
KA17	KA18	KA19	KA20	04033	04034	04035	04036	04037	04038	04039	04040	EMCS_AO1
KA21	KA22	KA23	KA24	04041	04042	04043	04044	04045	04046	04047	04048	EMCS_AO1
KA25	KA26	KA27	KA28	04049	04050	04051	04052	04053	04054	04055	04056	EMCS_AO1
KA29	KA30	KA31	KA32	04057	04058	04059	04060	04061	04062	04063	04064	EMCS_AO1

YOKOGAWA ◆ PROJECT Nr. E36672C00
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CROSSWIND

ROSETTI MARINO

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EMCS PANEL - ANALOG OUTPUT SIGNALS (SWITCH PART)

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

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SHEET 040

REV. 3

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-8 Logic Diagrams; Loop Diagrams

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-8.1 Logic diagram print out PCS

1724000594-IN-DG-00025

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out PCS	Sheet 1 of 1552 Date: 16/09/2025 Rev: 01

Base Load Power Hub (BLPH)

Logic diagram print out PCS

Document Number: 1724000594-IN-DG-00025

Project Document Number: E366772C00-PCS_LD

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	29/09/2025

Document Class: 3

01	16/02/2025	Issue for Information (IFI)	JG	AB	SC
00	12/02/2025	Issue for Information (IFI)	SK	AB	SC
Rev.	Date	Description	Prepared	Reviewed	Approved

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Document Title:	Logic diagram print out PCS	Sheet 2 of 1552 Date: 16/09/2025 Rev: 01

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)

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No.	Description
1	
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Attachment -1 PCS Controller FCS0101 Logic Print Out

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

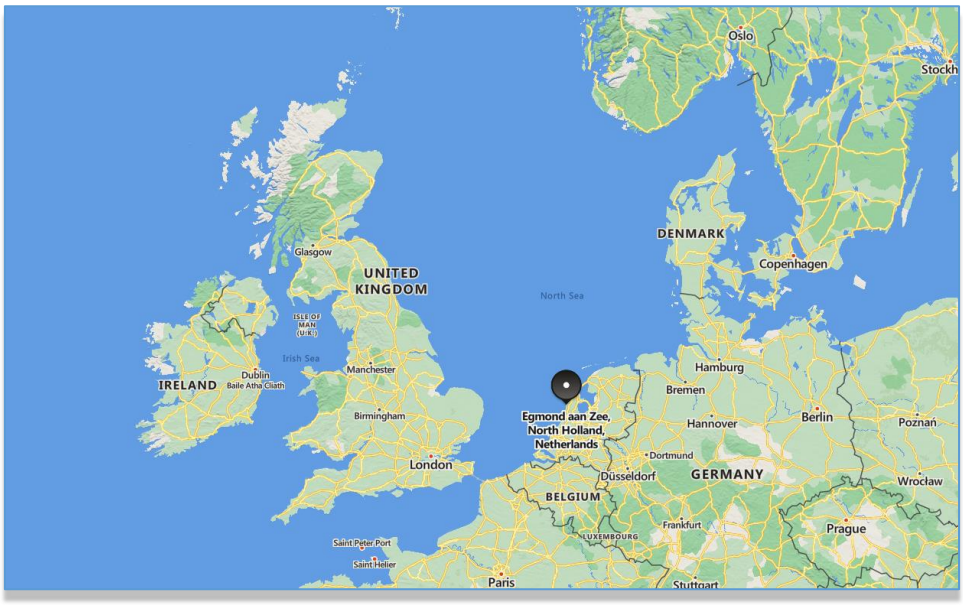

Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

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Document Title:	Logic diagram print out PCS	Sheet 6 of 1552 Date: 16/09/2025 Rev: 01

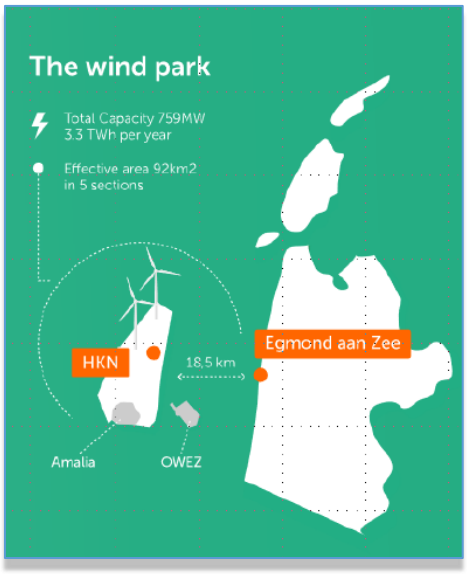

Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

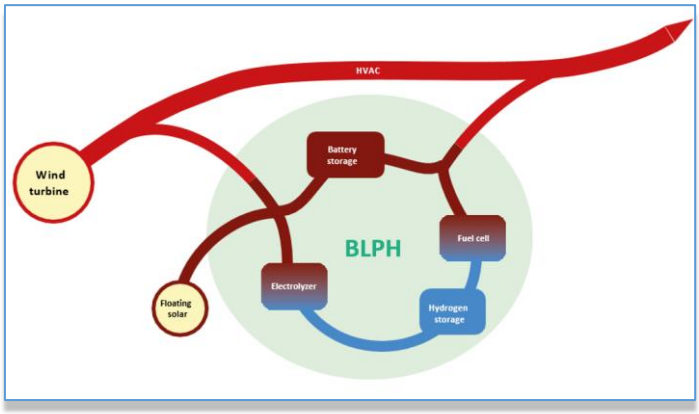

Figure 3 – BLPH Concept

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Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

Self-documentation is printouts the contents defined on the various builders and the tuning parameters to a document as archived materials.

2.1 REFERENCES

Doc. No.	*Description*
123A90-DDL-IN-DD-40019 Rev.00	Data Network Architecture Drawings
123A90-PML-QHSE-PRO-00113 Rev.01	Vendor final document requirements and management
123A90-PML-PM-RE-00038 Rev.01	PROJECT CODES AND STANDARDS REPORT
123A90-DDL-TL-SP-45007 Rev.02	Telecom System Philosophy and Specifications
123A90-DDL-SAF-DL-30027 Rev.00	FandG detection Layout - lower and upper deck
123A90-DDL-SAF-DL-30028 Rev.00	FandG detection Layout - Below Lower deck
123A90-DDL-PR-UFD-80006 Rev.01	BLPH UTILITY FLOW DIAGRAM WATER TREATMENT PLANT
123A90-DDL-PR-UFD-80007 Rev.01	BLPH UTILITY FLOW DIAGRAM INSTRUMENT AIR AND NITROGEN SYSTEMS
123A90-DDL-PR-UFD-80008 Rev.01	BLPH UTILITY FLOW DIAGRAM VENT SYSTEMS
123A90-DDL-IN-SP-40018 Rev. 00	Data Network Design Specification
123A90-DDL-IN-SP-40094 Rev. 00	Instrumentation for Package Unit Specification
123A90-DDL-IN-SP-40097 Rev.00	System Specification for Main Automation Contractor
123A90-DDL-IN-SP-40098 Rev.00	Control System (PCS) Specification
123A90-DDL-IN-SP-40100 Rev.00	Safety System (ESD, Fire and Gas) Specification
123A90-DDL-IN-RE-40023 Rev. 00	Cyber Security Design Philosophy
123A90-DDL-IN-RE-40093 Rev. 00	Control System Philosophy
123A90-DDL-IN-DD-40096 Rev.00	Control System Architecture Detailed Drawings

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out PCS	Sheet 9 of 1552 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
123A90-DDL-IN-DD-40029 Rev.00	Automation Detailed Design and Construction Package
123A90-DDL-PR-DG-80000 Rev.01	Process Safety Cause and Effect Block Diagram
123A90-DDL-IN-MR-40103 Rev.01	MR - Process Automation System
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix
K559-2254-PM-PLN-003 Rev.02	BASIC DESIGN ENGINEERING PACKAGE
123A90-MOM-RM-OOE-CW-002 Rev.00	Solar Package – BLPH Network Redundancy discussion
CWHKN-INN-INP-SPC-00005 Rev.01	SCADA Functional Design Specification
Crosswind - System Security Requirements v1.0	SYSTEM SECURITY REQUIREMENTS
K559-2254-EL-PHI-002 Rev03	ELECTRICAL SYSTEM DESCRIPTION AND DESIGN PHILOSOPHY
K559-2254-IC-BLD-001 Rev.01	PRELIMINARY CONTROL SYSTEM ARCHITECTURE
K559-2254-IC-PHI-001 Rev.01	CONTROL SYSTEM PHILOSOPHY
K559-2254-IC-REP-003 Rev.00	CYBER SECURITY ASSESSMENT
K559-2254-IC-SPE-001 Rev.00	SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR
K559-2254-PR-BLD-001 Rev.01	BLOCK FLOW DIAGRAM SYSTEM OVERVIEW
K559-2254-EL-LST-001 Rev.00	CONTROL ALARM AND MONITORING TABLE
123A90-DDL-IN-LIS-40027 Rev.01	Master Alarm Database
123A90-DDL-IN-RE-40026 Rev.00	Alarm Management Workshop Report
123A90-DDL-IN-RE-40095 Rev.01	Process Control Logics Description
123A90-DDL-IN-PRO-40010 Rev.01	Override Procedures for Process Safeguarding Systems
123A90-DDL-IN-RE-40025 Rev.01	Alarm Management Workshop Terms of Reference
123A90-DDL-IN-SP-40024_Rev.00	Alarm System Requirements Specification
123A90-DDL-PR-RE-80031 Rev.02	Process Control, Operation, Start-up and Shutdown Philosophy
123A90-DDL-EL-DG-20014 Rev 01	Electrical Control, Protection and Metering Diagrams

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out PCS	Sheet 10 of 1552 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
123A90-DDL-EL-DG-20158 Rev.02	Overall-Key Single Line Diagram
123A90-DDL-EL-RE-20170 Rev.01	Electrical System Study Report - Load Flow
123A90-DDL-EL-RE-20171 REV.01	Electrical System Study Report - Short Circuit
123A90-DDL-EL-RE-20175 Rev.01	Electrical System Study Report - Power Factor Compensation
123A90-DDL-EL-RE-20176 Rev.01	Electrical System Study Report - Transient In-Rush
123A90-DDL-EL-SP-20141 Rev.01	Electrical System Description and Design Philosophy
1723001595-EL-DG-00012 Rev.02	Functional logic diagram
1723001595-EL-DG-00013 Rev.03	BASE LOAD POWER HUB (BLPH) - 66kV Switchgear (GIS) - Single line diagram
1723001595-EL-DG-00017 Rev.01	Inter-panel logic diagram
1723001697-EL-DG-00010 Rev.03	TR-100AD1 Termination and Wiring Diagram
1723002197-EL-DG-00010 Rev. 04	SG-100D1 HV SWBD 6,6kV - ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00011 Rev.04	SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00012 Rev.04	SG-200D2-LV SWBD 800V-ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00015 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - INCOMING FEEDER
1723002197-EL-DG-00016 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - BUS BAR METERING
1723002197-EL-DG-00017 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM BESS FEEDER A-8500
1723002197-EL-DG-00018 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00019 Rev.03	SG-100D1 HV SWBD 6,6kV- FUNCTIONAL DIAGRAM - FUEL CELL FEEDER A-80000
1723002197-EL-DG-00020 Rev.03	SG-100D1 HV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00021 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00022 Rev.01	SG-100D1 MV SWBD 6,6kV INTERCONNECTING

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out PCS	Sheet 11 of 1552 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
1723002197-EL-DG-00023 Rev.01	SG-100D1 MV SWBD 6,6kV-LOGIC DIAGRAM-INCOMING FEEDER TR-100AD1
1723002197-EL-DG-00025 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - BESS FEEDER A-85000
1723002197-EL-DG-00026 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00027 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM -FUEL CELL FEEDER A-80000
1723002197-EL-DG-00028 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00029 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00030 Rev.02	SG-200N1 LV SWBD 400-230V FUNCTIONAL DIAGRAMS - INCOMINGS AND INTERCONNECTING AND AUX DISTRIBUTION
1723002197-EL-DG-00031 Rev.02	SG-200N1 LV SWBD 400-230V - FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
1723002197-EL-DG-00032 Rev.01	SG-200D2 LV SWBD - ELECTRICAL FUNCTIONAL DIAGRAM
1724000428-IN-LIS-00016 Rev.03	IO LIST - INSTRUMENT AIR PACKAGE
1724000437-IN-LIS-00015 Rev.03	IO LIST - NITROGEN GENERATION PACKAGE U-64000
1724000372-EL-LIS-00014 Rev.02	IO LIST
1723002197-EL-LIS-00041 Rev.02	SG-100D1 IO LIST- Hv Switchgear
1723002197-EL-LIS-00042 Rev.02	SG-200N1 IO LIST - Lv Switchgear
1723002197-EL-LIS-00043 Rev.01	SG-200D2 IO LIST (HARDWARE -SOFTWARE)
1723001595-EL-LIS-00011 Rev.02	Switchgear IO list
1724000448-IN-LIS-00019 Rev.01	INPUT-OUTPUT LIST
123A90-DDL-EL-DG-20185 Rev.01	Electrical Single Line Diagram HV Systems
1724000372-EL-DG-00006 Rev.02	DC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM
1724000372-EL-DG-00007 Rev.02	AC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out PCS	Sheet 12 of 1552 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
123A90-DDL-IN-LIS-40089 Rev.03	Instrument I-O List
123A90-DDL-EL-DL-20100 Rev 01	Base Load Power Hub - Electrical Equipment Layout - Top Deck
123A90-DDL-EL-DL-20101 Rev 01	BASE LOAD POWER HUB (BLPH) - Electrical Equipment Layout - Lower Deck
123A90-DDL-EL-DL-20104 Rev.02	Base Load Power Hub (BLPH) - Electrical Equipment Layout - HV Switch room
123A90-DDL-EL-DL-20105 Rev.02	Electrical Equipment Layout - LV Switch room
123A90-DDL-EL-DL-20106 Rev.01	Base Load Power Hub (BLPH) - Electrical Equipment Layout - UPSs & Batteries Switch room
123A90-DDL-IN-DL-40012_Rev.03	BASE LOAD POWER HUB - OFFSHORE ITER - EQUIPMENT LAYOUT
1724000049-HV-PID-00039.Rev.00	B-100 PID - E&I SHELTERS
1724000049-HV-PID-00040.Rev.00	B-200 PID - E&I SHELTERS
1724000049-HV-PID-00041.Rev.00	B-300 PID - E&I SHELTERS
1724000049-HV-PID-00042.Rev.00	B-400 PID - E&I SHELTERS
1724000428-PR-PID-00019 Rev.02	PACKAGE PID - INSTRUMENT AIR PACKAGE
1724000437-PR-PID-00018 Rev.02	PACKAGE PID - NITROGEN GENERATION PACKAGE
1724000448-PR-PID-00013_Rev.01	WATER TREATMENT PACKAGE-PID DIAGRAM
HKN1-04-DWG-312 RevD	HKN1-04-DWG-312 Power Export System Single Line Diagram
K559-2254-CWIWP4202201-C06-001 Rev.01	Electrical Single Line Diagrams
K559-2254-CWIWP4202202-C03-001 Rev.05	BALLARD - BLPH Project - P&IDs
C63-PID-001_Rev.07	ELOGEN BLPH Project - Process and Instrumentation Diagrams
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix

Table 1 - Reference Documents

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out PCS	Sheet 13 of 1552 Date: 16/09/2025 Rev: 01

2.2 YOKOGAWA PROJECT DOCUMENTS

Doc. No.	Description
1724000594-IN-RE-00041 Rev00	Cybersecurity Workshop Preparation
1724000594-QC-ITP-00002 Rev01	INSPECTION AND TEST PLAN
1724000594-QC-PRO-00031 Rev00	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-SP-00018 Rev02	PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW)
1724000594-IN-LIS-00040 Rev00	VENDOR ASSET AND TAG REGISTER
1724000594-IN-MAN-00038 Rev00	Instructions for Operation and Maintenance for ProSafe-RS
1724000594-QC-PRO-00030 Rev01	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-RE-00008 Rev01	Safety Controller loading estimation
1724000594-IN-DD-00028 Rev01	HMI screens print out
1724000594-IN-PL-00029 Rev00	Safety Validation Plan (SVP)
1724000594-IN-LIS-00005 Rev00	EMCS IO List (HW and SW)
1724000594-IN-RE-00035 Rev01	Cyber Security Risk Assessment REPORT
1724000594-IN-RE-00043 Rev00	CYBER SECURITY SETTINGS
1724000594-IN-LIS-00036 Rev01	ATEX REGISTER
1724000594-IN-SP-00019 Rev02	EMCS Software Functional Design Specification (FDS-SW)
1724000594-QC-LIS-00034 Rev00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX
1724000594-QC-PRO-00042 Rev00	THIRD PARTY COMMUNICATION TEST PROCEDURE
1724000594-IN-DD-00015 Rev03	System Architecture
1724000594-IN-LIS-00004 Rev03	PCS and Safety System IO List (HW and SW)
1724000594-IN-DG-00016 Rev01	Network Connection Diagram
1724000594-IN-LIS-00007 Rev01	Systems Cables List
1724000594-IN-SP-00017 Rev01	PAS Hardware Functional Design Specification (FDS-HW)

Table 2 – Yokogawa Project Documents

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2.3 DEFINITIONS AND ABBREVIATIONS

ALE	Yokogawa Ethernet Communication Module
AMS	Alarm Management System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
Centum VP	Yokogawa's DCS Product
PCS	Process Control System
CI	Collaborative Information
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
DCS	Distributed Control System
DEP	Design and Engineering Practice
DOCUMENT NAME	Document Title
EMCS	Electrical Monitoring and Control System
EPC	Engineering, Procurement Construction
EWS	Engineering Workstation
FCS	Field Control Station
FGS	Fire & Gas System
GSD	General Station Description
HART	Highway Addressable Remote Transducer
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA.
IAMS	Instrument Asset Management System

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IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
ITP	Inspection and Test Plan
MAC	Main Automation Contractor
MCC	Motor Control Centre
NA	Not Applicable
OER	Onshore Equipment Room
OPC	OLE (Object Linking Embedded) for Process Control
P&ID	Piping and Instrument Diagram
PCS	Process Control System
PIN	Plant Information Network
PRM	Plant Resource Manager
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
SCADA	Supervisory Control and Data Acquisition
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
TCP/IP	Transmission Control Protocol/Internet Protocol
Vnet/IP	Yokogawa Virtual Network
WSUS	Window Security Update Services

Table 3 - Definitions and Abbreviations

3 LOGIC DIAGRAM PRINT OUT PCS

Self-documentation are the print out of the contents defined on the various builders and the tuning parameters to a document as archived materials. The document can be printed to a PDF file instead of papers. Printing to papers or PDF files is performed in the background. Use letter-sized (US) or A4 paper.

"Print Parameters" can be performed to print the tuning parameters of field control station in one document. It can also print out the tuning parameters of a specified function block by designating its tag name.

3.1 PCS CONTROLLER FCS0101 LOGIC PRINT OUT

Refer Attachment-1 FCS0101 Controller Logic Print Out

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PROJECT:	BLPH-CW1	FILE NAME:		SHEET:		YOKOGAWA	PAGE:1
STATION:		SAVED DATE:		COMMENT:			
SECTION:	Contents	PRINTED DATE:	9/15/2025	DRAWER:			

	Title
	Contents
1	Explanatory legends
2	Project Definition
2.1	Project Properties
2.2	Plant Hierarchy
2.2.1	User-defined Equipment
2.2.2	Plant Hierarchy Equipment
2.3	Station Configuration
2.4	Security
2.5	Operation Mark
2.6	Engineering Unit Symbol
2.7	Switch Position Label
2.8	System-fixed Status Character String
2.9	Block Status Character String
2.10	Alarm Status Character String
2.11	Alarm Processing Table
2.12	Alarm Priority
2.13	Status Change Command Character String
2.14	Buzzer Assignment
2.15	CAMS for HIS
2.15.1	CAMS for HIS Alarm
2.15.2	CAMS for HIS Alarm Group
2.15.3	CAMS for HIS Message Monitor Definition
2.15.4	CAMS for HIS Shelf
2.16	State Transition Matrix List
2.17	Matrix1
2.18	UACS
2.18.1	UACS Alarm
2.18.2	UACS Alarm Group
2.18.3	UACS Assignment
2.18.4	UACS Filter
2.18.5	UACS Shelf
2.18.6	UACS Suppression Group
2.18.7	UACS View Layout
2.19	Domain Properties
2.20	UGS
2.20.1	User-Defined Faceplate Block Definition
3	FCS0101
3.1	FCS Properties
3.2	FCS Constant
3.3	Equipment
3.4	SFC Sequence List
3.5	SEQ_LIBRARY
3.5.1	SFC_SEQUENCE
3.6	IOM
3.6.1	NODE1
3.6.2	NODE2
3.6.3	NODE3
3.6.4	NODE4
3.7	Communication I/O
3.8	Communication I/O Tag
3.9	Expanded Communication I/O
3.10	Expanded Communication I/O Tag
3.11	Common switch
3.12	Common switch2
3.13	Common switch3
3.14	Common switch4
3.15	Common switch5
3.16	Common switch6
3.17	Common switch7
3.18	Common switch8
3.19	Common switch9
3.20	Global Switch
3.21	Printout Message
3.22	Operator Guide
3.23	Signal Event
3.24	Annunciator
3.25	Function Block

PROJECT:	BLPH-CW1	FILE NAME:		SHEET:		YOKOGAWA	PAGE:
STATION:		SAVED DATE:		COMMENT:			
SECTION:	Title	PRINTED DATE:	9/15/2025	DRAWER:			

PROJECT
BLPH-CW1

S e l f - D o c u m e n t a t i o n

9/15/2025

PROJECT:	BLPH-CW1	FILE NAME:		SHEET:		YOKOGAWA	PAGE:1-1
STATION:		SAVED DATE:		COMMENT:			
SECTION:	Explanatory legends	PRINTED DATE:	9/15/2025	DRAWER:			

Explanatory legends

In Self Document, the term is omitted as follows.

[Color]

B:Blue
C:Cyan
DB:Deep Sky Blue
G:Green
GR:Gray
M:Magenta
N:Black
OR:Orange
PK:Pink
R:Red
SB:Steel Blue
SG:Spring Green
VO:Violet
W:White
Y:Yellow
YG:Yellow Green

[IOM Builder (Contact Input/Output):Mode]

SI:Status Input
PB:Push-Button Input
SO:Status Output
PW:Pulse Width Output
TP:Time-Proportioning Output

PROJECT:	BLPH-CW1	FILE NAME:	Project.l	SHEET:		YOKOGAWA	PAGE:2-1-1
STATION:		SAVED DATE:	4/12/2025 12:13:48 PM	COMMENT:			
SECTION:	Project Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Project Property:BLPH-CW1

Name and Position

Project Name	BLPH-CW1
Position	C:\CENTUMVP\eng\BKProject\
Project Comment	
Alias of Project	
User authentication	
Use Windows user names as HIS user names	NO

Outline

Software Information	
Model Name	CENTUM VP
User Name	Windows User
Organization Name	BLPH-CW1
Project information	BLPH-CW1

Constant

Domain Number	1

Detailed Setting

Put Engineering Unit Symbol into MAN Mode	YES
Put Switch Position Label into MAN Mode	YES
Plant Hierarchy	
Start Number	1
Maximum Number of use	32767
Number of in use (Number of Custom facilities)	1287(1000)
Display FF-PID in same style as PID	NO
Do not allow online change of alarm detection (AF)	NO
Enable advanced features of editing headers and footers for self-documentation	YES
Show guide line for aligning I/O area on FCS builder	NO
Define tag name hierarchies	NO
Enable sheet-link on HIS	YES
Apply same permission level of PV to CPV	YES
Prohibit setting SV to a value beyond the range of SVL and SVH	NO
Hide the information related to disabled alarms on HIS	NO
Change the shape of tag marks and alarm marks for each alarm priority	NO

Graphic

Do not apply color change to the transparent control object if Transparent is checked	YES
Exchange text and background colors if Invert is checked	YES
Blink background if Invert is checked while a blinking action is active	YES

UACS

Alarm Management Type	Coexistence
Configuration Operation Keyboard	
ACK key acknowledges	The selected A&E Messages
Configuration Suppression	
Display the recovery message received in Standby.	NO

CAMS for HIS

PROJECT:	BLPH-CW1	FILE NAME:	Project.l	SHEET:		YOKOGAWA	PAGE:2-1-2
STATION:		SAVED DATE:	4/12/2025 12:13:48 PM	COMMENT:			
SECTION:	Project Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Alarm action	
Method	Consolidated
Display Alarm status of suppressed tag	
Detection=Disable	Display alarm status in CAMS for HIS style
Priority=Logging/Reference	Display alarm status in CAMS for HIS style
Suppression=ON	Display alarm status in CAMS for HIS style
Create R3/R4.01 Compatible Database	NO
Multiple project connection	
Equalize the alarm & event data and CAMS engineering data with connected projects	NO
Suppression	
Do not generate recovery message when Suppression is started.	NO
Save data for analysis	
Shelving historical information	YES

PROJECT:	BLPH-CW1	FILE NAME:	CustomPlant.edf	SHEET:		YOKOGAWA	PAGE:2-2-1-1
STATION:		SAVED DATE:	9/27/2024 11:53:47 PM	COMMENT:			
SECTION:	User-defined Equipment	PRINTED DATE:	9/15/2025	DRAWER:			

Plant Hierarchy Builder

No.	Equipment ID	Equipment name	Comment	Equipment Format	Upper Equipment Name
1	74	BLPH		Site	
2	740	PCS		Unit	BLPH
3	79	ESD		Unit	BLPH
4	70	FGS		Unit	BLPH
5	87	EMCS		Unit	BLPH
6	20	ELECTROLYZER		Unit	BLPH
7	80	FUELCELL		Unit	BLPH
8	85	BESS		Unit	BLPH
9	77	HVAC		Unit	BLPH
10	50	WTP		Unit	BLPH
11	63	IA		Unit	BLPH
12	64	N2		Unit	BLPH
13	72	NAVAIDS		Unit	BLPH
14	25	H2		Unit	BLPH
15	43	VENT		Unit	BLPH
16	741	IDS		Unit	BLPH
17					
18					
19					
20					

PROJECT:	BLPH-CW1	FILE NAME:	PlantClass.l	SHEET:		YOKOGAWA	PAGE:2-2-2-1
STATION:		SAVED DATE:	6/30/2025 12:22:55 AM	COMMENT:			
SECTION:	Plant Hierarchy Equipment	PRINTED DATE:	9/15/2025	DRAWER:			

Plant Hierarchy Viewer

Equipment ID	Equipment name	Upper Equipment Name	Equipment Format
20	ELECTROLYZER	BLPH	Unit
25	H2	BLPH	Unit
43	VENT	BLPH	Unit
50	WTP	BLPH	Unit
63	IA	BLPH	Unit
64	N2	BLPH	Unit
70	FGS	BLPH	Unit
72	NAVAIDS	BLPH	Unit
74	BLPH		Site
77	HVAC	BLPH	Unit
79	ESD	BLPH	Unit
80	FUELCELL	BLPH	Unit
85	BESS	BLPH	Unit
87	EMCS	BLPH	Unit
740	PCS	BLPH	Unit
741	IDS	BLPH	Unit
1001	FCS0101		Area
1006	%DR0005S010101	FCS0101	Cell
1007	%DR0006S010101	FCS0101	Cell
1008	%DR0007S010101	FCS0101	Cell
1009	%DR0008S010101	FCS0101	Cell
1010	%DR0009S010101	FCS0101	Cell
1015	%DR0014S010101	FCS0101	Cell
1022	%DR0021S010101	FCS0101	Cell
1023	%DR0022S010101	FCS0101	Cell
1025	%DR0024S010101	FCS0101	Cell
1032	%DR0031S010101	FCS0101	Cell
1033	%DR0032S010101	FCS0101	Cell
1036	%DR0035S010101	FCS0101	Cell
1037	%DR0036S010101	FCS0101	Cell
1038	%DR0037S010101	FCS0101	Cell
1039	%DR0038S010101	FCS0101	Cell
1040	%DR0039S010101	FCS0101	Cell
1041	%DR0040S010101	FCS0101	Cell
1042	%DR0041S010101	FCS0101	Cell
1043	%DR0042S010101	FCS0101	Cell
1044	%DR0043S010101	FCS0101	Cell
1045	%DR0044S010101	FCS0101	Cell
1047	%DR0046S010101	FCS0101	Cell
1081	%DR0080S010101	FCS0101	Cell
1082	%DR0081S010101	FCS0101	Cell
1102	%DR0101S010101	FCS0101	Cell
1103	%DR0102S010101	FCS0101	Cell
1104	%DR0103S010101	FCS0101	Cell
1105	%DR0104S010101	FCS0101	Cell
1106	%DR0105S010101	FCS0101	Cell
1107	%DR0106S010101	FCS0101	Cell
1108	%DR0107S010101	FCS0101	Cell
1109	%DR0108S010101	FCS0101	Cell
1110	%DR0109S010101	FCS0101	Cell
1111	%DR0110S010101	FCS0101	Cell
1112	%DR0111S010101	FCS0101	Cell
1113	%DR0112S010101	FCS0101	Cell
1114	%DR0113S010101	FCS0101	Cell
1115	%DR0114S010101	FCS0101	Cell
1116	%DR0115S010101	FCS0101	Cell
1117	%DR0116S010101	FCS0101	Cell
1118	%DR0117S010101	FCS0101	Cell
1119	%DR0118S010101	FCS0101	Cell
1120	%DR0119S010101	FCS0101	Cell
1121	%DR0120S010101	FCS0101	Cell
1122	%DR0121S010101	FCS0101	Cell
1123	%DR0122S010101	FCS0101	Cell
1124	%DR0123S010101	FCS0101	Cell
1126	%DR0125S010101	FCS0101	Cell
1127	%DR0126S010101	FCS0101	Cell
1128	%DR0127S010101	FCS0101	Cell
1129	%DR0128S010101	FCS0101	Cell
1131	%DR0130S010101	FCS0101	Cell
1132	%DR0131S010101	FCS0101	Cell
1135	%DR0134S010101	FCS0101	Cell
1136	%DR0135S010101	FCS0101	Cell

PROJECT:	BLPH-CW1	FILE NAME:	PlantClass.l	SHEET:		YOKOGAWA	PAGE:2-2-2-2
STATION:		SAVED DATE:	6/30/2025 12:22:55 AM	COMMENT:			
SECTION:	Plant Hierarchy Equipment	PRINTED DATE:	9/15/2025	DRAWER:			

Equipment ID	Equipment name	Upper Equipment Name	Equipment Format
1137	%DR0136S010101	FCS0101	Cell
1138	%DR0137S010101	FCS0101	Cell
1139	%DR0138S010101	FCS0101	Cell
1140	%DR0139S010101	FCS0101	Cell
1141	%DR0140S010101	FCS0101	Cell
1144	%DR0143S010101	FCS0101	Cell
1146	%DR0145S010101	FCS0101	Cell
1151	%DR0150S010101	FCS0101	Cell
1152	%DR0151S010101	FCS0101	Cell
1153	%DR0152S010101	FCS0101	Cell
1154	%DR0153S010101	FCS0101	Cell
1155	%DR0154S010101	FCS0101	Cell
1156	%DR0155S010101	FCS0101	Cell
1157	%DR0156S010101	FCS0101	Cell
1158	%DR0157S010101	FCS0101	Cell
1162	%DR0161S010101	FCS0101	Cell
1201	%DR0200S010101	FCS0101	Cell
1282	HIS0164		Area
1283	SCS0110		Area
1284	STN0160		Area
1286	STN0161		Area
1287	SCS0120		Area
1288	STN0162		Area

PROJECT:	BLPH-CW1	FILE NAME:	StnConf.edf	SHEET:		YOKOGAWA	PAGE:2-3-1
STATION:		SAVED DATE:	4/15/2025 2:31:18 AM	COMMENT:			
SECTION:	Station Configuration	PRINTED DATE:	9/15/2025	DRAWER:			

Station Configuration Viewer

No.	Domain number	Station number	Station Name	Alias of Station	Station type				
	Comment		Ethernet Host Name	Ethernet Address	Subnet mask	Vnet Host Name	Vnet Address	Subnet Mask (Vnet)	
	Component number								
001	1	1	FCS0101		AFV30D Duplexed Field Control Unit(for Vnet/IP and FIO, 19" Rack Mountable Type)				
						FCS0101	172.16.1.1	255.255.0.0	
002	1	10	SCS0110		S2SC70D-F Duplexed Safety Control Unit (for Vnet/IP and N-IO/FIO, Rack Mountable Type, Wide Range Temperature Type)				
	SIS STATION 0110								
003	1	20	SCS0120		S2SC70D-F Duplexed Safety Control Unit (for Vnet/IP and N-IO/FIO, Rack Mountable Type, Wide Range Temperature Type)				
	FGS STATION 0120								
004	1	60	STN0160	IAMS	PC				
			IAMSSVR	127.0.0.1	255.0.0.0	IAMSSVR	172.16.1.60	255.255.0.0	
005	1	61	STN0161	CISERV02	PC				
006	1	62	STN0162	CISERV01	PC				
007	1	64	HIS0164		PC with Operation and Monitoring Functions				
			EWS0164	127.0.0.1	255.255.0.0	EWS0164	172.16.1.64	255.255.0.0	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	Usersec.edf	SHEET:		YOKOGAWA	PAGE:2-4-1
STATION:		SAVED DATE:	10/9/2024 11:59:00 PM	COMMENT:			
SECTION:	Security	PRINTED DATE:	9/15/2025	DRAWER:			

Security Builder

Valid User

No.	User Name	User Group	Privilege Levels	Set Automatic User Out Time
	Automatic User Out Time[Hour]	Comment		
0001	OFFUSER	DEFGRP	S1	NONE
	0 Hour 0 Minute	Default OFF User		
0002	ONUSER	DEFGRP	S2	NONE
	0 Hour 0 Minute	Default ON User		
0003	ENGUSER	DEFGRP	U3	NONE
	0 Hour 0 Minute	Default ENG User		
0004	PROG	DEFGRP	S8	NONE
	0 Hour 0 Minute	Default Program User		
0005	OPERATOR	DEFGRP	U2	NONE
	0 Hour 0 Minute	Operator		
0006	SUPERVISOR	DEFGRP	U1	NONE
	0 Hour 0 Minute	Supervisor		

User Group

No.0001 DEFGRP

Monitoring Range	ALL
Operation and Monitoring Range	ALL
Operation Allowed Station	ALL
Window Range	ALL
Acknowledgment	ALL
Process Message Receiving	ALL
System Alarm Receiving	ALL
Exclude Operation	NONE
Exclude Operation and Monitoring	NONE
Operation Denied Station	NONE
Exclude Acknowledgment	NONE
Exclude Process Message	NONE
Exclude System Alarm	NONE
Comment	Default User Group ALL

No.0002 NONEGRP

Monitoring Range	NONE
Operation and Monitoring Range	NONE
Operation Allowed Station	NONE
Window Range	NONE
Acknowledgment	NONE
Process Message Receiving	NONE
System Alarm Receiving	NONE
Exclude Operation	NONE
Exclude Operation and Monitoring	NONE
Operation Denied Station	NONE
Exclude Acknowledgment	NONE
Exclude Process Message	NONE
Exclude System Alarm	NONE
Comment	Default User Group NONE

PROJECT:	BLPH-CW1	FILE NAME:	OpeMarkdef.edf	SHEET:		YOKOGAWA	PAGE:2-5-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Operation Mark	PRINTED DATE:	9/15/2025	DRAWER:			

Operation Mark Builder

No.	Tag Label	Color	Tag Level	Install/Remove
0001	OPMARK01	W	Comment Type	All Privileges
0002	OPMARK02	W	Comment Type	All Privileges
0003	OPMARK03	W	Comment Type	All Privileges
0004	OPMARK04	W	Comment Type	All Privileges
0005	OPMARK05	W	Comment Type	All Privileges
0006	OPMARK06	W	Comment Type	All Privileges
0007	OPMARK07	W	Comment Type	All Privileges
0008	OPMARK08	W	Comment Type	All Privileges
0009	OPMARK09	W	Comment Type	All Privileges
0010	OPMARK10	W	Comment Type	All Privileges
0011	OPMARK11	W	Comment Type	All Privileges
0012	OPMARK12	W	Comment Type	All Privileges
0013	OPMARK13	W	Comment Type	All Privileges
0014	OPMARK14	W	Comment Type	All Privileges
0015	OPMARK15	W	Comment Type	All Privileges
0016	OPMARK16	W	Comment Type	All Privileges
0017	OPMARK17	W	Comment Type	All Privileges
0018	OPMARK18	W	Comment Type	All Privileges
0019	OPMARK19	W	Comment Type	All Privileges
0020	OPMARK20	W	Comment Type	All Privileges
0021	OPMARK21	W	Comment Type	All Privileges
0022	OPMARK22	W	Comment Type	All Privileges
0023	OPMARK23	W	Comment Type	All Privileges
0024	OPMARK24	W	Comment Type	All Privileges
0025	OPMARK25	W	Comment Type	All Privileges
0026	OPMARK26	W	Comment Type	All Privileges
0027	OPMARK27	W	Comment Type	All Privileges
0028	OPMARK28	W	Comment Type	All Privileges
0029	OPMARK29	W	Comment Type	All Privileges
0030	OPMARK30	W	Comment Type	All Privileges
0031	OPMARK31	W	Comment Type	All Privileges
0032	OPMARK32	W	Comment Type	All Privileges
0033	OPMARK33	W	Comment Type	All Privileges
0034	OPMARK34	W	Comment Type	All Privileges
0035	OPMARK35	W	Comment Type	All Privileges
0036	OPMARK36	W	Comment Type	All Privileges
0037	OPMARK37	W	Comment Type	All Privileges
0038	OPMARK38	W	Comment Type	All Privileges
0039	OPMARK39	W	Comment Type	All Privileges
0040	OPMARK40	W	Comment Type	All Privileges
0041	OPMARK41	W	Comment Type	All Privileges
0042	OPMARK42	W	Comment Type	All Privileges
0043	OPMARK43	W	Comment Type	All Privileges
0044	OPMARK44	W	Comment Type	All Privileges
0045	OPMARK45	W	Comment Type	All Privileges
0046	OPMARK46	W	Comment Type	All Privileges
0047	OPMARK47	W	Comment Type	All Privileges
0048	OPMARK48	W	Comment Type	All Privileges
0049	OPMARK49	W	Comment Type	All Privileges
0050	OPMARK50	W	Comment Type	All Privileges
0051	OPMARK51	W	Comment Type	All Privileges
0052	OPMARK52	W	Comment Type	All Privileges
0053	OPMARK53	W	Comment Type	All Privileges
0054	OPMARK54	W	Comment Type	All Privileges
0055	OPMARK55	W	Comment Type	All Privileges
0056	OPMARK56	W	Comment Type	All Privileges
0057	OPMARK57	W	Comment Type	All Privileges
0058	OPMARK58	W	Comment Type	All Privileges
0059	OPMARK59	W	Comment Type	All Privileges
0060	OPMARK60	W	Comment Type	All Privileges
0061	OPMARK61	W	Comment Type	All Privileges
0062	OPMARK62	W	Comment Type	All Privileges
0063	OPMARK63	W	Comment Type	All Privileges
0064	OPMARK64	W	Comment Type	All Privileges

PROJECT:	BLPH-CW1	FILE NAME:	EngUnit.edf	SHEET:		YOKOGAWA	PAGE:2-6-1
STATION:		SAVED DATE:	1/30/2025 6:47:15 AM	COMMENT:			
SECTION:	Engineering Unit Symbol	PRINTED DATE:	9/15/2025	DRAWER:			

Engineering Unit Symbol Builder

No.1 - No.64

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
1	(None)	17	KM	33		49	A
2	%	18	RPM	34		50	kA
3	S	19	M/S	35	MBAR	51	MV
4	MIN	20	M/M	36	bar	52	V
5	HR	21	M/H	37		53	kV
6	D	22	Hz	38		54	OHM
7	DEGC	23	kHz	39		55	VAR
8		24		40	K	56	kVAR
9	RAD	25	G/CM3	41	J	57	MVAR
10	DEG	26	G/NM3	42	W	58	pH
11	GAL	27	kG/CM3	43	kW	59	PPB
12	barg	28	kG/NM3	44	kWH	60	PPM
13	UM	29	kG/M3	45	MW	61	%O2
14	MM	30		46	MWH	62	%H2
15	CM	31	PA	47	kVA	63	%V
16	M	32		48	COSFi	64	WT%

No.65 - No.128

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
65	VOL%	81	kL	97	kG	113	KL
66	MOL%	82	kL/S	98	kG/S	114	
67		83	kL/M	99	kG/M	115	
68		84	kL/H	100	kG/H	116	
69	M3	85	NM3	101	TNE	117	MJ
70	M3/S	86	NM3/S	102	TNE/S	118	MJ/S
71	M3/M	87	NM3/M	103	TNE/M	119	MJ/M
72	M3/H	88	NM3/H	104	TNE/H	120	MJ/H
73	kM3	89	NKM3	105		121	
74	kM3/S	90	NKM3/S	106		122	HPA
75	kM3/M	91	NKM3/M	107		123	kPA
76	kM3/H	92	NKM3/H	108		124	MPA
77	L	93	G	109	NM3	125	
78	L/S	94	G/S	110		126	kJ
79	L/M	95	G/M	111		127	
80	L/H	96	G/H	112		128	

No.129 - No.192

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
129		145		161		177	
130		146		162		178	
131	mmH2O	147		163		179	
132		148		164		180	
133		149		165		181	
134		150		166		182	
135		151		167		183	
136	degC	152		168		184	
137	dB	153		169		185	
138	%L	154		170		186	
139	% LFL	155		171		187	
140	% Vol	156		172		188	
141	%LEL	157		173		189	
142	uS/cm	158		174		190	
143		159		175		191	
144		160		176		192	

PROJECT:	BLPH-CW1	FILE NAME:	EngUnit.edf	SHEET:		YOKOGAWA	PAGE:2-6-2
STATION:		SAVED DATE:	1/30/2025 6:47:15 AM	COMMENT:			
SECTION:	Engineering Unit Symbol	PRINTED DATE:	9/15/2025	DRAWER:			

No.193 - No.256

No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol	No.	Engineering Unit Symbol
193		209		225		241	
194		210		226		242	
195		211		227		243	
196		212		228		244	
197		213		229		245	
198		214		230		246	
199		215		231		247	
200		216		232		248	
201		217		233		249	
202		218		234		250	
203		219		235		251	
204		220		236		252	
205		221		237		253	
206		222		238		254	
207		223		239		255	
208		224		240		256	

PROJECT:	BLPH-CW1	FILE NAME:	Instlabel.edf	SHEET:		YOKOGAWA	PAGE:2-7-1
STATION:		SAVED DATE:	4/16/2025 11:56:48 PM	COMMENT:			
SECTION:	Switch Position Label	PRINTED DATE:	9/15/2025	DRAWER:			

Switch Position Label Builder

No.	Label 1	Label 2	Label 3	Label 4
001				
002	ON		OFF	ON
003	RUN		STOP	RUN
004	OPEN		CLOSE	OPEN
005	HIGH	MIDDLE	LOW	HIGH
006	RIGHT	MIDDLE	LEFT	RIGHT
007	DIRECT	STOP	REVERS	DIRECT
008	START	HOLD	STOP	START
009	3	2	1	0
010	STOP	PAUSE	START	STOP
011	UP		DOWN	UP
012	RUN	PAUSE	STOP	RUN2
013	START	PAUSE	RESTART	START2
014	START		STOP	START
015	REMOTE		LOCAL	REMOTE
016	READY		N_READY	READY
017	ALARM		NORMAL	ALARM
018	NORMAL		FAULT	NORMAL
019	RUNNING		STOPPED	RUNNING
020	CLOSED		N_CLOSED	CLOSED
021	OPENED		N_OPENED	OPENED
022	NORMAL		TRIP	NORMAL
023	START			START
024	STOP			STOP
025	LOCAL		REMOTE	LOCAL
026	N_OPENED		OPENED	N_OPENED
027	ENABLE		DISABLE	ENABLE
028	N_CLOSE		CLOSE	N_CLOSE
029	N_OPEN		OPEN	N_OPEN
030	N_CLOSED		CLOSED	N_CLOSED
031	CLOSE		N_CLOSE	CLOSE
032	DISABLE		ENABLE	DISABLE
033	OFF		ON	OFF
034	TRIP		NORMAL	TRIP
035	CLOSE		OPEN	CLOSE
036	ACTVD		N_ACTVD	ACTVD
037	FAULT		NORMAL	FAULT
038	RESET		-	RESET
039	LOCK		N_LOCK	LOCK
040				
041				
042				
043				
044				
045				
046				
047				
048				
049				
050				
051				
052				
053				
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060				
061				
062				
063				
064				
065				
066				
067				
068				
069				
070				
071				

PROJECT:	BLPH-CW1	FILE NAME:	Instlabel.edf	SHEET:		YOKOGAWA	PAGE:2-7-2
STATION:		SAVED DATE:	4/16/2025 11:56:48 PM	COMMENT:			
SECTION:	Switch Position Label	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Label 1	Label 2	Label 3	Label 4
072				
073				
074				
075				
076				
077				
078				
079				
080				
081				
082				
083				
084				
085				
086				
087				
088				
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118				
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120				
121				
122				
123				
124				
125				
126				
127				
128				

PROJECT:	BLPH-CW1	FILE NAME:	SysStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-8-1
STATION:		SAVED DATE:	4/11/2025 11:56:54 PM	COMMENT:			
SECTION:	System-fixed Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

System-fixed Status Character String Viewer

Data Status

Bit	DATA
1	BAD
2	QST
3	NCOM
4	NFP
5	PTPF
6	CLP+
7	CLP-
8	CND
9	CAL
10	NEFV
11	O/S
12	MNT
13	
14	
15	
16	
17	IOP+
18	IOP-
19	OOP
20	NRDY
21	PFAL
22	LPFL
23	MP
24	HAND
25	MINT
26	SINT
27	SVPB
28	WREQ
29	HASC
30	
31	
32	
33	

Block Mode

Bit	MODE
1	O/S
2	
3	
4	
5	IMAN
6	TRK
7	
8	SEMI
9	MAN
10	AUT
11	CAS
12	PRD
13	RCAS
14	ROUT
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	

PROJECT:	BLPH-CW1	FILE NAME:	SysStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-8-2
STATION:		SAVED DATE:	4/11/2025 11:56:54 PM	COMMENT:			
SECTION:	System-fixed Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

Bit	MODE

Block Status

Bit	TIMER	CODE	SIO	BBSETU	BFSBSET	BSAMA	STC
	IDCOM	BSRV2	BSRV3				
1	PAUS	ERR	ANCK			IMAN	INVL
	OFF						
2						TRK	
	INVL						
3	ABRT					ANCK	
4							
5							
6							
7							
8							
9	PALM	HI	OFF		OFF	OFF	WMUP
	ZHI	RST					
10	CTUP	LO	LOCK			LOCK	PLMT
	ZLO						
11	NR	NR				STBY	STUP
	ZHDB						
12						PAUS	PVER
	ZLDB						
13						CND1	
	SMH						
14							
	SML						
15							
	VI						
16							
	VD						
17	RUN		SIM	STRT	SIM	CND2	RUN
	CLP-	OVR					
18	STOP		NR	IBCH		SIM	OFF
	CLP+	NR					
19				STUP		PALM	
	CLP						
20				STDY		CTUP	
21				ERLY		NR	
22				PBCH			
23				END			
24				NCNT			
25	RSET			RSET			
	NR						
26				EMST			
27				EEMS			
28				RSTR			
29							
30							
31							
32							
33							

PROJECT:	BLPH-CW1	FILE NAME:	SysStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-8-3
STATION:		SAVED DATE:	4/11/2025 11:56:54 PM	COMMENT:			
SECTION:	System-fixed Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

Alarm Status

Bit							
	TIMER IDCOM	CODE BSRV2	SIO BSRV3	BBSETU	BFSBSET	BSAMA	STC
	PID ALM-R ASRV5	PI-BLEND AN ASRV6	ABSETU ECS ASRV7	FSBSET VPM ASRV8	MC ASRV2	CALCU ASRV3	SBSD ASRV4
1							
2							
3							
4							
5							
6							
7							
8	CAL CAL	CAL CAL	CAL CAL	CAL CAL	CAL	CAL	CAL
9	NR NR	NR NR	NR NR	NR NR	NR NR	NR	NR
10	OOP	OOP	OOP	OOP SGNL	OOP	OOP	OOP
11	IOP	IOP IOP	IOP IOP	IOP VPTN	IOP IOP	IOP	IOP
12	IOP-	IOP- IOP-	IOP-	IOP- DATA	IOP-	IOP-	IOP-
13	HH HALM	HH	NPLS	NPLS TYPE	TRIP HTRP		
14	LL	LL	LL	DV2	 LTRP		
15							
16				OUTS			
17	HI MALM	HI	HI HI	EMST	HI HHH		END
18	LO	LO	LO LO		LO LLL		PRE
19			LEAK	LEAK	 FLT		LEAK
20							
21	DV+ LALM	DV+	BDV+ DV+	DV1	PERR OVR	CERR	
22	DV-	DV-	BDV- DV-		 PWON		

PROJECT:	BLPH-CW1	FILE NAME:	SysStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-8-4
STATION:		SAVED DATE:	4/11/2025 11:56:54 PM	COMMENT:			
SECTION:	System-fixed Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

Bit							
	PID	PI-BLEND	ABSETU	FSBSET	MC	CALCU	SBSD
	ALM-R	AN	ECS	VPM	ASRV2	ASRV3	ASRV4
	ASRV5	ASRV6	ASRV7	ASRV8			
23							
24							
25	VEL+	HDV			ANS+		
	RALM		VEL		ANS+		
26	VEL-	LDV	BEND		ANS-		
			ABAL		ANS-		
27	MHI	MHI	BPRE		INT		
			MHI				
28	MLO	MLO					
			MLO				
29							
30							
31							
32	CNF	CNF	CNF	CNF	CNF	CNF	CNF
	CNF	ALM					
33							
		NR					

Alarm Flashing Status

Bit	
1	AFLS
2	AFL
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	

PROJECT:	BLPH-CW1	FILE NAME:	SysStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-8-5
STATION:		SAVED DATE:	4/11/2025 11:56:54 PM	COMMENT:			
SECTION:	System-fixed Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

Bit	AFLS

Alarm Output Off Status

Bit	AOFS
1	
2	AOF
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	

Alarm Detection

Bit	AF
1	
2	
3	AF
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	

PROJECT:	BLPH-CW1	FILE NAME:	SysStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-8-6
STATION:		SAVED DATE:	4/11/2025 11:56:54 PM	COMMENT:			
SECTION:	System-fixed Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

Bit AF
33

PROJECT:	BLPH-CW1	FILE NAME:	BlkStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-9-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Block Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

User-defined Status Character String Builder

Block Status Definition

Bit	USER1	USER2	USER3	USER4	USER5	USER6	USER7	USER8
1								
2	FAIL							
3	ABRT							
4	IDLE	ABORTED						
5	SIML	RUNNING						
6		SUSPEND						
7		PAUSED						
8								
9								
10								
11								
12								
13								
14								
15								
16								
17	RUN							
18	STOP							
19	STUP							
20	HOLD							
21	WAIT							
22								
23	END	END						
24								
25	SDWN							
26	ESD							
27								
28	RSTR							
29								
30								
31								
32								
33								

PROJECT:	BLPH-CW1	FILE NAME:	AlmStsLabel.edf	SHEET:		YOKOGAWA	PAGE:2-10-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Alarm Status Character String	PRINTED DATE:	9/15/2025	DRAWER:			

User-defined Status Character String Builder

Alarm Status Definition

Bit	USER9 USER16	USER10	USER11	USER12	USER13	USER14	USER15
1							
2							
3							
4							
5							
6							
7							
8							
9	NR	NR	NR				
10	OOP	ALARM01	ALARM01				
11	IOP	ALARM02	ALARM02				
12	IOP-	ALARM03	ALARM03				
13	ESTP	ALARM04	ALARM04				
14		ALARM05	ALARM05				
15	HIHI	ALARM06	ALARM06				
16	LOLO	ALARM07	ALARM07				
17	HI	ALARM08	ALARM08				
18	LO	ALARM09	ALARM09				
19		ALARM10	ALARM10				
20		ALARM11	ALARM11				
21	DV+	ALARM12	ALARM12				
22	DV-	ALARM13	ALARM13				
23		ALARM14	ALARM14				
24		ALARM15	ALARM15				
25	TRP	ALARM16	ALARM16				
26	SCBL	ALARM17	ALARM17				
27	INT	ALARM18	ALARM18				
28	ERR	ALARM19	ALARM19				
29	DISC	ALARM20	ALARM20				
30	BLCK	ALARM21	ALARM21				
31		ALARM22	ALARM22				
32	CNF	ALARM23	ALARM23				
33							

PROJECT:	BLPH-CW1	FILE NAME:	AlmTbl.edf	SHEET:		YOKOGAWA	PAGE:2-11-1
STATION:		SAVED DATE:	12/15/2024 9:58:05 PM	COMMENT:			
SECTION:	Alarm Processing Table	PRINTED DATE:	9/15/2025	DRAWER:			

Alarm Processing Table Builder

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]
	Priority[3]	Color[4]	Priority[4]	Color[5]	Priority[5]
	Color[6]	Priority[6]	Color[7]	Priority[7]	Color[8]
	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]
	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]
	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
7	B	High-priority Alarm	B	Medium-priority Alarm	B
	Low-priority Alarm	B	Alarm Logging Only	OR	High-priority Alarm
	OR	Medium-priority Alarm	OR	Low-priority Alarm	B
	Alarm Logging Only	B	High-priority Alarm	B	Medium-priority Alarm
	B	Low-priority Alarm	B	Alarm Logging Only	B
	High-priority Alarm	B	Medium-priority Alarm	B	Low-priority Alarm
	B	Alarm Logging Only			
8	C	High-priority Alarm	C	Medium-priority Alarm	C
	Low-priority Alarm	C	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	C
	Alarm Logging Only	C	High-priority Alarm	C	Medium-priority Alarm
	C	Low-priority Alarm	C	Alarm Logging Only	C
	High-priority Alarm	C	Medium-priority Alarm	C	Low-priority Alarm
	C	Alarm Logging Only			
9	G	High-priority Alarm	G	Medium-priority Alarm	G
	Low-priority Alarm	G	Alarm Logging Only	G	High-priority Alarm
	G	Medium-priority Alarm	G	Low-priority Alarm	G
	Alarm Logging Only	G	High-priority Alarm	G	Medium-priority Alarm
	G	Low-priority Alarm	G	Alarm Logging Only	G
	High-priority Alarm	G	Medium-priority Alarm	G	Low-priority Alarm
	G	Alarm Logging Only			
10	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
11	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]
	Priority[3]	Color[4]	Priority[4]	Color[5]	Priority[5]
	Color[6]	Priority[6]	Color[7]	Priority[7]	Color[8]
	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]
	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]
	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
12	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
13	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
14	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
15	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
16	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
17	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]
	Priority[3]	Color[4]	Priority[4]	Color[5]	Priority[5]
	Color[6]	Priority[6]	Color[7]	Priority[7]	Color[8]
	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]
	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]
	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
18	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
19	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
20	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
21	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
22	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
23	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	OR	High-priority Alarm
	OR	Medium-priority Alarm	OR	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]
	Priority[3]	Color[4]	Priority[4]	Color[5]	Priority[5]
	Color[6]	Priority[6]	Color[7]	Priority[7]	Color[8]
	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]
	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]
	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
24	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
25	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
26	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
27	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
28	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
29	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]
	Priority[3]	Color[4]	Priority[4]	Color[5]	Priority[5]
	Color[6]	Priority[6]	Color[7]	Priority[7]	Color[8]
	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]
	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]
	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
30	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
31	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
32	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	AlmPri.edf	SHEET:		YOKOGAWA	PAGE:2-1 2-1
STATION:		SAVED DATE:	11/25/2024 8:41:24 PM	COMMENT:			
SECTION:	Alarm Priority	PRINTED DATE:	9/15/2025	DRAWER:			

Alarm Priority Builder

High-priority Alarm

	Function	CRT	PRT	Historical File	Alarm Action	Rewarning	NR
	Occurrence	Yes	Yes	Yes	Lock Type	Yes	On Alarm Dependent Type
	Recovery	Yes	Yes	Yes	Lock Type	No	On Alarm Dependent Type

Medium-priority Alarm

	Function	CRT	PRT	Historical File	Alarm Action
	Occurrence	Yes	Yes	Yes	Lock Type
	Recovery	Yes	Yes	Yes	Lock Type

Low-priority Alarm

	Function	CRT	PRT	Historical File	Alarm Action
	Occurrence	Yes	Yes	Yes	Non-lock Type
	Recovery	No	No	Yes	Non-lock Type

Alarm Logging Only

	Function	CRT	PRT	Historical File	Alarm Action
	Occurrence	No	Yes	Yes	Self ACK Type
	Recovery	No	Yes	Yes	Self ACK Type

Reference Alarm

	Function	CRT	PRT	Historical File	Alarm Action
	Occurrence	No	No	No	Self ACK Type
	Recovery	No	No	No	Self ACK Type

PROJECT:	BLPH-CW1	FILE NAME:	StsChange.edf	SHEET:		YOKOGAWA	PAGE:2-13-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Status Change Command Character String	PRINTED DATE:	9/15/2025	DRAWER:			

Status Change Command Character String Builder

No.	CUSER1	CUSER2	CUSER3	CUSER4	CUSER5	CUSER6	CUSER7	CUSER8
1	PSTART	PSTART	PSTART	PSTART	PSTART	PSTART	PSTART	PSTART
2	STEP	STEP	STEP	STEP	STEP	STEP	STEP	STEP
3	SCOMP	SCOMP	SCOMP	SCOMP	SCOMP	SCOMP	SCOMP	SCOMP
4	EXECERR	EXECERR	EXECERR	EXECERR	EXECERR	EXECERR	EXECERR	EXECERR
5	RESTART	RESTART	RESTART	RESTART	RESTART	RESTART	RESTART	RESTART
6	END	END	END	END	END	END	END	END
7	SUSPEND	SUSPEND	SUSPEND	SUSPEND	SUSPEND	SUSPEND	SUSPEND	SUSPEND
8	PAUSE	PAUSE	PAUSE	PAUSE	PAUSE	PAUSE	PAUSE	PAUSE
9	RESET	RESET	RESET	RESET	RESET	RESET	RESET	RESET
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21	MSTART	MSTART	MSTART	MSTART	MSTART	MSTART	MSTART	MSTART
22	ABORT	ABORT	ABORT	ABORT	ABORT	ABORT	ABORT	ABORT

PROJECT:	BLPH-CW1	FILE NAME:	BuzzerAssign.edf	SHEET:		YOKOGAWA	PAGE:2-14-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Buzzer Assignment	PRINTED DATE:	9/15/2025	DRAWER:			

Buzzer Assignment Builder

Basic settings

No. of simultaneously generated sounds: 1
Handling of same priority alarms: The later alarm takes priority

Stations that use distinct buzzer sounds
Alarm source group1: All stations other than those listed below
Alarm source group2
Alarm source group3
Alarm source group4

User groups subjected to distinct buzzer sounds
Group1
Group2
Group3
Group4
Group5
Group6
Group7
Group8
Group9
Group10

Default

Alarm Type	Priority	Buzzer No.[1]	Type[1]	Buzzer No.[2]	Type[2]	Buzzer No.[3]	Type[3]	Buzzer No.[4]	Type[4]
System Alarm	Critical	26148	Repeat	12148	Repeat	10007	Repeat	14248	Repeat
System Alarm	High	26146	Repeat	12146	Repeat	10007	Repeat	14246	Repeat
System Alarm	Medium	26144	Repeat	12144	Repeat	10007	Repeat	14244	Repeat
System Alarm	Low	26142	Repeat	12142	Repeat	10007	Repeat	14242	Repeat
Process Alarm	Critical	26137	Repeat	12137	Repeat	10005	Repeat	14237	Repeat
Process Alarm	High	26135	Repeat	12135	Repeat	10005	Repeat	14235	Repeat
Process Alarm	Medium	26133	Repeat	12133	Repeat	10006	Repeat	14233	Repeat
Process Alarm	Low	26132	Repeat	12132	Repeat	10006	Repeat	14232	Repeat
Process Alarm Recover	-	26141	Repeat	12141	Repeat	10001	Repeat	14141	Repeat
Operation Guide	-	26422	Repeat	12422	Repeat	10004	Repeat	14422	Repeat
Reconfirmation	-	10002	Repeat						
Mis-Operation	-	10003	Repeat						

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CAMSAlm.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-1-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Alarm	PRINTED DATE:	9/15/2025	DRAWER:			

CAMS for HIS Alarm Builder

SystemAlarm

394

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Time-to-respond	(NONE)
Guidance	(NONE)
Auto Clear	(NONE)
Monitoring Denied User	(NONE)
Monitoring Denied User Group	(NONE)
Acknowledgement Denied User	(NONE)
Acknowledgement Denied User Group	(NONE)
Manual Reset Permitted User	(NONE)
Manual Reset Permitted User Group	(NONE)
Manual Reset Denied User	(NONE)
Manual Reset Denied User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

510

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Time-to-respond	(NONE)
Guidance	(NONE)
Auto Clear	(NONE)
Monitoring Denied User	(NONE)
Monitoring Denied User Group	(NONE)
Acknowledgement Denied User	(NONE)
Acknowledgement Denied User Group	(NONE)
Manual Reset Permitted User	(NONE)
Manual Reset Permitted User Group	(NONE)
Manual Reset Denied User	(NONE)
Manual Reset Denied User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

514

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable

PROJECT:	BLPH-CW1	FILE NAME:	CAMSAlm.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-1-1-2
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Alarm	PRINTED DATE:	9/15/2025	DRAWER:			

SystemAlarm
514

User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Time-to-respond	(NONE)
Guidance	(NONE)
Auto Clear	(NONE)
Monitoring Denied User	(NONE)
Monitoring Denied User Group	(NONE)
Acknowledgement Denied User	(NONE)
Acknowledgement Denied User Group	(NONE)
Manual Reset Permitted User	(NONE)
Manual Reset Permitted User Group	(NONE)
Manual Reset Denied User	(NONE)
Manual Reset Denied User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

PROJECT:	BLPH-CW1	FILE NAME:	CAMSAlmgrp.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-2-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Alarm Group	PRINTED DATE:	9/15/2025	DRAWER:			

CAMS for HIS Alarm Group Builder

PROJECT:	BLPH-CW1	FILE NAME:	CAMSMsgMonitor.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-3-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Message Monitor Definition	PRINTED DATE:	9/15/2025	DRAWER:			

CAMS for HIS Message Monitor Definition Builder

OFFUSER

Window

User Group	DEFGRP
Change Layout	Deny
Change Color	Deny
Menu Bar	Show Always
Tool Bar	Show Always
Shelves Pane	Show Always
Filter Pane	Show Always
A&E Browser Pane	Show Always
Details Pane	Switch Show/Hide
Dynamic Filter Pane	Auto Show
Status Bar	Show Always

Shelving area

User Group	DEFGRP
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Alarm Style	Deny
Change Font	Deny
Change Color	Deny

Filter area

User Group	DEFGRP
Create Filter	Deny
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Message Style	Deny
Change Font on All Filters Tab	Deny
Change Font on Favorites Tab	Deny
Change Height of Button on Favorites Tab	Deny
Change Color on Favorites Tab	Deny
Change Filter Name	Deny
Change Filter Icon	Deny
Change Description	Deny
Use Load Shedding	Deny

A&E browser area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

A&E message list area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Unread Message Style	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

ONUSER

Window

User Group	DEFGRP
Change Layout	Deny
Change Color	Deny
Menu Bar	Show Always
Tool Bar	Show Always
Shelves Pane	Show Always
Filter Pane	Show Always
A&E Browser Pane	Show Always
Details Pane	Switch Show/Hide
Dynamic Filter Pane	Auto Show

PROJECT:	BLPH-CW1	FILE NAME:	CAMSMsgMonitor.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-3-1-2
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Message Monitor Definition	PRINTED DATE:	9/15/2025	DRAWER:			

ONUSER
- Window
  - Status Bar — Show Always

- Shelving area
  - User Group — DEFGRP
  - Change Blinking — Deny
  - Change Displayed Number of Alarms — Deny
  - Change Unread Alarm Style — Deny
  - Change Font — Deny
  - Change Color — Deny

- Filter area
  - User Group — DEFGRP
  - Create Filter — Deny
  - Change Blinking — Deny
  - Change Displayed Number of Alarms — Deny
  - Change Unread Message Style — Deny
  - Change Font on All Filters Tab — Deny
  - Change Font on Favorites Tab — Deny
  - Change Height of Button on Favorites Tab — Deny
  - Change Color on Favorites Tab — Deny
  - Change Filter Name — Deny
  - Change Filter Icon — Deny
  - Change Description — Deny
  - Use Load Shedding — Deny

- A&E browser area
  - User Group — DEFGRP
  - Change Background Pattern — Deny
  - Change Color — Deny
  - Change Blinking — Deny
  - Change Font — Deny
  - Change Line Spacing — Deny
  - Change Column — Deny
  - Change Column Width — Deny
  - Display Position of New Alarm — Top

- A&E message list area
  - User Group — DEFGRP
  - Change Background Pattern — Deny
  - Change Color — Deny
  - Change Blinking — Deny
  - Change Font — Deny
  - Change Line Spacing — Deny
  - Change Unread Message Style — Deny
  - Change Column — Deny
  - Change Column Width — Deny
  - Display Position of New Alarm — Top

ENGUSER
- Window
  - User Group — DEFGRP
  - Change Layout — Deny
  - Change Color — Deny
  - Menu Bar — Show Always
  - Tool Bar — Show Always
  - Shelves Pane — Show Always
  - Filter Pane — Show Always
  - A&E Browser Pane — Show Always
  - Details Pane — Switch Show/Hide
  - Dynamic Filter Pane — Auto Show
  - Status Bar — Show Always

- Shelving area
  - User Group — DEFGRP
  - Change Blinking — Deny
  - Change Displayed Number of Alarms — Deny
  - Change Unread Alarm Style — Deny
  - Change Font — Deny
  - Change Color — Deny

PROJECT:	BLPH-CW1	FILE NAME:	CAMSMsgMonitor.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-3-1-3
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Message Monitor Definition	PRINTED DATE:	9/15/2025	DRAWER:			

ENGUSER

Filter area

User Group	DEFGRP
Create Filter	Deny
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Message Style	Deny
Change Font on All Filters Tab	Deny
Change Font on Favorites Tab	Deny
Change Height of Button on Favorites Tab	Deny
Change Color on Favorites Tab	Deny
Change Filter Name	Deny
Change Filter Icon	Deny
Change Description	Deny
Use Load Shedding	Deny

A&E browser area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

A&E message list area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Unread Message Style	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

PROG

Window

User Group	DEFGRP
Change Layout	Deny
Change Color	Deny
Menu Bar	Show Always
Tool Bar	Show Always
Shelves Pane	Show Always
Filter Pane	Show Always
A&E Browser Pane	Show Always
Details Pane	Switch Show/Hide
Dynamic Filter Pane	Auto Show
Status Bar	Show Always

Shelving area

User Group	DEFGRP
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Alarm Style	Deny
Change Font	Deny
Change Color	Deny

Filter area

User Group	DEFGRP
Create Filter	Deny
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Message Style	Deny
Change Font on All Filters Tab	Deny
Change Font on Favorites Tab	Deny
Change Height of Button on Favorites Tab	Deny
Change Color on Favorites Tab	Deny
Change Filter Name	Deny
Change Filter Icon	Deny
Change Description	Deny

PROJECT:	BLPH-CW1	FILE NAME:	CAMSMsgMonitor.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-3-1-4
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Message Monitor Definition	PRINTED DATE:	9/15/2025	DRAWER:			

PROG

Filter area

Use Load Shedding	Deny

A&E browser area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

A&E message list area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Unread Message Style	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

OPERATOR

Window

User Group	DEFGRP
Change Layout	Deny
Change Color	Deny
Menu Bar	Show Always
Tool Bar	Show Always
Shelves Pane	Show Always
Filter Pane	Show Always
A&E Browser Pane	Show Always
Details Pane	Switch Show/Hide
Dynamic Filter Pane	Auto Show
Status Bar	Show Always

Shelving area

User Group	DEFGRP
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Alarm Style	Deny
Change Font	Deny
Change Color	Deny

Filter area

User Group	DEFGRP
Create Filter	Deny
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Message Style	Deny
Change Font on All Filters Tab	Deny
Change Font on Favorites Tab	Deny
Change Height of Button on Favorites Tab	Deny
Change Color on Favorites Tab	Deny
Change Filter Name	Deny
Change Filter Icon	Deny
Change Description	Deny
Use Load Shedding	Deny

A&E browser area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Column	Deny
Change Column Width	Deny

PROJECT:	BLPH-CW1	FILE NAME:	CAMSMsgMonitor.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-3-1-5
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Message Monitor Definition	PRINTED DATE:	9/15/2025	DRAWER:			

OPERATOR

A&E browser area

Display Position of New Alarm	Top

A&E message list area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Unread Message Style	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

SUPERVISOR

Window

User Group	DEFGRP
Change Layout	Deny
Change Color	Deny
Menu Bar	Show Always
Tool Bar	Show Always
Shelves Pane	Show Always
Filter Pane	Show Always
A&E Browser Pane	Show Always
Details Pane	Switch Show/Hide
Dynamic Filter Pane	Auto Show
Status Bar	Show Always

Shelving area

User Group	DEFGRP
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Alarm Style	Deny
Change Font	Deny
Change Color	Deny

Filter area

User Group	DEFGRP
Create Filter	Deny
Change Blinking	Deny
Change Displayed Number of Alarms	Deny
Change Unread Message Style	Deny
Change Font on All Filters Tab	Deny
Change Font on Favorites Tab	Deny
Change Height of Button on Favorites Tab	Deny
Change Color on Favorites Tab	Deny
Change Filter Name	Deny
Change Filter Icon	Deny
Change Description	Deny
Use Load Shedding	Deny

A&E browser area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Column	Deny
Change Column Width	Deny
Display Position of New Alarm	Top

A&E message list area

User Group	DEFGRP
Change Background Pattern	Deny
Change Color	Deny
Change Blinking	Deny
Change Font	Deny
Change Line Spacing	Deny
Change Unread Message Style	Deny
Change Column	Deny

PROJECT:	BLPH-CW1	FILE NAME:	CAMSMsgMonitor.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-3-1-6
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Message Monitor Definition	PRINTED DATE:	9/15/2025	DRAWER:			

SUPERVISOR
- A&E message list area
  - Change Column Width: Deny
  - Display Position of New Alarm: Top

TESTUSER
- Window
  - User Group: DEFGRP
  - Change Layout: Deny
  - Change Color: Deny
  - Menu Bar: Show Always
  - Tool Bar: Show Always
  - Shelves Pane: Show Always
  - Filter Pane: Show Always
  - A&E Browser Pane: Show Always
  - Details Pane: Switch Show/Hide
  - Dynamic Filter Pane: Auto Show
  - Status Bar: Show Always

- Shelving area
  - User Group: DEFGRP
  - Change Blinking: Deny
  - Change Displayed Number of Alarms: Deny
  - Change Unread Alarm Style: Deny
  - Change Font: Deny
  - Change Color: Deny

- Filter area
  - User Group: DEFGRP
  - Create Filter: Deny
  - Change Blinking: Deny
  - Change Displayed Number of Alarms: Deny
  - Change Unread Message Style: Deny
  - Change Font on All Filters Tab: Deny
  - Change Font on Favorites Tab: Deny
  - Change Height of Button on Favorites Tab: Deny
  - Change Color on Favorites Tab: Deny
  - Change Filter Name: Deny
  - Change Filter Icon: Deny
  - Change Description: Deny
  - Use Load Shedding: Deny

- A&E browser area
  - User Group: DEFGRP
  - Change Background Pattern: Deny
  - Change Color: Deny
  - Change Blinking: Deny
  - Change Font: Deny
  - Change Line Spacing: Deny
  - Change Column: Deny
  - Change Column Width: Deny
  - Display Position of New Alarm: Top

- A&E message list area
  - User Group: DEFGRP
  - Change Background Pattern: Deny
  - Change Color: Deny
  - Change Blinking: Deny
  - Change Font: Deny
  - Change Line Spacing: Deny
  - Change Unread Message Style: Deny
  - Change Column: Deny
  - Change Column Width: Deny
  - Display Position of New Alarm: Top

PROJECT:	BLPH-CW1	FILE NAME:	CAMSShelf.edf	SHEET:		YOKOGAWA	PAGE:2-1 5-4-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	CAMS for HIS Shelf	PRINTED DATE:	9/15/2025	DRAWER:			

CAMS for HIS Shelf Builder

PROJECT:	BLPH-CW1	FILE NAME:	MTXLst.l	SHEET:		YOKOGAWA	PAGE:2-16-1
STATION:		SAVED DATE:	12/30/2022 1:08:26 AM	COMMENT:			
SECTION:	State Transition Matrix List	PRINTED DATE:	9/15/2025	DRAWER:			

State Transition Matrix List

No.	Matrix Name	Comment
01	Matrix1	

PROJECT:	BLPH-CW1	FILE NAME:	Matrix1.edf	SHEET:		YOKOGAWA	PAGE:2-17-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Matrix1	PRINTED DATE:	9/15/2025	DRAWER:			

State Transition Matrix Builder (Status Character String Table Name:USER2, Status Change Command Character String Table Name:CUSER1)

Block Mode

			1:AUT		2:SEMI		3:MAN	
1-1	ABORTED	AUT	ABORTED	A CONTN	ABORTED	S CONT	ABORTED	M CONT
1-2		SEMI	ABORTED	A CONT	ABORTED	S CONTN	ABORTED	M CONT
1-3		MAN	ABORTED	A CONT	ABORTED	S CONT	ABORTED	M CONTN
2-1	RUNNING	AUT	RUNNING	A CONTN	RUNNING	S CONT		
2-2		SEMI	RUNNING	A CONT	RUNNING	S CONTN		
2-3		MAN						
3-1	SUSPEND	AUT	SUSPEND	A CONTN	SUSPEND	S CONT		
3-2		SEMI	SUSPEND	A CONT	SUSPEND	S CONTN		
3-3		MAN						
4-1	PAUSED	AUT	PAUSED	A CONTN	PAUSED	S CONT		
4-2		SEMI	PAUSED	A CONT	PAUSED	S CONTN		
4-3		MAN						
5-1		AUT						
5-2		SEMI						
5-3		MAN						
6-1		AUT						
6-2		SEMI						
6-3		MAN						
7-1		AUT						
7-2		SEMI						
7-3		MAN						
8-1		AUT						
8-2		SEMI						
8-3		MAN						
9-1		AUT						
9-2		SEMI						
9-3		MAN						
10-1		AUT						
10-2		SEMI						
10-3		MAN						
11-1		AUT						
11-2		SEMI						
11-3		MAN						
12-1		AUT						
12-2		SEMI						
12-3		MAN						
13-1		AUT						
13-2		SEMI						
13-3		MAN						
14-1		AUT						
14-2		SEMI						
14-3		MAN						
15-1	END	AUT	END	A CONTN	END	S CONT	END	M CONT
15-2		SEMI	END	A CONT	END	S CONTN	END	M CONT
15-3		MAN	END	A CONT	END	S CONT	END	M CONTN

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	Matrix1.edf	SHEET:		YOKOGAWA	PAGE:2-17-2
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Matrix1	PRINTED DATE:	9/15/2025	DRAWER:			

1:AUT 2:SEMI 3:MAN

Block Status

			1:PSTART	2:STEP	3:SCOMP	4:EXECERR	5:RESTART	6:END	7:SUSPEND
	8:PAUSE		9:RESET	10:	11:	12:	13:	14:	15:
1-1	ABORTED	AUT	END A END						
1-2		SEMI	END S END						
1-3		MAN	END M END						
2-1	RUNNING	AUT				SUSPEND A SUSPA		END A END	SUSPEND A SUSPA
	PAUSED	A PAUSA							
2-2		SEMI			SUSPEND S SUSP+	SUSPEND S SUSPA		END S END	SUSPEND S SUSPA
	PAUSED	S PAUSA							
2-3		MAN							
3-1	SUSPEND	AUT		SUSPEND A STEP		SUSPEND A SUSPA	RUNNING A RSMA	END A END	
3-2		SEMI		SUSPEND S STEP		SUSPEND S SUSPA	RUNNING S RSMA	END S END	
3-3		MAN							
4-1	PAUSED	AUT				SUSPEND A SUSPA	RUNNING A RSMA	END A END	SUSPEND A SUSPA
4-2		SEMI				SUSPEND S SUSPA	RUNNING S RSMA	END S END	SUSPEND S SUSPA
4-3		MAN							
5-1		AUT							
5-2		SEMI							
5-3		MAN							
6-1		AUT							
6-2		SEMI							
6-3		MAN							
7-1		AUT							
7-2		SEMI							
7-3		MAN							
8-1		AUT							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	Matrix1.edf	SHEET:		YOKOGAWA	PAGE:2-17-3
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	Matrix1	PRINTED DATE:	9/15/2025	DRAWER:			

1:PSTART 2:STEP 3:SCOMP 4:EXECERR 5:RESTART 6:END 7:SUSPEND
8:PAUSE 9:RESET 10: 11: 12: 13: 14: 15:

```
8-2           SEMI

8-3           MAN

9-1           AUT

9-2           SEMI

9-3           MAN

10-1          AUT

10-2          SEMI

10-3          MAN

11-1          AUT

11-2          SEMI

11-3          MAN

12-1          AUT

12-2          SEMI

12-3          MAN

13-1          AUT

13-2          SEMI

13-3          MAN

14-1          AUT

14-2          SEMI

14-3          MAN

15-1 END      AUT  RUNNING  A STRA

15-2          SEMI RUNNING  S STRA

15-3          MAN
```


MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	UACSAlm.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-1-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Alarm	PRINTED DATE:	9/15/2025	DRAWER:			

UACS Alarm Builder

SystemAlarm

394

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

506

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

510

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)

PROJECT:	BLPH-CW1	FILE NAME:	UACSAlm.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-1-1-2
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Alarm	PRINTED DATE:	9/15/2025	DRAWER:			

SystemAlarm

510

Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

514

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

2041

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)

PROJECT:	BLPH-CW1	FILE NAME:	UACSAlm.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-1-1-3
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Alarm	PRINTED DATE:	9/15/2025	DRAWER:			

SystemAlarm

2041

Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

2043

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

2045

Overview Position	CENTUM:SystemAlarm
Model	
Unit	
Tag Comment	
Alarm Priority - original	
Alarm Priority - modified	
Tag Mark Color - original	
Tag Mark Color - modified	
Detection	Disable
User	(NONE)
Purpose	(NONE)
Consequence	(NONE)
Alarm Urgency	(NONE)
Guidance	(NONE)
Monitoring Prohibited User	(NONE)
Monitoring Prohibited User Group	(NONE)
Acknowledgement Prohibited User	(NONE)
Acknowledgement Prohibited User Group	(NONE)
Delete Authorized User	(NONE)
Delete Authorized User Group	(NONE)
Delete Prohibited User	(NONE)
Delete Prohibited User Group	(NONE)
Alarm Group	(NONE)
Shelving	(NONE)
Alarm Setpoint - low limit	
Alarm Setpoint - high limit	
Alarm Setpoint - master	(N/A)
Target of Module-based Engineering	No
ProjectID	(NONE)

PROJECT:	BLPH-CW1	FILE NAME:	UACSAlmgrp.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-2-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Alarm Group	PRINTED DATE:	9/15/2025	DRAWER:			

UACS Alarm Group Builder

PROJECT:	BLPH-CW1	FILE NAME:	UACSAsgn.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-3-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Assignment	PRINTED DATE:	9/15/2025	DRAWER:			

UACS Assignment Builder

PROJECT:	BLPH-CW1	FILE NAME:	UACSFilter.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-4-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Filter	PRINTED DATE:	9/15/2025	DRAWER:			

UACS Filter Builder

SIS

Description	SIS
Icon	DefaultSISFilter.ico
Filter Condition	FcsCode = 10
Authorized User	OFFUSER ONUSER ENGUSER PROG TESTUSER
Authorized User Group	DEFGRP NONEGRP

SIS System

Description	SIS System
Icon	DefaultSISFilter.ico
Filter Condition	FcsCode = 10 and AlarmType = "System"
Authorized User	OFFUSER ONUSER ENGUSER PROG TESTUSER
Authorized User Group	DEFGRP NONEGRP

SIS Process

Description	SIS Process
Icon	DefaultSISFilter.ico
Filter Condition	FcsCode = 10 and AlarmType = "Process"
Authorized User	OFFUSER ONUSER ENGUSER PROG TESTUSER
Authorized User Group	DEFGRP NONEGRP

System

Description	System
Icon	System.ico
Filter Condition	AlarmType = "System"
Authorized User	OFFUSER ONUSER ENGUSER PROG TESTUSER
Authorized User Group	DEFGRP NONEGRP

Process

Description	Process
Icon	Process.ico
Filter Condition	AlarmType = "Process"
Authorized User	OFFUSER ONUSER ENGUSER PROG TESTUSER
Authorized User Group	DEFGRP NONEGRP

PROJECT:	BLPH-CW1	FILE NAME:	UACSShelf.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-5-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Shelf	PRINTED DATE:	9/15/2025	DRAWER:			

UACS Shelf Builder

PROJECT:	BLPH-CW1	FILE NAME:	UACSSupgrp.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-6-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS Suppression Group	PRINTED DATE:	9/15/2025	DRAWER:			

UACS Suppression Group Builder

PROJECT:	BLPH-CW1	FILE NAME:	UACSViewLayout.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-7-1-1
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS View Layout	PRINTED DATE:	9/15/2025	DRAWER:			

UACS View Layout Builder

User Group

DEFGRP

Print	Allow
CSV Export	Allow
Timestamp Minimum Unit	Second
Detail Pane Display Attribute	Timestamp;Message
UACS Alarm View Column Display Attribute	Timestamp;Message
UACS Suppression View Column Display Attribute	Timestamp;Message;Group under Suppression
UAC Shelving View Column Display Attribute	Timestamp;Message;Shelf Name;Shelving Type;Shelving Time;Remaining Time
UACS Historical Window Column Display Attribute	Timestamp;Message

NONEGRP

Print	Allow
CSV Export	Allow
Timestamp Minimum Unit	Second
Detail Pane Display Attribute	Timestamp;Message
UACS Alarm View Column Display Attribute	Timestamp;Message
UACS Suppression View Column Display Attribute	Timestamp;Message;Group under Suppression
UAC Shelving View Column Display Attribute	Timestamp;Message;Shelf Name;Shelving Type;Shelving Time;Remaining Time
UACS Historical Window Column Display Attribute	Timestamp;Message

User

OFFUSER

User Group Name	DEFGRP
Print	(User Group)
CSV Export	(User Group)
Timestamp Minimum Unit	(User Group)
Detail Pane Display Attribute	(User Group)
UACS Alarm View Column Display Attribute	(User Group)
UACS Suppression View Column Display Attribute	(User Group)
UAC Shelving View Column Display Attribute	(User Group)
UACS Historical Window Column Display Attribute	(User Group)

ONUSER

User Group Name	DEFGRP
Print	(User Group)
CSV Export	(User Group)
Timestamp Minimum Unit	(User Group)
Detail Pane Display Attribute	(User Group)
UACS Alarm View Column Display Attribute	(User Group)
UACS Suppression View Column Display Attribute	(User Group)
UAC Shelving View Column Display Attribute	(User Group)
UACS Historical Window Column Display Attribute	(User Group)

ENGUSER

User Group Name	DEFGRP
Print	(User Group)
CSV Export	(User Group)
Timestamp Minimum Unit	(User Group)
Detail Pane Display Attribute	(User Group)
UACS Alarm View Column Display Attribute	(User Group)
UACS Suppression View Column Display Attribute	(User Group)
UAC Shelving View Column Display Attribute	(User Group)
UACS Historical Window Column Display Attribute	(User Group)

PROG

User Group Name	DEFGRP
Print	(User Group)
CSV Export	(User Group)
Timestamp Minimum Unit	(User Group)

PROJECT:	BLPH-CW1	FILE NAME:	UACSViewLayout.edf	SHEET:		YOKOGAWA	PAGE:2-1 8-7-1-2
STATION:		SAVED DATE:	6/14/2024 4:52:09 AM	COMMENT:			
SECTION:	UACS View Layout	PRINTED DATE:	9/15/2025	DRAWER:			

User
PROG

Detail Pane Display Attribute	(User Group)
UACS Alarm View Column Display Attribute	(User Group)
UACS Suppression View Column Display Attribute	(User Group)
UAC Shelving View Column Display Attribute	(User Group)
UACS Historical Window Column Display Attribute	(User Group)

TESTUSER

User Group Name	DEFGRP
Print	(User Group)
CSV Export	(User Group)
Timestamp Minimum Unit	(User Group)
Detail Pane Display Attribute	(User Group)
UACS Alarm View Column Display Attribute	(User Group)
UACS Suppression View Column Display Attribute	(User Group)
UAC Shelving View Column Display Attribute	(User Group)
UACS Historical Window Column Display Attribute	(User Group)

PROJECT:	BLPH-CW1	FILE NAME:	DomainProperty.l	SHEET:		YOKOGAWA	PAGE:2-1 9-1
STATION:		SAVED DATE:	2/6/2025 12:49:46 PM	COMMENT:			
SECTION:	Domain Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Domain Properties

Domain

Domain Number 1

Time Group 1

SNTP Server IP Address
Connect Bus 1
Connect Bus 2

Comment

Reception from Domains

Domain	HIS Message	FCS Message	FCS TCP
1	YES	YES	YES
2	YES	YES	YES
3	YES	YES	YES
4	YES	YES	YES
5	YES	YES	YES
6	YES	YES	YES
7	YES	YES	YES
8	YES	YES	YES
9	YES	YES	YES
10	YES	YES	YES
11	YES	YES	YES
12	YES	YES	YES
13	YES	YES	YES
14	YES	YES	YES
15	YES	YES	YES
16	YES	YES	YES
17	YES	YES	YES
18	YES	YES	YES
19	YES	YES	YES
20	YES	YES	YES
21	YES	YES	YES
22	YES	YES	YES
23	YES	YES	YES
24	YES	YES	YES
25	YES	YES	YES
26	YES	YES	YES
27	YES	YES	YES
28	YES	YES	YES
29	YES	YES	YES
30	YES	YES	YES
31	YES	YES	YES
32	YES	YES	YES
33	YES	YES	YES
34	YES	YES	YES
35	YES	YES	YES
36	YES	YES	YES
37	YES	YES	YES
38	YES	YES	YES
39	YES	YES	YES
40	YES	YES	YES
41	YES	YES	YES
42	YES	YES	YES
43	YES	YES	YES
44	YES	YES	YES
45	YES	YES	YES
46	YES	YES	YES
47	YES	YES	YES
48	YES	YES	YES
49	YES	YES	YES
50	YES	YES	YES
51	YES	YES	YES
52	YES	YES	YES
53	YES	YES	YES
54	YES	YES	YES
55	YES	YES	YES
56	YES	YES	YES
57	YES	YES	YES
58	YES	YES	YES
59	YES	YES	YES

PROJECT:	BLPH-CW1	FILE NAME:	DomainProperty.l	SHEET:		YOKOGAWA	PAGE:2-19-2
STATION:		SAVED DATE:	2/6/2025 12:49:46 PM	COMMENT:			
SECTION:	Domain Properties	PRINTED DATE:	9/15/2025	DRAWER:			

60	YES	YES	YES
61	YES	YES	YES
62	YES	YES	YES
63	YES	YES	YES
64	YES	YES	YES

PROJECT:	BLPH-CW1	FILE NAME:		SHEET:		YOKOGAWA	PAGE:2-20-1-1
STATION:		SAVED DATE:		COMMENT:			
SECTION:	User-Defined Faceplate Block Definition	PRINTED DATE:	9/15/2025	DRAWER:			

User-defined Faceplate Block Creator

No.	Data Item	Data Type	Array1	Array2	Comment	Engineering Unit	Security Level	Display Format	Input Method	Check	Minimum	Maximum

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SFDATA.l	SHEET:		YOKOGAWA	PAGE:3-1-1
STATION:	FCS0101	SAVED DATE:	7/26/2025 1:21:26 PM	COMMENT:			
SECTION:	FCS Properties	PRINTED DATE:	9/15/2025	DRAWER:			

FCS Property:FCS0101

Type	
Station Type	AFV30D Duplexed Field Control Unit(for Vnet/IP and FIO, 19" Rack Mountable Type)
Database Type	General-Purpose
Domain number	01
Station number	01
Component number	
Station comment	
Alias of Station	
Station Status Display	
Upper Equipment Name	
Number of Control Drawings	200
Module-based Engineering	NO
Define the SEQ libraries in AD Suite.	NO
Constant	
Medium-speed Scan	YES
Medium-speed Scan Period[msec]	500
Fast Scan	YES
Fast-Scan Period[msec]	200
MC Block	
Pulse Width[sec]	2
Serial Startup Interval[sec]	0
MLD-SW AUT/CAS	AUT
SEBOL Statement	
"drive" Statement Action Type	1
Start Number for user-defined block-type	10000
Number of User-Defined Block-with-Data	380
IOM Online Updating	
Make block input-side IOP	NO
PID Pulse Width Output	
CENTUM V Compatible MV Display	NO
PI-HLD Action after Hold	
CENTUM-XL Compatible	NO
Sequence Table Algorithm	
CENTUM-XL Compatible Sequence Tables	NO
THEN/ELSE Has Higher Precedence	NO
dPV/dCPV Output from SUB Becomes Zero Right After IOP	NO
Accept Batch-End during EMST	YES
Options	DIOENH
Constant 2	
SS-DUAL PV Update during Deviation Alarm	NO
Alarm Notify Action when all AOF released	NO
Specify Reference Station for Tag-List	NO
Station Name	
Annunciator Message with Data	
No.	1
Annunciator Message Head Number	0
Annunciator Message Tail Number	0
Printing Message Head Number	0
Increase Number of System Common Switches	NO
Preset MV valid immediately	Preset MV valid at next scan
Constant 3	
MV of Switch Instrument/MC Instrument follows its CSV change	NO
TM/CTS/CTP blocks hold PALM after CTUP	NO
Raised %AN sends out alarm when AOF released	YES

PROJECT:	BLPH-CW1	FILE NAME:	SFDATA.l	SHEET:		YOKOGAWA	PAGE:3-1-2
STATION:	FCS0101	SAVED DATE:	7/26/2025 1:21:26 PM	COMMENT:			
SECTION:	FCS Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Suppress OOP alarms during online maintenance of ALP121 and dual -redundant ALP111	NO
Suppress system alarm when CALCU calculation error occurs	YES
Use HKU of System Cabinet	NO
Initiate process alarm when CAL is set or released	NO
Allow to change function block to PRD mode while CAL is on(XL compatible)	NO
LC64-E starts with its internal status intact when FCS performs an initial start(except offline download)	YES
Enable output limiter in PRD mode (XL compatible)	NO
Pass calculation block's input QST status to CPV	NO
CENTUM-XL compatible IOP reactions	
Main inputs	NO
Set PV of %Z/%Y to zero upon failure of a DI module	NO
SEBOL Group Assignment Statement – adhere to the order specified in the variable list during data setting	YES
Command	

State Transition

Maximum Specification Number	16
State Transition Matrix	Matrix1

Line1

Make IO Bus Dual-Redundant	YES
Interface Card Type	SB301

Network

Vnet/IP	YES
Control Bus TCP/IP Settings	
Host name	FCS0101
IP address	172.16.1.1
Subnet mask	255.255.0.0

PROJECT:	BLPH-CW1	FILE NAME:	StnDef.edf	SHEET:		YOKOGAWA	PAGE:3-2-1
STATION:	FCS0101	SAVED DATE:	10/19/2024 1:05:50 AM	COMMENT:			
SECTION:	FCS Constant	PRINTED DATE:	9/15/2025	DRAWER:			

FCS Constants Builder

Definitions

Start condition	MAN(Initialize Cold Start)
Momentary Power Failure Tolerant Time[sec]	2.0
Node Momentary Power Failure Tolerant Time[sec]	2
Digital Filter Coefficient 1	0.50
Digital Filter Coefficient 2	0.75
Digital Filter Coefficient 3	0.875

Scan Transmission

Buffer Size	1024
Station	Internal Station Scan Transmission
Station 1	
Station 2	0
Station 3	0
Station 4	0
Station 5	0
Station 6	0
Station 7	0
Station 8	0
Station 9	0
Station 10	1024
Station 11	0
Station 12	0
Station 13	0
Station 14	0
Station 15	0
Station 16	0
Station 17	0
Station 18	0
Station 19	0
Station 20	1024
Station 21	0
Station 22	0
Station 23	0
Station 24	0
Station 25	0
Station 26	0
Station 27	0
Station 28	0
Station 29	0
Station 30	0
Station 31	0
Station 32	0
Station 33	0
Station 34	0
Station 35	0
Station 36	0
Station 37	0
Station 38	0
Station 39	0
Station 40	0
Station 41	0
Station 42	0
Station 43	0
Station 44	0
Station 45	0
Station 46	0
Station 47	0
Station 48	0
Station 49	0
Station 50	0
Station 51	0
Station 52	0
Station 53	0
Station 54	0
Station 55	0
Station 56	0
Station 57	0
Station 58	0
Station 59	0
Station 60	0
Station 61	0
Station 62	0
Station 63	0
Station 64	0

PROJECT:	BLPH-CW1	FILE NAME:	Equipment.edf	SHEET:		YOKOGAWA	PAGE:3-3-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Equipment	PRINTED DATE:	9/15/2025	DRAWER:			

Equipment Builder

Drawing Name	Equipment name	Upper Equipment Name	Comment
DR0001	%DR0001S010101		
DR0002	%DR0002S010101		
DR0003	%DR0003S010101		
DR0004	%DR0004S010101		
DR0005	%DR0005S010101		ANNUNCIATION
DR0006	%DR0006S010101		INITIALIZATION TABLE
DR0007	%DR0007S010101		PULSE DO
DR0008	%DR0008S010101		Damper Alarms
DR0009	%DR0009S010101		UPS B ALARMS
DR0010	%DR0010S010101		
DR0011	%DR0011S010101		
DR0012	%DR0012S010101		
DR0013	%DR0013S010101		
DR0014	%DR0014S010101		
DR0015	%DR0015S010101		
DR0016	%DR0016S010101		
DR0017	%DR0017S010101		
DR0018	%DR0018S010101		
DR0019	%DR0019S010101		
DR0020	%DR0020S010101		
DR0021	%DR0021S010101		PVI INDICATOR
DR0022	%DR0022S010101		PVI INDICATOR
DR0023	%DR0023S010101		PVI INDICATOR
DR0024	%DR0024S010101		ANALOG OUTPUT
DR0025	%DR0025S010101		
DR0026	%DR0026S010101		
DR0027	%DR0027S010101		
DR0028	%DR0028S010101		
DR0029	%DR0029S010101		
DR0030	%DR0030S010101		
DR0031	%DR0031S010101		TYP003- ON/OFF VALVES
DR0032	%DR0032S010101		TYP003- ON/OFF VALVES
DR0033	%DR0033S010101		
DR0034	%DR0034S010101		
DR0035	%DR0035S010101		25PT-055A AVERAGE CALCU, DEV ALM
DR0036	%DR0036S010101		25PIC-055A/B VALVE
DR0037	%DR0037S010101		64PIC-031A/B VALVE
DR0038	%DR0038S010101		HYDROGEN VESSEL-A CONTROL
DR0039	%DR0039S010101		HYDROGEN VESSEL-B CONTROL
DR0040	%DR0040S010101		HYDROGEN VESSEL-C CONTROL
DR0041	%DR0041S010101		HYDROGEN VESSEL-D CONTROL
DR0042	%DR0042S010101		HYDROGEN VESSEL-E CONTROL
DR0043	%DR0043S010101		HYDROGEN VESSEL-F CONTROL
DR0044	%DR0044S010101		FLOW TOTALIZER
DR0045	%DR0045S010101		
DR0046	%DR0046S010101		P-50001A DUTY/STANDBY PUMP
DR0047	%DR0047S010101		
DR0048	%DR0048S010101		
DR0049	%DR0049S010101		
DR0050	%DR0050S010101		
DR0051	%DR0051S010101		
DR0052	%DR0052S010101		
DR0053	%DR0053S010101		
DR0054	%DR0054S010101		
DR0055	%DR0055S010101		
DR0056	%DR0056S010101		
DR0057	%DR0057S010101		
DR0058	%DR0058S010101		
DR0059	%DR0059S010101		
DR0060	%DR0060S010101		
DR0061	%DR0061S010101		
DR0062	%DR0062S010101		
DR0063	%DR0063S010101		
DR0064	%DR0064S010101		
DR0065	%DR0065S010101		
DR0066	%DR0066S010101		
DR0067	%DR0067S010101		
DR0068	%DR0068S010101		
DR0069	%DR0069S010101		
DR0070	%DR0070S010101		
DR0071	%DR0071S010101		
DR0072	%DR0072S010101		
DR0073	%DR0073S010101		
DR0074	%DR0074S010101		
DR0075	%DR0075S010101		
DR0076	%DR0076S010101		
DR0077	%DR0077S010101		
DR0078	%DR0078S010101		
DR0079	%DR0079S010101		
DR0080	%DR0080S010101		SEQUENCE LOGIC
DR0081	%DR0081S010101		SEQUENCE LOGIC

PROJECT:	BLPH-CW1	FILE NAME:	Equipment.edf	SHEET:		YOKOGAWA	PAGE:3-3-2
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Equipment	PRINTED DATE:	9/15/2025	DRAWER:			

Drawing Name	Equipment name	Upper Equipment Name	Comment
DR0082	%DR0082S010101		
DR0083	%DR0083S010101		
DR0084	%DR0084S010101		
DR0085	%DR0085S010101		
DR0086	%DR0086S010101		
DR0087	%DR0087S010101		
DR0088	%DR0088S010101		
DR0089	%DR0089S010101		
DR0090	%DR0090S010101		
DR0091	%DR0091S010101		
DR0092	%DR0092S010101		
DR0093	%DR0093S010101		
DR0094	%DR0094S010101		
DR0095	%DR0095S010101		
DR0096	%DR0096S010101		
DR0097	%DR0097S010101		
DR0098	%DR0098S010101		
DR0099	%DR0099S010101		
DR0100	%DR0100S010101		
DR0101	%DR0101S010101		IA SUBSYSTEM
DR0102	%DR0102S010101		N2 SUBSYSTEM
DR0103	%DR0103S010101		200 F3 PAS UPS-A
DR0104	%DR0104S010101		200F3 PAS UPS-A
DR0105	%DR0105S010101		200F4 FGS UPA-A
DR0106	%DR0106S010101		VALVES - NITROGEN
DR0107	%DR0107S010101		EMCS SUBSYSTEM
DR0108	%DR0108S010101		EMCS MODBUS REDUNDANCY
DR0109	%DR0109S010101		IA VALVES
DR0110	%DR0110S010101		LV SUBSYTEM CB
DR0111	%DR0111S010101		LV SUBSYTEM CB
DR0112	%DR0112S010101		LOAD SHED SELECTION PB
DR0113	%DR0113S010101		HVAC B100, B200
DR0114	%DR0114S010101		HVAC-51,52,53,54
DR0115	%DR0115S010101		LV SUBSYSTEM AI
DR0116	%DR0116S010101		LV SUBSYSTEM AI
DR0117	%DR0117S010101		LV SUBSYSTEM AI
DR0118	%DR0118S010101		LV SUBSYSTEM AI
DR0119	%DR0119S010101		LV SUB SYSTEM PVI
DR0120	%DR0120S010101		LV SUBSYSTEM AI
DR0121	%DR0121S010101		LV SUBSYSTEM AI
DR0122	%DR0122S010101		LV SUBSYSTEM AI
DR0123	%DR0123S010101		LV SUBSYSTEM AI
DR0124	%DR0124S010101		
DR0125	%DR0125S010101		WTP SUBSYSTEM
DR0126	%DR0126S010101		WTP SUBSYSTEM
DR0127	%DR0127S010101		WTP SUBSYSTEM
DR0128	%DR0128S010101		WTP SUBSYSTEM
DR0129	%DR0129S010101		
DR0130	%DR0130S010101		LVSWGR CB
DR0131	%DR0131S010101		LV SWGR CB
DR0132	%DR0132S010101		
DR0133	%DR0133S010101		
DR0134	%DR0134S010101		200F4 FGS UPS-A
DR0135	%DR0135S010101		2500F3 PAS UPS-B
DR0136	%DR0136S010101		200F3/4 PAS FGS UPS B
DR0137	%DR0137S010101		200F4 FGS UPS-B
DR0138	%DR0138S010101		200F1DC UPS-A
DR0139	%DR0139S010101		200F1 DC UPS-B
DR0140	%DR0140S010101		200F4 FGS UPA-A
DR0141	%DR0141S010101		
DR0142	%DR0142S010101		
DR0143	%DR0143S010101		LV SUBSYSTEM AI
DR0144	%DR0144S010101		
DR0145	%DR0145S010101		EMCS BESS MODBUS
DR0146	%DR0146S010101		
DR0147	%DR0147S010101		
DR0148	%DR0148S010101		
DR0149	%DR0149S010101		
DR0150	%DR0150S010101		LV SUBSYSTEM AI SPARE
DR0151	%DR0151S010101		LV SUBSYSTEM AI SPARE
DR0152	%DR0152S010101		LV SUBSYSTEM AI SPARE
DR0153	%DR0153S010101		LV SUBSYSTEM AI SPARE
DR0154	%DR0154S010101		LV SUBSYSTEM AI SPARE
DR0155	%DR0155S010101		LV SUBSYSTEM AI SPARE
DR0156	%DR0156S010101		LV SUBSYSTEM AI SPARE
DR0157	%DR0157S010101		LV SUBSYSTEM AI SPARE
DR0158	%DR0158S010101		
DR0159	%DR0159S010101		
DR0160	%DR0160S010101		
DR0161	%DR0161S010101		LVSWGR CB SPARE
DR0162	%DR0162S010101		
DR0163	%DR0163S010101		
DR0164	%DR0164S010101		

PROJECT:	BLPH-CW1	FILE NAME:	Equipment.edf	SHEET:		YOKOGAWA	PAGE:3-3-3
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Equipment	PRINTED DATE:	9/15/2025	DRAWER:			

Drawing Name	Equipment name	Upper Equipment Name	Comment
DR0165	%DR0165S010101		
DR0166	%DR0166S010101		EMCS SUBSYSTEM
DR0167	%DR0167S010101		
DR0168	%DR0168S010101		
DR0169	%DR0169S010101		
DR0170	%DR0170S010101		
DR0171	%DR0171S010101		
DR0172	%DR0172S010101		
DR0173	%DR0173S010101		
DR0174	%DR0174S010101		
DR0175	%DR0175S010101		
DR0176	%DR0176S010101		
DR0177	%DR0177S010101		
DR0178	%DR0178S010101		
DR0179	%DR0179S010101		
DR0180	%DR0180S010101		
DR0181	%DR0181S010101		
DR0182	%DR0182S010101		
DR0183	%DR0183S010101		
DR0184	%DR0184S010101		
DR0185	%DR0185S010101		
DR0186	%DR0186S010101		
DR0187	%DR0187S010101		
DR0188	%DR0188S010101		
DR0189	%DR0189S010101		
DR0190	%DR0190S010101		
DR0191	%DR0191S010101		
DR0192	%DR0192S010101		
DR0193	%DR0193S010101		
DR0194	%DR0194S010101		
DR0195	%DR0195S010101		
DR0196	%DR0196S010101		
DR0197	%DR0197S010101		
DR0198	%DR0198S010101		
DR0199	%DR0199S010101		
DR0200	%DR0200S010101		FCS IDLE TIME

PROJECT:	BLPH-CW1	FILE NAME:	SFCLst.l	SHEET:		YOKOGAWA	PAGE:3-4-1
STATION:	FCS0101	SAVED DATE:	6/19/2024 10:36:00 AM	COMMENT:			
SECTION:	SFC Sequence List	PRINTED DATE:	9/15/2025	DRAWER:			

SFC Sequence List

No.	SFC Sequence	Comment	File
01	BLPH	BLPH SEQUENCE	BLPH
02	CLDSBMON	COLD STANDBY SEQ MONITOR	CLDSBMON
03	CONCMNTR	Concurrent Monitoring	CONCMNTR
04	EMERGMON	EMERGENCY MODE MONITORIN	EMERGMON
05	EXPRTMON	EXPORT MODE MONITORING	EXPRTMON
06	HOTSBMON	HOT STANDBY MONITORING	HOTSBMON
07	IMPRTMON	IMPORT SEQ MONITORING	IMPRTMON
08	MNTNCMON	MAINTENANCE MONITORING	MNTNCMON
09	MONITOR	IDLE SEQUENCE MONITORING	MONITOR
10	NONEMON	NONE MODE MONITORING	NONEMON
11	PWROTMON	POWER OUT SEQ MONITORING	PWROTMON
12	RSRGMON	RESEARCH MODE MONITORING	RSRGMON
13	SEQCN	SEQUENCE CONCURENCY	SEQCN

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-1
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001	STOP	2	0	After Status Change	STOP
0002	PAUS	2	0	After Status Change	PAUS
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	1	5	Initialization				SEBOL				
2	1	8	MODE SEL				SEBOL				
3	1	14	MODE SEL				SEBOL				
4	13	14	MODE SEL				SEBOL				
5	1	18	NONE				SEBOL				
6	3	18	IDLE				SEBOL				
7	5	18	IMPORT				SEBOL				
8	7	18	HOT STAND-BY				SEBOL				
9	9	18	EXPORT				SEBOL				
10	11	18	COLD STANDBY				SEBOL				
11	13	18	EMRGENCY(ISLAND)				SEBOL				
12	15	18	POWER OUT				SEBOL				
13	17	18	MAINTENANCE				SEBOL				
14	3	38	RESEARCH				SEBOL				
16	15	24	SEQ FAIL				SEBOL				
18	5	26	SEQ FAIL				SEBOL				
20	3	23	TRANSITION				SEBOL				
22	3	45	CHARGING MODE				SEBOL				
24	5	45	DISCHARGING MODE				SEBOL				
26	8	45	ESD				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter
9	5	STOP	After Status Change	STOP
9	7	PAUS	After Status Change	PAUS

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
1	6		
1	13		%.TRANSIT==1
13	13		%.TRANSIT==2
1	17	NONE	%.TRANSIT==3
3	17	MODE=0	%.TRANSIT==4
5	17	MODE=1	(%.TRANSIT==5 or %.TRANSIT==6)
7	17	MODE=2	%.TRANSIT==7
9	17	MODE=3	%.TRANSIT==8
11	17	MODE=4	%.TRANSIT==9
13	17	MODE4A	%.TRANSIT==10
15	17	MODE=5	%.TRANSIT==11
17	17	MODE=6	%.TRANSIT==12
19	17	MODE=7	%.TRANSIT==13
1	19		
7	19		
9	19		
11	19		
15	19		
17	19		
3	20		

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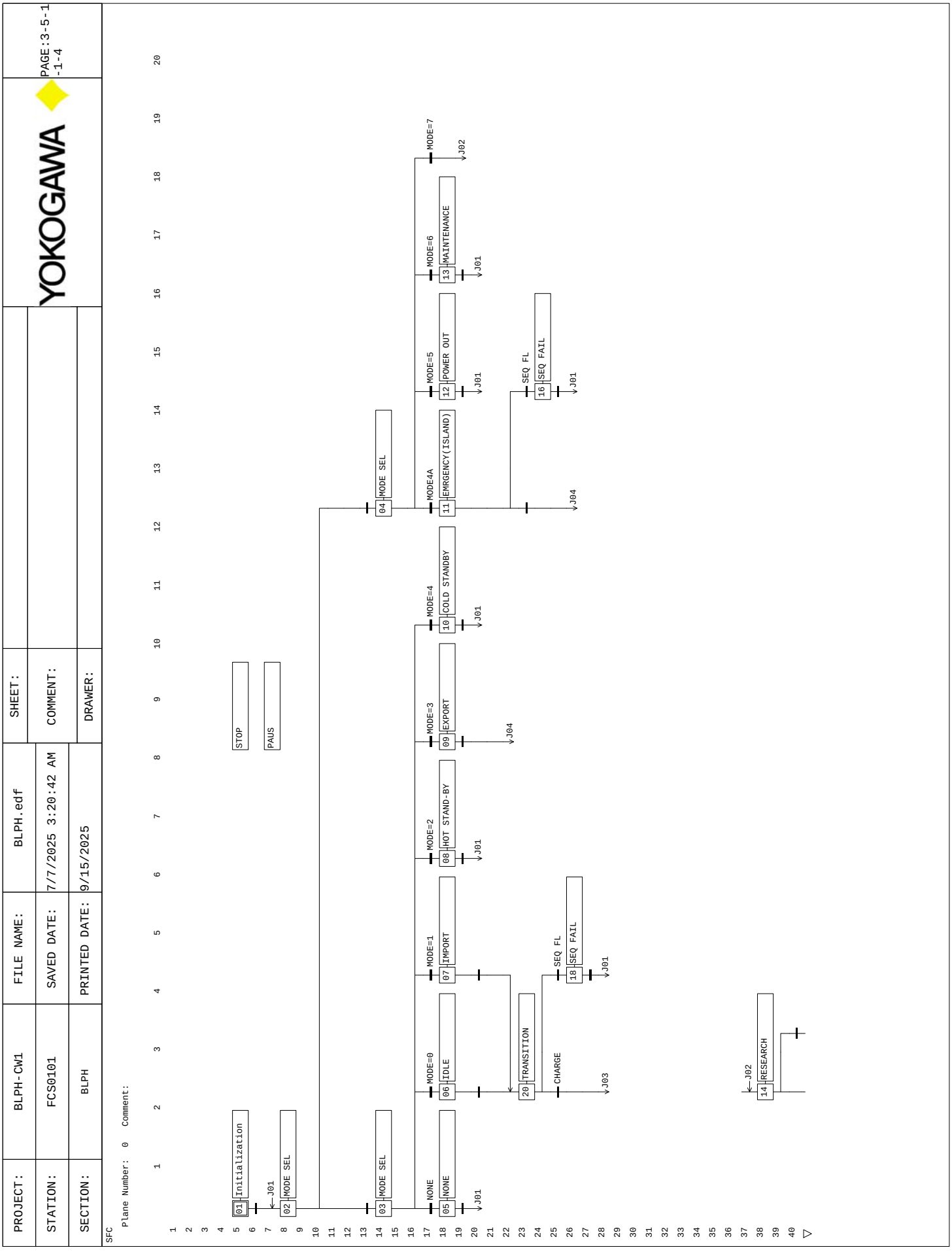
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

5	20		
13	23		INTSW[16].PV==1
15	23	SEQ FL	INTSW[16].PV==0
3	25	CHARGE	SEQFL==0
5	25	SEQ FL	SEQFL==1
15	25		
5	27		
4	40		MODE.PV<>10
3	43		%.TRANSIT==15
5	43		%.TRANSIT==17
8	43		1==0
3	46		
5	46		
8	46		

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

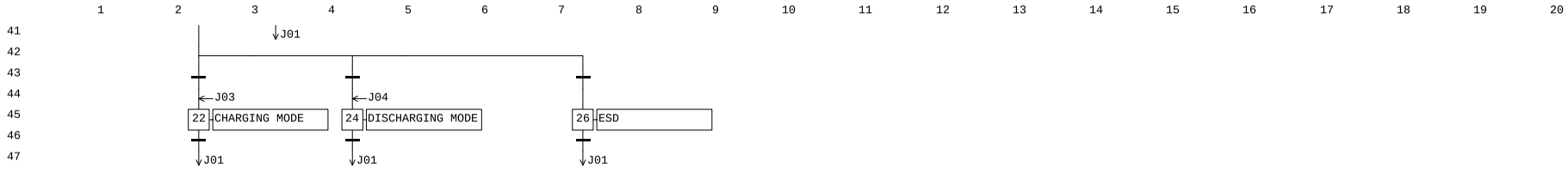
PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-4
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			



PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-5
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-1-6
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SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:Initialization X: 1 Y: 5

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :E368782Q00-J11DCSE
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 20 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI             MODE,ENMODE                ! ELECTROLISER MODE
   025        global             genname        MLD             PMMODE
   026        global             genname        _SFCSW          SEQPM,EXPRTPM,RCRGPM       ! SEQUENCE PERMISSIVE
   027        global             genname        %SW             INTSW[21],ESDTRP,O20XS,O80XS     !  INTERNAL BIT,DI
   028        global             genname        %SW             OPRMSG[4]                 ! OPERATOR MESSAGE BIT
   029        global             genname        MC-2E           SWP[2],AUXFC         ! SEA WATER INTAKE PUMP
   030        global             genname        SIO-21E         XV[23]                     ! ON/OFF VALVES
   031        global             genname        SIO-21E         O64SDV,BDV[7],SDV[2]       ! ON/OFF VALVES
   032        global             genname        PVI             SS[4],PT003,PT031A,PT031B  ! SUBSYSTEM SIGNALS
   033        global             genname        TM              TM01                       ! TIMER
   034        global             genname        PVI             PT[8]                      ! PRESSURE TRANSMITTER
   035        global             genname        PID             PIC[8]                     ! PRESSURE CONTROLLER
   036        global             genname        PID             FIC[6]                     ! FLOW CONTROLLER
   037        global             genname        AS-M            PICT[8]                    ! PRESSURE CONTROLLER FORCE CLOSE TRANSFER SWITCH
   038        global             genname        AS-M            FICT[8]                    ! FLOW CONTROLLER FORCE CLOSE TRANSFER SWITCH
   039        global             genname        %SW             PVZSL[8]                   !CLOSED LIMIT SWITCHES
   040        global             genname        %SW             FVZSL[6]                   !CLOSED LIMIT SWITCHES
   041        global             genname        %SW             FLT[3],O70XA,O80XA         !ALARMS
   042        global             genname        TM              t[49],EMGTM01              !TIMERS
   043        global            genname        %AN             TXAAH[6],T1XAAH[6],BSSFLT,GRAD[6]  !ALARM
   044        global            genname        DSET            PRSP[2]                   !ALARM
   045        global            genname        PBS5C           STCGHS,CGHS,PSDHS,PMTHS,DCHS,WTPHS   !STOP PBs
   046
   047        global integer i,k,SEQFL
   048
   049        ********************************************************************************
   050        *   Assign Variables
   051        ********************************************************************************
   052        assign           "87MODE-002"         to               MODE
   053        assign           "87MODE-003"         to               PMMODE
   054        assign           "87MODE-001"         to               ENMODE
   055
   056        assign           "87STCGHS-001"       to               STCGHS
   057        assign           "87CGHS-001"         to               CGHS
   058        assign           "87PSDHS-001"        to               PSDHS
   059        assign           "87PMTHS-001"        to               PMTHS
   060        assign           "87DCHS-001"         to               DCHS
   061        assign           "50HS-011"             to              WTPHS
   062
   063        assign           "SEQPERM01"          to               SEQPM
   064        assign           "SEQPERM02"          to               EXPRTPM
   065        assign           "SEQPERM05"          to               RCRGPM
   066
   067        assign           "P-50001ABGST"       to               INTSW[1]
   068        assign           "P-50001ABGSP"       to               INTSW[4]
   069        assign           "WTPAST"             to               INTSW[2]
   070        assign           "87PERM-0001"       to               INTSW[3]
   071        assign           "87PERM-0002"        to               INTSW[7]
   072        assign           "87TRP-001"         to               ESDTRP
   073        !assign           "EXPRTSEQFL"         to               INTSW[9]
   074        !assign           "FUELCLSTP"          to               INTSW[10]
   075        assign           "87EMG-001"          to               INTSW[11]
   076        assign           "WTPASP"             to               INTSW[13]
   077        assign           "AUXELASP"           to               INTSW[14]
   078        assign           "87PERM-0001"       to               INTSW[16]
   079        assign           "87LDSH-001"         to               INTSW[18]
   080        assign           "87LDSH-002"         to               INTSW[19]
   081        assign           "87STF-002"          to               INTSW[20]
   082        assign           "87EXP-001"          to               INTSW[17]
   083        assign           "87PERM-0001"       to               INTSW[21]
```

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```
084
085       assign          "P-50001A"          to              SWP[1]
086       assign          "P-50001B"          to              SWP[2]
087
088       assign          "20XI-7113"         to              SS[1]
089       assign          "80UI-0043"         to              SS[2]
090
091
092
093       assign          "BLPHSEQTM01"       to              TM01
094
095       assign          "50XV-031"          to              XV[3]
096       assign          "25XV-004"          to              XV[4]
097       assign          "25XV-008"          to              XV[8]
098       assign          "25XV-011"          to              XV[11]
099       assign          "25XV-014"          to              XV[14]
100       assign          "25XV-017"          to              XV[17]
101       assign          "25XV-020"          to              XV[20]
102
103       assign          "25XV-006"          to              XV[6]
104       assign          "25XV-009"          to              XV[9]
105       assign          "25XV-012"          to              XV[12]
106       assign          "25XV-015"          to              XV[15]
107       assign          "25XV-018"          to              XV[18]
108       assign          "25XV-021"          to              XV[21]
109       assign          "25XV-024"          to              XV[22]
110       assign          "80XV-001"          to              XV[23]
111
112       assign          "64SDV-001"         to              O64SDV
113
114       assign          "25PI-035"          to              PT[1]
115       assign          "25PI-037"          to              PT[2]
116       assign          "25PI-040"          to              PT[3]
117       assign          "25PI-043"          to              PT[4]
118       assign          "25PI-046"          to              PT[5]
119       assign          "25PI-049"          to              PT[6]
120       assign          "64PI-031A"         to              PT[7]
121       assign          "64PI-031B"         to              PT[8]
122
123       assign          "25PIC-035"         to              PIC[1]
124       assign          "25PIC-037"         to              PIC[2]
125       assign          "25PIC-040"         to              PIC[3]
126       assign          "25PIC-043"         to              PIC[4]
127       assign          "25PIC-046"         to              PIC[5]
128       assign          "25PIC-049"         to              PIC[6]
129       assign          "25PIC-055"        to               PIC[7]
130       assign          "25PIC-055B"        to              PIC[8]
131
132       assign          "25FIC-031"         to              FIC[1]
133       assign          "25FIC-032"         to              FIC[2]
134       assign          "25FIC-033"         to              FIC[3]
135
136
137       assign          "25FIC-034"         to              FIC[4]
138       assign          "25FIC-038"         to              FIC[5]
139       assign          "25FIC-036"         to              FIC[6]
140
141       assign          "25PIC-035ASM"      to              PICT[1]
142       assign          "25PIC-037ASM"      to              PICT[2]
143       assign          "25PIC-040ASM"      to              PICT[3]
144       assign          "25PIC-043ASM"      to              PICT[4]
145       assign          "25PIC-046ASM"      to              PICT[5]
146       assign          "25PIC-049ASM"      to              PICT[6]
147       assign          "25PIC-055AASM"     to              PICT[7]
148       assign          "25PIC-055BASM"     to              PICT[8]
149
150       assign          "25FIC-031ASM"      to              FICT[1]
151       assign          "25FIC-032ASM"      to              FICT[2]
152       assign          "25FIC-033ASM"      to              FICT[3]
153       assign          "25FIC-034ASM"      to              FICT[4]
154       assign          "25FIC-038ASM"      to              FICT[5]
155       assign          "25FIC-036ASM"      to              FICT[6]
156
157       assign          "25ZSL-035"         to              PVZSL[1]
158       assign          "25ZSL-037"         to              PVZSL[2]
159       assign          "25ZSL-040"         to              PVZSL[3]
160       assign          "25ZSL-043"         to              PVZSL[4]
161       assign          "25ZSL-046"         to              PVZSL[5]
162       assign          "25ZSL-049"         to              PVZSL[6]
163       assign          "25ZSL-055A"        to              PVZSL[7]
164       assign          "25ZSL-055B"        to              PVZSL[8]
165
166
167       assign          "25ZSL-031"         to              FVZSL[1]
168       assign          "25ZSL-032"         to              FVZSL[2]
169       assign          "25ZSL-033"         to              FVZSL[3]
170       assign          "25ZSL-034"         to              FVZSL[4]
171       assign          "25ZSL-038"         to              FVZSL[5]
172       assign          "25ZSL-036"         to              FVZSL[6]
173
```

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```
174       assign          "25PIC55-DS1"       to              PRSP[1]
175       assign          "25PIC55-DS2"       to              PRSP[2]
176
177       assign          "85XA-003"          to              FLT[1]
178       assign          "70XA-003"          to              O70XA
179       assign          "80XA-003"          to              O80XA
180       assign              "20XS-001"          to                  O20XS
181       assign              "80XS-001"          to                  O80XS
182       assign          "63XA003TAN"        to              FLT[2]
183       assign          "64XA003TAN"        to              FLT[3]
184       assign          "85XA003TAN"        to              BSSFLT
185       assign          "25PI-035GRADAN"    to              GRAD[1]
186       assign          "25PI-037GRADAN"    to              GRAD[2]
187       assign          "25PI-040GRADAN"    to              GRAD[3]
188       assign          "25PI-043GRADAN"    to              GRAD[4]
189       assign          "25PI-046GRADAN"    to              GRAD[5]
190       assign          "25PI-049GRADAN"    to              GRAD[6]
191
192
193
194
195
196       assign          "BLPHSEQT01"        to              t[1]
197       assign          "BLPHSEQT02"        to              t[2]
198       assign          "BLPHSEQT03"        to              t[3]
199       assign          "BLPHSEQT04"        to              t[4]
200       assign          "BLPHSEQT05"        to              t[5]
201       assign          "BLPHSEQT06"        to              t[6]
202       assign          "BLPHSEQT07"        to              t[7]
203       assign          "BLPHSEQT08"        to              t[8]
204       assign          "BLPHSEQT09"        to              t[9]
205       assign          "BLPHSEQT10"        to              t[10]
206       assign          "BLPHSEQT11"        to              t[11]
207       assign          "BLPHSEQT12"        to              t[12]
208       assign          "BLPHSEQT13"        to              t[13]
209       assign          "BLPHSEQT14"        to              t[14]
210       assign          "BLPHSEQT15"        to              t[15]
211       assign          "BLPHSEQT16"        to              t[16]
212       assign          "BLPHSEQT17"        to              t[17]
213       assign          "BLPHSEQT18"        to              t[18]
214       assign          "BLPHSEQT19"        to              t[19]
215       assign          "BLPHSEQT20"        to              t[20]
216       assign          "BLPHSEQT21"        to              t[21]
217       !assign          "BLPHSEQT22"        to              t[22]
218       !assign          "BLPHSEQT23"        to              t[23]
219       !assign          "BLPHSEQT24"        to              t[24]
220       !assign          "BLPHSEQT25"        to              t[25]
221       !assign          "BLPHSEQT26"        to              t[26]
222       !assign          "BLPHSEQT27"        to              t[27]
223       !assign          "BLPHSEQT28"        to              t[28]
224       !assign          "BLPHSEQT29"        to              t[29]
225       !assign          "BLPHSEQT30"        to              t[30]
226       !assign          "BLPHSEQT31"        to              t[31]
227       !assign          "BLPHSEQT32"        to              t[32]
228       !assign          "BLPHSEQT33"        to              t[33]
229       !assign          "BLPHSEQT34"        to              t[34]
230       !assign          "BLPHSEQT35"        to              t[35]
231       !assign          "BLPHSEQT36"        to              t[36]
232       !assign          "BLPHSEQT37"        to              t[37]
233       !assign          "BLPHSEQT38"        to              t[38]
234       !assign          "BLPHSEQT39"        to              t[39]
235       !assign          "BLPHSEQT40"        to              t[40]
236       !assign          "BLPHSEQT41"        to              t[41]
237       !assign          "BLPHSEQT42"        to              t[42]
238       !assign          "BLPHSEQT43"        to              t[43]
239       !assign          "BLPHSEQT44"        to              t[44]
240       !assign          "BLPHSEQT45"        to              t[45]
241       assign          "BLPHSEQT46"        to              t[46]
242       assign          "BLPHSEQT47"        to              t[47]
243       assign          "BLPHSEQT48"        to              t[48]
244       assign          "BLPHSEQT49"        to              t[49]
245       assign          "BLPHEMGTM01"       to              EMGTM01
246
247
248       assign          "T3AAH"             to              TXAAH[1]
249       assign          "T3BAH"             to              TXAAH[2]
250       assign          "T3CAH"             to              TXAAH[3]
251       assign          "T3DAH"             to              TXAAH[4]
252       assign          "T3EAH"             to              TXAAH[5]
253       assign          "T3FAH"             to              TXAAH[6]
254
255       assign          "T5AAH"             to              T1XAAH[1]
256       assign          "T5BAH"             to              T1XAAH[2]
257       assign          "T5CAH"             to              T1XAAH[3]
258       assign          "T5DAH"             to              T1XAAH[4]
259       assign          "T5EAH"             to              T1XAAH[5]
260       assign          "T5FAH"             to              T1XAAH[6]
261
262       assign          "25BDV-005"         to              BDV[1]
263       assign          "25BDV-007"         to              BDV[2]
```

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```
   264        assign          "25BDV-010"         to              BDV[3]
   265        assign          "25BDV-013"         to              BDV[4]
   266        assign          "25BDV-016"         to              BDV[5]
   267        assign          "25BDV-019"         to              BDV[6]
   268        assign          "25BDV-022"         to              BDV[7]
   269        assign          "25SDV-001"         to              SDV[1]
   270        assign          "25SDV-023"         to              SDV[2]
   271
   272        assign          "63PI-003"          to              PT003
   273        assign          "64PI-031A"         to              PT031A
   274        assign          "64PI-031B"         to              PT031B
   275
   276        !-------------------------------------------------------------
   277        assign          "OPMSG-1"       to              OPRMSG[1]
   278        assign          "OPMSG-2"       to              OPRMSG[2]
   279        assign          "OPMSG-3"       to              OPRMSG[3]
   280        assign          "OPMSG-4"       to              OPRMSG[4]
   281
   282        !-------------------------------------------------------------
   283
```

Step Number: 2 Comment:MODE SEL X: 1 Y: 8

```
Line Number   SEBOL Program
   001        %.TRANSIT=0
   002        for i=1 to 8
   003        %.APSIND[i]=0
   004        next@
   005        !for i=1 to 400
   006        !%.STATUS[i]=0
   007        !next@
   008
   009
   010        !if(PMMODE.PV<>1)then
   011        !For i=1 to 20
   012        !%.STATUS[i]=0
   013        !next@
   014        !end if
   015
   016        !if(PMMODE.PV<>2 or PMMODE.PV<>3 or PMMODE.PV<>4)then
   017        !For i=21 to 40
   018        !%.STATUS[i]=0
   019        !next@
   020        !end if
   021
   022        for i=141 to 178
   023        %.STATUS[i]=0
   024        next@
   025
   026        for i=403 to 408
   027        %.STATUS[i]=0
   028        next@
   029
   030        TM01.OP=TMSTOP
   031        TM01.PV=0
   032        !if(PMMODE.PV<>1 or PMMODE.PV<>2 or PMMODE.PV<>3 or PMMODE.PV<>4) then
   033        !t[1].OP=TMSTOP
   034        !t[2].OP=TMSTOP
   035        !t[3].OP=TMSTOP
   036        !end if
   037        *TM01.PV=0
   038        ![%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="","","",""]
   039        repeat
   040        if (MODE.PV>=0 & MODE.PV<=6)  %.TRANSIT=1
   041        if (MODE.PV>=7 & MODE.PV<=10) %.TRANSIT=2
   042        until@(%.TRANSIT==1 | %.TRANSIT==2)
   043
   044        t[4].OP=TMSTOP
   045        t[5].OP=TMSTOP
   046        t[6].OP=TMSTOP
   047        t[7].OP=TMSTOP
   048        t[8].OP=TMSTOP
   049        t[9].OP=TMSTOP
   050        t[48].OP=TMSTOP
   051        t[49].OP=TMSTOP
   052        EMGTM01.OP=TMSTOP
```

Step Number: 3 Comment:MODE SEL X: 1 Y: 14

```
Line Number   SEBOL Program
   001        for i=0 to 6
   002        if (MODE.PV==i) then
   003            %.TRANSIT=3+i
   004        end if
   005        next@
```

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Step Number: 4 Comment:MODE SEL X: 13 Y: 14

```
Line Number   SEBOL Program
   001        for i=7 to 10
   002        if (MODE.PV==i) then
   003            %.TRANSIT=3+i
   004        end if
   005        next@
```

Step Number: 5 Comment:NONE X: 1 Y: 18

```
Line Number   SEBOL Program
   001        %.STATE="NONE"
   002        wait until (MODE.PV>0)
```

Step Number: 6 Comment:IDLE X: 3 Y: 18

```
Line Number   SEBOL Program
   001        %.STATE="IDLE"
   002        k=0
   003        SEQFL=0
   004        [INTSW[1].PV,INTSW[2].PV,INTSW[3].PV=0,0,0]
   005
   006
   007
   008        !Checking permissive for staring electrolizer package-------------------------------------------------
   009
   010        if (%.STATUS[50]==0)   [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PERMISSIVE CONDI","TIONS FOR IDLE ","MODE IS NOT MET ",""]
   011
   012
   013
   014        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PERMISSIVE CONDI","TIONS FOR IDLE  ","MODE IS SATISFIE","D               "]
   015
   016
   017        !----Electrolyser running. (delay xxx Sec)  (MODBUS TAG ELETROLYSER STATUS: 20XI-7113)----------------------
   018
   019        !wait until (SS[1].PV==1 | t[46].BSTS=="CTUP")
   020
   021        !if (SS[1].PV==1)      %.STATUS[20]=1
   022
   023        !if (SS[1].PV<>1) then
   024
   025
   026        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="WAITING FOR ELEC","TROLISER RUNNING","",""]
   027        wait until (SS[1].PV==1)
   028        %.STATUS[20]=1
   029        t[46].PH=%.DLY[46]
   030        t[46].OP=TMSTAT
   031        wait until (t[46].BSTS=="CTUP")
   032
   033
   034        if (SS[1].PV==1) then
   035        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELECTROLYSER I  ","S RUNNING       ","",""]
   036
   037
   038        delaycycle 5
   039        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELECTROLYSER I  ","S GOING TO CHARG","ING MODE        ",""]
   040
   041
   042        end if
   043        delaycycle 5
   044
   045
```

Step Number: 7 Comment:IMPORT X: 5 Y: 18

```
Line Number   SEBOL Program
   001        k=0
   002        SEQFL=0
   003        %.STATE="IMPORT"
   004        [INTSW[1].PV,INTSW[2].PV,INTSW[3].PV=0,0,0]
   005
   006        !if  (TM01.BSTS=="CTUP")    then
   007        !SEQFL=1
   008        !quit
   009        !end if
   010
   011        if (%.STATUS[50]==0)   [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PERMISSIVE CONDI","TIONS FOR IMPORT","MODE IS NOT MET ",""]
   012
   013
   014        !wait until (%.STATUS[50]==1)
   015        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PERMISSIVE CONDI","TIONS FOR IMPORT ","MODE IS SATISFIE","D               "]
```

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```
   016
   017
   018
   019
   020        !----Electrolyser running. (delay xxx Sec)  (MODBUS TAG ELETROLYSER STATUS: 20XI-7113)----------------------
   021
   022        !wait until (SS[1].PV==1 | t[47].BSTS=="CTUP")
   023
   024
   025
   026        !if (SS[1].PV<>1) then
   027
   028        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="WAITING FOR ELEC","TROLISER RUNNING","",""]
   029        wait until (SS[1].PV==1)
   030        %.STATUS[40]=1
   031        t[47].PH=%.DLY[47]
   032        t[47].OP=TMSTAT
   033        wait until (t[47].BSTS=="CTUP")
   034
   035
   036
   037        if (SS[1].PV==1) then
   038        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELECTROLYSER I  ","S RUNNING       ","",""]
   039
   040
   041        delaycycle 5
   042        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELECTROLYSER I  ","S GOING TO CHARG","ING MODE        ",""]
   043
   044
   045        end if
   046        delaycycle 5
   047
   048
   049
   050
   051



Step Number: 8     Comment:HOT STAND-BY                                          X:  7  Y: 18

Line Number   SEBOL Program
   001        !From process point of view in the “HOT STANDBY mode” neither the Electrolyser nor the Fuel cells
   002        !is required to run and the logic will do the following:
   003        !EMCS requires PCS to enter in “HOT STAND BY mode”
   004        !BESS NOT FAULT  (85XA-003)
   005        !H2 storage full (check all pressure transmitters on H2 storage tanks are>=20barg):
   006        !25-PT-035
   007        !25-PT-037
   008        !25-PT-040
   009        !25-PT-043
   010        !25-PT-046
   011        !25-PT-049
   012        repeat
   013        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELECTROLYSER I  ","S IN HOT STANDBY","MODE            ",""]
   014        until@ (MODE.PV<>4)



Step Number: 9     Comment:EXPORT                                                X:  9  Y: 18

Line Number   SEBOL Program
   001
   002        %.STATE="EXPORT"
   003
   004        !Since both valves 25PV055A/B shall be in closed position (mandatory) following actions shall be taken (see par. 4.4.10):
   005        !Put both controllers 25-PIC-055A/B in Auto mode and force the output to 0%.
   006        !Time to close the valves is 15 sec
   007        !The feedback statuses are 25-ZSL-055A and 25-ZSL-055B. When the feedback statuses are active then proceed with below point.
   008        quit



Step Number:10     Comment:COLD STANDBY                                          X: 11  Y: 18

Line Number   SEBOL Program
   001
   002        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELECTROLYSER I ","S IN COLD       ","STANDBY MODE    ",""]
   003
   004        wait until (MODE.PV<>6)



Step Number:11     Comment:EMRGENCY(ISLAND)                                      X: 13  Y: 18

Line Number   SEBOL Program
   001        !From process point of view in the "Emergency Mode (Island)" the Fuel cells package is required
   002        !to run and the logic will do the following:
   003        !1) EMCS requires to PCS enter in "Emergency Mode (Island)".
   004        !2) BESS NO FAULT
```

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```
005        !3) PCS sends to EMCS the "Permissive to start" for "Emergency mode"
006        !4) EMCS sends to PCS the "Command to Load shedding 1" that consists of:
007        !PCS Stop Sea water Pumps
008        !PCS Stop Water Treatment system
009        !PCS Stop Auxiliary Electrolyser
010        !EMCS sends to PCS the "Start request" for Fuel Cell package.
011
012
013
014        %.STATE="EMERGENCY ISLAND"
015        INTSW[11].PV=0
016        wait until (INTSW[16].PV==1)
017
018        if (INTSW[16].PV==1 and t[49].BSTS<>"NR") then
019        t[49].PH=%.DLY[49]
020        t[49].OP=TMSTAT
021        end if
022
023
024
```

Step Number:12 Comment:POWER OUT X: 15 Y: 18

```
Line Number   SEBOL Program
   001        %.STATE="POWER OUT"
   002        wait until (MODE.PV<>8)
```

Step Number:13 Comment:MAINTENANCE X: 17 Y: 18

```
Line Number   SEBOL Program
   001        %.STATE="MAINTENANCE"
   002        wait until (MODE.PV<>9)
```

Step Number:20 Comment:TRANSITION X: 3 Y: 23

```
Line Number   SEBOL Program
   001        TM01.OP=TMSTOP
   002        %.STATE="CHARGING"
   003        quit
```

Step Number:16 Comment:SEQ FAIL X: 15 Y: 24

```
Line Number   SEBOL Program
   001        !SEQFL=0
   002        !Fuel Cells will be stopped by EMCS.
   003        INTSW[16].PV=0
   004        !PCS Stop auxiliary Fuel Cells(80A80000)
   005        AUXFC.MV=0
   006        !PCS will stop the sequence ¡§Process Discharging mode¡¨ for H2 storage Vessels
   007        !Put both controllers 25-PIC-055A/B in Auto mode and force the output to 0%.
   008        ![PIC[7].MODE,PICT[7].MODE,PICT[7].SW="AUT","AUT",2]
   009        !PIC[8].MODE = "AUT"
   010        ![PICT[8].MODE,PICT[8].SW="AUT",2]
   011
   012        PIC[7].PSW = 1
   013
   014        !Time to close the valves is 15 sec
   015        !The feedback statuses are 25-ZSL-055A and 25-ZSL-055B.
   016        !EMCS sends to PCS the ¡§Command to Load shedding 2¡¨ that consists of:
   017        !PCS Stop HVAC systems
   018        !PCS Stop Welding sockets
   019        !PCS Stop BOP Distribution panel
   020        !PCS Stop Crane
   021        !§Permissive to start¡¨ for ¡§Emergency Mode¡¨ (Island)
   022        !------PCS will stop Water Treatment system-------------
   023
   024        INTSW[2].PV = 0                                  ! WTP START REQ OFF
   025
   026        INTSW[13].PV=1                            !NEED TO MAP WITH MODBUS TO SEND STOP COMMAND TO WTP PACKAGE ! WTP STOP REQ ON
   027
   028        delaycycle 5
   029        !INTSW[6].PV=0
   030
   031        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELTROLISER EMERG","ENCY MODE","OPERATION FAILED",""]
   032
   033
   034
   035
   036
   037
   038
   039
```

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```
040
041
042
043
044
045
046
```

Step Number:18 Comment:SEQ FAIL X: 5 Y: 26

```
Line Number   SEBOL Program
   001        SEQFL=0
   002        !------Electrolyser will be stopped by EMCS.------------
   003        INTSW[7].PV=0           !87PERM-0002 modbus signal for Electroliser stop request
   004
   005        !------PCS will stop the sequence “Process Charging mode” for H2 storage Vessels
   006
   007        !------PCS will stop the Sea water Pumps----------------
   008        INTSW[1].PV=0
   009        INTSW[12].PV=1                        !GROUP STOP COMMAND FO SEA WATER INTAKE PUMP
   010        wait until (SWP[1].PV==0 & SWP[2].PV==0)
   011        INTSW[12].PV=0
   012        !------PCS will stop Water Treatment system-------------
   013
   014        WTPHS.MV03=1                           !STOP COMMAND TO WTP PACKAGE
   015        delaycycle 10
   016        INTSW[6].PV=0
   017        %.EVENT[12]=1                          !ELTROLISER "IDLE" MODE OPERATION FAILED
   018        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ELTROLISER IDLE ","MODE OPERATION  ","         FAILED",""]
   019
   020        for i= 1 to 450
   021        %.STATUS[i]=0
   022        next@
```

Step Number:14 Comment:RESEARCH X: 3 Y: 38

```
Line Number   SEBOL Program
   001
   002        !3.10 MODE 7 = RESEARCH
   003        !For electrical details about this mode reference shall be made to doc. EMCS Software Functional Design Specification (FDS-SW)
   004        !All commands will be in manual mode by operators from HMI and all Software Interlocks inside PCS shall be by-passed.
   005        !The following push buttons will be active only in electrical "Research mode"
   006        !Software push button = Purging mode after Shutdown (for H2 displacement) (see par. 4.4.7)
   007        !Software push button = Purging mode after Maintenance (for air displacement) (see par. 4.4.8)
   008        !Software push button = Process Start-up charging mode (see par. 4.4.4)
   009        !Software push button = Process Charging mode (see par. 4.4.2)
   010        !Software push button = Process Discharging mode (see par. 4.4.5)
   011        %.STATE="RESEARCH"
   012        %.TRANSIT=0
   013        for i=1 to 400
   014        %.STATUS[i]=0
   015        next@
   016        for i=1 to 6
   017        if (T1XAAH[i].PV==1)    T1XAAH[i].PV=0
   018        if (TXAAH[i].PV==1)     TXAAH[i].PV=0
   019        next@
   020        ![%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="","","",""]
   021
   022        repeat
   023
   024        [%.SWPBEN[1],%.SWPBEN[2],%.SWPBEN[5]=1,1,1]         ! To enable soft push button on HMI
   025        if (RCRGPM.H2ILK==1) then
   026             if ((dscheck(PT[1].#PV,"BAD")==0 & PT[1].PV>=2.0) | (dscheck(PT[2].#PV,"BAD")==0 & PT[2].PV>=2.0)\
   027                | (dscheck(PT[3].#PV,"BAD")==0 & PT[3].PV>=2.0) | (dscheck(PT[4].#PV,"BAD")==0 & PT[4].PV>=2.0)\
   028                | (dscheck(PT[5].#PV,"BAD")==0 & PT[5].PV>=2.0) | (dscheck(PT[6].#PV,"BAD")==0 & PT[6].PV>=2.0))   then
   029                [%.SWPBEN[3],%.SWPBEN[4]=1,1]
   030             end if
   031        else
   032        [%.SWPBEN[3],%.SWPBEN[4]=0,0]
   033        end if
   034
   035        if (MODE.PV<>10)   then
   036            for i= 1 to 5
   037            %.SWPBEN[i]=0
   038            next@
   039        end if
   040
   041
   042        until (%.TRANSIT==15 | %.TRANSIT==17 |MODE.PV<>10)
   043
   044        if (MODE.PV<>10)   then
   045            for i= 1 to 5
   046            %.SWPBEN[i]=0
   047            next@
   048        end if
```

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Step Number:22 Comment:CHARGING MODE X: 3 Y: 45

```
Line Number   SEBOL Program
   001        %.STATE="PROCESS CHARGING"
   002        %.STATE="CHARGING"
   003        %.APSIND[1]=1
   004        %.CHRG=1                !USED IN RESEACH MODE RESRTRICTION
   005
   006
   007
   008
   009        !The gProcess Charging modeh can be activated only if pressure in the H2 vessels is higher than 2 barg (this to ensure there is
              no air inside the vessels): 25-PT-035/037/040/043/046/049. 2 barg (this value depends on the chosen set point of pressure control
              valves during purging operation).
   010        !Let assume the sequence of the vessel to be filled is the following:
   011        !a. V-25001A,
   012        !b. V-25001B,
   013        !c. V-25001C,
   014        !d. V-25001D,
   015        !e. V-25001E,
   016        !f. V-25001F,
   017        !Then the logic will do the following:
   018        *1) Close all XV valves that are installed on the inlet line of each H2 Storage Vessel:
   019        !25-XV-004/008/011/014/017/020
   020        for i=143 to 178
   021        %.STATUS[i]=0
   022        next@
   023        for i=401 to 405
   024        %.STATUS[i]=0
   025        next@
   026        TOP:
   027
   028        !1)Close all FV valves that are installed on the inlet lines of each H2 Storage Vessel: 25-FV-031/032/033/034/038/036
   029        !• Time to close the valves is 20 sec
   030        !• The feedback statuses are 25-ZSL-031/032/033/034/038/036. When all feedback statuses are active proceed with below point.
   031
   032        !for i=1 to 6
   033        !    [FIC[i].MODE,FICT[i].MODE,FICT[i].SW="AUT","AUT",2]
   034        !next@
   035
   036        !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
   037
   038        for i=1 to 6
   039            FIC[i].PSW = 1
   040        next@
   041
   042        wait until (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1);time 30,error BOT
              TOM
   043        if (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1) then
   044        %.STATUS[401]=1
   045        else
   046        %.STATUS[401]=0
   047        end if
   048        !1) Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
   049
   050        !Close all PV valves that are installed on the outlet lines of each H2 Storage Vessel:
   051        !25-PV-035/037/040/043/046/049
   052        !• Time to close the valves is 20 sec
   053        !The feedback statuses are 25-ZSL-035/037/040/043/046/049. When all feedback statuses are active proceed with below point.
   054
   055        !for i=1 to 6
   056        !    [PIC[i].MODE,PICT[i].MODE,PICT[i].SW="CAS","AUT",2]
   057        !next@
   058
   059        !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
   060
   061        for i=1 to 6
   062            PIC[i].PSW = 1
   063        next@
   064
   065        wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1);time 30,error BOT
              TOM
   066
   067        if(PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1)then
   068        %.STATUS[402]=1
   069        else
   070        %.STATUS[402]=0
   071        end if
   072
   073        [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   074        delaycycle 3
   075        [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
   076
   077
   078
   079        !Time to close the valves is 3 sec
   080        !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
   081
```

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```
082       wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0);time 10,error BOTTOM
083       %.STATUS[141]=1
084
085       !Close all XV valves that are installed on the outlet line of each H2 Storage Vessel:
086       !25-XV-006/009/012/015/018/021
087
088       [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
089       !delaycycle 3
090       [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
091       delaycycle 3
092
093       !Time to close the valves is 3 sec
094       !The feedback statuses are 25-ZSL-006/009/012/015/018/021. When all feedback statuses are active proceed with below point.
095
096       wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0);time 10,error BOTTOM
097       %.STATUS[142]=1
098
099
100       for i=143 to 178
101       %.STATUS[i]=0
102       next@
103       if (CGHS.MV01==1 or O20XS.PV==0 ) then
104       goto BOTTOM
105       end if
106       if(ENMODE.PV==10)  %.STATUS[50]=1   ! BYPASS ACTUAL PERMISSIVE BIT IN RESEARCH MODE
107
108       *******CHARGING MODE LOGIC FOR VESSEL-A************************************************************
109       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A CHARGIN","G OPERATION IS ","STARTED",""]
110       !Check the pressure in V-25001A:
111       !If 25-PT-035>=30 barg go to point 7
112       !If 25-PT-035 < 30 and >=2 barg go to below point
113
114       if  (dscheck(PT[1].#PV,"BAD") == 1)     then
115          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-035 I","S IN FAULT CONDI","TION            "]
116       end if
117
118       wait until (dscheck(PT[1].#PV,"BAD") == 0);time 1,error BOTTOM       ! checking transimitter fault
119
120       if (PT[1].PV>=30.0 | PT[1].PV<2.0)    then
121       %.STATUS[143]=1
122       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A CHARGIN","G OPERATION IS ","FAILED",""]
123       goto POINT7
124       end if
125
126
127       if    (PT[1].PV<30.0 & PT[1].PV>=2.0)    then
128       %.STATUS[144]=1
129       !Open the valve 25-XV-004, installed on the inlet line of the V-25001A;
130       XV[4].MODE="AUT"
131       XV[4].CSV=2
132       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A INLET V","ALVE 25-XV-004 ","OPEN COMMAND ISSUED",""]
133       end if
134       !Time to open 25-XV-004 is 8 sec.
135
136       wait until (XV[4].PV==2 or %.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0);time 10,error BOTTOM
137       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0 ) then
138       goto BOTTOM
139       end if
140
141       %.STATUS[145]=1
142       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A INLET V","ALVE 25-XV-004 ","IS OPENED       ",""]
143       !The feedback status is 25-ZSH-004. When feedback status is active proceed with below point.
144
145       t[4].PH=%.DLY[4]
146       t[4].OP=TMSTAT
147       !Wait (delay TBD sec) until the pressure inside the vessel V-25001A is .30 barg (pressure indication can be taken from 25-PT-035,
          installed on the vessel V-25001A);
148       !If 25-PT-035 >=30 barg go to below point
149       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PLEASE WAIT UNTI","L THE VESSEL-A  ","PRESSURE REACHE ","D TO 30 bar      "]
150
151       wait until (PT[1].PV>=30.0 | t[4].BSTS=="CTUP" | %.STATUS[50]==0 | CGHS.MV01==1 or O20XS.PV==0 | GRAD[1].PV==1)
152       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
153       goto BOTTOM
154       end if
155
156       if  (GRAD[2].PV==1) then
157       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A PRESSUR","E GRADIENT IS ZER","O OR -VE GRADIENT","                ",""]
158       end if
159
160       if  (PT[1].PV>=30.0) then
161       %.STATUS[146]=1
162       t[4].OP=TMSTOP
163       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A PRESSUR","E REACHED TO 30 ","BAR             ",""]
164       end if
165
166
167       !If 25-PT-035 < 30 barg when timer is expired alert operator with alarm ¡§Process Charging Sequence Vessel A not completed¡¨ and p
          roceed with below point
168
169       if ((PT[1].PV<30.0 & t[4].BSTS=="CTUP") | GRAD[1].PV==1 )  then
```

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```
170       %.STATUS[147]=1
171       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]=" PROCESS CHARGIN","G SEQUENCE      "," VESSEL-A IS NO","T COMPLETED     "]
172       end if
173
174
175
176       if (PT[1].PV<30.0) then
177       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A INLET V","ALVE 25-XV-004 ","CLOSE COMMAND ISSUE","D"]
178       end if
179
180       XV[4].MODE="AUT"
181       XV[4].CSV=0
182
183       wait until (XV[4].PV==0);time 10,error BOTTOM
184       if        (XV[4].PV==0)     then
185       %.STATUS[148]=1
186       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A INLET V","ALVE 25-XV-004 ","IS CLOSED       ",""]
187       end if
188
189       ************************************************************************CHARGING MODE LOGIC FOR VESSEL-B*******************************
          *************************
190       POINT7:
191       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B CHARGIN","G OPERATION IS ","STARTED",""]
192
193       if  (dscheck(PT[2].#PV,"BAD")==1)     [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-037 I","S IN FAU
          LT CONDI","TION            "]
194       wait until (dscheck(PT[2].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
195
196       if (PT[2].PV>=30.0 | PT[2].PV<2.0)    then
197       %.STATUS[149]=1
198       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B CHARGIN","G OPERATION IS ","FAILED",""]
199       goto POINT11
200       end if
201
202       if    (PT[2].PV<30.0 & PT[2].PV>=2.0)    then
203       %.STATUS[150]=1
204       XV[8].MODE="AUT"
205       XV[8].CSV=2
206       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B INLET V","ALVE 25-XV-008 ","OPEN COMMAND ISSUED",""]
207       end if
208
209
210       wait until (XV[8].PV==2 or %.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0);time 10,error BOTTOM
211       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
212       goto BOTTOM
213       end if
214       %.STATUS[151]=1
215       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B INLET V","ALVE 25-XV-008 ","IS OPENED       ",""]
216
217       t[5].PH=%.DLY[5]
218       t[5].OP=TMSTAT
219
220       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PLEASE WAIT UNTI","L THE VESSEL-B  ","PRESSURE REACHE ","D TO 30 bar      "]
221
222       wait until (PT[2].PV>=30.0 | t[5].BSTS=="CTUP" | %.STATUS[50]==0 | CGHS.MV01==1 or O20XS.PV==0 | GRAD[2].PV==1)
223       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0 ) then
224       goto BOTTOM
225       end if
226
227       if  (GRAD[2].PV==1) then
228       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B PRESSUR","E GRADIENT IS ZER","O OR -VE GRADIENT","                ",""]
229       end if
230
231
232       if  (PT[2].PV>=30.0) then
233       %.STATUS[152]=1
234       t[5].OP=TMSTOP
235       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B PRESSUR","E REACHED TO 30 ","BAR             ",""]
236       end if
237
238       if ((PT[2].PV<30.0 & t[5].BSTS=="CTUP") OR GRAD[2].PV==1)  then
239       %.STATUS[153]=1
240       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B CHARGIN","G OPERATION IS ","FAILED",""]
241       end if
242
243       if (PT[2].PV<30.0) then
244
245       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B INLET V","ALVE 25-XV-008 ","CLOSE COMMAND ISSUE","D"]
246       end if
247
248       XV[8].MODE="AUT"
249       XV[8].CSV=0
250       wait until (XV[8].PV==0);time 10,error BOTTOM
251
252       if        (XV[8].PV==0)     then
253       %.STATUS[154]=1
254       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B INLET V","ALVE 25-XV-008 ","IS CLOSED       ",""]
255       end if
256
257       *******CHARGING MODE LOGIC FOR VESSEL-C*****************************************************************
```

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```
258         POINT11:
259         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C CHARGIN","G OPERATION IS ","STARTED",""]
260
261         if  (dscheck(PT[3].#PV,"BAD")==1)     [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-040 I","S IN FAU
            LT CONDI","TION            "]
262         wait until (dscheck(PT[3].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
263
264
265         if (PT[3].PV>=30.0 | PT[3].PV<2.0)    then
266         %.STATUS[155]=1
267         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C CHARGIN","G OPERATION IS ","FAILED",""]
268         goto POINT15
269         end if
270
271         if    (PT[3].PV<30.0 & PT[3].PV>=2.0)    then
272         %.STATUS[156]=1
273         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C INLET V","ALVE 25-XV-008 ","OPEN COMMAND ISSUED",""]
274         end if
275
276         XV[11].MODE="AUT"
277         XV[11].CSV=2
278
279         wait until (XV[11].PV==2 or %.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0);time 10,error BOTTOM
280         if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
281         goto BOTTOM
282         end if
283
284         %.STATUS[157]=1
285         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C INLET V","ALVE 25-XV-008 ","IS OPENED       ",""]
286
287
288         XV[11].MODE="AUT"
289         XV[11].CSV=2
290
291         t[6].PH=%.DLY[6]
292         t[6].OP=TMSTAT
293         !Wait (delay TBD sec) until the pressure inside the vessel V-25001A is .30 barg (pressure indication can be taken from 25-PT-040,
            installed on the vessel V-25001A);
294         !If 25-PT-040 >=30 barg go to below point
295         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PLEASE WAIT UNTI","L THE VESSEL-B  ","PRESSURE REACHE ","D TO 30 bar      "]
296
297         wait until (PT[3].PV>=30.0 | t[6].BSTS=="CTUP" | %.STATUS[50]==0 | CGHS.MV01==1 or O20XS.PV==0 | GRAD[3].PV==1)
298
299         if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
300         goto BOTTOM
301         end if
302
303
304         if  (GRAD[3].PV==1) then
305         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C PRESSUR","E GRADIENT IS ZER","O OR -VE GRADIENT","               ",""]
306         end if
307
308         if  (PT[3].PV>=30.0) then
309         %.STATUS[158]=1
310         t[6].OP=TMSTOP
311         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C PRESSUR","E REACHED TO 30 ","BAR             ",""]
312         end if
313
314         if ((PT[3].PV<30.0 & t[6].BSTS=="CTUP")OR GRAD[3].PV==1)then
315         %.STATUS[159]=1
316         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C CHARGIN","G OPERATION IS ","FAILED",""]
317         end if
318
319         if (PT[3].PV<30.0) then
320         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C INLET V","ALVE 25-XV-008 ","CLOSE COMMAND ISSUE","D"]
321         end if
322
323         XV[11].MODE="AUT"
324         XV[11].CSV=0
325
326         wait until (XV[11].PV==0);time 10,error BOTTOM
327         if        (XV[11].PV==0)     then
328         %.STATUS[160]=1
329         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C INLET V","ALVE 25-XV-008 ","IS CLOSED       ",""]
330         end if
331
332         *******CHARGING MODE LOGIC FOR VESSEL-D************************************************************
333         POINT15:
334         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D CHARGIN","G OPERATION IS ","STARTED",""]
335
336         if  (dscheck(PT[4].#PV,"BAD")==1)     [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-043 I","S IN FAU
            LT CONDI","TION            "]
337         wait until (dscheck(PT[4].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
338
339         if (PT[4].PV>=30.0 | PT[4].PV<2.0)    then
340         %.STATUS[161]=1
341         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D CHARGIN","G OPERATION IS ","FAILED",""]
342         goto POINT19
343         end if
344
```

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```
345       if    (PT[4].PV<30.0 & PT[4].PV>=2.0)    then
346       %.STATUS[162]=1
347
348       XV[14].MODE="AUT"
349       XV[14].CSV=2
350       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D INLET V","ALVE 25-XV-008 ","OPEN COMMAND ISSUED",""]
351       end if
352
353       wait until (XV[14].PV==2 or %.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0);time 10,error BOTTOM
354       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
355       goto BOTTOM
356       end if
357
358       %.STATUS[163]=1
359       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D INLET V","ALVE 25-XV-008 ","IS OPENED       ",""]
360
361
362       t[7].PH=%.DLY[7]
363       t[7].OP=TMSTAT
364       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PLEASE WAIT UNTI","L THE VESSEL-D  ","PRESSURE REACHE ","D TO 30 bar      "]
365
366       wait until (PT[4].PV>=30.0 | t[7].BSTS=="CTUP" | %.STATUS[50]==0 | CGHS.MV01==1 or O20XS.PV==0 | GRAD[4].PV==1)
367       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0 ) then
368       goto BOTTOM
369       end if
370
371       if  (GRAD[4].PV==1) then
372       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D PRESSUR","E GRADIENT IS ZER","O OR -VE GRADIENT","                ",""]
373       end if
374
375       if  (PT[4].PV>=30.0) then
376       %.STATUS[164]=1
377       t[7].OP=TMSTOP
378       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D PRESSUR","E REACHED TO 30 ","BAR             ",""]
379       end if
380
381       if ((PT[4].PV<30.0 & t[7].BSTS=="CTUP")OR GRAD[4].PV==1)  then
382       %.STATUS[165]=1
383       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D CHARGIN","G OPERATION IS ","FAILED",""]
384       end if
385
386
387       if (PT[4].PV<30.0) then
388
389       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D INLET V","ALVE 25-XV-008 ","CLOSE COMMAND ISSUE","D"]
390       end if
391
392
393       XV[14].MODE="AUT"
394       XV[14].CSV=0
395
396       wait until (XV[14].PV==0);time 10,error BOTTOM
397       if         (XV[14].PV==0)     then
398       %.STATUS[166]=1
399       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D INLET V","ALVE 25-XV-008 ","IS CLOSED       ",""]
400       end if
401
402       *******CHARGING MODE LOGIC FOR VESSEL-E************************************************************
403       POINT19:
404       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E CHARGIN","G OPERATION IS ","STARTED",""]
405       !Check the pressure in V-25001A:
406       !If 25-PT-046>=30 barg go to POINT23
407       !If 25-PT-046 < 30 and <=2 barg go to below point
408       if  (dscheck(PT[5].#PV,"BAD")==1)     [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-046 I","S IN FAU
          LT CONDI","TION            "]
409       wait until (dscheck(PT[5].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
410
411       if (PT[5].PV>=30.0 | PT[5].PV<2.0)    then
412       %.STATUS[167]=1
413       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E CHARGIN","G OPERATION IS ","FAILED",""]
414       goto POINT23
415       end if
416
417       if    (PT[5].PV<30.0 & PT[5].PV>=2.0)    then
418       %.STATUS[168]=1
419       !Open the valve 25-XV-017, installed on the inlet line of the V-25001A;
420       XV[17].MODE="AUT"
421       XV[17].CSV=2
422       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E INLET V","ALVE 25-XV-017 ","OPEN COMMAND ISSUED",""]
423       end if
424       !Time to open 25-XV-017 is 8 sec.
425
426       wait until (XV[17].PV==2 or %.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0);time 10,error BOTTOM
427       if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
428       goto BOTTOM
429       end if
430
431       %.STATUS[169]=1
432       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E INLET V","ALVE 25-XV-017 ","IS CLODED       ",""]
433       !The feedback status is 25-ZSH-004. When feedback status is active proceed with below point.
```

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```
434
435         t[8].PH=%.DLY[8]
436         t[8].OP=TMSTAT
437         !Wait (delay TBD sec) until the pressure inside the vessel V-25001A is .30 barg (pressure indication can be taken from 25-PT-046,
            installed on the vessel V-25001A);
438         !If 25-PT-046 >=30 barg go to below point
439         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PLEASE WAIT UNTI","L THE VESSEL-E  ","PRESSURE REACHE ","D TO 30 bar      "]
440
441         wait until (PT[5].PV>=30.0 | t[8].BSTS=="CTUP" | %.STATUS[50]==0 | CGHS.MV01==1 or O20XS.PV==0 | GRAD[5].PV==1)
442         if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
443         goto BOTTOM
444         end if
445
446         if  (GRAD[5].PV==1) then
447         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E PRESSUR","E GRADIENT IS ZER","O OR -VE GRADIENT","                ",""]
448         end if
449
450
451         if  (PT[5].PV>=30.0) then
452         %.STATUS[170]=1
453         t[8].OP=TMSTOP
454         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E PRESSUR","E REACHED TO 30 ","BAR             ",""]
455         end if
456
457         if ((PT[5].PV<30.0 & t[8].BSTS=="CTUP") OR GRAD[5].PV==1)  then
458         %.STATUS[171]=1
459         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E CHARGIN","G OPERATION IS ","FAILED",""]
460         end if
461
462         !If 25-PT-046 < 30 barg when timer is expired alert operator with alarm ¡§Process Charging Sequence Vessel A not completed¡¨ and p
            roceed with below point
463
464         if (PT[5].PV<30.0) then
465
466         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E INLET V","ALVE 25-XV-017 ","CLOSE COMMAND ISSUE","D"]
467         end if
468
469         XV[17].MODE="AUT"
470         XV[17].CSV=0
471
472         wait until (XV[17].PV==0);time 10,error BOTTOM
473         if         (XV[17].PV==0)     then
474         %.STATUS[172]=1
475         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E INLET V","ALVE 25-XV-017 ","IS CLOSED       ",""]
476         end if
477
478
479         *******CHARGING MODE LOGIC FOR VESSEL-F************************************************************
480         POINT23:
481         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F CHARGIN","G OPERATION IS ","STARTED",""]
482         !Check the pressure in V-25001F:
483         !If 25-PT-049>=30 barg go to POINT27
484         !If 25-PT-049 < 30 and <=2 barg go to below point
485         if  (dscheck(PT[6].#PV,"BAD")==1)     [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-049 I","S IN FAU
            LT CONDI","TION            "]
486         wait until (dscheck(PT[6].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
487
488         if (PT[6].PV>=30.0 | PT[6].PV<2.0)    then
489         %.STATUS[173]=1
490         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F CHARGIN","G OPERATION IS ","FAILED",""]
491         goto POINT27
492         end if
493
494         if    (PT[6].PV<30.0 & PT[6].PV>=2.0)    then
495         %.STATUS[174]=1
496         !Open the valve 25-XV-017, installed on the inlet line of the V-25001F;
497         XV[20].MODE="AUT"
498         XV[20].CSV=2
499         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F INLET V","ALVE 25-XV-017 ","OPEN COMMAND ISSUED",""]
500         end if
501         !Time to open 25-XV-017 is 8 sec.
502         delaycycle 8
503         wait until (XV[20].PV==2 or %.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0)
504         if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
505         goto BOTTOM
506         end if
507
508         %.STATUS[175]=1
509         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F INLET V","ALVE 25-XV-020 ","IS CLODED       ",""]
510         !The feedback status is 25-ZSH-004. When feedback status is active proceed with below point.
511
512         t[9].PH=%.DLY[9]
513         t[9].OP=TMSTAT
514         !Wait (delay TBD sec) until the pressure inside the vessel V-25001F is .30 barg (pressure indication can be taken from 25-PT-049,
            installed on the vessel V-25001F);
515         !If 25-PT-049 >=30 barg go to below point
516         [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PLEASE WAIT UNTI","L THE VESSEL-F  ","PRESSURE REACHE ","D TO 30 bar      "]
517
518         wait until (PT[6].PV>=30.0 | t[9].BSTS=="CTUP" | %.STATUS[50]==0 | CGHS.MV01==1 or O20XS.PV==0 | GRAD[6].PV==1)
519         if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0) then
```

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```
520        goto BOTTOM
521        end if
522
523        if  (GRAD[6].PV==1) then
524        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F PRESSUR","E GRADIENT IS ZER","O OR -VE GRADIENT","                ",""]
525        end if
526
527        if  (PT[6].PV>=30.0) then
528        %.STATUS[176]=1
529        t[9].OP=TMSTOP
530        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F PRESSUR","E REACHED TO 30 ","BAR             ",""]
531        end if
532
533        if ((PT[6].PV<30.0 & t[9].BSTS=="CTUP") OR GRAD[6].PV==1)  then
534        %.STATUS[177]=1
535        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F CHARGIN","G OPERATION IS ","FAILED",""]
536        end if
537
538        !If 25-PT-049 < 30 barg when timer is expired alert operator with alarm ¡§Process Charging Sequence Vessel A not completed¡¨ and p
           roceed with below point
539
540        if (PT[6].PV<30.0) then
541
542
543        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F INLET V","ALVE 25-XV-020 ","CLOSE COMMAND ISSUE","D"]
544        end if
545        XV[20].MODE="AUT"
546        XV[20].CSV=0
547        wait until (XV[20].PV==0);time 10,error BOTTOM
548        if         (XV[20].PV==0)     then
549        %.STATUS[178]=1
550        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F INLET V","ALVE 25-XV-020 ","IS CLOSED       ",""]
551        end if
552        !-------------------------------------------------------------------------------------------------------------------------------
553
554        goto POINT27
555
556        BOTTOM:
557        if (%.STATUS[50]==0 or CGHS.MV01==1 or O20XS.PV==0 OR GRAD[1].PV==1 OR GRAD[2].PV==1 OR GRAD[3].PV==1 OR GRAD[4].PV==1 OR GRAD[5].
           PV==1 OR GRAD[5].PV==1 OR GRAD[6].PV==1) then
558        [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
559        delaycycle 5
560        [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
561        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CHARGING SEQUENC","E FAILED DUE TO ","VLV OR TRANSMITT","ER FAULT        "]
562        delaycycle 3
563        end if
564
565        !Time to close the valves is 3 sec
566        !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
567
568        wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0)
569
570
571        POINT27:
572        if  (PT[1].PV>=30.0 & PT[2].PV>=30.0  & PT[3].PV>=30.0  & PT[4].PV>=30.0  & PT[5].PV>=30.0  & PT[6].PV>=30.0) then
573        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="  ALL VESSELS AR","E FULLY CHARGED ","",""]
574         INTSW[7].PV=0     ! REMOVING START PERMISSIVE FOR ELECTROLIZER
575        !for i=143 to 178
576        !%.STATUS[i]=0
577        !next@
578        end if
579
580
581        %.APSIND[1]=0                ! FOR GRAPHIC
582
583        for i=4 to 9
584            t[i].OP=TMSTOP
585        next@
586
587        %.CHRG=0               !USED IN RESEACH MODE RESRTRICTION
588
589        if(ENMODE.PV==10)  %.STATUS[50]=0   ! BYPASS ACTUAL PERMISSIVE BIT IN RESEARCH MODE
590
591        if (MODE.PV==10 AND %.TRANSIT==15) %.TRANSIT=13
592        !wait until (MODE.PV<>1 and MODE.PV<>2 and MODE.PV<>3 and MODE.PV<>4 and (MODE.PV<>10 or %.TRANSIT<>15))
593        wait until (MODE.PV<>1 and MODE.PV<>2 and MODE.PV<>3 and MODE.PV<>4)
594
595
596        !_____________________________________________________________________________________________________________________________
597
```

Step Number:24 Comment:DISCHARGING MODE X: 5 Y: 45

```
Line Number   SEBOL Program
   001        for i=181 to 210
   002        %.STATUS[i]=0
   003        next@
   004
```

```
005       %.DISCHRG=1
006
007
008
009       **********Process Discharging Mode************************************
010       !The “Process Discharging mode” is a normal operating mode when at least one of the hydrogen vessel
011       !contains Hydrogen to feed the Fuel Cell package.
012       !A Software push button can activate this logic only in “Research mode” (see par. 3.10)
013       !in all other electrical modes this Software Push button must be disabled so that the
014       !discharging of H2 vessels can only be done in automatic mode.
015       !When the Fuel Cell is required by EMCS to start, the PCS automatically starts the “Discharging Mode” sequence.
016       !Let assume the sequence of the vessel to be discharged is the following:
017       !a. V-25001A,
018       !b. V-25001B,
019       !c. V-25001C,
020       !d. V-25001D,
021       !e. V-25001E,
022       !f. V-25001F,
023       %.STATE="DISCHARGING"
024       *1) Close all XV valves that are installed on the inlet line of each H2 Storage Vessel:
025       !25-XV-004/008/011/014/017/020
026
027       [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
028       delaycycle 3
029       [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
030       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL     ","INLET VALVES OF ","H2 STRG VESSELS "]
031
032
033       !Time to close the valves is 3 sec
034       !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
035
036       wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0);time 10,error BOTTOM
037       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ALL INLET VALVES"," OF H2 STORAGE  ","VESSELS ARE CLOS","ED              "]
038       %.STATUS[351]=1
039       !Close all XV valves that are installed on the outlet line of each H2 Storage Vessel:
040       !25-XV-006/009/012/015/018/021
041
042       [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
043       delaycycle 3
044       [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
045       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL     "," OUTLET VALVES O","F H2 STRG VESSLS"]
046
047
048       !Time to close the valves is 3 sec
049       !The feedback statuses are 25-ZSL-006/009/012/015/018/021. When all feedback statuses are active proceed with below point.
050
051       wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0);time 10,error BOTTOM
052       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ALL OUTLET VALVE","S OF H2 STORAGE ","VESSELS ARE CLOS","ED              "]
053       %.STATUS[352]=1
054
055       if ( DCHS.MV01==1 ) then
056       goto BOTTOM
057       end if
058       if(ENMODE.PV==10)  %.STATUS[78]=1   ! BYPASS ACTUAL PERMISSIVE BIT IN RESEARCH MODE
059
060       !---------------------------Vessel-A Discharging Sequence-------------------------------------------
061       !Check the pressure in V-25001A:
062       !If 25-PT-035>=30.0 go bellow
063       !If 25-PT-035 <= 4.5 go to point 7
064       !Open the valve 25-XV-006, installed on the outlet line of the V-25001A;
065       !Time to open 25-XV-006 is 8 sec.
066       !The feedback status is 25-ZSH-006. When feedback status is active proceed with below point.
067       !Wait until the pressure inside the vessel V-25001A is . 4.5 barg (pressure indication can be taken from 25-PT-035, installed on t
          he vessel V-25001A);
068       !When 25-PT-035 . 4.5 barg proceed with below point.
069       !Close the 25-XV-006, installed on the outlet line of the V-25001A;
070       !Time to close 25-XV-006 is 3 sec.
071       !The feedback status is 25-ZSL-006. When feedback status is active proceed with below point.
072       if  (dscheck(PT[1].#PV,"BAD") == 1)     then
073          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-035 I","S IN FAULT CONDI","TION            "]
074       end if
075       wait until (dscheck(PT[1].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
076
077       if (PT[1].PV<=4.5)    then
078       %.STATUS[181]=1
079       goto POINT7
080       end if
081
082       if (PT[1].PV>10.0)  then
083       %.STATUS[182]=1
084       [XV[6].MODE,XV[6].CSV="AUT",2]
085       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-A ","INLET VALVE    ",""]
086
087       wait until (XV[6].PV==2 );time 10,error BOTTOM
088
089       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A OUTLET ","VALVE IS OPENED ","",""]
090       %.STATUS[183]=1
091       !wait until (PT[1].PV<=10.0 OR %.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0)
092
093       wait until (PT[1].PV<=10.0 OR DCHS.MV01==1 OR O80XS.PV==0)                    ! Export-discharge mode order change 04-07-2025
```

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```
094
095
096       !if (%.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0) then
097
098       if (DCHS.MV01==1 OR O80XS.PV==0) then
099       goto BOTTOM
100       end if
101
102       %.STATUS[184]=1
103       [XV[6].MODE,XV[6].CSV="AUT",0]
104       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CLOSE COMMAND IS","SUED TO VESSEL-A","OUTLET VALVE   ",""]
105       wait until (XV[6].PV==0 );time 10,error BOTTOM
106
107       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-A OUTLET ","VALVE IS CLOSED ","",""]
108       %.STATUS[185]=1
109       end if
110
111       !---------------------------Vessel-B Discharging Sequence-------------------------------------------
112       POINT7:
113       if  (dscheck(PT[2].#PV,"BAD") == 1)     then
114          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-037 I","S IN FAULT CONDI","TION            "]
115       end if
116       wait until (dscheck(PT[2].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
117
118       if (PT[2].PV<=4.5)    then
119       %.STATUS[186]=1
120       goto POINT11
121       end if
122
123       if (PT[2].PV>10.0)  then
124       %.STATUS[187]=1
125       [XV[9].MODE,XV[9].CSV="AUT",2]
126       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-B ","OUTLET VALVE    ",""]
127
128       wait until (XV[9].PV==2 );time 10,error BOTTOM
129
130       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-B OUTLET ","VALVE IS OPENED ","",""]
131       %.STATUS[188]=1
132       !wait until (PT[2].PV<=4.5 OR %.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0)
133
134       wait until (PT[2].PV<=10.0  OR DCHS.MV01==1 OR O80XS.PV==0)                    ! Export-discharge mode order change 04-07-2025
135
136
137
138       !if (%.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0) then
139
140       if ( DCHS.MV01==1 OR O80XS.PV==0) then
141       goto BOTTOM
142       end if
143
144
145       %.STATUS[189]=1
146       [XV[9].MODE,XV[9].CSV="AUT",0]
147       wait until (XV[9].PV==0 );time 10,error BOTTOM
148       %.STATUS[190]=1
149       end if
150
151
152       !---------------------------Vessel-C Discharging Sequence-------------------------------------------
153       POINT11:
154       if  (dscheck(PT[3].#PV,"BAD") == 1)     then
155          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-040 I","S IN FAULT CONDI","TION            "]
156       end if
157       wait until (dscheck(PT[3].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
158
159       if (PT[3].PV<=4.5)    then
160       %.STATUS[191]=1
161       goto POINT15
162       end if
163
164       if (PT[3].PV>10.0)  then
165       %.STATUS[192]=1
166       [XV[12].MODE,XV[12].CSV="AUT",2]
167       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-C ","OUTLET VALVE    ",""]
168
169       wait until (XV[12].PV==2 );time 10,error BOTTOM
170
171       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-C OUTLET ","VALVE IS OPENED ","",""]
172       %.STATUS[193]=1
173       !wait until (PT[3].PV<=4.5 OR %.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0)
174
175       wait until (PT[3].PV<=10.0  OR DCHS.MV01==1 OR O80XS.PV==0)                    ! Export-discharge mode order change 04-07-2025
176
177
178
179       !if (%.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0) then
180
181       if (DCHS.MV01==1 OR O80XS.PV==0) then
182       goto BOTTOM
183       end if
```

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```
184
185       %.STATUS[194]=1
186       [XV[12].MODE,XV[12].CSV="AUT",0]
187       wait until (XV[12].PV==0 )
188       %.STATUS[195]=1
189       end if
190
191       !---------------------------Vessel-D Discharging Sequence-------------------------------------------
192       POINT15:
193       if  (dscheck(PT[4].#PV,"BAD") == 1)     then
194          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-043 I","S IN FAULT CONDI","TION            "]
195       end if
196       wait until (dscheck(PT[4].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
197
198       if (PT[4].PV<=4.5)    then
199       %.STATUS[196]=1
200       goto POINT19
201       end if
202
203       if (PT[4].PV>10.0)  then
204       %.STATUS[197]=1
205       [XV[15].MODE,XV[15].CSV="AUT",2]
206       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-D ","OUTLET VALVE    ",""]
207
208       wait until (XV[15].PV==2 );time 10,error BOTTOM
209
210       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-D OUTLET ","VALVE IS OPENED ","",""]
211       %.STATUS[198]=1
212       !wait until (PT[4].PV<=4.5 OR %.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0)
213
214       wait until (PT[4].PV<=10.0 OR DCHS.MV01==1 OR O80XS.PV==0)                    ! Export-discharge mode order change 04-07-2025
215
216
217       !if (%.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0 ) then
218
219       if (DCHS.MV01==1 OR O80XS.PV==0) then
220       goto BOTTOM
221       end if
222
223       %.STATUS[199]=1
224       [XV[15].MODE,XV[15].CSV="AUT",0]
225       wait until (XV[15].PV==0);time 10,error BOTTOM
226
227       %.STATUS[200]=1
228       end if
229
230
231       !---------------------------Vessel-E Discharging Sequence-------------------------------------------
232       POINT19:
233       if  (dscheck(PT[5].#PV,"BAD") == 1)     then
234          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-046 I","S IN FAULT CONDI","TION            "]
235       end if
236       wait until (dscheck(PT[5].#PV,"BAD")==0);time 1,error BOTTOM               ! checking transimitter fault
237
238       if (PT[5].PV<=4.5)   then
239       %.STATUS[201]=1
240        goto POINT23
241       end if
242
243       if (PT[5].PV>10.0)  then
244       %.STATUS[202]=1
245       [XV[18].MODE,XV[18].CSV="AUT",2]
246       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-E ","OUTLET VALVE    ",""]
247       wait until (XV[18].PV==2);time 10,error BOTTOM
248       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-E OUTLET ","VALVE IS OPENED ","",""]
249       %.STATUS[203]=1
250
251       !wait until (PT[5].PV<=4.5 OR %.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0)
252
253       wait until (PT[5].PV<=10.0 OR DCHS.MV01==1 OR O80XS.PV==0)                    ! Export-discharge mode order change 04-07-2025
254
255       !if (%.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0) then
256
257       if ( DCHS.MV01==1 OR O80XS.PV==0) then
258       goto BOTTOM
259       end if
260
261       %.STATUS[204]=1
262       [XV[18].MODE,XV[18].CSV="AUT",0]
263       wait until (XV[18].PV==0);time 10,error BOTTOM
264       %.STATUS[205]=1
265       end if
266
267       !---------------------------Vessel-F Discharging Sequence-------------------------------------------
268       POINT23:
269       if  (dscheck(PT[6].#PV,"BAD") == 1)     then
270          [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="PRESSURE TRANSMI","TTER 25-PT-049 I","S IN FAULT CONDI","TION            "]
271       end if
272       wait until (dscheck(PT[6].#PV,"BAD")==0);time 10,error BOTTOM               ! checking transimitter fault
273
```

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-24
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

```
274        if (PT[6].PV<=4.5)    then
275        %.STATUS[206]=1
276        goto POINT27
277        end if
278
279        if (PT[6].PV>10.0)  then
280        %.STATUS[207]=1
281        [XV[21].MODE,XV[21].CSV="AUT",2]
282        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-F ","OUTLET VALVE    ",""]
283        wait until (XV[21].PV==2);time 10,error BOTTOM
284        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="VESSEL-F OUTLET ","VALVE IS OPENED ","",""]
285        %.STATUS[208]=1
286
287        !wait until (PT[6].PV<=4.5 OR %.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0)
288
289        wait until (PT[6].PV<=10.0  OR DCHS.MV01==1 OR O80XS.PV==0)                    ! Export-discharge mode order change 04-07-2025
290
291        !if (%.STATUS[78]==0 OR DCHS.MV01==1 OR O80XS.PV==0) then
292
293        if (DCHS.MV01==1 OR O80XS.PV==0) then
294        goto BOTTOM
295        end if
296
297        %.STATUS[209]=1
298        [XV[21].MODE,XV[21].CSV="AUT",0]
299        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CLOSE COMMAND IS","SUED TO VESSEL-F"," OUTLET VALVE    ",""]
300
301        wait until (XV[21].PV==0);time 10,error BOTTOM
302        %.STATUS[210]=1
303        end if
304
305        !-------------------------------------------------------------------------------------------------
306
307        goto POINT27
308
309        BOTTOM:
310
311        !Close all XV valves that are installed on the outlet line of each H2 Storage Vessel:
312        !25-XV-006/009/012/015/018/021
313        !Remove Fuel Cell Start Permissive
314        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="DIS CHARGING SEQU","ENCE FAILED DUE ","TO VLV OR TRANSM","ITTER FAULT     "]
315        [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
316        delaycycle 5
317        [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
318
319        wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0)
320
321        !%.DISCHRG=0
322        !wait until (MODE.PV<>5)
323
324        POINT27:
325        if (PT[1].PV<=4.5 & PT[2].PV<=4.5 & PT[3].PV<=4.5 & PT[4].PV<=4.5 & PT[5].PV<=4.5 & PT[6].PV<=4.5) then
326        %.STATUS[353]=1
327        else
328        %.STATUS[353]=0
329        end if
330        delaycycle 3
331
332        If (t[49].BSTS=="CTUP" | EMGTM01.BSTS=="CTUP")THEN
333        t[49].PH=t[49].PV
334        EMGTM01.OP=TMSTOP
335        INTSW[16].PV=0 ! permissive to start fuel cell removed
336        End if
337
338        %.DISCHRG=0
339
340        if(ENMODE.PV==10)  %.STATUS[78]=0   ! BYPASS ACTUAL PERMISSIVE BIT IN RESEARCH MODE
341        if(MODE.PV<>10 and %.TRANSIT==17)   %.TRANSIT=13
342        !wait until (MODE.PV<>5 and (MODE.PV<>10 or %.TRANSIT<>17))
343        wait until (MODE.PV<>5)
344        for i=181 to 210
345        %.STATUS[i]=0
346        next@
347        %.STATUS[353]=0



Step Number:26     Comment:ESD                                                    X:  8  Y: 45

Line Number   SEBOL Program
   001        If(ESDTRP.PV==1)then
   002        !_____________________H2 INLET VALVE CLOSE
   003        [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ESD-1/ESD/ASD   ","ACTIVE          ","",""]
   004
   005        [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   006        delaycycle 5
   007        [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
   008
   009
   010        !Time to close the valves is 3 sec
```

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-25
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

```
011       !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
012
013       wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0); TIME 3
014       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ALL VESSELS H2  ","INLET VALVES    ","CLOSED         ",""]
015
016       !_____________________________H2 OUTLET VALVE CLOSE
017       [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
018       delaycycle 5
019       [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
020       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL     "," OUTLET VALVES O","F H2 STRG VESSLS"]
021
022
023       !Time to close the valves is 3 sec
024       !The feedback statuses are 25-ZSL-006/009/012/015/018/021. When all feedback statuses are active proceed with below point.
025
026       wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0); TIME 3
027       [%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="ALL OUTLET VALVE","S OF H2 STORAGE ","VESSELS ARE CLOS","ED              "]
028
029       end if
030
031       wait until (ESDTRP.PV==0)
```

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-26
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 1 Comment:STOP

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	5	STOP				SEBOL				

Transition List

Plane Number: 1 Comment:STOP

X	Y	Comment	Transition Condition

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PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-27
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 1 Comment: STOP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2																				
3																				
4																				
5					01	STOP														

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PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-28
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 1 Comment:STOP

Step Number: 1 Comment:STOP X: 5 Y: 5

Line Number	SEBOL Program
001	[%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="","","","",""]
002	
003	%.STATE=""
004	!for i=1 to 400
005	!%%.STATUS[i]=0
006	!next@

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-29
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 2 Comment:PAUS

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	7	6	PAUS				SEBOL				

Transition List

Plane Number: 2 Comment:PAUS

X	Y	Comment	Transition Condition

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PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-30
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 2 Comment: PAUS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2																				
3																				
4																				
5																				
6							01	PAUS												

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	BLPH.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-1-31
STATION:	FCS0101	SAVED DATE:	7/7/2025 3:20:42 AM	COMMENT:			
SECTION:	BLPH	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 2 Comment:PAUS

Step Number: 1 Comment:PAUS X: 7 Y: 6

Line Number	SEBOL Program
001	!for i=1 to 400
002	!%.STATUS[i]=0
003	!next@

PROJECT:	BLPH-CW1	FILE NAME:	CLDSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-2-1
STATION:	FCS0101	SAVED DATE:	7/11/2025 10:00:22 AM	COMMENT:			
SECTION:	CLDSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	CLDSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-2-2
STATION:	FCS0101	SAVED DATE:	7/11/2025 10:00:22 AM	COMMENT:			
SECTION:	CLDSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	6	MONITORING				SEBOL				
2	5	9	PROGRAM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
5	7		
5	10		

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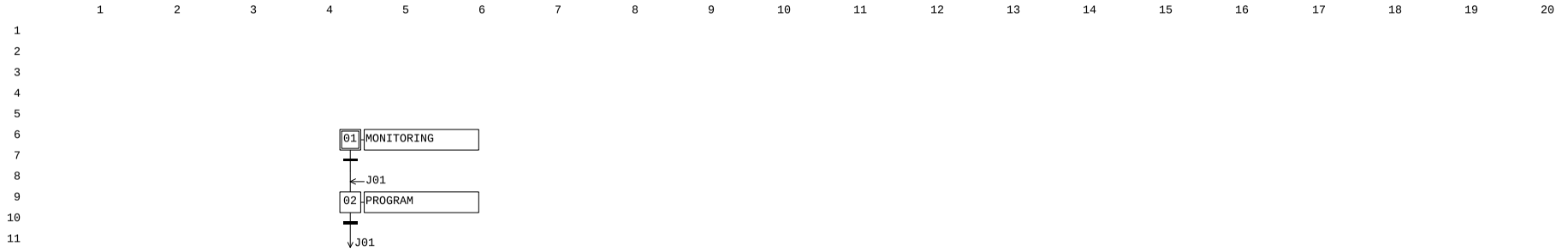
PROJECT:	BLPH-CW1	FILE NAME:	CLDSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-2-3
STATION:	FCS0101	SAVED DATE:	7/11/2025 10:00:22 AM	COMMENT:			
SECTION:	CLDSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



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PROJECT:	BLPH-CW1	FILE NAME:	CLDSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-2-4
STATION:	FCS0101	SAVED DATE:	7/11/2025 10:00:22 AM	COMMENT:			
SECTION:	CLDSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 5 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME        EXAMPLE              ! Comment
   023
   024        global             genname        PVI              MODE,ENMODE,PMMODE
   025        global             genname        %SW              FLT[1],INTSW[3]
   026        global             genname        _SFCSW           BLPHSEQ
   027        global             genname        TM               TM01
   028
   029
   030
   031        assign           "85XA003TAN"       to          FLT[1]
   032        assign           "87CSTBY-001"      to          INTSW[1]
   033        assign           "87PERM-0001"     to       INTSW[2]               ! START PERMISSIVE FOR FUEL CELL
   034        assign           "87PERM-0002"     to       INTSW[3]               ! START PERMISSIVE FOR ELECTROLYZER
   035        assign           "BLPHSEQ"          to          BLPHSEQ
   036        assign           "87MODE-001"       to          ENMODE
   037        assign           "MODE"             to          MODE
   038        assign           "87MODE-003"       to          PMMODE
   039        assign           "BLPHSEQTM01"      to          TM01
```

Step Number: 2 Comment:PROGRAM X: 5 Y: 9

```
Line Number   SEBOL Program
   001        !From process point of view in the “HOT STANDBY mode” neither the Electrolyser nor the Fuel cells
   002        !is required to run and the logic will do the following:
   003        !EMCS requires PCS to enter in “HOT STAND BY mode”
   004        !BESS NOT FAULT  (85XA-003)
   005        !H2 storage full (check all pressure transmitters on H2 storage tanks are>=20barg):
   006        !25-PT-035
   007        !25-PT-037
   008        !25-PT-040
   009        !25-PT-043
   010        !25-PT-046
   011        !25-PT-049
   012        !PCS sends to EMCS the "Permissive to start" for "HOT STANBY mode"
   013        wait until (ENMODE.PV==6 & MODE.PV==6)
   014
   015        TM01.OP=TMSTAT
   016
   017        while(ENMODE.PV==6 & MODE.PV==6)
   018
   019         if (FLT[1].PV==0) then
   020          BLPHSEQ.STATUS[81]=1
   021         else
   022          BLPHSEQ.STATUS[81]=0
   023         end if
   024
   025         if (BLPHSEQ.STATUS[81]==1)  then
   026          INTSW[1].PV=1
   027          BLPHSEQ.STATUS[82]=1
   028          PMMODE.MV=6
   029         else
   030          INTSW[1].PV=0
   031          BLPHSEQ.STATUS[82]=0
   032         end if
   033        BLPHSEQ.STATE="COLD STANDBY"
   034
   035        if(BLPHSEQ.STATUS[82]==1)  then
   036
   037         INTSW[2].PV = 0
   038         INTSW[3].PV = 0
```

PROJECT:	BLPH-CW1	FILE NAME:	CLDSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-2-5
STATION:	FCS0101	SAVED DATE:	7/11/2025 10:00:22 AM	COMMENT:			
SECTION:	CLDSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

```
039        End if
040        If (MODE.PV==6) PMMODE.MV=0
041
042        wend
043
044        If (MODE.PV==6) PMMODE.MV=0
045
046        while(MODE.PV==6 and BLPHSEQ.STATUS[82]==1 )
047
048         BLPHSEQ.STATE="COLD STANDBY"
049
050         INTSW[2].PV = 0
051         INTSW[3].PV = 0
052
053        wend
054
055
056
057        TM01.OP=TMSTOP
058        TM01.PV=0
```

PROJECT:	BLPH-CW1	FILE NAME:	CONCMNTR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-3-1
STATION:	FCS0101	SAVED DATE:	12/2/2024 12:31:49 AM	COMMENT:			
SECTION:	CONCMNTR	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	6	CONCURRENT SEQ-2				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition

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PROJECT:	BLPH-CW1	FILE NAME:	CONCMNTR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-3-3
STATION:	FCS0101	SAVED DATE:	12/2/2024 12:31:49 AM	COMMENT:			
SECTION:	CONCMNTR	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2																				
3																				
4																				
5																				
6					01	CONCURRENT SEQ-2														

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PROJECT:	BLPH-CW1	FILE NAME:	CONCMNTR.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-3-4
STATION:	FCS0101	SAVED DATE:	12/2/2024 12:31:49 AM	COMMENT:			
SECTION:	CONCMNTR	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:CONCURRENT SEQ-2 X: 5 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :E368782Q00-J11DCSE
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 20 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                            Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024                       genname         PVI            MODE               ! ELECTROLISER MODE
   025                       genname        _SFCSW          NONEMON            ! NONE MODE
   026                      genname          _SFCSW          MONITOR            ! IDLE MODE
   027
   028        integer a[10],i
   029
   030        ********************************************************************************
   031        *   Assign Variables
   032        ********************************************************************************
   033        assign           "MODE"                to               MODE
   034        assign           "SEQPERM07"           to               NONEMON
   035        assign           "SEQPERM08"           to               MONITOR
   036
   037
   038        while(1)
   039        if (NONEMON.BSTS=="RUN") then
   040            if (NONEMON.STEPNO==5) then
   041               a[1]=5
   042              [a[2],a[3],a[4],a[5],a[6],a[7],a[8],a[9],a[10]=0,0,0,0,0,0,0,0,0]
   043            end if
   044            if (a[1]==5 & MODE.PV<>0) then
   045                NONEMON.BSTS="STOP"
   046            end if
   047
   048
   049            if (NONEMON.BSTS=="STOP") then
   050            delay 2000
   051            NONEMON.BSTS="RUN"
   052            end if
   053            end if
   054
   055
   056
   057            if (MONITOR.BSTS=="RUN") then
   058                if (MONITOR.STEPNO==6 | MONITOR.STEPNO==22) then
   059               a[2]=6
   060              [a[1],a[3],a[4],a[5],a[6],a[7],a[8],a[9],a[10]=0,0,0,0,0,0,0,0,0]
   061            end if
   062                if (a[2]==6 & (MODE.PV<>1 & MODE.PV<>2 & MODE.PV<>3)) then
   063                MONITOR.BSTS="STOP"
   064                end if
   065                end if
   066
   067
   068           if (MONITOR.BSTS=="STOP") then
   069           delay 2000
   070           MONITOR.BSTS="RUN"
   071           end if
   072
   073
   074
   075
   076
   077
   078
   079        for i=1 to 10
   080        a[i]=0
   081        next@
   082
   083        wend
```

PROJECT:	BLPH-CW1	FILE NAME:	CONCMNTR.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-3-5
STATION:	FCS0101	SAVED DATE:	12/2/2024 12:31:49 AM	COMMENT:			
SECTION:	CONCMNTR	PRINTED DATE:	9/15/2025	DRAWER:			

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PROJECT:	BLPH-CW1	FILE NAME:	EMERGMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-4-1
STATION:	FCS0101	SAVED DATE:	7/10/2025 11:41:13 PM	COMMENT:			
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Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	EMERGMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-4-2
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Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	7	6	MONITORING				SEBOL				
2	7	9	PROGRAMM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
7	7		
7	10		

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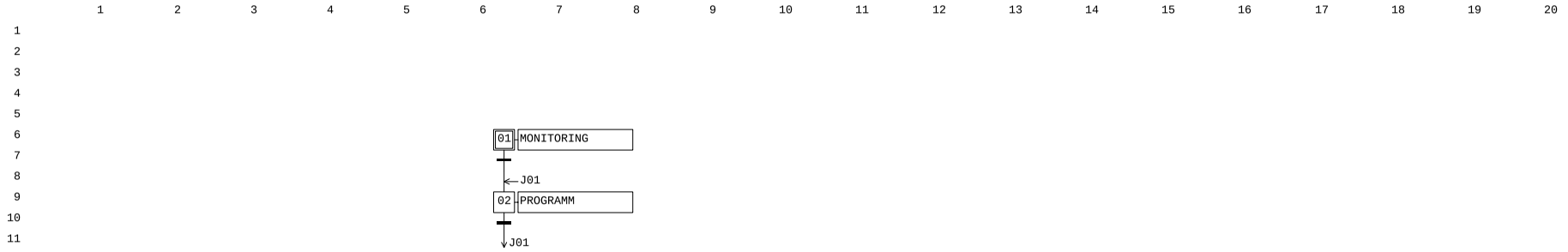
SFC

Plane Number: 0 Comment:



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SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 7 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :E368782Q00-J11DCSE
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 20 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI             MODE,ENMODE,PMMODE
   025        global             genname        %SW             EMGPM,LDSH_1,LDSH_2
   026        global             genname        %AN             BSSFLT
   027        global             genname        _SFCSW          BLPHSEQ
   028        global             genname        TM              TM01
   029
   030
   031
   032
   033
   034        assign           "87MODE-001"              to               ENMODE
   035        assign           "87MODE-002"              to               MODE
   036        assign           "87MODE-003"              to               PMMODE
   037        assign           "BLPHSEQ"                 to               BLPHSEQ
   038        assign           "85XA003TAN"              to               BSSFLT
   039        assign           "87EMG-001"               to               EMGPM
   040        assign           "87LDSH-001"              to               LDSH_1
   041        assign           "87LDSH-002"              to               LDSH_2
   042        assign           "BLPHSEQTM01"             to               TM01
   043
   044
```

Step Number: 2 Comment:PROGRAMM X: 7 Y: 9

```
Line Number   SEBOL Program
   001        integer i
   002        Wait until (ENMODE.PV==7 & MODE.PV==7)
   003        TM01.OP=TMSTAT
   004
   005
   006
   007        !--------------------------------------BESS NOT FAULT-----------------------------------------------------------------
   008        If (BSSFLT.PV==0)  then
   009         BLPHSEQ.STATUS[91]=1
   010         EMGPM.PV=1
   011         PMMODE.MV=7
   012         BLPHSEQ.STATUS[92]=1
   013        Else
   014         BLPHSEQ.STATUS[91]=0
   015         EMGPM.PV=0
   016        End if
   017
   018        If (MODE.PV==7)       PMMODE.MV=0
   019
   020        If (MODE.PV==7 ) then
   021        Wait until (TM01.BSTS=="CTUP"|MODE.PV<>7)
   022        End if
   023
   024
   025
   026        for i=91 to 111
   027        BLPHSEQ.STATUS[i]=0
   028        TM01.OP=TMSTOP
   029        TM01.PV=0
   030        next@
   031
```

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Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
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0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	6	MONITORING				SEBOL				
2	5	9	PROGRAM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
5	7		
5	10		

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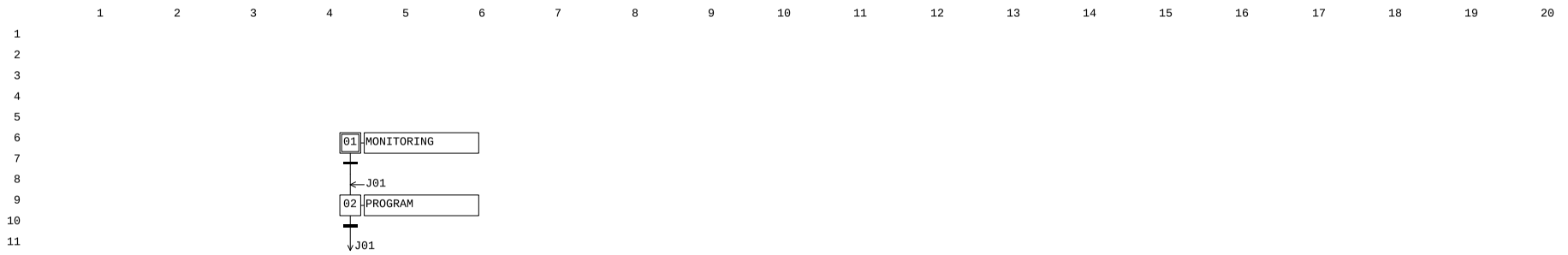
SECTION:	EXPRTMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



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SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 5 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE                              ! Comment
   023
   024        global             genname        SIO-21          O25BDV[25]
   025        global             genname        SIO-21          O25SDV[23]
   026        global             genname        SIO-21          O64SDV[1]
   027        global             genname        SIO-21          O25XV[25]
   028        global             genname        SIO-21E         XV[23]                    ! ON/OFF VALVES
   029        global             genname        SIO-21          O80XV[1]
   030        global             genname        %AN             O63XA[10]
   031        global             genname        %AN             O64XA[10]
   032        global             genname        %AN             O20XA[3]
   033        global             genname        %AN             O50XA[3]
   034        global             genname        %AN             O85XA,O80XA                          !BESS FAULT
   035        global             genname        PVI             O63PT[10]
   036        global             genname        PVI             O64PT[5]
   037        global             genname        PVI             O25PT[6]
   038        global             genname        PVI             SS[2],MODE,ENMODE,PMMODE          !SUBSYSTEM SIGNALS
   039        global             genname        %SW             INTSW[4]
   040        global             genname        _SFCSW          BLPH
   041        global             genname        PID             PIC[2]                            ! PRESSURE CONTROLLER
   042        global             genname        AS-M            PICT[2]                           ! PRESSURE CONTROLLER FORCE CLOSE TRANSFER
              SWITCH
   043        global             genname        %SW             PVZSL[2]                  !CLOSED LIMIT SWITCHES
   044        global             genname        MC-2E           SWP[2]
   045        global             genname        DSET            PRSP[2]
   046        global             genname        TM              t[1],TM01
   047        global             genname        %WB             FCPM
   048        global              genname       MLD                 PICMLD[2]
   049
   050        assign          "BLPHSEQ"          to       BLPH
   051        assign          "25BDV-005"        to       O25BDV[5]
   052        assign          "25BDV-007"        to       O25BDV[7]
   053        assign          "25BDV-010"        to       O25BDV[10]
   054        assign          "25BDV-013"        to       O25BDV[13]
   055        assign          "25BDV-016"        to       O25BDV[16]
   056        assign          "25BDV-019"        to       O25BDV[19]
   057        assign          "25BDV-022"        to       O25BDV[22]
   058
   059
   060        assign          "25SDV-001"        to       O25SDV[1]
   061        assign          "25SDV-023"        to       O25SDV[23]
   062        assign          "64SDV-001"        to       O64SDV[1]
   063
   064
   065        assign          "25XV-024"         to       O25XV[24]
   066        assign          "80XV-001"         to       O80XV[1]
   067
   068
   069        assign          "63PI-003"         to       O63PT[1]
   070        assign          "64PI-031A"        to       O64PT[1]
   071        assign          "64PI-031B"        to       O64PT[2]
   072
   073
   074        assign          "25PI-035"         to       O25PT[1]
   075        assign          "25PI-037"         to       O25PT[2]
   076        assign          "25PI-040"         to       O25PT[3]
   077        assign          "25PI-043"         to       O25PT[4]
   078        assign          "25PI-046"         to       O25PT[5]
   079        assign          "25PI-049"         to       O25PT[6]
   080
   081
   082        assign          "80UI-0043"        to       SS[1]
```

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```
083       assign          "87UI-004"       to      SS[2]
084       assign          "87MODE-002"      to       MODE
085       assign          "87MODE-001"      to       ENMODE
086       assign          "87MODE-003"      to       PMMODE
087
088       assign          "20XA003TAN"      to       O20XA[3]
089       assign          "50XA003TAN"      to       O50XA[3]
090       assign          "50XA003TAN"      to       O50XA[3]
091       assign          "63XA003TAN"      to       O63XA[3]
092       assign          "64XA003TAN"      to       O64XA[3]
093
094
095
096       assign          "85XA003TAN"      to       O85XA
097       assign          "80XA003TAN"      to       O80XA
098
099       assign          "P-50001ACMFL"    to       INTSW[1]
100       assign          "P-50001BCMFL"    to       INTSW[2]
101       assign          "WTPRNFB"         to       INTSW[3]     !WTP RUNNING (DUMMY)
102       assign          "87EXP-001"       to       INTSW[4]
103
104       assign          "25ZSL-055A"      to       PVZSL[1]
105       assign          "25ZSL-055B"      to       PVZSL[2]
106
107       assign          "P-50001A"        to       SWP[1]
108       assign          "P-50001B"        to       SWP[2]
109
110       assign          "25PIC-055"      to      PIC[1]
111       assign          "25PIC-055B"      to       PIC[2]
112
113       assign          "25PY-055A"      to      PICMLD[1]
114       assign          "25PY-055B"      to      PICMLD[2]
115
116       assign          "25PIC055A-ASM01"    to       PICT[1]
117       assign          "25PIC055B-ASM01"    to       PICT[2]
118
119       assign          "25PIC55-DS1"     to       PRSP[1]
120       assign          "25PIC55-DS2"     to       PRSP[2]
121
122       assign          "BLPHSEQT48"      to       t[1]
123       assign          "BLPHSEQTM01"     to       TM01
124       assign          "87PERM-0001"    to      FCPM
125
126       assign          "25XV-006"        to       XV[6]
127       assign          "25XV-009"        to       XV[9]
128       assign          "25XV-012"        to       XV[12]
129       assign          "25XV-015"        to       XV[15]
130       assign          "25XV-018"        to       XV[18]
131       assign          "25XV-021"        to       XV[21]
132
133


Step Number: 2     Comment:PROGRAM                                              X:  5  Y:  9

Line Number   SEBOL Program
   001        float PRS[20]
   002        integer i,k
   003        FCPM.PV=0
   004        k=0
   005        wait until  (ENMODE.PV==5)
   006        !repeat
   007        delay 6000
   008        INIT:
   009        if (TM01.BSTS=="CTUP" & BLPH.STATUS[78]==0)  then
   010        goto TRMNT
   011        end if
   012
   013        while((ENMODE.PV==5) and (MODE.PV<>5))
   014        if (k==0) then
   015        TM01.OP=TMSTAT
   016        k=1
   017        end if
   018        ************************************************PROCESS Healthy*************************************************************
   019
   020        !-------------------------------------BESS NOT FAULT-------------------------------------------------------------------
   021
   022        if (O85XA.PV==1)  then
   023        BLPH.STATUS[61]=0
   024        else
   025        BLPH.STATUS[61]=1
   026        end if
   027        if  (BLPH.STATUS[61]==0)  goto TRMNT
   028
   029
   030        !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
   031
   032
   033        if (O25BDV[5].PV==2 & O25BDV[7].PV==2 & O25BDV[10].PV==2 & O25BDV[13].PV==2 & O25BDV[16].PV==2 & O25BDV[19].PV==2 & O25BDV[22].PV=
```

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```
=2) then
034       BLPH.STATUS[62]=1
035       else
036       BLPH.STATUS[62]=0
037       end if
038       if  (BLPH.STATUS[62]==0)   goto INIT
039       !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
040
041       if (O25SDV[1].PV==2 & O25SDV[23].PV==2)  then
042       BLPH.STATUS[63]=1
043       else
044       BLPH.STATUS[63]=0
045       end if
046       if  (BLPH.STATUS[63]==0)   goto INIT
047
048
049       !-----------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
050
051       if (O64SDV[1].PV==0)  then
052       BLPH.STATUS[64]=1
053       else
054       BLPH.STATUS[64]=0
055       end if
056       if  (BLPH.STATUS[64]==0)   goto INIT
057       !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
058       [O25XV[24].MODE,O80XV[1].MODE="AUT","AUT"]
059       [O25XV[24].CSV,O80XV[1].CSV=0,0]
060       if (O25XV[24].PV==0 & O80XV[1].PV==0)   then
061       BLPH.STATUS[65]=1
062       else
063       BLPH.STATUS[65]=0
064       end if
065       if  (BLPH.STATUS[65]==0)   goto INIT
066
067       !-------------------------Air system Healthy State:-------------------------------------------------------------------------
068       *1)Instrument Air packages NOT FAULT
069       *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
070
071       PRS[1]=(O63PT[1].PV*(dscheck(O63PT[1].#PV,"BAD")==0))
072       if (O63XA[3].PV==0)    then
073       BLPH.STATUS[66]=1
074       else
075       BLPH.STATUS[66]=0
076       end if
077       if  (BLPH.STATUS[66]==0)   goto INIT
078
079       if (O63XA[3].PV==0 & PRS[1]>=4.5) then
080       BLPH.STATUS[67]=1
081       else
082       BLPH.STATUS[67]=0
083       end if
084       if  (BLPH.STATUS[67]==0)   goto INIT
085
086       !------------------------N2 system Healthy State:--------------------------------------------------------------------------
087       *1) Nitrogen packages NOT FAULT
088       *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
089
090       PRS[2]=(O64PT[1].PV*(dscheck(O64PT[1].#PV,"BAD")==0))
091       PRS[3]=(O64PT[2].PV*(dscheck(O64PT[2].#PV,"BAD")==0))
092       if (O64XA[3].PV==0)    then
093       BLPH.STATUS[68]=1
094       else
095       BLPH.STATUS[68]=0
096       end if
097
098       if  (BLPH.STATUS[68]==0)   goto INIT
099
100       if (O64XA[3].PV==0 & (PRS[2]>=4.0 | PRS[3]>=4.0)) then
101       BLPH.STATUS[69]=1
102       else
103       BLPH.STATUS[69]=0
104       end if
105       if  (BLPH.STATUS[69]==0)   goto INIT
106
107       !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is > 20 barg):--------------
108       !---------------Rev01 H2 storage not full (check at least one pressure transmitter on H2 storage vessels is > 10 barg):-----------
109       *1) 25-PT-035
110       *2) 25-PT-037
111       *3) 25-PT-040
112       *4) 25-PT-043
113       *5) 25-PT-046
114       *6) 25-PT-049
115
116       if ((dscheck(O25PT[1].#PV,"BAD")==0) & (O25PT[1].PV>=10.0) | (dscheck(O25PT[2].#PV,"BAD")==0) & (O25PT[2].PV>=10.0)\
117                     | (dscheck(O25PT[3].#PV,"BAD")==0) & (O25PT[3].PV>=10.0) | (dscheck(O25PT[4].#PV,"BAD")==0) & (O25PT[4].PV>=10.0)\
118                     | (dscheck(O25PT[5].#PV,"BAD")==0) & (O25PT[5].PV>=10.0) | (dscheck(O25PT[6].#PV,"BAD")==0) & (O25PT[6].PV>=10.0))
   then
119                   BLPH.STATUS[70]=1
120                   INTSW[4].PV=1
121
```

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```
122       else
123                   BLPH.STATUS[70]=0
124                   INTSW[4].PV=0
125       end if
126       if  (BLPH.STATUS[70]==0)   goto INIT
127
128
129       if (BLPH.STATUS[62]==1 & BLPH.STATUS[63]==1 & BLPH.STATUS[64]==1 & BLPH.STATUS[65]==1 & BLPH.STATUS[66]==1\
130            & BLPH.STATUS[67]==1 & BLPH.STATUS[68]==1 & BLPH.STATUS[69]==1 & BLPH.STATUS[70]==1 ) then
131               PMMODE.MV=5
132               BLPH.STATUS[77]=1
133       end if
134
135
136       !if (BLPH.STATUS[77]==1)  then
137       !t[1].OP=TMSTAT
138       !end if
139
140       !wait until (t[1].BSTS=="CTUP")
141
142       wait until(BLPH.DISCHRG==1)
143       t[1].PH= BLPH.DLY[48]
144       t[1].OP=TMSTAT
145
146
147
148
149       !FORCCE CLOSE OF 25-PV-055A/B
150
151       ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="AUT","AUT",2]
152       !PIC[2].MODE = "AUT"
153       ![PICT[2].MODE,PICT[2].SW="AUT",2]
154
155       !Revised logic given by RM-24/06/25
156
157       PICMLD[1].MODE = "AUT"
158
159       PIC[1].PSW = 1                                                    ! 25PIC-055 Controller in Manual And Output to 0%
160
161       PICMLD[2].PSW = 1                                                 ! 25PY-055B Manually closed to 0 %
162
163       wait until  (PVZSL[1].PV==1 & PVZSL[2].PV==1)
164
165       if (PVZSL[1].PV==1 & PVZSL[2].PV==1) then
166       BLPH.STATUS[71]=1
167       else
168       BLPH.STATUS[71]=0
169       end if
170       if    (BLPH.STATUS[71]==0)    goto INIT
171
172       !---------------Water system Treatment NOT RUNNING-----------------------------------------------------------------
173
174
175       !if (INTSW[3].PV==0) then       !DUMMY
176       !BLPH.STATUS[72]=1
177       !else
178       !BLPH.STATUS[72]=0
179       !end if
180       !if    (BLPH.STATUS[72]==0)    goto INIT
181
182       !---------------Sea Water pump NOT RUNNING-------------------------------------------------------------------------
183
184       !if (SWP[1].PV==0 & SWP[1].PV==0) then
185       !BLPH.STATUS[73]=1
186       !else
187       !BLPH.STATUS[73]=0
188       !end if
189       !if    (BLPH.STATUS[73]==0)    goto INIT
190
191
192       !---------------Electrolyser NOT RUNNING---------------------------------------------------------------------------
193
194       if (SS[2].PV<>4 AND SS[2].PV<>14) then
195       BLPH.STATUS[74]=1
196       else
197       BLPH.STATUS[74]=0
198       end if
199       if    (BLPH.STATUS[74]==0)    goto INIT
200
201       !---------------Fuel Cell NOT FAULT--------------------------------------------------------------------------------
202
203
204       if (O80XA.PV==0) then
205       BLPH.STATUS[75]=1
206       else
207       BLPH.STATUS[75]=0
208       end if
209       if    (BLPH.STATUS[75]==0)    goto INIT
210
211       !-------PRESSURE STE TO 6.5 BAR---------------
```

PROJECT:	BLPH-CW1	FILE NAME:	EXPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-5-8
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```
212
213
214         ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="AUT","AUT",1]
215
216         PICMLD[2].PMV = 15.0
217         PICMLD[2].PSW = 3
218         wait until (PIC[1].PV >= 6.9)
219         PICMLD[2].PSW = 1
220
221         delaycycle 2
222
223         !PRSP[1].SV =6.5
224         PIC[1].MODE = "CAS"
225
226         !PRSP[2].SV =6.5
227         !PIC[2].MODE = "AUT"
228         ![PICT[2].MODE,PICT[2].SW="AUT",1]
229         BLPH.STATUS[76]=1
230
231
232
233
234         if (BLPH.STATUS[61]==1 & BLPH.STATUS[62]==1 & BLPH.STATUS[63]==1 & BLPH.STATUS[64]==1 & BLPH.STATUS[65]==1 & BLPH.STATUS[66]==1\
235              & BLPH.STATUS[67]==1 & BLPH.STATUS[68]==1 & BLPH.STATUS[69]==1 & BLPH.STATUS[70]==1 & BLPH.STATUS[71]==1\
236               & BLPH.STATUS[74]==1 & BLPH.STATUS[75]==1 & BLPH.STATUS[76]==1 & BLPH.DISCHRG==1) then
237
238               BLPH.STATUS[78]=1
239         !      PMMODE.MV=5
240                FCPM.PV=1
241            else
242         !      BLPH.STATUS[50]=0
243               BLPH.STATUS[78]=0
244         end if
245         wend
246
247         *if (MODE.PV==5)    PMMODE.MV=0
248         !t[1].OP=TMSTOP
249         !until (BLPH.STATUS[78]==1)
250         !_____________________________________________________________________________________________________________________
            _____________________________________________________
251         !PCS will stop the sequence “Process Discharging mode” for H2 storage Vessels
252         !Put both controllers 25-PIC-055A/B in Auto mode and force the output to 0%.
253         !Time to close the valves is 15 sec
254         !The feedback statuses are 25-ZSL-055A and 25-ZSL-055B.
255
256
257         while(MODE.PV==5 and BLPH.STATUS[78]==1)
258
259         !--------------------------------------BESS NOT FAULT-------------------------------------------------------------------
260
261         if (O85XA.PV==1)  then
262         BLPH.STATUS[61]=0
263         else
264         BLPH.STATUS[61]=1
265         end if
266
267
268         !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
269
270         if (O25BDV[5].PV==2 & O25BDV[7].PV==2 & O25BDV[10].PV==2 & O25BDV[13].PV==2 & O25BDV[16].PV==2 & O25BDV[19].PV==2 & O25BDV[22].PV=
            =2) then
271         BLPH.STATUS[62]=1
272         else
273         BLPH.STATUS[62]=0
274         end if
275         !if  (BLPH.STATUS[62]==0)   goto INIT
276         !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
277
278         !if (O25SDV[1].PV==2 & O25SDV[23].PV==2)  then
279         !BLPH.STATUS[63]=1
280         !else
281         !BLPH.STATUS[63]=0
282         !end if
283         !if  (BLPH.STATUS[63]==0)   goto INIT
284         !-----------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
285
286         if (O64SDV[1].PV==0)  then
287         BLPH.STATUS[64]=1
288         else
289         BLPH.STATUS[64]=0
290         end if
291         !if  (BLPH.STATUS[64]==0)   goto INIT
292         !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
293         ![O25XV[24].MODE,O80XV[1].MODE="AUT","AUT"]
294         ![O25XV[24].CSV,O80XV[1].CSV=0,0]
295         !if (O25XV[24].PV==0 & O80XV[1].PV==0)   then
296
297         O25XV[24].MODE="AUT"
298         O25XV[24].CSV=0
299         if (O25XV[24].PV==0 )   then
```

PROJECT:	BLPH-CW1	FILE NAME:	EXPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-5-9
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```
300         BLPH.STATUS[65]=1
301         else
302         BLPH.STATUS[65]=0
303         end if
304         !if  (BLPH.STATUS[65]==0)   goto INIT
305         !-------------------------Air system Healthy State:-------------------------------------------------------------------------
306         *1)Instrument Air packages NOT FAULT
307         *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
308
309         PRS[1]=(O63PT[1].PV*(dscheck(O63PT[1].#PV,"BAD")==0))
310         if (O63XA[3].PV==0)    then
311         BLPH.STATUS[66]=1
312         else
313         BLPH.STATUS[66]=0
314         end if
315         !if  (BLPH.STATUS[66]==0)   goto INIT
316
317         if (O63XA[3].PV==0 & PRS[1]>=4.5) then
318         BLPH.STATUS[67]=1
319         else
320         BLPH.STATUS[67]=0
321         end if
322         !if  (BLPH.STATUS[67]==0)   goto INIT
323         !-------------------------N2 system Healthy State:--------------------------------------------------------------------------
324         *1) Nitrogen packages NOT FAULT
325         *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
326
327         PRS[2]=(O64PT[1].PV*(dscheck(O64PT[1].#PV,"BAD")==0))
328         PRS[3]=(O64PT[2].PV*(dscheck(O64PT[2].#PV,"BAD")==0))
329         if (O64XA[3].PV==0)    then
330         BLPH.STATUS[68]=1
331         else
332         BLPH.STATUS[68]=0
333         end if
334
335         !if  (BLPH.STATUS[68]==0)   goto INIT
336
337         if (O64XA[3].PV==0 & (PRS[2]>=4.0 | PRS[3]>=4.0)) then
338         BLPH.STATUS[69]=1
339         else
340         BLPH.STATUS[69]=0
341         end if
342         !if  (BLPH.STATUS[69]==0)   goto INIT
343
344         !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is > 20 barg):--------------
345         *1) 25-PT-035
346         *2) 25-PT-037
347         *3) 25-PT-040
348         *4) 25-PT-043
349         *5) 25-PT-046
350         *6) 25-PT-049
351
352         !if ((dscheck(O25PT[1].#PV,"BAD")==0) & (O25PT[1].PV>=10.0) | (dscheck(O25PT[2].#PV,"BAD")==0) & (O25PT[2].PV>=20.0)\
353         !                | (dscheck(O25PT[3].#PV,"BAD")==0) & (O25PT[3].PV>=20.0) | (dscheck(O25PT[4].#PV,"BAD")==0) & (O25PT[4].PV>=20.0)
            \
354         !                | (dscheck(O25PT[5].#PV,"BAD")==0) & (O25PT[5].PV>=20.0) | (dscheck(O25PT[6].#PV,"BAD")==0) & (O25PT[6].PV>=20.0)
            )   then
355         !               BLPH.STATUS[70]=1
356         !               INTSW[4].PV=1
357
358         !else
359         !               BLPH.STATUS[70]=0
360         !               INTSW[4].PV=0
361         !end if
362         !if  (BLPH.STATUS[70]==0)   goto INIT
363
364         !FORCCE CLOSE OF 25-PV-055A/B
365
366         ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="AUT","AUT",2]
367         !PIC[2].MODE = "AUT"
368         ![PICT[2].MODE,PICT[2].SW="AUT",2]
369
370
371         !Revised logic given by RM-24/06/25
372
373         !PICMLD[1].MODE = "AUT"
374
375         !PIC[1].PSW = 1                                                          ! 25PIC-055 Controller in Manual And Output to 0%
376
377         !PICMLD[2].PSW = 1                                                       ! 25PY-055B Manually closed to 0 %
378
379         !wait until  ((PVZSL[1].PV==1 & PVZSL[2].PV==1))
380         !if (PVZSL[1].PV==1 & PVZSL[2].PV==1) then
381         !BLPH.STATUS[71]=1
382         !else
383         !BLPH.STATUS[71]=0
384         !end if
385         !if    (BLPH.STATUS[71]==0)    goto INIT
386
387         !Water system Treatment NOT RUNNING
```

PROJECT:	BLPH-CW1	FILE NAME:	EXPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-5-10
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```
388         !if (INTSW[3].PV==0) then       !DUMMY
389         !BLPH.STATUS[72]=1
390         !else
391         !BLPH.STATUS[72]=0
392         !end if
393         !if    (BLPH.STATUS[72]==0)    goto INIT
394
395         !Sea water Pumps NOT RUNNING
396         !if (SWP[1].PV==0 & SWP[1].PV==0) then
397         !BLPH.STATUS[73]=1
398         !else
399         !BLPH.STATUS[73]=0
400         !end if
401         !if    (BLPH.STATUS[73]==0)    goto INIT
402
403         !Electrolyser NOT RUNNING
404         if (SS[2].PV<>4 AND SS[2].PV<>14) then
405         BLPH.STATUS[74]=1
406         else
407         BLPH.STATUS[74]=0
408         end if
409         !if    (BLPH.STATUS[74]==0)    goto INIT
410
411         !Fuel Cell NOT FAULT
412         if (O80XA.PV==0) then
413         BLPH.STATUS[75]=1
414         else
415         BLPH.STATUS[75]=0
416         end if
417         !if    (BLPH.STATUS[75]==0)    goto INIT
418
419         !-------PRESSURE STE TO 6.5 BAR---------------
420         ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="AUT","AUT",1]
421         !PRSP[1].SV =6.5
422         !PIC[1].MODE="CAS"
423
424         !PRSP[2].SV =6.5
425         !PIC[2].MODE = "AUT"
426         ![PICT[2].MODE,PICT[2].SW="AUT",1]
427         !BLPH.STATUS[76]=1
428
429         !if (BLPH.STATUS[62]==1 & BLPH.STATUS[63]==1 & BLPH.STATUS[64]==1 & BLPH.STATUS[65]==1 & BLPH.STATUS[66]==1\
430         !     & BLPH.STATUS[67]==1 & BLPH.STATUS[68]==1 & BLPH.STATUS[69]==1 & BLPH.STATUS[70]==1 & BLPH.STATUS[70]==1& BLPH.STATUS[71]==1
            \
431         !     & BLPH.STATUS[72]==1 & BLPH.STATUS[73]==1 & BLPH.STATUS[74]==1 & BLPH.STATUS[75]==1 & BLPH.STATUS[76]==1) then
432         !       PMMODE.MV=5
433
434         !end if
435
436         !if (BLPH.STATUS[77]==0)  then
437         !t[1].OP=TMSTAT
438         !BLPH.STATUS[77]=1
439         !end if
440
441         !wait until (t[1].BSTS=="CTUP")
442
443
444         if (BLPH.STATUS[62]==1 &  BLPH.STATUS[64]==1 & BLPH.STATUS[65]==1 & BLPH.STATUS[66]==1\
445              & BLPH.STATUS[67]==1 & BLPH.STATUS[68]==1 & BLPH.STATUS[69]==1 \
446              & BLPH.STATUS[74]==1 & BLPH.STATUS[75]==1 & BLPH.STATUS[76]==1 ) then
447         !    BLPH.STATUS[78]=1
448                BLPH.STATUS[78]=1
449         !       PMMODE.MV=5
450         !       FCPM.PV=1
451            else
452         !       BLPH.STATUS[50]=0
453                BLPH.STATUS[78]=0
454                FCPM.PV=0
455         end if
456         wend
457
458         !_____________________________________________________________________________________________________________
            _____________________
459
460
461         TRMNT:
462
463
464
465         !FORCCE CLOSE OF 25-PV-055A/B
466
467         ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="AUT","AUT",2]
468         !PIC[2].MODE = "AUT"
469         ![PICT[2].MODE,PICT[2].SW="AUT",2]
470
471         !Revised logic given by RM-24/06/25
472
473         PICMLD[1].MODE = "AUT"
474
475         PIC[1].PSW = 1                                                    ! 25PIC-055 Controller in Manual And Output to 0%
```

PROJECT:	BLPH-CW1	FILE NAME:	EXPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-5-11
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```
476
477         PICMLD[2].PSW = 1                                                    ! 25PY-055B Manually closed to 0 %
478
479         wait until  ((PVZSL[1].PV==1 & PVZSL[2].PV==1))
480
481         t[1].OP=TMSTOP
482         TM01.OP=TMSTOP
483
484         if(ENMODE.PV==5 and BLPH.STATUS[77]==0)then
485         Wait until(ENMODE.PV<>5)
486         end if
487
488         For i=61 to 78
489         BLPH.STATUS[i]=0
490         next@
491
492
493         Wait until(ENMODE.PV==5)
494
495         !goto INIT
```

PROJECT:	BLPH-CW1	FILE NAME:	HOTSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-6-1
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SECTION:	HOTSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	HOTSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-6-2
STATION:	FCS0101	SAVED DATE:	7/9/2025 4:17:30 AM	COMMENT:			
SECTION:	HOTSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	6	6	MONITORING				SEBOL				
2	6	9	PROGRAMM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
6	7		
6	10		

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PROJECT:	BLPH-CW1	FILE NAME:	HOTSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-6-3
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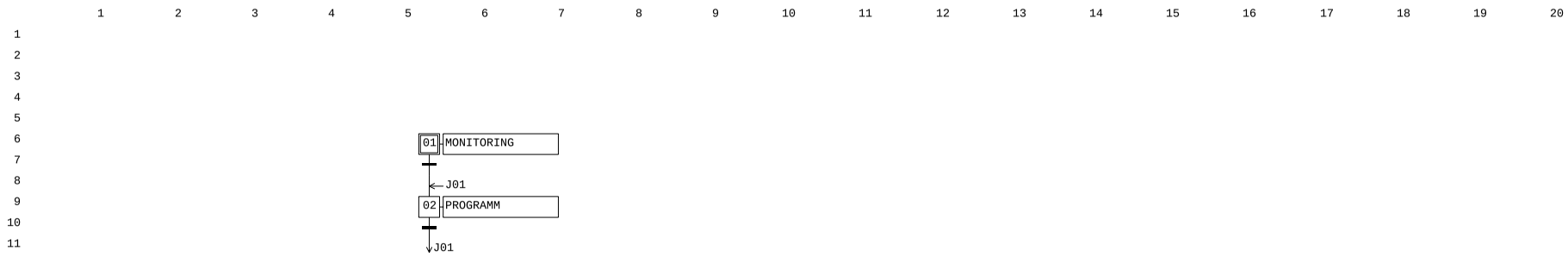
SECTION:	HOTSBMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



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SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 6 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :E368782Q00-J11DCSE
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 20 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI             MODE,ENMODE,PMMODE,PT[6]
   025        global             genname        %SW             FLT[1],INTSW[1]
   026        global             genname        _SFCSW          BLPHSEQ
   027        global             genname        TM              TM01
   028
   029        assign           "20XA003TAN"         to               FLT[1]
   030        assign           "87HSTBY-001"        to               INTSW[1]
   031        assign           "25PI-035"           to               PT[1]
   032        assign           "25PI-037"           to               PT[2]
   033        assign           "25PI-040"           to               PT[3]
   034        assign           "25PI-043"           to               PT[4]
   035        assign           "25PI-046"           to               PT[5]
   036        assign           "25PI-049"           to               PT[6]
   037        assign           "87MODE-001"         to               ENMODE
   038        assign           "MODE"               to               MODE
   039        assign           "87MODE-003"         to               PMMODE
   040        assign           "BLPHSEQ"            to               BLPHSEQ
   041        assign           "BLPHSEQTM01"        to               TM01
```

Step Number: 2 Comment:PROGRAMM X: 6 Y: 9

```
Line Number   SEBOL Program
   001        !From process point of view in the “HOT STANDBY mode” neither the Electrolyser nor the Fuel cells
   002        !is required to run and the logic will do the following:
   003        !EMCS requires PCS to enter in “HOT STAND BY mode”
   004        !BESS NOT FAULT  (85XA-003)
   005        !H2 storage full (check all pressure transmitters on H2 storage tanks are>=20barg):
   006        !25-PT-035
   007        !25-PT-037
   008        !25-PT-040
   009        !25-PT-043
   010        !25-PT-046
   011        !25-PT-049
   012        !PCS sends to EMCS the "Permissive to start" for "HOT STANBY mode"
   013        wait until (ENMODE.PV==4 & MODE.PV<>4)
   014        BLPHSEQ.STATE="HOT STANDBY"
   015        TM01.OP=TMSTAT
   016        repeat
   017        if (FLT[1].PV==0) then
   018        BLPHSEQ.STATUS[51]=1
   019        else
   020        BLPHSEQ.STATUS[51]=0
   021        end if
   022
   023        if ((dscheck(PT[1].#PV,"BAD")==0) & (dscheck(PT[2].#PV,"BAD")==0)  & (dscheck(PT[3].#PV,"BAD")==0)\
   024        & (dscheck(PT[4].#PV,"BAD")==0) & (dscheck(PT[5].#PV,"BAD")==0) & (dscheck(PT[6].#PV,"BAD")==0) & (PT[1].PV>=20.0)\
   025         & (PT[3].PV>=20.0)  & (PT[4].PV>=20.0)  & (PT[5].PV>=20.0)  & (PT[6].PV>=20.0))     then
   026        BLPHSEQ.STATUS[52]=1
   027        end if
   028
   029        if (BLPHSEQ.STATUS[51]==1 & BLPHSEQ.STATUS[52]==1) then
   030        INTSW[1].PV=1
   031        PMMODE.MV=4
   032        BLPHSEQ.STATUS[53]=1
   033        else
   034        INTSW[1].PV=0
   035        BLPHSEQ.STATUS[53]=0
   036        end if
```

PROJECT:	BLPH-CW1	FILE NAME:	HOTSBMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-6-5
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```
037        until (ENMODE.PV<>4 | MODE.PV==4)
038        *if (MODE.PV==4)       PMMODE.MV=0
039        TM01.OP=TMSTOP
040        TM01.PV=0
```

PROJECT:	BLPH-CW1	FILE NAME:	IMPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-7-1
STATION:	FCS0101	SAVED DATE:	7/9/2025 6:51:11 AM	COMMENT:			
SECTION:	IMPRTMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
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0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	IMPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-7-2
STATION:	FCS0101	SAVED DATE:	7/9/2025 6:51:11 AM	COMMENT:			
SECTION:	IMPRTMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	6	MONITORING				SEBOL				
2	5	9	PROGRAM				SEBOL				
3	6	12	SEQ FAIL				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
5	7		
5	11		BLPHSEQ.STATUS[39]==1
6	11		BLPHSEQ.STATUS[39]==0
6	13		

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PROJECT:	BLPH-CW1	FILE NAME:	IMPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-7-3
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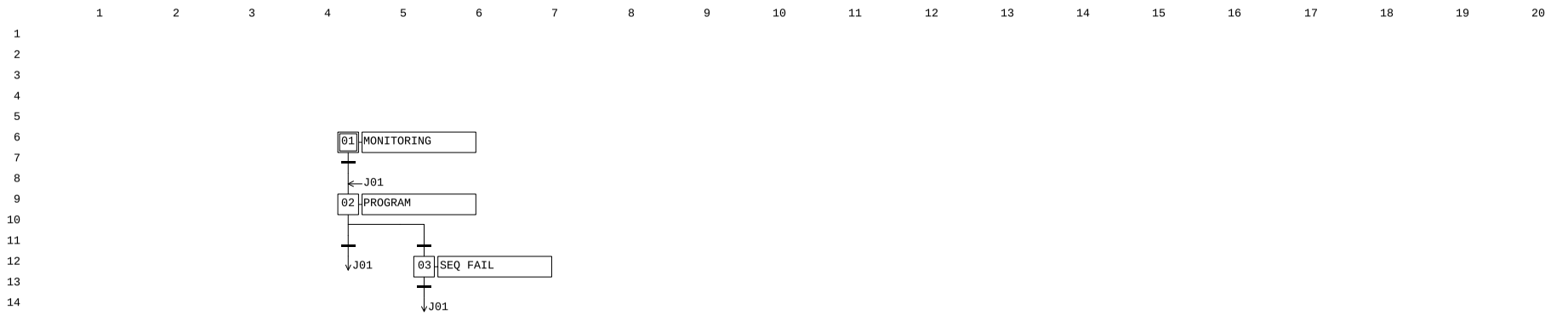
SECTION:	IMPRTMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	IMPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-7-4
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SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 5 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        SIO-21          O25BDV[25]
   025        global             genname        SIO-21          O25SDV[23]
   026        global             genname        SIO-21          O64SDV[1]
   027        global             genname        SIO-21          O25XV[25]
   028        global             genname        SIO-21          O80XV[1]
   029        global             genname        SI-2E           XV[3]
   030        global             genname        SI-1            FWP[2]
   031        global             genname        %AN             O63XA[10]
   032        global             genname        %AN             O64XA[10]
   033        global             genname        %AN             O20XA[3]
   034        global             genname        %AN             O50XA[3]
   035        global             genname        PVI             O63PT[10]
   036        global             genname        PVI             O64PT[5]
   037        global             genname        PVI             O25PT[6],ENMODE,MODE
   038        global             genname        PVI             SS[1]                    !SUBSYSTEM SIGNALS
   039        global             genname        %SW             INTSW[15]
   040        global             genname         _SFCSW          BLPHSEQ
   041        global             genname        TM              t[3],TM01
   042        global             genname        MC-2E           SWP[2]
   043        global             genname        MLD             PMMODE
   044
   045        global integer i
   046        ********************************************************************************
   047        *   ASSIGNING VARIABLES
   048        ********************************************************************************
   049        assign           "25BDV-005"        to       O25BDV[5]
   050        assign           "25BDV-007"        to       O25BDV[7]
   051        assign           "25BDV-010"        to       O25BDV[10]
   052        assign           "25BDV-013"        to       O25BDV[13]
   053        assign           "25BDV-016"        to       O25BDV[16]
   054        assign           "25BDV-019"        to       O25BDV[19]
   055        assign           "25BDV-022"        to       O25BDV[22]
   056
   057
   058        assign           "25SDV-001"        to       O25SDV[1]
   059        assign           "25SDV-023"        to       O25SDV[23]
   060        assign           "64SDV-001"        to       O64SDV[1]
   061
   062
   063        assign           "25XV-024"         to       O25XV[24]
   064        assign           "80XV-001"         to       O80XV[1]
   065
   066
   067        assign           "63PI-003"         to       O63PT[3]
   068        assign           "64PI-031A"        to       O64PT[1]
   069        assign           "64PI-031B"        to       O64PT[2]
   070
   071
   072        assign           "25PI-035"         to       O25PT[1]
   073        assign           "25PI-037"         to       O25PT[2]
   074        assign           "25PI-040"         to       O25PT[3]
   075        assign           "25PI-043"         to       O25PT[4]
   076        assign           "25PI-046"         to       O25PT[5]
   077        assign           "25PI-049"         to       O25PT[6]
   078
   079
   080        assign           "87UI-003"        to       SS[1]                     !Fuel cell status
   081
   082        assign           "20XA003TAN"       to       O20XA[3]
   083        assign           "63XA003TAN"       to       O63XA[3]
```

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```
084       assign          "64XA003TAN"      to      O64XA[3]
085
086       assign          "50XA003TAN"      to      O50XA[3]
087       assign          "50XA003TAN"      to      O50XA[3]
088
089       assign          "P-50001ACMFL"    to      INTSW[1]
090       assign          "P-50001BCMFL"    to      INTSW[2]
091       assign          "P-50001ABGST"    to      INTSW[4]
092       assign          "P-50001ABGSP"    to      INTSW[5]
093       assign          "BLPHSEQ"         to      BLPHSEQ
094
095       assign          "BLPHSEQT02"      to          t[2]
096       assign          "BLPHSEQT03"      to          t[3]
097
098
099       assign          "P-50001A"        to        SWP[1]
100       assign          "P-50001B"        to        SWP[2]
101       assign          "50P50009A_R"       to        FWP[1]
102       assign          "50P50009B_R"       to        FWP[2]
103
104       assign          "50XV-031"        to         XV[3]
105
106       assign          "87MODE-003"      to        PMMODE
107       assign          "87MODE-001"      to        ENMODE
108       assign          "87MODE-002"      to          MODE
109
110       assign          "WTPAST"          to      INTSW[3]          ! WTP START COMMAND
111       assign          "WTPASP"          to      INTSW[6]          ! WTP STOP COMMAND
112       assign          "87STRQ-0001"     to      INTSW[7]
113       assign          "87PERM-0002"     to      INTSW[8]              ! START PERMISSIVE FOR electrolyzer
114       assign          "87MODESTS01"     to      INTSW[9]
115
116
117
118       assign          "BLPHSEQT01"      to          t[1]
119       assign          "BLPHSEQT02"      to          t[2]
120       assign          "BLPHSEQTM03"     to          TM01
121
122
123
124
125
126       for i=21 to 40
127       BLPHSEQ.STATUS[i]=0
128       next@


Step Number: 2     Comment:PROGRAM                                          X:  5  Y:  9

Line Number   SEBOL Program
   001        float PRS[20]
   002        integer k
   003        k=0
   004
   005        wait until (ENMODE.PV==2 OR ENMODE.PV==3)
   006
   007        INIT:
   008        if (TM01.BSTS=="CTUP" & BLPHSEQ.STATUS[50]==0)  then
   009        goto TRMNT
   010        end if
   011        if  (BLPHSEQ.STATUS[21]==1 & BLPHSEQ.STATUS[22]==1 & BLPHSEQ.STATUS[23]==1 & BLPHSEQ.STATUS[24]==1 & BLPHSEQ.STATUS[25]==1 & BLPHSEQ.STATUS[26]==1\
   012             & BLPHSEQ.STATUS[27]==1 & BLPHSEQ.STATUS[28]==1 & BLPHSEQ.STATUS[29]==1 & BLPHSEQ.STATUS[30]==1 & BLPHSEQ.STATUS[31]==1 & BLPHSEQ.STATUS[32]==1\
   013              & BLPHSEQ.STATUS[35]==1 )  then
   014        BLPHSEQ.STATUS[50]=1
   015        INTSW[8].PV=1
   016
   017        else
   018        BLPHSEQ.STATUS[50]=0
   019        INTSW[8].PV=0
   020        end if
   021
   022        while((ENMODE.PV==2 & MODE.PV<>2) |(ENMODE.PV==3 & MODE.PV<>3))
   023
   024
   025        ************************************************PROCESS Healthy*********************************************************
   026        if (k==0) then
   027        TM01.OP=TMSTAT
   028        k=1
   029        end if
   030        !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
   031
   032        if (O25BDV[5].PV==2 & O25BDV[7].PV==2 & O25BDV[10].PV==2 & O25BDV[13].PV==2 & O25BDV[16].PV==2 & O25BDV[19].PV==2 & O25BDV[22].PV==2) then
   033        BLPHSEQ.STATUS[21]=1
   034        else
   035        BLPHSEQ.STATUS[21]=0
   036        end if
```

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```
037         if (BLPHSEQ.STATUS[21]==0)   goto INIT
038
039         !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
040
041         if (O25SDV[1].PV==2 & O25SDV[23].PV==2)  then
042         BLPHSEQ.STATUS[22]=1
043         else
044         BLPHSEQ.STATUS[22]=0
045         end if
046         if (BLPHSEQ.STATUS[22]==0)   goto INIT
047
048
049         !-----------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
050
051         if (O64SDV[1].PV==0)  then
052         BLPHSEQ.STATUS[23]=1
053         else
054         BLPHSEQ.STATUS[23]=0
055         end if
056         if (BLPHSEQ.STATUS[23]==0)   goto INIT
057
058
059         !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
060
061         if (O25XV[24].PV==0 & O80XV[1].PV==0)   then
062         BLPHSEQ.STATUS[24]=1
063         else
064         BLPHSEQ.STATUS[24]=0
065         end if
066         if (BLPHSEQ.STATUS[24]==0)   goto INIT
067
068
069         !-------------------------Air system Healthy State:-------------------------------------------------------------------------
070         *1)Instrument Air packages NOT FAULT
071         *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
072
073         PRS[1]=(O63PT[3].PV*(dscheck(O63PT[3].#PV,"BAD")==0))
074
075         if (O63XA[3].PV)==0 then
076         BLPHSEQ.STATUS[25]=1
077         else
078         BLPHSEQ.STATUS[25]=0
079         end if
080         if (BLPHSEQ.STATUS[25]==0)   goto INIT
081
082         !--------------Rev01--------------
083         if (O63XA[3].PV==0 & PRS[1]>=4.5) then
084         !--------------Rev01--------------
085         BLPHSEQ.STATUS[26]=1
086         else
087         BLPHSEQ.STATUS[26]=0
088         end if
089         if (BLPHSEQ.STATUS[26]==0)   goto INIT
090
091
092         !------------------------N2 system Healthy State:--------------------------------------------------------------------------
093         *1) Nitrogen packages NOT FAULT
094         *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
095
096         if (O64XA[3].PV)==0 then
097         BLPHSEQ.STATUS[27]=1
098         else
099         BLPHSEQ.STATUS[27]=0
100         end if
101         if (BLPHSEQ.STATUS[27]==0)   goto INIT
102
103
104         PRS[2]=(O64PT[1].PV*(dscheck(O64PT[1].#PV,"BAD")==0))
105         PRS[3]=(O64PT[2].PV*(dscheck(O64PT[2].#PV,"BAD")==0))
106
107         if (O64XA[3].PV==0 & (PRS[2]>=4.0 | PRS[3]>=4.0)) then
108         BLPHSEQ.STATUS[28]=1
109         else
110         BLPHSEQ.STATUS[28]=0
111         end if
112         if (BLPHSEQ.STATUS[28]==0)   goto INIT
113
114
115         !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is < 20 barg):--------------
116         *1) 25-PT-035
117         *2) 25-PT-037
118         *3) 25-PT-040
119         *4) 25-PT-043
120         *5) 25-PT-046
121         *6) 25-PT-049
122
123         for i=1 to 6
124                   if ((dscheck(O25PT[i].#PV,"BAD")==0) & (O25PT[i].PV<=20.0))   then
125                       BLPHSEQ.STATUS[29]=1
126                   end if
```

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```
127         next@
128          if         (BLPHSEQ.STATUS[29]==1) & (O25PT[1].PV>20.0) & (O25PT[2].PV>20.0) & (O25PT[3].PV>20.0) & (O25PT[4].PV>20.0)\
129                      & (O25PT[5].PV>20.0) & (O25PT[6].PV>20.0) then
130                     BLPHSEQ.STATUS[29]=0
131          end if
132         if (BLPHSEQ.STATUS[29]==0)   goto INIT
133
134
135         !-----Fuel Cell package is STOPPED (not in production)-----------------------------------------------------------------------
136         *OPC TAG: (FUEL CELL OPERATING STATE)-DCS TAG: 80UI-0043 (Expected this TAG will be fetched via MODBUS), asuming  80UI-0043.PV=0 i
            s the stopped state
137         *to be modififed after clarification from YEF.
138         !if (SS[1].PV<>100) then
139         !BLPHSEQ.STATUS[30]=1
140         !else
141         !BLPHSEQ.STATUS[30]=0
142         !end if
143         !if (BLPHSEQ.STATUS[30]==0)   goto INIT
144
145         BLPHSEQ.STATUS[30]=1
146
147         !-------------------------Electrolyser NOT FAULT-----------------------------------------------------------------------------
148         if (O20XA[3].PV==0) then
149         BLPHSEQ.STATUS[31]=1
150         else
151         BLPHSEQ.STATUS[31]=0
152         end if
153         if (BLPHSEQ.STATUS[31]==0)   goto INIT
154
155         !-------------------------Water system Treatment package NOT FAULT-----------------------------------------------------------
156         if (O50XA[3].PV==0) then
157         BLPHSEQ.STATUS[32]=1
158         else
159         BLPHSEQ.STATUS[32]=0
160         end if
161         if (BLPHSEQ.STATUS[32]==0)   goto INIT
162
163         !-------------------------At least one Seawater Pump NOT FAULT---------------------------------------------------------------
164         *COMMON FAULT OF SEA WATER INTAKE PUMP TO BE GENERATED
165         !if (INTSW[1].PV==0 | INTSW[2].PV==0) then
166         !BLPHSEQ.STATUS[33]=1
167         !else
168         !BLPHSEQ.STATUS[33]=0
169         !end if
170         !if (BLPHSEQ.STATUS[33]==0)   goto INIT
171
172         !-----EMCS informs to PCS the "START request for electroliser package"-----------------------------------
173         !if (INTSW[7].PV==1)then
174         !INTSW[7].PV=1
175         !BLPHSEQ.STATUS[34]=1          !Clarification required, No DO available in I/O list
176         !else
177         !BLPHSEQ.STATUS[34]=0
178         !end if
179         !if (BLPHSEQ.STATUS[34]==0)   goto INIT
180
181
182
183
184
185         !----Check any 1 pump is in auto and no fault
186         !if ((SWP[1].BSTS<>"LOCK" OR SWP[1].BSTS<>"TRIP"==0) and (SWP[1].MODE=="AUT")) | ((SWP[2].BSTS<>"LOCK" OR SWP[2].BSTS<>"TRIP"==0)
             and (SWP[2].MODE=="AUT")) then
187         !BLPHSEQ .STATUS[35]=1
188         !else
189         !BLPHSEQ .STATUS[35]=0
190         !goto INIT
191         !end if
192
193         BLPHSEQ .STATUS[35]=1
194
195         !----PCS commands to start the Water system Treatment package------------
196         !if (O50XA[3].PV==0) then
197         !if(BLPHSEQ .STATUS[12]==1 and BLPHSEQ .STATUS[15]==1)then
198         !INTSW[6].PV=0
199         !INTSW[3].PV=1
200         !BLPHSEQ.STATUS[401]=1
201
202         !else
203         !INTSW[3].PV=0
204         !end if
205         !INTSW[10].PV=1
206
207
208         !INTSW[6].PV = 0                          !STOP REQ TO WTP IS OFF
209         !INTSW[3].PV = 1                       !START REQ TO WTP IS ON
210
211
212         ![BLPHSEQ .OPMSG[1],BLPHSEQ .OPMSG[2],BLPHSEQ .OPMSG[3],BLPHSEQ .OPMSG[4]="PCS COMMANDS TO ","START THE WATER ","SYSTEM TREATMENT"
            ," PACKAGE        "]
213         !BLPHSEQ .STATUS[37]=1
```

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```
214
215         !if(FWP[1].PV==2 OR FWP[1].PV==2)then
216         !BLPHSEQ .STATUS[17]=1
217         !BLPHSEQ.STATUS[401]=1
218         !else
219         !BLPHSEQ .STATUS[17]=0
220         !end if
221
222
223         !------------------------MODE 0 = IDLE (POWER IMPORT ONLY) START PERMISSIVE-----------------------------------------------
224
225         if  (BLPHSEQ.STATUS[21]==1 & BLPHSEQ.STATUS[22]==1 & BLPHSEQ.STATUS[23]==1 & BLPHSEQ.STATUS[24]==1 & BLPHSEQ.STATUS[25]==1 & BLPHSEQ.STATUS[26]==1\
226              & BLPHSEQ.STATUS[27]==1 & BLPHSEQ.STATUS[28]==1 & BLPHSEQ.STATUS[29]==1 & BLPHSEQ.STATUS[30]==1 & BLPHSEQ.STATUS[31]==1 & BLPHSEQ.STATUS[32]==1\
227              & BLPHSEQ.STATUS[35]==1  )  then
228         BLPHSEQ.STATUS[50]=1
229
230         else
231         BLPHSEQ.STATUS[50]=0
232         end if
233
234
235         !---------------PCS sends to EMCS the “Permissive to start” for Electrolyser package.-----------------------------------------
236         if  (BLPHSEQ.STATUS[50]==1 & BLPHSEQ.STATUS[39]==0) then
237         if (ENMODE.PV==2) PMMODE.MV=2         ! PERMIT TO STATUS CHANGE FOR EMCS    ! IMPORT ABLE TO CHARGE
238         if (ENMODE.PV==3) PMMODE.MV=3         ! PERMIT TO STATUS CHANGE FOR EMCS    ! IMPORT NOT ABLE TO CHARGE
239
240
241         INTSW[8].PV=1     !PERMIT TO START ELECTROLYZER FOR EMCS
242
243         [BLPHSEQ.OPMSG[1],BLPHSEQ.OPMSG[2],BLPHSEQ.OPMSG[3],BLPHSEQ.OPMSG[4]="PCS SENDS TO EMC","S THE PERMISSIVE","TO START FOR ELE","CTROLYSER PCKG  "]
244         BLPHSEQ.STATUS[39]=1
245
246
247         end if
248
249         DELAY 3000
250         !---------RESET PERMISSIVE-----------------------
251         *if  (MODE.PV==2 & PMMODE.MV==2)     PMMODE.MV=0
252         *if  (MODE.PV==3 & PMMODE.MV==3)     PMMODE.MV=0
253         wend@
254
255         !_____________________________________________________________________________________________________________________
256         ! As soon as the Permissive to Start is lost
257         while((MODE.PV==2 | MODE.PV==3 )and BLPHSEQ.STATUS[50]==1 )
258         !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
259
260         if (O25BDV[5].PV==2 & O25BDV[7].PV==2 & O25BDV[10].PV==2 & O25BDV[13].PV==2 & O25BDV[16].PV==2 & O25BDV[19].PV==2 & O25BDV[22].PV==2) then
261         BLPHSEQ.STATUS[21]=1
262         else
263         BLPHSEQ.STATUS[21]=0
264         end if
265
266
267         !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
268
269         if (O25SDV[1].PV==2 & O25SDV[23].PV==2)  then
270         BLPHSEQ.STATUS[22]=1
271         else
272         BLPHSEQ.STATUS[22]=0
273         end if
274
275
276
277         !-----------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
278
279         if (O64SDV[1].PV==0)  then
280         BLPHSEQ.STATUS[23]=1
281         else
282         BLPHSEQ.STATUS[23]=0
283         end if
284
285
286         !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
287
288         if (O25XV[24].PV==0 & O80XV[1].PV==0)   then
289         BLPHSEQ.STATUS[24]=1
290         else
291         BLPHSEQ.STATUS[24]=0
292         end if
293
294
295
296         !-------------------------Air system Healthy State:-------------------------------------------------------------------------
297         *1)Instrument Air packages NOT FAULT
298         *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
299
```

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```
300         PRS[1]=(O63PT[3].PV*(dscheck(O63PT[3].#PV,"BAD")==0))
301
302         if (O63XA[3].PV)==0 then
303         BLPHSEQ.STATUS[25]=1
304         else
305         BLPHSEQ.STATUS[25]=0
306         end if
307
308
309         !--------------------Rev01--------------------
310         if (O63XA[3].PV==0 & PRS[1]>=4.5) then
311         !--------------------Rev01--------------------
312         BLPHSEQ.STATUS[26]=1
313         else
314         BLPHSEQ.STATUS[26]=0
315         end if
316
317
318
319         !------------------------N2 system Healthy State:-------------------------------------------------------------------------------
320         *1) Nitrogen packages NOT FAULT
321         *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
322
323         if (O64XA[3].PV)==0 then
324         BLPHSEQ.STATUS[27]=1
325         else
326         BLPHSEQ.STATUS[27]=0
327         end if
328
329
330
331         PRS[2]=(O64PT[1].PV*(dscheck(O64PT[1].#PV,"BAD")==0))
332         PRS[3]=(O64PT[2].PV*(dscheck(O64PT[2].#PV,"BAD")==0))
333         if (O64XA[3].PV==0 & (PRS[2]>=4.0 | PRS[3]>=4.0)) then
334         BLPHSEQ.STATUS[28]=1
335         else
336         BLPHSEQ.STATUS[28]=0
337         end if
338
339
340
341         !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is < 20 barg):--------------
342         *1) 25-PT-035
343         *2) 25-PT-037
344         *3) 25-PT-040
345         *4) 25-PT-043
346         *5) 25-PT-046
347         *6) 25-PT-049
348
349         for i=1 to 6
350                   if ((dscheck(O25PT[i].#PV,"BAD")==0) & (O25PT[i].PV<=20.0))   then
351                       BLPHSEQ.STATUS[29]=1
352                   end if
353         next@
354          if         (BLPHSEQ.STATUS[29]==1) & (O25PT[1].PV>20.0) & (O25PT[2].PV>20.0) & (O25PT[3].PV>20.0) & (O25PT[4].PV>20.0)\
355                      & (O25PT[5].PV>20.0) & (O25PT[6].PV>20.0) then
356                     BLPHSEQ.STATUS[29]=0
357          end if
358
359
360
361         !-----Fuel Cell package is STOPPED (not in production)--------------------------------------------------------------------------
362         *OPC TAG: (FUEL CELL OPERATING STATE)-DCS TAG: 80UI-0043 (Expected this TAG will be fetched via MODBUS), asuming  80UI-0043.PV=0 i
            s the stopped state
363         *to be modifed after clarification from YEF.
364         !if (SS[1].PV<>100) then
365         !BLPHSEQ.STATUS[30]=1
366         !else
367         !BLPHSEQ.STATUS[30]=0
368         !end if
369
370         BLPHSEQ.STATUS[30]=1
371         !------------------------Electrolyser NOT FAULT---------------------------------------------------------------------------------
372         if (O20XA[3].PV==0) then
373         BLPHSEQ.STATUS[31]=1
374         else
375         BLPHSEQ.STATUS[31]=0
376         end if
377
378
379         !------------------------Water system Treatment package NOT FAULT---------------------------------------------------------------
380         if (O50XA[3].PV==0) then
381         BLPHSEQ.STATUS[32]=1
382         else
383         BLPHSEQ.STATUS[32]=0
384         end if
385
386
387         !------------------------At least one Seawater Pump NOT FAULT-------------------------------------------------------------------
388         *COMMON FAULT OF SEA WATER INTAKE PUMP TO BE GENERATED
```

PROJECT:	BLPH-CW1	FILE NAME:	IMPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-7-10
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SECTION:	IMPRTMON	PRINTED DATE:	9/15/2025	DRAWER:			

```
389        !if (INTSW[1].PV==0 | INTSW[2].PV==0) then
390        !BLPHSEQ.STATUS[33]=1
391        !else
392        !BLPHSEQ.STATUS[33]=0
393        !end if
394
395
396        !-----EMCS informs to PCS the "START request for electroliser package"-----------------------------------
397        !if (INTSW[7].PV==1)then
398        !INTSW[8].PV=1
399        !BLPHSEQ.STATUS[34]=1          !Clarificatio required, No DO available in I/O list
400        !end if
401        !----Check any 1 pump is in auto and no fault OR Either of the Pumps running
402
403        !if ((INTSW[1].PV==0 and SWP[1].MODE=="AUT") | (INTSW[2].PV==0 and SWP[2].MODE=="AUT") | ( SWP[1].PV==2  | SWP[2].PV==2)) then
404        !BLPHSEQ .STATUS[35]=1
405        !else
406        !BLPHSEQ .STATUS[35]=0
407        !end if
408        BLPHSEQ .STATUS[35]=1
409
410        !----PCS commands to start the Water system Treatment package (delay xxx sec) (see. 4.2.4).------------
411
412
413        !if( FWP[1].PV==2 OR FWP[1].PV==2) then
414        !BLPHSEQ .STATUS[37]=1
415        !else
416        !BLPHSEQ .STATUS[37]=0
417        !end if
418
419        !-------------------------MODE 0 = IDLE (POWER IMPORT ONLY) START PERMISSIVE-------------------------------------------------
420
421        if  (BLPHSEQ.STATUS[21]==1 & BLPHSEQ.STATUS[22]==1 & BLPHSEQ.STATUS[23]==1 & BLPHSEQ.STATUS[24]==1 & BLPHSEQ.STATUS[25]==1 & BLPHS
           EQ.STATUS[26]==1\
422             & BLPHSEQ.STATUS[27]==1 & BLPHSEQ.STATUS[28]==1 & BLPHSEQ.STATUS[29]==1 & BLPHSEQ.STATUS[30]==1 & BLPHSEQ.STATUS[31]==1 & BLP
           HSEQ.STATUS[32]==1\
423              & BLPHSEQ.STATUS[35]==1 )  then
424        BLPHSEQ.STATUS[50]=1
425
426        else
427        BLPHSEQ.STATUS[50]=0
428
429        end if
430
431        !---------------PCS sends to EMCS the “Permissive to start” for Electrolyser package.-----------------------------------------
432        if  (BLPHSEQ.STATUS[50]==1 & BLPHSEQ.STATUS[39]==0) then
433
434        delay 5000
435
436        [BLPHSEQ.OPMSG[1],BLPHSEQ.OPMSG[2],BLPHSEQ.OPMSG[3],BLPHSEQ.OPMSG[4]="PCS SENDS TO EMC","S THE PERMISSIVE","TO START FOR ELE","CTR
           OLYSER PCKG  "]
437        BLPHSEQ.STATUS[39]=1
438
439        else
440        end if
441
442        wend@
443        TRMNT:
444        TM01.OP=TMSTOP
445        t[1].OP=TMSTAT
446        t[2].OP=TMSTAT
447        TM01.PV=0
448        BLPHSEQ.STATUS[39]=0



Step Number: 3     Comment:SEQ FAIL                                                X:  6  Y: 12

Line Number   SEBOL Program
   001
   002        !------Electrolyser will be stopped by EMCS.------------
   003
   004        INTSW[8].PV=0           !To be mapped with modbus signal for Electroliser start Permit request
   005
   006        !------PCS will stop the sequence “Process Charging mode” for H2 storage Vessels
   007
   008
   009        !------PCS will stop the Sea water Pumps----------------
   010        !while(ENMODE.PV==2 & MODE.PV< & MODE.PV<>3 & MODE.PV<>4)
   011        !INTSW[4].PV=0
   012        !INTSW[5].PV=1                          !GROUP STOP COMMAND FO SEA WATER INTAKE PUMP
   013        !wait until (SWP[1].PV==0 & SWP[2].PV==0)
   014        !INTSW[5].PV=0
   015        !wend
   016        !------PCS will stop Water Treatment system-------------
   017
   018
   019
   020        !delaycycle 5
   021        !INTSW[6].PV=1
```

PROJECT:	BLPH-CW1	FILE NAME:	IMPRTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-7-11
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```
022
023         if((ENMODE.PV==2 or ENMODE.PV==3 or ENMODE.PV==4)and BLPHSEQ.STATUS[50]==0)then
024
025         INTSW[3].PV=0                          !NEED TO MAP WITH MODBUS TO SEND STOP COMMAND TO WTP PACKAGE
026         INTSW[6].PV=1
027
028         INTSW[4].PV=0
029         INTSW[5].PV=1                          !GROUP STOP COMMAND FO SEA WATER INTAKE PUMP
030
031         wait until (SWP[1].PV==0 & SWP[2].PV==0)
032         INTSW[5].PV=0
033         wait until (FWP[1].PV==0 & FWP[2].PV==0)
034         INTSW[6].PV=0
035
036
037         Wait until(ENMODE.PV<>2 and ENMODE.PV<>3 and ENMODE.PV<>4)
038
039         end if
040
041
042         For i=21 to 40
043         BLPHSEQ.STATUS[i]=0
044         next@
045
046
047         Wait until(ENMODE.PV==2 or ENMODE.PV==3 or ENMODE.PV==4)
```

PROJECT:	BLPH-CW1	FILE NAME:	MNTNCMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-8-1
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Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	7	6	MONITORING				SEBOL				
2	7	9	PROGRAMM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
7	7		
7	10		

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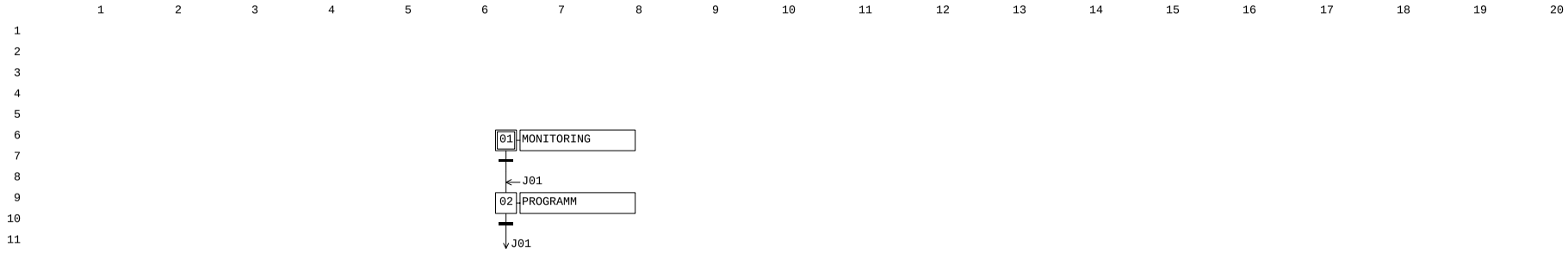
SFC

Plane Number: 0 Comment:



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PROJECT:	BLPH-CW1	FILE NAME:	MNTNCMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-8-4
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SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 7 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :E368782Q00-J11DCSE
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 20 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI             MODE,ENMODE,PMMODE
   025
   026        global             genname        _SFCSW          BLPHSEQ
   027
   028        global             genname         TM             TM01
   029        global          genname        MC-2E           SWP[2]
   030        global              genname         %SW            WTPSTOP,SWGRPSTOP
   031        global          genname        SIO-2E          XV005,XV[21]
   032
   033
   034
   035        assign           "87MODE-001"        to               ENMODE
   036        assign           "MODE"              to               MODE
   037        assign           "87MODE-003"        to               PMMODE
   038        assign           "BLPHSEQ"           to               BLPHSEQ
   039        assign           "BLPHSEQTM01"       to               TM01
   040        assign           "P-50001A"          to               SWP[1]
   041        assign           "P-50001B"          to               SWP[2]
   042        assign          "WTPASP"             to               WTPSTOP
   043        assign          "P-50001ABGSP"       to               SWGRPSTOP
   044        assign          "50XV-005"               to                   XV005
   045        assign           "25XV-004"          to               XV[4]
   046        assign           "25XV-008"          to               XV[8]
   047        assign           "25XV-011"          to               XV[11]
   048        assign           "25XV-014"          to               XV[14]
   049        assign           "25XV-017"          to               XV[17]
   050        assign           "25XV-020"          to               XV[20]
   051        assign           "25XV-006"          to               XV[6]
   052        assign           "25XV-009"          to               XV[9]
   053        assign           "25XV-012"          to               XV[12]
   054        assign           "25XV-015"          to               XV[15]
   055        assign           "25XV-018"          to               XV[18]
   056        assign           "25XV-021"          to               XV[21]
```

Step Number: 2 Comment:PROGRAMM X: 7 Y: 9

```
Line Number   SEBOL Program
   001        !For electrical details about this mode reference shall be made to doc. “EMCS Software Functional Design Specification (FDS-SW)”.
   002        !From process point of view in the “Maintenance mode” neither the Electrolyser nor the Fuel cells is required to run. Hydrogen pro
              duction cannot be involved in this electrical mode.
   003        wait until (ENMODE.PV==9 )
   004        TM01.OP=TMSTAT
   005
   006
   007        PMMODE.MV=9
   008
   009        !1)Stop sea water pumps---------------------------------------
   010
   011        !if(SWP[1].PV == 2 OR SWP[2].PV == 2 ) then
   012        !  SWGRPSTOP.PV = 1                        !Sea water pump group stop
   013        !end if
   014        !wait until (SWP[1].PV == 0 AND SWP[2].PV == 0)
   015
   016        !2)Stop sea water pumps---------------------------------------
   017
   018
   019        WTPSTOP.PV = 1                             !Water treatment package stop
   020
```

PROJECT:	BLPH-CW1	FILE NAME:	MNTNCMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-8-5
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```
021
022         !3)Close 50XV-005 Valve-------------------------------------
023
024
025         ![%.OPMSG[1],%.OPMSG[2],%.OPMSG[3],%.OPMSG[4]="CLOSE 50-XV-005","VALVE ","LOCALLY",""]
026         [XV005.MODE.CSV = "AUT",0]
027
028         wait until (XV005.PV == 0)
029
030
031         !5)Command to close all xv inlet/outlet valves of Hydrogen Vessels-------------------------------------
032
033         [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
034         delaycycle 3
035         [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
036         wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0)
037
038
039         [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
040         delaycycle 3
041         [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
042         wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0)
043
044         If (MODE.PV==9)       PMMODE.MV=0
045
046         !wait until (ENMODE.PV<>9 | MODE.PV==9)
047
048         wait until (MODE.PV<>9)
049
050         TM01.OP=TMSTOP
051         TM01.PV=0
```

PROJECT:	BLPH-CW1	FILE NAME:	MONITOR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-9-1
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SECTION:	MONITOR	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	MONITOR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-9-2
STATION:	FCS0101	SAVED DATE:	7/9/2025 6:52:42 AM	COMMENT:			
SECTION:	MONITOR	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	6	MONITORING				SEBOL				
2	5	9	PROGRAM				SEBOL				
3	6	14	SEQ FAIL				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
5	7		
5	13		BLPHSEQ.STATUS[19]==1
6	13		BLPHSEQ.STATUS[19]==0
6	15		

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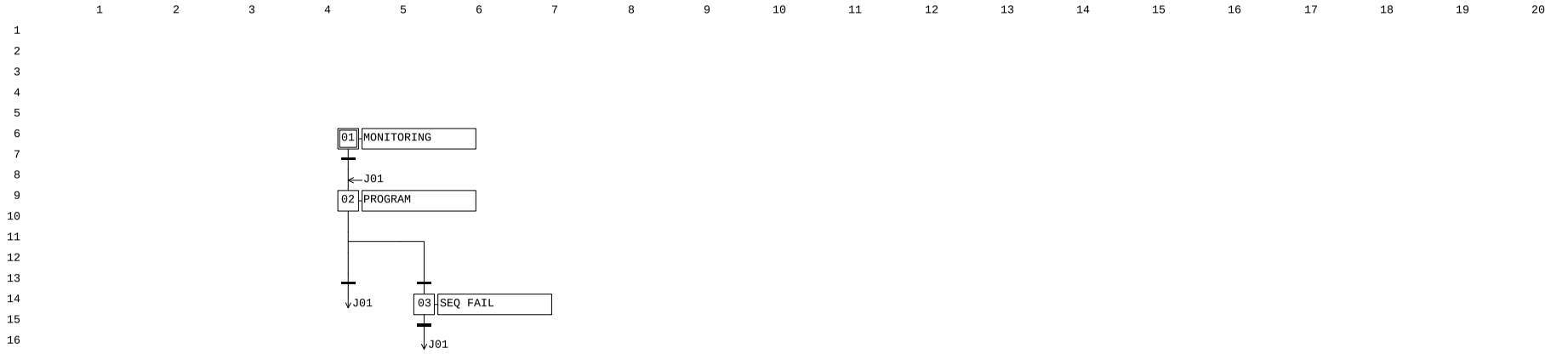
SECTION:	MONITOR	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



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PROJECT:	BLPH-CW1	FILE NAME:	MONITOR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-9-4
STATION:	FCS0101	SAVED DATE:	7/9/2025 6:52:42 AM	COMMENT:			
SECTION:	MONITOR	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 5 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        SIO-21          O25BDV[25]
   025        global             genname        SIO-21          O25SDV[23]
   026        global             genname        SIO-21          O64SDV[1]
   027        global             genname        SIO-21          O25XV[25]
   028        global             genname        SIO-21          O80XV[1]
   029        global             genname        SI-2E           XV[3]
   030        global             genname        SI-1                 FWP[2]
   031        global             genname        %AN             O63XA[10]
   032        global             genname        %AN            O64XA[10]
   033        global             genname        %AN             O20XA[3]
   034        global             genname        %AN             O50XA[3]
   035        global             genname        PVI             O63PT[10]
   036        global             genname        PVI             O64PT[5]
   037        global             genname        PVI             O25PT[6],ENMODE,MODE
   038        global             genname        PVI             SS[2]       !SUBSYSTEM SIGNALS
   039        global             genname        %SW             INTSW[15]
   040        global             genname     _SFCSW             BLPHSEQ
   041        global             genname     TM             t[3],TM01
   042        global             genname     MC-2E             SWP[2]
   043        global             genname     MLD             PMMODE
   044
   045        global integer i
   046        ********************************************************************************
   047        *   ASSIGNING VARIABLES
   048        ********************************************************************************
   049        assign           "25BDV-005"        to       O25BDV[5]
   050        assign           "25BDV-007"        to       O25BDV[7]
   051        assign           "25BDV-010"        to       O25BDV[10]
   052        assign           "25BDV-013"        to       O25BDV[13]
   053        assign           "25BDV-016"        to       O25BDV[16]
   054        assign           "25BDV-019"        to       O25BDV[19]
   055        assign           "25BDV-022"        to       O25BDV[22]
   056
   057
   058        assign           "25SDV-001"        to       O25SDV[1]
   059        assign           "25SDV-023"        to       O25SDV[23]
   060        assign           "64SDV-001"        to       O64SDV[1]
   061
   062
   063        assign           "25XV-024"         to       O25XV[24]
   064        assign           "80XV-001"         to       O80XV[1]
   065
   066
   067        assign           "63PI-003"         to       O63PT[3]
   068        assign           "64PI-031A"        to       O64PT[1]
   069        assign           "64PI-031B"        to       O64PT[2]
   070
   071
   072        assign           "25PI-035"         to       O25PT[1]
   073        assign           "25PI-037"         to       O25PT[2]
   074        assign           "25PI-040"         to       O25PT[3]
   075        assign           "25PI-043"         to       O25PT[4]
   076        assign           "25PI-046"         to       O25PT[5]
   077        assign           "25PI-049"         to       O25PT[6]
   078
   079
   080        assign           "87UI-003"        to       SS[1]              ! Fuel cell status
   081        assign           "87UI-004"        to       SS[2]            ! Electrolyzer cell status
   082
   083        assign           "20XA003TAN"       to       O20XA[3]
```

PROJECT:	BLPH-CW1	FILE NAME:	MONITOR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-9-5
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```
084       assign          "63XA003TAN"      to      O63XA[3]
085       assign          "64XA003TAN"      to      O64XA[3]
086
087       assign          "50XA003TAN"      to      O50XA[3]
088       !assign          "50XA003TAN"      to      O50XA[3]
089
090       assign          "P-50001ACMFL"    to      INTSW[1]
091       assign          "P-50001BCMFL"    to      INTSW[2]
092       assign          "P-50001ABGST"    to      INTSW[4]
093       assign          "P-50001ABGSP"    to      INTSW[5]
094       assign          "BLPHSEQ"         to      BLPHSEQ
095
096       assign          "BLPHSEQT02"      to          t[2]
097       assign          "BLPHSEQT03"      to          t[3]
098
099
100       assign          "P-50001A"        to        SWP[1]
101       assign          "P-50001B"        to        SWP[2]
102
103       assign          "50XV-031"        to         XV[3]
104
105       assign          "87MODE-003"      to        PMMODE
106       assign          "87MODE-001"      to        ENMODE
107       assign          "87MODE-002"      to          MODE
108
109       assign          "WTPAST"          to      INTSW[3]      ! WTP START CMD
110       assign          "WTPASP"          to      INTSW[6]      ! WTP STOP CMD
111       assign          "87STRQ-0001"     to      INTSW[7]! Do to start Electrolyzer
112       assign          "87PERM-0001"      to      INTSW[8]! Fuel cell Permissive
113       assign          "87PERM-0002"      to      INTSW[9]! Electrolyzer Permissive
114
115
116
117
118
119       assign          "BLPHSEQT01"      to          t[1]
120       assign          "BLPHSEQT02"      to          t[2]
121       assign          "BLPHSEQTM01"     to          TM01
122
123
124       assign          "50P50009A_R"        to        FWP[1]
125       assign          "50P50009B_R"        to        FWP[2]
126
127       for i=1 to 20
128       BLPHSEQ.STATUS[i]=0
129       next@


Step Number: 2     Comment:PROGRAM                                          X:  5  Y:  9

Line Number   SEBOL Program
   001        float PRS[20]
   002        integer k
   003        *for i=1 to 20
   004        *BLPHSEQ.STATUS[i]=0
   005        *next@
   006        k=0
   007        INTSW[9].PV=0
   008        INIT:
   009        if (TM01.BSTS=="CTUP" & BLPHSEQ.STATUS[50]==0)  then
   010        goto TRMNT
   011        end if
   012        if  (BLPHSEQ.STATUS[1]==1 & BLPHSEQ.STATUS[2]==1 & BLPHSEQ.STATUS[3]==1 & BLPHSEQ.STATUS[4]==1 & BLPHSEQ.STATUS[5]==1 & BLPHSEQ.ST
              ATUS[6]==1\
   013             & BLPHSEQ.STATUS[7]==1 & BLPHSEQ.STATUS[8]==1 & BLPHSEQ.STATUS[9]==1 & BLPHSEQ.STATUS[10]==1 & BLPHSEQ.STATUS[11]==1 & BLPHSE
              Q.STATUS[12]==1\
   014              & BLPHSEQ.STATUS[15]==1  & BLPHSEQ.STATUS[17]==1)  then
   015        !& BLPHSEQ.STATUS[13]==1 & BLPHSEQ.STATUS[14]==1& BLPHSEQ.STATUS[16]==1 & BLPHSEQ.STATUS[17]==1 & BLPHSEQ.STATUS[18]==1
   016
   017        BLPHSEQ.STATUS[50]=1
   018        INTSW[9].PV=1
   019        !delay 5000
   020        else
   021        BLPHSEQ.STATUS[50]=0
   022        INTSW[9].PV=0
   023        end if
   024
   025        while(ENMODE.PV==1 AND MODE.PV<>1)
   026        !repeat
   027
   028        ************************************************PROCESS Healthy*****************************************************
   029        if (k==0) then
   030        TM01.OP=TMSTAT
   031        k=1
   032        end if
   033        !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
   034
   035        if (O25BDV[5].PV==2 & O25BDV[7].PV==2 & O25BDV[10].PV==2 & O25BDV[13].PV==2 & O25BDV[16].PV==2 & O25BDV[19].PV==2 & O25BDV[22].PV=
              =2) then
```

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```
036        BLPHSEQ.STATUS[1]=1
037        else
038        BLPHSEQ.STATUS[1]=0
039        end if
040        if (BLPHSEQ.STATUS[1]==0)   goto INIT
041
042        !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
043
044        if (O25SDV[1].PV==2 & O25SDV[23].PV==2)  then
045        BLPHSEQ.STATUS[2]=1
046        else
047        BLPHSEQ.STATUS[2]=0
048        end if
049        if (BLPHSEQ.STATUS[2]==0)   goto INIT
050
051
052        !-----------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
053
054        if (O64SDV[1].PV==0)  then
055        BLPHSEQ.STATUS[3]=1
056        else
057        BLPHSEQ.STATUS[3]=0
058        end if
059        if (BLPHSEQ.STATUS[3]==0)   goto INIT
060
061
062        !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
063
064        if (O25XV[24].PV==0 & O80XV[1].PV==0)   then
065        BLPHSEQ.STATUS[4]=1
066        else
067        BLPHSEQ.STATUS[4]=0
068        end if
069        if (BLPHSEQ.STATUS[4]==0)   goto INIT
070
071
072        !-------------------------Air system Healthy State:-------------------------------------------------------------------------
073        *1)Instrument Air packages NOT FAULT
074        *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
075
076        PRS[1]=(O63PT[3].PV*(dscheck(O63PT[3].#PV,"BAD")==0))
077
078        if (O63XA[3].PV)==0 then
079        BLPHSEQ.STATUS[5]=1
080        else
081        BLPHSEQ.STATUS[5]=0
082        end if
083        if (BLPHSEQ.STATUS[5]==0)   goto INIT
084
085        !---------------Rev01-------
086        if (O63XA[3].PV==0 & PRS[1]>=4.5) then
087        !---------------Rev01-------
088        BLPHSEQ.STATUS[6]=1
089        else
090        BLPHSEQ.STATUS[6]=0
091        end if
092        if (BLPHSEQ.STATUS[6]==0)   goto INIT
093
094
095        !------------------------N2 system Healthy State:--------------------------------------------------------------------------
096        *1) Nitrogen packages NOT FAULT
097        *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
098
099        if (O64XA[3].PV)==0 then
100        BLPHSEQ.STATUS[7]=1
101        else
102        BLPHSEQ.STATUS[7]=0
103        end if
104        if (BLPHSEQ.STATUS[7]==0)   goto INIT
105
106
107        PRS[2]=(O64PT[1].PV*(dscheck(O64PT[1].#PV,"BAD")==0))
108        PRS[3]=(O64PT[2].PV*(dscheck(O64PT[2].#PV,"BAD")==0))
109        if (O64XA[3].PV==0 & (PRS[2]>=4.0 | PRS[3]>=4.0)) then
110        BLPHSEQ.STATUS[8]=1
111        else
112        BLPHSEQ.STATUS[8]=0
113        end if
114        if (BLPHSEQ.STATUS[8]==0)   goto INIT
115
116
117        !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is < 20 barg):-------------
118        *1) 25-PT-035
119        *2) 25-PT-037
120        *3) 25-PT-040
121        *4) 25-PT-043
122        *5) 25-PT-046
123        *6) 25-PT-049
124
125        for i=1 to 6
```

PROJECT:	BLPH-CW1	FILE NAME:	MONITOR.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-9-7
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```
126                 if ((dscheck(O25PT[i].#PV,"BAD")==0) & (O25PT[i].PV<=20.0))   then
127                     BLPHSEQ.STATUS[9]=1
128                 end if
129         next@
130          if         (BLPHSEQ.STATUS[9]==1) & (O25PT[1].PV>20.0) & (O25PT[2].PV>20.0) & (O25PT[3].PV>20.0) & (O25PT[4].PV>20.0)\
131                     & (O25PT[5].PV>20.0) & (O25PT[6].PV>20.0) then
132                    BLPHSEQ.STATUS[9]=0
133          end if
134         if (BLPHSEQ.STATUS[9]==0)   goto INIT
135
136
137         !-----Fuel Cell package is STOPPED (not in production)-----------------------------------------------------------------------------
138
139         if (SS[1].PV<>100) then
140         BLPHSEQ.STATUS[10]=1
141         else
142         BLPHSEQ.STATUS[10]=0
143         end if
144         if (BLPHSEQ.STATUS[10]==0)   goto INIT
145
146         !------------------------Electrolyser NOT FAULT-------------------------------------------------------------------------------------
147         if (O20XA[3].PV==0) then
148         BLPHSEQ.STATUS[11]=1
149         else
150         BLPHSEQ.STATUS[11]=0
151         end if
152         if (BLPHSEQ.STATUS[11]==0)   goto INIT
153
154         !------------------------Water system Treatment package NOT FAULT-------------------------------------------------------------------
155         if (O50XA[3].PV==0) then
156         BLPHSEQ.STATUS[12]=1
157         else
158         BLPHSEQ.STATUS[12]=0
159         end if
160         if (BLPHSEQ.STATUS[12]==0)   goto INIT
161
162         !------------------------At least one Seawater Pump NOT FAULT(ESD TRip)-------------------------------------------------------------
            --------
163         !-----EMCS informs to PCS the "START request for electroliser package"-----------------------------------
164
165
166
167         !----Check any 1 pump is in auto and no fault (ESD Trip)
168         !if ((SWP[1].BSTS<>"LOCK" OR SWP[1].BSTS<>"TRIP"==0) and (SWP[1].MODE=="AUT")) | ((SWP[2].BSTS<>"LOCK" OR SWP[2].BSTS<>"TRIP"==0)
             and (SWP[2].MODE=="AUT")) then
169         !BLPHSEQ .STATUS[15]=1
170         !else
171         !BLPHSEQ .STATUS[15]=0
172         !goto INIT
173         !end if
174
175         BLPHSEQ.STATUS[15]=1
176
177
178         !-----PCS commands to start WTP package-------------------------------------
179         !if(BLPHSEQ .STATUS[12]==1 and BLPHSEQ .STATUS[15]==1)then
180         !INTSW[3].PV=1      !WTP START CMD
181         !INTSW[6].PV=0      !WTP STOP CMD
182         !BLPHSEQ.STATUS[401]=1
183         !else
184         !INTSW[3].PV=0          !WTP START CMD
185         !end if
186         !if (BLPHSEQ.STATUS[401]==0)   goto INIT
187
188         BLPHSEQ.STATUS[401]=1
189
190         ![BLPHSEQ .OPMSG[1],BLPHSEQ .OPMSG[2],BLPHSEQ .OPMSG[3],BLPHSEQ .OPMSG[4]="PCS COMMANDS TO ","START THE WATER ","SYSTEM TREATMENT"
            ," PACKAGE        "]
191         !if(FWP[1].PV==2 OR FWP[1].PV==2)then
192         !BLPHSEQ .STATUS[17]=1
193         !BLPHSEQ.STATUS[401]=1
194         !else
195         !BLPHSEQ .STATUS[17]=0
196         !end if
197
198         BLPHSEQ.STATUS[17]=1
199
200         if (BLPHSEQ.STATUS[401]==0)   goto INIT
201
202         !------------------------MODE 0 = IDLE (POWER IMPORT ONLY) START PERMISSIVE-------------------------------------------------------
203
204         if  (BLPHSEQ.STATUS[1]==1 & BLPHSEQ.STATUS[2]==1 & BLPHSEQ.STATUS[3]==1 & BLPHSEQ.STATUS[4]==1 & BLPHSEQ.STATUS[5]==1 & BLPHSEQ.ST
            ATUS[6]==1\
205              & BLPHSEQ.STATUS[7]==1 & BLPHSEQ.STATUS[8]==1 & BLPHSEQ.STATUS[9]==1 & BLPHSEQ.STATUS[10]==1 & BLPHSEQ.STATUS[11]==1 & BLPHSE
            Q.STATUS[12]==1\
206              & BLPHSEQ.STATUS[15]==1   & BLPHSEQ.STATUS[17]==1)  then
207         !& BLPHSEQ.STATUS[16]==1 & BLPHSEQ.STATUS[17]==1 & BLPHSEQ.STATUS[18]==1 removed Rev01 change
208         BLPHSEQ.STATUS[50]=1
209
210         else
```

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```
211         BLPHSEQ.STATUS[50]=0
212         end if
213
214
215         !---------------PCS sends to EMCS the “Permissive to start” for Electrolyser package.-----------------------------------------
216         if  (BLPHSEQ.STATUS[50]==1 & BLPHSEQ.STATUS[19]==0) then
217         PMMODE.MV=1                                     !Permit to enter Idle
218         INTSW[9].PV=1                                       !electrolyzer start permissive
219         delay 5000
220
221         [BLPHSEQ.OPMSG[1],BLPHSEQ.OPMSG[2],BLPHSEQ.OPMSG[3],BLPHSEQ.OPMSG[4]="PCS SENDS TO EMC","S THE PERMISSIVE","TO START FOR ELE","CTR
            OLYSER PCKG  "]
222         BLPHSEQ.STATUS[19]=1
223         End if
224
225
226         DELAY 3000
227
228         !---------RESET PERMISSIVE----------------------
229         *if  (MODE.PV==1 & PMMODE.MV==1)     PMMODE.MV=0
230         wend@
231         !_____________________________________________________________________________________________________________________
232         ! As soon as the Permissive to Start is lost
233         while(MODE.PV==1 and BLPHSEQ.STATUS[50]==1)
234         !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
235
236         if (O25BDV[5].PV==2 & O25BDV[7].PV==2 & O25BDV[10].PV==2 & O25BDV[13].PV==2 & O25BDV[16].PV==2 & O25BDV[19].PV==2 & O25BDV[22].PV=
            =2) then
237         BLPHSEQ.STATUS[1]=1
238         else
239         BLPHSEQ.STATUS[1]=0
240         end if
241         !if (BLPHSEQ.STATUS[1]==0)   goto INIT
242
243         !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
244
245         if (O25SDV[1].PV==2 & O25SDV[23].PV==2)  then
246         BLPHSEQ.STATUS[2]=1
247         else
248         BLPHSEQ.STATUS[2]=0
249         end if
250         !if (BLPHSEQ.STATUS[2]==0)   goto INIT
251
252
253         !-----------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
254
255         if (O64SDV[1].PV==0)  then
256         BLPHSEQ.STATUS[3]=1
257         else
258         BLPHSEQ.STATUS[3]=0
259         end if
260         !if (BLPHSEQ.STATUS[3]==0)   goto INIT
261
262
263         !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
264
265         if (O25XV[24].PV==0 & O80XV[1].PV==0)   then
266         BLPHSEQ.STATUS[4]=1
267         else
268         BLPHSEQ.STATUS[4]=0
269         end if
270         !if (BLPHSEQ.STATUS[4]==0)   goto INIT
271
272
273         !-------------------------Air system Healthy State:-------------------------------------------------------------------------
274         *1)Instrument Air packages NOT FAULT
275         *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
276
277         PRS[1]=(O63PT[3].PV*(dscheck(O63PT[3].#PV,"BAD")==0))
278
279         if (O63XA[3].PV)==0 then
280         BLPHSEQ.STATUS[5]=1
281         else
282         BLPHSEQ.STATUS[5]=0
283         end if
284         !if (BLPHSEQ.STATUS[5]==0)   goto INIT
285
286
287         if (O63XA[3].PV==0 & PRS[1]>=4.5) then
288         BLPHSEQ.STATUS[6]=1
289         else
290         BLPHSEQ.STATUS[6]=0
291         end if
292         !if (BLPHSEQ.STATUS[6]==0)   goto INIT
293
294
295         !------------------------N2 system Healthy State:--------------------------------------------------------------------------
296         *1) Nitrogen packages NOT FAULT
297         *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
298
```

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```
299         if (O64XA[3].PV)==0 then
300         BLPHSEQ.STATUS[7]=1
301         else
302         BLPHSEQ.STATUS[7]=0
303         end if
304         !if (BLPHSEQ.STATUS[7]==0)   goto INIT
305
306
307         PRS[2]=(O64PT[1].PV*(dscheck(O64PT[1].#PV,"BAD")==0))
308         PRS[3]=(O64PT[2].PV*(dscheck(O64PT[2].#PV,"BAD")==0))
309         if (O64XA[3].PV==0 & (PRS[2]>=4.0 | PRS[3]>=4.0)) then
310         BLPHSEQ.STATUS[8]=1
311         else
312         BLPHSEQ.STATUS[8]=0
313         end if
314
315
316
317         !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is < 20 barg):--------------
318         *1) 25-PT-035
319         *2) 25-PT-037
320         *3) 25-PT-040
321         *4) 25-PT-043
322         *5) 25-PT-046
323         *6) 25-PT-049
324
325         for i=1 to 6
326                    if ((dscheck(O25PT[i].#PV,"BAD")==0) & (O25PT[i].PV<=20.0))   then
327                        BLPHSEQ.STATUS[9]=1
328                    end if
329         next@
330         if         (BLPHSEQ.STATUS[9]==1) & (O25PT[1].PV>20.0) & (O25PT[2].PV>20.0) & (O25PT[3].PV>20.0) & (O25PT[4].PV>20.0)\
331                      & (O25PT[5].PV>20.0) & (O25PT[6].PV>20.0) then
332                     BLPHSEQ.STATUS[9]=0
333         end if
334
335
336
337
338         !-----Fuel Cell package is STOPPED (not in production)-----------------------------------------------------------------------------
339
340         *to be modififed after clarification from YEF.
341         if (SS[1].PV<>100) then
342         BLPHSEQ.STATUS[10]=1
343         else
344         BLPHSEQ.STATUS[10]=0
345         end if
346
347
348         !------------------------Electrolyser NOT FAULT-------------------------------------------------------------------------------------
349         if (O20XA[3].PV==0) then
350         BLPHSEQ.STATUS[11]=1
351         else
352         BLPHSEQ.STATUS[11]=0
353         end if
354
355
356         !------------------------Water system Treatment package NOT FAULT-------------------------------------------------------------------
357         if (O50XA[3].PV==0) then
358         BLPHSEQ.STATUS[12]=1
359         else
360         BLPHSEQ.STATUS[12]=0
361         end if
362
363
364         !------------------------At least one Seawater Pump NOT FAULT-----------------------------------------------------------------------
365         *COMMON FAULT OF SEA WATER INTAKE PUMP TO BE GENERATED
366         !if ((INTSW[1].PV==0 AND SWP[1].MODE="AUT" )| (INTSW[2].PV==0 AND SWP[2].MODE="AUT")) then
367         !BLPHSEQ.STATUS[13]=1
368
369         !else
370         !BLPHSEQ.STATUS[13]=0
371         !end if
372         BLPHSEQ.STATUS[13]=1
373
374         !-----EMCS informs to PCS the "START request for electroliser package"-----------------------------------
375
376         !if (INTSW[7].PV==1)then
377
378         !INTSW[9].PV=1
379
380         !BLPHSEQ.STATUS[14]=1
381
382         !end if
383
384         !----Check any 1 pump is in auto and no fault OR Either of the Pumps running
385
386         !if ((INTSW[1].PV==0 and SWP[1].MODE=="AUT") | (INTSW[2].PV==0 and SWP[2].MODE=="AUT") | ( SWP[1].PV==2  | SWP[2].PV==2)) then
387         !BLPHSEQ .STATUS[15]=1
388         !else
```

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```
389        !BLPHSEQ .STATUS[15]=0
390        !end if
391
392        BLPHSEQ .STATUS[15]=1
393
394        !----PCS commands to start the Water system Treatment package (delay xxx sec) (see. 4.2.4).------------
395
396        !if( FWP[1].PV==2 OR FWP[1].PV==2) then
397        !BLPHSEQ .STATUS[17]=1
398        !else
399        !BLPHSEQ .STATUS[17]=0
400        !end if
401        BLPHSEQ .STATUS[17]=1
402        !-------------------------MODE 0 = IDLE (POWER IMPORT ONLY) START PERMISSIVE-----------------------------------------------
403
404        if  (BLPHSEQ.STATUS[1]==1 & BLPHSEQ.STATUS[2]==1 & BLPHSEQ.STATUS[3]==1 & BLPHSEQ.STATUS[4]==1 & BLPHSEQ.STATUS[5]==1 & BLPHSEQ.ST
           ATUS[6]==1\
405             & BLPHSEQ.STATUS[7]==1 & BLPHSEQ.STATUS[8]==1  & BLPHSEQ.STATUS[10]==1 & BLPHSEQ.STATUS[11]==1 & BLPHSEQ.STATUS[12]==1\
406              & BLPHSEQ.STATUS[15]==1 & BLPHSEQ.STATUS[17]==1)  then
407
408        !-----------Rev02 changes 060225
409        !-----------     & BLPHSEQ.STATUS[13]==1 & BLPHSEQ.STATUS[14]==1 & BLPHSEQ.STATUS[15]==1 & BLPHSEQ.STATUS[16]==1 & BLPHSEQ.STATUS[
           17]==1 & BLPHSEQ.STATUS[18]==1)  then
410        !                   & BLPHSEQ.STATUS[13]==1 & BLPHSEQ.STATUS[14]==1 & BLPHSEQ.STATUS[15]==1 & BLPHSEQ.STATUS[17]==1 ) then
411        BLPHSEQ.STATUS[50]=1
412
413        else
414        BLPHSEQ.STATUS[50]=0
415
416        end if
417
418        !---------------PCS sends to EMCS the “Permissive to start” for Electrolyser package.-----------------------------------------
419        if  (BLPHSEQ.STATUS[50]==1 & BLPHSEQ.STATUS[19]==0) then
420        !PMMODE.MV=2       ! MODBUS SIGNAL TO EMCS
421        INTSW[9].PV=1
422        delay 2000
423
424        [BLPHSEQ.OPMSG[1],BLPHSEQ.OPMSG[2],BLPHSEQ.OPMSG[3],BLPHSEQ.OPMSG[4]="PCS SENDS TO EMC","S THE PERMISSIVE","TO START FOR ELE","CTR
           OLYSER PCKG  "]
425        BLPHSEQ.STATUS[19]=1
426
427        else
428        end if
429
430        wend@
431        TRMNT:
432        TM01.OP=TMSTOP
433        t[1].OP=TMSTOP
434        t[2].OP=TMSTOP
435        TM01.PV=0
436        BLPHSEQ.STATUS[19]=0


Step Number: 3     Comment:SEQ FAIL                                                X:  6  Y: 14

Line Number   SEBOL Program
   001
   002        !------Electrolyser will be stopped by EMCS.------------
   003        INTSW[7].PV=0           !Electroliser stop request
   004
   005        !------PCS will stop the sequence “Process Charging mode” for H2 storage Vessels
   006
   007
   008
   009        !------PCS will stop Water Treatment system-------------
   010
   011
   012
   013
   014
   015
   016        if(ENMODE.PV==1 and BLPHSEQ.STATUS[50]==0)then
   017
   018        !SEND STOP COMMAND TO WTP PACKAGE
   019        INTSW[4].PV=0
   020        INTSW[5].PV=1                   !GROUP STOP COMMAND FO SEA WATER INTAKE PUMP
   021
   022
   023        INTSW[3].PV=0                    !SEND STOP COMMAND TO WTP PACKAGE
   024        INTSW[6].PV=1
   025        wait until (SWP[1].PV==0 & SWP[2].PV==0);TIME 5
   026        INTSW[5].PV=0
   027        wait until (FWP[1].PV==0 & FWP[2].PV==0);TIME 5
   028        INTSW[6].PV=0
   029
   030        Wait until(ENMODE.PV<>1 )
   031        end if
   032
   033        For i=1 to 20
```

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```
034         %.STATUS[i]=0
035         next@
036
037
038         Wait until(ENMODE.PV==1)
```

PROJECT:	BLPH-CW1	FILE NAME:	NONEMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-10-1
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Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
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0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	6	4	INIT				SEBOL				
2	6	7	PROGRAM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
6	5		
6	8		

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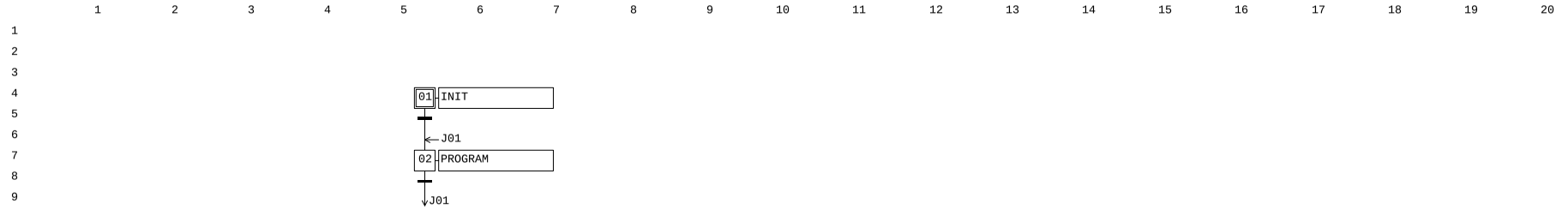
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	NONEMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-10-3
STATION:	FCS0101	SAVED DATE:	7/9/2025 4:15:41 AM	COMMENT:			
SECTION:	NONEMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	NONEMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-10-4
STATION:	FCS0101	SAVED DATE:	7/9/2025 4:15:41 AM	COMMENT:			
SECTION:	NONEMON	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:INIT X: 6 Y: 4

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI          ENMODE,MODE,PMMODE
   025        global             genname        _SFCSW       BLPHSEQ
   026
   027
   028        assign           "87MODE-003"       to       PMMODE
   029        assign           "87MODE-001"       to       ENMODE
   030        assign           "MODE"             to       MODE
   031        assign           "BLPHSEQ"          to       BLPHSEQ
```

Step Number: 2 Comment:PROGRAM X: 6 Y: 7

```
Line Number   SEBOL Program
   001        wait until (ENMODE.PV==0)
   002        *repeat
   003        *if (ENMODE.PV==0) then
   004        *PMMODE.MV=0
   005        *end if
   006        *until (ENMODE.PV<>0)
```

PROJECT:	BLPH-CW1	FILE NAME:	PWROTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-11-1
STATION:	FCS0101	SAVED DATE:	7/10/2025 11:41:37 PM	COMMENT:			
SECTION:	PWROTMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	PWROTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-11-2
STATION:	FCS0101	SAVED DATE:	7/10/2025 11:41:37 PM	COMMENT:			
SECTION:	PWROTMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	7	6	MONITORING				SEBOL				
2	7	9	PROGRAMM				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
7	7		
7	10		

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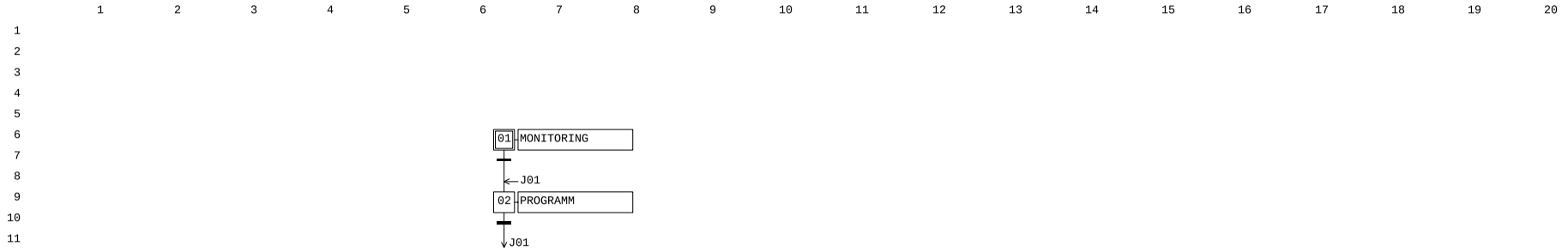
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	PWROTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-11-3
STATION:	FCS0101	SAVED DATE:	7/10/2025 11:41:37 PM	COMMENT:			
SECTION:	PWROTMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	PWROTMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-11-4
STATION:	FCS0101	SAVED DATE:	7/10/2025 11:41:37 PM	COMMENT:			
SECTION:	PWROTMON	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 7 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :E368782Q00-J11DCSE
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 20 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI             MODE,ENMODE,PMMODE
   025
   026        global             genname        _SFCSW          BLPHSEQ
   027
   028        global             genname        TM              TM01
   029
   030
   031        assign           "87MODE-001"         to               ENMODE
   032        assign           "MODE"               to               MODE
   033        assign           "87MODE-003"         to               PMMODE
   034        assign           "BLPHSEQ"            to               BLPHSEQ
   035        assign           "BLPHSEQTM01"        to               TM01
```

Step Number: 2 Comment:PROGRAMM X: 7 Y: 9

```
Line Number   SEBOL Program
   001        !For electrical details about this mode reference shall be made to doc. “EMCS Software Functional Design Specification (FDS-SW)”.
   002        !From process point of view in the “Power Out mode” neither the Electrolyser nor the Fuel cells is required to run. Only vital loa
              ds will remain powered by UPS systems.
   003        !EMCS is informed of ESD-1D activation (refer to doc. “Process Safety Cause & Effect Matrix”).
   004        wait until (ENMODE.PV==8)
   005        TM01.OP=TMSTAT
   006
   007        repeat
   008        PMMODE.MV=8
   009
   010        until (ENMODE.PV<>8 | MODE.PV==8)
   011        If (MODE.PV==8)       PMMODE.MV=0
   012        TM01.OP=TMSTOP
   013        TM01.PV=0
```

PROJECT:	BLPH-CW1	FILE NAME:	RSRGMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-12-1
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:53:13 AM	COMMENT:			
SECTION:	RSRGMON	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	5	6	MONITORING				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	RSRGMON.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-12-3
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:53:13 AM	COMMENT:			
SECTION:	RSRGMON	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2																				
3																				
4																				
5																				
6					01	MONITORING														

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	RSRGMON.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-12-4
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:53:13 AM	COMMENT:			
SECTION:	RSRGMON	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:MONITORING X: 5 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :
   004        * Original Author   : Yokogawa India Limited
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : INITIALIZATION
   008        * Description          : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023                       genname       PBS5C           PB
   024                       genname       PVI            SEQSEL
   025                       genname         MLD-SW        PMMODE
   026                       integer       a
   027
   028
   029        ********************************************************************************
   030        *Assigning Variables
   031        ********************************************************************************
   032        assign           "BLPHSEQPB"        to        PB
   033        assign           "MODE"             to        SEQSEL
   034        assign           "87MODE-003"       to        PMMODE
   035        ********************************************************************************
   036        while(1)
   037        if (SEQSEL.PV==10)                             a=1
   038        if (SEQSEL.PV==10)                             PMMODE.MV=0
   039        if (SEQSEL.PV<>10 & SEQSEL.PV<>9 & %.H2ILK==1)   [a,%.H2ILK=0,0]
   040        if (SEQSEL.PV==10 & a==1)                      %.H2ILK=1
   041        wend@
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQCN.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-13-1
STATION:	FCS0101	SAVED DATE:	7/11/2025 7:19:36 AM	COMMENT:			
SECTION:	SEQCN	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQCN.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-13-2
STATION:	FCS0101	SAVED DATE:	7/11/2025 7:19:36 AM	COMMENT:			
SECTION:	SEQCN	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Phase signal	Description Method	Generic Name	Variable Name	Execution Step	Step Name
1	6	6	CONCURENCY CHECK				SEBOL				

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQCN.edf	SHEET:		YOKOGAWA	PAGE:3-5-1-13-3
STATION:	FCS0101	SAVED DATE:	7/11/2025 7:19:36 AM	COMMENT:			
SECTION:	SEQCN	PRINTED DATE:	9/15/2025	DRAWER:			

SFC

Plane Number: 0 Comment:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2																				
3																				
4																				
5																				
6						01	CONCURENCY CHECK													

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQCN.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-13-4
STATION:	FCS0101	SAVED DATE:	7/11/2025 7:19:36 AM	COMMENT:			
SECTION:	SEQCN	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:CONCURENCY CHECK X: 6 Y: 6

Line Number SEBOL Program

```
001  ********************************************************************************
002  * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
003  * Project Number        :E368782Q00-J11DCSE
004  * Original Author   : Yokogawa India Limited
005  * Original Date     : 20 August 2024
006  * State No             : 1
007  * State Name           : INITIALIZATION
008  * Description          : This phase is for system initialization
009  *
010  ********************************************************************************
011  * Revision History:
012  *
013  * Rev#      Date              Author                          Description
014  * ----     -----           -------               --------------------------
015  * 0.0                                                  Initial Release
016  *
017
018  ********************************************************************************
019  *   Global Declarations
020  ********************************************************************************
021  #include <std.h>
022  *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
023
024                  genname         PVI            MODE              ! ELECTROLISER MODE
025                  genname        _SFCSW          BLPH,BLPH1
026
027  integer a[15],i
028
029  ********************************************************************************
030  *   Assign Variables
031  ********************************************************************************
032  assign           "MODE"              to               MODE
033  assign           "BLPHSEQ"           to               BLPH
034  assign           "SEQPERM16"         to               BLPH1
035
036
037  while(1)
038  if (BLPH.BSTS=="RUN") then
039      if (BLPH.STEPNO==5) then
040         a[1]=5
041        [a[2],a[3],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
042      end if
043      if (a[1]==5 & MODE.PV<>0) then
044          BLPH.BSTS="STOP"
045      end if
046
047      if ((a[2]==0) AND (BLPH.STEPNO==6 | BLPH.STEPNO==22)) then
048         a[2]=6
049        [a[1],a[3],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
050      end if
051      if (a[2]==6 & (MODE.PV<>1 & MODE.PV<>2 & MODE.PV<>3 )) then
052          BLPH.BSTS="STOP"
053      end if
054
055      if ((a[3]==0) AND (BLPH.STEPNO==7 | BLPH.STEPNO==22))  then
056         a[3]=7
057        [a[1],a[2],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
058      end if
059      if (a[3]==7 & ( MODE.PV<>1 & MODE.PV<>2 & MODE.PV<>3 )) then
060          BLPH.BSTS="STOP"
061      end if
062
063      if (BLPH.STEPNO==8) then
064         a[4]=8
065        [a[2],a[3],a[1],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
066      end if
067      if (a[4]==8 & MODE.PV<>4) then
068          BLPH.BSTS="STOP"
069      end if
070
071      if (BLPH.STEPNO==9) then
072         a[5]=9
073        [a[2],a[3],a[1],a[4],a[6],a[7],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
074      end if
075      if (a[5]==9 & MODE.PV<>5 ) then
076          BLPH.BSTS="STOP"
077      end if
078
079      if (BLPH.STEPNO==10) then
080         a[6]=10
081        [a[2],a[3],a[1],a[4],a[5],a[7],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
082      end if
083      if (a[6]==10 & MODE.PV<>6) then
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQCN.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-13-5
STATION:	FCS0101	SAVED DATE:	7/11/2025 7:19:36 AM	COMMENT:			
SECTION:	SEQCN	PRINTED DATE:	9/15/2025	DRAWER:			

```
084                BLPH.BSTS="STOP"
085            end if
086
087            if (BLPH.STEPNO==11 ) then
088               a[7]=11
089              [a[2],a[3],a[1],a[4],a[5],a[6],a[8],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
090            end if
091            if (a[7]==11 & MODE.PV<>7) then
092                BLPH.BSTS="STOP"
093            end if
094
095            if (BLPH.STEPNO==12) then
096               a[8]=12
097              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[9],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
098            end if
099            if (a[8]==12 & MODE.PV<>8) then
100               BLPH.BSTS="STOP"
101            end if
102
103            if (BLPH.STEPNO==13) then
104               a[9]=13
105              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[10],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
106            end if
107            if (a[9]==13 & MODE.PV<>9) then
108               BLPH.BSTS="STOP"
109            end if
110
111            if (BLPH.STEPNO==14) then
112               a[10]=14
113              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[9],a[11],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
114            end if
115            if (a[10]==14 & MODE.PV<>10) then
116               BLPH.BSTS="STOP"
117            end if
118
119            if (BLPH1.STEPNO==3) then
120               a[11]= 3
121              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[12],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
122            end if
123            if (a[11]==3 & MODE.PV<>10) then
124               BLPH1.BSTS="STOP"
125            end if
126
127            if (BLPH1.STEPNO==4) then
128               a[12]= 4
129              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[13],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
130            end if
131            if (a[12]==4 & MODE.PV<>10) then
132               BLPH1.BSTS="STOP"
133            end if
134
135            if (BLPH1.STEPNO==5) then
136               a[13]= 5
137              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[12],a[14],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
138            end if
139            if (a[13]==5 & MODE.PV<>10) then
140               BLPH1.BSTS="STOP"
141            end if
142
143            if (BLPH.STEPNO==24 & MODE.PV==5) then
144               a[14]= 24
145              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[13],a[12],a[15]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
146            end if
147            if (a[14]==24 & MODE.PV<>5) then
148               BLPH.BSTS="STOP"
149            end if
150
151            if (BLPH.STEPNO==24 & MODE.PV==7) then
152               a[15]= 25
153              [a[2],a[3],a[1],a[4],a[5],a[6],a[7],a[8],a[9],a[10],a[11],a[13],a[12],a[14]=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
154            end if
155            if (a[14]==25 & MODE.PV<>7) then
156               BLPH.BSTS="STOP"
157            end if
158
159        end if
160
161
162        if (BLPH.BSTS=="STOP" OR BLPH1.BSTS=="STOP") then
163        for i=1 to 15
164        a[i]=0
165        next@
166        delay 2000
167        BLPH.BSTS="RUN"
168        BLPH1.BSTS="RUN"
169        end if
170
171        wend@
172
173
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQCN.edf	SHEET:		YOKOGAWA	PAGE:3-5 -1-13-6
STATION:	FCS0101	SAVED DATE:	7/11/2025 7:19:36 AM	COMMENT:			
SECTION:	SEQCN	PRINTED DATE:	9/15/2025	DRAWER:			

174
175

PROJECT:	BLPH-CW1	FILE NAME:	IOUnitInfo.l	SHEET:		YOKOGAWA	PAGE:3-6-1-1-1
STATION:	FCS0101	SAVED DATE:	5/1/2025 1:20:12 PM	COMMENT:			
SECTION:	Node Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Node Property: FCS0101

Node Number 1
Type

Type	ESB Bus/Optical ESB Bus
Dual-Redundant Power Supply	YES
Power Supply Unit	80W
Use Optical ESB Bus	No
Component number	
Node comment	

PROJECT:	BLPH-CW1	FILE NAME:	IOMDEF.l	SHEET:		YOKOGAWA	PAGE:3-6-1-2-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:28:42 PM	COMMENT:			
SECTION:	IOM Properties	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Properties:FCS0101

Node: 1 Slot: 1
Type and Position

Category	Analog Input/Output(HART Compliant)
Type	AAI143-H(16-Channel Current Input, Isolated, HART Compliant)
Slot	1
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Command	

Node: 1 Slot: 3
Type and Position

Category	Analog Input/Output(HART Compliant)
Type	AAI143-H(16-Channel Current Input, Isolated, HART Compliant)
Slot	3
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Command	

Node: 1 Slot: 5
Type and Position

Category	Status Input
Type	ADV151-P(32-Channel Status Input)
Slot	5
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Filter Setting	2
Command	

PROJECT:	BLPH-CW1	FILE NAME:	1AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-1-3-1
STATION:	FCS0101	SAVED DATE:	3/22/2025 5:23:37 AM	COMMENT:			
SECTION:	1AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 1 Slot: 1 IOM:AAI143-H

Analog Data

Terminal	Signal	Conversion	Service Comment
%Z011101	Input	Current Input(from HART device)	V-25001A PR CNTRL
%Z011102	Input	Current Input(from HART device)	V-25001B PR CNTRL
%Z011103	Input	Current Input(from HART device)	V-25001C PR CNTRL
%Z011104	Input	Current Input(from HART device)	V-25001D PR CNTRL
%Z011105	Input	Current Input(from HART device)	V-25001E PR CNTRL
%Z011106	Input	Current Input(from HART device)	V-25001F PR CNTRL
%Z011107	Input	Current Input(from HART device)	H2 KO DRUM V-43001 FLW
%Z011108	Input	Current Input(from HART device)	V-25001A POS FB
%Z011109	Input	Current Input(from HART device)	V-25001B POS FB
%Z011110	Input	Current Input(from HART device)	V-25001C POS FB
%Z011111	Input	Current Input(from HART device)	V-25001D POS FB
%Z011112	Input	Current Input(from HART device)	V-25001E POS FB
%Z011113	Input	Current Input(from HART device)	V-25001F POS FB
%Z011114	Input	Current Input(from HART device)	WIRED SPARE
%Z011115	Input	Current Input(from HART device)	WIRED SPARE
%Z011116	Input	Current Input(from HART device)	SPARE

HART Variable

Terminal	Channel	Data	Polling Address	Service Comment
%Z011201	1	Secondary Value + Device Status		
%Z011202	2	Device Status		
%Z011203	3	Device Status		
%Z011204	4	Device Status		
%Z011205	5	Device Status		
%Z011206	6	Device Status		
%Z011207	7	Device Status		
%Z011208	8	Device Status		
%Z011209	9	Device Status		
%Z011210	10	Device Status		
%Z011211	11	Device Status		
%Z011212	12	Device Status		
%Z011213	13	Device Status		
%Z011214	14	Device Status		
%Z011215	15	Device Status		
%Z011216	16	Device Status		
%Z011217				
%Z011218				
%Z011219				
%Z011220				
%Z011221				
%Z011222				
%Z011223				
%Z011224				
%Z011225				
%Z011226				
%Z011227				
%Z011228				
%Z011229				
%Z011230				
%Z011231				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	1AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-1-3-2
STATION:	FCS0101	SAVED DATE:	3/22/2025 5:23:37 AM	COMMENT:			
SECTION:	1AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

Detail definition

Terminal	Detect IOP	IOP detection level		Cold Jct. Comp.	Fallback	Pulse Input	Transmitter Power	Command
%Z011101	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011102	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011103	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011104	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011105	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011106	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011107	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011108	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011109	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011110	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011111	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011112	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011113	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011114	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011115	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z011116	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	3AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-1-4-1
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:56:43 AM	COMMENT:			
SECTION:	3AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 1 Slot: 3 IOM:AAI143-H

Analog Data

Terminal	Signal	Conversion	Service Comment
%Z013101	Input	Current Input(from HART device)	N2 FLW FBTO V-25001A
%Z013102	Input	Current Input(from HART device)	N2 FLW FBTO V-25001B
%Z013103	Input	Current Input(from HART device)	N2 FLW FBTO V-25001C
%Z013104	Input	Current Input(from HART device)	N2 FLW FBTO V-25001D
%Z013105	Input	Current Input(from HART device)	N2 FLW FBTO V-25001E
%Z013106	Input	Current Input(from HART device)	N2 FLW FBTO V-25001F
%Z013107	Input	Current Input(from HART device)	N2 POS FB TOV-25001A
%Z013108	Input	Current Input(from HART device)	N2 POS FB TOV-25001B
%Z013109	Input	Current Input(from HART device)	N2 POS FB TOV-25001C
%Z013110	Input	Current Input(from HART device)	N2 POS FB TOV-25001D
%Z013111	Input	Current Input(from HART device)	N2 POS FB TOV-25001F
%Z013112	Input	Current Input(from HART device)	N2 POS FB TOV-25001E
%Z013113	Input	Current Input(from HART device)	H2 IL HDR PRTO VESSEL
%Z013114	Input	Current Input(from HART device)	WIRED SPARE
%Z013115	Input	Current Input(from HART device)	WIRED SPARE
%Z013116	Input	Current Input(from HART device)	WIRED SPARE

HART Variable

Terminal	Channel	Data	Polling Address	Service Comment
%Z013201	1	Device Status		
%Z013202	2	Device Status		
%Z013203	3	Device Status		
%Z013204	4	Device Status		
%Z013205	5	Device Status		
%Z013206	6	Device Status		
%Z013207	7	Device Status		
%Z013208	8	Device Status		
%Z013209	9	Device Status		
%Z013210	10	Device Status		
%Z013211	11	Device Status		
%Z013212	12	Device Status		
%Z013213	13	Device Status		
%Z013214	14	Device Status		
%Z013215	15	Device Status		
%Z013216	16	Device Status		
%Z013217				
%Z013218				
%Z013219				
%Z013220				
%Z013221				
%Z013222				
%Z013223				
%Z013224				
%Z013225				
%Z013226				
%Z013227				
%Z013228				
%Z013229				
%Z013230				
%Z013231				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	3AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-1-4-2
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:56:43 AM	COMMENT:			
SECTION:	3AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

Detail definition

Terminal	Detect IOP	IOP detection level		Cold Jct. Comp.	Fallback	Pulse Input	Transmitter Power	Command
%Z013101	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013102	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013103	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013104	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013105	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013106	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013107	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013108	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013109	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013110	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013111	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013112	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013113	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013114	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013115	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z013116	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	5ADV151-P.edf	SHEET:		YOKOGAWA	PAGE:3-6-1-5-1
STATION:	FCS0101	SAVED DATE:	9/24/2024 7:34:16 AM	COMMENT:			
SECTION:	5ADV151-P	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 1 Slot: 5 IOM:ADV151-P

Terminal	Signal	Mode	P&ID Tag Name	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2
%Z015101	Input	SI	25ZSL-006	25ZSL-006	H2 OL LS CLSV-25001A	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015102	Input	SI	25ZSH-006	25ZSH-006	H2 OL LS OPNV-25001A	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015103	Input	SI	25ZSL-009	25ZSL-009	V-25001B LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015104	Input	SI	25ZSH-009	25ZSH-009	V-25001B LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015105	Input	SI	25ZSL-012	25ZSL-012	H2 OL LS CLSV-25001C	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015106	Input	SI	25ZSH-012	25ZSH-012	H2 OL LS OPNV-25001C	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015107	Input	SI	25ZSL-015	25ZSL-015	H2 OL LS CLSV-25001D	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015108	Input	SI	25ZSH-015	25ZSH-015	H2 OL LS OPNV-25001D	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015109	Input	SI	25ZSL-018	25ZSL-018	V-25001E LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015110	Input	SI	25ZSH-018	25ZSH-018	V-25001E LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015111	Input	SI	25ZSL-021	25ZSL-021	H2 OL LS CLSV-25001F	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015112	Input	SI	25ZSH-021	25ZSH-021	H2 OL LS OPNV-25001F	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015113	Input	SI	25ZSL-046	25ZSL-046	V-25001E LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015114	Input	SI	25ZSH-046	25ZSH-046	V-25001E LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015115	Input	SI	25ZSL-049	25ZSL-049	V-25001F LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015116	Input	SI	25ZSH-049	25ZSH-049	V-25001F LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015117	Input	SI	25ZSL-040	25ZSL-040	V-25001C LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015118	Input	SI	25ZSH-040	25ZSH-040	V-25001C LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015119	Input	SI	25ZSL-043	25ZSL-043	V-25001D LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015120	Input	SI	25ZSH-043	25ZSH-043	V-25001D LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015121	Input	SI	25ZSL-035	25ZSL-035	V-25001A LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015122	Input	SI	25ZSH-035	25ZSH-035	V-25001A LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015123	Input	SI	25ZSL-037	25ZSL-037	V-25001B LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z015124	Input	SI	25ZSH-037	25ZSH-037	V-25001B LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z015125	Input	SI	WS0101010525	WS0101010525	WIRED SPARE	ON,,OFF,ON	Direct	GR	R
%Z015126	Input	SI	WS0101010526	WS0101010526	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z015127	Input	SI	WS0101010527	WS0101010527	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z015128	Input	SI	WS0101010528	WS0101010528	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z015129	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z015130	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z015131	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z015132	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	IOUnitInfo.l	SHEET:		YOKOGAWA	PAGE:3-6-2-1-1
STATION:	FCS0101	SAVED DATE:	5/1/2025 1:20:12 PM	COMMENT:			
SECTION:	Node Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Node Property: FCS0101

Node Number 2
Type

Type	ESB Bus/Optical ESB Bus
Dual-Redundant Power Supply	YES
Power Supply Unit	80W
Use Optical ESB Bus	No
Component number	
Node comment	

PROJECT:	BLPH-CW1	FILE NAME:	IOMDEF.l	SHEET:		YOKOGAWA	PAGE:3-6-2-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:28:42 PM	COMMENT:			
SECTION:	IOM Properties	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Properties:FCS0101

Node: 2 Slot: 1
Type and Position

Category	Analog Input/Output(HART Compliant)
Type	AAI143-H(16-Channel Current Input, Isolated, HART Compliant)
Slot	1
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Command	

Node: 2 Slot: 3
Type and Position

Category	Analog Input/Output(HART Compliant)
Type	AAI543-H(16-Channel Current Output, Isolated, HART Compliant)
Slot	3
Duplicate Next Card	YES
Output Type	Output in a lump
High Speed Read	NO
IOM Comment	

Set Details

Detect OOP	YES
Fallback Specification	YES
OOP Clear	NO
Command	

Node: 2 Slot: 5
Type and Position

Category	Status Input
Type	ADV151-P(32-Channel Status Input)
Slot	5
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Filter Setting	2
Command	

PROJECT:	BLPH-CW1	FILE NAME:	1AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-2-3-1
STATION:	FCS0101	SAVED DATE:	3/22/2025 4:11:21 AM	COMMENT:			
SECTION:	1AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 2 Slot: 1 IOM:AAI143-H

Analog Data

Terminal	Signal	Conversion	Service Comment
%Z021101	Input	Current Input(from HART device)	H2 OL HDR PRCNTRL FB
%Z021102	Input	Current Input(from HART device)	H2 OL HDR PRPOS FB
%Z021103	Input	Current Input(from HART device)	KO DRUM PR V-43001
%Z021104	Input	Current Input(from HART device)	WIRED SPARE
%Z021105	Input	Current Input(from HART device)	H2 VENT LVL LO Q-43004
%Z021106	Input	Current Input(from HART device)	N2 PR CNTRL TO DISTB HDR
%Z021107	Input	Current Input(from HART device)	N2 PR CNTRL TO DISTB HDR
%Z021108	Input	Current Input(from HART device)	WIRED SPARE
%Z021109	Input	Current Input(from HART device)	SPARE
%Z021110	Input	Current Input(from HART device)	SPARE
%Z021111	Input	Current Input(from HART device)	SPARE
%Z021112	Input	Current Input(from HART device)	SPARE
%Z021113	Input	Current Input(from HART device)	SPARE
%Z021114	Input	Current Input(from HART device)	SPARE
%Z021115	Input	Current Input(from HART device)	SPARE
%Z021116	Input	Current Input(from HART device)	SPARE

HART Variable

Terminal	Channel	Data	Polling Address	Service Comment
%Z021201	1	Device Status		
%Z021202	2	Device Status		
%Z021203	3	Device Status		
%Z021204	4	Device Status		
%Z021205	5	Device Status		
%Z021206	6	Device Status		
%Z021207	7	Device Status		
%Z021208	8	Device Status		
%Z021209	9	Device Status		
%Z021210	10	Device Status		
%Z021211	11	Device Status		
%Z021212	12	Device Status		
%Z021213	13	Device Status		
%Z021214	14	Device Status		
%Z021215	15	Device Status		
%Z021216	16	Device Status		
%Z021217				
%Z021218				
%Z021219				
%Z021220				
%Z021221				
%Z021222				
%Z021223				
%Z021224				
%Z021225				
%Z021226				
%Z021227				
%Z021228				
%Z021229				
%Z021230				
%Z021231				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	1AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-2-3-2
STATION:	FCS0101	SAVED DATE:	3/22/2025 4:11:21 AM	COMMENT:			
SECTION:	1AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

Detail definition

Terminal	Detect IOP	IOP detection level		Cold Jct. Comp.	Fallback	Pulse Input	Transmitter Power	Command
%Z021101	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021102	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021103	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021104	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021105	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021106	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021107	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021108	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021109	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021110	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021111	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021112	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021113	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021114	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021115	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z021116	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	3AAI543-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-2-4-1
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:55:20 AM	COMMENT:			
SECTION:	3AAI543-H	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 2 Slot: 3 IOM:AAI543-H

Analog Data

Terminal	Signal	Conversion	Service Comment
%Z023101	Output	Current Output(to HART device)	H2 OL HDR PRCNTRL CMD
%Z023102	Output	Current Output(to HART device)	N2 PR CNTRL CMD TO HDR
%Z023103	Output	Current Output(to HART device)	V-25001A PR CNTRL CMD
%Z023104	Output	Current Output(to HART device)	V-25001B PR CNTRL CMD
%Z023105	Output	Current Output(to HART device)	V-25001C PR CNTRL CMD
%Z023106	Output	Current Output(to HART device)	V-25001D PR CNTRL CMD
%Z023107	Output	Current Output(to HART device)	V-25001E PR CNTRL CMD
%Z023108	Output	Current Output(to HART device)	V-25001F PR CNTRL CMD
%Z023109	Output	Current Output(to HART device)	SPARE
%Z023110	Output	Current Output(to HART device)	SPARE
%Z023111	Output	Current Output(to HART device)	SPARE
%Z023112	Output	Current Output(to HART device)	SPARE
%Z023113	Output	Current Output(to HART device)	SPARE
%Z023114	Output	Current Output(to HART device)	SPARE
%Z023115	Output	Current Output(to HART device)	SPARE
%Z023116	Output	Current Output(to HART device)	SPARE

HART Variable

Terminal	Channel	Data	Polling Address	Service Comment
%Z023201	1	Device Status		
%Z023202	2	Device Status		
%Z023203	3	Device Status		
%Z023204	4	Device Status		
%Z023205	5	Device Status		
%Z023206	6	Device Status		
%Z023207	7	Device Status		
%Z023208	8	Device Status		
%Z023209	9	Device Status		
%Z023210	10	Device Status		
%Z023211	11	Device Status		
%Z023212	12	Device Status		
%Z023213	13	Device Status		
%Z023214	14	Device Status		
%Z023215	15	Device Status		
%Z023216	16	Device Status		
%Z023217				
%Z023218				
%Z023219				
%Z023220				
%Z023221				
%Z023222				
%Z023223				
%Z023224				
%Z023225				
%Z023226				
%Z023227				
%Z023228				
%Z023229				
%Z023230				
%Z023231				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	3AAI543-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-2-4-2
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:55:20 AM	COMMENT:			
SECTION:	3AAI543-H	PRINTED DATE:	9/15/2025	DRAWER:			

Detail definition

Terminal	Detect IOP	IOP detection level		Cold Jct. Comp.	Fallback	Pulse Input	Transmitter Power	Command
%Z023101	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023102	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023103	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023104	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023105	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023106	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023107	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023108	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023109	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023110	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023111	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023112	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023113	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023114	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023115	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z023116	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	5ADV151-P.edf	SHEET:		YOKOGAWA	PAGE:3-6-2-5-1
STATION:	FCS0101	SAVED DATE:	11/21/2024 1:36:08 AM	COMMENT:			
SECTION:	5ADV151-P	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 2 Slot: 5 IOM:ADV151-P

Terminal	Signal	Mode	P&ID Tag Name	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2
%Z025101	Input	SI	25ZSL-055A	25ZSL-055A	H2 OL HDR PRLS CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025102	Input	SI	25ZSH-055A	25ZSH-055A	H2 OL HDR PRLS OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025103	Input	SI	64ZSL-031A	64ZSL-031A	N2 LS CLSPR CTRL TO HDR	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025104	Input	SI	64ZSH-031A	64ZSH-031A	N2 LS OPNPR CTRL TO HDR	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025105	Input	SI	80ZSL-001	80ZSL-001	H2 STOR LS CLS A-80000	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025106	Input	SI	80ZSH-001	80ZSH-001	H2 STOR LS OPN A-80000	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025107	Input	SI	25ZSL-004	25ZSL-004	V-25001A LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025108	Input	SI	25ZSH-004	25ZSH-004	V-25001A LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025109	Input	SI	25ZSL-008	25ZSL-008	H2 IL LS CLSV-25001B	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025110	Input	SI	25ZSH-008	25ZSH-008	H2 IL LS OPNV-25001B	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025111	Input	SI	25ZSL-011	25ZSL-011	H2 IL LS CLSV-25001C	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025112	Input	SI	25ZSH-011	25ZSH-011	H2 IL LS OPNV-25001C	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025113	Input	SI	25ZSL-014	25ZSL-014	V-25001D LS CLS PR CTRL	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025114	Input	SI	25ZSH-014	25ZSH-014	V-25001D LS OPN PR CTRL	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025115	Input	SI	25ZSL-017	25ZSL-017	H2 IL LS CLSV-25001E	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025116	Input	SI	25ZSH-017	25ZSH-017	H2 IL LS OPNV-25001E	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025117	Input	SI	25ZSL-020	25ZSL-020	H2 IL LS CLSV-25001F	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025118	Input	SI	25ZSH-020	25ZSH-020	H2 IL LS OPNV-25001F	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025119	Input	SI	25ZSL-031	25ZSL-031	N2 LS CLSTO V-25001A	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025120	Input	SI	25ZSH-031	25ZSH-031	N2 LS OPNTO V-25001A	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025121	Input	SI	25ZSL-032	25ZSL-032	N2 LS CLSTO V-25001B	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025122	Input	SI	25ZSH-032	25ZSH-032	N2 LS OPNTO V-25001B	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025123	Input	SI	25ZSL-033	25ZSL-033	N2 LS CLSTO V-25001C	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025124	Input	SI	25ZSH-033	25ZSH-033	N2 LS OPNTO V-25001C	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025125	Input	SI	25ZSL-034	25ZSL-034	N2 LS CLSTO V-25001D	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z025126	Input	SI	25ZSH-034	25ZSH-034	N2 LS OPNTO V-25001D	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z025127	Input	SI	WS0101020527	WS0101020527	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z025128	Input	SI	WS0101020528	WS0101020528	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z025129	Input	SI	WS0101020529	WS0101020529	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z025130	Input	SI	WS0101020530	WS0101020530	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z025131	Input	SI	SPARE		spare	ON,,OFF,ON	Direct	G	GR
%Z025132	Input	SI	SPARE		spare	ON,,OFF,ON	Direct	G	GR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	IOUnitInfo.l	SHEET:		YOKOGAWA	PAGE:3-6-3-1-1
STATION:	FCS0101	SAVED DATE:	5/1/2025 1:20:12 PM	COMMENT:			
SECTION:	Node Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Node Property: FCS0101

Node Number 3
Type

Type	ESB Bus/Optical ESB Bus
Dual-Redundant Power Supply	YES
Power Supply Unit	80W
Use Optical ESB Bus	No
Component number	
Node comment	

PROJECT:	BLPH-CW1	FILE NAME:	IOMDEF.l	SHEET:		YOKOGAWA	PAGE:3-6-3-2-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:28:42 PM	COMMENT:			
SECTION:	IOM Properties	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Properties:FCS0101

Node: 3 Slot: 1
Type and Position

Category	Analog Input/Output(HART Compliant)
Type	AAI143-H(16-Channel Current Input, Isolated, HART Compliant)
Slot	1
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Command	

Node: 3 Slot: 3
Type and Position

Category	Analog Input/Output(HART Compliant)
Type	AAI543-H(16-Channel Current Output, Isolated, HART Compliant)
Slot	3
Duplicate Next Card	YES
Output Type	Output in a lump
High Speed Read	NO
IOM Comment	

Set Details

Detect OOP	YES
Fallback Specification	YES
OOP Clear	NO
Command	

Node: 3 Slot: 5
Type and Position

Category	Status Input
Type	ADV151-P(32-Channel Status Input)
Slot	5
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Filter Setting	2
Command	

Node: 3 Slot: 7
Type and Position

Category	Ethernet Communication
Type	ALE111(Ethernet Communication)
Slot	7
High Speed Read	NO
IOM Comment	LVSWGR

Set Details

PROJECT:	BLPH-CW1	FILE NAME:	IOMDEF.l	SHEET:		YOKOGAWA	PAGE:3-6-3-2-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:28:42 PM	COMMENT:			
SECTION:	IOM Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Connected Device Name	FMODBUS
IP Address	10.230.162.193
Subnet Mask	255.255.255.248
Default Gateway	10.230.162.198
Response Timeout	5
Number of Retries Upon Response Timeout	10
Recovery Communication Time Interval	30
Option 1	502
Option 2	
Option 3	
Option 4	
Command	

PROJECT:	BLPH-CW1	FILE NAME:	1AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-3-3-1
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:57:00 AM	COMMENT:			
SECTION:	1AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 3 Slot: 1 IOM:AAI143-H

Analog Data

Terminal	Signal	Conversion	Service Comment
%Z031101	Input	Current Input(from HART device)	H2 OL HDR PRCNTRL FB
%Z031102	Input	Current Input(from HART device)	H2 OL HDR PRPOS FB
%Z031103	Input	Current Input(from HART device)	PMP P-50001ASEA WTR PR
%Z031104	Input	Current Input(from HART device)	PMP P-50001BSEA WTR PR
%Z031105	Input	Current Input(from HART device)	N2 PR CNTRL TO DISTB HDR
%Z031106	Input	Current Input(from HART device)	N2 PR CNTRL TO DISTB HDR
%Z031107	Input	Current Input(from HART device)	TMP FRM PMP P-50001A/B
%Z031108	Input	Current Input(from HART device)	WTR HDR TEMPTO B-50014
%Z031109	Input	Current Input(from HART device)	WTR HDR PR TO B-50014
%Z031110	Input	Current Input(from HART device)	VESSEL LVL T-5501
%Z031111	Input	Current Input(from HART device)	INST AIR TO DISTB HDR
%Z031112	Input	Current Input(from HART device)	WIRED SPARE
%Z031113	Input	Current Input(from HART device)	WIRED SPARE
%Z031114	Input	Current Input(from HART device)	SPARE
%Z031115	Input	Current Input(from HART device)	SPARE
%Z031116	Input	Current Input(from HART device)	SPARE

HART Variable

Terminal	Channel	Data	Polling Address	Service Comment
%Z031201	1	Device Status		
%Z031202	2	Device Status		
%Z031203	3	Device Status		
%Z031204	4	Device Status		
%Z031205	5	Device Status		
%Z031206	6	Device Status		
%Z031207	7	Device Status		
%Z031208	8	Device Status		
%Z031209	9	Device Status		
%Z031210	10	Device Status		
%Z031211	11	Device Status		
%Z031212	12	Device Status		
%Z031213	13	Device Status		
%Z031214	14	Device Status		
%Z031215	15	Device Status		
%Z031216	16	Device Status		
%Z031217				
%Z031218				
%Z031219				
%Z031220				
%Z031221				
%Z031222				
%Z031223				
%Z031224				
%Z031225				
%Z031226				
%Z031227				
%Z031228				
%Z031229				
%Z031230				
%Z031231				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	1AAI143-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-3-3-2
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:57:00 AM	COMMENT:			
SECTION:	1AAI143-H	PRINTED DATE:	9/15/2025	DRAWER:			

Detail definition

Terminal	Detect IOP	IOP detection level		Cold Jct. Comp.	Fallback	Pulse Input	Transmitter Power	Command
%Z031101	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031102	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031103	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031104	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031105	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031106	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031107	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031108	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031109	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031110	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031111	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031112	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031113	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031114	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031115	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z031116	YES	106.3	-6.3	NO	Maintain Current Value	NO	12	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	3AAI543-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-3-4-1
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:57:47 AM	COMMENT:			
SECTION:	3AAI543-H	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 3 Slot: 3 IOM:AAI543-H

Analog Data

Terminal	Signal	Conversion	Service Comment
%Z033101	Output	Current Output(to HART device)	H2 CMD FRM OL HDR PR
%Z033102	Output	Current Output(to HART device)	N2 PR CNTRL CMD TO HDR
%Z033103	Output	Current Output(to HART device)	N2 CMD TO V-25001A
%Z033104	Output	Current Output(to HART device)	N2 CMD TO V-25001B
%Z033105	Output	Current Output(to HART device)	N2 CMD TO V-25001C
%Z033106	Output	Current Output(to HART device)	N2 CMD TO V-25001E
%Z033107	Output	Current Output(to HART device)	N2 CMD TO V-25001F
%Z033108	Output	Current Output(to HART device)	N2 CMD TO V-25001D
%Z033109	Output	Current Output(to HART device)	WIRED SPARE
%Z033110	Output	Current Output(to HART device)	WIRED SPARE
%Z033111	Output	Current Output(to HART device)	SPARE
%Z033112	Output	Current Output(to HART device)	SPARE
%Z033113	Output	Current Output(to HART device)	SPARE
%Z033114	Output	Current Output(to HART device)	SPARE
%Z033115	Output	Current Output(to HART device)	SPARE
%Z033116	Output	Current Output(to HART device)	SPARE

HART Variable

Terminal	Channel	Data	Polling Address	Service Comment
%Z033201	1	Device Status		
%Z033202	2	Device Status		
%Z033203	3	Device Status		
%Z033204	4	Device Status		
%Z033205	5	Device Status		
%Z033206	6	Device Status		
%Z033207	7	Device Status		
%Z033208	8	Device Status		
%Z033209	9	Device Status		
%Z033210	10	Device Status		
%Z033211	11	Device Status		
%Z033212	12	Device Status		
%Z033213	13	Device Status		
%Z033214	14	Device Status		
%Z033215	15	Device Status		
%Z033216	16	Device Status		
%Z033217				
%Z033218				
%Z033219				
%Z033220				
%Z033221				
%Z033222				
%Z033223				
%Z033224				
%Z033225				
%Z033226				
%Z033227				
%Z033228				
%Z033229				
%Z033230				
%Z033231				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	3AAI543-H.edf	SHEET:		YOKOGAWA	PAGE:3-6-3-4-2
STATION:	FCS0101	SAVED DATE:	3/22/2025 3:57:47 AM	COMMENT:			
SECTION:	3AAI543-H	PRINTED DATE:	9/15/2025	DRAWER:			

Detail definition

Terminal	Detect IOP	IOP detection level		Cold Jct. Comp.	Fallback	Pulse Input	Transmitter Power	Command
%Z033101	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033102	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033103	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033104	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033105	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033106	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033107	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033108	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033109	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033110	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033111	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033112	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033113	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033114	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033115	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	
%Z033116	NO	106.3	-6.3	NO	Maintain Current Value	NO	12	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	5ADV151-P.edf	SHEET:		YOKOGAWA	PAGE:3-6-3-5-1
STATION:	FCS0101	SAVED DATE:	10/17/2024 1:27:01 AM	COMMENT:			
SECTION:	5ADV151-P	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 3 Slot: 5 IOM:ADV151-P

Terminal	Signal	Mode	P&ID Tag Name	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2
%Z035101	Input	SI	25ZSL-055B	25ZSL-055B	H2 OL HDR PRLS CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035102	Input	SI	25ZSH-055B	25ZSH-055B	H2 OL HDR PRLS OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035103	Input	SI	64ZSL-031B	64ZSL-031B	N2 LS CLSPR CTRL TO HDR	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035104	Input	SI	64ZSH-031B	64ZSH-031B	N2 LS OPNPR CTRL TO HDR	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035105	Input	SI	25ZSL-036	25ZSL-036	N2 LS CLSTO V-25001F	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035106	Input	SI	25ZSH-036	25ZSH-036	N2 LS OPNTO V-25001F	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035107	Input	SI	25ZSL-038	25ZSL-038	N2 LS CLSTO V-25001E	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035108	Input	SI	25ZSH-038	25ZSH-038	N2 LS OPNTO V-25001E	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035109	Input	SI	25ZSL-024	25ZSL-024	H2 TO IL HDR LS CLS VS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035110	Input	SI	25ZSH-024	25ZSH-024	H2 TO IL HDR LS OPN VS	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035111	Input	SI	50ZSL-001	50ZSL-001	LS CLSPMP P-50001A	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035112	Input	SI	50ZSH-001	50ZSH-001	LS OPNPMP P-50001A	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035113	Input	SI	50ZSL-002	50ZSL-002	LS CLSPMP P-50001A	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035114	Input	SI	50ZSH-002	50ZSH-002	LS OPNPMP P-50001A	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035115	Input	SI	50ZSL-003	50ZSL-003	PMP P-50001BWTR LS CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035116	Input	SI	50ZSH-003	50ZSH-003	PMP P-50001BWTR LS OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035117	Input	SI	50ZSL-004	50ZSL-004	LS CLSPMP P-50001B	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035118	Input	SI	50ZSH-004	50ZSH-004	LS OPNPMP P-50001B	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035119	Input	SI	WS0101030519	WS0101030519	WIRED SPARE	ON,,OFF,ON	Direct	R	GR
%Z035120	Input	SI	WS0101030520	WS0101030520	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z035121	Input	SI	WS0101030521	WS0101030521	WIRED SPARE	ON,,OFF,ON	Direct	R	GR
%Z035122	Input	SI	WS0101030522	WS0101030522	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z035123	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	GR
%Z035124	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z035125	Input	SI	50-ZSL-005	50ZSL-005	50-ZSL-005	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR
%Z035126	Input	SI	50-ZSH-005	50ZSH-005	50-ZSH-005	OPENED,,N_OPENED,OPENED	Direct	G	GR
%Z035127	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	GR
%Z035128	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z035129	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z035130	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	GR
%Z035131	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	G	GR
%Z035132	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	GR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	IOUnitInfo.l	SHEET:		YOKOGAWA	PAGE:3-6-4-1-1
STATION:	FCS0101	SAVED DATE:	5/1/2025 1:20:12 PM	COMMENT:			
SECTION:	Node Properties	PRINTED DATE:	9/15/2025	DRAWER:			

Node Property: FCS0101

Node Number 4
Type

Type	ESB Bus/Optical ESB Bus
Dual-Redundant Power Supply	YES
Power Supply Unit	80W
Use Optical ESB Bus	No
Component number	
Node comment	

PROJECT:	BLPH-CW1	FILE NAME:	IOMDEF.l	SHEET:		YOKOGAWA	PAGE:3-6 -4-2-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:28:42 PM	COMMENT:			
SECTION:	IOM Properties	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Properties:FCS0101

Node: 4 Slot: 1
Type and Position

Category	Ethernet Communication
Type	ALE111(Ethernet Communication)
Slot	1
High Speed Read	NO
IOM Comment	PAS/FGS UPS-A,EMCS

Set Details

Connected Device Name	FMODBUS
IP Address	10.230.162.201
Subnet Mask	255.255.255.248
Default Gateway	10.230.162.206
Response Timeout	3
Number of Retries Upon Response Timeout	4
Recovery Communication Time Interval	60
Option 1	
Option 2	
Option 3	
Option 4	
Command	

Node: 4 Slot: 2
Type and Position

Category	Ethernet Communication
Type	ALE111(Ethernet Communication)
Slot	2
High Speed Read	NO
IOM Comment	PAS/FGS UPS-B, EMCS

Set Details

Connected Device Name	FMODBUS
IP Address	10.230.162.225
Subnet Mask	255.255.255.248
Default Gateway	10.230.162.230
Response Timeout	4
Number of Retries Upon Response Timeout	1
Recovery Communication Time Interval	60
Option 1	502
Option 2	
Option 3	
Option 4	
Command	

Node: 4 Slot: 3
Type and Position

Category	Ethernet Communication
Type	ALE111(Ethernet Communication)
Slot	3
High Speed Read	NO
IOM Comment	WTP,HVAC

Set Details

Connected Device Name	FMODBUS

IP Address	10.230.162.217
Subnet Mask	255.255.255.248
Default Gateway	10.230.162.222
Response Timeout	4
Number of Retries Upon Response Timeout	1
Recovery Communication Time Interval	30
Option 1	502
Option 2	
Option 3	
Option 4	
Command	

Node: 4 Slot: 4
Type and Position

Category	PROFINET Communication
Type	A2LP131(PROFINET Communication)
Slot	4
High Speed Read	NO
IOM Comment	IA_N2

Set Details

Device Tag	controller
IP Address	192.168.90.3
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Port Setting	AUTO
Perform Fallback	YES
All points maintain current value	YES
Command	

Node: 4 Slot: 5
Type and Position

Category	Status Input
Type	ADV151-P(32-Channel Status Input)
Slot	5
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Filter Setting	2
Command	

Node: 4 Slot: 7
Type and Position

Category	Status Output
Type	ADV551-P(32-Channel Status Output)
Slot	7
Duplicate Next Card	YES
High Speed Read	NO
IOM Comment	

Set Details

Perform fallback	YES
All points maintain current value	YES
Command	

PROJECT:	BLPH-CW1	FILE NAME:	5ADV151-P.edf	SHEET:		YOKOGAWA	PAGE:3-6-4-3-1
STATION:	FCS0101	SAVED DATE:	3/7/2025 7:58:49 AM	COMMENT:			
SECTION:	5ADV151-P	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 4 Slot: 5 IOM:ADV151-P

Terminal	Signal	Mode	P&ID Tag Name	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2
%Z045101	Input	SI	-	B100TDC-001	B100 HV/MV PRIM DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045102	Input	SI	-	B100TDC-002	B100 HV/MV RM EMERDO	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045103	Input	SI	-	B100TIR-001	B100 HV/MV RM DR OPN	ON,,OFF,ON	Direct	R	G
%Z045104	Input	SI	-	B200TDC-001	B200 LV SWGRPRIM DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045105	Input	SI	-	B200TDC-002	B200 LV SWGREMER DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045106	Input	SI	-	B200TIR-001	B200 HV/MV SWGR RPDO	ON,,OFF,ON	Direct	R	G
%Z045107	Input	SI	-	B300TDC-001	B300 UPS RM DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045108	Input	SI	-	B300TDC-002	B300 UPS RM DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045109	Input	SI	-	B300TIR-001	B300 UPS RM MOTN DETECT	ON,,OFF,ON	Direct	R	G
%Z045110	Input	SI	-	B400TDC-001	B400 ITER DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045111	Input	SI	-	B400TDC-002	B400 ITER EMER DR OPN	OPEN,,CLOSE,OPEN	Reverse	R	G
%Z045112	Input	SI	-	B400TIR-001	B400 ITER MOTN DETECT	ON,,OFF,ON	Direct	R	G
%Z045113	Input	SI	WS0101040513	WS0101040513	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z045114	Input	SI	WS0101040514	WS0101040514	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z045115	Input	SI	WS0101040515	WS0101040515	WIRED SPARE	ON,,OFF,ON	Direct	G	GR
%Z045116	Input	SI	87-XA-051	87XA-051	PCS PNL VENTFAN FLT	ALARM,,NORMAL,ALARM	Reverse	G	R
%Z045117	Input	SI	87-XA-052	87XA-052	PCS PNL PSDIODE FAIL	ALARM,,NORMAL,ALARM	Reverse	G	R
%Z045118	Input	SI	87-XA-053	87XA-053	PCS PNL CUMLBRK FLT	ALARM,,NORMAL,ALARM	Reverse	G	R
%Z045119	Input	SI	87-XA-054	87XA-054	PCS PNL HI TEMP ALM	ALARM,,NORMAL,ALARM	Reverse	G	R
%Z045120	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	G
%Z045121	Input	SI	SPARE	87XA-061	NET PANEL VENT FAN ALARM	ON,,OFF,ON	Direct	R	G
%Z045122	Input	SI	SPARE	87XA-062	NET POWER DIODE FAULT	ON,,OFF,ON	Direct	R	G
%Z045123	Input	SI	SPARE	87XA-063	NET CUMUL BREAKER FAULT	ON,,OFF,ON	Direct	R	G
%Z045124	Input	SI	SPARE	87XA-064	NET HIGH TEMP ALARM	ON,,OFF,ON	Direct	R	G
%Z045125	Input	SI	SPARE	87XA-073	SERV PANEL BREAKER FAIL	ON,,OFF,ON	Direct	R	G
%Z045126	Input	SI	WS0101040526		WIRED SPARE	ON,,OFF,ON	Direct	R	G
%Z045127	Input	SI	SPARE		WIRED SPARE	ON,,OFF,ON	Direct	R	G
%Z045128	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	G
%Z045129	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	G
%Z045130	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	G
%Z045131	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	G
%Z045132	Input	SI	SPARE		SPARE	ON,,OFF,ON	Direct	R	G

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	7ADV551-P.edf	SHEET:		YOKOGAWA	PAGE:3-6-4-4-1
STATION:	FCS0101	SAVED DATE:	7/17/2025 12:18:05 AM	COMMENT:			
SECTION:	7ADV551-P	PRINTED DATE:	9/15/2025	DRAWER:			

IOM Builder

Line: 1 Node: 4 Slot: 7 IOM:ADV551-P

Terminal	Signal	Mode	P&ID Tag Name	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2
%Z047101	Output	SO	25XY-006	25XY-006	V-25001A CMDH2 OL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047102	Output	SO	25XY-009	25XY-009	V-25001B CMDH2 OL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047103	Output	SO	25XY-012	25XY-012	V-25001C CMDH2 OL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047104	Output	SO	25XY-015	25XY-015	V-25001D CMDH2 OL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047105	Output	SO	25XY-018	25XY-018	V-25001E CMDH2 OL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047106	Output	SO	25XY-021	25XY-021	V-25001F CMDH2 OL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047107	Output	SO	25XY-004	25XY-004	V-25001A CMDH2 IL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047108	Output	SO	25XY-008	25XY-008	V-25001B CMDH2 IL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047109	Output	SO	25XY-011	25XY-011	V-25001C CMDH2 IL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047110	Output	SO	25XY-014	25XY-014	V-25001D CMDH2 IL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047111	Output	SO	25XY-017	25XY-017	V-25001E CMDH2 IL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047112	Output	SO	25XY-020	25XY-020	V-25001F CMDH2 IL	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047113	Output	SO	SPARE		SPARE	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047114	Output	SO	50XY-001	50XY-001	PMP P-50001A CMD	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047115	Output	SO	50XY-002	50XY-002	PMP P-50001A CMD	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047116	Output	SO	50XY-003	50XY-003	PMP P-50001B CMD	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047117	Output	SO	50XY-004	50XY-004	PMP P-50001B CMD	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047118	Output	SO	80XY-001	80XY-001	H2 CMD TO A-80000 PVS	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047119	Output	SO	WS0101040719	WS0101040719	WIRED SPARE	ON,,OFF,ON	Direct	G	R
%Z047120	Output	SO	WS0101040720	WS0101040720	WIRED SPARE	ON,,OFF,ON	Direct	G	R
%Z047121	Output	SO	WS0101040721	WS0101040721	WIRED SPARE	ON,,OFF,ON	Direct	G	R
%Z047122	Output	SO	WS0101040722	WS0101040722	WIRED SPARE	ON,,OFF,ON	Direct	G	R
%Z047123	Output	SO	25XY-024	25XY-024	H2 CMD IL HDR VS	OPEN,,CLOSE,OPEN	Direct	G	R
%Z047124	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047125	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047126	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047127	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047128	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047129	Output	SO	50-XY-005	50XY-005	50-XY-005	OPEN,,CLOSE,OPEN	Reverse	G	R
%Z047130	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047131	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R
%Z047132	Output	SO	SPARE		SPARE	ON,,OFF,ON	Direct	G	R

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-1
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Communication I/O Builder

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0001	980	K1-4-1FMODBUS	38	1	10.230.162.242	1	A40002	Input(Discrete)	Bits	Normal		
%WW0002	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0003	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0004	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0005	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0006	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0007	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0008	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0009	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0010	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0011	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0012	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0013	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0014	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0015	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0016	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								
%WW0017	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*	*	
	*			*								

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-2
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW0018												
%WW0019												
%WW0020												
%WW0021												
%WW0022												
%WW0023												
%WW0024												
%WW0025												
%WW0026												
%WW0027												
%WW0028												
%WW0029												
%WW0030												
%WW0031												
%WW0032												
%WW0033												
%WW0034												
%WW0035												

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW0036	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0037	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0038	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0039	*	*	13	1	10.230.162.242	1	A40039	Input(16-Bit Signed)	No	Normal	RectMainsFreq.	
%WW0040	*	*	*	*	*	*	*	*	*	*	RectMainsVoltL1	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0041	*	*	*	*	*	*	*	*	*	*	RectMainsVoltL2	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0042	*	*	*	*	*	*	*	*	*	*	RectMainsVoltL3	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0043	*	*	*	*	*	*	*	*	*	*	SBSMainsFreq.	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0044	*	*	*	*	*	*	*	*	*	*	SBSMainsVoltL1	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0045	*	*	*	*	*	*	*	*	*	*	SBSMainsVoltL2	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0046	*	*	*	*	*	*	*	*	*	*	SBSMainsVoltL3	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0047	*	*	*	*	*	*	*	*	*	*	BatteryVoltage	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0048	*	*	*	*	*	*	*	*	*	*	BatteryCurrent	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0049	*	*	*	*	*	*	*	*	*	*	AutonomyTime	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0050	*	*	*	*	*	*	*	*	*	*	BatteryCapacity	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0051	*	*	*	*	*	*	*	*	*	*	BatteryTemperature	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0052	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW0053	*	*	13	1	10.230.162.242	1	A40052	Input(16-Bit Signed)	No	Normal	Output Freq	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-4
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0054	*	*	*	*	*	*	*	*	*	*	Output VoltageL1	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0055	*	*	*	*	*	*	*	*	*	*	Output Load L1	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0056	*	*	*	*	*	*	*	*	*	*	Output Current L1	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0057	*	*	*	*	*	*	*	*	*	*	Output Power L1	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0058	*	*	*	*	*	*	*	*	*	*	Output Voltage L2	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0059	*	*	*	*	*	*	*	*	*	*	Output Load L2	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0060	*	*	*	*	*	*	*	*	*	*	Output Current L2	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0061	*	*	*	*	*	*	*	*	*	*	Output Power L2	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0062	*	*	*	*	*	*	*	*	*	*	Output Voltage L3	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0063	*	*	*	*	*	*	*	*	*	*	Output Load L3	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0064	*	*	*	*	*	*	*	*	*	*	Output Current L3	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0065	*	*	*	*	*	*	*	*	*	*	Output Power L3	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0066	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0067	*	*	22	1	10.230.162.242	1	A40065	Input(Discrete)	Bits	Normal	LifeCheck	
%WW0068	*	*	*	*	*	*	*	*	*	*	Userdef_AUX1 - Rect.	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0069	*	*	*	*	*	*	*	*	*	*	Userdef_AUX2 - Rect.	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0070	*	*	*	*	*	*	*	*	*	*	Userdef_AUX3 - Rect.	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0071	*	*	*	*	*	*	*	*	*	*	Userdef_AUX4 - Rect.	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-5
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0072	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX5 - Rect.	* *
%WW0073	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX6 - Rect.	* *
%WW0074	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX7- Rect.	* *
%WW0075	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX1 - Inv.	* *
%WW0076	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX2 - Inv.	* *
%WW0077	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX3 - Inv.	* *
%WW0078	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX4 - Inv.	* *
%WW0079	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX5 - Inv.	* *
%WW0080	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX6 - Inv.	* *
%WW0081	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX7 - Inv.	* *
%WW0082	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX1 - SBS	* *
%WW0083	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX2 - SBS	* *
%WW0084	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX3 - SBS	* *
%WW0085	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX4 - SBS	* *
%WW0086	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX5 - SBS	* *
%WW0087	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX6 - SBS	* *
%WW0088	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX7 - SBS	* *
%WW0089	* *	* *	8	1	10.230.162.242	1	A40150	Input(16-Bit Signed)	No	Normal Year (20xx)		

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PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-6
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0090	*	*	*	*	*	*	*	*	*	*	Day (0-31)	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0091	*	*	*	*	*	*	*	*	*	*	Month (1-12)	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0092	*	*	*	*	*	*	*	*	*	*	Hour (0-23)	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0093	*	*	*	*	*	*	*	*	*	*	Minute (0-59)	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0094	*	*	*	*	*	*	*	*	*	*	Second (0-59)	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0095	*	*	*	*	*	*	*	*	*	*	Millisecond (0-999)	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0096	*	*	*	*	*	*	*	*	*	*	Weekday	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0097	*	*										
%WW0098	*	*										
%WW0099	*	*	3	2	10.230.162.242	1	A41000	Input(16-Bit Signed)	No	Normal	Rectifier Control	
%WW0100	*	*	*	*	*	*	*	*	*	*	Inverter Control	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0101	*	*	*	*	*	*	*	*	*	*	SBS Control	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0102	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0103	*	*	2	1	10.230.162.242	1	A41003	Input(Discrete)	Bits	Normal	Battery Quick Test	
%WW0104	*	*	*	*	*	*	*	*	*	*	Battery Capacity Test	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0105	*	*										
%WW0106	*	*										
%WW0107	*	*	1	2	10.230.162.242	1	A41005	Input(16-Bit Signed)	No	Normal	Battery Capacity Test RM	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-7
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer / Subnet mask / PN-Data	Program Name / Default gateway	Size / PN-Offset in Channel	Port / PN-Size in Channel	IP Address / PN-Updating Time	Station / PN-Watchdog Time	Device&Address / DCP SET	Data Type / PN-Module	Reverse / PN-slot	Scan / PN-SubModule	Service Comment / PN-Sub Slot	Station name
%WW0108	* / * / *	* / * / *	* / * / *	* / * / *	* / * / *	* / * / *	* / * / *	*	*	*	*	*
%WW0109	* / * / *	* / * / *	1 / 1 / *	1 / * / *	10.230.162.242 / * / *	1 / * / *	A40001 / * / *	Input(16-Bit Signed)	No	Normal Status	(AC UPS F&G -TAG : UP-200F4)	
%WW0110	* / * / *	* / * / *	* / * / *	* / * / *	* / * / *	* / * / *	* / * / *	*	*	*	*	*
%WW0111	* / *											
%WW0112	* / *											
%WW0113	* / *											
%WW0114	* / *											
%WW0115	* / *											
%WW0116	* / *											
%WW0117	* / *											
%WW0118	* / *											
%WW0119	* / *											
%WW0120	* / *											
%WW0121	* / *											
%WW0122	* / *											
%WW0123	* / *											
%WW0124	* / *											
%WW0125	* / *											

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-8
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0126	*	*										
%WW0127	*	*										
%WW0128	*	*										
%WW0129	*	*										
%WW0130	*	*										
%WW0131	*	*										
%WW0132	*	*										
%WW0133	*	*										
%WW0134	*	*										
%WW0135	*	*										
%WW0136	*	*										
%WW0137	*	*										
%WW0138	*	*										
%WW0139	*	*										
%WW0140	*	*										
%WW0141	*	*										
%WW0142	*	*										
%WW0143	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-9
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0144	*	*										
%WW0145	*	*										
%WW0146	*	*										
%WW0147	*	*										
%WW0148	*	*										
%WW0149	*	*										
%WW0150	*	*										
%WW0151	*	*										
%WW0152	*	*										
%WW0153	*	*										
%WW0154	*	*										
%WW0155	*	*										
%WW0156	*	*										
%WW0157	*	*										
%WW0158	*	*										
%WW0159	*	*										
%WW0160	*	*										
%WW0161	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-10
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0162	*	*										
%WW0163	*	*										
%WW0164	*	*										
%WW0165	*	*										
%WW0166	*	*										
%WW0167	*	*										
%WW0168	*	*										
%WW0169	*	*										
%WW0170	*	*										
%WW0171	*	*										
%WW0172	*	*										
%WW0173	*	*										
%WW0174	*	*										
%WW0175	*	*										
%WW0176	*	*										
%WW0177	*	*										
%WW0178	*	*										
%WW0179	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-11
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0180	*	*										
%WW0181	*	*										
%WW0182	*	*										
%WW0183	*	*										
%WW0184	*	*										
%WW0185	*	*										
%WW0186	*	*										
%WW0187	*	*										
%WW0188	*	*										
%WW0189	*	*										
%WW0190	*	*										
%WW0191	*	*										
%WW0192	*	*										
%WW0193	*	*										
%WW0194	*	*										
%WW0195	*	*										
%WW0196	*	*										
%WW0197	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-12
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size	Port	IP Address PN-Updating Time PN-Size in Channel	Station PN-Watchdog Time	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0198	*	*										
%WW0199	*	*										
%WW0200	*	*										
%WW0201	*	*	37	1	10.230.162.243	1	A40002	Input(Discrete)	Bits	Normal	NonCriticalFault	
%WW0202	*	*	*	*	*	*	*	*	*	*	CriticalFault	*
%WW0203	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn1Active	*
%WW0204	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn2Active	*
%WW0205	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn3Active	*
%WW0206	*	*	*	*	*	*	*	*	*	*	EmergencySwitchOff	*
%WW0207	*	*	*	*	*	*	*	*	*	*	DouCanFault	*
%WW0208	*	*	*	*	*	*	*	*	*	*	MainsFault	*
%WW0209	*	*	*	*	*	*	*	*	*	*	RectifierWarning	*
%WW0210	*	*	*	*	*	*	*	*	*	*	RectifierFault	*
%WW0211	*	*	*	*	*	*	*	*	*	*	BatteryAlarm	*
%WW0212	*	*	*	*	*	*	*	*	*	*	InverterWarning	*
%WW0213	*	*	*	*	*	*	*	*	*	*	InverterFault	*
%WW0214	*	*	*	*	*	*	*	*	*	*	SBSWarning	*
%WW0215	*	*	*	*	*	*	*	*	*	*	SBSFault	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-13
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW0216	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	EqualisingCharge	* * *
%WW0217	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Charge	* * *
%WW0218	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	TrickleCharge	* * *
%WW0219	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	GenSetOperation	* * *
%WW0220	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	BattTemp.SensFault	* * *
%WW0221	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	BatteryTemp.ToHigh	* * *
%WW0222	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	CircuitBreaker	* * *
%WW0223	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	BatteryWarning	* * *
%WW0224	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	BatteryLow	* * *
%WW0225	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Overload	* * *
%WW0226	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	FanFault	* * *
%WW0227	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Overload	* * *
%WW0228	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	ShortCircuit	* * *
%WW0229	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	DcUnderVoltage	* * *
%WW0230	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	DcOverVoltage	* * *
%WW0231	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	PowerStackOverTemp	* * *
%WW0232	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	SBSReady	* * *
%WW0233	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	SBSMainsFault	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0234	*	*	*	*	*	*	*	*	*	*	SBSBlocked	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0235	*	*	*	*	*	*	*	*	*	*	RectifierOn	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0236	*	*	*	*	*	*	*	*	*	*	InverterOn	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0237	*	*	*	*	*	*	*	*	*	*	SBSOn	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0238	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0239	*	*	13	1	10.230.162.243	1	A40039	Input(16-Bit Signed)	No	Normal	RectMainsFreq.	
%WW0240	*	*	*	*	*	*	*	*	*	*	RectMainsVoltL1	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0241	*	*	*	*	*	*	*	*	*	*	RectMainsVoltL2	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0242	*	*	*	*	*	*	*	*	*	*	RectMainsVoltL3	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0243	*	*	*	*	*	*	*	*	*	*	SBSMainsFreq.	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0244	*	*	*	*	*	*	*	*	*	*	SBSMainsVoltL1	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0245	*	*	*	*	*	*	*	*	*	*	SBSMainsVoltL2	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0246	*	*	*	*	*	*	*	*	*	*	SBSMainsVoltL3	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0247	*	*	*	*	*	*	*	*	*	*	BatteryVoltage	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0248	*	*	*	*	*	*	*	*	*	*	BatteryCurrent	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0249	*	*	*	*	*	*	*	*	*	*	AutonomyTime	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0250	*	*	*	*	*	*	*	*	*	*	BatteryCapacity	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW0251	*	*	*	*	*	*	*	*	*	*	BatteryTemperature	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-15
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0252	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0253	*	*	13	1	10.230.162.243	1	A40052	Input(16-Bit Signed)	No	Normal	OutputFreq.	
%WW0254	*	*	*	*	*	*	*	*	*	*	OutputVoltageL1	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0255	*	*	*	*	*	*	*	*	*	*	OutputLoadL1	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0256	*	*	*	*	*	*	*	*	*	*	OutputCurrentL1	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0257	*	*	*	*	*	*	*	*	*	*	OutputPowerL1	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0258	*	*	*	*	*	*	*	*	*	*	OutputVoltageL2	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0259	*	*	*	*	*	*	*	*	*	*	OutputLoadL2	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0260	*	*	*	*	*	*	*	*	*	*	OutputCurrentL2	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0261	*	*	*	*	*	*	*	*	*	*	OutputPowerL2	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0262	*	*	*	*	*	*	*	*	*	*	OutputVoltageL3	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0263	*	*	*	*	*	*	*	*	*	*	OutputLoadL3	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0264	*	*	*	*	*	*	*	*	*	*	OutputCurrentL3	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0265	*	*	*	*	*	*	*	*	*	*	OutputPowerL3	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0266	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0267	*	*	22	1	10.230.162.243	1	A40065	Input(Discrete)	Bits	Normal	LIFECHECK BIT	
%WW0268	*	*	*	*	*	*	*	*	*	*	Userdef_AUX1 - Rect.	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW0269	*	*	*	*	*	*	*	*	*	*	Userdef_AUX2 - Rect.	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-16
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0270	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX3 - Rect.	* * *
%WW0271	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX4 - Rect.	* * *
%WW0272	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX5 - Rect.	* * *
%WW0273	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX6 - Rect.	* * *
%WW0274	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX7- Rect.	* * *
%WW0275	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX1 - Inv.	* * *
%WW0276	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX2 - Inv.	* * *
%WW0277	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX3 - Inv.	* * *
%WW0278	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX4 - Inv.	* * *
%WW0279	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX5 - Inv.	* * *
%WW0280	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX6 - Inv.	* * *
%WW0281	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX7 - Inv.	* * *
%WW0282	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX1 - SBS	* * *
%WW0283	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX2 - SBS	* * *
%WW0284	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX3 - SBS	* * *
%WW0285	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX4 - SBS	* * *
%WW0286	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX5 - SBS	* * *
%WW0287	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Userdef_AUX6 - SBS	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-17
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW0288	*	*	*	*	*	*	*	*	*	*	Userdef_AUX7 - SBS	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0289	*	*	8	1	10.230.162.243	1	A40150	Input(16-Bit Signed)	No	Normal	Year (20xx)	
%WW0290	*	*	*	*	*	*	*	*	*	*	Day (0-31)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0291	*	*	*	*	*	*	*	*	*	*	Month (1-12)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0292	*	*	*	*	*	*	*	*	*	*	Hour (0-23)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0293	*	*	*	*	*	*	*	*	*	*	Minute (0-59)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0294	*	*	*	*	*	*	*	*	*	*	Second (0-59)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0295	*	*	*	*	*	*	*	*	*	*	Millisecond (0-999)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0296	*	*	*	*	*	*	*	*	*	*	Weekday	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0297	*	*	2	1	10.230.162.243	1	A41000	Output(16-Bit Signed)	No	Normal	Rectifier Control	
%WW0298	*	*	*	*	*	*	*	*	*	*	Inverter Control	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0299	*	*										
%WW0300	*	*										
%WW0301	*	*	2	1	10.230.162.243	1	A41003	Input(Discrete)	Bits	Normal	Battery Quick Test	
%WW0302	*	*	*	*	*	*	*	*	*	*	Battery Capacity Test	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0303	*	*	1	1	10.230.162.243	1	A41005	Input(16-Bit Signed)	No	Normal	Battery Capcity Test RM	
%WW0304	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW0305	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-18
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0306	*	*										
%WW0307	*	*	1	1	10.230.162.243	1	A40001	Input(16-Bit Signed)	No	Normal Status	(AC UPS F&G -TAG : UP-200F4)	
%WW0308	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW0309	*	*										
%WW0310	*	*										
%WW0311	*	*										
%WW0312	*	*										
%WW0313	*	*										
%WW0314	*	*										
%WW0315	*	*										
%WW0316	*	*										
%WW0317	*	*										
%WW0318	*	*										
%WW0319	*	*										
%WW0320	*	*										
%WW0321	*	*										
%WW0322	*	*										
%WW0323	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-19
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0324	*	*										
%WW0325	*	*										
%WW0326	*	*										
%WW0327	*	*										
%WW0328	*	*										
%WW0329	*	*										
%WW0330	*	*										
%WW0331	*	*										
%WW0332	*	*										
%WW0333	*	*										
%WW0334	*	*										
%WW0335	*	*										
%WW0336	*	*										
%WW0337	*	*										
%WW0338	*	*										
%WW0339	*	*										
%WW0340	*	*										
%WW0341	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-20
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0342	*	*										
%WW0343	*	*										
%WW0344	*	*										
%WW0345	*	*										
%WW0346	*	*										
%WW0347	*	*										
%WW0348	*	*										
%WW0349	*	*										
%WW0350	*	*										
%WW0351	*	*	48	1	10.230.162.241	1	A40001	Input(Discrete)	Bits	Normal	HI MAINS VOLT	
%WW0352	*	*	*	*	*	*	*	*	*	*	LO MAINS VOLT	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0353	*	*	*	*	*	*	*	*	*	*	CHARGER FAIL	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0354	*	*	*	*	*	*	*	*	*	*	HI BATTERY VOLT	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0355	*	*	*	*	*	*	*	*	*	*	LO BATTERY VOLT	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0356	*	*	*	*	*	*	*	*	*	*	HI DC VOLT	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0357	*	*	*	*	*	*	*	*	*	*	LO DC VOLT	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0358	*	*	*	*	*	*	*	*	*	*	SPARE	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW0359	*	*	*	*	*	*	*	*	*	*	SPARE	*
	*	*	*	*	*	*	*	*	*	*	*	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-21
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW0360	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	Q1 OPEN	* * *
%WW0361	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	REMOTE OFF INHIBITION	* * *
%WW0362	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	BATTERY PROTECTION	* * *
%WW0363	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	GROUND FLT -	* * *
%WW0364	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	GROUND FLT +	* * *
%WW0365	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	DISTRIBUTION FAULT	* * *
%WW0366	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	BATT SYMMETRIC FAULT	* * *
%WW0367	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	VENTILATION FAULT	* * *
%WW0368	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	CHARGER CURR LMT	* * *
%WW0369	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	BATTERY CURR LMT	* * *
%WW0370	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	HI CHARGER CURR	* * *
%WW0371	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	HI BATTERY CURR	* * *
%WW0372	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	HI TEMP	* * *
%WW0373	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	TEMP SENSOR ERROR	* * *
%WW0374	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	INTERNAL COMM ERR	* * *
%WW0375	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	BATTERY TEST FAIL	* * *
%WW0376	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	BATTERY TEST ABORTED	* * *
%WW0377	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	HI BATTERY TEMP	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-22
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW0378											HI FLOAT CURR	
%WW0379											LONG CHARGE TIME	
%WW0380											NO POWER SUPPLY VOLT	
%WW0381											BATTERY IN OPERATION	
%WW0382											SPARE	
%WW0383												
%WW0384												
%WW0385												
%WW0386												
%WW0387												
%WW0388												
%WW0389												
%WW0390												
%WW0391												
%WW0392												
%WW0393												
%WW0394												
%WW0395												

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-23
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW0396	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0397	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0398	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0399	*	*										
%WW0400	*	*										
%WW0401	*	*	28	1	10.230.162.241	1	A40099	Input(16-Bit Unsigned)	No	Normal		
%WW0402	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0403	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0404	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0405	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0406	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0407	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0408	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0409	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0410	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0411	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0412	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%WW0413	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-24
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW0414	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0415	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0416	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0417	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0418	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0419	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0420	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0421	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0422	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0423	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0424	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0425	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0426	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0427	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0428	* * *	* *	*	* * *	* * *	* * *	* *	*	*	*		* *
%WW0429	* *											
%WW0430	* *											
%WW0431	* *											

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-25
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0432	*	*										
%WW0433	*	*										
%WW0434	*	*										
%WW0435	*	*										
%WW0436	*	*										
%WW0437	*	*										
%WW0438	*	*										
%WW0439	*	*										
%WW0440	*	*										
%WW0441	*	*										
%WW0442	*	*										
%WW0443	*	*										
%WW0444	*	*										
%WW0445	*	*										
%WW0446	*	*										
%WW0447	*	*										
%WW0448	*	*										
%WW0449	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-26
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0450	*	*										
%WW0451	*	*										
%WW0452	*	*										
%WW0453	*	*										
%WW0454	*	*										
%WW0455	*	*										
%WW0456	*	*										
%WW0457	*	*										
%WW0458	*	*										
%WW0459	*	*										
%WW0460	*	*										
%WW0461	*	*										
%WW0462	*	*										
%WW0463	*	*										
%WW0464	*	*										
%WW0465	*	*										
%WW0466	*	*										
%WW0467	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-27
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0468	*	*										
%WW0469	*	*										
%WW0470	*	*										
%WW0471	*	*										
%WW0472	*	*										
%WW0473	*	*										
%WW0474	*	*										
%WW0475	*	*										
%WW0476	*	*										
%WW0477	*	*										
%WW0478	*	*										
%WW0479	*	*										
%WW0480	*	*										
%WW0481	*	*										
%WW0482	*	*										
%WW0483	*	*										
%WW0484	*	*										
%WW0485	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-28
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0486	*	*										
%WW0487	*	*										
%WW0488	*	*										
%WW0489	*	*										
%WW0490	*	*										
%WW0491	*	*										
%WW0492	*	*										
%WW0493	*	*										
%WW0494	*	*										
%WW0495	*	*										
%WW0496	*	*										
%WW0497	*	*										
%WW0498	*	*										
%WW0499	*	*										
%WW0500	*	*										
%WW0501	*	*										
%WW0502	*	*										
%WW0503	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-29
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0504	*	*										
%WW0505	*	*										
%WW0506	*	*										
%WW0507	*	*										
%WW0508	*	*										
%WW0509	*	*										
%WW0510	*	*										
%WW0511	*	*										
%WW0512	*	*										
%WW0513	*	*										
%WW0514	*	*										
%WW0515	*	*										
%WW0516	*	*										
%WW0517	*	*										
%WW0518	*	*										
%WW0519	*	*										
%WW0520	*	*										
%WW0521	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-30
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0522	*	*										
%WW0523	*	*										
%WW0524	*	*										
%WW0525	*	*										
%WW0526	*	*										
%WW0527	*	*										
%WW0528	*	*										
%WW0529	*	*										
%WW0530	*	*										
%WW0531	*	*										
%WW0532	*	*										
%WW0533	*	*										
%WW0534	*	*										
%WW0535	*	*										
%WW0536	*	*										
%WW0537	*	*										
%WW0538	*	*										
%WW0539	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-31
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0540	*	*										
%WW0541	*	*										
%WW0542	*	*										
%WW0543	*	*										
%WW0544	*	*										
%WW0545	*	*										
%WW0546	*	*										
%WW0547	*	*										
%WW0548	*	*										
%WW0549	*	*										
%WW0550	*	*										
%WW0551	*	*										
%WW0552	*	*										
%WW0553	*	*										
%WW0554	*	*										
%WW0555	*	*										
%WW0556	*	*										
%WW0557	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-32
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0558	*	*										
%WW0559	*	*										
%WW0560	*	*										
%WW0561	*	*										
%WW0562	*	*										
%WW0563	*	*										
%WW0564	*	*										
%WW0565	*	*										
%WW0566	*	*										
%WW0567	*	*										
%WW0568	*	*										
%WW0569	*	*										
%WW0570	*	*										
%WW0571	*	*										
%WW0572	*	*										
%WW0573	*	*										
%WW0574	*	*										
%WW0575	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-33
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0576	*	*										
%WW0577	*	*										
%WW0578	*	*										
%WW0579	*	*										
%WW0580	*	*										
%WW0581	*	*										
%WW0582	*	*										
%WW0583	*	*										
%WW0584	*	*										
%WW0585	*	*										
%WW0586	*	*										
%WW0587	*	*										
%WW0588	*	*										
%WW0589	*	*										
%WW0590	*	*										
%WW0591	*	*										
%WW0592	*	*										
%WW0593	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-34
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer / Subnet mask / PN-Data	Program Name / Default gateway / PN-Offset in Channel	Size / PN-Updating Time / PN-Size in Channel	Port / PN-Watchdog Time	IP Address / DCP SET	Station / PN-Module	Device&Address / PN-slot	Data Type / PN-SubModule	Reverse / PN-Sub Slot	Scan	Service	Comment	Station name
%WW0594	*	*											
%WW0595	*	*											
%WW0596	*	*											
%WW0597	*	*											
%WW0598	*	*											
%WW0599	*	*											
%WW0600	*	*											
%WW0601	*	*	6	1	10.230.162.121	1	A40006	Output(32-Bit Floating)	No	Normal	ph		
%WW0602	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0603	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0604	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0605	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0606	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0607	*	*	2	1	10.230.162.121	1	A40012	Output(32-Bit Floating)	No	Normal			
%WW0608	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0609	*	*	2	1	10.230.162.121	1	A40001	Output(16-Bit Unsigned)	No	Normal			
%WW0610	*	*	*	*	*	*	*	*	*	*			*
	*	*	*	*	*	*	*	*	*	*			*
	*		*		*								
%WW0611	*	*	1	1	10.230.162.121	1	A40004	Output(16-Bit Unsigned)	No	Normal			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-35
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW0612	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0613	*	*	2	1	10.230.162.121	1	A40021	Output(32-Bit Floating)	Words	Normal		
%WW0614	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0615	*	*	1	1	10.230.162.121	1	A40023	Output(16-Bit Unsigned)	No	Normal		
%WW0616	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0617	*	*										
%WW0618	*	*										
%WW0619	*	*										
%WW0620	*	*										
%WW0621	*	*	13	1	10.230.162.121	1	A30001	Input(16-Bit Signed)	No	Normal	EMCS ENTER MODE	
%WW0622	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *	EMCS CURRENT MODE	* * *
%WW0623	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *	FUELCELL STATUS	* * *
%WW0624	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *	ELECTROLYZER STATUS	* * *
%WW0625	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0626	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0627	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0628	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *
%WW0629	* * *	* * *	*	* * *	* * *	*	* * *	*	* * *	* * *		* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-36
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW0630	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0631	*	*	*	*	*	*	*	*	*	*	WATER REQUEST TO ELECTROLYZER	*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0632	*	*	*	*	*	*	*	*	*	*	FC CURRENT POWER	*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0633	*	*	*	*	*	*	*	*	*	*	FC TARGET POWER	*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0634	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0635	*	*	1	1	10.230.162.121	1	Y00002	Output(Discrete)	Bits	Normal		
%WW0636	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0637	*	*										
%WW0638	*	*										
%WW0639	*	*										
%WW0640	*	*										
%WW0641	*	*	1	1	10.230.162.121	1	A10000	Input(Discrete)	Bits	Normal		
%WW0642	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%WW0643	*	*										
%WW0644	*	*										
%WW0645	*	*										
%WW0646	*	*										
%WW0647	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-37
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0648	*	*										
%WW0649	*	*										
%WW0650	*	*										
%WW0651	*	*										
%WW0652	*	*										
%WW0653	*	*										
%WW0654	*	*										
%WW0655	*	*										
%WW0656	*	*										
%WW0657	*	*										
%WW0658	*	*										
%WW0659	*	*										
%WW0660	*	*										
%WW0661	*	*										
%WW0662	*	*										
%WW0663	*	*										
%WW0664	*	*										
%WW0665	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-38
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0666	*	*										
%WW0667	*	*										
%WW0668	*	*										
%WW0669	*	*										
%WW0670	*	*										
%WW0671	*	*										
%WW0672	*	*										
%WW0673	*	*										
%WW0674	*	*										
%WW0675	*	*										
%WW0676	*	*										
%WW0677	*	*										
%WW0678	*	*										
%WW0679	*	*										
%WW0680	*	*										
%WW0681	*	*										
%WW0682	*	*										
%WW0683	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-39
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0684	*	*										
%WW0685	*	*										
%WW0686	*	*										
%WW0687	*	*										
%WW0688	*	*										
%WW0689	*	*										
%WW0690	*	*										
%WW0691	*	*										
%WW0692	*	*										
%WW0693	*	*										
%WW0694	*	*										
%WW0695	*	*										
%WW0696	*	*										
%WW0697	*	*										
%WW0698	*	*										
%WW0699	*	*										
%WW0700	*	*										
%WW0701	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-40
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0702	*	*										
%WW0703	*	*										
%WW0704	*	*										
%WW0705	*	*										
%WW0706	*	*										
%WW0707	*	*										
%WW0708	*	*										
%WW0709	*	*										
%WW0710	*	*										
%WW0711	*	*										
%WW0712	*	*										
%WW0713	*	*										
%WW0714	*	*										
%WW0715	*	*										
%WW0716	*	*										
%WW0717	*	*										
%WW0718	*	*										
%WW0719	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-41
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0720	*	*										
%WW0721	*	*										
%WW0722	*	*										
%WW0723	*	*										
%WW0724	*	*										
%WW0725	*	*										
%WW0726	*	*										
%WW0727	*	*										
%WW0728	*	*										
%WW0729	*	*										
%WW0730	*	*										
%WW0731	*	*										
%WW0732	*	*										
%WW0733	*	*										
%WW0734	*	*										
%WW0735	*	*										
%WW0736	*	*										
%WW0737	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-42
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0738	*	*										
%WW0739	*	*										
%WW0740	*	*										
%WW0741	*	*										
%WW0742	*	*										
%WW0743	*	*										
%WW0744	*	*										
%WW0745	*	*										
%WW0746	*	*										
%WW0747	*	*										
%WW0748	*	*										
%WW0749	*	*										
%WW0750	*	*										
%WW0751	*	*										
%WW0752	*	*										
%WW0753	*	*										
%WW0754	*	*										
%WW0755	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-43
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0756	*	*										
%WW0757	*	*										
%WW0758	*	*										
%WW0759	*	*										
%WW0760	*	*										
%WW0761	*	*										
%WW0762	*	*										
%WW0763	*	*										
%WW0764	*	*										
%WW0765	*	*										
%WW0766	*	*										
%WW0767	*	*										
%WW0768	*	*										
%WW0769	*	*										
%WW0770	*	*										
%WW0771	*	*										
%WW0772	*	*										
%WW0773	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-44
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0774	*	*										
%WW0775	*	*										
%WW0776	*	*										
%WW0777	*	*										
%WW0778	*	*										
%WW0779	*	*										
%WW0780	*	*										
%WW0781	*	*										
%WW0782	*	*										
%WW0783	*	*										
%WW0784	*	*										
%WW0785	*	*										
%WW0786	*	*										
%WW0787	*	*										
%WW0788	*	*										
%WW0789	*	*										
%WW0790	*	*										
%WW0791	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-45
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0792	*	*										
%WW0793	*	*										
%WW0794	*	*										
%WW0795	*	*										
%WW0796	*	*										
%WW0797	*	*										
%WW0798	*	*										
%WW0799	*	*										
%WW0800	*	*										
%WW0801	*	*										
%WW0802	*	*										
%WW0803	*	*										
%WW0804	*	*										
%WW0805	*	*										
%WW0806	*	*										
%WW0807	*	*										
%WW0808	*	*										
%WW0809	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-46
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0810	*	*										
%WW0811	*	*										
%WW0812	*	*										
%WW0813	*	*										
%WW0814	*	*										
%WW0815	*	*										
%WW0816	*	*										
%WW0817	*	*										
%WW0818	*	*										
%WW0819	*	*										
%WW0820	*	*										
%WW0821	*	*										
%WW0822	*	*										
%WW0823	*	*										
%WW0824	*	*										
%WW0825	*	*										
%WW0826	*	*										
%WW0827	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-47
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0828	*	*										
%WW0829	*	*										
%WW0830	*	*										
%WW0831	*	*										
%WW0832	*	*										
%WW0833	*	*										
%WW0834	*	*										
%WW0835	*	*										
%WW0836	*	*										
%WW0837	*	*										
%WW0838	*	*										
%WW0839	*	*										
%WW0840	*	*										
%WW0841	*	*										
%WW0842	*	*										
%WW0843	*	*										
%WW0844	*	*										
%WW0845	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-48
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0846	*	*										
%WW0847	*	*										
%WW0848	*	*										
%WW0849	*	*										
%WW0850	*	*										
%WW0851	*	*										
%WW0852	*	*										
%WW0853	*	*										
%WW0854	*	*										
%WW0855	*	*										
%WW0856	*	*										
%WW0857	*	*										
%WW0858	*	*										
%WW0859	*	*										
%WW0860	*	*										
%WW0861	*	*										
%WW0862	*	*										
%WW0863	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-49
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0864	*	*										
%WW0865	*	*										
%WW0866	*	*										
%WW0867	*	*										
%WW0868	*	*										
%WW0869	*	*										
%WW0870	*	*										
%WW0871	*	*										
%WW0872	*	*										
%WW0873	*	*										
%WW0874	*	*										
%WW0875	*	*										
%WW0876	*	*										
%WW0877	*	*										
%WW0878	*	*										
%WW0879	*	*										
%WW0880	*	*										
%WW0881	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-50
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0882	*	*										
%WW0883	*	*										
%WW0884	*	*										
%WW0885	*	*										
%WW0886	*	*										
%WW0887	*	*										
%WW0888	*	*										
%WW0889	*	*										
%WW0890	*	*										
%WW0891	*	*										
%WW0892	*	*										
%WW0893	*	*										
%WW0894	*	*										
%WW0895	*	*										
%WW0896	*	*										
%WW0897	*	*										
%WW0898	*	*										
%WW0899	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-51
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0900	*	*										
%WW0901	*	*										
%WW0902	*	*										
%WW0903	*	*										
%WW0904	*	*										
%WW0905	*	*										
%WW0906	*	*										
%WW0907	*	*										
%WW0908	*	*										
%WW0909	*	*										
%WW0910	*	*										
%WW0911	*	*										
%WW0912	*	*										
%WW0913	*	*										
%WW0914	*	*										
%WW0915	*	*										
%WW0916	*	*										
%WW0917	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-52
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0918	*	*										
%WW0919	*	*										
%WW0920	*	*										
%WW0921	*	*										
%WW0922	*	*										
%WW0923	*	*										
%WW0924	*	*										
%WW0925	*	*										
%WW0926	*	*										
%WW0927	*	*										
%WW0928	*	*										
%WW0929	*	*										
%WW0930	*	*										
%WW0931	*	*										
%WW0932	*	*										
%WW0933	*	*										
%WW0934	*	*										
%WW0935	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-53
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0936	*	*										
%WW0937	*	*										
%WW0938	*	*										
%WW0939	*	*										
%WW0940	*	*										
%WW0941	*	*										
%WW0942	*	*										
%WW0943	*	*										
%WW0944	*	*										
%WW0945	*	*										
%WW0946	*	*										
%WW0947	*	*										
%WW0948	*	*										
%WW0949	*	*										
%WW0950	*	*										
%WW0951	*	*										
%WW0952	*	*										
%WW0953	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-54
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW0954	*	*										
%WW0955	*	*										
%WW0956	*	*										
%WW0957	*	*										
%WW0958	*	*										
%WW0959	*	*										
%WW0960	*	*										
%WW0961	*	*										
%WW0962	*	*										
%WW0963	*	*										
%WW0964	*	*										
%WW0965	*	*										
%WW0966	*	*										
%WW0967	*	*										
%WW0968	*	*										
%WW0969	*	*										
%WW0970	*	*										
%WW0971	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-55
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%WW0972	*	*										
%WW0973	*	*										
%WW0974	*	*										
%WW0975	*	*										
%WW0976	*	*										
%WW0977	*	*										
%WW0978	*	*										
%WW0979	*	*										
%WW0980	*	*										
%WW1421	520	K1-4-3FMODBUS	66	1	10.230.162.233	1	A40006	Input(32-Bit Floating)	No	Normal	Flt seawtr cndty P50003A/B	
%WW1422	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1423	*	*	*	*	*	*	*	*	*	*	Frsh wtr cndty A50007A/B	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1424	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1425	*	*	*	*	*	*	*	*	*	*	Frsh wtr ol tal hardness	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1426	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1427	*	*	*	*	*	*	*	*	*	*	Fresh wtr ol pH	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1428	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%WW1429	*	*	*	*	*	*	*	*	*	*	Seawtr flow - S-50001	*
	*	*	*		*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-56
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time PN-Size in Channel	IP Address PN-Watchdog Time	Station DCP SET	Device&Address PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1430	* * *

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-57
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1448												
%WW1449											dP across S-50001	
%WW1450												
%WW1451											Seawtr il pr	
%WW1452												
%WW1453											Flt seawtr pr - P-50003A	
%WW1454												
%WW1455											Flt seawtr pr - P-50004A	
%WW1456												
%WW1457											Flt seawtr pr - P-50003B	
%WW1458												
%WW1459											Flt seawtr pr - P-50004B	
%WW1460												
%WW1461											Flt seawtr pr - P-50004A	
%WW1462												
%WW1463											Flt seawtr pr - P-50004B	
%WW1464												
%WW1465											Fresh wtr ol pr	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-58
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW1466												
%WW1467											Softening flt il pr	
%WW1468												
%WW1469											HP pmp speed feedback	
%WW1470												
%WW1471											HP pmp speed feedback	
%WW1472												
%WW1473											Seawtr tmp - H-50001	
%WW1474												
%WW1475											Seawtr tmp - H-50001	
%WW1476												
%WW1477											Ambt air tmp inside contnr	
%WW1478												
%WW1479											Fresh wtr ol tmp	
%WW1480												
%WW1481											dP across S-50002A S-50003A	
%WW1482												
%WW1483											dP across S-50002B S-50003B	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1484	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1485	*	*	*	*	*	*	*	*	*	*	dP across S-50004 S-50010	*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1486	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1487	*	*										
%WW1488	*	*										
%WW1489	*	*	6	1	10.230.162.233	1	A40000	Input(Discrete)	Bits	Normal	50AT020A_H	
%WW1490	*	*	*	*	*	*	*	*	*	*	50AT020A_HH	*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1491	*	*	*	*	*	*	*	*	*	*	50AT020B_H	*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1492	*	*	*	*	*	*	*	*	*	*	50AT020B_HH	*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1493	*	*	*	*	*	*	*	*	*	*	50AT020C_H	*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1494	*	*	*	*	*	*	*	*	*	*	50AT020C_HH	*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1495	*	*										
%WW1496	*	*										
%WW1497	*	*	31	1	10.230.162.233	1	A40100	Input(Discrete)	Bits	Normal		
%WW1498	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1499	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1500	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*			*						
%WW1501	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*			*						

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-60
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1502	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1503	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1504	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1505	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1506	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1507	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1508	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1509	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1510	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1511	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1512	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1513	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1514	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1515	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1516	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1517	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1518	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW1519	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-61
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1520	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1521	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1522	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1523	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1524	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1525	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1526	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1527	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1528	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1529	*	*	1	1	10.230.162.233	1	A39099	Input(Discrete)	Bits	Normal		
%WW1530	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1531	*	*	1	1	10.230.162.233	1	A40139	Output(Discrete)	Bits	Normal		
%WW1532	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*			*						
%WW1533	*	*										
%WW1534	*	*										
%WW1535	*	*										
%WW1536	*	*										
%WW1537	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-62
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1538	*	*										
%WW1539	*	*										
%WW1540	*	*										
%WW1541	*	*										
%WW1542	*	*										
%WW1543	*	*										
%WW1544	*	*										
%WW1545	*	*										
%WW1546	*	*										
%WW1547	*	*										
%WW1548	*	*										
%WW1549	*	*										
%WW1550	*	*										
%WW1551	*	*										
%WW1552	*	*										
%WW1553	*	*										
%WW1554	*	*										
%WW1555	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-63
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1556	*	*										
%WW1557	*	*										
%WW1558	*	*										
%WW1559	*	*										
%WW1560	*	*										
%WW1561	*	*	5	1	10.230.162.172	1	A40000	Input(Discrete)	Bits	Normal		
%WW1562	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1563	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1564	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1565	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1566	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1567	*	*	4	1	10.230.162.172	1	A40005	Input(16-Bit Signed)	No	Normal		
%WW1568	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1569	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1570	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1571	*	*	2	1	10.230.162.172	1	A40009	Output(Discrete)	Bits	Normal		
%WW1572	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1573	*	*	3	1	10.230.162.172	1	A40011	Input(16-Bit Signed)	No	Normal		

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-64
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1574	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1575	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1576	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1577	*	*	2	1	10.230.162.172	1	A40014	Output(Discrete)	Bits	Normal		
%WW1578	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1579	*	*	1	1	10.230.162.172	1	A40015	Input(Discrete)	Bits	Normal		
%WW1580	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1581	*	*	4	1	10.230.162.172	1	A40016	Input(16-Bit Signed)	No	Normal		
%WW1582	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1583	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1584	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1585	*	*										
%WW1586	*	*										
%WW1587	*	*	5	1	10.230.162.166	1	A40000	Input(Discrete)	Bits	Normal		
%WW1588	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1589	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1590	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%WW1591	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-65
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1592	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1593	*	*	4	1	10.230.162.166	1	A40005	Input(16-Bit Signed)	No	Normal		
%WW1594	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1595	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1596	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1597	*	*	2	1	10.230.162.166	1	A40009	Output(Discrete)	Bits	Normal		
%WW1598	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1599	*	*	3	1	10.230.162.166	1	A40011	Input(16-Bit Signed)	No	Normal		
%WW1600	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1601	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1602	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1603	*	*	2	1	10.230.162.166	1	A40014	Output(Discrete)	Bits	Normal		
%WW1604	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1605	*	*	1	1	10.230.162.166	1	A40015	Input(Discrete)	Bits	Normal		
%WW1606	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1607	*	*	4	1	10.230.162.166	1	A40016	Input(16-Bit Signed)	No	Normal		
%WW1608	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW1609	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-66
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station DCP SET PN-Module	Device&Address	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW1610	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1611	*	*										
%WW1612	*	*										
%WW1613	*	*										
%WW1614	*	*										
%WW1615	*	*										
%WW1616	*	*										
%WW1617	*	*										
%WW1618	*	*										
%WW1619	*	*										
%WW1620	*	*										
%WW1621	*	*										
%WW1622	*	*										
%WW1623	*	*										
%WW1624	*	*										
%WW1625	*	*										
%WW1626	*	*										
%WW1627	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-67
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size	Port	IP Address PN-Updating Time PN-Size in Channel	Station	Device&Address PN-Watchdog Time DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW1628	*	*										
%WW1629	*	*										
%WW1630	*	*										
%WW1631	*	*	3	1	10.230.162.184	1	A40000	Input(Discrete)	Bits	Normal	B100	
%WW1632	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1633	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1634	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1635	*	*	5	1	10.230.162.184	1	A40003	Input(16-Bit Signed)	No	Normal		
%WW1636	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1637	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1638	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1639	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1640	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1641	*	*	3	1	10.230.162.184	1	A40008	Output(Discrete)	Bits	Normal		
%WW1642	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1643	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1644	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1645	*	*	4	1	10.230.162.184	1	A40012	Input(16-Bit Signed)	No	Normal		

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-68
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW1646	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1647	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1648	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1649	*	*	1	1	10.230.162.184	1	A40016	Input(Discrete)	Bits	Normal	B100	
%WW1650	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1651	*	*	1	1	10.230.162.184	1	A40017	Output(Discrete)	Bits	Normal		
%WW1652	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW1653	*	*										
%WW1654	*	*										
%WW1655	*	*										
%WW1656	*	*										
%WW1657	*	*										
%WW1658	*	*										
%WW1659	*	*										
%WW1660	*	*										
%WW1661	*	*										
%WW1662	*	*										
%WW1663	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-69
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size	Port	IP Address PN-Updating Time PN-Size in Channel	Station	Device&Address PN-Watchdog Time	Data Type DCP SET	Reverse PN-Module	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW1664	*	*										
%WW1665	*	*										
%WW1666	*	*										
%WW1667	*	*										
%WW1668	*	*										
%WW1669	*	*										
%WW1670	*	*										
%WW1671	*	*	3	1	10.230.162.178	1	A40000	Input(Discrete)	Bits	Normal	B200	
%WW1672	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1673	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1674	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1675	*	*	5	1	10.230.162.178	1	A40003	Input(16-Bit Signed)	No	Normal		
%WW1676	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1677	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1678	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1679	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1680	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW1681	*	*	3	1	10.230.162.178	1	A40008	Output(Discrete)	Bits	Normal		

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW1682	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1683	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1684	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1685	*	*	4	1	10.230.162.178	1	A40012	Input(16-Bit Signed)	No	Normal		
%WW1686	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1687	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1688	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1689	*	*	1	1	10.230.162.178	1	A40016	Input(Discrete)	Bits	Normal		
%WW1690	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1691	*	*	1	1	10.230.162.178	1	A40017	Output(Discrete)	Bits	Normal		
%WW1692	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*			*						
%WW1693	*	*										
%WW1694	*	*										
%WW1695	*	*										
%WW1696	*	*										
%WW1697	*	*										
%WW1698	*	*										
%WW1699	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-71
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1700	*	*										
%WW1701	*	*										
%WW1702	*	*										
%WW1703	*	*										
%WW1704	*	*										
%WW1705	*	*										
%WW1706	*	*										
%WW1707	*	*										
%WW1708	*	*										
%WW1709	*	*										
%WW1710	*	*										
%WW1711	*	*										
%WW1712	*	*										
%WW1713	*	*										
%WW1714	*	*										
%WW1715	*	*										
%WW1716	*	*										
%WW1717	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-72
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1718	*	*										
%WW1719	*	*										
%WW1720	*	*										
%WW1721	*	*										
%WW1722	*	*										
%WW1723	*	*										
%WW1724	*	*										
%WW1725	*	*										
%WW1726	*	*										
%WW1727	*	*										
%WW1728	*	*										
%WW1729	*	*										
%WW1730	*	*										
%WW1731	*	*										
%WW1732	*	*										
%WW1733	*	*										
%WW1734	*	*										
%WW1735	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-73
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1736	*	*										
%WW1737	*	*										
%WW1738	*	*										
%WW1739	*	*										
%WW1740	*	*										
%WW1741	*	*										
%WW1742	*	*										
%WW1743	*	*										
%WW1744	*	*										
%WW1745	*	*										
%WW1746	*	*										
%WW1747	*	*										
%WW1748	*	*										
%WW1749	*	*										
%WW1750	*	*										
%WW1751	*	*										
%WW1752	*	*										
%WW1753	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-74
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1754	*	*										
%WW1755	*	*										
%WW1756	*	*										
%WW1757	*	*										
%WW1758	*	*										
%WW1759	*	*										
%WW1760	*	*										
%WW1761	*	*										
%WW1762	*	*										
%WW1763	*	*										
%WW1764	*	*										
%WW1765	*	*										
%WW1766	*	*										
%WW1767	*	*										
%WW1768	*	*										
%WW1769	*	*										
%WW1770	*	*										
%WW1771	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-75
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1772	*	*										
%WW1773	*	*										
%WW1774	*	*										
%WW1775	*	*										
%WW1776	*	*										
%WW1777	*	*										
%WW1778	*	*										
%WW1779	*	*										
%WW1780	*	*										
%WW1781	*	*										
%WW1782	*	*										
%WW1783	*	*										
%WW1784	*	*										
%WW1785	*	*										
%WW1786	*	*										
%WW1787	*	*										
%WW1788	*	*										
%WW1789	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-76
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1790	*	*										
%WW1791	*	*										
%WW1792	*	*										
%WW1793	*	*										
%WW1794	*	*										
%WW1795	*	*										
%WW1796	*	*										
%WW1797	*	*										
%WW1798	*	*										
%WW1799	*	*										
%WW1800	*	*										
%WW1801	*	*										
%WW1802	*	*										
%WW1803	*	*										
%WW1804	*	*										
%WW1805	*	*										
%WW1806	*	*										
%WW1807	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-77
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1808	*	*										
%WW1809	*	*										
%WW1810	*	*										
%WW1811	*	*										
%WW1812	*	*										
%WW1813	*	*										
%WW1814	*	*										
%WW1815	*	*										
%WW1816	*	*										
%WW1817	*	*										
%WW1818	*	*										
%WW1819	*	*										
%WW1820	*	*										
%WW1821	*	*										
%WW1822	*	*										
%WW1823	*	*										
%WW1824	*	*										
%WW1825	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-78
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1826	*	*										
%WW1827	*	*										
%WW1828	*	*										
%WW1829	*	*										
%WW1830	*	*										
%WW1831	*	*										
%WW1832	*	*										
%WW1833	*	*										
%WW1834	*	*										
%WW1835	*	*										
%WW1836	*	*										
%WW1837	*	*										
%WW1838	*	*										
%WW1839	*	*										
%WW1840	*	*										
%WW1841	*	*										
%WW1842	*	*										
%WW1843	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-79
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1844	*	*										
%WW1845	*	*										
%WW1846	*	*										
%WW1847	*	*										
%WW1848	*	*										
%WW1849	*	*										
%WW1850	*	*										
%WW1851	*	*										
%WW1852	*	*										
%WW1853	*	*										
%WW1854	*	*										
%WW1855	*	*										
%WW1856	*	*										
%WW1857	*	*										
%WW1858	*	*										
%WW1859	*	*										
%WW1860	*	*										
%WW1861	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-80
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1862	*	*										
%WW1863	*	*										
%WW1864	*	*										
%WW1865	*	*										
%WW1866	*	*										
%WW1867	*	*										
%WW1868	*	*										
%WW1869	*	*										
%WW1870	*	*										
%WW1871	*	*										
%WW1872	*	*										
%WW1873	*	*										
%WW1874	*	*										
%WW1875	*	*										
%WW1876	*	*										
%WW1877	*	*										
%WW1878	*	*										
%WW1879	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-81
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1880	*	*										
%WW1881	*	*										
%WW1882	*	*										
%WW1883	*	*										
%WW1884	*	*										
%WW1885	*	*										
%WW1886	*	*										
%WW1887	*	*										
%WW1888	*	*										
%WW1889	*	*										
%WW1890	*	*										
%WW1891	*	*										
%WW1892	*	*										
%WW1893	*	*										
%WW1894	*	*										
%WW1895	*	*										
%WW1896	*	*										
%WW1897	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-82
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1898	*	*										
%WW1899	*	*										
%WW1900	*	*										
%WW1901	*	*										
%WW1902	*	*										
%WW1903	*	*										
%WW1904	*	*										
%WW1905	*	*										
%WW1906	*	*										
%WW1907	*	*										
%WW1908	*	*										
%WW1909	*	*										
%WW1910	*	*										
%WW1911	*	*										
%WW1912	*	*										
%WW1913	*	*										
%WW1914	*	*										
%WW1915	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-83
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW1916	*	*										
%WW1917	*	*										
%WW1918	*	*										
%WW1919	*	*										
%WW1920	*	*										
%WW1921	*	*										
%WW1922	*	*										
%WW1923	*	*										
%WW1924	*	*										
%WW1925	*	*										
%WW1926	*	*										
%WW1927	*	*										
%WW1928	*	*										
%WW1929	*	*										
%WW1930	*	*										
%WW1931	*	*										
%WW1932	*	*										
%WW1933	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-84
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size PN-Updating Time PN-Size in Channel	Port PN-Watchdog Time	IP Address DCP SET	Station PN-Module	Device&Address	Data Type PN-slot	Reverse	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW1934	*	*										
%WW1935	*	*										
%WW1936	*	*										
%WW1937	*	*										
%WW1938	*	*										
%WW1939	*	*										
%WW1940	*	*										
%WW2001	500 255.255.255.0 TextId_Output_DataItem	K1-4-4PROFINET 50 0.0.0.0	16	1 48	192.168.90.1 0	1 Transfer area_1	Output(16-Bit Unsigned)	No 1		Normal Transfer area_1	1	fcs01ss1
%WW2002	*	*	*	*	*	*	*	*	*	*	*	*
%WW2003	*	*	*	*	*	*	*	*	*	*	*	*
%WW2004	*	*	*	*	*	*	*	*	*	*	*	*
%WW2005	*	*	*	*	*	*	*	*	*	*	*	*
%WW2006	*	*	*	*	*	*	*	*	*	*	*	*
%WW2007	*	*	*	*	*	*	*	*	*	*	*	*
%WW2008	*	*	*	*	*	*	*	*	*	*	*	*
%WW2009	*	*	*	*	*	*	*	*	*	*	*	*
%WW2010	*	*	*	*	*	*	*	*	*	*	*	*
%WW2011	*	*	*	*	*	*	*	*	*	*	*	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-85
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2012	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2013	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2014	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2015	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2016	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2017	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2018	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2019	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2020	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2021	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2022	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2023	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2024	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2025	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2026	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2027	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2028	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *
%WW2029	* * *	* *	*	*	* * *	* * *	* *	* * *	* *	*	* * *	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-86
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2030	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2031	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2032	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2033	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2034	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2035	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2036	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2037	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2038	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2039	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2040	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2041	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2042	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2043	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2044	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2045	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2046	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *
%WW2047	* * *	* *	*	*	* * *	* * *	* *	*	*	* *	* *	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-87
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%WW2048	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2049	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2050	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2051	*	*	74	1	192.168.90.1	1		Input(32-Bit Floating)	Words	Normal		fcs01ss1
	255.255.255.0	0.0.0.0	16		48		0	Transfer area_2	2		Transfer area_2	1
	TextId_Input_DataItem											
%WW2052	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2053	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2054	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2055	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2056	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2057	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2058	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2059	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2060	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2061	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2062	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2063	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2064	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW2065	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-88
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2066	* * *

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-89
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2084	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2085	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2086	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2087	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2088	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2089	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2090	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2091	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2092	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2093	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2094	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2095	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2096	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2097	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2098	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2099	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2100	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *
%WW2101	* * *	* * *	*	*	* * *	* * *	* *	*	*	* *		* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-90
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2102	* * *

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW2120	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2121	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2122	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2123	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2124	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2125	*	*										
%WW2126	*	*										
%WW2127	*	*	50	1	192.168.90.2	2		Output(16-Bit Unsigned)	No	Normal		fcs01ss2
	255.255.255.0	0.0.0.0	16		48		0	Transfer area_1	1	Transfer area_1	1	
	TextId_Output_DataItem											
%WW2128	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2129	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2130	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2131	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2132	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2133	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2134	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2135	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2136	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2137	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-92
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2138	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2139	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2140	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2141	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2142	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2143	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2144	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2145	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2146	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2147	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2148	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2149	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2150	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2151	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2152	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2153	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2154	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2155	* * *	* *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-93
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2156												
%WW2157												
%WW2158												
%WW2159												
%WW2160												
%WW2161												
%WW2162												
%WW2163												
%WW2164												
%WW2165												
%WW2166												
%WW2167												
%WW2168												
%WW2169												
%WW2170												
%WW2171												
%WW2172												
%WW2173												

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-94
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%WW2174	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2175	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2176	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2177	*	*	74	1	192.168.90.2	2		Input(32-Bit Floating)	Words	Normal		fcs01ss2
	255.255.255.0	0.0.0.0	16		48		0	Transfer area_2	2		Transfer area_2	1
	TextId_Input_DataItem											
%WW2178	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2179	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2180	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2181	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2182	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2183	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2184	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2185	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2186	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2187	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2188	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2189	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2190	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW2191	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-95
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW2192	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2193	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2194	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2195	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2196	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2197	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2198	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2199	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2200	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2201	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2202	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2203	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2204	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2205	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2206	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2207	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2208	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *
%WW2209	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*	* * *	* * *		* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-96
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2210	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2211	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2212	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2213	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2214	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2215	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2216	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2217	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2218	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2219	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2220	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2221	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2222	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2223	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2224	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2225	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2226	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *
%WW2227	* * *	* *	*	*	* * *	* * *	* *	*	* *	*	*	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-97
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW2228	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2229	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2230	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2231	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2232	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2233	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2234	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2235	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2236	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2237	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2238	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2239	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2240	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2241	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2242	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2243	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2244	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *
%WW2245	* * *	* * *	*	*	* * *	* * *	* *	* * *	*	*	* * *	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-98
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW2246	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*	*	*		*	*		*
	*			*	*							
%WW2247	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*	*	*		*	*		*
	*			*	*							
%WW2248	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*	*	*		*	*		*
	*			*	*							
%WW2249	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*	*	*		*	*		*
	*			*	*							
%WW2250	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*	*	*		*	*		*
	*			*	*							
%WW2251	*	*										
%WW2252	*	*										
%WW2253	*	*										
%WW2254	*	*										
%WW2255	*	*										
%WW2256	*	*										
%WW2257	*	*										
%WW2258	*	*										
%WW2259	*	*										
%WW2260	*	*										
%WW2261	*	*										
%WW2262	*	*										
%WW2263	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-99
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2264	*	*										
%WW2265	*	*										
%WW2266	*	*										
%WW2267	*	*										
%WW2268	*	*										
%WW2269	*	*										
%WW2270	*	*										
%WW2271	*	*										
%WW2272	*	*										
%WW2273	*	*										
%WW2274	*	*										
%WW2275	*	*										
%WW2276	*	*										
%WW2277	*	*										
%WW2278	*	*										
%WW2279	*	*										
%WW2280	*	*										
%WW2281	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-100
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2282	*	*										
%WW2283	*	*										
%WW2284	*	*										
%WW2285	*	*										
%WW2286	*	*										
%WW2287	*	*										
%WW2288	*	*										
%WW2289	*	*										
%WW2290	*	*										
%WW2291	*	*										
%WW2292	*	*										
%WW2293	*	*										
%WW2294	*	*										
%WW2295	*	*										
%WW2296	*	*										
%WW2297	*	*										
%WW2298	*	*										
%WW2299	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-101
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2300	*	*										
%WW2301	*	*										
%WW2302	*	*										
%WW2303	*	*										
%WW2304	*	*										
%WW2305	*	*										
%WW2306	*	*										
%WW2307	*	*										
%WW2308	*	*										
%WW2309	*	*										
%WW2310	*	*										
%WW2311	*	*										
%WW2312	*	*										
%WW2313	*	*										
%WW2314	*	*										
%WW2315	*	*										
%WW2316	*	*										
%WW2317	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-102
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2318	*	*										
%WW2319	*	*										
%WW2320	*	*										
%WW2321	*	*										
%WW2322	*	*										
%WW2323	*	*										
%WW2324	*	*										
%WW2325	*	*										
%WW2326	*	*										
%WW2327	*	*										
%WW2328	*	*										
%WW2329	*	*										
%WW2330	*	*										
%WW2331	*	*										
%WW2332	*	*										
%WW2333	*	*										
%WW2334	*	*										
%WW2335	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-103
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2336	*	*										
%WW2337	*	*										
%WW2338	*	*										
%WW2339	*	*										
%WW2340	*	*										
%WW2341	*	*										
%WW2342	*	*										
%WW2343	*	*										
%WW2344	*	*										
%WW2345	*	*										
%WW2346	*	*										
%WW2347	*	*										
%WW2348	*	*										
%WW2349	*	*										
%WW2350	*	*										
%WW2351	*	*										
%WW2352	*	*										
%WW2353	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-104
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2354	*	*										
%WW2355	*	*										
%WW2356	*	*										
%WW2357	*	*										
%WW2358	*	*										
%WW2359	*	*										
%WW2360	*	*										
%WW2361	*	*										
%WW2362	*	*										
%WW2363	*	*										
%WW2364	*	*										
%WW2365	*	*										
%WW2366	*	*										
%WW2367	*	*										
%WW2368	*	*										
%WW2369	*	*										
%WW2370	*	*										
%WW2371	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-105
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2372	*	*										
%WW2373	*	*										
%WW2374	*	*										
%WW2375	*	*										
%WW2376	*	*										
%WW2377	*	*										
%WW2378	*	*										
%WW2379	*	*										
%WW2380	*	*										
%WW2381	*	*										
%WW2382	*	*										
%WW2383	*	*										
%WW2384	*	*										
%WW2385	*	*										
%WW2386	*	*										
%WW2387	*	*										
%WW2388	*	*										
%WW2389	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-106
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2390	*	*										
%WW2391	*	*										
%WW2392	*	*										
%WW2393	*	*										
%WW2394	*	*										
%WW2395	*	*										
%WW2396	*	*										
%WW2397	*	*										
%WW2398	*	*										
%WW2399	*	*										
%WW2400	*	*										
%WW2401	*	*										
%WW2402	*	*										
%WW2403	*	*										
%WW2404	*	*										
%WW2405	*	*										
%WW2406	*	*										
%WW2407	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-107
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2408	*	*										
%WW2409	*	*										
%WW2410	*	*										
%WW2411	*	*										
%WW2412	*	*										
%WW2413	*	*										
%WW2414	*	*										
%WW2415	*	*										
%WW2416	*	*										
%WW2417	*	*										
%WW2418	*	*										
%WW2419	*	*										
%WW2420	*	*										
%WW2421	*	*										
%WW2422	*	*										
%WW2423	*	*										
%WW2424	*	*										
%WW2425	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-108
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2426	*	*										
%WW2427	*	*										
%WW2428	*	*										
%WW2429	*	*										
%WW2430	*	*										
%WW2431	*	*										
%WW2432	*	*										
%WW2433	*	*										
%WW2434	*	*										
%WW2435	*	*										
%WW2436	*	*										
%WW2437	*	*										
%WW2438	*	*										
%WW2439	*	*										
%WW2440	*	*										
%WW2441	*	*										
%WW2442	*	*										
%WW2443	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-109
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2444	*	*										
%WW2445	*	*										
%WW2446	*	*										
%WW2447	*	*										
%WW2448	*	*										
%WW2449	*	*										
%WW2450	*	*										
%WW2451	*	*										
%WW2452	*	*										
%WW2453	*	*										
%WW2454	*	*										
%WW2455	*	*										
%WW2456	*	*										
%WW2457	*	*										
%WW2458	*	*										
%WW2459	*	*										
%WW2460	*	*										
%WW2461	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-110
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2462	*	*										
%WW2463	*	*										
%WW2464	*	*										
%WW2465	*	*										
%WW2466	*	*										
%WW2467	*	*										
%WW2468	*	*										
%WW2469	*	*										
%WW2470	*	*										
%WW2471	*	*										
%WW2472	*	*										
%WW2473	*	*										
%WW2474	*	*										
%WW2475	*	*										
%WW2476	*	*										
%WW2477	*	*										
%WW2478	*	*										
%WW2479	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-111
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW2480	*	*										
%WW2481	*	*										
%WW2482	*	*										
%WW2483	*	*										
%WW2484	*	*										
%WW2485	*	*										
%WW2486	*	*										
%WW2487	*	*										
%WW2488	*	*										
%WW2489	*	*										
%WW2490	*	*										
%WW2491	*	*										
%WW2492	*	*										
%WW2493	*	*										
%WW2494	*	*										
%WW2495	*	*										
%WW2496	*	*										
%WW2497	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-112
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size	Port	IP Address PN-Updating Time PN-Size in Channel	Station	Device&Address PN-Watchdog Time DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW2498	*	*										
%WW2499	*	*										
%WW2500	*	*										
%WW3001	980	K1-4-2FMODBUS	37	1	10.230.162.210	1	A40002	Input(Discrete)	Bits	Normal	NonCriticalFault	
%WW3002	*	*	*	*	*	*	*	*	*	*	CriticalFault	*
%WW3003	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn1Active	*
%WW3004	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn2Active	*
%WW3005	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn3Active	*
%WW3006	*	*	*	*	*	*	*	*	*	*	EmergencySwitchOff	*
%WW3007	*	*	*	*	*	*	*	*	*	*	DouCanFault	*
%WW3008	*	*	*	*	*	*	*	*	*	*	MainsFault	*
%WW3009	*	*	*	*	*	*	*	*	*	*	RectifierWarning	*
%WW3010	*	*	*	*	*	*	*	*	*	*	RectifierFault	*
%WW3011	*	*	*	*	*	*	*	*	*	*	BatteryAlarm	*
%WW3012	*	*	*	*	*	*	*	*	*	*	InverterWarning	*
%WW3013	*	*	*	*	*	*	*	*	*	*	InverterFault	*
%WW3014	*	*	*	*	*	*	*	*	*	*	SBSWarning	*
%WW3015	*	*	*	*	*	*	*	*	*	*	SBSFault	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-113
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW3016											EqualisingCharge	
%WW3017											Charge	
%WW3018											TrickleCharge	
%WW3019											GenSetOperation	
%WW3020											BattTemp.SensFault	
%WW3021											BatteryTemp.ToHigh	
%WW3022											CircuitBreaker	
%WW3023											BatteryWarning	
%WW3024											BatteryLow	
%WW3025											Overload	
%WW3026											FanFault	
%WW3027											Overload	
%WW3028											ShortCircuit	
%WW3029											DcUnderVoltage	
%WW3030											DcOverVoltage	
%WW3031											PowerStackOverTemp	
%WW3032											SBSReady	
%WW3033											SBSMainsFault	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW3034											SBSBlocked	
%WW3035											RectifierOn	
%WW3036											InverterOn	
%WW3037											SBSOn	
%WW3038												
%WW3039			13	1	10.230.162.210	1	A40039	Input(16-Bit Signed)	No	Normal	RectMainsFreq.	
%WW3040											RectMainsVoltL1	
%WW3041											RectMainsVoltL2	
%WW3042											RectMainsVoltL3	
%WW3043											SBSMainsFreq.	
%WW3044											SBSMainsVoltL1	
%WW3045											SBSMainsVoltL2	
%WW3046											SBSMainsVoltL3	
%WW3047											BatteryVoltage	
%WW3048											BatteryCurrent	
%WW3049											AutonomyTime	
%WW3050											BatteryCapacity	
%WW3051											BatteryTemperature	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-115
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway PN-Offset in Channel	Size PN-Updating Time PN-Size in Channel	Port PN-Watchdog Time	IP Address Station	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3052	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3053	*	*	13	1	10.230.162.210	1	A40052	Input(16-Bit Signed)	No	Normal	Output Freq
%WW3054	*	*	*	*	*	*	*	*	*	Output VoltageL1	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3055	*	*	*	*	*	*	*	*	*	Output Load L1	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3056	*	*	*	*	*	*	*	*	*	Output Current L1	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3057	*	*	*	*	*	*	*	*	*	Output Power L1	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3058	*	*	*	*	*	*	*	*	*	Output Voltage L2	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3059	*	*	*	*	*	*	*	*	*	Output Load L2	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3060	*	*	*	*	*	*	*	*	*	Output Current L2	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3061	*	*	*	*	*	*	*	*	*	Output Power L2	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3062	*	*	*	*	*	*	*	*	*	Output Voltage L3	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3063	*	*	*	*	*	*	*	*	*	Output Load L3	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3064	*	*	*	*	*	*	*	*	*	Output Current L3	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3065	*	*	*	*	*	*	*	*	*	Output Power L3	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3066	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3067	*	*	22	1	10.230.162.210	1	A40065	Input(Discrete)	Bits	Normal	LifeCheck
%WW3068	*	*	*	*	*	*	*	*	*	Userdef_AUX1 - Rect.	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							
%WW3069	*	*	*	*	*	*	*	*	*	Userdef_AUX2 - Rect.	*
	*	*	*	*	*	*	*	*	*	*	
	*	*	*	*							

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PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-116
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3070	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX3 - Rect.	*
%WW3071	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX4 - Rect.	*
%WW3072	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX5 - Rect.	*
%WW3073	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX6 - Rect.	*
%WW3074	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX7- Rect.	*
%WW3075	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX1 - Inv.	*
%WW3076	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX2 - Inv.	*
%WW3077	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX3 - Inv.	*
%WW3078	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX4 - Inv.	*
%WW3079	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX5 - Inv.	*
%WW3080	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX6 - Inv.	*
%WW3081	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX7 - Inv.	*
%WW3082	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX1 - SBS	*
%WW3083	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX2 - SBS	*
%WW3084	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX3 - SBS	*
%WW3085	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX4 - SBS	*
%WW3086	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX5 - SBS	*
%WW3087	* * *	* * *	*	*	* * *	* * *	* * *	*	*	*	Userdef_AUX6 - SBS	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-117
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time PN-Size in Channel	IP Address PN-Watchdog Time	Station DCP SET	Device&Address PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3088	*	*	*	*	*	*	*	*	*	*	Userdef_AUX7 - SBS	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3089	*	*	8	1	10.230.162.210	1	A40150	Input(16-Bit Signed)	No	Normal	Year (20xx)	
%WW3090	*	*	*	*	*	*	*	*	*	*	Day (0-31)	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3091	*	*	*	*	*	*	*	*	*	*	Month (1-12)	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3092	*	*	*	*	*	*	*	*	*	*	Hour (0-23)	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3093	*	*	*	*	*	*	*	*	*	*	Minute (0-59)	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3094	*	*	*	*	*	*	*	*	*	*	Second (0-59)	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3095	*	*	*	*	*	*	*	*	*	*	Millisecond (0-999)	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3096	*	*	*	*	*	*	*	*	*	*	Weekday	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3097	*	*										
%WW3098	*	*										
%WW3099	*	*	3	2	10.230.162.210	1	A41000	Input(16-Bit Signed)	No	Normal	Rectifier Control	
%WW3100	*	*	*	*	*	*	*	*	*	*	Inverter Control	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3101	*	*	*	*	*	*	*	*	*	*	SBS Control	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3102	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3103	*	*	2	1	10.230.162.210	1	A41003	Input(Discrete)	Bits	Normal	Battery Quick Test	
%WW3104	*	*	*	*	*	*	*	*	*	*	Battery Capacity Test	*
	*	*	*	*	*	*	*		*	*	*	
	*		*		*							
%WW3105	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-118
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3106	*	*										
%WW3107	*	*	1	2	10.230.162.210	1	A41005	Input(16-Bit Signed)	No	Normal	Battery Capacity Test RM	
%WW3108	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3109	*	*	1	1	10.230.162.210	1	A40001	Input(16-Bit Signed)	No	Normal	Status (AC UPS F&G -TAG : UP-200F4)	
%WW3110	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3111	*	*										
%WW3112	*	*										
%WW3113	*	*										
%WW3114	*	*										
%WW3115	*	*										
%WW3116	*	*										
%WW3117	*	*										
%WW3118	*	*										
%WW3119	*	*										
%WW3120	*	*										
%WW3121	*	*										
%WW3122	*	*										
%WW3123	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-119
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3124	*	*										
%WW3125	*	*										
%WW3126	*	*										
%WW3127	*	*										
%WW3128	*	*										
%WW3129	*	*										
%WW3130	*	*										
%WW3131	*	*										
%WW3132	*	*										
%WW3133	*	*										
%WW3134	*	*										
%WW3135	*	*										
%WW3136	*	*										
%WW3137	*	*										
%WW3138	*	*										
%WW3139	*	*										
%WW3140	*	*										
%WW3141	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-120
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3142	*	*										
%WW3143	*	*										
%WW3144	*	*										
%WW3145	*	*										
%WW3146	*	*										
%WW3147	*	*										
%WW3148	*	*										
%WW3149	*	*										
%WW3150	*	*										
%WW3151	*	*										
%WW3152	*	*										
%WW3153	*	*										
%WW3154	*	*										
%WW3155	*	*										
%WW3156	*	*										
%WW3157	*	*										
%WW3158	*	*										
%WW3159	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-121
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3160	*	*										
%WW3161	*	*										
%WW3162	*	*										
%WW3163	*	*										
%WW3164	*	*										
%WW3165	*	*										
%WW3166	*	*										
%WW3167	*	*										
%WW3168	*	*										
%WW3169	*	*										
%WW3170	*	*										
%WW3171	*	*										
%WW3172	*	*										
%WW3173	*	*										
%WW3174	*	*										
%WW3175	*	*										
%WW3176	*	*										
%WW3177	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-122
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3178	*	*										
%WW3179	*	*										
%WW3180	*	*										
%WW3181	*	*										
%WW3182	*	*										
%WW3183	*	*										
%WW3184	*	*										
%WW3185	*	*										
%WW3186	*	*										
%WW3187	*	*										
%WW3188	*	*										
%WW3189	*	*										
%WW3190	*	*										
%WW3191	*	*										
%WW3192	*	*										
%WW3193	*	*										
%WW3194	*	*										
%WW3195	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-123
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3196	*	*										
%WW3197	*	*										
%WW3198	*	*										
%WW3199	*	*										
%WW3200	*	*										
%WW3201	*	*	37	1	10.230.162.211	1	A40002	Input(Discrete)	Bits	Normal	NonCriticalFault	
%WW3202	*	*	*	*	*	*	*	*	*	*	CriticalFault	*
%WW3203	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn1Active	*
%WW3204	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn2Active	*
%WW3205	*	*	*	*	*	*	*	*	*	*	Userdef_DigIn3Active	*
%WW3206	*	*	*	*	*	*	*	*	*	*	EmergencySwitchOff	*
%WW3207	*	*	*	*	*	*	*	*	*	*	DouCanFault	*
%WW3208	*	*	*	*	*	*	*	*	*	*	MainsFault	*
%WW3209	*	*	*	*	*	*	*	*	*	*	RectifierWarning	*
%WW3210	*	*	*	*	*	*	*	*	*	*	RectifierFault	*
%WW3211	*	*	*	*	*	*	*	*	*	*	BatteryAlarm	*
%WW3212	*	*	*	*	*	*	*	*	*	*	InverterWarning	*
%WW3213	*	*	*	*	*	*	*	*	*	*	InverterFault	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-124
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time PN-Size in Channel	IP Address PN-Watchdog Time	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3214											SBSWarning	
%WW3215											SBSFault	
%WW3216											EqualisingCharge	
%WW3217											Charge	
%WW3218											TrickleCharge	
%WW3219											GenSetOperation	
%WW3220											BattTemp.SensFault	
%WW3221											BatteryTemp.ToHigh	
%WW3222											CircuitBreaker	
%WW3223											BatteryWarning	
%WW3224											BatteryLow	
%WW3225											Overload	
%WW3226											FanFault	
%WW3227											Overload	
%WW3228											ShortCircuit	
%WW3229											DcUnderVoltage	
%WW3230											DcOverVoltage	
%WW3231											PowerStackOverTemp	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-125
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3232	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSReady	* * * * *
%WW3233	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSMainsFault	* * * * *
%WW3234	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSBlocked	* * * * *
%WW3235	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	RectifierOn	* * * * *
%WW3236	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	InverterOn	* * * * *
%WW3237	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSOn	* * * * *
%WW3238	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*		* * * * *
%WW3239	*	*	13	1 10.230.162.211	1	A40039		Input(16-Bit Signed)	No	Normal	RectMainsFreq.	
%WW3240	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	RectMainsVoltL1	* * * * *
%WW3241	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	RectMainsVoltL2	* * * * *
%WW3242	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	RectMainsVoltL3	* * * * *
%WW3243	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSMainsFreq.	* * * * *
%WW3244	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSMainsVoltL1	* * * * *
%WW3245	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSMainsVoltL2	* * * * *
%WW3246	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	SBSMainsVoltL3	* * * * *
%WW3247	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	BatteryVoltage	* * * * *
%WW3248	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	BatteryCurrent	* * * * *
%WW3249	* * * * *	* * * * *	*	* * * * *	*	*	* * * * *	*	* * * * *	*	AutonomyTime	* * * * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-126
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3250	*	*	*	*	*	*	*	*	*	*	BatteryCapacity	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3251	*	*	*	*	*	*	*	*	*	*	BatteryTemperature	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3252	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3253	*	*	13	1	10.230.162.211	1	A40052	Input(16-Bit Signed)	No	Normal	OutputFreq.	
%WW3254	*	*	*	*	*	*	*	*	*	*	OutputVoltageL1	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3255	*	*	*	*	*	*	*	*	*	*	OutputLoadL1	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3256	*	*	*	*	*	*	*	*	*	*	OutputCurrentL1	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3257	*	*	*	*	*	*	*	*	*	*	OutputPowerL1	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3258	*	*	*	*	*	*	*	*	*	*	OutputVoltageL2	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3259	*	*	*	*	*	*	*	*	*	*	OutputLoadL2	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3260	*	*	*	*	*	*	*	*	*	*	OutputCurrentL2	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3261	*	*	*	*	*	*	*	*	*	*	OutputPowerL2	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3262	*	*	*	*	*	*	*	*	*	*	OutputVoltageL3	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3263	*	*	*	*	*	*	*	*	*	*	OutputLoadL3	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3264	*	*	*	*	*	*	*	*	*	*	OutputCurrentL3	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3265	*	*	*	*	*	*	*	*	*	*	OutputPowerL3	*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3266	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*	*	*	*		*
	*		*		*							
%WW3267	*	*	22	1	10.230.162.211	1	A40065	Input(Discrete)	Bits	Normal	LIFECHECK BIT	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-127
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%WW3268	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX1 - Rect.	* *
%WW3269	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX2 - Rect.	* *
%WW3270	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX3 - Rect.	* *
%WW3271	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX4 - Rect.	* *
%WW3272	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX5 - Rect.	* *
%WW3273	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX6 - Rect.	* *
%WW3274	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX7- Rect.	* *
%WW3275	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX1 - Inv.	* *
%WW3276	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX2 - Inv.	* *
%WW3277	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX3 - Inv.	* *
%WW3278	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX4 - Inv.	* *
%WW3279	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX5 - Inv.	* *
%WW3280	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX6 - Inv.	* *
%WW3281	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX7 - Inv.	* *
%WW3282	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX1 - SBS	* *
%WW3283	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX2 - SBS	* *
%WW3284	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX3 - SBS	* *
%WW3285	* * * *	* * * *	*	*	* * * *	* * * *	* * * *	*	* *	* *	Userdef_AUX4 - SBS	* *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-128
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%WW3286	*	*	*	*	*	*	*	*	*	*	Userdef_AUX5 - SBS	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3287	*	*	*	*	*	*	*	*	*	*	Userdef_AUX6 - SBS	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3288	*	*	*	*	*	*	*	*	*	*	Userdef_AUX7 - SBS	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3289	*	*	8	1	10.230.162.211	1	A40150	Input(16-Bit Signed)	No	Normal	Year (20xx)	
%WW3290	*	*	*	*	*	*	*	*	*	*	Day (0-31)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3291	*	*	*	*	*	*	*	*	*	*	Month (1-12)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3292	*	*	*	*	*	*	*	*	*	*	Hour (0-23)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3293	*	*	*	*	*	*	*	*	*	*	Minute (0-59)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3294	*	*	*	*	*	*	*	*	*	*	Second (0-59)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3295	*	*	*	*	*	*	*	*	*	*	Millisecond (0-999)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3296	*	*	*	*	*	*	*	*	*	*	Weekday	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3297	*	*	3	1	10.230.162.211	1	A41000	Output(16-Bit Signed)	No	Normal	Rectifier Control	
%WW3298	*	*	*	*	*	*	*	*	*	*	Inverter Control	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3299	*	*	*	*	*	*	*	*	*	*	SBS Control	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3300	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3301	*	*	2	1	10.230.162.211	1	A41003	Input(Discrete)	Bits	Normal	Battery Quick Test	
%WW3302	*	*	*	*	*	*	*	*	*	*	Battery Capacity Test	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3303	*	*	1	1	10.230.162.211	1	A41005	Input(16-Bit Signed)	No	Normal	Battery Capcity Test RM	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-129
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Size in Channel	IP Address	Station PN-Updating Time	Device&Address PN-Watchdog Time	Data Type DCP SET	Reverse PN-Module	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW3304	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*			*	*	*
	*		*		*							
%WW3305	*	*										
%WW3306	*	*										
%WW3307	*	*	1	1	10.230.162.211	1	A40001	Input(16-Bit Signed)	No	Normal Status	(AC UPS F&G -TAG : UP-200F4)	
%WW3308	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*			*	*	*
	*		*		*							
%WW3309	*	*										
%WW3310	*	*										
%WW3311	*	*										
%WW3312	*	*										
%WW3313	*	*										
%WW3314	*	*										
%WW3315	*	*										
%WW3316	*	*										
%WW3317	*	*										
%WW3318	*	*										
%WW3319	*	*										
%WW3320	*	*										
%WW3321	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-130
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3322	*	*										
%WW3323	*	*										
%WW3324	*	*										
%WW3325	*	*										
%WW3326	*	*										
%WW3327	*	*										
%WW3328	*	*										
%WW3329	*	*										
%WW3330	*	*										
%WW3331	*	*										
%WW3332	*	*										
%WW3333	*	*										
%WW3334	*	*										
%WW3335	*	*										
%WW3336	*	*										
%WW3337	*	*										
%WW3338	*	*										
%WW3339	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-131
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3340	*	*										
%WW3341	*	*										
%WW3342	*	*										
%WW3343	*	*										
%WW3344	*	*										
%WW3345	*	*										
%WW3346	*	*										
%WW3347	*	*										
%WW3348	*	*										
%WW3349	*	*										
%WW3350	*	*										
%WW3351	*	*	48	1	10.230.162.209	1	A40001	Input(Discrete)	Bits	Normal		
%WW3352	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW3353	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW3354	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW3355	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW3356	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
%WW3357	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-132
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW3358	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3359	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3360	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3361	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3362	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3363	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3364	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3365	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3366	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3367	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3368	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3369	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3370	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3371	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3372	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3373	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3374	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *
%WW3375	* * *	* * *	*	*	* * *	* * *	* *	*	* *	*		* *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-133
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW3376	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3377	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3378	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3379	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3380	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3381	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3382	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3383	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3384	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3385	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3386	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3387	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3388	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3389	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3390	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3391	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3392	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *
%WW3393	* * *	* *	*	*	* * *	* * *	* *	*	* *	*		* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-134
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW3394	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3395	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3396	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3397	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3398	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3399	*	*										
%WW3400	*	*										
%WW3401	*	*	28	1	10.230.162.209	1	A40099	Input(16-Bit Unsigned)	No	Normal		
%WW3402	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3403	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3404	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3405	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3406	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3407	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3408	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3409	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3410	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
%WW3411	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-135
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan	Service Comment PN-SubModule	Station name PN-Sub Slot
%WW3412	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3413	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3414	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3415	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3416	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3417	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3418	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3419	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3420	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3421	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3422	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3423	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3424	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3425	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3426	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3427	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3428	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%WW3429	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-136
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3430	*	*										
%WW3431	*	*										
%WW3432	*	*										
%WW3433	*	*										
%WW3434	*	*										
%WW3435	*	*										
%WW3436	*	*										
%WW3437	*	*										
%WW3438	*	*										
%WW3439	*	*										
%WW3440	*	*										
%WW3441	*	*	2	1	10.230.162.209	1	B40201	Output(32-Bit Floating)	No	Normal		
%WW3442	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%WW3443	*	*										
%WW3444	*	*										
%WW3445	*	*										
%WW3446	*	*										
%WW3447	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-137
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3448	*	*										
%WW3449	*	*										
%WW3450	*	*										
%WW3451	*	*										
%WW3452	*	*										
%WW3453	*	*										
%WW3454	*	*										
%WW3455	*	*										
%WW3456	*	*										
%WW3457	*	*										
%WW3458	*	*										
%WW3459	*	*										
%WW3460	*	*										
%WW3461	*	*										
%WW3462	*	*										
%WW3463	*	*										
%WW3464	*	*										
%WW3465	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-138
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3466	*	*										
%WW3467	*	*										
%WW3468	*	*										
%WW3469	*	*										
%WW3470	*	*										
%WW3471	*	*										
%WW3472	*	*										
%WW3473	*	*										
%WW3474	*	*										
%WW3475	*	*										
%WW3476	*	*										
%WW3477	*	*										
%WW3478	*	*										
%WW3479	*	*										
%WW3480	*	*										
%WW3481	*	*										
%WW3482	*	*										
%WW3483	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-139
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3484	*	*										
%WW3485	*	*										
%WW3486	*	*										
%WW3487	*	*										
%WW3488	*	*										
%WW3489	*	*										
%WW3490	*	*										
%WW3491	*	*										
%WW3492	*	*										
%WW3493	*	*										
%WW3494	*	*										
%WW3495	*	*										
%WW3496	*	*										
%WW3497	*	*										
%WW3498	*	*										
%WW3499	*	*										
%WW3500	*	*										
%WW3501	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-140
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3502	*	*										
%WW3503	*	*										
%WW3504	*	*										
%WW3505	*	*										
%WW3506	*	*										
%WW3507	*	*										
%WW3508	*	*										
%WW3509	*	*										
%WW3510	*	*										
%WW3511	*	*										
%WW3512	*	*										
%WW3513	*	*										
%WW3514	*	*										
%WW3515	*	*										
%WW3516	*	*										
%WW3517	*	*										
%WW3518	*	*										
%WW3519	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-141
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3520	*	*										
%WW3521	*	*										
%WW3522	*	*										
%WW3523	*	*										
%WW3524	*	*										
%WW3525	*	*										
%WW3526	*	*										
%WW3527	*	*										
%WW3528	*	*										
%WW3529	*	*										
%WW3530	*	*										
%WW3531	*	*										
%WW3532	*	*										
%WW3533	*	*										
%WW3534	*	*										
%WW3535	*	*										
%WW3536	*	*										
%WW3537	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-142
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3538	*	*										
%WW3539	*	*										
%WW3540	*	*										
%WW3541	*	*										
%WW3542	*	*										
%WW3543	*	*										
%WW3544	*	*										
%WW3545	*	*										
%WW3546	*	*										
%WW3547	*	*										
%WW3548	*	*										
%WW3549	*	*										
%WW3550	*	*										
%WW3551	*	*										
%WW3552	*	*										
%WW3553	*	*										
%WW3554	*	*										
%WW3555	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-143
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3556	*	*										
%WW3557	*	*										
%WW3558	*	*										
%WW3559	*	*										
%WW3560	*	*										
%WW3561	*	*										
%WW3562	*	*										
%WW3563	*	*										
%WW3564	*	*										
%WW3565	*	*										
%WW3566	*	*										
%WW3567	*	*										
%WW3568	*	*										
%WW3569	*	*										
%WW3570	*	*										
%WW3571	*	*										
%WW3572	*	*										
%WW3573	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-144
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3574	*	*										
%WW3575	*	*										
%WW3576	*	*										
%WW3577	*	*										
%WW3578	*	*										
%WW3579	*	*										
%WW3580	*	*										
%WW3581	*	*										
%WW3582	*	*										
%WW3583	*	*										
%WW3584	*	*										
%WW3585	*	*										
%WW3586	*	*										
%WW3587	*	*										
%WW3588	*	*										
%WW3589	*	*										
%WW3590	*	*										
%WW3591	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-145
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3592	*	*										
%WW3593	*	*										
%WW3594	*	*										
%WW3595	*	*										
%WW3596	*	*										
%WW3597	*	*										
%WW3598	*	*										
%WW3599	*	*										
%WW3600	*	*										
%WW3601	*	*	6	1	10.230.162.113	1	A40006	Output(32-Bit Floating)	No	Normal	ph	
%WW3602	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW3603	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW3604	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW3605	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW3606	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW3607	*	*	2	1	10.230.162.113	1	A40012	Output(32-Bit Floating)	No	Normal		
%WW3608	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	*
	*		*		*							
%WW3609	*	*	2	1	10.230.162.113	1	A40001	Output(16-Bit Unsigned)	No	Normal		

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-146
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer / Subnet mask / PN-Data	Program Name / Default gateway / PN-Offset in Channel	Size	Port	IP Address / PN-Updating Time	Station / PN-Watchdog Time / PN-Size in Channel	Device&Address / DCP SET	Data Type / PN-Module	Reverse / PN-slot	Scan / PN-SubModule	Service Comment	Station name / PN-Sub Slot
%WW3610	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*
%WW3611	*	*	1	1	10.230.162.113	1	A40004	Output(16-Bit Unsigned)	No	Normal		
%WW3612	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*
%WW3613	*	*	2	1	10.230.162.113	1	A40021	Output(32-Bit Floating)	Words	Normal		
%WW3614	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*
%WW3615	*	*	1	1	10.230.162.113	1	A40023	Output(16-Bit Unsigned)	No	Normal		
%WW3616	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*
%WW3617	*	*										
%WW3618	*	*										
%WW3619	*	*										
%WW3620	*	*										
%WW3621	*	*	13	1	10.230.162.113	1	A30001	Input(16-Bit Signed)	No	Normal	EMCS ENTER MODE	
%WW3622	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*	EMCS CURRENT MODE	*
%WW3623	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*	FUELCELL STATUS	*
%WW3624	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*	ELECTROLYZER STATUS	*
%WW3625	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*
%WW3626	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*
%WW3627	* / * / *	* / * / *	*	*	* / * / *	* / * / *	*	*	*	*		*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-147
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%WW3628	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3629	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3630	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3631	*	*	*	*	*	*	*	*	*	*	WATER REQUEST TO ELECTROLYZER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3632	*	*	*	*	*	*	*	*	*	*	FC CURRENT POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3633	*	*	*	*	*	*	*	*	*	*	FC TARGET POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3634	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3635	*	*	1	1	10.230.162.113	1	Y00002	Output(Discrete)	Bits	Normal		
%WW3636	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3637	*	*										
%WW3638	*	*										
%WW3639	*	*										
%WW3640	*	*										
%WW3641	*	*	1	1	10.230.162.113	1	A10000	Input(Discrete)	Bits	Normal		
%WW3642	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%WW3643	*	*										
%WW3644	*	*										
%WW3645	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-148
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3646	*	*										
%WW3647	*	*										
%WW3648	*	*										
%WW3649	*	*										
%WW3650	*	*										
%WW3651	*	*										
%WW3652	*	*										
%WW3653	*	*										
%WW3654	*	*										
%WW3655	*	*										
%WW3656	*	*										
%WW3657	*	*										
%WW3658	*	*										
%WW3659	*	*										
%WW3660	*	*										
%WW3661	*	*										
%WW3662	*	*										
%WW3663	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-149
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3664	*	*										
%WW3665	*	*										
%WW3666	*	*										
%WW3667	*	*										
%WW3668	*	*										
%WW3669	*	*										
%WW3670	*	*										
%WW3671	*	*										
%WW3672	*	*										
%WW3673	*	*										
%WW3674	*	*										
%WW3675	*	*										
%WW3676	*	*										
%WW3677	*	*										
%WW3678	*	*										
%WW3679	*	*										
%WW3680	*	*										
%WW3681	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-150
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3682	*	*										
%WW3683	*	*										
%WW3684	*	*										
%WW3685	*	*										
%WW3686	*	*										
%WW3687	*	*										
%WW3688	*	*										
%WW3689	*	*										
%WW3690	*	*										
%WW3691	*	*										
%WW3692	*	*										
%WW3693	*	*										
%WW3694	*	*										
%WW3695	*	*										
%WW3696	*	*										
%WW3697	*	*										
%WW3698	*	*										
%WW3699	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-151
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3700	*	*										
%WW3701	*	*										
%WW3702	*	*										
%WW3703	*	*										
%WW3704	*	*										
%WW3705	*	*										
%WW3706	*	*										
%WW3707	*	*										
%WW3708	*	*										
%WW3709	*	*										
%WW3710	*	*										
%WW3711	*	*										
%WW3712	*	*										
%WW3713	*	*										
%WW3714	*	*										
%WW3715	*	*										
%WW3716	*	*										
%WW3717	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-152
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3718	*	*										
%WW3719	*	*										
%WW3720	*	*										
%WW3721	*	*										
%WW3722	*	*										
%WW3723	*	*										
%WW3724	*	*										
%WW3725	*	*										
%WW3726	*	*										
%WW3727	*	*										
%WW3728	*	*										
%WW3729	*	*										
%WW3730	*	*										
%WW3731	*	*										
%WW3732	*	*										
%WW3733	*	*										
%WW3734	*	*										
%WW3735	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-153
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3736	*	*										
%WW3737	*	*										
%WW3738	*	*										
%WW3739	*	*										
%WW3740	*	*										
%WW3741	*	*										
%WW3742	*	*										
%WW3743	*	*										
%WW3744	*	*										
%WW3745	*	*										
%WW3746	*	*										
%WW3747	*	*										
%WW3748	*	*										
%WW3749	*	*										
%WW3750	*	*										
%WW3751	*	*										
%WW3752	*	*										
%WW3753	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-154
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3754	*	*										
%WW3755	*	*										
%WW3756	*	*										
%WW3757	*	*										
%WW3758	*	*										
%WW3759	*	*										
%WW3760	*	*										
%WW3761	*	*										
%WW3762	*	*										
%WW3763	*	*										
%WW3764	*	*										
%WW3765	*	*										
%WW3766	*	*										
%WW3767	*	*										
%WW3768	*	*										
%WW3769	*	*										
%WW3770	*	*										
%WW3771	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-155
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3772	*	*										
%WW3773	*	*										
%WW3774	*	*										
%WW3775	*	*										
%WW3776	*	*										
%WW3777	*	*										
%WW3778	*	*										
%WW3779	*	*										
%WW3780	*	*										
%WW3781	*	*										
%WW3782	*	*										
%WW3783	*	*										
%WW3784	*	*										
%WW3785	*	*										
%WW3786	*	*										
%WW3787	*	*										
%WW3788	*	*										
%WW3789	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-156
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3790	*	*										
%WW3791	*	*										
%WW3792	*	*										
%WW3793	*	*										
%WW3794	*	*										
%WW3795	*	*										
%WW3796	*	*										
%WW3797	*	*										
%WW3798	*	*										
%WW3799	*	*										
%WW3800	*	*										
%WW3801	*	*										
%WW3802	*	*										
%WW3803	*	*										
%WW3804	*	*										
%WW3805	*	*										
%WW3806	*	*										
%WW3807	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-157
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3808	*	*										
%WW3809	*	*										
%WW3810	*	*										
%WW3811	*	*										
%WW3812	*	*										
%WW3813	*	*										
%WW3814	*	*										
%WW3815	*	*										
%WW3816	*	*										
%WW3817	*	*										
%WW3818	*	*										
%WW3819	*	*										
%WW3820	*	*										
%WW3821	*	*										
%WW3822	*	*										
%WW3823	*	*										
%WW3824	*	*										
%WW3825	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-158
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3826	*	*										
%WW3827	*	*										
%WW3828	*	*										
%WW3829	*	*										
%WW3830	*	*										
%WW3831	*	*										
%WW3832	*	*										
%WW3833	*	*										
%WW3834	*	*										
%WW3835	*	*										
%WW3836	*	*										
%WW3837	*	*										
%WW3838	*	*										
%WW3839	*	*										
%WW3840	*	*										
%WW3841	*	*										
%WW3842	*	*										
%WW3843	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-159
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3844	*	*										
%WW3845	*	*										
%WW3846	*	*										
%WW3847	*	*										
%WW3848	*	*										
%WW3849	*	*										
%WW3850	*	*										
%WW3851	*	*										
%WW3852	*	*										
%WW3853	*	*										
%WW3854	*	*										
%WW3855	*	*										
%WW3856	*	*										
%WW3857	*	*										
%WW3858	*	*										
%WW3859	*	*										
%WW3860	*	*										
%WW3861	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-160
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3862	*	*										
%WW3863	*	*										
%WW3864	*	*										
%WW3865	*	*										
%WW3866	*	*										
%WW3867	*	*										
%WW3868	*	*										
%WW3869	*	*										
%WW3870	*	*										
%WW3871	*	*										
%WW3872	*	*										
%WW3873	*	*										
%WW3874	*	*										
%WW3875	*	*										
%WW3876	*	*										
%WW3877	*	*										
%WW3878	*	*										
%WW3879	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-161
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3880	*	*										
%WW3881	*	*										
%WW3882	*	*										
%WW3883	*	*										
%WW3884	*	*										
%WW3885	*	*										
%WW3886	*	*										
%WW3887	*	*										
%WW3888	*	*										
%WW3889	*	*										
%WW3890	*	*										
%WW3891	*	*										
%WW3892	*	*										
%WW3893	*	*										
%WW3894	*	*										
%WW3895	*	*										
%WW3896	*	*										
%WW3897	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-162
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3898	*	*										
%WW3899	*	*										
%WW3900	*	*										
%WW3901	*	*										
%WW3902	*	*										
%WW3903	*	*										
%WW3904	*	*										
%WW3905	*	*										
%WW3906	*	*										
%WW3907	*	*										
%WW3908	*	*										
%WW3909	*	*										
%WW3910	*	*										
%WW3911	*	*										
%WW3912	*	*										
%WW3913	*	*										
%WW3914	*	*										
%WW3915	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-163
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3916	*	*										
%WW3917	*	*										
%WW3918	*	*										
%WW3919	*	*										
%WW3920	*	*										
%WW3921	*	*										
%WW3922	*	*										
%WW3923	*	*										
%WW3924	*	*										
%WW3925	*	*										
%WW3926	*	*										
%WW3927	*	*										
%WW3928	*	*										
%WW3929	*	*										
%WW3930	*	*										
%WW3931	*	*										
%WW3932	*	*										
%WW3933	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-164
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3934	*	*										
%WW3935	*	*										
%WW3936	*	*										
%WW3937	*	*										
%WW3938	*	*										
%WW3939	*	*										
%WW3940	*	*										
%WW3941	*	*										
%WW3942	*	*										
%WW3943	*	*										
%WW3944	*	*										
%WW3945	*	*										
%WW3946	*	*										
%WW3947	*	*										
%WW3948	*	*										
%WW3949	*	*										
%WW3950	*	*										
%WW3951	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-165
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3952	*	*										
%WW3953	*	*										
%WW3954	*	*										
%WW3955	*	*										
%WW3956	*	*										
%WW3957	*	*										
%WW3958	*	*										
%WW3959	*	*										
%WW3960	*	*										
%WW3961	*	*										
%WW3962	*	*										
%WW3963	*	*										
%WW3964	*	*										
%WW3965	*	*										
%WW3966	*	*										
%WW3967	*	*										
%WW3968	*	*										
%WW3969	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataWW.edf	SHEET:		YOKOGAWA	PAGE:3-7-166
STATION:	FCS0101	SAVED DATE:	7/5/2025 1:00:37 AM	COMMENT:			
SECTION:	Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%WW3970	*	*										
%WW3971	*	*										
%WW3972	*	*										
%WW3973	*	*										
%WW3974	*	*										
%WW3975	*	*										
%WW3976	*	*										
%WW3977	*	*										
%WW3978	*	*										
%WW3979	*	*										
%WW3980	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-1
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

Communication I/O Builder

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0001	%WB000101	20UA-5301	NON CRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0002	%WB000201	20XA-5301	CRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0003	%WB000301	20US-5307	USERDEF_DIGIN1ACTIVE	ON,,OFF,ON	Direct	G	R	4
0004	%WB000401	20US-5308	USERDEF_DIGIN2ACTIVE	ON,,OFF,ON	Direct	G	R	4
0005	%WB000501	20US-5309	USERDEF_DIGIN3ACTIVE	ON,,OFF,ON	Direct	G	R	4
0006	%WB000601	20US-5310	EMERGENCYSWITCHOFF	ON,,OFF,ON	Direct	G	R	4
0007	%WB000701	20XA-5302	DOU CAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0008	%WB000801	20XA-5303	MAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0009	%WB000901	20US-5311	RECTIFIER WARNING	ON,,OFF,ON	Direct	R	GR	4
0010	%WB001001	20XA-5304	RECTIFIER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0011	%WB001101	20XA-5305	BATTERY ALARM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0012	%WB001201	20US-5312	INVERTER WARNING	ON,,OFF,ON	Direct	G	R	4
0013	%WB001301	20XA-5306	INVERTER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0014	%WB001401	20US-5313	SBS WARNING	ON,,OFF,ON	Direct	R	GR	4
0015	%WB001501	20XA-5307	SBS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0016	%WB001601	20US-5314	EQUALISING CHARGE	ON,,OFF,ON	Direct	G	R	4
0017	%WB001701	20UA-5327	CHARGE	ON,,OFF,ON	Direct	G	R	4
0018	%WB001801	20UA-5328	TRICKLE CHARGE	ON,,OFF,ON	Direct	G	R	4
0019	%WB001901	20UA-5302	GENSET OPERATION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0020	%WB002001	20XA-5308	BATT TEMP SENS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0021	%WB002101	20TA-5301	BATTERY TEMP TOHIGH	ON,,OFF,ON	Direct	R	GR	4
0022	%WB002201	20XS-5301	CIRCUIT BREAKER	ON,,OFF,ON	Direct	G	R	4
0023	%WB002301	20US-5317	BATTERY WARNING	ON,,OFF,ON	Direct	R	GR	4
0024	%WB002401	20US-5318	BATTERY LOW	ON,,OFF,ON	Direct	G	R	4
0025	%WB002501	20US-5319	OVERLOAD	ON,,OFF,ON	Direct	R	G	4
0026	%WB002601	20XA-5309	FAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0027	%WB002701	20UA-5303	OVERLOAD	ALARM,,NORMAL,ALARM	Direct	R	G	4
0028	%WB002801	20US-5320	SHORT CIRCUIT	ON,,OFF,ON	Direct	G	R	4
0029	%WB002901	20US-5321	DC UNDER VOLTAGE	ON,,OFF,ON	Direct	G	R	4
0030	%WB003001	20US-5322	DC OVER VOLTAGE	ON,,OFF,ON	Direct	G	R	4
0031	%WB003101	20XA-5310	POWER STACK OVERTEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0032	%WB003201	20RDY-5301	SBS READY	READY,,N_READY,READY	Direct	G	R	4
0033	%WB003301	20XA-5311	SBS MAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0034	%WB003401	20US-5323	SBSB LOCKED	ON,,OFF,ON	Direct	G	R	4
0035	%WB003501	20US-5324	RECTIFIER ON	ON,,OFF,ON	Direct	G	R	4
0036	%WB003601	20US-5325	INVERTER ON	ON,,OFF,ON	Direct	G	R	4
0037	%WB003701	20US-5326	SBS ON	ON,,OFF,ON	Direct	G	R	4
0038	%WB006701	20US-5343	LIFE CHECK BIT	ON,,OFF,ON	Direct	G	R	4
0039	%WB006801	20UA-5304	USERDEF_AUX2 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0040	%WB006901	20UA-5305	USERDEF_AUX2 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0041	%WB007001	20UA-5306	USERDEF_AUX3 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0042	%WB007101	20UA-5307	USERDEF_AUX4 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0043	%WB007201	20UA-5308	USERDEF_AUX5 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0044	%WB007301	20UA-5309	USERDEF_AUX6 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0045	%WB007401	20UA-5310	USERDEF_AUX7– RECT	ALARM,,NORMAL,ALARM	Reverse	R	G	4
0046	%WB007501	20UA-5311	BATTERTY MCCB OPEN	OPEN,,CLOSE,OPEN	Direct	R	G	4
0047	%WB007601	20UA-5312	USERDEF_AUX2 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0048	%WB007701	20UA-5313	USERDEF_AUX3 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0049	%WB007801	20UA-5314	USERDEF_AUX4 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0050	%WB007901	20UA-5315	USERDEF_AUX5 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0051	%WB008001	20UA-5316	USERDEF_AUX6 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0052	%WB008101	20UA-5317	USERDEF_AUX7 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0053	%WB008201	20UA-5318	USERDEF_AUX1 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0054	%WB008301	20UA-5319	USERDEF_AUX2 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-2
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0055	%WB008401	20UA-5320	USERDEF_AUX3 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0056	%WB008501	20UA-5321	USERDEF_AUX4 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0057	%WB008601	20UA-5322	USERDEF_AUX5 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0058	%WB008701	20UA-5323	USERDEF_AUX6 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0059	%WB008801	20UA-5324	USERDEF_AUX7 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0077	%WB010309	20US-5331	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0078	%WB010310	20US-5332	TEST IMPL WAITNG APPROVA	ON,,OFF,ON	Direct	G	GR	4
0079	%WB010311	20US-5333	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0080	%WB010312	20US-5334	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0081	%WB010313	20US-5335	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0082	%WB010314	20US-5336	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0083	%WB010315	20UA-5325	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0084	%WB010316	20XA-5315	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0088	%WB010409	20US-5337	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0089	%WB010410	20US-5338	TEST IMPL WAITNG APPROVA	ON,,OFF,ON	Direct	G	GR	4
0090	%WB010411	20US-5339	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0091	%WB010412	20US-5340	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0092	%WB010413	20US-5341	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0093	%WB010414	20US-5342	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0094	%WB010415	20UA-5326	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0095	%WB010416	20XA-5316	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0101	%WB300101	20UA-5351	NON CRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0102	%WB300201	20XA-5351	CRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0103	%WB300301	20US-5357	USERDEF_DIGIN1ACTIVE	ON,,OFF,ON	Direct	G	R	4
0104	%WB300401	20US-5358	USERDEF_DIGIN2ACTIVE	ON,,OFF,ON	Direct	G	R	4
0105	%WB300501	20US-5359	USERDEF_DIGIN3ACTIVE	ON,,OFF,ON	Direct	G	R	4
0106	%WB300601	20US-5360	EMERGENCYSWITCHOFF	ON,,OFF,ON	Direct	G	R	4
0107	%WB300701	20XA-5352	DOU CAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0108	%WB300801	20XA-5353	MAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0109	%WB300901	20US-5361	RECTIFIER WARNING	ON,,OFF,ON	Direct	R	GR	4
0110	%WB301001	20XA-5354	RECTIFIER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0111	%WB301101	20XA-5355	BATTERY ALARM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0112	%WB301201	20US-5362	INVERTER WARNING	ON,,OFF,ON	Direct	G	R	4
0113	%WB301301	20XA-5356	INVERTER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0114	%WB301401	20US-5363	SBS WARNING	ON,,OFF,ON	Direct	R	GR	4
0115	%WB301501	20XA-5357	SBS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0116	%WB301601	20US-5364	EQUALISING CHARGE	ON,,OFF,ON	Direct	G	R	4
0117	%WB301701	20US-5365	CHARGE	ON,,OFF,ON	Direct	G	R	4
0118	%WB301801	20US-5366	TRICKLE CHARGE	ON,,OFF,ON	Direct	G	R	4
0119	%WB301901	20UA-5352	GENSET OPERATION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0120	%WB302001	20XA-5358	BATT TEMP SENS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0121	%WB302101	20TA-5351	BATTERY TEMP TOHIGH	ON,,OFF,ON	Direct	R	GR	4
0122	%WB302201	20XS-5351	CIRCUIT BREAKER	ON,,OFF,ON	Direct	G	R	4
0123	%WB302301	20US-5367	BATTERY WARNING	ON,,OFF,ON	Direct	R	GR	4
0124	%WB302401	20US-5368	BATTERY LOW	ON,,OFF,ON	Direct	G	R	4
0125	%WB302501	20US-5369	OVERLOAD	ON,,OFF,ON	Direct	R	G	4
0126	%WB302601	20XA-5359	FAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0127	%WB302701	20UA-5353	OVERLOAD	ALARM,,NORMAL,ALARM	Direct	R	G	4
0128	%WB302801	20US-5370	SHORT CIRCUIT	ON,,OFF,ON	Direct	G	R	4
0129	%WB302901	20US-5371	DC UNDER VOLTAGE	ON,,OFF,ON	Direct	G	R	4
0130	%WB303001	20US-5372	DC OVER VOLTAGE	ON,,OFF,ON	Direct	G	R	4
0131	%WB303101	20XA-5360	POWER STACK OVERTEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0132	%WB303201	20RDY5351	SBS READY	READY,,N_READY,READY	Direct	G	R	4
0133	%WB303301	20XA-5361	SBS MAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0134	%WB303401	20US-5373	SBSB LOCKED	ON,,OFF,ON	Direct	G	R	4
0135	%WB303501	20US-5374	RECTIFIER ON	ON,,OFF,ON	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-3
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0136	%WB303601	20US-5375	INVERTER ON	ON,,OFF,ON	Direct	G	R	4
0137	%WB303701	20US-5376	SBS ON	ON,,OFF,ON	Direct	G	R	4
0138	%WB306701	20US-5393	LIFE CHECK BIT	ON,,OFF,ON	Direct	G	R	4
0139	%WB306801	20UA-5354	BATTERTY MCCB OPEN	ALARM,,NORMAL,ALARM	Direct	R	G	4
0140	%WB306901	20UA-5355	USERDEF_AUX2 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0141	%WB307001	20UA-5356	USERDEF_AUX3 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0142	%WB307101	20UA-5357	USERDEF_AUX4 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0143	%WB307201	20UA-5358	USERDEF_AUX5 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0144	%WB307301	20UA-5359	USERDEF_AUX6 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0145	%WB307401	20UA-5360	USERDEF_AUX7– RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0146	%WB307501	20UA-5361	BATTERTY MCCB OPEN	OPEN,,CLOSE,OPEN	Direct	R	G	4
0147	%WB307601	20UA-5362	USERDEF_AUX2 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0148	%WB307701	20UA-5363	USERDEF_AUX3 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0149	%WB307801	20UA-5364	USERDEF_AUX4 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0150	%WB307901	20UA-5365	USERDEF_AUX5 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0151	%WB308001	20UA-5366	USERDEF_AUX6 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0152	%WB308101	20UA-5367	USERDEF_AUX7 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0153	%WB308201	20UA-5368	USERDEF_AUX1 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0154	%WB308301	20UA-5369	USERDEF_AUX2 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0155	%WB308401	20UA-5370	USERDEF_AUX3 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0156	%WB308501	20UA-5371	USERDEF_AUX4 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0157	%WB308601	20UA-5372	USERDEF_AUX5 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0158	%WB308701	20UA-5373	USERDEF_AUX6 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0159	%WB308801	20UA-5374	USERDEF_AUX7 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0177	%WB310309	20US-5381	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0178	%WB310310	20US-5382	TEST IMPL WAITNG APPROVA	ON,,OFF,ON	Direct	G	GR	4
0179	%WB310311	20US-5383	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0180	%WB310312	20US-5384	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0181	%WB310313	20US-5385	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0182	%WB310314	20US-5386	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0183	%WB310315	20UA-5375	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0184	%WB310316	20XA-5365	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0188	%WB041409	20US-5387	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0189	%WB041410	20US-5388	TEST IMPL WAITNG APPROVA	ON,,OFF,ON	Direct	G	GR	4
0190	%WB041411	20US-5389	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0191	%WB041412	20US-5390	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0192	%WB041413	20US-5391	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0193	%WB041414	20US-5392	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0194	%WB041415	20UA-5376	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0195	%WB041416	20XA-5366	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0201	%WB020101	20UA-5401	NONCRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0202	%WB020201	20XA-5401	CRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0203	%WB020301	20US-5407	USERDEF_DIGIN1ACTIVE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0204	%WB020401	20US-5408	USERDEF_DIGIN2ACTIVE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0205	%WB020501	20US-5409	USERDEF_DIGIN3ACTIVE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0206	%WB020601	20US-5410	EMERGENCYSWITCHOFF	ALARM,,NORMAL,ALARM	Direct	R	R	4
0207	%WB020701	20XA-5402	DOUCAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0208	%WB020801	20XA-5403	MAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0209	%WB020901	20US-5411	RECTIFIER WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0210	%WB021001	20XA-5404	RECTIFIER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0211	%WB021101	20XA-5405	BATTERY ALARM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0212	%WB021201	20US-5412	INVERTER WARNING	ALARM,,NORMAL,ALARM	Direct	R	R	4
0213	%WB021301	20XA-5406	INVERTER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0214	%WB021401	20US-5413	SBS WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0215	%WB021501	20XA-5407	SBS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0216	%WB021601	20US-5414	EQUALISING CHARGE	ALARM,,NORMAL,ALARM	Direct	R	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-4
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0217	%WB021701	20UA-5427	CHARGE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0218	%WB021801	20UA-5428	TRICKLE CHARGE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0219	%WB021901	20UA-5402	GEN SET OPERATION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0220	%WB022001	20XA-5408	BATTT EMP SENS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0221	%WB022101	20TA-5401	BATTERY TEMP TO HIGH	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0222	%WB022201	20XS-5401	CIRCUIT BREAKER	ALARM,,NORMAL,ALARM	Direct	R	R	4
0223	%WB022301	20US-5417	BATTERY WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0224	%WB022401	20US-5418	BATTERY LOW	ALARM,,NORMAL,ALARM	Direct	R	R	4
0225	%WB022501	20US-5419	OVERLOAD	ON,,OFF,ON	Direct	R	G	4
0226	%WB022601	20XA-5409	FAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0227	%WB022701	20UA-5403	OVERLOAD	ALARM,,NORMAL,ALARM	Direct	R	G	4
0228	%WB022801	20US-5420	SHORT CIRCUIT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0229	%WB022901	20US-5421	DC UNDER VOLTAGE	ALARM,,NORMAL,ALARM	Direct	R	G	4
0230	%WB023001	20US-5422	DC OVER VOLTAGE	ALARM,,NORMAL,ALARM	Direct	R	G	4
0231	%WB023101	20XA-5410	POWER STACK OVERTEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0232	%WB023201	20RDY-5401	SBSREADY	ALARM,,NORMAL,ALARM	Direct	R	G	4
0233	%WB023301	20XA-5411	SBSMAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0234	%WB023401	20US-5423	SBSBLOCKED	ALARM,,NORMAL,ALARM	Direct	R	G	4
0235	%WB023501	20US-5424	RECTIFIERON	ALARM,,NORMAL,ALARM	Direct	R	G	4
0236	%WB023601	20US-5425	INVERTERON	ALARM,,NORMAL,ALARM	Direct	R	G	4
0237	%WB023701	20US-5426	SBS ON	ALARM,,NORMAL,ALARM	Direct	R	G	4
0238	%WB026701	20US-5443	LIFE CHECK BIT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0239	%WB026801	20UA-5404	BATTERTY MCCB OPEN	ALARM,,NORMAL,ALARM	Direct	R	G	4
0240	%WB026901	20UA-5405	USERDEF_AUX2 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0241	%WB027001	20UA-5406	USERDEF_AUX3 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0242	%WB027101	20UA-5407	USERDEF_AUX4 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0243	%WB027201	20UA-5408	USERDEF_AUX5 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0244	%WB027301	20UA-5409	USERDEF_AUX6 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0245	%WB027401	20UA-5410	USERDEF_AUX7– RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0246	%WB027501	20UA-5411	BATTERTY MCCB OPEN	OPEN,,CLOSE,OPEN	Direct	R	G	4
0247	%WB027601	20UA-5412	USERDEF_AUX2 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0248	%WB027701	20UA-5413	USERDEF_AUX3 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0249	%WB027801	20UA-5414	USERDEF_AUX4 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0250	%WB027901	20UA-5415	USERDEF_AUX5 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0251	%WB028001	20UA-5416	USERDEF_AUX6 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0252	%WB028101	20UA-5417	USERDEF_AUX7 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0253	%WB028201	20UA-5418	USERDEF_AUX1 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0254	%WB028301	20UA-5419	USERDEF_AUX2 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0255	%WB028401	20UA-5420	USERDEF_AUX3 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0256	%WB028501	20UA-5421	USERDEF_AUX4 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0257	%WB028601	20UA-5422	USERDEF_AUX5 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0258	%WB028701	20UA-5423	USERDEF_AUX6 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0259	%WB028801	20UA-5424	USERDEF_AUX7 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0277	%WB030109	20US-5431	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0278	%WB030110	20US-5432	TEST IMPL WAITNG APPROVA	ON,,OFF,ON	Direct	G	GR	4
0279	%WB030111	20US-5433	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0280	%WB030112	20US-5434	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0281	%WB030113	20US-5435	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0282	%WB030114	20US-5436	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0283	%WB030115	20UA-5425	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0284	%WB030116	20XA-5415	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0288	%WB030209	20US-5437	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0289	%WB030210	20US-5438	TEST IMPL WAITING FOR AP	ON,,OFF,ON	Direct	G	GR	4
0290	%WB030211	20US-5439	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0291	%WB030212	20US-5440	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0292	%WB030213	20US-5441	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-5
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0293	%WB030214	20US-5442	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0294	%WB030215	20UA-5426	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0295	%WB030216	20XA-5416	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0301	%WB320101	20UA-5451	NONCRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0302	%WB320201	20XA-5451	CRITICAL FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0303	%WB320301	20US-5457	USERDEF_DIGIN1ACTIVE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0304	%WB320401	20US-5458	USERDEF_DIGIN2ACTIVE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0305	%WB320501	20US-5459	USERDEF_DIGIN3ACTIVE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0306	%WB320601	20US-5460	EMERGENCYSWITCHOFF	ALARM,,NORMAL,ALARM	Direct	R	R	4
0307	%WB320701	20XA-5452	DOUCAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0308	%WB320801	20XA-5453	MAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0309	%WB320901	20US-5461	RECTIFIER WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0310	%WB321001	20XA-5454	RECTIFIER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0311	%WB321101	20XA-5455	BATTERY ALARM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0312	%WB321201	20US-5462	INVERTER WARNING	ALARM,,NORMAL,ALARM	Direct	R	R	4
0313	%WB321301	20XA-5456	INVERTER FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0314	%WB321401	20US-5463	SBS WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0315	%WB321501	20XA-5457	SBS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0316	%WB321601	20US-5464	EQUALISING CHARGE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0317	%WB321701	20UA-5477	CHARGE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0318	%WB321801	20UA-5478	TRICKLE CHARGE	ALARM,,NORMAL,ALARM	Direct	R	R	4
0319	%WB321901	20UA-5452	GEN SET OPERATION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0320	%WB322001	20XA-5458	BATTT EMP SENS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0321	%WB322101	20TA-5451	BATTERY TEMP TO HIGH	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0322	%WB322201	20XS-5451	CIRCUIT BREAKER	ALARM,,NORMAL,ALARM	Direct	R	R	4
0323	%WB322301	20US-5467	BATTERY WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0324	%WB322401	20US-5468	BATTERY LOW	ALARM,,NORMAL,ALARM	Direct	R	R	4
0325	%WB322501	20US-5469	OVERLOAD	ON,,OFF,ON	Direct	R	G	4
0326	%WB322601	20XA-5459	FAN FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0327	%WB322701	20UA-5453	OVERLOAD	ALARM,,NORMAL,ALARM	Direct	R	G	4
0328	%WB322801	20US-5470	SHORT CIRCUIT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0329	%WB322901	20US-5471	DC UNDER VOLTAGE	ALARM,,NORMAL,ALARM	Direct	R	G	4
0330	%WB323001	20US-5472	DC OVER VOLTAGE	ALARM,,NORMAL,ALARM	Direct	R	G	4
0331	%WB323101	20XA-5460	POWER STACK OVERTEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0332	%WB323201	20RDY5451	SBSREADY	ALARM,,NORMAL,ALARM	Direct	R	G	4
0333	%WB323301	20XA-5461	SBSMAINS FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0334	%WB323401	20US-5473	SBSBLOCKED	ALARM,,NORMAL,ALARM	Direct	R	G	4
0335	%WB323501	20US-5474	RECTIFIERON	ALARM,,NORMAL,ALARM	Direct	R	G	4
0336	%WB323601	20US-5475	INVERTERON	ALARM,,NORMAL,ALARM	Direct	R	G	4
0337	%WB323701	20US-5476	SBS ON	ALARM,,NORMAL,ALARM	Direct	R	G	4
0338	%WB326701	20US-5493	LIFE CHECK BIT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0339	%WB326801	20UA-5454	BATTERTY MCCB OPEN	ALARM,,NORMAL,ALARM	Direct	R	G	4
0340	%WB326901	20UA-5455	USERDEF_AUX2 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0341	%WB327001	20UA-5456	USERDEF_AUX3 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0342	%WB327101	20UA-5457	USERDEF_AUX4 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0343	%WB327201	20UA-5458	USERDEF_AUX5 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0344	%WB327301	20UA-5459	USERDEF_AUX6 – RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0345	%WB327401	20UA-5460	USERDEF_AUX7– RECT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0346	%WB327501	20UA-5461	BATTERTY MCCB OPEN	OPEN,,CLOSE,OPEN	Direct	R	G	4
0347	%WB327601	20UA-5462	USERDEF_AUX2 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0348	%WB327701	20UA-5463	USERDEF_AUX3 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0349	%WB327801	20UA-5464	USERDEF_AUX4 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0350	%WB327901	20UA-5465	USERDEF_AUX5 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0351	%WB328001	20UA-5466	USERDEF_AUX6 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0352	%WB328101	20UA-5467	USERDEF_AUX7 – INV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0353	%WB328201	20UA-5468	USERDEF_AUX1 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-6
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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0354	%WB328301	20UA-5469	USERDEF_AUX2 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0355	%WB328401	20UA-5470	USERDEF_AUX3 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0356	%WB328501	20UA-5471	USERDEF_AUX4 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0357	%WB328601	20UA-5472	USERDEF_AUX5 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0358	%WB328701	20UA-5473	USERDEF_AUX6 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0359	%WB328801	20UA-5474	USERDEF_AUX7 – SBS	ALARM,,NORMAL,ALARM	Direct	R	G	4
0377	%WB330109	20US-5481	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0378	%WB330110	20US-5482	TEST IMPL WAITNG APPROVA	ON,,OFF,ON	Direct	G	GR	4
0379	%WB330111	20US-5483	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0380	%WB330112	20US-5484	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0381	%WB330113	20US-5485	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0382	%WB330114	20US-5486	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0383	%WB330115	20UA-5475	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0384	%WB330116	20XA-5465	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0388	%WB330209	20US-5487	TEST NOT IMPLEMENTED	ON,,OFF,ON	Direct	G	GR	4
0389	%WB330210	20US-5488	TEST IMPL WAITING FOR AP	ON,,OFF,ON	Direct	G	GR	4
0390	%WB330211	20US-5489	TEST APPROVED	ON,,OFF,ON	Direct	G	GR	4
0391	%WB330212	20US-5490	TEST RUNNING	ON,,OFF,ON	Direct	G	GR	4
0392	%WB330213	20US-5491	TEST SUCCESSFUL	ON,,OFF,ON	Direct	G	GR	4
0393	%WB330214	20US-5492	TEST CANCELLED	ON,,OFF,ON	Direct	G	GR	4
0394	%WB330215	20UA-5476	TEST WARNING	ALARM,,NORMAL,ALARM	Direct	R	GR	4
0395	%WB330216	20XA-5466	TEST ERROR	ON,,OFF,ON	Direct	G	GR	4
0397	%WB035101	20XA-2001	HI MAINS VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0398	%WB035201	20XA-2002	LO MAINS VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0399	%WB035301	20XA-2003	CHARGER FAIL	ALARM,,NORMAL,ALARM	Direct	R	G	4
0400	%WB035401	20XA-2004	HI BATTERY VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0401	%WB035501	20XA-2005	LO BATTERY VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0402	%WB035601	20XA-2006	HI DC VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0403	%WB035701	20XA-2007	LO DC VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0406	%WB036001	20US-2003	Q1 OPEN	ON,,OFF,ON	Direct	R	G	4
0407	%WB036101	20US-2004	REMOTE OFF INHIBITION	ON,,OFF,ON	Direct	R	G	4
0408	%WB036201	20XA-2024	BATTERY PROTECTION	ON,,OFF,ON	Direct	R	G	4
0409	%WB036301	20XA-2009	GROUND FLT -	ON,,OFF,ON	Direct	R	G	4
0410	%WB036401	20XA-2008	GROUND FLT +	ON,,OFF,ON	Direct	R	G	4
0411	%WB036501	20XA-2025	DISTRIBUTION FAULT	ON,,OFF,ON	Direct	R	G	4
0412	%WB036601	20XA-2022	BATTERY SYMMETRY FLT	ON,,OFF,ON	Direct	R	G	4
0413	%WB036701	20XA-2027	VENTILATION FAULT	ON,,OFF,ON	Direct	R	G	4
0414	%WB036801	20US-2001	CHARGER CURR LMT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0415	%WB036901	20US-2002	BATTERY CURR LMT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0416	%WB037001	20XA-2010	HI CHARGER CURR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0417	%WB037101	20XA-2011	HI BATTERY CURR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0418	%WB037201	20XA-2012	HI TEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0419	%WB037301	20XA-2013	TEMP SENSOR ERROR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0420	%WB037401	20XA-2014	INTERNAL COMM ERR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0421	%WB037501	20XA-2015	BATTERY TEST FAIL	ALARM,,NORMAL,ALARM	Direct	R	G	4
0422	%WB037601	20XA-2016	BATTERY TEST ABORTED	ALARM,,NORMAL,ALARM	Direct	R	G	4
0423	%WB037701	20XA-2017	HI BATTERY TEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0424	%WB037801	20XA-2018	HI FLOAT CURR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0425	%WB037901	20XA-2019	LONG CHARGE TIME	ALARM,,NORMAL,ALARM	Direct	R	G	4
0426	%WB038001	20XA-2020	NO POWER SUPPLY VOLT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0427	%WB038101	20XA-2021	BATTERY IN OPERATION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0431	%WB335101	20XA-2031	HI MAINS VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0432	%WB335201	20XA-2032	LO MAINS VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0433	%WB335301	20XA-2033	CHARGER FAIL	ALARM,,NORMAL,ALARM	Direct	R	G	4
0434	%WB335401	20XA-2034	HI BATTERY VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0435	%WB335501	20XA-2035	LO BATTERY VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4

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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0436	%WB335601	20XA-2036	HI DC VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0437	%WB335701	20XA-2037	LO DC VOLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0438	%WB335801		SPARE	ALARM,,NORMAL,ALARM	Direct	R	G	4
0439	%WB335901		SPARE	ALARM,,NORMAL,ALARM	Direct	R	G	4
0440	%WB336001	20US-2033	Q1 OPEN	ON,,OFF,ON	Direct	G	R	4
0441	%WB336101	20US-2034	REMOTE OFF INHIBITION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0442	%WB336201	20XA-2054	BATTERY PROTECTION	ALARM,,NORMAL,ALARM	Direct	R	G	4
0443	%WB336301	20XA-2039	GROUND FLT -	ALARM,,NORMAL,ALARM	Direct	R	G	4
0444	%WB336401	20XA-2038	GROUND FLT +	ALARM,,NORMAL,ALARM	Direct	R	G	4
0445	%WB336501	20XA-2055	DISTRIBUTION FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0446	%WB336601	20XA-2052	BATTERY SYMMETRY FLT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0447	%WB336701	20XA-2057	VENTILATION FAULT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0448	%WB336801	20US-2031	CHARGER CURR LMT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0449	%WB336901	20US-2032	BATTERY CURR LMT	ALARM,,NORMAL,ALARM	Direct	R	G	4
0450	%WB337001	20XA-2040	HI CHARGER CURR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0451	%WB337101	20XA-2041	HI BATTERY CURR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0452	%WB337201	20XA-2042	HI TEMP	ALARM,,NORMAL,ALARM	Direct	R	G	4
0453	%WB337301	20XA-2043	TEMP SENSOR ERROR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0454	%WB337401	20XA-2044	INTERNAL COMM ERR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0455	%WB337501	20XA-2045	BATTERY TEST FAIL	ALARM,,NORMAL,ALARM	Direct	R	G	4
0456	%WB337601	20XA-2046	BATTERY TEST ABORTED	ON,,OFF,ON	Direct	G	R	4
0457	%WB337701	20XA-2047	HI BATTERY TEMP	ON,,OFF,ON	Direct	G	R	4
0458	%WB337801	20XA-2048	HI FLOAT CURR	ON,,OFF,ON	Direct	G	R	4
0459	%WB337901	20XA-2049	LONG CHARGE TIME	ON,,OFF,ON	Direct	G	R	4
0460	%WB338001	20XA-2050	NO POWER SUPPLY VOLT	ON,,OFF,ON	Direct	G	R	4
0461	%WB338101	20XA-2051	BATTERY IN OPERATION	ON,,OFF,ON	Direct	G	R	4
0501	%WB148909	50AT020A-H	H2 DETECT CONTAINER HI	ALARM,,NORMAL,ALARM	Direct	R	G	4
0502	%WB148910	50AT020A-HH	H2 DETECT CONTAINER HIHI	ALARM,,NORMAL,ALARM	Direct	R	G	4
0503	%WB149109	50AT020B-H	H2 DETECT CONTAINER HI	ALARM,,NORMAL,ALARM	Direct	R	G	4
0504	%WB149110	50AT020B-HH	H2 DETECT CONTAINER HIHI	ALARM,,NORMAL,ALARM	Direct	R	G	4
0505	%WB149309	50AT020C-H	H2 DETECT CONTAINER HI	ALARM,,NORMAL,ALARM	Direct	R	G	4
0506	%WB149310	50AT020C-HH	H2 DETECT CONTAINER HIHI	ALARM,,NORMAL,ALARM	Direct	R	G	4
0527	%WB149701	50AIT023-H	FLTRD SEAWTRP50003A_B HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0528	%WB149702	50AIT024-H	A50007A_B CNDTY HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0529	%WB149703	50AIT024-HH	A50007A_B CNDTY HH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0530	%WB149704	50AIT026-H	FRSH WTR OL HARDNESS HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0531	%WB149705	50AIT026-HH	FRSH WTR OL HARDNESS HH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0532	%WB149706	50AIT027-LL	FRSH WTR OL PH VERY LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0533	%WB149707	50AIT027-L	FRSH WTR OL PH LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0534	%WB149708	50AIT027-H	FRSH WTR OL PH HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0535	%WB149709	50AIT027-HH	FRSH WTR OL PH HH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0536	%WB149710	50FIT020-L	SEAWTR FLW - S50001 LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0537	%WB149711	50FIT020-H	SEAWTR FLW - S50001 HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0538	%WB149712	50FIT022-L	FLTED SEAWTRP50003A LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0539	%WB149713	50FIT022-H	FLTED SEAWTRP50003A HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0540	%WB149714	50FIT023-L	FLTED SEAWTRP50003A LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0541	%WB149715	50FIT023-H	FLTED SEAWTRP50003A HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0542	%WB149716	50FIT024-L	FRSH WTR FLWA50007A_B LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0543	%WB149801	50FIT026-L	FRSH WTR OL FLW LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0544	%WB149802	50LIT020-LL	T50006 LEVEL VERY LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0545	%WB149803	50LIT020-L	T50006 LEVEL LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0546	%WB149804	50LIT020-H	T50006 LEVEL HIGH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0547	%WB149805	50LIT021-LL	T50008 LEVEL VERY LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0548	%WB149806	50LIT021-L	T50008 LEVEL LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0549	%WB149807	50LIT021-H	T50008 LEVEL HIGH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0550	%WB149808	50LIT022-LL	T50002 LEVEL VERY LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-8
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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0551	%WB149809	50LIT022-L	T50002 LEVEL LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0552	%WB149810	50LIT023-LL	T50003 LEVEL VERY LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0553	%WB149811	50LIT023-L	T50003 LEVEL LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0554	%WB149812	50LIT024-LL	T50004 LEVEL VERY LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0555	%WB149813	50LIT024-L	T50004 LEVEL LOW	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0556	%WB149814	50PDIT052-H	DP ACROSS S50001 HIGH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0557	%WB149815	50PIT020-L	SEAWTR IL PRS LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0558	%WB149816	50PIT025-L	FLTED SEAWTR P50003A LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0559	%WB149901	50PIT026-L	FLTED SEAWTR- P50004A LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0560	%WB149902	50PIT027-L	FLTED SEAWTR P50003B LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0561	%WB149903	50PIT028-L	FLTED SEAWTR- P50004B LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0562	%WB149904	50PIT030-L	FLTED SEAWTR P50004A LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0563	%WB149905	50PIT030-H	FLTED SEAWTR P50004A HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0564	%WB149906	50PIT032-L	FLTED SEAWTR P50004B LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0565	%WB149907	50PIT032-H	FLTED SEAWTR P50004B HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0566	%WB149908	50PIT041-L	FRSH WTR OL PRS LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0567	%WB149909	50PIT041-H	FRSH WTR OL PRS HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0568	%WB149910	50PIT047-L	SOFTN FLT ILPRS LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0569	%WB149911	50PIT047-H	SOFTN FLT ILPRS HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0570	%WB149912	50TIT022-L	SEAWTR TMP FRM H50001 LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0571	%WB149913	50TIT022-H	SEAWTR TMP FRM H50001 HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0572	%WB149914	50TIT022-HH	SEAWTR TMP H50001 HH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0573	%WB149915	50PDIT024-H	DP ACROSS S50002A-2B HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0574	%WB149916	50PDIT029-H	DP ACROSS S50003A-3B HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
0575	%WB150701	50XV-020_O	SEAWTR IL VLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0576	%WB150702	50XV-020_C	SEAWTR IL VLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0577	%WB150703	50XV-020_FALM	SEAWTR IL VLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0578	%WB150704	50XV-021_O	P50003A SUCTVLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0579	%WB150705	50XV-021_C	P50003A SUCTVLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0580	%WB150706	50XV-021_FALM	P50003A SUCTVLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0581	%WB150707	50XV-022_O	P50003B SUCTVLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0582	%WB150708	50XV-022_C	P50003B SUCTVLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0583	%WB150709	50XV-022_FALM	P50003B SUCTVLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0584	%WB150710	50XV-023_O	P50003A FLSHVLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0585	%WB150711	50XV-023_C	P50003A FLSHVLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0586	%WB150712	50XV-023_FALM	P50003A FLSHVLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0587	%WB150713	50XV-024_O	P50003B FLSHVLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0588	%WB150714	50XV-024_C	P50003B FLSHVLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0589	%WB150715	50XV-024_FALM	P50003B FLSHVLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0590	%WB150716	50XV-025_O	A50007A_B VLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0591	%WB150801	50XV-025_C	A50007A_B VLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0592	%WB150802	50XV-025_FALM	A50007A_B VLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0593	%WB150803	50XV-026_O	FRSH WTR DRNA50007AB OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0594	%WB150804	50XV-026_C	FRSH WTR DRNA50007AB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0595	%WB150805	50XV-026_FALM	FRSH WTR DRNA50007AB FAL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0596	%WB150806	50XV-027_O	BRN VLV A50007A OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0597	%WB150807	50XV-027_C	BRN VLV A50007A CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0598	%WB150808	50XV-027_FALM	BRN VLV A50007A FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0599	%WB150809	50XV-028_O	FRSH WTR VLVA50007B OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0600	%WB150810	50XV-028_C	FRSH WTR VLVA50007B CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0601	%WB150811	50XV-028_FALM	FRSH WTR VLVA50007B FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0602	%WB150812	50XV-029_O	FRSH WTR DRNA50007B OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0603	%WB150813	50XV-029_C	FRSH WTR DRNA50007B CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0604	%WB150814	50XV-029_FALM	FRSH WTR DRNA50007B FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0605	%WB150815	50XV-030_O	BRN VLV A50007B OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0606	%WB150816	50XV-030_C	BRN VLV A50007B CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-9
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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0607	%WB150901	50XV-030_FALM	BRN VLV A50007B FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0608	%WB150902	50XV-031_O	FRSH WTR OL VLV OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0609	%WB150903	50XV-031_C	FRSH WTR OL VLV CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0610	%WB150904	50XV-031_FALM	FRSH WTR OL VLV FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0611	%WB150905	50XV-032_O	FRSH WTR VLVOFFSPEC OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0612	%WB150906	50XV-032_C	FRSH WTR VLVOFFSPEC CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0613	%WB150907	50XV-032_FALM	FRSH WTR VLVOFFSPEC FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0614	%WB150908	50XV-033_O	SEA WTR DRN H-50001 OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0615	%WB150909	50XV-033_C	SEA WTR DRN H-50001 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0616	%WB150910	50XV-033_FALM	SEA WTR DRN H-50001 FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0617	%WB150911	50XV-034_O	SEA WTR DRN T-50006 OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0618	%WB150912	50XV-034_C	SEA WTR DRN T-50006 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0619	%WB150913	50XV-034_FALM	SEA WTR DRN T-50006 FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0620	%WB150914	50XV-035_O	SEA WTR DRN T-50008 OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0621	%WB150915	50XV-035_C	SEA WTR DRN T-50008 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0622	%WB150916	50XV-035_FALM	SEA WTR DRN T-50008 FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0623	%WB151701	50P50002A_R	BCK WSH PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0624	%WB151702	50P50002A_FALM	BCK WSH PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0625	%WB151703	50P50002B_R	BCK WSH PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0626	%WB151704	50P50002B_FALM	BCK WSH PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0627	%WB151705	50P50003A_R	SW BSTR PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0628	%WB151706	50P50003A_FALM	SW BSTR PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0629	%WB151707	50P50003B_R	SW BSTR PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0630	%WB151708	50P50003B_FALM	SW BSTR PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0631	%WB151709	50P50004A_R	HP PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0632	%WB151710	50P50004A_FALM	HP PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0633	%WB151711	50P50004B_R	HP PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0634	%WB151712	50P50004B_FALM	HP PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0635	%WB151713	50P50005A_R	CAUSTIC SODADOSING PMP	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0636	%WB151714	50P50005A_FALM	CAUSTIC SODADSING PMP FL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0637	%WB151715	50P50005B_R	CAUSTIC SODADOSING PMP	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0638	%WB151716	50P50005B_FALM	CAUSTIC SODADSING PMP FL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0639	%WB151801	50P50006A_R	ANTISCALANT DOSING PMP	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0640	%WB151802	50P50006A_FALM	ANTISCALANT DSING PMP FL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0641	%WB151803	50P50006B_R	ANTISCALANT DOSING PMP	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0642	%WB151804	50P50006B_FALM	ANTISCALANT DSING PMP FL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0643	%WB151805	50P50007A_R	BIOCIDE DSNGPMPCONTNR IL	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0644	%WB151806	50P50007A_FALM	BIOCID DSNG CNTR IL FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0645	%WB151807	50P50007B_R	BIOCIDE DSNGPMPCONTNR IL	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0646	%WB151808	50P50007B_FALM	BIOCID DSNG CNTR IL FAIL	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0647	%WB151809	50P50008A_R	BIOCID DSNG PMP SWTR IN	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0648	%WB151810	50P50008A_FALM	BIOCIDE DSNG SWTR IN F	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0649	%WB151811	50P50008B_R	BIOCID DSNG PMP SWTR IN	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0650	%WB151812	50P50008B_FALM	BIOCIDE DSNG SWTR IN F	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0651	%WB151813	50P50009A_R	FRSH WTR PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0652	%WB151814	50P50009A_FALM	FRSH WTR PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0653	%WB151815	50P50009B_R	FRSH WTR PMP RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0654	%WB151816	50P50009B_FALM	FRSH WTR PMP FAILURE	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0655	%WB151901	50P50010A_R	BIOCIDE DSNGPMP WST TK	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0656	%WB151902	50P50010A_FALM	BIOCIDE DSNGPMP WST TK F	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0657	%WB151903	50P50010B_R	BIOCIDE DSNGPMP WST TK	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0658	%WB151904	50P50010B_FALM	BIOCIDE DSNGPMP WST TK F	NORMAL,,TRIP,NORMAL	Direct	G	R	4
0659	%WB151905			ON,,OFF,ON	Direct	G	R	4
0660	%WB151906			ON,,OFF,ON	Direct	G	R	4
0661	%WB151907			ON,,OFF,ON	Direct	G	R	4
0662	%WB151908			ON,,OFF,ON	Direct	G	R	4

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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0663	%WB151909			ON,,OFF,ON	Direct	G	R	4
0664	%WB151910			ON,,OFF,ON	Direct	G	R	4
0665	%WB151911			ON,,OFF,ON	Direct	G	R	4
0666	%WB151912			ON,,OFF,ON	Direct	G	R	4
0667	%WB151913			ON,,OFF,ON	Direct	G	R	4
0668	%WB151914			ON,,OFF,ON	Direct	G	R	4
0669	%WB151915			ON,,OFF,ON	Direct	G	R	4
0670	%WB151916			ON,,OFF,ON	Direct	G	R	4
0671	%WB152701	50H50003A_A	CONT ELEC HTSTRT_STP CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0672	%WB152702	50H50003B_A	CONT ELEC HTSTRT_STP CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0673	%WB152703	50HFA50001A_A	CONT AIR FANSTRT_STP CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0674	%WB152704	50HFA50001B_A	CONT AIR FANSTRT_STP CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0675	%WB152705	50A50003_A	SEAWTR CRSE FLT REGN CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0676	%WB152706	50S50001_A	SAND FLT REGEN CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0677	%WB152707	50S50004_A	SOFTN FLT REGEN CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0678	%WB152708	50S50010_A	UV STERILIZESTRT_STP CMD	ACTVD,,N_ACTVD,ACTVD	Direct	G	R	4
0679	%WB152709	50HFA-50001CA	CONT AIR FN ST/SP CMD	START,,STOP,START	Direct	G	R	4
0680	%WB152710	50HS-001S	SW PMP START REQ BY WTP	START,,,START	Direct	G	GR	4
0681	%WB152711	50XS-005S	SW PMP STOP REQ BY WTP	STOP,,,STOP	Direct	R	GR	4
0682	%WB152712	50HS021	WTP LOCAL / REMOTE	REMOTE ,,LOCAL,REMOTE	Direct	G	R	4
0683	%WB152713			ON,,OFF,ON	Direct	G	R	4
0684	%WB152714			ON,,OFF,ON	Direct	G	R	4
0685	%WB152715			ON,,OFF,ON	Direct	G	R	4
0686	%WB152716			ON,,OFF,ON	Direct	G	R	4
0688	%WB363116	50WTP-STR	WTP START REQ	ON,,OFF,ON	Direct	G	R	4
0701	%WB163101	77HFDZSH-001	HFD-77001 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0702	%WB163102	77HFDZSL-001	HFD-77001 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0703	%WB163103	77HFDZSH-002	HFD-77002 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0704	%WB163104	77HFDZSL-002	HFD-77002 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0705	%WB163105	77HFDZSH-003	HFD-77003 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0706	%WB163106	77HFDZSL-003	HFD-77003 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0707	%WB163107	77HFZZSH-101	HDZ-77-101 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0708	%WB163108	77HDZZSL-101	HDZ-77-101 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0709	%WB163109	77HFZZSH-102	HDZ-77-102 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0710	%WB163110	77HDZZSL-102	HDZ-77-102 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0711	%WB163111	77HFMPXS-101	HFM-77-101 PTC PROT	ON,,OFF,ON	Direct	G	R	4
0712	%WB163112	77HFM-TSH-101	TSH/HH-77-101 HTR PROT	ALARM,,NORMAL,ALARM	Direct	G	R	4
0713	%WB163113	77HFMXS-101	HFM-77-101 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0714	%WB163114	77HFMXA-101	HFM-77-101 VSD MALFCTN	FAULT,,NORMAL,FAULT	Direct	G	R	4
0715	%WB163115	77HSSXS-101	HSS-77-101 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0716	%WB163116	77HSSXA-101	HSS-77-101 MODULATN FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0717	%WB163201	77HHUAXS-001	HHU-77001 AUX TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0718	%WB163202	77HHUXS-001	HHU-77001 MN BRK TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0719	%WB163203	77HHUXA-001	HHU-77001 NO FLOW	ALARM,,NORMAL,ALARM	Direct	G	R	4
0720	%WB163204	77HFMPXS-102	HFM-77-102 PTC PROT	ALARM,,NORMAL,ALARM	Direct	G	R	4
0721	%WB163205	77-TSH-102	TSH/HH-77-102	ALARM,,NORMAL,ALARM	Direct	G	R	4
0722	%WB163206	77HFMXS-102	HFM-77-102 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0723	%WB163207	77HFMXA-102	HFM-77-102 VSD MALFCTN	FAULT,,NORMAL,FAULT	Direct	G	R	4
0724	%WB163208	77HSSXS-102	HSS-77-102 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0725	%WB163209	77HSSXA-102	HSS-77-102 MODULATN FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0726	%WB163210	77HHUAXS-002	HHU-77002 AUX TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0727	%WB163211	77HHUXS-002	HHU-77002 MN BRK TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0728	%WB163212	77HSBXS-001	B100-HSB-001 MN BRK TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0729	%WB163213	77HSBXS-011	B100HSB001 MOD LITE TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0730	%WB163214	77HSBXS-111	B100HSB001 MOD SOKT TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0731	%WB163215	77HSBAXS-001	B100-HSB-001 AUX TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-11
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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0732	%WB163216	77HSSXS-123	HSS77001/2/3 SPCHTR TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0733	%WB163301	77HSSXA-123	HSS-77-001/2/3 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0734	%WB163302	77TTXA-101	77-TT-101 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0735	%WB163303	77TTXA-102	77-TT-102 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0736	%WB163304	77TTXA-103	77-TT-103 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0737	%WB163305	77TTXA-104	77-TT-104 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0738	%WB163306	77PTXA-101	77-PT-101 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0739	%WB163307	77HSBXA-001	HVAC MAJOR FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0740	%WB163308	77HSB-LP-001	MODULE LOW PRESS	ALARM,,NORMAL,ALARM	Direct	G	R	4
0741	%WB163309	77HSBXA-011	MODBUS FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0742	%WB163310	77HHUXA-002	HHU-77002 NO FLOW	ON,,OFF,ON	Direct	G	R	4
0743	%WB163311			ALARM,,NORMAL,ALARM	Direct	G	R	4
0744	%WB163312	77HHU-77001	77HHU-77001 DIRTY FILTER	ALARM,,NORMAL,ALARM	Direct	G	R	4
0745	%WB163313	77HHU-77002	77HHU-77002 DIRTY FILTER	ALARM,,NORMAL,ALARM	Direct	G	R	4
0746	%WB163314	HHC-77001TRP	TRACE HEATER	ON,,OFF,ON	Direct	G	R	4
0747	%WB163315	77HSBXA-111	MODBUS SERVER ERROR	ALARM,,NORMAL,ALARM	Direct	G	R	4
0749	%WB164909	77B1WD-001	MODBUS WATCHDOG	ON,,OFF,ON	Direct	G	R	4
0750	%WB164209	77B1HSBHS-001	SYS START FROM PCS	ON,,OFF,ON	Direct	G	R	4
0751	%WB164309	77B1HSBHSS-001	SYS STOP FROM PCS	ON,,OFF,ON	Direct	G	R	4
0752	%WB165101	77B1HSBHRS-001	SYS RESET FROM PCS	ON,,OFF,ON	Direct	G	R	4
0753	%WB167101	77HFDZSH-004	HFD-77004 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0754	%WB167102	77HFDZSL-004	HFD-77004 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0755	%WB167103	77HFDZSH-005	HFD-77005 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0756	%WB167104	77HFDZSL-005	HFD-77005 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0757	%WB167105	77HFDZSH-006	HFD-77006 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0758	%WB167106	77HFDZSL-006	HFD-77006 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0759	%WB167107	77HFZZSH-201	HDZ-77-201 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0760	%WB167108	77HDZZSL-201	HDZ-77-201 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0761	%WB167109	77HFZZSH-202	HDZ-77-202 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0762	%WB167110	77HDZZSL-202	HDZ-77-202 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0763	%WB167111	77HFMPXS-201	HFM-77-201 PTC PROT	ON,,OFF,ON	Direct	G	R	4
0764	%WB167112	77HFM-TSH-201	TSH/HH-77-201 HTR PROT	TRIP,,NORMAL,TRIP	Direct	G	R	4
0765	%WB167113	77HFMXS-201	HFM-77-201 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0766	%WB167114	77HFMXA-201	HFM-77-201 VSD MALFCTN	FAULT,,NORMAL,FAULT	Direct	G	R	4
0767	%WB167115	77HSSXS-201	HSS-77-201 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0768	%WB167116	77HSSXA-201	HSS-77-201 MODULATN FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0769	%WB167201	77HHUAXS-003	HHU-77001 AUX TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0770	%WB167202	77HHUXS-003	HHU-77001 MN BRK TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0771	%WB167203	77HHUXA-201	HHU-77003 NO FLOW	ALARM,,NORMAL,ALARM	Direct	G	R	4
0772	%WB167204	77HFMPXS-202	HFM-77-102 PTC PROT	ALARM,,NORMAL,ALARM	Direct	G	R	4
0773	%WB167205	77-TSH-202	TSH/HH-77-102	ALARM,,NORMAL,ALARM	Direct	G	R	4
0774	%WB167206	77HFMXS-202	HFM-77-102 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0775	%WB167207	77HFMXA-202	HFM-77-102 VSD MALFCTN	FAULT,,NORMAL,FAULT	Direct	G	R	4
0776	%WB167208	77HSSXS-202	HSS-77-102 TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0777	%WB167209	77HSSXA-202	HSS-77-102 MODULATN FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0778	%WB167210	77HHUAXS-004	HHU-77002 AUX TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0779	%WB167211	77HHUXS-004	HHU-77002 MN BRK TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0780	%WB167212	77HSBXS-002	B200-HSB-001 MN BRK TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0781	%WB167213	77HSBXS-022	B200HSB001 MOD LITE TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0782	%WB167214	77HSBXS-222	B200HSB001 MOD SOKT TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0783	%WB167215	77B2HSBAXS-001	B200-HSB-001 AUX TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0784	%WB167216	77B2HSSXS-456	HSS77004/5/6 SPCHTR TRIP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0785	%WB167301	77HSSXA-456	HSS-77-004/5/6 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0786	%WB167302	77TTXA-201	77-TT-101 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0787	%WB167303	77TTXA-202	77-TT-102 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0788	%WB167304	77TTXA-203	77-TT-103 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-12
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0789	%WB167305	77TTXA-204	77-TT-104 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0790	%WB167306	77PTXA-201	77-PT-101 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0791	%WB167307	77B2HSBXA-001	MAJOR FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0792	%WB167308	77HSB-LP-002	MODULE LOW PRESS	ALARM,,NORMAL,ALARM	Direct	G	R	4
0793	%WB167309	77HSBXA-022	MODBUS FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0794	%WB167310	77HHUXA-204	77HHUXA-004 NO FLOW	ALARM,,NORMAL,ALARM	Direct	G	R	4
0795	%WB167311	77HHU-77003	77HHU-77003 DIRTY FILTER	ALARM,,NORMAL,ALARM	Direct	G	R	4
0796	%WB167312	77HHU-77004	77HHU-77004 DIRTY FILTER	ALARM,,NORMAL,ALARM	Direct	G	R	4
0797	%WB167313	HHC-77002TRP	TRACE HEATER	ON,,OFF,ON	Direct	G	R	4
0798	%WB167314			ON,,OFF,ON	Direct	G	R	4
0799	%WB167315	77HSBXA-222	MODBUS SERVER ERROR	ALARM,,NORMAL,ALARM	Direct	G	R	4
0800	%WB167316			ON,,OFF,ON	Direct	G	R	4
0801	%WB168909	77B2WD-001	MODBUS WATCHDOG	ON,,OFF,ON	Direct	G	R	4
0802	%WB168209	77B2HSBHS-001	B200-SYS START FROM PCS	START,,STOP,START	Direct	G	R	4
0803	%WB168309	77B2HSBHSS-001	B200-SYS STOP FROM PCS	START,,STOP,START	Direct	G	R	4
0804	%WB169101	77B2HSBHRS-001	B200-SYS RSTR FROM PCS	RESET,,-,RESET	Direct	G	R	4
0808	%WB156102	77B3HSBXS-001	B300-HSB-001 MN BKR TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0809	%WB156103	77B3PEB-001	B300-HSB-001 PL EM BTN	ALARM,,NORMAL,ALARM	Direct	G	R	4
0810	%WB156104	77HSBXS-033	B300-HSB-001 MOD LTE TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0811	%WB156105	77HSBXS-333	B300-HSB-001 MOD SKT TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0812	%WB156106	77HSSXS-789	HSS-77-007/8/9 HTR TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0813	%WB156107	77B3HSBAXS-001	B300-HSB-001 AUX SEC TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0814	%WB156108	77B3UXA-789	HSS-77-007/8/9 HTR FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0815	%WB156109	77PFFC-005	HHU-77005 FLTR CLOGGED	TRIP,,NORMAL,TRIP	Direct	G	R	4
0816	%WB156110	77MDF-005	HHU-77005 MOT DMP FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0817	%WB156111	77PTCP-301	HFM-77-301 PTC PRTN	TRIP,,NORMAL,TRIP	Direct	G	R	4
0818	%WB156112	77VSDF-301	HFM-77-301 VSD FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0819	%WB156113	77PFTRP-301	HFM-77-301 PRS FN TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0820	%WB156114	77BBA-302	HFM-77-302 BRK BELT ALM	ALARM,,NORMAL,ALARM	Direct	G	R	4
0821	%WB156115	77SFTRP-302	HFM-77-302 FN TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0822	%WB156116	77CTRP-301	HCO-77-301 CMP TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0823	%WB156201	77HPA-301	HCO-77-301 HP ALM	ALARM,,NORMAL,ALARM	Direct	G	R	4
0824	%WB156202	77LPA-301	HCO-77-301 LP ALM	ALARM,,NORMAL,ALARM	Direct	G	R	4
0825	%WB156203	77CFTRP-305306	HFM77-305/306 CND FN TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0826	%WB156204	77VSDF-305306	HFM77-305/306 FN VSD FLT	TRIP,,NORMAL,TRIP	Direct	G	R	4
0827	%WB156205	77TSPH-301	HSS-77-301 THR PTR	TRIP,,NORMAL,TRIP	Direct	G	R	4
0828	%WB156206	77EHTRP-301	HSS-77-301 HTR TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0829	%WB156207	77EHMF-301	HSS-77-301 HTR MDLTN FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0830	%WB156208		SPARE	ON,,OFF,ON	Direct	G	R	4
0831	%WB156209	77MBTRP-005	HHU-77005 MN BKR TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0832	%WB156210	77FC-005	HHU-77005 FLTR CLOGGED	TRIP,,NORMAL,TRIP	Direct	G	R	4
0833	%WB156211	77MDF-006	HHU-77006 MOT DMP FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0834	%WB156212	77PTCP-303	HFM-77-303 PTC PRTN	TRIP,,NORMAL,TRIP	Direct	G	R	4
0835	%WB156213	77VSDF-303	HFM-77-303 VSD FLT	FAULT,,NORMAL,FAULT	Direct	Y	R	4
0836	%WB156214	77PFTRP-303	HFM-77-303 PRS FN TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0837	%WB156215	77BBA-304	HFM-77-304 BRK BELT ALM	ALARM,,NORMAL,ALARM	Direct	G	R	4
0838	%WB156216	77SFTRP-304	HFM-77-304 FN TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0839	%WB156301	77CTRP-302	HCO-77-302 CMP TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0840	%WB156302	77HPA-302	HCO-77-302 HP ALM	ALARM,,NORMAL,ALARM	Direct	G	R	4
0841	%WB156303	77LPA-302	HCO-77-302 LP ALM	ALARM,,NORMAL,ALARM	Direct	G	R	4
0842	%WB156304	77CFTRP-307308	HFM77-307/308 CND FN TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0843	%WB156305	77VSDF-307308	HFM77-307/308 FN VSD FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0844	%WB156306	77FC-006	HHU-77006 FLTR CLOGGED	TRIP,,NORMAL,TRIP	Direct	G	R	4
0845	%WB156307	77TSPH-305	HSS-77-305 THR PTR	TRIP,,NORMAL,TRIP	Direct	G	R	4
0846	%WB156308	77EHTRP-305	HSS-77-305 HTR TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0847	%WB156309	77EHMF-305	HSS77-305 HTR MODLTN FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-13
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0848	%WB156310		SPARE	ON,,OFF,ON	Direct	G	R	4
0849	%WB156311	77MBTRP-006	HHU-77006 MN BRK TRP	TRIP,,NORMAL,TRIP	Direct	G	R	4
0850	%WB156312	77HFDZSL-007	HFD-77007 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0851	%WB156313	77HFDZSH-007	HFD-77007 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0852	%WB156314	77HFDZSL-008	HFD-77008 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0853	%WB156315	77HFDZSH-008	HFD-77008 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0854	%WB156316	77HFDZSL-009	HFD-77009 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0855	%WB156401	77HFDZSH-009	HFD-77009 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0856	%WB156402	77HSBXA-333	B300 - MOD SERVER ERROR	FAULT,,NORMAL,FAULT	Direct	G	R	4
0857	%WB156403	77HSBXA-033	B300-MODBUS FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0858	%WB156404	77PFFC-006	HHU-77006 FN FTR CLOGGED	TRIP,,NORMAL,TRIP	Direct	G	R	4
0859	%WB156405	77HFDZSL-010	HFD-77010 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0860	%WB156406	77HFDZSH-010	HFD-77010 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0861	%WB156407	77HFDZSL-011	HFD-77011 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
0862	%WB156408	77HFDZSH-011	HFD-77011 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	G	R	4
0863	%WB156409	77TTXA-301	77-TT-301 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0864	%WB156410	77TTXA-302	77-TT-302 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0865	%WB156411	77TTXA-303	77-TT-303 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0866	%WB156412	77TTXA-304	77-TT-304 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0867	%WB156413	77PTXA-301	77-PT-301 FLT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0868	%WB156414	B300-HSB-001MLP	LOW PRESSURE MODULE	FAULT,,NORMAL,FAULT	Direct	G	R	4
0869	%WB156415	HHC-77003TRP	HEATING CABLE TRIP	FAULT,,NORMAL,FAULT	Direct	G	R	4
0870	%WB156416		SPARE	ON,,OFF,ON	Direct	G	R	4
0871	%WB156509	B300SMF-001	MODBUS MAJOR FAULT	FAULT,,NORMAL,FAULT	Direct	G	R	4
0872	%WB157109	77B3HSBHS-001	B300-SYS START FROM PCS	START,,STOP,START	Direct	G	R	4
0873	%WB157209	77B3HSBHSS-001	B300-SYS STOP FROM PCS	START,,STOP,START	Reverse	G	R	4
0874	%WB157709	77B3HSBHRS-001	B300-SYS RSTR FROM PCS	RESET,,-,RESET	Direct	G	R	4
0875	%WB157909	77B3WD-001	B300-MODBUS WATCHDOG	ON,,OFF,ON	Direct	G	R	4
0878	%WB158701		SPARE	ON,,OFF,ON	Direct	G	G	4
0879	%WB158702	77B4HSBXS-001	B400-HSB-001 MN BKR TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0880	%WB158703	77B4PEB-001	B400-HSB-001 PL EM BTN	TRIP,,NORMAL,TRIP	Direct	R	G	4
0881	%WB158704	77HSBXS-044	B400-HSB-001 MOD LTE TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0882	%WB158705	77HSBXS-444	B400-HSB-001 MOD SKT TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0883	%WB158706	77HSSXS-101112	HSS77-0010/11/12 HTR TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0884	%WB158707	77B4HSBAXS-001	B400-HSB-001 AUX SEC TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0885	%WB158708	77B3UXA-101112	HSS77-0010/11/12 HTR FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0886	%WB158709	77PFFC-007	HHU-77007 PR FAN LOW PR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0887	%WB158710	77MDF-007	HHU-77007 MOT DMP FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0888	%WB158711	77PTCP-401	HFM-77-401 PTC PRTN	TRIP,,NORMAL,TRIP	Direct	R	G	4
0889	%WB158712	77VSDF-401	HFM-77-401 VSD FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0890	%WB158713	77PFTRP-401	HFM-77-401 PRS FN TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0891	%WB158714	77BBA-402	HFM-77-402 BRK BELT ALM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0892	%WB158715	77SFTRP-402	HFM-77-402 FN TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0893	%WB158716	77CTRP-401	HCO-77-401 CMP TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0894	%WB158801	77HPA-401	HCO-77-401 HP ALM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0895	%WB158802	77LPA-401	HCO-77-401 LP ALM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0896	%WB158803	77CFTRP-405406	HFM77-405/406 CND FN TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0897	%WB158804	77VSDF-405406	HFM77-405/406 FN VSD FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0898	%WB158805	77TSPH-401	HSS-77-401 THR PTR	TRIP,,NORMAL,TRIP	Direct	R	G	4
0899	%WB158806	77EHTRP-401	HSS-77-401 HTR TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0900	%WB158807	77EHMF-401	HSS77-401 HTR MODLTN FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0901	%WB158808		SPARE	ON,,OFF,ON	Direct	R	G	4
0902	%WB158809	77MBTRP-007	HHU-77007 MN BKR TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0903	%WB158810	77FC-007	HHU-77007 FLTR CLOGGED	ALARM,,NORMAL,ALARM	Direct	R	G	4
0904	%WB158811	77MDF-008	HHU-77008 MOT DMP FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0905	%WB158812	77PTCP-403	HFM-77-403 PTC PRTN	TRIP,,NORMAL,TRIP	Direct	R	G	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-14
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0906	%WB158813	77VSDF-403	HFM-77-403 VSD FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0907	%WB158814	77PFTRP-403	HFM-77-403 PRS FN TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0908	%WB158815	77BBA-404	HFM-77-404 BRK BELT ALM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0909	%WB158816	77SFTRP-404	HFM-77-404 FN TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0910	%WB158901	77CTRP-402	HCO-77-402 CMP TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0911	%WB158902	77HPA-402	HCO-77-402 HP ALM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0912	%WB158903	77LPA-402	HCO-77-402 LP ALM	ALARM,,NORMAL,ALARM	Direct	R	G	4
0913	%WB158904	77B4CFTRP-405406	HFM77-405/406 CND FN TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0914	%WB158905	77B4VSDF-405406	HFM77-405/406 FN VSD FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0915	%WB158906	77FC-008	HHU-77008 FLTR CLOGGED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0916	%WB158907	77TSPH-405	HSS-77-405 THR PTR	TRIP,,NORMAL,TRIP	Direct	R	G	4
0917	%WB158908	77EHTRP-405	HSS-77-405 HTR TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0918	%WB158909	77EHMF-405	HSS77-405 HTR MODLTN FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0919	%WB158910		SPARE	ON,,OFF,ON	Direct	R	G	4
0920	%WB158911	77MBTRP-008	HHU-77008 MN BRK TRP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0921	%WB158912	77HFDZSL-012	HFD-77012 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	G	4
0922	%WB158913	77HFDZSH-012	HFD-77012 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	R	G	4
0923	%WB158914	77HFDZSL-013	HFD-77013 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	G	4
0924	%WB158915	77HFDZSH-013	HFD-77013 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	R	G	4
0925	%WB158916	77HFDZSL-014	HFD-77014 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	G	4
0926	%WB159001	77HFDZSH-014	HFD-77014 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	R	G	4
0927	%WB159002	77HSBXA-444	B400-MOD SERVER ERROR	FAULT,,NORMAL,FAULT	Direct	R	G	4
0928	%WB159003	77HSBXA-044	B400 - MOD FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0929	%WB159004	77PFFC-008	HHU-77008 PR FAN LO PR	ALARM,,NORMAL,ALARM	Direct	R	G	4
0930	%WB159005	77HFDZSL-015	HFD-77015 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	G	4
0931	%WB159006	77HFDZSH-015	HFD-77015 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	R	G	4
0932	%WB159007	77HFDZSL-016	HFD-77016 NOT CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	G	4
0933	%WB159008	77HFDZSH-016	HFD-77016 NOT OPN	OPENED,,N_OPENED,OPENED	Direct	R	G	4
0934	%WB159009	77TTXA-401	77-TT-401 FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0935	%WB159010	77TTXA-402	77-TT-402 FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0936	%WB159011	77TTXA-403	77-TT-403 FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0937	%WB159012	77TTXA-404	77-TT-404 FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0938	%WB159013	77PTXA-401	77-PT-401 FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0939	%WB159014		SPARE	ON,,OFF,ON	Direct	G	R	4
0940	%WB159015		SPARE	ON,,OFF,ON	Direct	G	R	4
0941	%WB159016		SPARE	ON,,OFF,ON	Direct	G	R	4
0942	%WB159109	B400SMF-001	HVAC SYSTEM MAJOR FLT	FAULT,,NORMAL,FAULT	Direct	R	G	4
0943	%WB159709	77B4HSBHS-001	B400-SYS START FROM PCS	START,,,START	Direct	R	G	4
0944	%WB159809	77B4HSBHSS-001	B400-SYS STOP FROM PCS	STOP,,,STOP	Direct	R	G	4
0945	%WB160309	77B4HSBHRS-001	B400-SYS RSTR FROM PCS	RESET,,-,RESET	Direct	R	G	4
0946	%WB160509	77B4WD-001	B400-MODBUS WATCHDOG	ON,,OFF,ON	Direct	R	G	4
1001	%WB150001	50PDIT049-H	DP ACROSS S500010 HI	ALARM,,NORMAL,ALARM	Reverse	G	R	4
1002	%WB150002	50HS-021	MANUAL ALARM CALL POINT	ALARM,,NORMAL,ALARM	Reverse	G	R	4
1003	%WB150003	50AT-021A	950SDZ-05201	ALARM,,NORMAL,ALARM	Reverse	G	R	4
1004	%WB150004	50AT-021B	950SDZ-05202	ALARM,,NORMAL,ALARM	Reverse	G	R	4
1005	%WB150005	50AT-021C	950SDZ-05203	ALARM,,NORMAL,ALARM	Reverse	G	R	4
1006	%WB150006	50XS-099	SIA SYSTEM COMM FLT	ALARM,,NORMAL,ALARM	Reverse	G	R	4
1017	%WB153101	50HS-011S	WTP REM ST/SP REQUEST	START,,STOP,START	Direct	G	R	4
1018	%WB153104	50XL-001	MAIN SW PUMP RUN	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
1019	%WB153105	50HS-011R	WTP PACKAGE RESET	RESET,,-,RESET	Direct	R	G	4
1030	%WB102803		CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1031	%WB102804		AVAIL	READY,,N_READY,READY	Direct	R	R	4
1032	%WB102805		AVAIL	READY,,N_READY,READY	Direct	G	R	4
1033	%WB103001		AVAIL	READY,,N_READY,READY	Direct	G	R	4
1034	%WB103002		AVAIL	READY,,N_READY,READY	Direct	G	R	4
1035	%WB103003		SA1 LOCAL	ON,,OFF,ON	Direct	G	GR	4

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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
1036	%WB103004		AVAIL	READY,,N_READY,READY	Direct	G	R	4
1037	%WB103005		AVAIL	READY,,N_READY,READY	Direct	G	R	4
1038	%WB104501		AC UPS F&G BYP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1039	%WB104502		AC UPS F&G BYP CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1040	%WB104503		AC UPS F&G BYP CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1041	%WB104504		AC UPS F&G BYP CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1042	%WB104505		AC UPS F&G BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
1043	%WB104701		AC UPS F&G BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
1044	%WB104702		AC UPS F&G BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
1045	%WB104901		AC UPS PAS LN A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1046	%WB104902		AC UPS PAS LN A CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1047	%WB104903		AC UPS PAS LN A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1048	%WB104904		AC UPS PAS LN A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1049	%WB104905		AC UPS PAS LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
1050	%WB105101		AC UPS PAS LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
1051	%WB105102		AC UPS PAS LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
1052	%WB105301		AC UPS PAS LN B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1053	%WB105302		AC UPS PAS LN B CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1054	%WB105303		AC UPS PAS LN B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1055	%WB105304		AC UPS PAS LN B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1056	%WB105305		AC UPS PAS LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
1057	%WB105501		AC UPS PAS LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
1058	%WB105502		AC UPS PAS LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
1059	%WB105701		AC UPS F&G LN A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1060	%WB105702		AC UPS F&G LN A CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1061	%WB105703		AC UPS F&G LN A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1062	%WB105704		AC UPS F&G LN A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1063	%WB105705		AC UPS F&G LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
1064	%WB105901		AC UPS F&G LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
1065	%WB105902		AC UPS F&G LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
1066	%WB106101		AC UPS F&G LN B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1067	%WB106102		AC UPS F&G LN B CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1068	%WB106103		AC UPS F&G LN B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1069	%WB106104		AC UPS F&G LN B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1070	%WB106105		AC UPS F&G LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
1071	%WB106301		AC UPS F&G LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
1072	%WB106302		AC UPS F&G LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
1073	%WB106501		WELD TOP DECK CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1074	%WB106502		WELD TOP DECK CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1075	%WB106503		WELD TOP DECK CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1076	%WB106504		WELD TOP DECK CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1077	%WB106505		WELD TOP DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
1078	%WB106701		WELD TOP DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
1079	%WB106702		WELD TOP DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
1080	%WB106901		AC UPS PAS BYP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1081	%WB106902		AC UPS PAS BYP CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1082	%WB106903		AC UPS PAS BYP CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1083	%WB106904		AC UPS PAS BYP CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1084	%WB106905		AC UPS PAS BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
1085	%WB107101		AC UPS PAS BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
1086	%WB107102		AC UPS PAS BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
1087	%WB107301		DC BAT FDR A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1088	%WB107302		DC BAT FDR A CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1089	%WB107303		DC BAT FDR A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1090	%WB107304		DC BAT FDR A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1091	%WB107305		DC BAT FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4

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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
1092	%WB107501		DC BAT FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
1093	%WB107502		DC BAT FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
1094	%WB107701		DC BAT FDR B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1095	%WB107702		DC BAT FDR B CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1096	%WB107703		DC BAT FDR B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1097	%WB107704		DC BAT FDR B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1098	%WB107705		DC BAT FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
1099	%WB107901		DC BAT FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
1100	%WB107902		DC BAT FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
1101	%WB108101		NAVAID FDR A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1102	%WB108102		NAVAID FDR A CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1103	%WB108103		NAVAID FDR A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1104	%WB108104		NAVAID FDR A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1105	%WB108105		NAVAID FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
1106	%WB108301		NAVAID FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
1107	%WB108302		NAVAID FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
1108	%WB108501		NAVAID FDR B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1109	%WB108502		NAVAID FDR B CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1110	%WB108503		NAVAID FDR B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1111	%WB108504		NAVAID FDR B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1112	%WB108505		NAVAID FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
1113	%WB108701		NAVAID FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
1114	%WB108702		NAVAID FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
1115	%WB108901		WELD LOW DECK CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1116	%WB108902		WELD LOW DECK CB OP	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1117	%WB108903		WELD LOW DECK CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
1118	%WB108904		WELD LOW DECK CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1119	%WB108905		WELD LOW DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
1120	%WB109101		WELD LOW DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
1121	%WB109102		WELD LOW DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
1122	%WB111001		DB BOP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1123	%WB111002		DB BOP CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1124	%WB111003		DB BOP TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1125	%WB111004		DB BOP FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1126	%WB111005		DB BOP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1127	%WB111201		DB BOP CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1128	%WB111202		DB BOP CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1129	%WB111401		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
1130	%WB111402		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
1131	%WB111403		DB BOP SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1132	%WB111404		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
1133	%WB111405		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
1134	%WB111501		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
1135	%WB111502		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
1136	%WB111601		CRANE CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1137	%WB111602		CRANE CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1138	%WB111603		CRANE TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1139	%WB111604		CRANE FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1140	%WB111605		CRANE INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1141	%WB111801		CRANE CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1142	%WB111802		CRANE CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1143	%WB112001		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
1144	%WB112002		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
1145	%WB112003		CRANE SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1146	%WB112004		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
1147	%WB112005		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4

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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
1148	%WB112101		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
1149	%WB112102		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
1150	%WB112201		WTP CB CLS	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1151	%WB112202		WTP CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1152	%WB112203		WTP TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1153	%WB112204		WTP FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1154	%WB112205		WTP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1155	%WB112401		WTP CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1156	%WB112402		WTP CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1157	%WB112601		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
1158	%WB112602		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
1159	%WB112603		WTP SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1160	%WB112604		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
1161	%WB112605		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
1162	%WB112701		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
1163	%WB112702		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
1164	%WB112801		HVAC PNL RM TRIP L	ALARM,,NORMAL,ALARM	Direct	R	G	4
1165	%WB112802		HVAC PNL RM TRIP S	ALARM,,NORMAL,ALARM	Direct	R	G	4
1166	%WB112803		HVAC PNL RM TRIP I	ALARM,,NORMAL,ALARM	Direct	R	G	4
1167	%WB112804		HVAC PNL RM TRIP G	ALARM,,NORMAL,ALARM	Direct	R	G	4
1168	%WB113007		HVAC PNL HV OPEN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1169	%WB113001		HVAC PNL HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1170	%WB113016		HVAC PNL HV TRIP DISCON	ALARM,,NORMAL,ALARM	Direct	R	G	4
1171	%WB115401		HVAC PNL HV CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1172	%WB115402		HVAC PNL HV CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1173	%WB115403		HVAC PNL HV TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1174	%WB115404		HVAC PNL HV FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1175	%WB115405		HVAC PNL HV INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1176	%WB115601		HVAC PNL HV CN CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1177	%WB115602		HVAC PNL HV CN OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1178	%WB115801		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
1179	%WB115802		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
1180	%WB115803		HVAC PNL HV SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1181	%WB115804		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
1182	%WB115805		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
1183	%WB115901		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
1184	%WB115902		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
1185	%WB116001		FC AUX LDCB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1186	%WB116002		FC AUX LDCB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1187	%WB116003		FC AUX LDTRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1188	%WB116004		FC AUX LDFDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1189	%WB116005		FC AUX LDINTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1190	%WB116201		FC AUX LD CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1191	%WB116202		FC AUX LD CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1192	%WB116401		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
1193	%WB116402		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
1194	%WB116403		FC AUX LD SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1195	%WB116404		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
1196	%WB116405		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
1197	%WB116501		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
1198	%WB116502		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
1199	%WB116601		BESS PCS CAB CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1200	%WB116602		BESS PCS CAB CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1201	%WB116603		BESS PCS CAB TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1202	%WB116604		BESS PCS CAB FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1203	%WB116605		BESS PCS CAB INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-18
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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
1204	%WB116801		BESS PCS CAB CN CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1205	%WB116802		BESS PCS CAB CN OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1206	%WB117001		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
1207	%WB117002		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
1208	%WB117003		BESS PCS CAB SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1209	%WB117004		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
1210	%WB117005		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
1211	%WB117101		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
1212	%WB117102		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
1213	%WB117201		IA 01A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1214	%WB117202		IA 01A CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1215	%WB117203		IA 01A TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1216	%WB117204		IA 01A FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1217	%WB117205		IA 01A INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1218	%WB117401		IA 01A CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1219	%WB117402		IA 01A CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1220	%WB117601		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
1221	%WB117602		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
1222	%WB117603		IA 01A SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1223	%WB117604		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
1224	%WB117605		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
1225	%WB117701		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
1226	%WB117702		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
1227	%WB118001		HVAC PNL RM TRIP L	ALARM,,NORMAL,ALARM	Direct	R	G	4
1228	%WB118002		HVAC PNL RM TRIP S	ALARM,,NORMAL,ALARM	Direct	R	G	4
1229	%WB118003		HVAC PNL RM TRIP I	ALARM,,NORMAL,ALARM	Direct	R	G	4
1230	%WB118004		HVAC PNL RM TRIP G	ALARM,,NORMAL,ALARM	Direct	R	G	4
1231	%WB118207		HVAC PNL RM OPEN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1232	%WB118201		HVAC PNL RM CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1233	%WB118216		HVAC PNL RM TRIP DISCON	ALARM,,NORMAL,ALARM	Direct	R	G	4
1234	%WB120401		HVAC LV RM CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1235	%WB120402		HVAC LV RM CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1236	%WB120403		HVAC LV RM TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1237	%WB120404		HVAC LV RM FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1238	%WB120405		HVAC LV RM INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1239	%WB120601		HVAC LV RM CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1240	%WB120602		HVAC LV RM CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1241	%WB120801		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1242	%WB120802		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1243	%WB120803		HVAC LV RM SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1244	%WB120804		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1245	%WB120805		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1246	%WB120901		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1247	%WB120902		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1248	%WB121001		HVAC UPS RM CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1249	%WB121002		HVAC UPS RM CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1250	%WB121003		HVAC UPS RM TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1251	%WB121004		HVAC UPS RM FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1252	%WB121005		HVAC UPS RM INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1253	%WB121201		HVAC UPS RM CN CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1254	%WB121202		HVAC UPS RM CN OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1255	%WB121401		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1256	%WB121402		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1257	%WB121403		HVAC UPS RM SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1258	%WB121404		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1259	%WB121405		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-19
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
1260	%WB121501		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1261	%WB121502		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
1262	%WB121601		HVAC ITER CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1263	%WB121602		HVAC ITER CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1264	%WB121603		HVAC ITER TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1265	%WB121604		HVAC ITER FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1266	%WB121605		HVAC ITER INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1267	%WB121801		HVAC ITER CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1268	%WB121802		HVAC ITER CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1269	%WB122001		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
1270	%WB122002		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
1271	%WB122003		HVAC ITER SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1272	%WB122004		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
1273	%WB122005		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
1274	%WB122101		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
1275	%WB122102		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
1276	%WB122201		ICCP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1277	%WB122202		ICCP CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1278	%WB122203		ICCP TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1279	%WB122204		ICCP FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1280	%WB122205		ICCP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1281	%WB122401		ICCP CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1282	%WB122402		ICCP CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1283	%WB122601		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
1284	%WB122602		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
1285	%WB122603		ICCP SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1286	%WB122604		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
1287	%WB122605		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
1288	%WB122701		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
1289	%WB122702		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
1290	%WB122801		IA 01B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1291	%WB122802		IA 01B CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1292	%WB122803		IA 01B TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1293	%WB122804		IA 01B FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1294	%WB122805		IA 01B INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1295	%WB123001		IA 01B CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1296	%WB123002		IA 01B CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1297	%WB123201		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
1298	%WB123202		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
1299	%WB123203		IA 01B SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1300	%WB123204		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
1301	%WB123205		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
1302	%WB123301		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
1303	%WB123302		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
1304	%WB123401		BESS LV1 CB CLS	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1305	%WB123402		BESS LV1 CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1306	%WB123403		BESS LV1 TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1307	%WB123404		BESS LV1 FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1308	%WB123405		BESS LV1 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1309	%WB123601		BESS LV1 CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1310	%WB123602		BESS LV1 CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1311	%WB123801		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
1312	%WB123802		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
1313	%WB123803		BESS LV1 SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1314	%WB123804		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
1315	%WB123805		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-20
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SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
1316	%WB123901		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
1317	%WB123902		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
1318	%WB124001		BESS LV2 CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1319	%WB124002		BESS LV2 CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1320	%WB124003		BESS LV2 TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1321	%WB124004		BESS LV2 FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1322	%WB124005		BESS LV2 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1323	%WB124201		BESS LV2 CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1324	%WB124202		BESS LV2 CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1325	%WB124401		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
1326	%WB124402		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
1327	%WB124403		BESS LV2 SA1 LOC	ON,,OFF,ON	Direct	G	R	4
1328	%WB124404		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
1329	%WB124405		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
1330	%WB124501		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
1331	%WB124502		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
1332	%WB128101		TEMP GEN/BAT CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
1333	%WB128102		TEMP GEN/BAT CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
1334	%WB128103		TEMP GEN/BAT CB TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1335	%WB128104		TEMP GEN/BAT FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
1336	%WB128105		TEMP GEN/BAT INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1337	%WB128201		TEMP GEN/BAT AVAIL	ON,,OFF,ON	Direct	G	R	4
1338	%WB128202		TEMP GEN/BAT AVAIL	ON,,OFF,ON	Direct	G	R	4
1339	%WB128501		SW PMP A LOC	REMOTE ,,LOCAL,REMOTE	Direct	G	R	4
1340	%WB128502		SW PMP A RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
1341	%WB128503		SW PMP A TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1342	%WB128504		SW PMP A AVAIL	ON,,OFF,ON	Direct	G	R	4
1343	%WB128505		SW PMP A ESD ACT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1344	%WB128506		SW PMP A PA1 LOC STOP	STOP,,STOP	Direct	R	GR	4
1345	%WB128701		SW PMP A STRT CMD	START,,START	Direct	G	GR	4
1346	%WB128702		SW PMP A STOP CMD	STOP,,STOP	Direct	R	GR	4
1347	%WB129101		SW PMP B LOC	REMOTE ,,LOCAL,REMOTE	Direct	G	R	4
1348	%WB129102		SW PMP B RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
1349	%WB129103		SW PMP B TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
1350	%WB129104		SW PMP B AVAIL	ON,,OFF,ON	Direct	G	R	4
1351	%WB129105		SW PMP B ESD ACT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
1352	%WB129106		SW PMP B PA1 LOC STOP	STOP,,STOP	Direct	R	GR	4
1353	%WB129301		SW PMP B STRT CMD	START,,START	Direct	G	GR	4
1354	%WB129302		SW PMP B STOP CMD	STOP,,STOP	Direct	R	GR	4
2489	%WB205102	63NORUNFB001-H	COMPRESSOR 1 NOT STARTED	ON,,OFF,ON	Reverse	G	R	4
2490	%WB205101	63NORUNFB002-H	COMPRESSOR 2 NOT STARTED	ON,,OFF,ON	Reverse	G	R	4
2491	%WB205408	63DRY-SW	DRYER SWITCH	ON,,OFF,ON	Direct	R	R	4
2492	%WB205407	63STOP-REQ	STOP REQEST	ON,,OFF,ON	Direct	R	R	4
2493	%WB205308	63PREFIL_1-H	DP EXCD PRE-FLTR 1	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2494	%WB205307	63PREFIL_2-H	DP EXCD PRE-FLTR 2	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2495	%WB205306	63POSTFIL_1-H	DP EXCD POST-FLTR 1	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2496	%WB205305	63POSTFIL_2-H	DP EXCD POST-FLTR 2	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2497	%WB205304	63PREFIL-H	DP BOTH PRE-FLTR	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2498	%WB205303	63POSTFIL-H	DP BOTH POST-FLTR	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2499	%WB205302	63DRY-H	PS TRIGGER BOTH	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2500	%WB205301	63CMPR-H	BOTH COMPRSRALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2501	%WB205116	63COMP001-H	COMPRESSOR-1 GENERAL ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2502	%WB205115	63COMP002-H	COMPRESSOR-2 GENERAL ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2503	%WB205114	6320FS12-H	SURG ARR 230VAC_SERV ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2504	%WB205113	6321FS12-H	SURG ARR 230VAC_UPS ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2505	%WB205112	63TH001-H	INT CAB HRMOSTAT ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-21
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
2506	%WB205108	63PS054-H	ALM DRIER-1 TWR A PS	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2507	%WB205107	63PS056-H	ALM DRIER-1 TWR B PS	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2508	%WB205106	63PS058-H	ALM DRIER-2 TWR A PS	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2509	%WB205105	63PS060-H	ALM DRIER-2 TWR B PS	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2510	%WB205216	63XY055-H	ALM 63-XY-055	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2511	%WB205215	63XY056-H	ALM 63-XY-056	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2512	%WB205214	63XY057-H	ALM 63-XY-057	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2513	%WB205213	63XY058-H	ALM 63-XY-058	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2514	%WB205212	63XY059-H	ALM 63-XY-059	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2515	%WB205211	63XY060-H	ALM 63-XY-060	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2516	%WB205316	63AIT051-LL	DEW POINT Tx LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2517	%WB205315	63AIT051-L	DEW POINT Tx LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2518	%WB205314	63AIT051-H	DEW POINT Tx HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2519	%WB205313	63AIT051-HH	DEW POINT Tx HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2520	%WB205312	63PT064-LL	PT IA REC LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2521	%WB205311	63PT064-L	PT IA REC LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2522	%WB205310	63PT064-H	PT IA REC HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2523	%WB205309	63PT064-HH	PT IA REC HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2524	%WB205608	63TIT051-LL	TT IN AIR LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2525	%WB205607	63TIT051-L	TT IN AIR LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2526	%WB205606	63TIT051-H	TT IN AIR HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2527	%WB205605	63TIT051-HH	TT IN AIR HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2528	%WB205604	63TIT052-LL	TT IA REC LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2529	%WB205603	63TIT052-L	TT IA REC LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2530	%WB205602	63TIT052-H	TT IA REC HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2531	%WB205601	63TIT052-HH	TT IA REC HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2532	%WB205616	63FIT051-LL	FT OL AIR LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2533	%WB205615	63FIT051-L	FT OL AIR LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2534	%WB205614	63FIT051-H	FT OL AIR HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2535	%WB205613	63FIT051-HH	FT OL AIR HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2536	%WB205612	63PDIT051-LL	DPT IN FLTRS LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2537	%WB205611	63PDIT051-L	DPT IN FLTRS LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2538	%WB205610	63PDIT051-H	DPT IN FLTRS HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2539	%WB205609	63PDIT051-HH	DPT IN FLTRS HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2540	%WB205508	63PDIT052-LL	DPT OL FLTRS LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2541	%WB205507	63PDIT052-L	DPT OL FLTRS LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2542	%WB205506	63PDIT052-H	DPT OL FLTRS HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2543	%WB205505	63PDIT052-HH	DPT OL FLTRS HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2544	%WB205516	63AIT051-BADPV	DEW POINT Tx BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2545	%WB205515	63PT064-BADPV	PT IA REC BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2546	%WB205514	63TIT051-BADPV	TT IN AIR BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2547	%WB205513	63TIT052-BADPV	TT IA REC BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2548	%WB205512	63FIT051-BADPV	FT OL AIR BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2549	%WB205511	63PDI051-BPV	DPT IN FLTRS BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2550	%WB205510	63PDI052-BPV	DPT OL FLTRS BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2551	%WB205808	63ESDSIS001-H	PLANT SD ALM SIS	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2552	%WB205807	63ALARM-PLANT	PLANT GENERAL ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2553	%WB205806	63PLANT-READY	PLANT READY	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2554	%WB205805	63PLANT-RUNNING	PLANT RUNN	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2555	%WB205804	63PL-LR	PLANT IN REMOTE MODE	LOCAL,,REMOTE ,LOCAL	Reverse	G	R	4
2556	%WB205803	63ALARMDRY-001	DRYER 1 ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2557	%WB205802	63ALARMDRY-002	DRYER 2 ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2558	%WB205816	63CMP01-ST	COMPRESSOR 1 CMD	RUN,,STOP,RUN	Direct	R	R	4
2559	%WB205815	63CMP02-ST	COMPRESSOR 2 CMD	RUN,,STOP,RUN	Direct	R	R	4
2560	%WB205812	63CMP01-RUN	COMPRESSOR 1 RUNN	RUN,,STOP,RUN	Direct	R	R	4
2561	%WB205811	63CMP02-RUN	COMPRESSOR 2 RUNN	RUN,,STOP,RUN	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-22
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
2562	%WB205708	63XY051	DRYER-1 5WAY SOV OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2563	%WB205707	63XY052	DRYER-1 DEPR SOV OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2564	%WB205706	63XY053	DRYER-2 5WAY SOV OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2565	%WB205705	63XY054	DRYER-2 DEPR SOV OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2566	%WB205716	63XY055		OPEN,,CLOSE,OPEN	Reverse	R	G	4
2567	%WB205715	63XY056		OPEN,,CLOSE,OPEN	Reverse	R	G	4
2568	%WB205714	63XY057		OPEN,,CLOSE,OPEN	Reverse	R	G	4
2569	%WB205713	63XY058		OPEN,,CLOSE,OPEN	Reverse	R	G	4
2570	%WB205712	63XY059		OPEN,,CLOSE,OPEN	Reverse	R	G	4
2571	%WB205711	63XY060		OPEN,,CLOSE,OPEN	Reverse	R	G	4
2574	%WB206008	63ZSH-055	VALVE XY-055 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2575	%WB206007	63ZSL-055	VALVE XY-055 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2576	%WB206006	63ZSH-056	VALVE XY-056 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2577	%WB206005	63ZSL-056	VALVE XY-056 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2578	%WB206004	63ZSH-057	VALVE XY-057 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2579	%WB206003	63ZSL-057	VALVE XY-057 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2580	%WB206002	63ZSH-058	VALVE XY-058 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2581	%WB206001	63ZSL-058	VALVE XY-058 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2582	%WB206016	63ZSH-059	VALVE XY-059 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2583	%WB206015	63ZSL-059	VALVE XY-059 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2584	%WB206014	63ZSH-060	VALVE XY-060 OPN	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
2585	%WB206013	63ZSL-060	VALVE XY-060 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2588	%WB217716	64TH001-H	INTERNAL CABINET THERMOS	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2589	%WB218008	64XY051-H	VALVE XY051 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2590	%WB218007	64XY052-H	VALVE XY052 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2591	%WB218006	64XY053-H	VALVE XY053 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2592	%WB218005	64XY054-H	VALVE XY054 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2593	%WB218004	64XY055-H	VALVE XY055 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2594	%WB218003	64XY056-H	VALVE XY056 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2595	%WB218002	64XY057-H	VALVE XY057 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2596	%WB218001	64XY058-H	VALVE XY058 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2597	%WB218016	64XY059-H	VALVE XY059 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2598	%WB218015	64XY060-H	VALVE XY060 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2599	%WB218014	64XY061-H	VALVE XY061 ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2600	%WB217916	64PT051-LL	IL PRES TRANS - L L ALAR	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2601	%WB217915	64PT051-L	IL PRES TRANS- LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2602	%WB217914	64PT051-H	IL PRES TRANS - HI ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2603	%WB217913	64PT051-HH	IL PRES TRANS- HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2604	%WB217912	64PT052-LL	T1 PRES TRANS -LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2605	%WB217911	64PT052-L	T1 PRES TRANS -LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2606	%WB217910	64PT052-H	T1 PRES TRANS -HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2607	%WB217909	64PT052-HH	T1 PRES TRANS -HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2608	%WB218208	64PT053-LL	T2 PRES TRANS -LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2609	%WB218207	64PT053-L	T2 PRES TRANS -LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2610	%WB218206	64PT053-H	T2 PRES TRANS -HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2611	%WB218205	64PT053-HH	T2 PRES TRANS -HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2612	%WB218204	64PT057-LL	OL B PRES TRANS LOLO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2613	%WB218203	64PT057-L	OL B PRES TRANS LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2614	%WB218202	64PT057-H	OL B PRES TRANS HIHI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2615	%WB218201	64PT057-HH	OL B PRES TRANS HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2616	%WB218216	64PT059-LL	PRES TRANS INS AR LOLO A	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2617	%WB218215	64PT059-L	PRES TRANS INS AR LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2618	%WB218214	64PT059-H	PRES TRANS INS AR HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2619	%WB218213	64PT059-HH	PRES TRANS INS AR HIHI A	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2620	%WB218212	64PDIT056-LL	DIF PRES TRANS OL LO LO	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2621	%WB218211	64PDIT056-L	DIF PRES TRANS OL LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-23
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
2622	%WB218210	64PDIT056-H	DIF PRES TRANS OL LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2623	%WB218209	64PDIT056-HH	DIF PRES TRANS HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2624	%WB218108	64AT051-LL	OXYGEN TRANS LO LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2625	%WB218107	64AT051-L	OXYGEN TRANS LO ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2626	%WB218106	64AT051-H	OXYGEN TRANS HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2627	%WB218105	64AT051-HH	OXYGEN TRANS HI HI ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2628	%WB218116	64PT051-BADPV	IL PRES TRANS- BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2629	%WB218115	64PT052-BADPV	T1 PRES TRANS- BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2630	%WB218114	64PT053-BADPV	T2 PRES TRANS- BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2631	%WB218113	64PT057-BADPV	OL B PRES TRANS- BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2632	%WB218112	64PT059-BADPV	PRES TRANS OL FIL-BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2633	%WB218111	64PDIT056-BADPV	OXYGEN TRANS- BAD PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2634	%WB218110	64AT051-BADPV	DIF PRES TRANS OL FIL-PV	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2635	%WB218408	64ESD-SIS-001-H	PLANT SHITDOWN ALM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2636	%WB218407	64ALARM-PLANT	PLANT GEN ALARM	ALARM,,NORMAL,ALARM	Reverse	G	R	4
2637	%WB218406	64PLANT-READY	PLANT READY	READY,,N_READY,READY	Direct	R	R	4
2638	%WB218405	64PLANT-RUNNING	PLANT RUNNING	RUN,,STOP,RUN	Direct	R	R	4
2639	%WB218404	64PLANT-LOCA-REM	PLANT IN REM MODE	REMOTE ,,LOCAL,REMOTE	Direct	G	GR	4
2640	%WB218416	64-XV-051	VALVE XY-051 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2641	%WB218415	64-XV-052	VALVE XY-052 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2642	%WB218414	64-XV-053	VALVE XY-053 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2643	%WB218413	64-XV-054	VALVE XY-054 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2644	%WB218412	64-XV-055	VALVE XY-055 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2645	%WB218411	64-XV-056	VALVE XY-056 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2646	%WB218410	64-XV-057	VALVE XY-057 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2647	%WB218409	64-XV-058	VALVE XY-058 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2648	%WB218308	64-XV-059	VALVE XY-059 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2649	%WB218307	64-XV-060	VALVE XY-060 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2650	%WB218306	64-XV-061	VALVE XY-061 CMD	OPEN,,CLOSE,OPEN	Direct	G	GR	4
2651	%WB218316	64ZSH-051	VALVE XY-051 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2652	%WB218315	64ZSL-051	VALVE XY-051 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2653	%WB218314	64ZSH-052	VALVE XY-052 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2654	%WB218313	64ZSL-052	VALVE XY-052 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2655	%WB218312	64ZSH-053	VALVE XY-053 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2656	%WB218311	64ZSL-053	VALVE XY-053 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2657	%WB218310	64ZSH-054	VALVE XY-054 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2658	%WB218309	64ZSL-054	VALVE XY-054 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2659	%WB218608	64ZSH-055	VALVE XY-055 OPN	OPENED,,N_OPENED,OPENED	Reverse	G	GR	4
2660	%WB218607	64ZSL-055	VALVE XY-055 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2661	%WB218606	64ZSH-056	VALVE XY-056 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2662	%WB218605	64ZSL-056	VALVE XY-056 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2663	%WB218604	64ZSH-057	VALVE XY-057 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2664	%WB218603	64ZSL-057	VALVE XY-057 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2665	%WB218602	64ZSH-058	VALVE XY-058 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2666	%WB218601	64ZSL-058	VALVE XY-058 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2667	%WB218616	64ZSH-059	VALVE XY-059 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2668	%WB218615	64ZSL-059	VALVE XY-059 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2669	%WB218614	64ZSH-060	VALVE XY-060 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2670	%WB218613	64ZSL-060	VALVE XY-060 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2671	%WB218612	64ZSH-061	VALVE XY-061 OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
2672	%WB218611	64ZSL-061	VALVE XY-061 CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
2673	%WB212709	64STARTPLANT-CMD	REMOTE START COMMAND	START,,,START	Direct	G	R	4
2674	%WB212710	64STOPPLANT-CMD	REMOTE STOP COMMAND	STOP,,,STOP	Direct	R	R	4
2675	%WB212712	64ACK-ALARM	REMOTE ALARMS ACKNOWLDGE	ON,,OFF,ON	Direct	G	R	4
2676	%WB212713	64CHNG-FILT	CHANGE FILTER COMMAND	ON,,OFF,ON	Direct	R	GR	4
2677	%WB212714	64WTCDG-BIT	WATCH DOG BIT	ON,,OFF,ON	Direct	R	GR	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	WBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-8-24
STATION:	FCS0101	SAVED DATE:	7/12/2025 1:13:39 AM	COMMENT:			
SECTION:	Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
2679	%WB205208	63RED_FAIL	REDUNDANCY CPU FAIL	FAULT,,NORMAL,FAULT	Reverse	G	R	4
2680	%WB205207	63CPU_SWITCH	REDUNDANCY CPU FAIL	FAULT,,NORMAL,FAULT	Reverse	G	R	4
2681	%WB205206	63IM_ERR	IM ERROR	FAULT,,NORMAL,FAULT	Reverse	G	R	4
2682	%WB152905	63PNPN_ERR	PNPN COUPLERERROR	FAULT,,NORMAL,FAULT	Reverse	G	R	4
2683	%WB152904	63NET_ERR	NETWORK PN/IE_1 ERROR	FAULT,,NORMAL,FAULT	Reverse	G	R	4
3001	%WB363501	87PERM-0001	PERM FUEL CELL START	ON,,OFF,ON	Direct	R	R	4
3002	%WB363502	87PERM-0002	PERM ELECTRLYZR START	ON,,OFF,ON	Direct	R	R	4
3003	%WB363503	87H2TK-0001	ALL STORAGE FULL	ON,,OFF,ON	Direct	R	R	4
3004	%WB363504	87XA-0001	BESS FLT	ON,,OFF,ON	Direct	R	R	4
3005	%WB363505	87PWRC-001	POWER OUT MODE ESD-1D	ON,,OFF,ON	Direct	R	R	4
3013	%WB064102	87LDSH-001A	LOAD SHEDDING-1	ON,,OFF,ON	Direct	R	R	4
3014	%WB064103	87LDSH-002A	LOAD SHEDDING-2	ON,,OFF,ON	Direct	R	R	4
3017	%WB364102	87LDSH-001B	LOAD SHEDDING-1	ON,,OFF,ON	Direct	R	R	4
3018	%WB364103	87LDSH-002B	LOAD SHEDDING-2	ON,,OFF,ON	Direct	R	R	4
3021	%WB063501	87PERM-0001A	PERM FUEL CELL START	ON,,OFF,ON	Direct	R	R	4
3022	%WB063502	87PERM-0002A	PERM ELECTRLYZR START	ON,,OFF,ON	Direct	R	R	4
3023	%WB063503	87H2TK-0001A	ALL STORAGE FULL	ON,,OFF,ON	Direct	R	R	4
3024	%WB063504	87XA-0001A	BESS FLT	ON,,OFF,ON	Direct	R	R	4
3025	%WB063505	87PWRC-001A	POWER OUT MODE ESD-1D	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Communication I/O Builder

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0001	700	K1-3-7FMODBUS	6	1	10.230.162.249	1	A10000	Input(Discrete)	Bits	Normal		
%XW0002	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0003	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0004	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0005	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0006	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0007	*	*										
%XW0008	*	*										
%XW0009	*	*										
%XW0010	*	*										
%XW0011	*	*	14	1	10.230.162.249	1	A30000	Input(Discrete)	Bits	Normal		
%XW0012	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0013	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0014	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0015	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0016	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0017	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0018												
%XW0019												
%XW0020												
%XW0021												
%XW0022												
%XW0023												
%XW0024												
%XW0025												
%XW0026												
%XW0027												
%XW0028												
%XW0029												
%XW0030												
%XW0031			8	1	10.230.162.249	1	A30014	Input(16-Bit Signed)	No	Normal	MEASURE - POWER FACTOR	
%XW0032											MEASURE - POWER FACTOR	
%XW0033											MEASURE - POWER FACTOR	
%XW0034											MEASURE - POWER FACTOR	
%XW0035											MEASURE - POWER FACTOR	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-3
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0036	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0037	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0038	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0039	*	*	32	1	10.230.162.249	1	A30022	Input(16-Bit Unsigned)	No	Normal	MEASURE - VOLTAGE "L1-L2"	
%XW0040	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0041	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0042	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0043	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0044	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0045	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0046	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0047	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0048	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0049	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0050	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0051	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0052	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0053	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-4
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0054	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0055	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0056	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0057	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0058	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0059	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0060	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0061	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0062	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0063	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0064	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0065	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0066	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0067	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0068	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0069	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0070	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0071	*	*	42	1	10.230.162.249	1	A30054	Input(32-Bit Signed)	Words	Normal	MEASURE - APPARENT POWER	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-5
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0072	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0073	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - REAL POWER	* * *
%XW0074	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0075	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - REACTIVE POWER	* * *
%XW0076	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0077	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - APPARENT POWER	* * *
%XW0078	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0079	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - REAL POWER	* * *
%XW0080	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0081	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - REACTIVE POWER	* * *
%XW0082	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0083	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - APPARENT POWER	* * *
%XW0084	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0085	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - REAL POWER	* * *
%XW0086	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0087	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - REACTIVE POWER	* * *
%XW0088	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0089	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - APPARENT POWER	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-6
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0090	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0091	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - REAL POWER	* * *
%XW0092	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0093	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - REACTIVE POWER	* * *
%XW0094	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0095	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - APPARENT POWER	* * *
%XW0096	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0097	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - REAL POWER	* * *
%XW0098	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0099	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - REACTIVE POWER	* * *
%XW0100	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0101	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - APPARENT POWER	* * *
%XW0102	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0103	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - REAL POWER	* * *
%XW0104	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0105	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - REACTIVE POWER	* * *
%XW0106	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0107	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - APPARENT POWER	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-7
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0108	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0109	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0110	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0111	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0112	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0113	*	*	54	1	10.230.162.249	1	A30096	Input(32-Bit Signed)	Words	Normal	MEASURE - CURRENT "L1"	
%XW0114	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0115	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0116	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0117	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0118	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0119	*	*	*	*	*	*	*	*	*	*	MEASURE - APPARENT POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0120	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0121	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0122	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0123	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0124	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0125	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-8
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0126												
%XW0127											MEASURE - CURRENT "L2"	
%XW0128												
%XW0129											MEASURE - CURRENT "L3"	
%XW0130												
%XW0131											MEASURE - CURRENT "L1"	
%XW0132												
%XW0133											MEASURE - CURRENT "L2"	
%XW0134												
%XW0135											MEASURE - CURRENT "L3"	
%XW0136												
%XW0137											MEASURE - CURRENT "L1"	
%XW0138												
%XW0139											MEASURE - CURRENT "L2"	
%XW0140												
%XW0141											MEASURE - CURRENT "L3"	
%XW0142												
%XW0143											MEASURE - CURRENT "L1"	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-9
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0144	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0145	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0146	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0147	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0148	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0149	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0150	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0151	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0152	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0153	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0154	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0155	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0156	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0157	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0158	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0159	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0160	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*			*						
%XW0161	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*		*	*	*		*	*		*
	*		*			*						

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-10
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address PN-Watchdog Time PN-Size in Channel	Station	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0162	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0163	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0164	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0165	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0166	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0167	*	*										
%XW0168	*	*										
%XW0169	*	*	1	1	10.230.162.249	1	Y00000	Output(Discrete)	Bits	Normal		
%XW0170	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0171	*	*										
%XW0172	*	*										
%XW0173	*	*	2	1	10.230.162.249	1	X40000	Output(Discrete)	Bits	Normal		
%XW0174	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*	*							
%XW0175	*	*										
%XW0176	*	*										
%XW0177	*	*										
%XW0178	*	*										
%XW0179	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-11
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0180	*	*										
%XW0181	*	*	8	1	10.230.162.250	1	A10000	Input(Discrete)	Bits	Normal		
%XW0182	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0183	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0184	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0185	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0186	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0187	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0188	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0189	*	*										
%XW0190	*	*										
%XW0191	*	*	26	1	10.230.162.250	1	A30000	Input(Discrete)	Bits	Normal		
%XW0192	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0193	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0194	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0195	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0196	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0197	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-12
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0198	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0199	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0200	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0201	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0202	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0203	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0204	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0205	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0206	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0207	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0208	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0209	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0210	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0211	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0212	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0213	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0214	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *
%XW0215	* * *	* * *	*	* * *	*	* * *	* * *	*	*	*		* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-13
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0216	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0217	*	*										
%XW0218	*	*										
%XW0219	*	*										
%XW0220	*	*										
%XW0221	*	*										
%XW0222	*	*										
%XW0223	*	*										
%XW0224	*	*										
%XW0225	*	*										
%XW0226	*	*										
%XW0227	*	*										
%XW0228	*	*										
%XW0229	*	*										
%XW0230	*	*										
%XW0231	*	*	13	1	10.230.162.250	1	A30026	Input(16-Bit Signed)	No	Normal	MEASURE - POWER FACTOR	
%XW0232	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*		*	*	*		*	*		*
	*		*		*							
%XW0233	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*		*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-14
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer / Subnet mask / PN-Data	Program Name / Default gateway	Size / PN-Updating Time / PN-Offset in Channel	Port / PN-Watchdog Time / PN-Size in Channel	IP Address	Station	Device&Address / DCP SET / PN-Module	Data Type	Reverse / PN-slot	Scan / PN-SubModule	Service Comment	Station name / PN-Sub Slot
%XW0234	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0235	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0236	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0237	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0238	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0239	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0240	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0241	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0242	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0243	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
%XW0244	*	*	*	*	*	*	*	*	*	*		*
%XW0245	*	*	52 / 1	1	10.230.162.250	1	A30039	Input(16-Bit Unsigned)	No	Normal	MEASURE - VOLTAGE "L1-L2"	
%XW0246	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
%XW0247	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
%XW0248	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
%XW0249	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
%XW0250	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
%XW0251	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-15
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse	Scan PN-slot	Service Comment PN-SubModule	Station name PN-Sub Slot
%XW0252	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - FREQUENCY	* * *
%XW0253	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0254	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0255	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0256	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - FREQUENCY	* * *
%XW0257	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0258	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0259	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0260	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - FREQUENCY	* * *
%XW0261	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0262	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0263	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0264	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - FREQUENCY	* * *
%XW0265	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0266	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0267	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0268	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - FREQUENCY	* * *
%XW0269	* * *	* * *	*	*	* * *	* * *	* *	*	*	* * *	MEASURE - VOLTAGE "L1-L2"	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-16
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0270	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0271	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0272	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - FREQUENCY	* * *
%XW0273	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0274	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0275	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0276	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - FREQUENCY	* * *
%XW0277	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0278	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0279	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0280	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - FREQUENCY	* * *
%XW0281	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0282	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0283	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L3-L1"	* * *
%XW0284	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - FREQUENCY	* * *
%XW0285	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L1-L2"	* * *
%XW0286	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L2-L3"	* * *
%XW0287	* * *	* * *	*	* * *	*	* * *	* * *	*	* * *	*	MEASURE - VOLTAGE "L3-L1"	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-17
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer / Subnet mask / PN-Data	Program Name / Default gateway / PN-Offset in Channel	Size	Port	IP Address / PN-Updating Time / PN-Watchdog Time	Station / PN-Size in Channel	Device&Address / DCP SET / PN-Module	Data Type	Reverse / PN-slot	Scan / PN-SubModule	Service Comment / PN-Sub Slot	Station name
%XW0288	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - FREQUENCY / * / *	*
%XW0289	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - VOLTAGE "L1-L2" / * / *	*
%XW0290	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - VOLTAGE "L2-L3" / * / *	*
%XW0291	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - VOLTAGE "L3-L1" / * / *	*
%XW0292	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - FREQUENCY / * / *	*
%XW0293	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - VOLTAGE "L1-L2" / * / *	*
%XW0294	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - VOLTAGE "L2-L3" / * / *	*
%XW0295	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - VOLTAGE "L3-L1" / * / *	*
%XW0296	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - FREQUENCY / * / *	*
%XW0297	*	*	78	1	10.230.162.250	1	A30091	Input(32-Bit Signed)	Words	Normal	MEASURE - APPARENT POWER	
%XW0298	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	/ * / *	*
%XW0299	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - REAL POWER / * / *	*
%XW0300	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	/ * / *	*
%XW0301	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - REACTIVE POWER / * / *	*
%XW0302	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	/ * / *	*
%XW0303	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - APPARENT POWER / * / *	*
%XW0304	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	/ * / *	*
%XW0305	* / * / *	* / * / *	*	*	* / * / *	* / * / *	* / * / *	*	* / * / *	* / * / *	MEASURE - REAL POWER / * / *	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0306	* * *

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0324											
%XW0325										MEASURE - REACTIVE POWER	
%XW0326											
%XW0327										MEASURE - APPARENT POWER	
%XW0328											
%XW0329										MEASURE - REAL POWER	
%XW0330											
%XW0331										MEASURE - REACTIVE POWER	
%XW0332											
%XW0333										MEASURE - APPARENT POWER	
%XW0334											
%XW0335										MEASURE - REAL POWER	
%XW0336											
%XW0337										MEASURE - REACTIVE POWER	
%XW0338											
%XW0339										MEASURE - APPARENT POWER	
%XW0340											
%XW0341										MEASURE - REAL POWER	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port	IP Address PN-Updating Time PN-Offset in Channel	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0342												
%XW0343											MEASURE - REACTIVE POWER	
%XW0344												
%XW0345											MEASURE - APPARENT POWER	
%XW0346												
%XW0347											MEASURE - REAL POWER	
%XW0348												
%XW0349											MEASURE - REACTIVE POWER	
%XW0350												
%XW0351											MEASURE - APPARENT POWER	
%XW0352												
%XW0353											MEASURE - REAL POWER	
%XW0354												
%XW0355											MEASURE - REACTIVE POWER	
%XW0356												
%XW0357											MEASURE - APPARENT POWER	
%XW0358												
%XW0359											MEASURE - REAL POWER	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-21
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0360	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0361	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0362	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0363	*	*	*	*	*	*	*	*	*	*	MEASURE - APPARENT POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0364	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0365	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0366	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0367	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0368	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0369	*	*	*	*	*	*	*	*	*	*	MEASURE - APPARENT POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0370	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0371	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0372	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0373	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0374	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0375	*	*	78	1	10.230.162.250	1	A30169	Input(32-Bit Signed)	Words	Normal	MEASURE - CURRENT "L1"	
%XW0376	*	*	*	*	*	*	*	*	*	*	*	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							
%XW0377	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*	*	*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-22
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0378	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0379	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L3"	* * *
%XW0380	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0381	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L1"	* * *
%XW0382	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0383	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L2"	* * *
%XW0384	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0385	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L3"	* * *
%XW0386	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0387	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L1"	* * *
%XW0388	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0389	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L2"	* * *
%XW0390	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0391	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L3"	* * *
%XW0392	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0393	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L1"	* * *
%XW0394	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*		* * *
%XW0395	* * *	* * *	* * *	* * *	* * *	* * *	*	*	*	MEASURE - CURRENT "L2"	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-23
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%XW0396	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0397	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L3" * * *	*
%XW0398	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0399	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L1" * * *	*
%XW0400	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0401	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L2" * * *	*
%XW0402	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0403	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L3" * * *	*
%XW0404	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0405	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L1" * * *	*
%XW0406	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0407	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L2" * * *	*
%XW0408	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0409	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L3" * * *	*
%XW0410	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0411	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L1" * * *	*
%XW0412	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	*
%XW0413	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L2" * * *	*

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-24
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0414	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0415	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L3"	* * *
%XW0416	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0417	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L1"	* * *
%XW0418	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0419	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L2"	* * *
%XW0420	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0421	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L3"	* * *
%XW0422	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0423	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L1"	* * *
%XW0424	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0425	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L2"	* * *
%XW0426	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0427	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L3"	* * *
%XW0428	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0429	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L1"	* * *
%XW0430	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
%XW0431	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	MEASURE - CURRENT "L2"	* * *

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-25
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0432	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0433	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0434	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0435	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0436	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0437	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0438	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0439	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0440	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0441	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0442	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0443	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0444	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0445	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0446	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0447	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0448	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0449	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-26
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Offset in Channel	Port PN-Updating Time	IP Address PN-Watchdog Time	Station PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%XW0450	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0451	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0452	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0453	*	*										
%XW0454	*	*										
%XW0455	*	*	2	1	10.230.162.250	1	Y00000	Output(Discrete)	Bits	Normal		
%XW0456	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0457	*	*										
%XW0458	*	*										
%XW0459	*	*										
%XW0460	*	*										
%XW0461	*	*										
%XW0462	*	*										
%XW0463	*	*										
%XW0464	*	*										
%XW0465	*	*										
%XW0466	*	*										
%XW0467	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-27
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0468	*	*										
%XW0469	*	*										
%XW0470	*	*										
%XW0471	*	*	5	1	10.230.162.251	1	A10000	Input(Discrete)	Bits	Normal		
%XW0472	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0473	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0474	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0475	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0476	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0477	*	*										
%XW0478	*	*										
%XW0479	*	*										
%XW0480	*	*										
%XW0481	*	*	6	1	10.230.162.251	1	A30000	Input(Discrete)	Bits	Normal		
%XW0482	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0483	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0484	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							
%XW0485	*	*	*	*	*	*	*	*	*	*		*
	*	*	*		*		*	*	*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-28
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module			PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0486	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*	*								
%XW0487	*	*										
%XW0488	*	*										
%XW0489	*	*										
%XW0490	*	*										
%XW0491	*	*										
%XW0492	*	*										
%XW0493	*	*										
%XW0494	*	*										
%XW0495	*	*										
%XW0496	*	*										
%XW0497	*	*										
%XW0498	*	*										
%XW0499	*	*										
%XW0500	*	*										
%XW0501	*	*										
%XW0502	*	*										
%XW0503	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-29
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot		PN-SubModule	PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0504	*	*										
%XW0505	*	*										
%XW0506	*	*										
%XW0507	*	*										
%XW0508	*	*										
%XW0509	*	*										
%XW0510	*	*										
%XW0511	*	*	3	1	10.230.162.251	1	A30006	Input(16-Bit Signed)	No	Normal	MEASURE - POWER FACTOR	
%XW0512	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0513	*	*	*	*	*	*	*	*	*	*	MEASURE - POWER FACTOR	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0514	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0515	*	*	14	1	10.230.162.251	1	A30009	Input(16-Bit Unsigned)	No	Normal	MEASURE - CURRENT (average)	
%XW0516	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0517	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0518	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0519	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0520	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							
%XW0521	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*	*	*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-30
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0522	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0523	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0524	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L1-L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0525	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L2-L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0526	*	*	*	*	*	*	*	*	*	*	MEASURE - VOLTAGE "L3-L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0527	*	*	*	*	*	*	*	*	*	*	MEASURE - FREQUENCY	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0528	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT (average)	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0529	*	*	18	1	10.230.162.251	1	A30023	Input(32-Bit Signed)	Words	Normal	MEASURE - APPARENT POWER	
%XW0530	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0531	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0532	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0533	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0534	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0535	*	*	*	*	*	*	*	*	*	*	MEASURE - APPARENT POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0536	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0537	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0538	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0539	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-31
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time		PN-Watchdog Time		DCP SET	PN-Module	PN-slot	PN-SubModule		PN-Sub Slot
	PN-Data		PN-Offset in Channel		PN-Size in Channel							
%XW0540	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0541	*	*	*	*	*	*	*	*	*	*	MEASURE - APPARENT POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0542	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0543	*	*	*	*	*	*	*	*	*	*	MEASURE - REAL POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0544	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0545	*	*	*	*	*	*	*	*	*	*	MEASURE - REACTIVE POWER	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0546	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0547	*	*	18	1	10.230.162.251	1	A30041	Input(32-Bit Signed)	Words	Normal	MEASURE - CURRENT "L1"	
%XW0548	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0549	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0550	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0551	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0552	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0553	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0554	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0555	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0556	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							
%XW0557	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*	*	*	*	*	*		*	*		*
	*		*		*							

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-32
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size	Port PN-Updating Time PN-Offset in Channel	IP Address	Station PN-Watchdog Time PN-Size in Channel	Device&Address DCP SET	Data Type PN-Module	Reverse PN-slot	Scan PN-SubModule	Service Comment	Station name PN-Sub Slot
%XW0558	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0559	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L1"	*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0560	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0561	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L2"	*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0562	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0563	*	*	*	*	*	*	*	*	*	*	MEASURE - CURRENT "L3"	*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0564	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0565	*	*										
%XW0566	*	*										
%XW0567	*	*	1	1	10.230.162.251	1	Y00000	Output(Discrete)	Bits	Normal		
%XW0568	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0569	*	*										
%XW0570	*	*										
%XW0571	*	*	1	1	10.230.162.252	1	A34096	Input(16-Bit Signed)	No	Normal		
%XW0572	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0573	*	*	1	1	10.230.162.252	1	Y06144	Output(Discrete)	Bits	Normal		
%XW0574	*	*	*	*	*	*	*	*	*	*		*
	*	*		*	*		*	*		*		*
	*			*		*						
%XW0575	*	*	1	1	10.230.162.252	1	A38192	Input(16-Bit Signed)	No	Normal		

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-33
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer Subnet mask PN-Data	Program Name Default gateway	Size PN-Updating Time PN-Offset in Channel	Port PN-Watchdog Time PN-Size in Channel	IP Address	Station	Device&Address DCP SET PN-Module	Data Type	Reverse PN-slot	Scan PN-SubModule	Service Comment PN-Sub Slot	Station name
%XW0576	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0577	*	*	1	1	10.230.162.253	1	A34096	Input(16-Bit Signed)	No	Normal		
%XW0578	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0579	*	*	1	1	10.230.162.253	1	Y06144	Output(Discrete)	Bits	Normal		
%XW0580	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0581	*	*	1	1	10.230.162.253	1	A38192	Input(16-Bit Signed)	No	Normal		
%XW0582	*	*	*	*	*	*	*	*	*	*		*
	*	*	*	*	*	*	*	*	*	*	*	
	*		*		*							
%XW0583	*	*										
%XW0584	*	*										
%XW0585	*	*										
%XW0586	*	*										
%XW0587	*	*										
%XW0588	*	*										
%XW0589	*	*										
%XW0590	*	*										
%XW0591	*	*										
%XW0592	*	*										
%XW0593	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-34
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0594	*	*										
%XW0595	*	*										
%XW0596	*	*										
%XW0597	*	*										
%XW0598	*	*										
%XW0599	*	*										
%XW0600	*	*										
%XW0601	*	*										
%XW0602	*	*										
%XW0603	*	*										
%XW0604	*	*										
%XW0605	*	*										
%XW0606	*	*										
%XW0607	*	*										
%XW0608	*	*										
%XW0609	*	*										
%XW0610	*	*										
%XW0611	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-35
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0612	*	*										
%XW0613	*	*										
%XW0614	*	*										
%XW0615	*	*										
%XW0616	*	*										
%XW0617	*	*										
%XW0618	*	*										
%XW0619	*	*										
%XW0620	*	*										
%XW0621	*	*										
%XW0622	*	*										
%XW0623	*	*										
%XW0624	*	*										
%XW0625	*	*										
%XW0626	*	*										
%XW0627	*	*										
%XW0628	*	*										
%XW0629	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-36
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0630	*	*										
%XW0631	*	*										
%XW0632	*	*										
%XW0633	*	*										
%XW0634	*	*										
%XW0635	*	*										
%XW0636	*	*										
%XW0637	*	*										
%XW0638	*	*										
%XW0639	*	*										
%XW0640	*	*										
%XW0641	*	*										
%XW0642	*	*										
%XW0643	*	*										
%XW0644	*	*										
%XW0645	*	*										
%XW0646	*	*										
%XW0647	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-37
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0648	*	*										
%XW0649	*	*										
%XW0650	*	*										
%XW0651	*	*										
%XW0652	*	*										
%XW0653	*	*										
%XW0654	*	*										
%XW0655	*	*										
%XW0656	*	*										
%XW0657	*	*										
%XW0658	*	*										
%XW0659	*	*										
%XW0660	*	*										
%XW0661	*	*										
%XW0662	*	*										
%XW0663	*	*										
%XW0664	*	*										
%XW0665	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-38
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0666	*	*										
%XW0667	*	*										
%XW0668	*	*										
%XW0669	*	*										
%XW0670	*	*										
%XW0671	*	*										
%XW0672	*	*										
%XW0673	*	*										
%XW0674	*	*										
%XW0675	*	*										
%XW0676	*	*										
%XW0677	*	*										
%XW0678	*	*										
%XW0679	*	*										
%XW0680	*	*										
%XW0681	*	*										
%XW0682	*	*										
%XW0683	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	CommDataXW.edf	SHEET:		YOKOGAWA	PAGE:3-9-39
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:28:39 AM	COMMENT:			
SECTION:	Expanded Communication I/O	PRINTED DATE:	9/15/2025	DRAWER:			

Element	Buffer	Program Name	Size	Port	IP Address	Station	Device&Address	Data Type	Reverse	Scan	Service Comment	Station name
	Subnet mask	Default gateway	PN-Updating Time	PN-Watchdog Time	DCP SET	PN-Module		PN-slot	PN-SubModule		PN-Sub Slot	
	PN-Data		PN-Offset in Channel	PN-Size in Channel								
%XW0684	*	*										
%XW0685	*	*										
%XW0686	*	*										
%XW0687	*	*										
%XW0688	*	*										
%XW0689	*	*										
%XW0690	*	*										
%XW0691	*	*										
%XW0692	*	*										
%XW0693	*	*										
%XW0694	*	*										
%XW0695	*	*										
%XW0696	*	*										
%XW0697	*	*										
%XW0698	*	*										
%XW0699	*	*										
%XW0700	*	*										

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

Communication I/O Builder

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0001	%XB000101	87XA-7101	SG200N1 SA FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0002	%XB000102	87XA-7102	SG200N1 LOSS 230VAC AUXV	ALARM,,NORMAL,ALARM	Direct	R	G	4
0003	%XB000103	87XS-7116	SG200N1 FP1 WD PROT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0004	%XB000104	87XA-7103	SG200N1 MOT FEED FLT B3	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0007	%XB000107	87XA-7105	SG200D2 MCBS HEALTY	READY,,N_READY,READY	Reverse	G	R	4
0009	%XB000109	87XA-7104	DP200N1 SA FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0010	%XB000110	87US-7107	DP200N1 N EMER LIGHT AUT	ON,,OFF,ON	Direct	G	R	4
0011	%XB000111	87XA-7108	DP200N1 N EMER LIGHT ACT	ACTVD,,N_ACTVD,ACTVD	Direct	R	G	4
0012	%XB000112	87ZSL-7108	DP200N1 N EMER CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0013	%XB000113	87US-7109	DP20N1 TRACE HEAT ACT	ON,,OFF,ON	Direct	G	R	4
0014	%XB000114	87ZSL-7105	DP20N1 TR HEAT CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0015	%XB000115	87ZSL-7106	DP200N1 MAIN UT CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0017	%XB000201	20ZSL-7202	QF1 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0018	%XB000202	20ZSH-7202	QF1 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0019	%XB000203	20XS-7202	QF1 TRIP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0024	%XB000208	20LOC-7302	QF1 SA1 LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0027	%XB000211	70ZSL-7201	AC UPS F&G BYP CLS INSE.	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0028	%XB000212	70ZSH-7201	AC UPS F&G BYP OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0029	%XB000213	70XS-7201	AC UPS F&G BYP TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0030	%XB000214	70XA-7201	AC UPS F&G BYP INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0032	%XB000216	82ZSL-7302	A2/+05 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0033	%XB000301	82ZSH-7302	A2/+05 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0034	%XB000302	82XS-7306	A2/+05 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0035	%XB000303	82AVL-7301	A2/+05 FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0036	%XB000304	82XA-7301	A2/+05 INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0039	%XB000307	82LOC-7304	A2/+05 LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0042	%XB000310	87ZSL-7204	TEMP GEN/BAT CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0043	%XB000311	87ZSH-7204	TEMP GEN/BAT CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0044	%XB000312	87XS-7204	TEMP GEN/BAT CB TRIPPED	NORMAL,,TRIP,NORMAL	Direct	R	G	4
0045	%XB000313	87XA-7204	TEMP GEN/BAT INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0046	%XB000314	87AVL-7204	TEMP GEN/BAT AVAILABLE	READY,,N_READY,READY	Direct	G	R	4
0047	%XB000315	87ZSL-7209	AC UPS PAS A CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0048	%XB000316	87ZSH-7209	AC UPS PAS A OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0049	%XB000401	87XS-7209	AC UPS PAS A CB TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0050	%XB000402	87XA-7209	AC UPS PAS A INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0052	%XB000404	82ZSL-7402	A3/+02 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0053	%XB000405	82ZSH-7402	A3/+02 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0054	%XB000406	82XS-7406	A3/+02 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0055	%XB000407	82AVL-7401	A3/+02 FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0056	%XB000408	82XA-7401	A3/+02 INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0059	%XB000411	82LOC-7404	A3/+02 SA1 ON LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0062	%XB000414	87ZSL-7201	DB BOP CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0063	%XB000415	87ZSH-7201	DB BOP OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0064	%XB000416	87XS-7201	DB BOP TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0065	%XB000501	87AVL-7201	DB BOP FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0066	%XB000502	87XA-7201	DB BOP INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0069	%XB000505	87LOC-7301	DB BOP SA1 ON LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0072	%XB000508	87ZSL-7202	CRANE CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0073	%XB000509	87ZSH-7202	CRANE OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0074	%XB000510	87XS-7202	CRANE TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0075	%XB000511	87AVL-7202	CRANE FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0076	%XB000512	87XA-7202	CRANE INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0079	%XB000515	87LOC-7302	CRANE SA1 ON LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0082	%XB000602	82ZSL-7502	A3/+05 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0083	%XB000603	82ZSH-7502	A3/+05 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0084	%XB000604	82XS-7506	A3/+05 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0085	%XB000605	82AVL-7501	A3/+05 FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0086	%XB000606	82XA-7501	A3/+05 INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0089	%XB000609	82LOC-7504	A3/+05 SA1 ON LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0091	%XB000611	50ZSL-7201	WTP CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0092	%XB000612	50ZSH-7201	WTP OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0093	%XB000613	50XS-7201	WTP TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0094	%XB000614	50AVL-7201	WTP FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0095	%XB000615	50XA-7201	WTP INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0096	%XB000616	50LOC-7301	WTP SA1 ON LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0101	%XB001101	20XS-7117	QF1 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0102	%XB001102	20XS-7118	QF1 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0103	%XB001103	20XS-7119	QF1 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0104	%XB001104	20XS-7120	QF1 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0105	%XB001201	20ZSL-7103	QF1 - CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0106	%XB001202	20US-7101	QF1 - CONNECTED	ON,,OFF,ON	Direct	G	R	4
0107	%XB001203	20TST-7101	QF1 - TEST	ON,,OFF,ON	Direct	G	R	4
0108	%XB001207	20ZSH-7103	QF1 - OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0109	%XB001216	20XS-7121	QF1 - TRIP UNIT DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0110	%XB001301	82XS-7301	A2/+05 TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0111	%XB001302	82XS-7302	A2/+05 TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0112	%XB001303	82XS-7303	A2/+05 TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0113	%XB001304	82XS-7304	A2/+05 TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0114	%XB001401	82ZSL-7301	A2/+05 CLOSE	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0115	%XB001407	82ZSH-7301	A2/+05 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0116	%XB001416	82XS-7305	A2/+05 DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0117	%XB001501	82XS-7401	A3/+02 TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0118	%XB001502	82XS-7402	A3/+02 TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0119	%XB001503	82XS-7403	A3/+02 TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0120	%XB001504	82XS-7404	A3/+02 TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0121	%XB001601	82ZSL-7401	A3/+02 CLOSE	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0122	%XB001607	82ZSH-7401	A3/+02 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0123	%XB001616	82XS-7405	A3/+02 DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0124	%XB001701	87XS-7101	DB BOP TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0125	%XB001702	87XS-7102	DB BOP TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0126	%XB001703	87XS-7103	DB BOP TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0127	%XB001704	87XS-7104	DB BOP TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0128	%XB001801	87ZSL-7101	DB BOP CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0129	%XB001807	87ZSH-7101	DB BOP OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0130	%XB001816	87XS-7105	DB BOP TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0131	%XB001901	87XS-7106	CRANE TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0132	%XB001902	87XS-7107	CRANE TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0133	%XB001903	87XS-7108	CRANE TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0134	%XB001904	87XS-7109	CRANE TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0135	%XB002001	87ZSL-7102	CRANE CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0136	%XB002007	87ZSH-7102	CRANE OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0137	%XB002016	87XS-7110	CRANE TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0138	%XB002101	82XS-7501	A3/+05 TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0139	%XB002102	82XS-7502	A3/+05 TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0140	%XB002103	82XS-7503	A3/+05 TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0141	%XB002104	82XS-7504	A3/+05 TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0142	%XB002201	82ZSL-7501	A3/+05 CLOSE	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0143	%XB002207	82ZSH-7501	A3/+05 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0144	%XB002216	82XS-7505	A3/+05 DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0145	%XB002301	50XS-7101	WTP TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-3
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0146	%XB002302	50XS-7102	WTP TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0147	%XB002303	50XS-7103	WTP TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0148	%XB002304	50XS-7104	WTP TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0149	%XB002401	50ZSL-7101	WTP CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0150	%XB002407	50ZSH-7101	WTP OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0151	%XB002416	50XS-7105	WTP TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	G	4
0155	%XB016901	82CLC-7301	A2/+05 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0156	%XB016902	82OPC-7301	A2/+05 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0157	%XB016903	82CLC-7401	A3/+02 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0158	%XB016904	82OPC-7401	A3/+02 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0159	%XB016905	87CLC-7201	DP BOP CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0160	%XB016906	87OPC-7201	DP BOP OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0161	%XB016907	87CLC-7202	CRANE CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0162	%XB016908	87OPC-7202	CRANE OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0163	%XB016909	82CLC-7501	A3/+05 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0164	%XB016910	82OPC-7501	A3/+05 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0165	%XB016911	50CLC-7201	WTP CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0166	%XB016912	50OPC-7201	WTP OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0167	%XB016913			ON,,OFF,ON	Direct	R	R	4
0168	%XB016914			ON,,OFF,ON	Direct	R	R	4
0169	%XB016915			ON,,OFF,ON	Direct	R	R	4
0170	%XB016916			ON,,OFF,ON	Direct	R	R	4
0181	%XB018101	87ZSL-7205	AC UPS PAS LN B CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0182	%XB018102	87ZSH-7205	AC UPS PAS LN B CB OP	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0183	%XB018103	87XS-7205	AC UPS PAS LN B CB TRIP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0184	%XB018104	87XA-7205	AC UPS PAS LN B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0186	%XB018106	77ZSL-7201	HVAC PNL HV CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0187	%XB018107	77ZSH-7201	HVAC PNL HV CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0188	%XB018108	77XS-7201	HVAC PNL HV TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0189	%XB018109	77AVL-7201	HVAC PNL HV FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0190	%XB018110	77XA-7201	HVAC PNL HV INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0193	%XB018113	77LOC-7201	HVAC PNL HV SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0196	%XB018116	80ZSL-7201	FC AUX LDCB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0197	%XB018201	80ZSH-7201	FC AUX LDCB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0198	%XB018202	80XS-7206	FC AUX LDTRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0199	%XB018203	80AVL-7201	FC AUX LDFDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0200	%XB018204	80XA-7201	FC AUX LDINTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0203	%XB018207	80LOC-7301	FC AUX LD SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0206	%XB018210	85ZSL-7201	BESS PCS CAB CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0207	%XB018211	85ZSH-7201	BESS PCS CAB CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0208	%XB018212	85XS-7201	BESS PCS CAB TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0209	%XB018213	85AVL-7201	BESS PCS CAB FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0210	%XB018214	85XA-7201	BESS PCS CAB INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0211	%XB018215			ON,,OFF,ON	Reverse	G	R	4
0212	%XB018216			ON,,OFF,ON	Reverse	G	R	4
0213	%XB018301	85LOC-7301	BESS PCS CAB SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0214	%XB018302			ON,,OFF,ON	Reverse	G	R	4
0215	%XB018303			ON,,OFF,ON	Reverse	G	R	4
0216	%XB018304	82ZSL-7602	SP A4/+05 CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0217	%XB018305	82ZSH-7602	SP A4/+05 CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0218	%XB018306	82XS-7606	SP A4/+05 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0219	%XB018307	82AVL-7601	SP A4/+05 FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0220	%XB018308	82XA-7601	SP A4/+05 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0221	%XB018309			ON,,OFF,ON	Reverse	G	R	4
0222	%XB018310			ON,,OFF,ON	Reverse	G	R	4
0223	%XB018311	82LOC-7604	SP A4/+05 SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-4
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0224	%XB018312			ON,,OFF,ON	Reverse	G	R	4
0225	%XB018313			ON,,OFF,ON	Reverse	G	R	4
0226	%XB018314	82ZSL-7702	SP A4/+06 CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0227	%XB018315	82ZSH-7702	SP A4/+06 CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0228	%XB018316	82XS-7706	SP A4/+06 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0229	%XB018401	82AVL-7701	SP A4/+06 FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0230	%XB018402	82XA-7701	SP A4/+06 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0231	%XB018403			ON,,OFF,ON	Reverse	G	R	4
0232	%XB018404			ON,,OFF,ON	Reverse	G	R	4
0233	%XB018405	82LOC-7704	SP A4/+06 SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0234	%XB018406			ON,,OFF,ON	Reverse	G	R	4
0235	%XB018407			ON,,OFF,ON	Reverse	G	R	4
0236	%XB018408	63ZSL-7201	IA 01A CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0237	%XB018409	63ZSH-7201	IA 01A CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0238	%XB018410	63XS-7201	IA 01A TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0239	%XB018411	63AVL-7201	IA 01A FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0240	%XB018412	63XA-7201	IA 01A INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0241	%XB018413			ON,,OFF,ON	Reverse	G	R	4
0242	%XB018414			ON,,OFF,ON	Reverse	G	R	4
0243	%XB018415	63LOC-7301	IA 01A SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0244	%XB018416			ON,,OFF,ON	Reverse	G	R	4
0245	%XB018501			ON,,OFF,ON	Reverse	G	R	4
0246	%XB018502	82ZSL-7802	SP A5/+01 CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0247	%XB018503	82ZSH-7802	SP A5/+01 CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0248	%XB018504	82XS-7806	SP A5/+01 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0249	%XB018505	82AVL-7801	SP A5/+01 FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0250	%XB018506	82XA-7801	SP A5/+01 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0251	%XB018507			ON,,OFF,ON	Reverse	G	R	4
0252	%XB018508			ON,,OFF,ON	Reverse	G	R	4
0253	%XB018509	82LOC-7804	SP A5/+01 SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0254	%XB018510			ON,,OFF,ON	Reverse	G	R	4
0255	%XB018511			ON,,OFF,ON	Reverse	G	R	4
0256	%XB018512	77ZSL-7202	HVAC LV RM CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0257	%XB018513	77ZSH-7202	HVAC LV RM CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0258	%XB018514	77XS-7202	HVAC LV RM TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0259	%XB018515	77AVL-7202	HVAC LV RM FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0260	%XB018516	77XA-7202	HVAC LV RM INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0261	%XB018601			ON,,OFF,ON	Reverse	G	R	4
0262	%XB018602			ON,,OFF,ON	Reverse	G	R	4
0263	%XB018603	77LOC-7302	HVAC LV RM SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0264	%XB018604			ON,,OFF,ON	Reverse	G	R	4
0265	%XB018605			ON,,OFF,ON	Reverse	G	R	4
0266	%XB018606	77ZSL-7203	HVAC UPS RM CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	R	GR	4
0267	%XB018607	77ZSH-7203	HVAC UPS RM CB OPN	OPENED,,N_OPENED,OPENED	Reverse	G	GR	4
0268	%XB018608	77XS-7203	HVAC UPS RM TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0269	%XB018609	77AVL-7203	HVAC UPS RM FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0270	%XB018610	77XA-7203	HVAC UPS RM INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0271	%XB018611			ON,,OFF,ON	Reverse	G	R	4
0272	%XB018612			ON,,OFF,ON	Reverse	G	R	4
0273	%XB018613	77LOC-7303	HVAC UPS RM SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0274	%XB018614			ON,,OFF,ON	Reverse	G	R	4
0275	%XB018615			ON,,OFF,ON	Reverse	G	R	4
0276	%XB018616	77ZSL-7204	HVAC ITER CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0277	%XB018701	77ZSH-7204	HVAC ITER CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0278	%XB018702	77XS-7204	HVAC ITER TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0279	%XB018703	77AVL-7204	HVAC ITER FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-5
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0280	%XB018704	77XA-7204	HVAC ITER INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0281	%XB018705			ON,,OFF,ON	Reverse	G	R	4
0282	%XB018706			ON,,OFF,ON	Reverse	G	R	4
0283	%XB018707	77LOC-7304	HVAC ITER SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0284	%XB018708			ON,,OFF,ON	Reverse	G	R	4
0285	%XB018709			ON,,OFF,ON	Reverse	G	R	4
0286	%XB018710	87ZSL-7203	ICCP CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0287	%XB018711	87ZSH-7203	ICCP CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0288	%XB018712	87XS-7203	ICCP TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0289	%XB018713	87AVL-7203	ICCP FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0290	%XB018714	87XA-7203	ICCP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0291	%XB018715			ON,,OFF,ON	Reverse	G	R	4
0292	%XB018716			ON,,OFF,ON	Reverse	G	R	4
0293	%XB018801	87LOC-7303	ICCP SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0294	%XB018802			ON,,OFF,ON	Reverse	G	R	4
0295	%XB018803			ON,,OFF,ON	Reverse	G	R	4
0296	%XB018804	82ZSL-7902	SP A5/+06 CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0297	%XB018805	82ZSH-7902	SP A5/+06 CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0298	%XB018806	82XS-7906	SP A5/+06 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0299	%XB018807	82AVL-7901	SP A5/+06 FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0300	%XB018808	82XA-7901	SP A5/+06 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0301	%XB018809			ON,,OFF,ON	Reverse	G	R	4
0302	%XB018810	82LOC-7904	SP A5/+06 SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0303	%XB018811	63ZSL-7202	IA 01B CB CLS	CLOSED,,N_CLOSED,CLOSED	Reverse	G	GR	4
0304	%XB018812	63ZSH-7202	IA 01B CB OPN	OPENED,,N_OPENED,OPENED	Reverse	R	GR	4
0305	%XB018813	63XS-7202	IA 01B TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0306	%XB018814	63AVL-7202	IA 01B FDR AVAIL	ON,,OFF,ON	Reverse	G	R	4
0307	%XB018815	63XA-7202	IA 01B INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0308	%XB018816	63LOC-7302	IA 01B SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0317	%XB019101	77XS-7101	HVAC PNL HV PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0318	%XB019102	77XS-7102	HVAC PNL HV PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0319	%XB019103	77XS-7103	HVAC PNL HV PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0320	%XB019104	77XS-7104	HVAC PNL HV PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0321	%XB019201	77ZSL-7101	HVAC PNL HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0322	%XB019207	77ZSH-7101	HVAC PNL HV OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0323	%XB019216	77XS-7105	HVAC PNL HV TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0324	%XB019301	80XS-7101	FC AUX LD PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0325	%XB019302	80XS-7102	FC AUX LD PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0326	%XB019303	80XS-7103	FC AUX LD PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0327	%XB019304	80XS-7104	FC AUX LD PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0328	%XB019401	80ZSL-7101	FC AUX LD CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0329	%XB019407	80ZSH-7101	FC AUX LD OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0330	%XB019416	80XS-7105	FC AUX LD TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0331	%XB019501	85XS-7101	BESS PCS HV PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0332	%XB019502	85XS-7102	BESS PCS HV PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0333	%XB019503	85XS-7103	BESS PCS HV PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0334	%XB019504	85XS-7104	BESS PCS HV PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0335	%XB019601	85ZSL-7101	BESS PCS HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0336	%XB019607	85ZSH-7101	BESS PCS HV OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0337	%XB019616	85XS-7105	BESS PCS HV TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0338	%XB019701	82XS-7601	A4/+05 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0339	%XB019702	82XS-7602	A4/+05 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0340	%XB019703	82XS-7603	A4/+05 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0341	%XB019704	82XS-7604	A4/+05 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0342	%XB019801	82ZSL-7601	A4/+05 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0343	%XB019807	82ZSH-7601	A4/+05 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-6
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0344	%XB019816	82XS-7605	A4/+05 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0345	%XB019901	82XS-7701	A4/+06 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0346	%XB019902	82XS-7702	A4/+06 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0347	%XB019903	82XS-7703	A4/+06 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0348	%XB019904	82XS-7704	A4/+06 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0349	%XB020001	82ZSL-7701	A4/+06 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0350	%XB020007	82ZSH-7701	A4/+06 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0351	%XB020016	82XS-7705	A4/+06 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0352	%XB020101	63XS-7101	IA 01A PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0353	%XB020102	63XS-7102	IA 01A PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0354	%XB020103	63XS-7103	IA 01A PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0355	%XB020104	63XS-7104	IA 01A PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0356	%XB020201	63ZSL-7101	IA 01A CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0357	%XB020207	63ZSH-7101	IA 01A OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0358	%XB020216	63XS-7105	IA 01A TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0359	%XB020301	82XS-7801	A5/+01 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0360	%XB020302	82XS-7802	A5/+01 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0361	%XB020303	82XS-7803	A5/+01 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0362	%XB020304	82XS-7804	A5/+01 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0363	%XB020401	82ZSL-7801	A5/+01 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0364	%XB020407	82ZSH-7801	A5/+01 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0365	%XB020416	82XS-7805	A5/+01 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0366	%XB020501	77XS-7106	HVAC LV RM PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0367	%XB020502	77XS-7107	HVAC LV RM PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0368	%XB020503	77XS-7108	HVAC LV RM PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0369	%XB020504	77XS-7109	HVAC LV RM PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0370	%XB020601	77ZSL-7102	HVAC LV RM CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0371	%XB020607	77ZSH-7102	HVAC LV RM OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0372	%XB020616	77XS-7110	HVAC LV RM TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0373	%XB020701	77XS-7111	HVAC UPS RM PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0374	%XB020702	77XS-7112	HVAC UPS RM PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0375	%XB020703	77XS-7113	HVAC UPS RM PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0376	%XB020704	77XS-7114	HVAC UPS RM PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0377	%XB020801	77ZSL-7103	HVAC UPS RM CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0378	%XB020807	77ZSH-7103	HVAC UPS RM OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0379	%XB020816	77XS-7115	HVAC UPS RM TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0380	%XB020901	77XS-7116	HVAC ITER PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0381	%XB020902	77XS-7117	HVAC ITER PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0382	%XB020903	77XS-7118	HVAC ITER PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0383	%XB020904	77XS-7119	HVAC ITER PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0384	%XB021001	77ZSL-7104	HVAC ITER CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0385	%XB021007	77ZSH-7104	HVAC ITER OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0386	%XB021016	77XS-7120	HVAC ITER TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0387	%XB021101	87XS-7111	ICCP PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0388	%XB021102	87XS-7112	ICCP PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0389	%XB021103	87XS-7113	ICCP PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0390	%XB021104	87XS-7114	ICCP PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0391	%XB021201	87ZSL-7103	ICCP CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0392	%XB021207	87ZSH-7103	ICCP OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0393	%XB021216	87XS-7115	ICCP TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0394	%XB021301	82XS-7901	A5/+06 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0395	%XB021302	82XS-7902	A5/+06 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0396	%XB021303	82XS-7903	A5/+06 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0397	%XB021304	82XS-7904	A5/+06 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0398	%XB021401	82ZSL-7901	A5/+06 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0399	%XB021407	82ZSH-7901	A5/+06 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-7
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0400	%XB021416	82XS-7905	A5/+06 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0401	%XB021501	63XS-7106	IA 01B PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0402	%XB021502	63XS-7107	IA 01B PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0403	%XB021503	63XS-7108	IA 01B PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0404	%XB021504	63XS-7109	IA 01B PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0405	%XB021601	63ZSL-7102	IA 01B CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0406	%XB021607	63ZSH-7102	IA 01B OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0407	%XB021616	63XS-7110	IA 01B TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0417	%XB045501	77CLC-7201	HVAC PNL HV CLOSE COMM.	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0418	%XB045502	77OPC-7201	HVAC PNL HV OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0419	%XB045503	80CLC-7201	FC AUX LD CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0420	%XB045504	80OPC-7201	FC AUX LD OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0421	%XB045505	85CLC-7201	BESS PCS CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0422	%XB045506	85OPC-7201	BESS PCS OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0423	%XB045507	82CLC-7601	A4/+05 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0424	%XB045508	82OPC-7601	A4/+05 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0425	%XB045509	82CLC-7701	A4/+06 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0426	%XB045510	82OPC-7701	A4/+06 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0427	%XB045511	63CLC-7201	IA 01A CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0428	%XB045512	63OPC-7201	IA 01A OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0429	%XB045513	82CLC-7801	A5/+01 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0430	%XB045514	82OPC-7801	A5/+01 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0431	%XB045515	77CLC-7202	HVAC LV RM CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0432	%XB045516	77OPC-7202	HVAC LV RM OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0433	%XB045601	77CLC-7203	HVAC UPS RM CLOSE COMM.	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0434	%XB045602	77OPC-7203	HVAC UPS RM OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0435	%XB045603	77CLC-7204	HVAC ITER CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0436	%XB045604	77OPC-7204	HVAC ITER OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0437	%XB045605	87CLC-7203	ICCP CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0438	%XB045606	87OPC-7203	ICCP OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0439	%XB045607	82CLC-7901	A5/+06 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0440	%XB045608	82OPC-7901	A5/+06 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0441	%XB045609	63CLC-7202	IA 01B CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0442	%XB045610	63OPC-7202	IA 01B OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0443	%XB045611		CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0444	%XB045612		OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0445	%XB045613		CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0446	%XB045614		OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0447	%XB045615		CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0448	%XB045616		OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0460	%XB057113	P50001B-TT	SW PMP B T.TRIP	ON,,OFF,ON	Direct	R	R	4
0461	%XB057115	50XL-002B	SW PMP B LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	G	GR	4
0462	%XB057116	50XL-001B	SW PMP B RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0463	%XB047103	50XA-004B	SW PMP B TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0464	%XB057110	50XL-003B	SW PMP B AVAILABLE	READY,,N_READY,READY	Direct	G	R	4
0465	%XB047105	50XS-001B	SW PMP B ESD ACT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0466	%XB047106	50PA1-001B	SW PMP B STOPPED BY PA1	STOP,,,STOP	Direct	R	GR	4
0467	%XB047107	85ZSL-7202	BESS LV2 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0468	%XB047108	85ZSH-7202	BESS LV2 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0469	%XB047109	85XS-7202	BESS LV2 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0470	%XB047110	85AVL-7202	BESS LV2 FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0471	%XB047111	85XA-7202	BESS LV2 INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0472	%XB047112			ON,,OFF,ON	Direct	G	R	4
0473	%XB047113			ON,,OFF,ON	Direct	G	R	4
0474	%XB047114	85LOC-7302	BESS LV2 LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0475	%XB047115			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-8
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0476	%XB047116			ON,,OFF,ON	Direct	G	R	4
0477	%XB047201	85ZSL-7203	BESS LV1 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0478	%XB047202	85ZSH-7203	BESS LV1 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0479	%XB047203	85XS-7203	BESS LV1 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0480	%XB047204	85AVL-7203	BESS LV1 FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0481	%XB047205	85XA-7203	BESS LV1 INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0482	%XB047206			ON,,OFF,ON	Direct	G	R	4
0483	%XB047207			ON,,OFF,ON	Direct	G	R	4
0484	%XB047208	85LOC-7303	BESS LV1 LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0485	%XB047209			ON,,OFF,ON	Direct	G	R	4
0486	%XB047210			ON,,OFF,ON	Direct	G	R	4
0487	%XB047211	82ZSL-7912	A6/+04 CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0488	%XB047212	82ZSH-7912	A6/+04 OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0489	%XB047213	82XS-7916	A6/+04 TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0490	%XB047214	82AVL-7911	A6/+04 FEED AVAIL	READY,,N_READY,READY	Direct	G	R	4
0491	%XB047215	82XA-7911	A6/+04 INTERNAL FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0492	%XB047216			ON,,OFF,ON	Direct	G	R	4
0493	%XB047301			ON,,OFF,ON	Direct	G	R	4
0494	%XB047302	82LOC-7914	A6/+04 LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	Y	G	4
0495	%XB047303			ON,,OFF,ON	Direct	G	R	4
0496	%XB047304			ON,,OFF,ON	Direct	G	R	4
0497	%XB047305	70ZSL-7202	AC UPS F&G A CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0498	%XB047306	70ZSH-7202	AC UPS F&G A OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0499	%XB047307	70XS-7202	AC UPS F&G A TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0500	%XB047308	70XA-7202	AC UPS F&G A INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0501	%XB047309			ON,,OFF,ON	Direct	G	R	4
0502	%XB047310	70ZSL-7203	AC UPS F&G B CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0503	%XB047311	70ZSH-7203	AC UPS F&G B OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0504	%XB047312	70XS-7203	AC UPS F&G B TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0505	%XB047313	70XA-7203	AC UPS F&G B INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0506	%XB047314			ON,,OFF,ON	Direct	G	R	4
0507	%XB047315	83ZSL-7206	WELD TOP DECK CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0508	%XB047316	83ZSH-7206	WELD TOP DECK OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0509	%XB047401	83XS-7206	WELD TOP DECK TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0510	%XB047402	83XA-7206	WELD TOP DECK INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0511	%XB047403	83ZSL-7208	WELD LOW DECK CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0512	%XB057715	50XL-002A	SW PMP A LOCAL	LOCAL,,REMOTE ,LOCAL	Direct	G	GR	4
0513	%XB057716	50XL-001A	SW PMP A RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
0514	%XB047406	50XA-004A	SW PMP A TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0515	%XB057710	50XL-003A	SW PMP A AVAILABLE	READY,,N_READY,READY	Direct	G	R	4
0516	%XB047408	50XS-001A	SW PMP A ESD ACT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0517	%XB047409	50PA1-001A	SW PMP A STOPPED BY PA1	STOP,,,STOP	Direct	R	GR	4
0518	%XB047410	85ZSL-7207	AC UPS PAS BYP CLS INSER	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0519	%XB047411	85ZSH-7207	AC UPS PAS BYP OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0520	%XB047412	85XS-7207	AC UPS PAS BYP TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0521	%XB047413	85XA-7207	AC UPS PAS BYP INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0522	%XB047414	83ZSH-7208	WELD LOW DECK OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0523	%XB047415	85ZSL-7204	DC BAT FDR A CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0524	%XB047416	85ZSH-7204	DC BAT FDR A OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0525	%XB047501	85XS-7204	DC BAT FDR A TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0526	%XB047502	85XA-7204	DC BAT FDR A INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0527	%XB047503	83XS-7208	WELD LOW DECK TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0528	%XB047504	85ZSL-7205	DC BAT FDR A CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0529	%XB047505	85ZSH-7205	DC BAT FDR B OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0530	%XB047506	85XS-7205	DC BAT FDR B TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0531	%XB047507	85XA-7205	DC BAT FDR B INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	XBTagDef.edf	SHEET:		YOKOGAWA	PAGE:3-10-9
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:58:30 AM	COMMENT:			
SECTION:	Expanded Communication I/O Tag	PRINTED DATE:	9/15/2025	DRAWER:			

No.	Element	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
0532	%XB047508	83XA-7208	WELD LOW DECK INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0533	%XB047509	72ZSL-7201	NAVAID FDR A CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0534	%XB047510	72ZSH-7201	NAVAID FDR A OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0535	%XB047511	72XS-7201	NAVAID FDR A TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0536	%XB047512	72XA-7201	NAVAID FDR A INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0537	%XB047513	72ZSL-7202	NAVAID FDR B CLS INSERT	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0538	%XB047514	72ZSH-7202	NAVAID FDR B OPEN DISC	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0539	%XB047515	72XS-7202	NAVAID FDR B TRIPPED	TRIP,,NORMAL,TRIP	Direct	R	G	4
0540	%XB047516	72XA-7202	NAVAID FDR B INT.FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
0541	%XB057713	P50001A-TT	SW PUMP A TRIP	TRIP,,NORMAL,TRIP	Direct	R	G	4
0551	%XB048101	85XS-7106	BESS LV2 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0552	%XB048102	85XS-7107	BESS LV2 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0553	%XB048103	85XS-7108	BESS LV2 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0554	%XB048104	85XS-7109	BESS LV2 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0555	%XB048201	85ZSL-7102	BESS LV2 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0556	%XB048207	85ZSH-7102	BESS LV2 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0557	%XB048216	85XS-7110	BESS LV2 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0558	%XB048301	85XS-7111	BESS LV1 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0559	%XB048302	85XS-7112	BESS LV1 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0560	%XB048303	85XS-7113	BESS LV1 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0561	%XB048304	85XS-7114	BESS LV1 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0562	%XB048401	85ZSL-7103	BESS LV1 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0563	%XB048407	85ZSH-7103	BESS LV1 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0564	%XB048416	85XS-7115	BESS LV1 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0565	%XB048501	82XS-7911	A6/+04 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	G	4
0566	%XB048502	82XS-7912	A6/+04 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	G	4
0567	%XB048503	82XS-7913	A6/+04 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	G	4
0568	%XB048504	82XS-7914	A6/+04 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	G	4
0569	%XB048601	82ZSL-7911	A6/+04 OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
0570	%XB048607	82ZSH-7911	A6/+04 CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
0571	%XB048616	82XS-7915	A6/+04 TRIP DISC	TRIP,,NORMAL,TRIP	Direct	R	G	4
0581	%XB057301	50HS-001B	SW PMP B CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0582	%XB057302	50HS-005B	SW PMP B OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0583	%XB056703	85CLC-7202	BESS LV2 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0584	%XB056704	85OPC-7202	BESS LV2 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0585	%XB056705	85CLC-7203	BESS LV1 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0586	%XB056706	85OPC-7203	BESS LV1 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0587	%XB056707	82CLC-7911	A6/+04 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0588	%XB056708	82OPC-7911	A6/+04 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0589	%XB057901	50HS-001A	SW PMP A CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0590	%XB057902	50HS-005A	SW PMP A OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0591	%XB056711			N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0592	%XB056712			N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0593	%XB056713			N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0594	%XB056714			N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4
0595	%XB056715			N_CLOSE,,CLOSE,N_CLOSE	Reverse	G	GR	4
0596	%XB056716			N_OPEN,,OPEN,N_OPEN	Reverse	R	GR	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0001	A80000STP-SW	A80000 NOT RUNNING	ON,,OFF,ON	Direct	R	R	4
%SW0002	V2501APUR-SW	V25001A PURGE OPERATION	ON,,OFF,ON	Direct	R	R	4
%SW0003	V2501BPUR-SW	V25001B PURGE OPERATION	ON,,OFF,ON	Direct	R	R	4
%SW0004	V2501CPUR-SW	V25001C PURGE OPERATION	ON,,OFF,ON	Direct	R	R	4
%SW0005	V2501DPUR-SW	V25001D PURGE OPERATION	ON,,OFF,ON	Direct	R	R	4
%SW0006	V2501EPUR-SW	V25001E PURGE OPERATION	ON,,OFF,ON	Direct	R	R	4
%SW0007	V2501FPUR-SW	V25001F PURGE OPERATION	ON,,OFF,ON	Direct	R	R	4
%SW0008			ON,,OFF,ON	Direct	R	R	4
%SW0009			ON,,OFF,ON	Direct	R	R	4
%SW0010	V2500-RSIL	RESERCH INTERLOCK	ON,,OFF,ON	Direct	R	R	4
%SW0011			ON,,OFF,ON	Direct	R	G	4
%SW0012	P50001A-IL	PUMP INTERLOCK	NORMAL,,FAULT,NORMAL	Direct	R	G	4
%SW0013	P50001A-IL1	PUMP INTERLOCK B TO STRT	ON,,OFF,ON	Reverse	R	G	4
%SW0014			ON,,OFF,ON	Direct	R	R	4
%SW0015	P50001A-ASTP	PUMP AUTO START PERM	ON,,OFF,ON	Direct	G	R	4
%SW0016	P50001A-ASPP	PUMP AUTO STOP PERM	ON,,OFF,ON	Direct	G	R	4
%SW0017		PUMP A TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW0018		PUMP B TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW0019			ON,,OFF,ON	Direct	R	R	4
%SW0020	P-50001A-SST		ON,,OFF,ON	Direct	R	R	4
%SW0021	P-50001B-SST		ON,,OFF,ON	Direct	R	R	4
%SW0022	P50001A-LDSH	LOAD SHED	ON,,OFF,ON	Reverse	R	G	4
%SW0023	P50001B-LDSH	LOAD SHED	ON,,OFF,ON	Direct	R	G	4
%SW0024	P50001B-IL	PUMP INTERLOCK	NORMAL,,FAULT,NORMAL	Reverse	R	G	4
%SW0025	P50001B-IL1	PUMP INTERLOCK A TO STRT	ON,,OFF,ON	Direct	R	R	4
%SW0026	P50001B-ASTP	PUMP AUTO START PERM	ON,,OFF,ON	Direct	G	R	4
%SW0027	P50001B-ASPP	PUMP AUTO STOP PERM	ON,,OFF,ON	Direct	G	R	4
%SW0028			ON,,OFF,ON	Direct	R	R	4
%SW0029			ON,,OFF,ON	Direct	R	R	4
%SW0030			ON,,OFF,ON	Direct	R	R	4
%SW0031	P50001A-AST	PUMP A AUT START ON	ON,,OFF,ON	Direct	G	R	4
%SW0032	P50001A-ASP	PUMP A AUT START OFF	ON,,OFF,ON	Direct	R	R	4
%SW0033	P50001A-HSP	PR HI SET POINT	ON,,OFF,ON	Direct	R	R	4
%SW0034	P50001A-LSP	PR LO SET POINT	ON,,OFF,ON	Direct	R	R	4
%SW0035	P50001A-RST	P-500001A TRIP RESET	RESET,,-,RESET	Direct	G	GR	4
%SW0036	P50001B-AST	PUMP B AUT START ON	ON,,OFF,ON	Direct	G	R	4
%SW0037	P50001B-ASP	PUMP B AUT START OFF	ON,,OFF,ON	Direct	R	R	4
%SW0038	P50001B-HSP	PR HI SET POINT	ON,,OFF,ON	Direct	R	R	4
%SW0039	P50001B-LSP	PR LO SET POINT	ON,,OFF,ON	Direct	R	R	4
%SW0040	P50001B-RST	P-500001B TRIP RESET	RESET,,-,RESET	Direct	G	GR	4
%SW0041	P50001A-TR	50XA-004A SET INTERNAL	ON,,OFF,ON	Direct	R	R	4
%SW0042	P50001B-TR	50XA-004A SET INTERNAL	ON,,OFF,ON	Direct	R	R	4
%SW0043			ON,,OFF,ON	Direct	R	R	4
%SW0044			ON,,OFF,ON	Direct	R	R	4
%SW0045			ON,,OFF,ON	Direct	R	R	4
%SW0046			ON,,OFF,ON	Direct	R	R	4
%SW0047	P50001A-GR1	NO PMP RUN DISC VLV CLS	ON,,OFF,ON	Direct	R	R	4
%SW0048	P50001A-GR2	NPMP RUN DISC VLV CLS	ON,,OFF,ON	Direct	R	R	4
%SW0049	P50001A-GR3	NOT RDY RUNING	ON,,OFF,ON	Direct	R	R	4
%SW0050	P50001A-GR4	PMP RUN DISC PR LOW	ON,,OFF,ON	Direct	R	R	4
%SW0051	P50001B-GR1	NO PMP RUN DISC VLV CLS	ON,,OFF,ON	Direct	R	R	4
%SW0052	P50001B-GR2	NPMP RUN DISC VLV CLS	ON,,OFF,ON	Direct	R	R	4
%SW0053	P50001B-GR3	NOT RDY RUNING	ON,,OFF,ON	Direct	R	R	4
%SW0054	P50001B-GR4	PMP RUN DISC PR LOW	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0055	P50001A-GR5	SW PMP A PA1 LOC STOP	ON,,OFF,ON	Direct	R	R	4
%SW0056	P50001B-GR5	SW PMP B PA1 LOC STOP	ON,,OFF,ON	Direct	R	R	4
%SW0057	P50001A-GR6	SWP-A STP DISC VLVS MAN	ON,,OFF,ON	Direct	R	R	4
%SW0058	P50001B-GR6	SWP-B STP DISC VLVS MAN	ON,,OFF,ON	Direct	R	R	4
%SW0059	50XV-002ATMST	START OP TIMER FOR A	ON,,OFF,ON	Direct	R	R	4
%SW0060	50XV-004BTMST	START OP TIMER FOR B	ON,,OFF,ON	Direct	R	R	4
%SW0061	50XV-002ATMSP	START CL TIMER FOR A	ON,,OFF,ON	Direct	R	R	4
%SW0062	50XV-004BTMSP	START CL TIMER FOR B	ON,,OFF,ON	Direct	R	R	4
%SW0063	P50001A-GR7	SWP-A SOFT INTERLOCK	ON,,OFF,ON	Direct	R	R	4
%SW0064	P50001B-GR7	SWP-B SOFT INTERLOCK	ON,,OFF,ON	Direct	R	R	4
%SW0065			ON,,OFF,ON	Direct	R	R	4
%SW0066			ON,,OFF,ON	Direct	R	R	4
%SW0067	87DB200N1-IL	DB BOP INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0068	50A50000-IL	WTP CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0069	77B100HSB001-IL	HVAC PNL HV INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0070	80A80000-IL	FC AUX LDCB DB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0071	63K63001A-IL	IA 01A CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0072	85CP850F03-IL	BESS PCS CAB CB IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0073	77B200HSB001-IL	HVAC LV RM CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0074	77B300HSB001-IL	HVAC UPS RM INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0075	77B400HSB001-IL	HVAC ITER CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0076	87CN200N1-IL	ICCP CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0077	63K63001B-IL	IA 01B CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0078	85CP850E1-IL	BESS LV1 CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0079	85CP850E2-IL	BESS LV2 CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0080	87JB200E2-IL	CRANE CB INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0081			ON,,OFF,ON	Direct	R	R	4
%SW0082			ON,,OFF,ON	Direct	R	R	4
%SW0083		FC PKG START PERMISSIVE	ON,,OFF,ON	Direct	R	R	4
%SW0084			ON,,OFF,ON	Direct	R	R	4
%SW0085	LDSD1CMD	LOADSHEDING-1 COMMAND	ON,,OFF,ON	Direct	R	R	4
%SW0086	LDSD2CMD	LOADSHEDING-2 COMMAND	ON,,OFF,ON	Direct	R	R	4
%SW0087	FCPKGSTRT	FUEL CELL PKG START CMD	ON,,OFF,ON	Direct	R	R	4
%SW0088			ON,,OFF,ON	Direct	R	R	4
%SW0089	87ST-002PM	ELECTRLZR STRT REQ	ON,,OFF,ON	Direct	R	R	4
%SW0090	87MODESTS01	MODE SEL IDLE	ON,,OFF,ON	Direct	R	R	4
%SW0091	87MODESTS02	MODE SEL IMPORT	ON,,OFF,ON	Direct	R	R	4
%SW0092	87MODESTS03	MODE SEL IMPORT	ON,,OFF,ON	Direct	R	R	4
%SW0093	85UP200F102-IL	DC BAT FDR B	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0094	85UP200F101-IL	DC BAT FDR A	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0095	72UP200F201-IL	NAVAID FDR A	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0096	72UP200F202-IL	NAVAID FDR B	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0097			ON,,OFF,ON	Direct	R	R	4
%SW0098			ON,,OFF,ON	Direct	R	R	4
%SW0099			ON,,OFF,ON	Direct	R	R	4
%SW0100	85UP200F303-IL	AC UPS PAS BYPASS	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0101	70UP200F401-IL	AC UPS F&G BYP IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0102	87JB200E3-IL	CRANE IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0103	87UP200F301-IL	AC UPA PAS LN A IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0104	87UP200F302-IL	AC UPA PAS LN B IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0105	70UP200F402-IL	AC UPS F&G LN A 8HR IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0106	70UP200F403-IL	AC UPS F&G LN B 8HR IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0107	83ESW200N1-IL	WELD TOP DECK IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0108	83ESW200N2-IL	WELD LW DECK IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0109	20A20000-IL	ELEC AUX LOAD IL	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-3
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0111	20AVL-7201	(DYUMMY)TO MATCH TYPICAL	ON,,OFF,ON	Direct	R	R	4
%SW0112			ON,,OFF,ON	Direct	R	R	4
%SW0113	25ZSLSTS01	All H2 INLETVLV CLS	ON,,OFF,ON	Direct	R	R	4
%SW0114			ON,,OFF,ON	Direct	R	R	4
%SW0115	25PIALM-RST01	ALARM SUPP RESET	ON,,OFF,ON	Direct	R	R	4
%SW0116	25PI035-SW01	ALARM SUPP ON	ON,,OFF,ON	Direct	R	R	4
%SW0117	25PI037-SW01	ALARM SUPP ON	ON,,OFF,ON	Direct	R	R	4
%SW0118	25PI040-SW01	ALARM SUPP ON	ON,,OFF,ON	Direct	R	R	4
%SW0119	25PI043-SW01	ALARM SUPP ON	ON,,OFF,ON	Direct	R	R	4
%SW0120	25PI046-SW01	ALARM SUPP ON	ON,,OFF,ON	Direct	R	R	4
%SW0121	25PI049-SW01	ALARM SUPP ON	ON,,OFF,ON	Direct	R	R	4
%SW0122			ON,,OFF,ON	Direct	R	R	4
%SW0123			ON,,OFF,ON	Direct	R	R	4
%SW0124			ON,,OFF,ON	Direct	R	R	4
%SW0125	A205-IL	A2/+05 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0126	A302-IL	A3/+02 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0127	A305-IL	A3/+05 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0128	A405-IL	A4/+05 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0129	A406-IL	A4/+06 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0130	A501-IL	A5/+01 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0131	A506-IL	A5/+06 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0132	A604-IL	A6/+04 SPARE INTERLOCK	LOCK,,N_LOCK,LOCK	Direct	R	G	4
%SW0133			ON,,OFF,ON	Direct	R	R	4
%SW0134			ON,,OFF,ON	Direct	R	R	4
%SW0135			ON,,OFF,ON	Direct	R	R	4
%SW0136			ON,,OFF,ON	Direct	R	R	4
%SW0137			ON,,OFF,ON	Direct	R	R	4
%SW0138			ON,,OFF,ON	Direct	R	R	4
%SW0139			ON,,OFF,ON	Direct	R	R	4
%SW0140			ON,,OFF,ON	Direct	R	R	4
%SW0141			ON,,OFF,ON	Direct	R	R	4
%SW0142			ON,,OFF,ON	Direct	R	R	4
%SW0143			ON,,OFF,ON	Direct	R	R	4
%SW0144			ON,,OFF,ON	Direct	R	R	4
%SW0145			ON,,OFF,ON	Direct	R	R	4
%SW0146			ON,,OFF,ON	Direct	R	R	4
%SW0147			ON,,OFF,ON	Direct	R	R	4
%SW0148			ON,,OFF,ON	Direct	R	R	4
%SW0149			ON,,OFF,ON	Direct	R	R	4
%SW0150			ON,,OFF,ON	Direct	R	R	4
%SW0151			ON,,OFF,ON	Direct	R	R	4
%SW0152			ON,,OFF,ON	Direct	R	R	4
%SW0153			ON,,OFF,ON	Direct	R	R	4
%SW0154			ON,,OFF,ON	Direct	R	R	4
%SW0155			ON,,OFF,ON	Direct	R	R	4
%SW0156			ON,,OFF,ON	Direct	R	R	4
%SW0157			ON,,OFF,ON	Direct	R	R	4
%SW0158			ON,,OFF,ON	Direct	R	R	4
%SW0159			ON,,OFF,ON	Direct	R	R	4
%SW0160			ON,,OFF,ON	Direct	R	R	4
%SW0161			ON,,OFF,ON	Direct	R	R	4
%SW0162			ON,,OFF,ON	Direct	R	R	4
%SW0163			ON,,OFF,ON	Direct	R	R	4
%SW0164			ON,,OFF,ON	Direct	R	R	4
%SW0165			ON,,OFF,ON	Direct	R	R	4
%SW0166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-4
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0167			ON,,OFF,ON	Direct	R	R	4
%SW0168			ON,,OFF,ON	Direct	R	R	4
%SW0169			ON,,OFF,ON	Direct	R	R	4
%SW0170			ON,,OFF,ON	Direct	R	R	4
%SW0171			ON,,OFF,ON	Direct	R	R	4
%SW0172			ON,,OFF,ON	Direct	R	R	4
%SW0173			ON,,OFF,ON	Direct	R	R	4
%SW0174			ON,,OFF,ON	Direct	R	R	4
%SW0175			ON,,OFF,ON	Direct	R	R	4
%SW0176			ON,,OFF,ON	Direct	R	R	4
%SW0177			ON,,OFF,ON	Direct	R	R	4
%SW0178			ON,,OFF,ON	Direct	R	R	4
%SW0179			ON,,OFF,ON	Direct	R	R	4
%SW0180			ON,,OFF,ON	Direct	R	R	4
%SW0181			ON,,OFF,ON	Direct	R	R	4
%SW0182			ON,,OFF,ON	Direct	R	R	4
%SW0183			ON,,OFF,ON	Direct	R	R	4
%SW0184			ON,,OFF,ON	Direct	R	R	4
%SW0185			ON,,OFF,ON	Direct	R	R	4
%SW0186			ON,,OFF,ON	Direct	R	R	4
%SW0187			ON,,OFF,ON	Direct	R	R	4
%SW0188			ON,,OFF,ON	Direct	R	R	4
%SW0189			ON,,OFF,ON	Direct	R	R	4
%SW0190			ON,,OFF,ON	Direct	R	R	4
%SW0191			ON,,OFF,ON	Direct	R	R	4
%SW0192			ON,,OFF,ON	Direct	R	R	4
%SW0193			ON,,OFF,ON	Direct	R	R	4
%SW0194			ON,,OFF,ON	Direct	R	R	4
%SW0195			ON,,OFF,ON	Direct	R	R	4
%SW0196			ON,,OFF,ON	Direct	R	R	4
%SW0197			ON,,OFF,ON	Direct	R	R	4
%SW0198			ON,,OFF,ON	Direct	R	R	4
%SW0199			ON,,OFF,ON	Direct	R	R	4
%SW0200			ON,,OFF,ON	Direct	R	R	4
%SW0201			ON,,OFF,ON	Direct	R	R	4
%SW0202			ON,,OFF,ON	Direct	R	R	4
%SW0203			ON,,OFF,ON	Direct	R	R	4
%SW0204			ON,,OFF,ON	Direct	R	R	4
%SW0205			ON,,OFF,ON	Direct	R	R	4
%SW0206			ON,,OFF,ON	Direct	R	R	4
%SW0207			ON,,OFF,ON	Direct	R	R	4
%SW0208			ON,,OFF,ON	Direct	R	R	4
%SW0209			ON,,OFF,ON	Direct	R	R	4
%SW0210			ON,,OFF,ON	Direct	R	R	4
%SW0211			ON,,OFF,ON	Direct	R	R	4
%SW0212			ON,,OFF,ON	Direct	R	R	4
%SW0213			ON,,OFF,ON	Direct	R	R	4
%SW0214			ON,,OFF,ON	Direct	R	R	4
%SW0215			ON,,OFF,ON	Direct	R	R	4
%SW0216			ON,,OFF,ON	Direct	R	R	4
%SW0217			ON,,OFF,ON	Direct	R	R	4
%SW0218			ON,,OFF,ON	Direct	R	R	4
%SW0219			ON,,OFF,ON	Direct	R	R	4
%SW0220			ON,,OFF,ON	Direct	R	R	4
%SW0221			ON,,OFF,ON	Direct	R	R	4
%SW0222			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-5
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0223			ON,,OFF,ON	Direct	R	R	4
%SW0224			ON,,OFF,ON	Direct	R	R	4
%SW0225			ON,,OFF,ON	Direct	R	R	4
%SW0226			ON,,OFF,ON	Direct	R	R	4
%SW0227			ON,,OFF,ON	Direct	R	R	4
%SW0228			ON,,OFF,ON	Direct	R	R	4
%SW0229			ON,,OFF,ON	Direct	R	R	4
%SW0230			ON,,OFF,ON	Direct	R	R	4
%SW0231			ON,,OFF,ON	Direct	R	R	4
%SW0232			ON,,OFF,ON	Direct	R	R	4
%SW0233			ON,,OFF,ON	Direct	R	R	4
%SW0234			ON,,OFF,ON	Direct	R	R	4
%SW0235			ON,,OFF,ON	Direct	R	R	4
%SW0236			ON,,OFF,ON	Direct	R	R	4
%SW0237			ON,,OFF,ON	Direct	R	R	4
%SW0238			ON,,OFF,ON	Direct	R	R	4
%SW0239			ON,,OFF,ON	Direct	R	R	4
%SW0240			ON,,OFF,ON	Direct	R	R	4
%SW0241			ON,,OFF,ON	Direct	R	R	4
%SW0242			ON,,OFF,ON	Direct	R	R	4
%SW0243			ON,,OFF,ON	Direct	R	R	4
%SW0244			ON,,OFF,ON	Direct	R	R	4
%SW0245			ON,,OFF,ON	Direct	R	R	4
%SW0246			ON,,OFF,ON	Direct	R	R	4
%SW0247			ON,,OFF,ON	Direct	R	R	4
%SW0248			ON,,OFF,ON	Direct	R	R	4
%SW0249			ON,,OFF,ON	Direct	R	R	4
%SW0250			ON,,OFF,ON	Direct	R	R	4
%SW0251			ON,,OFF,ON	Direct	R	R	4
%SW0252			ON,,OFF,ON	Direct	R	R	4
%SW0253			ON,,OFF,ON	Direct	R	R	4
%SW0254			ON,,OFF,ON	Direct	R	R	4
%SW0255			ON,,OFF,ON	Direct	R	R	4
%SW0256			ON,,OFF,ON	Direct	R	R	4
%SW0257			ON,,OFF,ON	Direct	R	R	4
%SW0258			ON,,OFF,ON	Direct	R	R	4
%SW0259			ON,,OFF,ON	Direct	R	R	4
%SW0260			ON,,OFF,ON	Direct	R	R	4
%SW0261			ON,,OFF,ON	Direct	R	R	4
%SW0262			ON,,OFF,ON	Direct	R	R	4
%SW0263			ON,,OFF,ON	Direct	R	R	4
%SW0264			ON,,OFF,ON	Direct	R	R	4
%SW0265			ON,,OFF,ON	Direct	R	R	4
%SW0266			ON,,OFF,ON	Direct	R	R	4
%SW0267			ON,,OFF,ON	Direct	R	R	4
%SW0268			ON,,OFF,ON	Direct	R	R	4
%SW0269			ON,,OFF,ON	Direct	R	R	4
%SW0270			ON,,OFF,ON	Direct	R	R	4
%SW0271			ON,,OFF,ON	Direct	R	R	4
%SW0272			ON,,OFF,ON	Direct	R	R	4
%SW0273			ON,,OFF,ON	Direct	R	R	4
%SW0274			ON,,OFF,ON	Direct	R	R	4
%SW0275			ON,,OFF,ON	Direct	R	R	4
%SW0276			ON,,OFF,ON	Direct	R	R	4
%SW0277			ON,,OFF,ON	Direct	R	R	4
%SW0278			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-6
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0279			ON,,OFF,ON	Direct	R	R	4
%SW0280			ON,,OFF,ON	Direct	R	R	4
%SW0281			ON,,OFF,ON	Direct	R	R	4
%SW0282			ON,,OFF,ON	Direct	R	R	4
%SW0283			ON,,OFF,ON	Direct	R	R	4
%SW0284			ON,,OFF,ON	Direct	R	R	4
%SW0285			ON,,OFF,ON	Direct	R	R	4
%SW0286			ON,,OFF,ON	Direct	R	R	4
%SW0287			ON,,OFF,ON	Direct	R	R	4
%SW0288			ON,,OFF,ON	Direct	R	R	4
%SW0289			ON,,OFF,ON	Direct	R	R	4
%SW0290			ON,,OFF,ON	Direct	R	R	4
%SW0291			ON,,OFF,ON	Direct	R	R	4
%SW0292			ON,,OFF,ON	Direct	R	R	4
%SW0293			ON,,OFF,ON	Direct	R	R	4
%SW0294			ON,,OFF,ON	Direct	R	R	4
%SW0295			ON,,OFF,ON	Direct	R	R	4
%SW0296			ON,,OFF,ON	Direct	R	R	4
%SW0297			ON,,OFF,ON	Direct	R	R	4
%SW0298			ON,,OFF,ON	Direct	R	R	4
%SW0299			ON,,OFF,ON	Direct	R	R	4
%SW0300			ON,,OFF,ON	Direct	R	R	4
%SW0301			ON,,OFF,ON	Direct	R	R	4
%SW0302			ON,,OFF,ON	Direct	R	R	4
%SW0303			ON,,OFF,ON	Direct	R	R	4
%SW0304			ON,,OFF,ON	Direct	R	R	4
%SW0305			ON,,OFF,ON	Direct	R	R	4
%SW0306			ON,,OFF,ON	Direct	R	R	4
%SW0307			ON,,OFF,ON	Direct	R	R	4
%SW0308			ON,,OFF,ON	Direct	R	R	4
%SW0309			ON,,OFF,ON	Direct	R	R	4
%SW0310			ON,,OFF,ON	Direct	R	R	4
%SW0311			ON,,OFF,ON	Direct	R	R	4
%SW0312			ON,,OFF,ON	Direct	R	R	4
%SW0313			ON,,OFF,ON	Direct	R	R	4
%SW0314			ON,,OFF,ON	Direct	R	R	4
%SW0315			ON,,OFF,ON	Direct	R	R	4
%SW0316			ON,,OFF,ON	Direct	R	R	4
%SW0317			ON,,OFF,ON	Direct	R	R	4
%SW0318			ON,,OFF,ON	Direct	R	R	4
%SW0319			ON,,OFF,ON	Direct	R	R	4
%SW0320			ON,,OFF,ON	Direct	R	R	4
%SW0321			ON,,OFF,ON	Direct	R	R	4
%SW0322			ON,,OFF,ON	Direct	R	R	4
%SW0323			ON,,OFF,ON	Direct	R	R	4
%SW0324			ON,,OFF,ON	Direct	R	R	4
%SW0325			ON,,OFF,ON	Direct	R	R	4
%SW0326			ON,,OFF,ON	Direct	R	R	4
%SW0327			ON,,OFF,ON	Direct	R	R	4
%SW0328			ON,,OFF,ON	Direct	R	R	4
%SW0329			ON,,OFF,ON	Direct	R	R	4
%SW0330			ON,,OFF,ON	Direct	R	R	4
%SW0331			ON,,OFF,ON	Direct	R	R	4
%SW0332			ON,,OFF,ON	Direct	R	R	4
%SW0333			ON,,OFF,ON	Direct	R	R	4
%SW0334			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-7
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0335			ON,,OFF,ON	Direct	R	R	4
%SW0336			ON,,OFF,ON	Direct	R	R	4
%SW0337			ON,,OFF,ON	Direct	R	R	4
%SW0338			ON,,OFF,ON	Direct	R	R	4
%SW0339			ON,,OFF,ON	Direct	R	R	4
%SW0340			ON,,OFF,ON	Direct	R	R	4
%SW0341			ON,,OFF,ON	Direct	R	R	4
%SW0342			ON,,OFF,ON	Direct	R	R	4
%SW0343			ON,,OFF,ON	Direct	R	R	4
%SW0344			ON,,OFF,ON	Direct	R	R	4
%SW0345			ON,,OFF,ON	Direct	R	R	4
%SW0346			ON,,OFF,ON	Direct	R	R	4
%SW0347			ON,,OFF,ON	Direct	R	R	4
%SW0348			ON,,OFF,ON	Direct	R	R	4
%SW0349			ON,,OFF,ON	Direct	R	R	4
%SW0350			ON,,OFF,ON	Direct	R	R	4
%SW0351			ON,,OFF,ON	Direct	R	R	4
%SW0352			ON,,OFF,ON	Direct	R	R	4
%SW0353			ON,,OFF,ON	Direct	R	R	4
%SW0354			ON,,OFF,ON	Direct	R	R	4
%SW0355			ON,,OFF,ON	Direct	R	R	4
%SW0356			ON,,OFF,ON	Direct	R	R	4
%SW0357			ON,,OFF,ON	Direct	R	R	4
%SW0358			ON,,OFF,ON	Direct	R	R	4
%SW0359			ON,,OFF,ON	Direct	R	R	4
%SW0360			ON,,OFF,ON	Direct	R	R	4
%SW0361			ON,,OFF,ON	Direct	R	R	4
%SW0362			ON,,OFF,ON	Direct	R	R	4
%SW0363			ON,,OFF,ON	Direct	R	R	4
%SW0364			ON,,OFF,ON	Direct	R	R	4
%SW0365			ON,,OFF,ON	Direct	R	R	4
%SW0366			ON,,OFF,ON	Direct	R	R	4
%SW0367			ON,,OFF,ON	Direct	R	R	4
%SW0368			ON,,OFF,ON	Direct	R	R	4
%SW0369			ON,,OFF,ON	Direct	R	R	4
%SW0370			ON,,OFF,ON	Direct	R	R	4
%SW0371			ON,,OFF,ON	Direct	R	R	4
%SW0372			ON,,OFF,ON	Direct	R	R	4
%SW0373			ON,,OFF,ON	Direct	R	R	4
%SW0374			ON,,OFF,ON	Direct	R	R	4
%SW0375			ON,,OFF,ON	Direct	R	R	4
%SW0376			ON,,OFF,ON	Direct	R	R	4
%SW0377			ON,,OFF,ON	Direct	R	R	4
%SW0378			ON,,OFF,ON	Direct	R	R	4
%SW0379			ON,,OFF,ON	Direct	R	R	4
%SW0380			ON,,OFF,ON	Direct	R	R	4
%SW0381			ON,,OFF,ON	Direct	R	R	4
%SW0382			ON,,OFF,ON	Direct	R	R	4
%SW0383			ON,,OFF,ON	Direct	R	R	4
%SW0384			ON,,OFF,ON	Direct	R	R	4
%SW0385			ON,,OFF,ON	Direct	R	R	4
%SW0386			ON,,OFF,ON	Direct	R	R	4
%SW0387			ON,,OFF,ON	Direct	R	R	4
%SW0388			ON,,OFF,ON	Direct	R	R	4
%SW0389			ON,,OFF,ON	Direct	R	R	4
%SW0390			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-8
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0391			ON,,OFF,ON	Direct	R	R	4
%SW0392			ON,,OFF,ON	Direct	R	R	4
%SW0393			ON,,OFF,ON	Direct	R	R	4
%SW0394			ON,,OFF,ON	Direct	R	R	4
%SW0395			ON,,OFF,ON	Direct	R	R	4
%SW0396			ON,,OFF,ON	Direct	R	R	4
%SW0397			ON,,OFF,ON	Direct	R	R	4
%SW0398			ON,,OFF,ON	Direct	R	R	4
%SW0399			ON,,OFF,ON	Direct	R	R	4
%SW0400			ON,,OFF,ON	Direct	R	R	4
%SW0401			ON,,OFF,ON	Direct	R	R	4
%SW0402			ON,,OFF,ON	Direct	R	R	4
%SW0403			ON,,OFF,ON	Direct	R	R	4
%SW0404			ON,,OFF,ON	Direct	R	R	4
%SW0405			ON,,OFF,ON	Direct	R	R	4
%SW0406			ON,,OFF,ON	Direct	R	R	4
%SW0407			ON,,OFF,ON	Direct	R	R	4
%SW0408			ON,,OFF,ON	Direct	R	R	4
%SW0409			ON,,OFF,ON	Direct	R	R	4
%SW0410			ON,,OFF,ON	Direct	R	R	4
%SW0411			ON,,OFF,ON	Direct	R	R	4
%SW0412			ON,,OFF,ON	Direct	R	R	4
%SW0413			ON,,OFF,ON	Direct	R	R	4
%SW0414			ON,,OFF,ON	Direct	R	R	4
%SW0415			ON,,OFF,ON	Direct	R	R	4
%SW0416			ON,,OFF,ON	Direct	R	R	4
%SW0417			ON,,OFF,ON	Direct	R	R	4
%SW0418			ON,,OFF,ON	Direct	R	R	4
%SW0419			ON,,OFF,ON	Direct	R	R	4
%SW0420			ON,,OFF,ON	Direct	R	R	4
%SW0421			ON,,OFF,ON	Direct	R	R	4
%SW0422			ON,,OFF,ON	Direct	R	R	4
%SW0423			ON,,OFF,ON	Direct	R	R	4
%SW0424			ON,,OFF,ON	Direct	R	R	4
%SW0425			ON,,OFF,ON	Direct	R	R	4
%SW0426			ON,,OFF,ON	Direct	R	R	4
%SW0427			ON,,OFF,ON	Direct	R	R	4
%SW0428			ON,,OFF,ON	Direct	R	R	4
%SW0429			ON,,OFF,ON	Direct	R	R	4
%SW0430			ON,,OFF,ON	Direct	R	R	4
%SW0431			ON,,OFF,ON	Direct	R	R	4
%SW0432			ON,,OFF,ON	Direct	R	R	4
%SW0433			ON,,OFF,ON	Direct	R	R	4
%SW0434			ON,,OFF,ON	Direct	R	R	4
%SW0435			ON,,OFF,ON	Direct	R	R	4
%SW0436			ON,,OFF,ON	Direct	R	R	4
%SW0437			ON,,OFF,ON	Direct	R	R	4
%SW0438			ON,,OFF,ON	Direct	R	R	4
%SW0439			ON,,OFF,ON	Direct	R	R	4
%SW0440			ON,,OFF,ON	Direct	R	R	4
%SW0441			ON,,OFF,ON	Direct	R	R	4
%SW0442			ON,,OFF,ON	Direct	R	R	4
%SW0443			ON,,OFF,ON	Direct	R	R	4
%SW0444			ON,,OFF,ON	Direct	R	R	4
%SW0445			ON,,OFF,ON	Direct	R	R	4
%SW0446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-9
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0447			ON,,OFF,ON	Direct	R	R	4
%SW0448			ON,,OFF,ON	Direct	R	R	4
%SW0449			ON,,OFF,ON	Direct	R	R	4
%SW0450			ON,,OFF,ON	Direct	R	R	4
%SW0451			ON,,OFF,ON	Direct	R	R	4
%SW0452			ON,,OFF,ON	Direct	R	R	4
%SW0453			ON,,OFF,ON	Direct	R	R	4
%SW0454			ON,,OFF,ON	Direct	R	R	4
%SW0455			ON,,OFF,ON	Direct	R	R	4
%SW0456			ON,,OFF,ON	Direct	R	R	4
%SW0457			ON,,OFF,ON	Direct	R	R	4
%SW0458			ON,,OFF,ON	Direct	R	R	4
%SW0459			ON,,OFF,ON	Direct	R	R	4
%SW0460			ON,,OFF,ON	Direct	R	R	4
%SW0461			ON,,OFF,ON	Direct	R	R	4
%SW0462			ON,,OFF,ON	Direct	R	R	4
%SW0463			ON,,OFF,ON	Direct	R	R	4
%SW0464			ON,,OFF,ON	Direct	R	R	4
%SW0465			ON,,OFF,ON	Direct	R	R	4
%SW0466			ON,,OFF,ON	Direct	R	R	4
%SW0467			ON,,OFF,ON	Direct	R	R	4
%SW0468			ON,,OFF,ON	Direct	R	R	4
%SW0469			ON,,OFF,ON	Direct	R	R	4
%SW0470			ON,,OFF,ON	Direct	R	R	4
%SW0471			ON,,OFF,ON	Direct	R	R	4
%SW0472			ON,,OFF,ON	Direct	R	R	4
%SW0473			ON,,OFF,ON	Direct	R	R	4
%SW0474			ON,,OFF,ON	Direct	R	R	4
%SW0475			ON,,OFF,ON	Direct	R	R	4
%SW0476			ON,,OFF,ON	Direct	R	R	4
%SW0477			ON,,OFF,ON	Direct	R	R	4
%SW0478			ON,,OFF,ON	Direct	R	R	4
%SW0479			ON,,OFF,ON	Direct	R	R	4
%SW0480			ON,,OFF,ON	Direct	R	R	4
%SW0481			ON,,OFF,ON	Direct	R	R	4
%SW0482			ON,,OFF,ON	Direct	R	R	4
%SW0483			ON,,OFF,ON	Direct	R	R	4
%SW0484			ON,,OFF,ON	Direct	R	R	4
%SW0485			ON,,OFF,ON	Direct	R	R	4
%SW0486			ON,,OFF,ON	Direct	R	R	4
%SW0487			ON,,OFF,ON	Direct	R	R	4
%SW0488			ON,,OFF,ON	Direct	R	R	4
%SW0489			ON,,OFF,ON	Direct	R	R	4
%SW0490			ON,,OFF,ON	Direct	R	R	4
%SW0491			ON,,OFF,ON	Direct	R	R	4
%SW0492			ON,,OFF,ON	Direct	R	R	4
%SW0493			ON,,OFF,ON	Direct	R	R	4
%SW0494			ON,,OFF,ON	Direct	R	R	4
%SW0495			ON,,OFF,ON	Direct	R	R	4
%SW0496			ON,,OFF,ON	Direct	R	R	4
%SW0497			ON,,OFF,ON	Direct	R	R	4
%SW0498			ON,,OFF,ON	Direct	R	R	4
%SW0499			ON,,OFF,ON	Direct	R	R	4
%SW0500			ON,,OFF,ON	Direct	R	R	4
%SW0501			ON,,OFF,ON	Direct	R	R	4
%SW0502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-10
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0503			ON,,OFF,ON	Direct	R	R	4
%SW0504			ON,,OFF,ON	Direct	R	R	4
%SW0505			ON,,OFF,ON	Direct	R	R	4
%SW0506			ON,,OFF,ON	Direct	R	R	4
%SW0507			ON,,OFF,ON	Direct	R	R	4
%SW0508			ON,,OFF,ON	Direct	R	R	4
%SW0509			ON,,OFF,ON	Direct	R	R	4
%SW0510			ON,,OFF,ON	Direct	R	R	4
%SW0511			ON,,OFF,ON	Direct	R	R	4
%SW0512			ON,,OFF,ON	Direct	R	R	4
%SW0513			ON,,OFF,ON	Direct	R	R	4
%SW0514			ON,,OFF,ON	Direct	R	R	4
%SW0515			ON,,OFF,ON	Direct	R	R	4
%SW0516			ON,,OFF,ON	Direct	R	R	4
%SW0517			ON,,OFF,ON	Direct	R	R	4
%SW0518			ON,,OFF,ON	Direct	R	R	4
%SW0519			ON,,OFF,ON	Direct	R	R	4
%SW0520			ON,,OFF,ON	Direct	R	R	4
%SW0521			ON,,OFF,ON	Direct	R	R	4
%SW0522			ON,,OFF,ON	Direct	R	R	4
%SW0523			ON,,OFF,ON	Direct	R	R	4
%SW0524			ON,,OFF,ON	Direct	R	R	4
%SW0525			ON,,OFF,ON	Direct	R	R	4
%SW0526			ON,,OFF,ON	Direct	R	R	4
%SW0527			ON,,OFF,ON	Direct	R	R	4
%SW0528			ON,,OFF,ON	Direct	R	R	4
%SW0529			ON,,OFF,ON	Direct	R	R	4
%SW0530			ON,,OFF,ON	Direct	R	R	4
%SW0531			ON,,OFF,ON	Direct	R	R	4
%SW0532			ON,,OFF,ON	Direct	R	R	4
%SW0533			ON,,OFF,ON	Direct	R	R	4
%SW0534			ON,,OFF,ON	Direct	R	R	4
%SW0535			ON,,OFF,ON	Direct	R	R	4
%SW0536			ON,,OFF,ON	Direct	R	R	4
%SW0537			ON,,OFF,ON	Direct	R	R	4
%SW0538			ON,,OFF,ON	Direct	R	R	4
%SW0539			ON,,OFF,ON	Direct	R	R	4
%SW0540			ON,,OFF,ON	Direct	R	R	4
%SW0541			ON,,OFF,ON	Direct	R	R	4
%SW0542			ON,,OFF,ON	Direct	R	R	4
%SW0543			ON,,OFF,ON	Direct	R	R	4
%SW0544			ON,,OFF,ON	Direct	R	R	4
%SW0545			ON,,OFF,ON	Direct	R	R	4
%SW0546			ON,,OFF,ON	Direct	R	R	4
%SW0547			ON,,OFF,ON	Direct	R	R	4
%SW0548			ON,,OFF,ON	Direct	R	R	4
%SW0549			ON,,OFF,ON	Direct	R	R	4
%SW0550			ON,,OFF,ON	Direct	R	R	4
%SW0551			ON,,OFF,ON	Direct	R	R	4
%SW0552			ON,,OFF,ON	Direct	R	R	4
%SW0553			ON,,OFF,ON	Direct	R	R	4
%SW0554			ON,,OFF,ON	Direct	R	R	4
%SW0555			ON,,OFF,ON	Direct	R	R	4
%SW0556			ON,,OFF,ON	Direct	R	R	4
%SW0557			ON,,OFF,ON	Direct	R	R	4
%SW0558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-11
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0559			ON,,OFF,ON	Direct	R	R	4
%SW0560			ON,,OFF,ON	Direct	R	R	4
%SW0561			ON,,OFF,ON	Direct	R	R	4
%SW0562			ON,,OFF,ON	Direct	R	R	4
%SW0563			ON,,OFF,ON	Direct	R	R	4
%SW0564			ON,,OFF,ON	Direct	R	R	4
%SW0565			ON,,OFF,ON	Direct	R	R	4
%SW0566			ON,,OFF,ON	Direct	R	R	4
%SW0567			ON,,OFF,ON	Direct	R	R	4
%SW0568			ON,,OFF,ON	Direct	R	R	4
%SW0569			ON,,OFF,ON	Direct	R	R	4
%SW0570			ON,,OFF,ON	Direct	R	R	4
%SW0571			ON,,OFF,ON	Direct	R	R	4
%SW0572			ON,,OFF,ON	Direct	R	R	4
%SW0573			ON,,OFF,ON	Direct	R	R	4
%SW0574			ON,,OFF,ON	Direct	R	R	4
%SW0575			ON,,OFF,ON	Direct	R	R	4
%SW0576			ON,,OFF,ON	Direct	R	R	4
%SW0577			ON,,OFF,ON	Direct	R	R	4
%SW0578			ON,,OFF,ON	Direct	R	R	4
%SW0579			ON,,OFF,ON	Direct	R	R	4
%SW0580			ON,,OFF,ON	Direct	R	R	4
%SW0581			ON,,OFF,ON	Direct	R	R	4
%SW0582			ON,,OFF,ON	Direct	R	R	4
%SW0583			ON,,OFF,ON	Direct	R	R	4
%SW0584			ON,,OFF,ON	Direct	R	R	4
%SW0585			ON,,OFF,ON	Direct	R	R	4
%SW0586			ON,,OFF,ON	Direct	R	R	4
%SW0587			ON,,OFF,ON	Direct	R	R	4
%SW0588			ON,,OFF,ON	Direct	R	R	4
%SW0589			ON,,OFF,ON	Direct	R	R	4
%SW0590			ON,,OFF,ON	Direct	R	R	4
%SW0591			ON,,OFF,ON	Direct	R	R	4
%SW0592			ON,,OFF,ON	Direct	R	R	4
%SW0593			ON,,OFF,ON	Direct	R	R	4
%SW0594			ON,,OFF,ON	Direct	R	R	4
%SW0595			ON,,OFF,ON	Direct	R	R	4
%SW0596			ON,,OFF,ON	Direct	R	R	4
%SW0597			ON,,OFF,ON	Direct	R	R	4
%SW0598			ON,,OFF,ON	Direct	R	R	4
%SW0599			ON,,OFF,ON	Direct	R	R	4
%SW0600			ON,,OFF,ON	Direct	R	R	4
%SW0601			ON,,OFF,ON	Direct	R	R	4
%SW0602			ON,,OFF,ON	Direct	R	R	4
%SW0603			ON,,OFF,ON	Direct	R	R	4
%SW0604			ON,,OFF,ON	Direct	R	R	4
%SW0605			ON,,OFF,ON	Direct	R	R	4
%SW0606			ON,,OFF,ON	Direct	R	R	4
%SW0607			ON,,OFF,ON	Direct	R	R	4
%SW0608			ON,,OFF,ON	Direct	R	R	4
%SW0609			ON,,OFF,ON	Direct	R	R	4
%SW0610			ON,,OFF,ON	Direct	R	R	4
%SW0611			ON,,OFF,ON	Direct	R	R	4
%SW0612			ON,,OFF,ON	Direct	R	R	4
%SW0613			ON,,OFF,ON	Direct	R	R	4
%SW0614			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-12
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0615			ON,,OFF,ON	Direct	R	R	4
%SW0616			ON,,OFF,ON	Direct	R	R	4
%SW0617			ON,,OFF,ON	Direct	R	R	4
%SW0618			ON,,OFF,ON	Direct	R	R	4
%SW0619			ON,,OFF,ON	Direct	R	R	4
%SW0620			ON,,OFF,ON	Direct	R	R	4
%SW0621			ON,,OFF,ON	Direct	R	R	4
%SW0622			ON,,OFF,ON	Direct	R	R	4
%SW0623			ON,,OFF,ON	Direct	R	R	4
%SW0624			ON,,OFF,ON	Direct	R	R	4
%SW0625			ON,,OFF,ON	Direct	R	R	4
%SW0626			ON,,OFF,ON	Direct	R	R	4
%SW0627			ON,,OFF,ON	Direct	R	R	4
%SW0628			ON,,OFF,ON	Direct	R	R	4
%SW0629			ON,,OFF,ON	Direct	R	R	4
%SW0630			ON,,OFF,ON	Direct	R	R	4
%SW0631			ON,,OFF,ON	Direct	R	R	4
%SW0632			ON,,OFF,ON	Direct	R	R	4
%SW0633			ON,,OFF,ON	Direct	R	R	4
%SW0634			ON,,OFF,ON	Direct	R	R	4
%SW0635			ON,,OFF,ON	Direct	R	R	4
%SW0636			ON,,OFF,ON	Direct	R	R	4
%SW0637			ON,,OFF,ON	Direct	R	R	4
%SW0638			ON,,OFF,ON	Direct	R	R	4
%SW0639			ON,,OFF,ON	Direct	R	R	4
%SW0640			ON,,OFF,ON	Direct	R	R	4
%SW0641			ON,,OFF,ON	Direct	R	R	4
%SW0642			ON,,OFF,ON	Direct	R	R	4
%SW0643			ON,,OFF,ON	Direct	R	R	4
%SW0644			ON,,OFF,ON	Direct	R	R	4
%SW0645			ON,,OFF,ON	Direct	R	R	4
%SW0646			ON,,OFF,ON	Direct	R	R	4
%SW0647			ON,,OFF,ON	Direct	R	R	4
%SW0648			ON,,OFF,ON	Direct	R	R	4
%SW0649			ON,,OFF,ON	Direct	R	R	4
%SW0650			ON,,OFF,ON	Direct	R	R	4
%SW0651			ON,,OFF,ON	Direct	R	R	4
%SW0652			ON,,OFF,ON	Direct	R	R	4
%SW0653			ON,,OFF,ON	Direct	R	R	4
%SW0654			ON,,OFF,ON	Direct	R	R	4
%SW0655			ON,,OFF,ON	Direct	R	R	4
%SW0656			ON,,OFF,ON	Direct	R	R	4
%SW0657			ON,,OFF,ON	Direct	R	R	4
%SW0658			ON,,OFF,ON	Direct	R	R	4
%SW0659			ON,,OFF,ON	Direct	R	R	4
%SW0660			ON,,OFF,ON	Direct	R	R	4
%SW0661			ON,,OFF,ON	Direct	R	R	4
%SW0662			ON,,OFF,ON	Direct	R	R	4
%SW0663			ON,,OFF,ON	Direct	R	R	4
%SW0664			ON,,OFF,ON	Direct	R	R	4
%SW0665			ON,,OFF,ON	Direct	R	R	4
%SW0666			ON,,OFF,ON	Direct	R	R	4
%SW0667			ON,,OFF,ON	Direct	R	R	4
%SW0668			ON,,OFF,ON	Direct	R	R	4
%SW0669			ON,,OFF,ON	Direct	R	R	4
%SW0670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-13
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0671			ON,,OFF,ON	Direct	R	R	4
%SW0672			ON,,OFF,ON	Direct	R	R	4
%SW0673			ON,,OFF,ON	Direct	R	R	4
%SW0674			ON,,OFF,ON	Direct	R	R	4
%SW0675			ON,,OFF,ON	Direct	R	R	4
%SW0676			ON,,OFF,ON	Direct	R	R	4
%SW0677			ON,,OFF,ON	Direct	R	R	4
%SW0678			ON,,OFF,ON	Direct	R	R	4
%SW0679			ON,,OFF,ON	Direct	R	R	4
%SW0680			ON,,OFF,ON	Direct	R	R	4
%SW0681			ON,,OFF,ON	Direct	R	R	4
%SW0682			ON,,OFF,ON	Direct	R	R	4
%SW0683			ON,,OFF,ON	Direct	R	R	4
%SW0684			ON,,OFF,ON	Direct	R	R	4
%SW0685			ON,,OFF,ON	Direct	R	R	4
%SW0686			ON,,OFF,ON	Direct	R	R	4
%SW0687			ON,,OFF,ON	Direct	R	R	4
%SW0688			ON,,OFF,ON	Direct	R	R	4
%SW0689			ON,,OFF,ON	Direct	R	R	4
%SW0690			ON,,OFF,ON	Direct	R	R	4
%SW0691			ON,,OFF,ON	Direct	R	R	4
%SW0692			ON,,OFF,ON	Direct	R	R	4
%SW0693			ON,,OFF,ON	Direct	R	R	4
%SW0694			ON,,OFF,ON	Direct	R	R	4
%SW0695			ON,,OFF,ON	Direct	R	R	4
%SW0696			ON,,OFF,ON	Direct	R	R	4
%SW0697			ON,,OFF,ON	Direct	R	R	4
%SW0698			ON,,OFF,ON	Direct	R	R	4
%SW0699			ON,,OFF,ON	Direct	R	R	4
%SW0700			ON,,OFF,ON	Direct	R	R	4
%SW0701			ON,,OFF,ON	Direct	R	R	4
%SW0702			ON,,OFF,ON	Direct	R	R	4
%SW0703			ON,,OFF,ON	Direct	R	R	4
%SW0704			ON,,OFF,ON	Direct	R	R	4
%SW0705			ON,,OFF,ON	Direct	R	R	4
%SW0706			ON,,OFF,ON	Direct	R	R	4
%SW0707			ON,,OFF,ON	Direct	R	R	4
%SW0708			ON,,OFF,ON	Direct	R	R	4
%SW0709			ON,,OFF,ON	Direct	R	R	4
%SW0710			ON,,OFF,ON	Direct	R	R	4
%SW0711			ON,,OFF,ON	Direct	R	R	4
%SW0712			ON,,OFF,ON	Direct	R	R	4
%SW0713			ON,,OFF,ON	Direct	R	R	4
%SW0714			ON,,OFF,ON	Direct	R	R	4
%SW0715			ON,,OFF,ON	Direct	R	R	4
%SW0716			ON,,OFF,ON	Direct	R	R	4
%SW0717			ON,,OFF,ON	Direct	R	R	4
%SW0718			ON,,OFF,ON	Direct	R	R	4
%SW0719			ON,,OFF,ON	Direct	R	R	4
%SW0720			ON,,OFF,ON	Direct	R	R	4
%SW0721			ON,,OFF,ON	Direct	R	R	4
%SW0722			ON,,OFF,ON	Direct	R	R	4
%SW0723			ON,,OFF,ON	Direct	R	R	4
%SW0724			ON,,OFF,ON	Direct	R	R	4
%SW0725			ON,,OFF,ON	Direct	R	R	4
%SW0726			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-14
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0727			ON,,OFF,ON	Direct	R	R	4
%SW0728			ON,,OFF,ON	Direct	R	R	4
%SW0729			ON,,OFF,ON	Direct	R	R	4
%SW0730			ON,,OFF,ON	Direct	R	R	4
%SW0731			ON,,OFF,ON	Direct	R	R	4
%SW0732			ON,,OFF,ON	Direct	R	R	4
%SW0733			ON,,OFF,ON	Direct	R	R	4
%SW0734			ON,,OFF,ON	Direct	R	R	4
%SW0735			ON,,OFF,ON	Direct	R	R	4
%SW0736			ON,,OFF,ON	Direct	R	R	4
%SW0737			ON,,OFF,ON	Direct	R	R	4
%SW0738			ON,,OFF,ON	Direct	R	R	4
%SW0739			ON,,OFF,ON	Direct	R	R	4
%SW0740			ON,,OFF,ON	Direct	R	R	4
%SW0741			ON,,OFF,ON	Direct	R	R	4
%SW0742			ON,,OFF,ON	Direct	R	R	4
%SW0743			ON,,OFF,ON	Direct	R	R	4
%SW0744			ON,,OFF,ON	Direct	R	R	4
%SW0745			ON,,OFF,ON	Direct	R	R	4
%SW0746			ON,,OFF,ON	Direct	R	R	4
%SW0747			ON,,OFF,ON	Direct	R	R	4
%SW0748			ON,,OFF,ON	Direct	R	R	4
%SW0749			ON,,OFF,ON	Direct	R	R	4
%SW0750			ON,,OFF,ON	Direct	R	R	4
%SW0751			ON,,OFF,ON	Direct	R	R	4
%SW0752			ON,,OFF,ON	Direct	R	R	4
%SW0753			ON,,OFF,ON	Direct	R	R	4
%SW0754			ON,,OFF,ON	Direct	R	R	4
%SW0755			ON,,OFF,ON	Direct	R	R	4
%SW0756			ON,,OFF,ON	Direct	R	R	4
%SW0757			ON,,OFF,ON	Direct	R	R	4
%SW0758			ON,,OFF,ON	Direct	R	R	4
%SW0759			ON,,OFF,ON	Direct	R	R	4
%SW0760			ON,,OFF,ON	Direct	R	R	4
%SW0761			ON,,OFF,ON	Direct	R	R	4
%SW0762			ON,,OFF,ON	Direct	R	R	4
%SW0763			ON,,OFF,ON	Direct	R	R	4
%SW0764			ON,,OFF,ON	Direct	R	R	4
%SW0765			ON,,OFF,ON	Direct	R	R	4
%SW0766			ON,,OFF,ON	Direct	R	R	4
%SW0767			ON,,OFF,ON	Direct	R	R	4
%SW0768			ON,,OFF,ON	Direct	R	R	4
%SW0769			ON,,OFF,ON	Direct	R	R	4
%SW0770			ON,,OFF,ON	Direct	R	R	4
%SW0771			ON,,OFF,ON	Direct	R	R	4
%SW0772			ON,,OFF,ON	Direct	R	R	4
%SW0773			ON,,OFF,ON	Direct	R	R	4
%SW0774			ON,,OFF,ON	Direct	R	R	4
%SW0775			ON,,OFF,ON	Direct	R	R	4
%SW0776			ON,,OFF,ON	Direct	R	R	4
%SW0777			ON,,OFF,ON	Direct	R	R	4
%SW0778			ON,,OFF,ON	Direct	R	R	4
%SW0779			ON,,OFF,ON	Direct	R	R	4
%SW0780			ON,,OFF,ON	Direct	R	R	4
%SW0781			ON,,OFF,ON	Direct	R	R	4
%SW0782			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-15
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0783			ON,,OFF,ON	Direct	R	R	4
%SW0784			ON,,OFF,ON	Direct	R	R	4
%SW0785			ON,,OFF,ON	Direct	R	R	4
%SW0786			ON,,OFF,ON	Direct	R	R	4
%SW0787			ON,,OFF,ON	Direct	R	R	4
%SW0788			ON,,OFF,ON	Direct	R	R	4
%SW0789			ON,,OFF,ON	Direct	R	R	4
%SW0790			ON,,OFF,ON	Direct	R	R	4
%SW0791			ON,,OFF,ON	Direct	R	R	4
%SW0792			ON,,OFF,ON	Direct	R	R	4
%SW0793			ON,,OFF,ON	Direct	R	R	4
%SW0794			ON,,OFF,ON	Direct	R	R	4
%SW0795			ON,,OFF,ON	Direct	R	R	4
%SW0796			ON,,OFF,ON	Direct	R	R	4
%SW0797			ON,,OFF,ON	Direct	R	R	4
%SW0798			ON,,OFF,ON	Direct	R	R	4
%SW0799			ON,,OFF,ON	Direct	R	R	4
%SW0800			ON,,OFF,ON	Direct	R	R	4
%SW0801			ON,,OFF,ON	Direct	R	R	4
%SW0802			ON,,OFF,ON	Direct	R	R	4
%SW0803			ON,,OFF,ON	Direct	R	R	4
%SW0804			ON,,OFF,ON	Direct	R	R	4
%SW0805			ON,,OFF,ON	Direct	R	R	4
%SW0806			ON,,OFF,ON	Direct	R	R	4
%SW0807			ON,,OFF,ON	Direct	R	R	4
%SW0808			ON,,OFF,ON	Direct	R	R	4
%SW0809			ON,,OFF,ON	Direct	R	R	4
%SW0810			ON,,OFF,ON	Direct	R	R	4
%SW0811			ON,,OFF,ON	Direct	R	R	4
%SW0812			ON,,OFF,ON	Direct	R	R	4
%SW0813			ON,,OFF,ON	Direct	R	R	4
%SW0814			ON,,OFF,ON	Direct	R	R	4
%SW0815			ON,,OFF,ON	Direct	R	R	4
%SW0816			ON,,OFF,ON	Direct	R	R	4
%SW0817			ON,,OFF,ON	Direct	R	R	4
%SW0818			ON,,OFF,ON	Direct	R	R	4
%SW0819			ON,,OFF,ON	Direct	R	R	4
%SW0820			ON,,OFF,ON	Direct	R	R	4
%SW0821			ON,,OFF,ON	Direct	R	R	4
%SW0822			ON,,OFF,ON	Direct	R	R	4
%SW0823			ON,,OFF,ON	Direct	R	R	4
%SW0824			ON,,OFF,ON	Direct	R	R	4
%SW0825			ON,,OFF,ON	Direct	R	R	4
%SW0826			ON,,OFF,ON	Direct	R	R	4
%SW0827			ON,,OFF,ON	Direct	R	R	4
%SW0828			ON,,OFF,ON	Direct	R	R	4
%SW0829			ON,,OFF,ON	Direct	R	R	4
%SW0830			ON,,OFF,ON	Direct	R	R	4
%SW0831			ON,,OFF,ON	Direct	R	R	4
%SW0832			ON,,OFF,ON	Direct	R	R	4
%SW0833			ON,,OFF,ON	Direct	R	R	4
%SW0834			ON,,OFF,ON	Direct	R	R	4
%SW0835			ON,,OFF,ON	Direct	R	R	4
%SW0836			ON,,OFF,ON	Direct	R	R	4
%SW0837			ON,,OFF,ON	Direct	R	R	4
%SW0838			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-16
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0839			ON,,OFF,ON	Direct	R	R	4
%SW0840			ON,,OFF,ON	Direct	R	R	4
%SW0841			ON,,OFF,ON	Direct	R	R	4
%SW0842			ON,,OFF,ON	Direct	R	R	4
%SW0843			ON,,OFF,ON	Direct	R	R	4
%SW0844			ON,,OFF,ON	Direct	R	R	4
%SW0845			ON,,OFF,ON	Direct	R	R	4
%SW0846			ON,,OFF,ON	Direct	R	R	4
%SW0847			ON,,OFF,ON	Direct	R	R	4
%SW0848			ON,,OFF,ON	Direct	R	R	4
%SW0849			ON,,OFF,ON	Direct	R	R	4
%SW0850			ON,,OFF,ON	Direct	R	R	4
%SW0851			ON,,OFF,ON	Direct	R	R	4
%SW0852			ON,,OFF,ON	Direct	R	R	4
%SW0853			ON,,OFF,ON	Direct	R	R	4
%SW0854			ON,,OFF,ON	Direct	R	R	4
%SW0855			ON,,OFF,ON	Direct	R	R	4
%SW0856			ON,,OFF,ON	Direct	R	R	4
%SW0857			ON,,OFF,ON	Direct	R	R	4
%SW0858			ON,,OFF,ON	Direct	R	R	4
%SW0859			ON,,OFF,ON	Direct	R	R	4
%SW0860			ON,,OFF,ON	Direct	R	R	4
%SW0861			ON,,OFF,ON	Direct	R	R	4
%SW0862			ON,,OFF,ON	Direct	R	R	4
%SW0863			ON,,OFF,ON	Direct	R	R	4
%SW0864			ON,,OFF,ON	Direct	R	R	4
%SW0865			ON,,OFF,ON	Direct	R	R	4
%SW0866			ON,,OFF,ON	Direct	R	R	4
%SW0867			ON,,OFF,ON	Direct	R	R	4
%SW0868			ON,,OFF,ON	Direct	R	R	4
%SW0869			ON,,OFF,ON	Direct	R	R	4
%SW0870			ON,,OFF,ON	Direct	R	R	4
%SW0871			ON,,OFF,ON	Direct	R	R	4
%SW0872			ON,,OFF,ON	Direct	R	R	4
%SW0873			ON,,OFF,ON	Direct	R	R	4
%SW0874			ON,,OFF,ON	Direct	R	R	4
%SW0875			ON,,OFF,ON	Direct	R	R	4
%SW0876			ON,,OFF,ON	Direct	R	R	4
%SW0877			ON,,OFF,ON	Direct	R	R	4
%SW0878			ON,,OFF,ON	Direct	R	R	4
%SW0879			ON,,OFF,ON	Direct	R	R	4
%SW0880			ON,,OFF,ON	Direct	R	R	4
%SW0881			ON,,OFF,ON	Direct	R	R	4
%SW0882			ON,,OFF,ON	Direct	R	R	4
%SW0883			ON,,OFF,ON	Direct	R	R	4
%SW0884			ON,,OFF,ON	Direct	R	R	4
%SW0885			ON,,OFF,ON	Direct	R	R	4
%SW0886			ON,,OFF,ON	Direct	R	R	4
%SW0887			ON,,OFF,ON	Direct	R	R	4
%SW0888			ON,,OFF,ON	Direct	R	R	4
%SW0889			ON,,OFF,ON	Direct	R	R	4
%SW0890			ON,,OFF,ON	Direct	R	R	4
%SW0891			ON,,OFF,ON	Direct	R	R	4
%SW0892			ON,,OFF,ON	Direct	R	R	4
%SW0893			ON,,OFF,ON	Direct	R	R	4
%SW0894			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-17
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0895			ON,,OFF,ON	Direct	R	R	4
%SW0896			ON,,OFF,ON	Direct	R	R	4
%SW0897			ON,,OFF,ON	Direct	R	R	4
%SW0898			ON,,OFF,ON	Direct	R	R	4
%SW0899			ON,,OFF,ON	Direct	R	R	4
%SW0900			ON,,OFF,ON	Direct	R	R	4
%SW0901			ON,,OFF,ON	Direct	R	R	4
%SW0902			ON,,OFF,ON	Direct	R	R	4
%SW0903			ON,,OFF,ON	Direct	R	R	4
%SW0904			ON,,OFF,ON	Direct	R	R	4
%SW0905			ON,,OFF,ON	Direct	R	R	4
%SW0906			ON,,OFF,ON	Direct	R	R	4
%SW0907			ON,,OFF,ON	Direct	R	R	4
%SW0908			ON,,OFF,ON	Direct	R	R	4
%SW0909			ON,,OFF,ON	Direct	R	R	4
%SW0910			ON,,OFF,ON	Direct	R	R	4
%SW0911			ON,,OFF,ON	Direct	R	R	4
%SW0912			ON,,OFF,ON	Direct	R	R	4
%SW0913			ON,,OFF,ON	Direct	R	R	4
%SW0914			ON,,OFF,ON	Direct	R	R	4
%SW0915			ON,,OFF,ON	Direct	R	R	4
%SW0916			ON,,OFF,ON	Direct	R	R	4
%SW0917			ON,,OFF,ON	Direct	R	R	4
%SW0918			ON,,OFF,ON	Direct	R	R	4
%SW0919			ON,,OFF,ON	Direct	R	R	4
%SW0920			ON,,OFF,ON	Direct	R	R	4
%SW0921			ON,,OFF,ON	Direct	R	R	4
%SW0922			ON,,OFF,ON	Direct	R	R	4
%SW0923			ON,,OFF,ON	Direct	R	R	4
%SW0924			ON,,OFF,ON	Direct	R	R	4
%SW0925			ON,,OFF,ON	Direct	R	R	4
%SW0926			ON,,OFF,ON	Direct	R	R	4
%SW0927			ON,,OFF,ON	Direct	R	R	4
%SW0928			ON,,OFF,ON	Direct	R	R	4
%SW0929			ON,,OFF,ON	Direct	R	R	4
%SW0930			ON,,OFF,ON	Direct	R	R	4
%SW0931			ON,,OFF,ON	Direct	R	R	4
%SW0932			ON,,OFF,ON	Direct	R	R	4
%SW0933			ON,,OFF,ON	Direct	R	R	4
%SW0934			ON,,OFF,ON	Direct	R	R	4
%SW0935			ON,,OFF,ON	Direct	R	R	4
%SW0936			ON,,OFF,ON	Direct	R	R	4
%SW0937			ON,,OFF,ON	Direct	R	R	4
%SW0938			ON,,OFF,ON	Direct	R	R	4
%SW0939			ON,,OFF,ON	Direct	R	R	4
%SW0940			ON,,OFF,ON	Direct	R	R	4
%SW0941			ON,,OFF,ON	Direct	R	R	4
%SW0942			ON,,OFF,ON	Direct	R	R	4
%SW0943			ON,,OFF,ON	Direct	R	R	4
%SW0944			ON,,OFF,ON	Direct	R	R	4
%SW0945			ON,,OFF,ON	Direct	R	R	4
%SW0946			ON,,OFF,ON	Direct	R	R	4
%SW0947			ON,,OFF,ON	Direct	R	R	4
%SW0948			ON,,OFF,ON	Direct	R	R	4
%SW0949			ON,,OFF,ON	Direct	R	R	4
%SW0950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef.edf	SHEET:		YOKOGAWA	PAGE:3-11-18
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:48:02 AM	COMMENT:			
SECTION:	Common switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW0951			ON,,OFF,ON	Direct	R	R	4
%SW0952			ON,,OFF,ON	Direct	R	R	4
%SW0953			ON,,OFF,ON	Direct	R	R	4
%SW0954			ON,,OFF,ON	Direct	R	R	4
%SW0955			ON,,OFF,ON	Direct	R	R	4
%SW0956			ON,,OFF,ON	Direct	R	R	4
%SW0957			ON,,OFF,ON	Direct	R	R	4
%SW0958			ON,,OFF,ON	Direct	R	R	4
%SW0959			ON,,OFF,ON	Direct	R	R	4
%SW0960			ON,,OFF,ON	Direct	R	R	4
%SW0961			ON,,OFF,ON	Direct	R	R	4
%SW0962			ON,,OFF,ON	Direct	R	R	4
%SW0963			ON,,OFF,ON	Direct	R	R	4
%SW0964			ON,,OFF,ON	Direct	R	R	4
%SW0965			ON,,OFF,ON	Direct	R	R	4
%SW0966			ON,,OFF,ON	Direct	R	R	4
%SW0967			ON,,OFF,ON	Direct	R	R	4
%SW0968			ON,,OFF,ON	Direct	R	R	4
%SW0969			ON,,OFF,ON	Direct	R	R	4
%SW0970			ON,,OFF,ON	Direct	R	R	4
%SW0971			ON,,OFF,ON	Direct	R	R	4
%SW0972			ON,,OFF,ON	Direct	R	R	4
%SW0973			ON,,OFF,ON	Direct	R	R	4
%SW0974			ON,,OFF,ON	Direct	R	R	4
%SW0975			ON,,OFF,ON	Direct	R	R	4
%SW0976			ON,,OFF,ON	Direct	R	R	4
%SW0977			ON,,OFF,ON	Direct	R	R	4
%SW0978			ON,,OFF,ON	Direct	R	R	4
%SW0979			ON,,OFF,ON	Direct	R	R	4
%SW0980			ON,,OFF,ON	Direct	R	R	4
%SW0981			ON,,OFF,ON	Direct	R	R	4
%SW0982			ON,,OFF,ON	Direct	R	R	4
%SW0983			ON,,OFF,ON	Direct	R	R	4
%SW0984			ON,,OFF,ON	Direct	R	R	4
%SW0985			ON,,OFF,ON	Direct	R	R	4
%SW0986			ON,,OFF,ON	Direct	R	R	4
%SW0987			ON,,OFF,ON	Direct	R	R	4
%SW0988			ON,,OFF,ON	Direct	R	R	4
%SW0989			ON,,OFF,ON	Direct	R	R	4
%SW0990			ON,,OFF,ON	Direct	R	R	4
%SW0991			ON,,OFF,ON	Direct	R	R	4
%SW0992			ON,,OFF,ON	Direct	R	R	4
%SW0993			ON,,OFF,ON	Direct	R	R	4
%SW0994			ON,,OFF,ON	Direct	R	R	4
%SW0995			ON,,OFF,ON	Direct	R	R	4
%SW0996			ON,,OFF,ON	Direct	R	R	4
%SW0997			ON,,OFF,ON	Direct	R	R	4
%SW0998			ON,,OFF,ON	Direct	R	R	4
%SW0999			ON,,OFF,ON	Direct	R	R	4
%SW1000	ALWAYS-ON		ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1001			ON,,OFF,ON	Direct	R	R	4
%SW1002			ON,,OFF,ON	Direct	R	R	4
%SW1003			ON,,OFF,ON	Direct	R	R	4
%SW1004			ON,,OFF,ON	Direct	R	R	4
%SW1005			ON,,OFF,ON	Direct	R	R	4
%SW1006			ON,,OFF,ON	Direct	R	R	4
%SW1007			ON,,OFF,ON	Direct	R	R	4
%SW1008			ON,,OFF,ON	Direct	R	R	4
%SW1009			ON,,OFF,ON	Direct	R	R	4
%SW1010			ON,,OFF,ON	Direct	R	R	4
%SW1011			ON,,OFF,ON	Direct	R	R	4
%SW1012			ON,,OFF,ON	Direct	R	R	4
%SW1013			ON,,OFF,ON	Direct	R	R	4
%SW1014			ON,,OFF,ON	Direct	R	R	4
%SW1015			ON,,OFF,ON	Direct	R	R	4
%SW1016			ON,,OFF,ON	Direct	R	R	4
%SW1017			ON,,OFF,ON	Direct	R	R	4
%SW1018			ON,,OFF,ON	Direct	R	R	4
%SW1019			ON,,OFF,ON	Direct	R	R	4
%SW1020			ON,,OFF,ON	Direct	R	R	4
%SW1021			ON,,OFF,ON	Direct	R	R	4
%SW1022			ON,,OFF,ON	Direct	R	R	4
%SW1023			ON,,OFF,ON	Direct	R	R	4
%SW1024			ON,,OFF,ON	Direct	R	R	4
%SW1025			ON,,OFF,ON	Direct	R	R	4
%SW1026			ON,,OFF,ON	Direct	R	R	4
%SW1027			ON,,OFF,ON	Direct	R	R	4
%SW1028			ON,,OFF,ON	Direct	R	R	4
%SW1029			ON,,OFF,ON	Direct	R	R	4
%SW1030			ON,,OFF,ON	Direct	R	R	4
%SW1031			ON,,OFF,ON	Direct	R	R	4
%SW1032			ON,,OFF,ON	Direct	R	R	4
%SW1033			ON,,OFF,ON	Direct	R	R	4
%SW1034			ON,,OFF,ON	Direct	R	R	4
%SW1035			ON,,OFF,ON	Direct	R	R	4
%SW1036			ON,,OFF,ON	Direct	R	R	4
%SW1037			ON,,OFF,ON	Direct	R	R	4
%SW1038			ON,,OFF,ON	Direct	R	R	4
%SW1039			ON,,OFF,ON	Direct	R	R	4
%SW1040			ON,,OFF,ON	Direct	R	R	4
%SW1041			ON,,OFF,ON	Direct	R	R	4
%SW1042			ON,,OFF,ON	Direct	R	R	4
%SW1043			ON,,OFF,ON	Direct	R	R	4
%SW1044			ON,,OFF,ON	Direct	R	R	4
%SW1045			ON,,OFF,ON	Direct	R	R	4
%SW1046			ON,,OFF,ON	Direct	R	R	4
%SW1047			ON,,OFF,ON	Direct	R	R	4
%SW1048			ON,,OFF,ON	Direct	R	R	4
%SW1049			ON,,OFF,ON	Direct	R	R	4
%SW1050			ON,,OFF,ON	Direct	R	R	4
%SW1051			ON,,OFF,ON	Direct	R	R	4
%SW1052			ON,,OFF,ON	Direct	R	R	4
%SW1053			ON,,OFF,ON	Direct	R	R	4
%SW1054			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-2
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1055			ON,,OFF,ON	Direct	R	R	4
%SW1056			ON,,OFF,ON	Direct	R	R	4
%SW1057			ON,,OFF,ON	Direct	R	R	4
%SW1058			ON,,OFF,ON	Direct	R	R	4
%SW1059			ON,,OFF,ON	Direct	R	R	4
%SW1060			ON,,OFF,ON	Direct	R	R	4
%SW1061			ON,,OFF,ON	Direct	R	R	4
%SW1062			ON,,OFF,ON	Direct	R	R	4
%SW1063			ON,,OFF,ON	Direct	R	R	4
%SW1064			ON,,OFF,ON	Direct	R	R	4
%SW1065			ON,,OFF,ON	Direct	R	R	4
%SW1066			ON,,OFF,ON	Direct	R	R	4
%SW1067			ON,,OFF,ON	Direct	R	R	4
%SW1068			ON,,OFF,ON	Direct	R	R	4
%SW1069			ON,,OFF,ON	Direct	R	R	4
%SW1070			ON,,OFF,ON	Direct	R	R	4
%SW1071			ON,,OFF,ON	Direct	R	R	4
%SW1072			ON,,OFF,ON	Direct	R	R	4
%SW1073			ON,,OFF,ON	Direct	R	R	4
%SW1074			ON,,OFF,ON	Direct	R	R	4
%SW1075			ON,,OFF,ON	Direct	R	R	4
%SW1076			ON,,OFF,ON	Direct	R	R	4
%SW1077			ON,,OFF,ON	Direct	R	R	4
%SW1078			ON,,OFF,ON	Direct	R	R	4
%SW1079			ON,,OFF,ON	Direct	R	R	4
%SW1080			ON,,OFF,ON	Direct	R	R	4
%SW1081			ON,,OFF,ON	Direct	R	R	4
%SW1082			ON,,OFF,ON	Direct	R	R	4
%SW1083			ON,,OFF,ON	Direct	R	R	4
%SW1084			ON,,OFF,ON	Direct	R	R	4
%SW1085			ON,,OFF,ON	Direct	R	R	4
%SW1086			ON,,OFF,ON	Direct	R	R	4
%SW1087			ON,,OFF,ON	Direct	R	R	4
%SW1088			ON,,OFF,ON	Direct	R	R	4
%SW1089			ON,,OFF,ON	Direct	R	R	4
%SW1090			ON,,OFF,ON	Direct	R	R	4
%SW1091			ON,,OFF,ON	Direct	R	R	4
%SW1092			ON,,OFF,ON	Direct	R	R	4
%SW1093			ON,,OFF,ON	Direct	R	R	4
%SW1094			ON,,OFF,ON	Direct	R	R	4
%SW1095			ON,,OFF,ON	Direct	R	R	4
%SW1096			ON,,OFF,ON	Direct	R	R	4
%SW1097			ON,,OFF,ON	Direct	R	R	4
%SW1098			ON,,OFF,ON	Direct	R	R	4
%SW1099			ON,,OFF,ON	Direct	R	R	4
%SW1100			ON,,OFF,ON	Direct	R	R	4
%SW1101			ON,,OFF,ON	Direct	R	R	4
%SW1102			ON,,OFF,ON	Direct	R	R	4
%SW1103			ON,,OFF,ON	Direct	R	R	4
%SW1104			ON,,OFF,ON	Direct	R	R	4
%SW1105			ON,,OFF,ON	Direct	R	R	4
%SW1106			ON,,OFF,ON	Direct	R	R	4
%SW1107			ON,,OFF,ON	Direct	R	R	4
%SW1108			ON,,OFF,ON	Direct	R	R	4
%SW1109			ON,,OFF,ON	Direct	R	R	4
%SW1110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-3
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1111			ON,,OFF,ON	Direct	R	R	4
%SW1112			ON,,OFF,ON	Direct	R	R	4
%SW1113			ON,,OFF,ON	Direct	R	R	4
%SW1114			ON,,OFF,ON	Direct	R	R	4
%SW1115			ON,,OFF,ON	Direct	R	R	4
%SW1116			ON,,OFF,ON	Direct	R	R	4
%SW1117			ON,,OFF,ON	Direct	R	R	4
%SW1118			ON,,OFF,ON	Direct	R	R	4
%SW1119			ON,,OFF,ON	Direct	R	R	4
%SW1120			ON,,OFF,ON	Direct	R	R	4
%SW1121			ON,,OFF,ON	Direct	R	R	4
%SW1122			ON,,OFF,ON	Direct	R	R	4
%SW1123			ON,,OFF,ON	Direct	R	R	4
%SW1124			ON,,OFF,ON	Direct	R	R	4
%SW1125			ON,,OFF,ON	Direct	R	R	4
%SW1126			ON,,OFF,ON	Direct	R	R	4
%SW1127			ON,,OFF,ON	Direct	R	R	4
%SW1128			ON,,OFF,ON	Direct	R	R	4
%SW1129			ON,,OFF,ON	Direct	R	R	4
%SW1130			ON,,OFF,ON	Direct	R	R	4
%SW1131			ON,,OFF,ON	Direct	R	R	4
%SW1132			ON,,OFF,ON	Direct	R	R	4
%SW1133			ON,,OFF,ON	Direct	R	R	4
%SW1134			ON,,OFF,ON	Direct	R	R	4
%SW1135			ON,,OFF,ON	Direct	R	R	4
%SW1136			ON,,OFF,ON	Direct	R	R	4
%SW1137			ON,,OFF,ON	Direct	R	R	4
%SW1138			ON,,OFF,ON	Direct	R	R	4
%SW1139			ON,,OFF,ON	Direct	R	R	4
%SW1140			ON,,OFF,ON	Direct	R	R	4
%SW1141			ON,,OFF,ON	Direct	R	R	4
%SW1142			ON,,OFF,ON	Direct	R	R	4
%SW1143			ON,,OFF,ON	Direct	R	R	4
%SW1144			ON,,OFF,ON	Direct	R	R	4
%SW1145			ON,,OFF,ON	Direct	R	R	4
%SW1146			ON,,OFF,ON	Direct	R	R	4
%SW1147			ON,,OFF,ON	Direct	R	R	4
%SW1148			ON,,OFF,ON	Direct	R	R	4
%SW1149			ON,,OFF,ON	Direct	R	R	4
%SW1150			ON,,OFF,ON	Direct	R	R	4
%SW1151			ON,,OFF,ON	Direct	R	R	4
%SW1152			ON,,OFF,ON	Direct	R	R	4
%SW1153			ON,,OFF,ON	Direct	R	R	4
%SW1154			ON,,OFF,ON	Direct	R	R	4
%SW1155			ON,,OFF,ON	Direct	R	R	4
%SW1156			ON,,OFF,ON	Direct	R	R	4
%SW1157			ON,,OFF,ON	Direct	R	R	4
%SW1158			ON,,OFF,ON	Direct	R	R	4
%SW1159			ON,,OFF,ON	Direct	R	R	4
%SW1160			ON,,OFF,ON	Direct	R	R	4
%SW1161			ON,,OFF,ON	Direct	R	R	4
%SW1162			ON,,OFF,ON	Direct	R	R	4
%SW1163			ON,,OFF,ON	Direct	R	R	4
%SW1164			ON,,OFF,ON	Direct	R	R	4
%SW1165			ON,,OFF,ON	Direct	R	R	4
%SW1166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-4
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1167			ON,,OFF,ON	Direct	R	R	4
%SW1168			ON,,OFF,ON	Direct	R	R	4
%SW1169			ON,,OFF,ON	Direct	R	R	4
%SW1170			ON,,OFF,ON	Direct	R	R	4
%SW1171			ON,,OFF,ON	Direct	R	R	4
%SW1172			ON,,OFF,ON	Direct	R	R	4
%SW1173			ON,,OFF,ON	Direct	R	R	4
%SW1174			ON,,OFF,ON	Direct	R	R	4
%SW1175			ON,,OFF,ON	Direct	R	R	4
%SW1176			ON,,OFF,ON	Direct	R	R	4
%SW1177			ON,,OFF,ON	Direct	R	R	4
%SW1178			ON,,OFF,ON	Direct	R	R	4
%SW1179			ON,,OFF,ON	Direct	R	R	4
%SW1180			ON,,OFF,ON	Direct	R	R	4
%SW1181			ON,,OFF,ON	Direct	R	R	4
%SW1182			ON,,OFF,ON	Direct	R	R	4
%SW1183			ON,,OFF,ON	Direct	R	R	4
%SW1184			ON,,OFF,ON	Direct	R	R	4
%SW1185			ON,,OFF,ON	Direct	R	R	4
%SW1186			ON,,OFF,ON	Direct	R	R	4
%SW1187			ON,,OFF,ON	Direct	R	R	4
%SW1188			ON,,OFF,ON	Direct	R	R	4
%SW1189			ON,,OFF,ON	Direct	R	R	4
%SW1190			ON,,OFF,ON	Direct	R	R	4
%SW1191			ON,,OFF,ON	Direct	R	R	4
%SW1192			ON,,OFF,ON	Direct	R	R	4
%SW1193			ON,,OFF,ON	Direct	R	R	4
%SW1194			ON,,OFF,ON	Direct	R	R	4
%SW1195			ON,,OFF,ON	Direct	R	R	4
%SW1196			ON,,OFF,ON	Direct	R	R	4
%SW1197			ON,,OFF,ON	Direct	R	R	4
%SW1198			ON,,OFF,ON	Direct	R	R	4
%SW1199			ON,,OFF,ON	Direct	R	R	4
%SW1200			ON,,OFF,ON	Direct	R	R	4
%SW1201			ON,,OFF,ON	Direct	R	R	4
%SW1202			ON,,OFF,ON	Direct	R	R	4
%SW1203			ON,,OFF,ON	Direct	R	R	4
%SW1204			ON,,OFF,ON	Direct	R	R	4
%SW1205			ON,,OFF,ON	Direct	R	R	4
%SW1206			ON,,OFF,ON	Direct	R	R	4
%SW1207			ON,,OFF,ON	Direct	R	R	4
%SW1208			ON,,OFF,ON	Direct	R	R	4
%SW1209			ON,,OFF,ON	Direct	R	R	4
%SW1210			ON,,OFF,ON	Direct	R	R	4
%SW1211			ON,,OFF,ON	Direct	R	R	4
%SW1212			ON,,OFF,ON	Direct	R	R	4
%SW1213			ON,,OFF,ON	Direct	R	R	4
%SW1214			ON,,OFF,ON	Direct	R	R	4
%SW1215			ON,,OFF,ON	Direct	R	R	4
%SW1216			ON,,OFF,ON	Direct	R	R	4
%SW1217			ON,,OFF,ON	Direct	R	R	4
%SW1218			ON,,OFF,ON	Direct	R	R	4
%SW1219			ON,,OFF,ON	Direct	R	R	4
%SW1220			ON,,OFF,ON	Direct	R	R	4
%SW1221			ON,,OFF,ON	Direct	R	R	4
%SW1222			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-5
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1223			ON,,OFF,ON	Direct	R	R	4
%SW1224			ON,,OFF,ON	Direct	R	R	4
%SW1225			ON,,OFF,ON	Direct	R	R	4
%SW1226			ON,,OFF,ON	Direct	R	R	4
%SW1227			ON,,OFF,ON	Direct	R	R	4
%SW1228			ON,,OFF,ON	Direct	R	R	4
%SW1229			ON,,OFF,ON	Direct	R	R	4
%SW1230			ON,,OFF,ON	Direct	R	R	4
%SW1231			ON,,OFF,ON	Direct	R	R	4
%SW1232			ON,,OFF,ON	Direct	R	R	4
%SW1233			ON,,OFF,ON	Direct	R	R	4
%SW1234			ON,,OFF,ON	Direct	R	R	4
%SW1235			ON,,OFF,ON	Direct	R	R	4
%SW1236			ON,,OFF,ON	Direct	R	R	4
%SW1237			ON,,OFF,ON	Direct	R	R	4
%SW1238			ON,,OFF,ON	Direct	R	R	4
%SW1239			ON,,OFF,ON	Direct	R	R	4
%SW1240			ON,,OFF,ON	Direct	R	R	4
%SW1241			ON,,OFF,ON	Direct	R	R	4
%SW1242			ON,,OFF,ON	Direct	R	R	4
%SW1243			ON,,OFF,ON	Direct	R	R	4
%SW1244			ON,,OFF,ON	Direct	R	R	4
%SW1245			ON,,OFF,ON	Direct	R	R	4
%SW1246			ON,,OFF,ON	Direct	R	R	4
%SW1247			ON,,OFF,ON	Direct	R	R	4
%SW1248			ON,,OFF,ON	Direct	R	R	4
%SW1249			ON,,OFF,ON	Direct	R	R	4
%SW1250			ON,,OFF,ON	Direct	R	R	4
%SW1251			ON,,OFF,ON	Direct	R	R	4
%SW1252			ON,,OFF,ON	Direct	R	R	4
%SW1253			ON,,OFF,ON	Direct	R	R	4
%SW1254			ON,,OFF,ON	Direct	R	R	4
%SW1255			ON,,OFF,ON	Direct	R	R	4
%SW1256			ON,,OFF,ON	Direct	R	R	4
%SW1257			ON,,OFF,ON	Direct	R	R	4
%SW1258			ON,,OFF,ON	Direct	R	R	4
%SW1259			ON,,OFF,ON	Direct	R	R	4
%SW1260			ON,,OFF,ON	Direct	R	R	4
%SW1261			ON,,OFF,ON	Direct	R	R	4
%SW1262			ON,,OFF,ON	Direct	R	R	4
%SW1263			ON,,OFF,ON	Direct	R	R	4
%SW1264			ON,,OFF,ON	Direct	R	R	4
%SW1265			ON,,OFF,ON	Direct	R	R	4
%SW1266			ON,,OFF,ON	Direct	R	R	4
%SW1267			ON,,OFF,ON	Direct	R	R	4
%SW1268			ON,,OFF,ON	Direct	R	R	4
%SW1269			ON,,OFF,ON	Direct	R	R	4
%SW1270			ON,,OFF,ON	Direct	R	R	4
%SW1271			ON,,OFF,ON	Direct	R	R	4
%SW1272			ON,,OFF,ON	Direct	R	R	4
%SW1273			ON,,OFF,ON	Direct	R	R	4
%SW1274			ON,,OFF,ON	Direct	R	R	4
%SW1275			ON,,OFF,ON	Direct	R	R	4
%SW1276			ON,,OFF,ON	Direct	R	R	4
%SW1277			ON,,OFF,ON	Direct	R	R	4
%SW1278			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-6
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1279			ON,,OFF,ON	Direct	R	R	4
%SW1280			ON,,OFF,ON	Direct	R	R	4
%SW1281			ON,,OFF,ON	Direct	R	R	4
%SW1282			ON,,OFF,ON	Direct	R	R	4
%SW1283			ON,,OFF,ON	Direct	R	R	4
%SW1284			ON,,OFF,ON	Direct	R	R	4
%SW1285			ON,,OFF,ON	Direct	R	R	4
%SW1286			ON,,OFF,ON	Direct	R	R	4
%SW1287			ON,,OFF,ON	Direct	R	R	4
%SW1288			ON,,OFF,ON	Direct	R	R	4
%SW1289			ON,,OFF,ON	Direct	R	R	4
%SW1290			ON,,OFF,ON	Direct	R	R	4
%SW1291			ON,,OFF,ON	Direct	R	R	4
%SW1292			ON,,OFF,ON	Direct	R	R	4
%SW1293			ON,,OFF,ON	Direct	R	R	4
%SW1294			ON,,OFF,ON	Direct	R	R	4
%SW1295			ON,,OFF,ON	Direct	R	R	4
%SW1296			ON,,OFF,ON	Direct	R	R	4
%SW1297			ON,,OFF,ON	Direct	R	R	4
%SW1298			ON,,OFF,ON	Direct	R	R	4
%SW1299			ON,,OFF,ON	Direct	R	R	4
%SW1300			ON,,OFF,ON	Direct	R	R	4
%SW1301			ON,,OFF,ON	Direct	R	R	4
%SW1302			ON,,OFF,ON	Direct	R	R	4
%SW1303			ON,,OFF,ON	Direct	R	R	4
%SW1304			ON,,OFF,ON	Direct	R	R	4
%SW1305			ON,,OFF,ON	Direct	R	R	4
%SW1306			ON,,OFF,ON	Direct	R	R	4
%SW1307			ON,,OFF,ON	Direct	R	R	4
%SW1308			ON,,OFF,ON	Direct	R	R	4
%SW1309			ON,,OFF,ON	Direct	R	R	4
%SW1310			ON,,OFF,ON	Direct	R	R	4
%SW1311			ON,,OFF,ON	Direct	R	R	4
%SW1312			ON,,OFF,ON	Direct	R	R	4
%SW1313			ON,,OFF,ON	Direct	R	R	4
%SW1314			ON,,OFF,ON	Direct	R	R	4
%SW1315			ON,,OFF,ON	Direct	R	R	4
%SW1316			ON,,OFF,ON	Direct	R	R	4
%SW1317			ON,,OFF,ON	Direct	R	R	4
%SW1318			ON,,OFF,ON	Direct	R	R	4
%SW1319			ON,,OFF,ON	Direct	R	R	4
%SW1320			ON,,OFF,ON	Direct	R	R	4
%SW1321			ON,,OFF,ON	Direct	R	R	4
%SW1322			ON,,OFF,ON	Direct	R	R	4
%SW1323			ON,,OFF,ON	Direct	R	R	4
%SW1324			ON,,OFF,ON	Direct	R	R	4
%SW1325			ON,,OFF,ON	Direct	R	R	4
%SW1326			ON,,OFF,ON	Direct	R	R	4
%SW1327			ON,,OFF,ON	Direct	R	R	4
%SW1328			ON,,OFF,ON	Direct	R	R	4
%SW1329			ON,,OFF,ON	Direct	R	R	4
%SW1330			ON,,OFF,ON	Direct	R	R	4
%SW1331			ON,,OFF,ON	Direct	R	R	4
%SW1332			ON,,OFF,ON	Direct	R	R	4
%SW1333			ON,,OFF,ON	Direct	R	R	4
%SW1334			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-7
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1335			ON,,OFF,ON	Direct	R	R	4
%SW1336			ON,,OFF,ON	Direct	R	R	4
%SW1337			ON,,OFF,ON	Direct	R	R	4
%SW1338			ON,,OFF,ON	Direct	R	R	4
%SW1339			ON,,OFF,ON	Direct	R	R	4
%SW1340			ON,,OFF,ON	Direct	R	R	4
%SW1341			ON,,OFF,ON	Direct	R	R	4
%SW1342			ON,,OFF,ON	Direct	R	R	4
%SW1343			ON,,OFF,ON	Direct	R	R	4
%SW1344			ON,,OFF,ON	Direct	R	R	4
%SW1345			ON,,OFF,ON	Direct	R	R	4
%SW1346			ON,,OFF,ON	Direct	R	R	4
%SW1347			ON,,OFF,ON	Direct	R	R	4
%SW1348			ON,,OFF,ON	Direct	R	R	4
%SW1349			ON,,OFF,ON	Direct	R	R	4
%SW1350			ON,,OFF,ON	Direct	R	R	4
%SW1351			ON,,OFF,ON	Direct	R	R	4
%SW1352			ON,,OFF,ON	Direct	R	R	4
%SW1353			ON,,OFF,ON	Direct	R	R	4
%SW1354			ON,,OFF,ON	Direct	R	R	4
%SW1355			ON,,OFF,ON	Direct	R	R	4
%SW1356			ON,,OFF,ON	Direct	R	R	4
%SW1357			ON,,OFF,ON	Direct	R	R	4
%SW1358			ON,,OFF,ON	Direct	R	R	4
%SW1359			ON,,OFF,ON	Direct	R	R	4
%SW1360			ON,,OFF,ON	Direct	R	R	4
%SW1361			ON,,OFF,ON	Direct	R	R	4
%SW1362			ON,,OFF,ON	Direct	R	R	4
%SW1363			ON,,OFF,ON	Direct	R	R	4
%SW1364			ON,,OFF,ON	Direct	R	R	4
%SW1365			ON,,OFF,ON	Direct	R	R	4
%SW1366			ON,,OFF,ON	Direct	R	R	4
%SW1367			ON,,OFF,ON	Direct	R	R	4
%SW1368			ON,,OFF,ON	Direct	R	R	4
%SW1369			ON,,OFF,ON	Direct	R	R	4
%SW1370			ON,,OFF,ON	Direct	R	R	4
%SW1371			ON,,OFF,ON	Direct	R	R	4
%SW1372			ON,,OFF,ON	Direct	R	R	4
%SW1373			ON,,OFF,ON	Direct	R	R	4
%SW1374			ON,,OFF,ON	Direct	R	R	4
%SW1375			ON,,OFF,ON	Direct	R	R	4
%SW1376			ON,,OFF,ON	Direct	R	R	4
%SW1377			ON,,OFF,ON	Direct	R	R	4
%SW1378			ON,,OFF,ON	Direct	R	R	4
%SW1379			ON,,OFF,ON	Direct	R	R	4
%SW1380			ON,,OFF,ON	Direct	R	R	4
%SW1381			ON,,OFF,ON	Direct	R	R	4
%SW1382			ON,,OFF,ON	Direct	R	R	4
%SW1383			ON,,OFF,ON	Direct	R	R	4
%SW1384			ON,,OFF,ON	Direct	R	R	4
%SW1385			ON,,OFF,ON	Direct	R	R	4
%SW1386			ON,,OFF,ON	Direct	R	R	4
%SW1387			ON,,OFF,ON	Direct	R	R	4
%SW1388			ON,,OFF,ON	Direct	R	R	4
%SW1389			ON,,OFF,ON	Direct	R	R	4
%SW1390			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-8
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1391			ON,,OFF,ON	Direct	R	R	4
%SW1392			ON,,OFF,ON	Direct	R	R	4
%SW1393			ON,,OFF,ON	Direct	R	R	4
%SW1394			ON,,OFF,ON	Direct	R	R	4
%SW1395			ON,,OFF,ON	Direct	R	R	4
%SW1396			ON,,OFF,ON	Direct	R	R	4
%SW1397			ON,,OFF,ON	Direct	R	R	4
%SW1398			ON,,OFF,ON	Direct	R	R	4
%SW1399			ON,,OFF,ON	Direct	R	R	4
%SW1400			ON,,OFF,ON	Direct	R	R	4
%SW1401			ON,,OFF,ON	Direct	R	R	4
%SW1402			ON,,OFF,ON	Direct	R	R	4
%SW1403			ON,,OFF,ON	Direct	R	R	4
%SW1404			ON,,OFF,ON	Direct	R	R	4
%SW1405			ON,,OFF,ON	Direct	R	R	4
%SW1406			ON,,OFF,ON	Direct	R	R	4
%SW1407			ON,,OFF,ON	Direct	R	R	4
%SW1408			ON,,OFF,ON	Direct	R	R	4
%SW1409			ON,,OFF,ON	Direct	R	R	4
%SW1410			ON,,OFF,ON	Direct	R	R	4
%SW1411			ON,,OFF,ON	Direct	R	R	4
%SW1412			ON,,OFF,ON	Direct	R	R	4
%SW1413			ON,,OFF,ON	Direct	R	R	4
%SW1414			ON,,OFF,ON	Direct	R	R	4
%SW1415			ON,,OFF,ON	Direct	R	R	4
%SW1416			ON,,OFF,ON	Direct	R	R	4
%SW1417			ON,,OFF,ON	Direct	R	R	4
%SW1418			ON,,OFF,ON	Direct	R	R	4
%SW1419			ON,,OFF,ON	Direct	R	R	4
%SW1420			ON,,OFF,ON	Direct	R	R	4
%SW1421			ON,,OFF,ON	Direct	R	R	4
%SW1422			ON,,OFF,ON	Direct	R	R	4
%SW1423			ON,,OFF,ON	Direct	R	R	4
%SW1424			ON,,OFF,ON	Direct	R	R	4
%SW1425			ON,,OFF,ON	Direct	R	R	4
%SW1426			ON,,OFF,ON	Direct	R	R	4
%SW1427			ON,,OFF,ON	Direct	R	R	4
%SW1428			ON,,OFF,ON	Direct	R	R	4
%SW1429			ON,,OFF,ON	Direct	R	R	4
%SW1430			ON,,OFF,ON	Direct	R	R	4
%SW1431			ON,,OFF,ON	Direct	R	R	4
%SW1432			ON,,OFF,ON	Direct	R	R	4
%SW1433			ON,,OFF,ON	Direct	R	R	4
%SW1434			ON,,OFF,ON	Direct	R	R	4
%SW1435			ON,,OFF,ON	Direct	R	R	4
%SW1436			ON,,OFF,ON	Direct	R	R	4
%SW1437			ON,,OFF,ON	Direct	R	R	4
%SW1438			ON,,OFF,ON	Direct	R	R	4
%SW1439			ON,,OFF,ON	Direct	R	R	4
%SW1440			ON,,OFF,ON	Direct	R	R	4
%SW1441			ON,,OFF,ON	Direct	R	R	4
%SW1442			ON,,OFF,ON	Direct	R	R	4
%SW1443			ON,,OFF,ON	Direct	R	R	4
%SW1444			ON,,OFF,ON	Direct	R	R	4
%SW1445			ON,,OFF,ON	Direct	R	R	4
%SW1446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-9
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1447			ON,,OFF,ON	Direct	R	R	4
%SW1448			ON,,OFF,ON	Direct	R	R	4
%SW1449			ON,,OFF,ON	Direct	R	R	4
%SW1450			ON,,OFF,ON	Direct	R	R	4
%SW1451			ON,,OFF,ON	Direct	R	R	4
%SW1452			ON,,OFF,ON	Direct	R	R	4
%SW1453			ON,,OFF,ON	Direct	R	R	4
%SW1454			ON,,OFF,ON	Direct	R	R	4
%SW1455			ON,,OFF,ON	Direct	R	R	4
%SW1456			ON,,OFF,ON	Direct	R	R	4
%SW1457			ON,,OFF,ON	Direct	R	R	4
%SW1458			ON,,OFF,ON	Direct	R	R	4
%SW1459			ON,,OFF,ON	Direct	R	R	4
%SW1460			ON,,OFF,ON	Direct	R	R	4
%SW1461			ON,,OFF,ON	Direct	R	R	4
%SW1462			ON,,OFF,ON	Direct	R	R	4
%SW1463			ON,,OFF,ON	Direct	R	R	4
%SW1464			ON,,OFF,ON	Direct	R	R	4
%SW1465			ON,,OFF,ON	Direct	R	R	4
%SW1466			ON,,OFF,ON	Direct	R	R	4
%SW1467			ON,,OFF,ON	Direct	R	R	4
%SW1468			ON,,OFF,ON	Direct	R	R	4
%SW1469			ON,,OFF,ON	Direct	R	R	4
%SW1470			ON,,OFF,ON	Direct	R	R	4
%SW1471			ON,,OFF,ON	Direct	R	R	4
%SW1472			ON,,OFF,ON	Direct	R	R	4
%SW1473			ON,,OFF,ON	Direct	R	R	4
%SW1474			ON,,OFF,ON	Direct	R	R	4
%SW1475			ON,,OFF,ON	Direct	R	R	4
%SW1476			ON,,OFF,ON	Direct	R	R	4
%SW1477			ON,,OFF,ON	Direct	R	R	4
%SW1478			ON,,OFF,ON	Direct	R	R	4
%SW1479			ON,,OFF,ON	Direct	R	R	4
%SW1480			ON,,OFF,ON	Direct	R	R	4
%SW1481			ON,,OFF,ON	Direct	R	R	4
%SW1482			ON,,OFF,ON	Direct	R	R	4
%SW1483			ON,,OFF,ON	Direct	R	R	4
%SW1484			ON,,OFF,ON	Direct	R	R	4
%SW1485			ON,,OFF,ON	Direct	R	R	4
%SW1486			ON,,OFF,ON	Direct	R	R	4
%SW1487			ON,,OFF,ON	Direct	R	R	4
%SW1488			ON,,OFF,ON	Direct	R	R	4
%SW1489			ON,,OFF,ON	Direct	R	R	4
%SW1490			ON,,OFF,ON	Direct	R	R	4
%SW1491			ON,,OFF,ON	Direct	R	R	4
%SW1492			ON,,OFF,ON	Direct	R	R	4
%SW1493			ON,,OFF,ON	Direct	R	R	4
%SW1494			ON,,OFF,ON	Direct	R	R	4
%SW1495			ON,,OFF,ON	Direct	R	R	4
%SW1496			ON,,OFF,ON	Direct	R	R	4
%SW1497			ON,,OFF,ON	Direct	R	R	4
%SW1498			ON,,OFF,ON	Direct	R	R	4
%SW1499			ON,,OFF,ON	Direct	R	R	4
%SW1500			ON,,OFF,ON	Direct	R	R	4
%SW1501			ON,,OFF,ON	Direct	R	R	4
%SW1502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-10
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1503			ON,,OFF,ON	Direct	R	R	4
%SW1504			ON,,OFF,ON	Direct	R	R	4
%SW1505			ON,,OFF,ON	Direct	R	R	4
%SW1506			ON,,OFF,ON	Direct	R	R	4
%SW1507			ON,,OFF,ON	Direct	R	R	4
%SW1508			ON,,OFF,ON	Direct	R	R	4
%SW1509			ON,,OFF,ON	Direct	R	R	4
%SW1510			ON,,OFF,ON	Direct	R	R	4
%SW1511			ON,,OFF,ON	Direct	R	R	4
%SW1512			ON,,OFF,ON	Direct	R	R	4
%SW1513			ON,,OFF,ON	Direct	R	R	4
%SW1514			ON,,OFF,ON	Direct	R	R	4
%SW1515			ON,,OFF,ON	Direct	R	R	4
%SW1516			ON,,OFF,ON	Direct	R	R	4
%SW1517			ON,,OFF,ON	Direct	R	R	4
%SW1518			ON,,OFF,ON	Direct	R	R	4
%SW1519			ON,,OFF,ON	Direct	R	R	4
%SW1520			ON,,OFF,ON	Direct	R	R	4
%SW1521			ON,,OFF,ON	Direct	R	R	4
%SW1522			ON,,OFF,ON	Direct	R	R	4
%SW1523			ON,,OFF,ON	Direct	R	R	4
%SW1524			ON,,OFF,ON	Direct	R	R	4
%SW1525			ON,,OFF,ON	Direct	R	R	4
%SW1526			ON,,OFF,ON	Direct	R	R	4
%SW1527			ON,,OFF,ON	Direct	R	R	4
%SW1528			ON,,OFF,ON	Direct	R	R	4
%SW1529			ON,,OFF,ON	Direct	R	R	4
%SW1530			ON,,OFF,ON	Direct	R	R	4
%SW1531			ON,,OFF,ON	Direct	R	R	4
%SW1532			ON,,OFF,ON	Direct	R	R	4
%SW1533			ON,,OFF,ON	Direct	R	R	4
%SW1534			ON,,OFF,ON	Direct	R	R	4
%SW1535			ON,,OFF,ON	Direct	R	R	4
%SW1536			ON,,OFF,ON	Direct	R	R	4
%SW1537			ON,,OFF,ON	Direct	R	R	4
%SW1538			ON,,OFF,ON	Direct	R	R	4
%SW1539			ON,,OFF,ON	Direct	R	R	4
%SW1540			ON,,OFF,ON	Direct	R	R	4
%SW1541			ON,,OFF,ON	Direct	R	R	4
%SW1542			ON,,OFF,ON	Direct	R	R	4
%SW1543			ON,,OFF,ON	Direct	R	R	4
%SW1544			ON,,OFF,ON	Direct	R	R	4
%SW1545			ON,,OFF,ON	Direct	R	R	4
%SW1546			ON,,OFF,ON	Direct	R	R	4
%SW1547			ON,,OFF,ON	Direct	R	R	4
%SW1548			ON,,OFF,ON	Direct	R	R	4
%SW1549			ON,,OFF,ON	Direct	R	R	4
%SW1550			ON,,OFF,ON	Direct	R	R	4
%SW1551			ON,,OFF,ON	Direct	R	R	4
%SW1552			ON,,OFF,ON	Direct	R	R	4
%SW1553			ON,,OFF,ON	Direct	R	R	4
%SW1554			ON,,OFF,ON	Direct	R	R	4
%SW1555			ON,,OFF,ON	Direct	R	R	4
%SW1556			ON,,OFF,ON	Direct	R	R	4
%SW1557			ON,,OFF,ON	Direct	R	R	4
%SW1558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-11
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1559			ON,,OFF,ON	Direct	R	R	4
%SW1560			ON,,OFF,ON	Direct	R	R	4
%SW1561			ON,,OFF,ON	Direct	R	R	4
%SW1562			ON,,OFF,ON	Direct	R	R	4
%SW1563			ON,,OFF,ON	Direct	R	R	4
%SW1564			ON,,OFF,ON	Direct	R	R	4
%SW1565			ON,,OFF,ON	Direct	R	R	4
%SW1566			ON,,OFF,ON	Direct	R	R	4
%SW1567			ON,,OFF,ON	Direct	R	R	4
%SW1568			ON,,OFF,ON	Direct	R	R	4
%SW1569			ON,,OFF,ON	Direct	R	R	4
%SW1570			ON,,OFF,ON	Direct	R	R	4
%SW1571			ON,,OFF,ON	Direct	R	R	4
%SW1572			ON,,OFF,ON	Direct	R	R	4
%SW1573			ON,,OFF,ON	Direct	R	R	4
%SW1574			ON,,OFF,ON	Direct	R	R	4
%SW1575			ON,,OFF,ON	Direct	R	R	4
%SW1576			ON,,OFF,ON	Direct	R	R	4
%SW1577			ON,,OFF,ON	Direct	R	R	4
%SW1578			ON,,OFF,ON	Direct	R	R	4
%SW1579			ON,,OFF,ON	Direct	R	R	4
%SW1580			ON,,OFF,ON	Direct	R	R	4
%SW1581			ON,,OFF,ON	Direct	R	R	4
%SW1582			ON,,OFF,ON	Direct	R	R	4
%SW1583			ON,,OFF,ON	Direct	R	R	4
%SW1584			ON,,OFF,ON	Direct	R	R	4
%SW1585			ON,,OFF,ON	Direct	R	R	4
%SW1586			ON,,OFF,ON	Direct	R	R	4
%SW1587			ON,,OFF,ON	Direct	R	R	4
%SW1588			ON,,OFF,ON	Direct	R	R	4
%SW1589			ON,,OFF,ON	Direct	R	R	4
%SW1590			ON,,OFF,ON	Direct	R	R	4
%SW1591			ON,,OFF,ON	Direct	R	R	4
%SW1592			ON,,OFF,ON	Direct	R	R	4
%SW1593			ON,,OFF,ON	Direct	R	R	4
%SW1594			ON,,OFF,ON	Direct	R	R	4
%SW1595			ON,,OFF,ON	Direct	R	R	4
%SW1596			ON,,OFF,ON	Direct	R	R	4
%SW1597			ON,,OFF,ON	Direct	R	R	4
%SW1598			ON,,OFF,ON	Direct	R	R	4
%SW1599			ON,,OFF,ON	Direct	R	R	4
%SW1600			ON,,OFF,ON	Direct	R	R	4
%SW1601			ON,,OFF,ON	Direct	R	R	4
%SW1602			ON,,OFF,ON	Direct	R	R	4
%SW1603			ON,,OFF,ON	Direct	R	R	4
%SW1604			ON,,OFF,ON	Direct	R	R	4
%SW1605			ON,,OFF,ON	Direct	R	R	4
%SW1606			ON,,OFF,ON	Direct	R	R	4
%SW1607			ON,,OFF,ON	Direct	R	R	4
%SW1608			ON,,OFF,ON	Direct	R	R	4
%SW1609			ON,,OFF,ON	Direct	R	R	4
%SW1610			ON,,OFF,ON	Direct	R	R	4
%SW1611			ON,,OFF,ON	Direct	R	R	4
%SW1612			ON,,OFF,ON	Direct	R	R	4
%SW1613			ON,,OFF,ON	Direct	R	R	4
%SW1614			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-12
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1615			ON,,OFF,ON	Direct	R	R	4
%SW1616			ON,,OFF,ON	Direct	R	R	4
%SW1617			ON,,OFF,ON	Direct	R	R	4
%SW1618			ON,,OFF,ON	Direct	R	R	4
%SW1619			ON,,OFF,ON	Direct	R	R	4
%SW1620			ON,,OFF,ON	Direct	R	R	4
%SW1621			ON,,OFF,ON	Direct	R	R	4
%SW1622			ON,,OFF,ON	Direct	R	R	4
%SW1623			ON,,OFF,ON	Direct	R	R	4
%SW1624			ON,,OFF,ON	Direct	R	R	4
%SW1625			ON,,OFF,ON	Direct	R	R	4
%SW1626			ON,,OFF,ON	Direct	R	R	4
%SW1627			ON,,OFF,ON	Direct	R	R	4
%SW1628			ON,,OFF,ON	Direct	R	R	4
%SW1629			ON,,OFF,ON	Direct	R	R	4
%SW1630			ON,,OFF,ON	Direct	R	R	4
%SW1631			ON,,OFF,ON	Direct	R	R	4
%SW1632			ON,,OFF,ON	Direct	R	R	4
%SW1633			ON,,OFF,ON	Direct	R	R	4
%SW1634			ON,,OFF,ON	Direct	R	R	4
%SW1635			ON,,OFF,ON	Direct	R	R	4
%SW1636			ON,,OFF,ON	Direct	R	R	4
%SW1637			ON,,OFF,ON	Direct	R	R	4
%SW1638			ON,,OFF,ON	Direct	R	R	4
%SW1639			ON,,OFF,ON	Direct	R	R	4
%SW1640			ON,,OFF,ON	Direct	R	R	4
%SW1641			ON,,OFF,ON	Direct	R	R	4
%SW1642			ON,,OFF,ON	Direct	R	R	4
%SW1643			ON,,OFF,ON	Direct	R	R	4
%SW1644			ON,,OFF,ON	Direct	R	R	4
%SW1645			ON,,OFF,ON	Direct	R	R	4
%SW1646			ON,,OFF,ON	Direct	R	R	4
%SW1647			ON,,OFF,ON	Direct	R	R	4
%SW1648			ON,,OFF,ON	Direct	R	R	4
%SW1649			ON,,OFF,ON	Direct	R	R	4
%SW1650			ON,,OFF,ON	Direct	R	R	4
%SW1651			ON,,OFF,ON	Direct	R	R	4
%SW1652			ON,,OFF,ON	Direct	R	R	4
%SW1653			ON,,OFF,ON	Direct	R	R	4
%SW1654			ON,,OFF,ON	Direct	R	R	4
%SW1655			ON,,OFF,ON	Direct	R	R	4
%SW1656			ON,,OFF,ON	Direct	R	R	4
%SW1657			ON,,OFF,ON	Direct	R	R	4
%SW1658			ON,,OFF,ON	Direct	R	R	4
%SW1659			ON,,OFF,ON	Direct	R	R	4
%SW1660			ON,,OFF,ON	Direct	R	R	4
%SW1661			ON,,OFF,ON	Direct	R	R	4
%SW1662			ON,,OFF,ON	Direct	R	R	4
%SW1663			ON,,OFF,ON	Direct	R	R	4
%SW1664			ON,,OFF,ON	Direct	R	R	4
%SW1665			ON,,OFF,ON	Direct	R	R	4
%SW1666			ON,,OFF,ON	Direct	R	R	4
%SW1667			ON,,OFF,ON	Direct	R	R	4
%SW1668			ON,,OFF,ON	Direct	R	R	4
%SW1669			ON,,OFF,ON	Direct	R	R	4
%SW1670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-13
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1671			ON,,OFF,ON	Direct	R	R	4
%SW1672			ON,,OFF,ON	Direct	R	R	4
%SW1673			ON,,OFF,ON	Direct	R	R	4
%SW1674			ON,,OFF,ON	Direct	R	R	4
%SW1675			ON,,OFF,ON	Direct	R	R	4
%SW1676			ON,,OFF,ON	Direct	R	R	4
%SW1677			ON,,OFF,ON	Direct	R	R	4
%SW1678			ON,,OFF,ON	Direct	R	R	4
%SW1679			ON,,OFF,ON	Direct	R	R	4
%SW1680			ON,,OFF,ON	Direct	R	R	4
%SW1681			ON,,OFF,ON	Direct	R	R	4
%SW1682			ON,,OFF,ON	Direct	R	R	4
%SW1683			ON,,OFF,ON	Direct	R	R	4
%SW1684			ON,,OFF,ON	Direct	R	R	4
%SW1685			ON,,OFF,ON	Direct	R	R	4
%SW1686			ON,,OFF,ON	Direct	R	R	4
%SW1687			ON,,OFF,ON	Direct	R	R	4
%SW1688			ON,,OFF,ON	Direct	R	R	4
%SW1689			ON,,OFF,ON	Direct	R	R	4
%SW1690			ON,,OFF,ON	Direct	R	R	4
%SW1691			ON,,OFF,ON	Direct	R	R	4
%SW1692			ON,,OFF,ON	Direct	R	R	4
%SW1693			ON,,OFF,ON	Direct	R	R	4
%SW1694			ON,,OFF,ON	Direct	R	R	4
%SW1695			ON,,OFF,ON	Direct	R	R	4
%SW1696			ON,,OFF,ON	Direct	R	R	4
%SW1697			ON,,OFF,ON	Direct	R	R	4
%SW1698			ON,,OFF,ON	Direct	R	R	4
%SW1699			ON,,OFF,ON	Direct	R	R	4
%SW1700			ON,,OFF,ON	Direct	R	R	4
%SW1701			ON,,OFF,ON	Direct	R	R	4
%SW1702			ON,,OFF,ON	Direct	R	R	4
%SW1703			ON,,OFF,ON	Direct	R	R	4
%SW1704			ON,,OFF,ON	Direct	R	R	4
%SW1705			ON,,OFF,ON	Direct	R	R	4
%SW1706			ON,,OFF,ON	Direct	R	R	4
%SW1707			ON,,OFF,ON	Direct	R	R	4
%SW1708			ON,,OFF,ON	Direct	R	R	4
%SW1709			ON,,OFF,ON	Direct	R	R	4
%SW1710			ON,,OFF,ON	Direct	R	R	4
%SW1711			ON,,OFF,ON	Direct	R	R	4
%SW1712			ON,,OFF,ON	Direct	R	R	4
%SW1713			ON,,OFF,ON	Direct	R	R	4
%SW1714			ON,,OFF,ON	Direct	R	R	4
%SW1715			ON,,OFF,ON	Direct	R	R	4
%SW1716			ON,,OFF,ON	Direct	R	R	4
%SW1717			ON,,OFF,ON	Direct	R	R	4
%SW1718			ON,,OFF,ON	Direct	R	R	4
%SW1719			ON,,OFF,ON	Direct	R	R	4
%SW1720			ON,,OFF,ON	Direct	R	R	4
%SW1721			ON,,OFF,ON	Direct	R	R	4
%SW1722			ON,,OFF,ON	Direct	R	R	4
%SW1723			ON,,OFF,ON	Direct	R	R	4
%SW1724			ON,,OFF,ON	Direct	R	R	4
%SW1725			ON,,OFF,ON	Direct	R	R	4
%SW1726			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-14
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1727			ON,,OFF,ON	Direct	R	R	4
%SW1728			ON,,OFF,ON	Direct	R	R	4
%SW1729			ON,,OFF,ON	Direct	R	R	4
%SW1730			ON,,OFF,ON	Direct	R	R	4
%SW1731			ON,,OFF,ON	Direct	R	R	4
%SW1732			ON,,OFF,ON	Direct	R	R	4
%SW1733			ON,,OFF,ON	Direct	R	R	4
%SW1734			ON,,OFF,ON	Direct	R	R	4
%SW1735			ON,,OFF,ON	Direct	R	R	4
%SW1736			ON,,OFF,ON	Direct	R	R	4
%SW1737			ON,,OFF,ON	Direct	R	R	4
%SW1738			ON,,OFF,ON	Direct	R	R	4
%SW1739			ON,,OFF,ON	Direct	R	R	4
%SW1740			ON,,OFF,ON	Direct	R	R	4
%SW1741			ON,,OFF,ON	Direct	R	R	4
%SW1742			ON,,OFF,ON	Direct	R	R	4
%SW1743			ON,,OFF,ON	Direct	R	R	4
%SW1744			ON,,OFF,ON	Direct	R	R	4
%SW1745			ON,,OFF,ON	Direct	R	R	4
%SW1746			ON,,OFF,ON	Direct	R	R	4
%SW1747			ON,,OFF,ON	Direct	R	R	4
%SW1748			ON,,OFF,ON	Direct	R	R	4
%SW1749			ON,,OFF,ON	Direct	R	R	4
%SW1750			ON,,OFF,ON	Direct	R	R	4
%SW1751			ON,,OFF,ON	Direct	R	R	4
%SW1752			ON,,OFF,ON	Direct	R	R	4
%SW1753			ON,,OFF,ON	Direct	R	R	4
%SW1754			ON,,OFF,ON	Direct	R	R	4
%SW1755			ON,,OFF,ON	Direct	R	R	4
%SW1756			ON,,OFF,ON	Direct	R	R	4
%SW1757			ON,,OFF,ON	Direct	R	R	4
%SW1758			ON,,OFF,ON	Direct	R	R	4
%SW1759			ON,,OFF,ON	Direct	R	R	4
%SW1760			ON,,OFF,ON	Direct	R	R	4
%SW1761			ON,,OFF,ON	Direct	R	R	4
%SW1762			ON,,OFF,ON	Direct	R	R	4
%SW1763			ON,,OFF,ON	Direct	R	R	4
%SW1764			ON,,OFF,ON	Direct	R	R	4
%SW1765			ON,,OFF,ON	Direct	R	R	4
%SW1766			ON,,OFF,ON	Direct	R	R	4
%SW1767			ON,,OFF,ON	Direct	R	R	4
%SW1768			ON,,OFF,ON	Direct	R	R	4
%SW1769			ON,,OFF,ON	Direct	R	R	4
%SW1770			ON,,OFF,ON	Direct	R	R	4
%SW1771			ON,,OFF,ON	Direct	R	R	4
%SW1772			ON,,OFF,ON	Direct	R	R	4
%SW1773			ON,,OFF,ON	Direct	R	R	4
%SW1774			ON,,OFF,ON	Direct	R	R	4
%SW1775			ON,,OFF,ON	Direct	R	R	4
%SW1776			ON,,OFF,ON	Direct	R	R	4
%SW1777			ON,,OFF,ON	Direct	R	R	4
%SW1778			ON,,OFF,ON	Direct	R	R	4
%SW1779			ON,,OFF,ON	Direct	R	R	4
%SW1780			ON,,OFF,ON	Direct	R	R	4
%SW1781			ON,,OFF,ON	Direct	R	R	4
%SW1782			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-15
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1783			ON,,OFF,ON	Direct	R	R	4
%SW1784			ON,,OFF,ON	Direct	R	R	4
%SW1785			ON,,OFF,ON	Direct	R	R	4
%SW1786			ON,,OFF,ON	Direct	R	R	4
%SW1787			ON,,OFF,ON	Direct	R	R	4
%SW1788			ON,,OFF,ON	Direct	R	R	4
%SW1789			ON,,OFF,ON	Direct	R	R	4
%SW1790			ON,,OFF,ON	Direct	R	R	4
%SW1791			ON,,OFF,ON	Direct	R	R	4
%SW1792			ON,,OFF,ON	Direct	R	R	4
%SW1793			ON,,OFF,ON	Direct	R	R	4
%SW1794			ON,,OFF,ON	Direct	R	R	4
%SW1795			ON,,OFF,ON	Direct	R	R	4
%SW1796			ON,,OFF,ON	Direct	R	R	4
%SW1797			ON,,OFF,ON	Direct	R	R	4
%SW1798			ON,,OFF,ON	Direct	R	R	4
%SW1799			ON,,OFF,ON	Direct	R	R	4
%SW1800			ON,,OFF,ON	Direct	R	R	4
%SW1801			ON,,OFF,ON	Direct	R	R	4
%SW1802			ON,,OFF,ON	Direct	R	R	4
%SW1803			ON,,OFF,ON	Direct	R	R	4
%SW1804			ON,,OFF,ON	Direct	R	R	4
%SW1805			ON,,OFF,ON	Direct	R	R	4
%SW1806			ON,,OFF,ON	Direct	R	R	4
%SW1807			ON,,OFF,ON	Direct	R	R	4
%SW1808			ON,,OFF,ON	Direct	R	R	4
%SW1809			ON,,OFF,ON	Direct	R	R	4
%SW1810			ON,,OFF,ON	Direct	R	R	4
%SW1811			ON,,OFF,ON	Direct	R	R	4
%SW1812			ON,,OFF,ON	Direct	R	R	4
%SW1813			ON,,OFF,ON	Direct	R	R	4
%SW1814			ON,,OFF,ON	Direct	R	R	4
%SW1815			ON,,OFF,ON	Direct	R	R	4
%SW1816			ON,,OFF,ON	Direct	R	R	4
%SW1817			ON,,OFF,ON	Direct	R	R	4
%SW1818			ON,,OFF,ON	Direct	R	R	4
%SW1819			ON,,OFF,ON	Direct	R	R	4
%SW1820			ON,,OFF,ON	Direct	R	R	4
%SW1821			ON,,OFF,ON	Direct	R	R	4
%SW1822			ON,,OFF,ON	Direct	R	R	4
%SW1823			ON,,OFF,ON	Direct	R	R	4
%SW1824			ON,,OFF,ON	Direct	R	R	4
%SW1825			ON,,OFF,ON	Direct	R	R	4
%SW1826			ON,,OFF,ON	Direct	R	R	4
%SW1827			ON,,OFF,ON	Direct	R	R	4
%SW1828			ON,,OFF,ON	Direct	R	R	4
%SW1829			ON,,OFF,ON	Direct	R	R	4
%SW1830			ON,,OFF,ON	Direct	R	R	4
%SW1831			ON,,OFF,ON	Direct	R	R	4
%SW1832			ON,,OFF,ON	Direct	R	R	4
%SW1833			ON,,OFF,ON	Direct	R	R	4
%SW1834			ON,,OFF,ON	Direct	R	R	4
%SW1835			ON,,OFF,ON	Direct	R	R	4
%SW1836			ON,,OFF,ON	Direct	R	R	4
%SW1837			ON,,OFF,ON	Direct	R	R	4
%SW1838			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-16
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1839			ON,,OFF,ON	Direct	R	R	4
%SW1840			ON,,OFF,ON	Direct	R	R	4
%SW1841			ON,,OFF,ON	Direct	R	R	4
%SW1842			ON,,OFF,ON	Direct	R	R	4
%SW1843			ON,,OFF,ON	Direct	R	R	4
%SW1844			ON,,OFF,ON	Direct	R	R	4
%SW1845			ON,,OFF,ON	Direct	R	R	4
%SW1846			ON,,OFF,ON	Direct	R	R	4
%SW1847			ON,,OFF,ON	Direct	R	R	4
%SW1848			ON,,OFF,ON	Direct	R	R	4
%SW1849			ON,,OFF,ON	Direct	R	R	4
%SW1850			ON,,OFF,ON	Direct	R	R	4
%SW1851			ON,,OFF,ON	Direct	R	R	4
%SW1852			ON,,OFF,ON	Direct	R	R	4
%SW1853			ON,,OFF,ON	Direct	R	R	4
%SW1854			ON,,OFF,ON	Direct	R	R	4
%SW1855			ON,,OFF,ON	Direct	R	R	4
%SW1856			ON,,OFF,ON	Direct	R	R	4
%SW1857			ON,,OFF,ON	Direct	R	R	4
%SW1858			ON,,OFF,ON	Direct	R	R	4
%SW1859			ON,,OFF,ON	Direct	R	R	4
%SW1860			ON,,OFF,ON	Direct	R	R	4
%SW1861			ON,,OFF,ON	Direct	R	R	4
%SW1862			ON,,OFF,ON	Direct	R	R	4
%SW1863			ON,,OFF,ON	Direct	R	R	4
%SW1864			ON,,OFF,ON	Direct	R	R	4
%SW1865			ON,,OFF,ON	Direct	R	R	4
%SW1866			ON,,OFF,ON	Direct	R	R	4
%SW1867			ON,,OFF,ON	Direct	R	R	4
%SW1868			ON,,OFF,ON	Direct	R	R	4
%SW1869			ON,,OFF,ON	Direct	R	R	4
%SW1870			ON,,OFF,ON	Direct	R	R	4
%SW1871			ON,,OFF,ON	Direct	R	R	4
%SW1872			ON,,OFF,ON	Direct	R	R	4
%SW1873			ON,,OFF,ON	Direct	R	R	4
%SW1874			ON,,OFF,ON	Direct	R	R	4
%SW1875			ON,,OFF,ON	Direct	R	R	4
%SW1876			ON,,OFF,ON	Direct	R	R	4
%SW1877			ON,,OFF,ON	Direct	R	R	4
%SW1878			ON,,OFF,ON	Direct	R	R	4
%SW1879			ON,,OFF,ON	Direct	R	R	4
%SW1880			ON,,OFF,ON	Direct	R	R	4
%SW1881			ON,,OFF,ON	Direct	R	R	4
%SW1882			ON,,OFF,ON	Direct	R	R	4
%SW1883			ON,,OFF,ON	Direct	R	R	4
%SW1884			ON,,OFF,ON	Direct	R	R	4
%SW1885			ON,,OFF,ON	Direct	R	R	4
%SW1886			ON,,OFF,ON	Direct	R	R	4
%SW1887			ON,,OFF,ON	Direct	R	R	4
%SW1888			ON,,OFF,ON	Direct	R	R	4
%SW1889			ON,,OFF,ON	Direct	R	R	4
%SW1890			ON,,OFF,ON	Direct	R	R	4
%SW1891			ON,,OFF,ON	Direct	R	R	4
%SW1892			ON,,OFF,ON	Direct	R	R	4
%SW1893			ON,,OFF,ON	Direct	R	R	4
%SW1894			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-17
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1895			ON,,OFF,ON	Direct	R	R	4
%SW1896			ON,,OFF,ON	Direct	R	R	4
%SW1897			ON,,OFF,ON	Direct	R	R	4
%SW1898			ON,,OFF,ON	Direct	R	R	4
%SW1899			ON,,OFF,ON	Direct	R	R	4
%SW1900			ON,,OFF,ON	Direct	R	R	4
%SW1901			ON,,OFF,ON	Direct	R	R	4
%SW1902			ON,,OFF,ON	Direct	R	R	4
%SW1903			ON,,OFF,ON	Direct	R	R	4
%SW1904			ON,,OFF,ON	Direct	R	R	4
%SW1905			ON,,OFF,ON	Direct	R	R	4
%SW1906			ON,,OFF,ON	Direct	R	R	4
%SW1907			ON,,OFF,ON	Direct	R	R	4
%SW1908			ON,,OFF,ON	Direct	R	R	4
%SW1909			ON,,OFF,ON	Direct	R	R	4
%SW1910			ON,,OFF,ON	Direct	R	R	4
%SW1911			ON,,OFF,ON	Direct	R	R	4
%SW1912			ON,,OFF,ON	Direct	R	R	4
%SW1913			ON,,OFF,ON	Direct	R	R	4
%SW1914			ON,,OFF,ON	Direct	R	R	4
%SW1915			ON,,OFF,ON	Direct	R	R	4
%SW1916			ON,,OFF,ON	Direct	R	R	4
%SW1917			ON,,OFF,ON	Direct	R	R	4
%SW1918			ON,,OFF,ON	Direct	R	R	4
%SW1919			ON,,OFF,ON	Direct	R	R	4
%SW1920			ON,,OFF,ON	Direct	R	R	4
%SW1921			ON,,OFF,ON	Direct	R	R	4
%SW1922			ON,,OFF,ON	Direct	R	R	4
%SW1923			ON,,OFF,ON	Direct	R	R	4
%SW1924			ON,,OFF,ON	Direct	R	R	4
%SW1925			ON,,OFF,ON	Direct	R	R	4
%SW1926			ON,,OFF,ON	Direct	R	R	4
%SW1927			ON,,OFF,ON	Direct	R	R	4
%SW1928			ON,,OFF,ON	Direct	R	R	4
%SW1929			ON,,OFF,ON	Direct	R	R	4
%SW1930			ON,,OFF,ON	Direct	R	R	4
%SW1931			ON,,OFF,ON	Direct	R	R	4
%SW1932			ON,,OFF,ON	Direct	R	R	4
%SW1933			ON,,OFF,ON	Direct	R	R	4
%SW1934			ON,,OFF,ON	Direct	R	R	4
%SW1935			ON,,OFF,ON	Direct	R	R	4
%SW1936			ON,,OFF,ON	Direct	R	R	4
%SW1937			ON,,OFF,ON	Direct	R	R	4
%SW1938			ON,,OFF,ON	Direct	R	R	4
%SW1939			ON,,OFF,ON	Direct	R	R	4
%SW1940			ON,,OFF,ON	Direct	R	R	4
%SW1941			ON,,OFF,ON	Direct	R	R	4
%SW1942			ON,,OFF,ON	Direct	R	R	4
%SW1943			ON,,OFF,ON	Direct	R	R	4
%SW1944			ON,,OFF,ON	Direct	R	R	4
%SW1945			ON,,OFF,ON	Direct	R	R	4
%SW1946			ON,,OFF,ON	Direct	R	R	4
%SW1947			ON,,OFF,ON	Direct	R	R	4
%SW1948			ON,,OFF,ON	Direct	R	R	4
%SW1949			ON,,OFF,ON	Direct	R	R	4
%SW1950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef2.edf	SHEET:		YOKOGAWA	PAGE:3-12-18
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch2	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW1951			ON,,OFF,ON	Direct	R	R	4
%SW1952			ON,,OFF,ON	Direct	R	R	4
%SW1953			ON,,OFF,ON	Direct	R	R	4
%SW1954			ON,,OFF,ON	Direct	R	R	4
%SW1955			ON,,OFF,ON	Direct	R	R	4
%SW1956			ON,,OFF,ON	Direct	R	R	4
%SW1957			ON,,OFF,ON	Direct	R	R	4
%SW1958			ON,,OFF,ON	Direct	R	R	4
%SW1959			ON,,OFF,ON	Direct	R	R	4
%SW1960			ON,,OFF,ON	Direct	R	R	4
%SW1961			ON,,OFF,ON	Direct	R	R	4
%SW1962			ON,,OFF,ON	Direct	R	R	4
%SW1963			ON,,OFF,ON	Direct	R	R	4
%SW1964			ON,,OFF,ON	Direct	R	R	4
%SW1965			ON,,OFF,ON	Direct	R	R	4
%SW1966			ON,,OFF,ON	Direct	R	R	4
%SW1967			ON,,OFF,ON	Direct	R	R	4
%SW1968			ON,,OFF,ON	Direct	R	R	4
%SW1969			ON,,OFF,ON	Direct	R	R	4
%SW1970			ON,,OFF,ON	Direct	R	R	4
%SW1971			ON,,OFF,ON	Direct	R	R	4
%SW1972			ON,,OFF,ON	Direct	R	R	4
%SW1973			ON,,OFF,ON	Direct	R	R	4
%SW1974			ON,,OFF,ON	Direct	R	R	4
%SW1975			ON,,OFF,ON	Direct	R	R	4
%SW1976			ON,,OFF,ON	Direct	R	R	4
%SW1977			ON,,OFF,ON	Direct	R	R	4
%SW1978			ON,,OFF,ON	Direct	R	R	4
%SW1979			ON,,OFF,ON	Direct	R	R	4
%SW1980			ON,,OFF,ON	Direct	R	R	4
%SW1981			ON,,OFF,ON	Direct	R	R	4
%SW1982			ON,,OFF,ON	Direct	R	R	4
%SW1983			ON,,OFF,ON	Direct	R	R	4
%SW1984			ON,,OFF,ON	Direct	R	R	4
%SW1985			ON,,OFF,ON	Direct	R	R	4
%SW1986			ON,,OFF,ON	Direct	R	R	4
%SW1987			ON,,OFF,ON	Direct	R	R	4
%SW1988			ON,,OFF,ON	Direct	R	R	4
%SW1989			ON,,OFF,ON	Direct	R	R	4
%SW1990			ON,,OFF,ON	Direct	R	R	4
%SW1991			ON,,OFF,ON	Direct	R	R	4
%SW1992			ON,,OFF,ON	Direct	R	R	4
%SW1993			ON,,OFF,ON	Direct	R	R	4
%SW1994			ON,,OFF,ON	Direct	R	R	4
%SW1995			ON,,OFF,ON	Direct	R	R	4
%SW1996			ON,,OFF,ON	Direct	R	R	4
%SW1997			ON,,OFF,ON	Direct	R	R	4
%SW1998			ON,,OFF,ON	Direct	R	R	4
%SW1999			ON,,OFF,ON	Direct	R	R	4
%SW2000			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-1
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2001			ON,,OFF,ON	Direct	R	R	4
%SW2002			ON,,OFF,ON	Direct	R	R	4
%SW2003			ON,,OFF,ON	Direct	R	R	4
%SW2004			ON,,OFF,ON	Direct	R	R	4
%SW2005			ON,,OFF,ON	Direct	R	R	4
%SW2006			ON,,OFF,ON	Direct	R	R	4
%SW2007			ON,,OFF,ON	Direct	R	R	4
%SW2008			ON,,OFF,ON	Direct	R	R	4
%SW2009			ON,,OFF,ON	Direct	R	R	4
%SW2010			ON,,OFF,ON	Direct	R	R	4
%SW2011			ON,,OFF,ON	Direct	R	R	4
%SW2012			ON,,OFF,ON	Direct	R	R	4
%SW2013			ON,,OFF,ON	Direct	R	R	4
%SW2014			ON,,OFF,ON	Direct	R	R	4
%SW2015			ON,,OFF,ON	Direct	R	R	4
%SW2016			ON,,OFF,ON	Direct	R	R	4
%SW2017			ON,,OFF,ON	Direct	R	R	4
%SW2018			ON,,OFF,ON	Direct	R	R	4
%SW2019			ON,,OFF,ON	Direct	R	R	4
%SW2020			ON,,OFF,ON	Direct	R	R	4
%SW2021			ON,,OFF,ON	Direct	R	R	4
%SW2022			ON,,OFF,ON	Direct	R	R	4
%SW2023			ON,,OFF,ON	Direct	R	R	4
%SW2024			ON,,OFF,ON	Direct	R	R	4
%SW2025			ON,,OFF,ON	Direct	R	R	4
%SW2026			ON,,OFF,ON	Direct	R	R	4
%SW2027			ON,,OFF,ON	Direct	R	R	4
%SW2028			ON,,OFF,ON	Direct	R	R	4
%SW2029			ON,,OFF,ON	Direct	R	R	4
%SW2030			ON,,OFF,ON	Direct	R	R	4
%SW2031			ON,,OFF,ON	Direct	R	R	4
%SW2032			ON,,OFF,ON	Direct	R	R	4
%SW2033			ON,,OFF,ON	Direct	R	R	4
%SW2034			ON,,OFF,ON	Direct	R	R	4
%SW2035			ON,,OFF,ON	Direct	R	R	4
%SW2036			ON,,OFF,ON	Direct	R	R	4
%SW2037			ON,,OFF,ON	Direct	R	R	4
%SW2038			ON,,OFF,ON	Direct	R	R	4
%SW2039			ON,,OFF,ON	Direct	R	R	4
%SW2040			ON,,OFF,ON	Direct	R	R	4
%SW2041			ON,,OFF,ON	Direct	R	R	4
%SW2042			ON,,OFF,ON	Direct	R	R	4
%SW2043			ON,,OFF,ON	Direct	R	R	4
%SW2044			ON,,OFF,ON	Direct	R	R	4
%SW2045			ON,,OFF,ON	Direct	R	R	4
%SW2046			ON,,OFF,ON	Direct	R	R	4
%SW2047			ON,,OFF,ON	Direct	R	R	4
%SW2048			ON,,OFF,ON	Direct	R	R	4
%SW2049			ON,,OFF,ON	Direct	R	R	4
%SW2050			ON,,OFF,ON	Direct	R	R	4
%SW2051			ON,,OFF,ON	Direct	R	R	4
%SW2052			ON,,OFF,ON	Direct	R	R	4
%SW2053			ON,,OFF,ON	Direct	R	R	4
%SW2054			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-2
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2055			ON,,OFF,ON	Direct	R	R	4
%SW2056			ON,,OFF,ON	Direct	R	R	4
%SW2057			ON,,OFF,ON	Direct	R	R	4
%SW2058			ON,,OFF,ON	Direct	R	R	4
%SW2059			ON,,OFF,ON	Direct	R	R	4
%SW2060			ON,,OFF,ON	Direct	R	R	4
%SW2061			ON,,OFF,ON	Direct	R	R	4
%SW2062			ON,,OFF,ON	Direct	R	R	4
%SW2063			ON,,OFF,ON	Direct	R	R	4
%SW2064			ON,,OFF,ON	Direct	R	R	4
%SW2065			ON,,OFF,ON	Direct	R	R	4
%SW2066			ON,,OFF,ON	Direct	R	R	4
%SW2067			ON,,OFF,ON	Direct	R	R	4
%SW2068			ON,,OFF,ON	Direct	R	R	4
%SW2069			ON,,OFF,ON	Direct	R	R	4
%SW2070			ON,,OFF,ON	Direct	R	R	4
%SW2071			ON,,OFF,ON	Direct	R	R	4
%SW2072			ON,,OFF,ON	Direct	R	R	4
%SW2073			ON,,OFF,ON	Direct	R	R	4
%SW2074			ON,,OFF,ON	Direct	R	R	4
%SW2075			ON,,OFF,ON	Direct	R	R	4
%SW2076			ON,,OFF,ON	Direct	R	R	4
%SW2077			ON,,OFF,ON	Direct	R	R	4
%SW2078			ON,,OFF,ON	Direct	R	R	4
%SW2079			ON,,OFF,ON	Direct	R	R	4
%SW2080			ON,,OFF,ON	Direct	R	R	4
%SW2081			ON,,OFF,ON	Direct	R	R	4
%SW2082			ON,,OFF,ON	Direct	R	R	4
%SW2083			ON,,OFF,ON	Direct	R	R	4
%SW2084			ON,,OFF,ON	Direct	R	R	4
%SW2085			ON,,OFF,ON	Direct	R	R	4
%SW2086			ON,,OFF,ON	Direct	R	R	4
%SW2087			ON,,OFF,ON	Direct	R	R	4
%SW2088			ON,,OFF,ON	Direct	R	R	4
%SW2089			ON,,OFF,ON	Direct	R	R	4
%SW2090			ON,,OFF,ON	Direct	R	R	4
%SW2091			ON,,OFF,ON	Direct	R	R	4
%SW2092			ON,,OFF,ON	Direct	R	R	4
%SW2093			ON,,OFF,ON	Direct	R	R	4
%SW2094			ON,,OFF,ON	Direct	R	R	4
%SW2095			ON,,OFF,ON	Direct	R	R	4
%SW2096			ON,,OFF,ON	Direct	R	R	4
%SW2097			ON,,OFF,ON	Direct	R	R	4
%SW2098			ON,,OFF,ON	Direct	R	R	4
%SW2099			ON,,OFF,ON	Direct	R	R	4
%SW2100			ON,,OFF,ON	Direct	R	R	4
%SW2101			ON,,OFF,ON	Direct	R	R	4
%SW2102			ON,,OFF,ON	Direct	R	R	4
%SW2103			ON,,OFF,ON	Direct	R	R	4
%SW2104			ON,,OFF,ON	Direct	R	R	4
%SW2105			ON,,OFF,ON	Direct	R	R	4
%SW2106			ON,,OFF,ON	Direct	R	R	4
%SW2107			ON,,OFF,ON	Direct	R	R	4
%SW2108			ON,,OFF,ON	Direct	R	R	4
%SW2109			ON,,OFF,ON	Direct	R	R	4
%SW2110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-3
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2111			ON,,OFF,ON	Direct	R	R	4
%SW2112			ON,,OFF,ON	Direct	R	R	4
%SW2113			ON,,OFF,ON	Direct	R	R	4
%SW2114			ON,,OFF,ON	Direct	R	R	4
%SW2115			ON,,OFF,ON	Direct	R	R	4
%SW2116			ON,,OFF,ON	Direct	R	R	4
%SW2117			ON,,OFF,ON	Direct	R	R	4
%SW2118			ON,,OFF,ON	Direct	R	R	4
%SW2119			ON,,OFF,ON	Direct	R	R	4
%SW2120			ON,,OFF,ON	Direct	R	R	4
%SW2121			ON,,OFF,ON	Direct	R	R	4
%SW2122			ON,,OFF,ON	Direct	R	R	4
%SW2123			ON,,OFF,ON	Direct	R	R	4
%SW2124			ON,,OFF,ON	Direct	R	R	4
%SW2125			ON,,OFF,ON	Direct	R	R	4
%SW2126			ON,,OFF,ON	Direct	R	R	4
%SW2127			ON,,OFF,ON	Direct	R	R	4
%SW2128			ON,,OFF,ON	Direct	R	R	4
%SW2129			ON,,OFF,ON	Direct	R	R	4
%SW2130			ON,,OFF,ON	Direct	R	R	4
%SW2131			ON,,OFF,ON	Direct	R	R	4
%SW2132			ON,,OFF,ON	Direct	R	R	4
%SW2133			ON,,OFF,ON	Direct	R	R	4
%SW2134			ON,,OFF,ON	Direct	R	R	4
%SW2135			ON,,OFF,ON	Direct	R	R	4
%SW2136			ON,,OFF,ON	Direct	R	R	4
%SW2137			ON,,OFF,ON	Direct	R	R	4
%SW2138			ON,,OFF,ON	Direct	R	R	4
%SW2139			ON,,OFF,ON	Direct	R	R	4
%SW2140			ON,,OFF,ON	Direct	R	R	4
%SW2141			ON,,OFF,ON	Direct	R	R	4
%SW2142			ON,,OFF,ON	Direct	R	R	4
%SW2143			ON,,OFF,ON	Direct	R	R	4
%SW2144			ON,,OFF,ON	Direct	R	R	4
%SW2145			ON,,OFF,ON	Direct	R	R	4
%SW2146			ON,,OFF,ON	Direct	R	R	4
%SW2147			ON,,OFF,ON	Direct	R	R	4
%SW2148			ON,,OFF,ON	Direct	R	R	4
%SW2149			ON,,OFF,ON	Direct	R	R	4
%SW2150			ON,,OFF,ON	Direct	R	R	4
%SW2151			ON,,OFF,ON	Direct	R	R	4
%SW2152			ON,,OFF,ON	Direct	R	R	4
%SW2153			ON,,OFF,ON	Direct	R	R	4
%SW2154			ON,,OFF,ON	Direct	R	R	4
%SW2155			ON,,OFF,ON	Direct	R	R	4
%SW2156			ON,,OFF,ON	Direct	R	R	4
%SW2157			ON,,OFF,ON	Direct	R	R	4
%SW2158			ON,,OFF,ON	Direct	R	R	4
%SW2159			ON,,OFF,ON	Direct	R	R	4
%SW2160			ON,,OFF,ON	Direct	R	R	4
%SW2161			ON,,OFF,ON	Direct	R	R	4
%SW2162			ON,,OFF,ON	Direct	R	R	4
%SW2163			ON,,OFF,ON	Direct	R	R	4
%SW2164			ON,,OFF,ON	Direct	R	R	4
%SW2165			ON,,OFF,ON	Direct	R	R	4
%SW2166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-4
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2167			ON,,OFF,ON	Direct	R	R	4
%SW2168			ON,,OFF,ON	Direct	R	R	4
%SW2169			ON,,OFF,ON	Direct	R	R	4
%SW2170			ON,,OFF,ON	Direct	R	R	4
%SW2171			ON,,OFF,ON	Direct	R	R	4
%SW2172			ON,,OFF,ON	Direct	R	R	4
%SW2173			ON,,OFF,ON	Direct	R	R	4
%SW2174			ON,,OFF,ON	Direct	R	R	4
%SW2175			ON,,OFF,ON	Direct	R	R	4
%SW2176			ON,,OFF,ON	Direct	R	R	4
%SW2177			ON,,OFF,ON	Direct	R	R	4
%SW2178			ON,,OFF,ON	Direct	R	R	4
%SW2179			ON,,OFF,ON	Direct	R	R	4
%SW2180			ON,,OFF,ON	Direct	R	R	4
%SW2181			ON,,OFF,ON	Direct	R	R	4
%SW2182			ON,,OFF,ON	Direct	R	R	4
%SW2183			ON,,OFF,ON	Direct	R	R	4
%SW2184			ON,,OFF,ON	Direct	R	R	4
%SW2185			ON,,OFF,ON	Direct	R	R	4
%SW2186			ON,,OFF,ON	Direct	R	R	4
%SW2187			ON,,OFF,ON	Direct	R	R	4
%SW2188			ON,,OFF,ON	Direct	R	R	4
%SW2189			ON,,OFF,ON	Direct	R	R	4
%SW2190			ON,,OFF,ON	Direct	R	R	4
%SW2191			ON,,OFF,ON	Direct	R	R	4
%SW2192			ON,,OFF,ON	Direct	R	R	4
%SW2193			ON,,OFF,ON	Direct	R	R	4
%SW2194			ON,,OFF,ON	Direct	R	R	4
%SW2195			ON,,OFF,ON	Direct	R	R	4
%SW2196			ON,,OFF,ON	Direct	R	R	4
%SW2197			ON,,OFF,ON	Direct	R	R	4
%SW2198			ON,,OFF,ON	Direct	R	R	4
%SW2199			ON,,OFF,ON	Direct	R	R	4
%SW2200			ON,,OFF,ON	Direct	R	R	4
%SW2201			ON,,OFF,ON	Direct	R	R	4
%SW2202			ON,,OFF,ON	Direct	R	R	4
%SW2203			ON,,OFF,ON	Direct	R	R	4
%SW2204			ON,,OFF,ON	Direct	R	R	4
%SW2205			ON,,OFF,ON	Direct	R	R	4
%SW2206			ON,,OFF,ON	Direct	R	R	4
%SW2207			ON,,OFF,ON	Direct	R	R	4
%SW2208			ON,,OFF,ON	Direct	R	R	4
%SW2209			ON,,OFF,ON	Direct	R	R	4
%SW2210			ON,,OFF,ON	Direct	R	R	4
%SW2211			ON,,OFF,ON	Direct	R	R	4
%SW2212			ON,,OFF,ON	Direct	R	R	4
%SW2213			ON,,OFF,ON	Direct	R	R	4
%SW2214			ON,,OFF,ON	Direct	R	R	4
%SW2215			ON,,OFF,ON	Direct	R	R	4
%SW2216			ON,,OFF,ON	Direct	R	R	4
%SW2217			ON,,OFF,ON	Direct	R	R	4
%SW2218			ON,,OFF,ON	Direct	R	R	4
%SW2219			ON,,OFF,ON	Direct	R	R	4
%SW2220			ON,,OFF,ON	Direct	R	R	4
%SW2221			ON,,OFF,ON	Direct	R	R	4
%SW2222			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-5
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2223			ON,,OFF,ON	Direct	R	R	4
%SW2224			ON,,OFF,ON	Direct	R	R	4
%SW2225			ON,,OFF,ON	Direct	R	R	4
%SW2226			ON,,OFF,ON	Direct	R	R	4
%SW2227			ON,,OFF,ON	Direct	R	R	4
%SW2228			ON,,OFF,ON	Direct	R	R	4
%SW2229			ON,,OFF,ON	Direct	R	R	4
%SW2230			ON,,OFF,ON	Direct	R	R	4
%SW2231			ON,,OFF,ON	Direct	R	R	4
%SW2232			ON,,OFF,ON	Direct	R	R	4
%SW2233			ON,,OFF,ON	Direct	R	R	4
%SW2234			ON,,OFF,ON	Direct	R	R	4
%SW2235			ON,,OFF,ON	Direct	R	R	4
%SW2236			ON,,OFF,ON	Direct	R	R	4
%SW2237			ON,,OFF,ON	Direct	R	R	4
%SW2238			ON,,OFF,ON	Direct	R	R	4
%SW2239			ON,,OFF,ON	Direct	R	R	4
%SW2240			ON,,OFF,ON	Direct	R	R	4
%SW2241			ON,,OFF,ON	Direct	R	R	4
%SW2242			ON,,OFF,ON	Direct	R	R	4
%SW2243			ON,,OFF,ON	Direct	R	R	4
%SW2244			ON,,OFF,ON	Direct	R	R	4
%SW2245			ON,,OFF,ON	Direct	R	R	4
%SW2246			ON,,OFF,ON	Direct	R	R	4
%SW2247			ON,,OFF,ON	Direct	R	R	4
%SW2248			ON,,OFF,ON	Direct	R	R	4
%SW2249			ON,,OFF,ON	Direct	R	R	4
%SW2250			ON,,OFF,ON	Direct	R	R	4
%SW2251			ON,,OFF,ON	Direct	R	R	4
%SW2252			ON,,OFF,ON	Direct	R	R	4
%SW2253			ON,,OFF,ON	Direct	R	R	4
%SW2254			ON,,OFF,ON	Direct	R	R	4
%SW2255			ON,,OFF,ON	Direct	R	R	4
%SW2256			ON,,OFF,ON	Direct	R	R	4
%SW2257			ON,,OFF,ON	Direct	R	R	4
%SW2258			ON,,OFF,ON	Direct	R	R	4
%SW2259			ON,,OFF,ON	Direct	R	R	4
%SW2260			ON,,OFF,ON	Direct	R	R	4
%SW2261			ON,,OFF,ON	Direct	R	R	4
%SW2262			ON,,OFF,ON	Direct	R	R	4
%SW2263			ON,,OFF,ON	Direct	R	R	4
%SW2264			ON,,OFF,ON	Direct	R	R	4
%SW2265			ON,,OFF,ON	Direct	R	R	4
%SW2266			ON,,OFF,ON	Direct	R	R	4
%SW2267			ON,,OFF,ON	Direct	R	R	4
%SW2268			ON,,OFF,ON	Direct	R	R	4
%SW2269			ON,,OFF,ON	Direct	R	R	4
%SW2270			ON,,OFF,ON	Direct	R	R	4
%SW2271			ON,,OFF,ON	Direct	R	R	4
%SW2272			ON,,OFF,ON	Direct	R	R	4
%SW2273			ON,,OFF,ON	Direct	R	R	4
%SW2274			ON,,OFF,ON	Direct	R	R	4
%SW2275			ON,,OFF,ON	Direct	R	R	4
%SW2276			ON,,OFF,ON	Direct	R	R	4
%SW2277			ON,,OFF,ON	Direct	R	R	4
%SW2278			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-6
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2279			ON,,OFF,ON	Direct	R	R	4
%SW2280			ON,,OFF,ON	Direct	R	R	4
%SW2281			ON,,OFF,ON	Direct	R	R	4
%SW2282			ON,,OFF,ON	Direct	R	R	4
%SW2283			ON,,OFF,ON	Direct	R	R	4
%SW2284			ON,,OFF,ON	Direct	R	R	4
%SW2285			ON,,OFF,ON	Direct	R	R	4
%SW2286			ON,,OFF,ON	Direct	R	R	4
%SW2287			ON,,OFF,ON	Direct	R	R	4
%SW2288			ON,,OFF,ON	Direct	R	R	4
%SW2289			ON,,OFF,ON	Direct	R	R	4
%SW2290			ON,,OFF,ON	Direct	R	R	4
%SW2291			ON,,OFF,ON	Direct	R	R	4
%SW2292			ON,,OFF,ON	Direct	R	R	4
%SW2293			ON,,OFF,ON	Direct	R	R	4
%SW2294			ON,,OFF,ON	Direct	R	R	4
%SW2295			ON,,OFF,ON	Direct	R	R	4
%SW2296			ON,,OFF,ON	Direct	R	R	4
%SW2297			ON,,OFF,ON	Direct	R	R	4
%SW2298			ON,,OFF,ON	Direct	R	R	4
%SW2299			ON,,OFF,ON	Direct	R	R	4
%SW2300			ON,,OFF,ON	Direct	R	R	4
%SW2301			ON,,OFF,ON	Direct	R	R	4
%SW2302			ON,,OFF,ON	Direct	R	R	4
%SW2303			ON,,OFF,ON	Direct	R	R	4
%SW2304			ON,,OFF,ON	Direct	R	R	4
%SW2305			ON,,OFF,ON	Direct	R	R	4
%SW2306			ON,,OFF,ON	Direct	R	R	4
%SW2307			ON,,OFF,ON	Direct	R	R	4
%SW2308			ON,,OFF,ON	Direct	R	R	4
%SW2309			ON,,OFF,ON	Direct	R	R	4
%SW2310			ON,,OFF,ON	Direct	R	R	4
%SW2311			ON,,OFF,ON	Direct	R	R	4
%SW2312			ON,,OFF,ON	Direct	R	R	4
%SW2313			ON,,OFF,ON	Direct	R	R	4
%SW2314			ON,,OFF,ON	Direct	R	R	4
%SW2315			ON,,OFF,ON	Direct	R	R	4
%SW2316			ON,,OFF,ON	Direct	R	R	4
%SW2317			ON,,OFF,ON	Direct	R	R	4
%SW2318			ON,,OFF,ON	Direct	R	R	4
%SW2319			ON,,OFF,ON	Direct	R	R	4
%SW2320			ON,,OFF,ON	Direct	R	R	4
%SW2321			ON,,OFF,ON	Direct	R	R	4
%SW2322			ON,,OFF,ON	Direct	R	R	4
%SW2323			ON,,OFF,ON	Direct	R	R	4
%SW2324			ON,,OFF,ON	Direct	R	R	4
%SW2325			ON,,OFF,ON	Direct	R	R	4
%SW2326			ON,,OFF,ON	Direct	R	R	4
%SW2327			ON,,OFF,ON	Direct	R	R	4
%SW2328			ON,,OFF,ON	Direct	R	R	4
%SW2329			ON,,OFF,ON	Direct	R	R	4
%SW2330			ON,,OFF,ON	Direct	R	R	4
%SW2331			ON,,OFF,ON	Direct	R	R	4
%SW2332			ON,,OFF,ON	Direct	R	R	4
%SW2333			ON,,OFF,ON	Direct	R	R	4
%SW2334			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-7
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2335			ON,,OFF,ON	Direct	R	R	4
%SW2336			ON,,OFF,ON	Direct	R	R	4
%SW2337			ON,,OFF,ON	Direct	R	R	4
%SW2338			ON,,OFF,ON	Direct	R	R	4
%SW2339			ON,,OFF,ON	Direct	R	R	4
%SW2340			ON,,OFF,ON	Direct	R	R	4
%SW2341			ON,,OFF,ON	Direct	R	R	4
%SW2342			ON,,OFF,ON	Direct	R	R	4
%SW2343			ON,,OFF,ON	Direct	R	R	4
%SW2344			ON,,OFF,ON	Direct	R	R	4
%SW2345			ON,,OFF,ON	Direct	R	R	4
%SW2346			ON,,OFF,ON	Direct	R	R	4
%SW2347			ON,,OFF,ON	Direct	R	R	4
%SW2348			ON,,OFF,ON	Direct	R	R	4
%SW2349			ON,,OFF,ON	Direct	R	R	4
%SW2350			ON,,OFF,ON	Direct	R	R	4
%SW2351			ON,,OFF,ON	Direct	R	R	4
%SW2352			ON,,OFF,ON	Direct	R	R	4
%SW2353			ON,,OFF,ON	Direct	R	R	4
%SW2354			ON,,OFF,ON	Direct	R	R	4
%SW2355			ON,,OFF,ON	Direct	R	R	4
%SW2356			ON,,OFF,ON	Direct	R	R	4
%SW2357			ON,,OFF,ON	Direct	R	R	4
%SW2358			ON,,OFF,ON	Direct	R	R	4
%SW2359			ON,,OFF,ON	Direct	R	R	4
%SW2360			ON,,OFF,ON	Direct	R	R	4
%SW2361			ON,,OFF,ON	Direct	R	R	4
%SW2362			ON,,OFF,ON	Direct	R	R	4
%SW2363			ON,,OFF,ON	Direct	R	R	4
%SW2364			ON,,OFF,ON	Direct	R	R	4
%SW2365			ON,,OFF,ON	Direct	R	R	4
%SW2366			ON,,OFF,ON	Direct	R	R	4
%SW2367			ON,,OFF,ON	Direct	R	R	4
%SW2368			ON,,OFF,ON	Direct	R	R	4
%SW2369			ON,,OFF,ON	Direct	R	R	4
%SW2370			ON,,OFF,ON	Direct	R	R	4
%SW2371			ON,,OFF,ON	Direct	R	R	4
%SW2372			ON,,OFF,ON	Direct	R	R	4
%SW2373			ON,,OFF,ON	Direct	R	R	4
%SW2374			ON,,OFF,ON	Direct	R	R	4
%SW2375			ON,,OFF,ON	Direct	R	R	4
%SW2376			ON,,OFF,ON	Direct	R	R	4
%SW2377			ON,,OFF,ON	Direct	R	R	4
%SW2378			ON,,OFF,ON	Direct	R	R	4
%SW2379			ON,,OFF,ON	Direct	R	R	4
%SW2380			ON,,OFF,ON	Direct	R	R	4
%SW2381			ON,,OFF,ON	Direct	R	R	4
%SW2382			ON,,OFF,ON	Direct	R	R	4
%SW2383			ON,,OFF,ON	Direct	R	R	4
%SW2384			ON,,OFF,ON	Direct	R	R	4
%SW2385			ON,,OFF,ON	Direct	R	R	4
%SW2386			ON,,OFF,ON	Direct	R	R	4
%SW2387			ON,,OFF,ON	Direct	R	R	4
%SW2388			ON,,OFF,ON	Direct	R	R	4
%SW2389			ON,,OFF,ON	Direct	R	R	4
%SW2390			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-8
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2391			ON,,OFF,ON	Direct	R	R	4
%SW2392			ON,,OFF,ON	Direct	R	R	4
%SW2393			ON,,OFF,ON	Direct	R	R	4
%SW2394			ON,,OFF,ON	Direct	R	R	4
%SW2395			ON,,OFF,ON	Direct	R	R	4
%SW2396			ON,,OFF,ON	Direct	R	R	4
%SW2397			ON,,OFF,ON	Direct	R	R	4
%SW2398			ON,,OFF,ON	Direct	R	R	4
%SW2399			ON,,OFF,ON	Direct	R	R	4
%SW2400			ON,,OFF,ON	Direct	R	R	4
%SW2401			ON,,OFF,ON	Direct	R	R	4
%SW2402			ON,,OFF,ON	Direct	R	R	4
%SW2403			ON,,OFF,ON	Direct	R	R	4
%SW2404			ON,,OFF,ON	Direct	R	R	4
%SW2405			ON,,OFF,ON	Direct	R	R	4
%SW2406			ON,,OFF,ON	Direct	R	R	4
%SW2407			ON,,OFF,ON	Direct	R	R	4
%SW2408			ON,,OFF,ON	Direct	R	R	4
%SW2409			ON,,OFF,ON	Direct	R	R	4
%SW2410			ON,,OFF,ON	Direct	R	R	4
%SW2411			ON,,OFF,ON	Direct	R	R	4
%SW2412			ON,,OFF,ON	Direct	R	R	4
%SW2413			ON,,OFF,ON	Direct	R	R	4
%SW2414			ON,,OFF,ON	Direct	R	R	4
%SW2415			ON,,OFF,ON	Direct	R	R	4
%SW2416			ON,,OFF,ON	Direct	R	R	4
%SW2417			ON,,OFF,ON	Direct	R	R	4
%SW2418			ON,,OFF,ON	Direct	R	R	4
%SW2419			ON,,OFF,ON	Direct	R	R	4
%SW2420			ON,,OFF,ON	Direct	R	R	4
%SW2421			ON,,OFF,ON	Direct	R	R	4
%SW2422			ON,,OFF,ON	Direct	R	R	4
%SW2423			ON,,OFF,ON	Direct	R	R	4
%SW2424			ON,,OFF,ON	Direct	R	R	4
%SW2425			ON,,OFF,ON	Direct	R	R	4
%SW2426			ON,,OFF,ON	Direct	R	R	4
%SW2427			ON,,OFF,ON	Direct	R	R	4
%SW2428			ON,,OFF,ON	Direct	R	R	4
%SW2429			ON,,OFF,ON	Direct	R	R	4
%SW2430			ON,,OFF,ON	Direct	R	R	4
%SW2431			ON,,OFF,ON	Direct	R	R	4
%SW2432			ON,,OFF,ON	Direct	R	R	4
%SW2433			ON,,OFF,ON	Direct	R	R	4
%SW2434			ON,,OFF,ON	Direct	R	R	4
%SW2435			ON,,OFF,ON	Direct	R	R	4
%SW2436			ON,,OFF,ON	Direct	R	R	4
%SW2437			ON,,OFF,ON	Direct	R	R	4
%SW2438			ON,,OFF,ON	Direct	R	R	4
%SW2439			ON,,OFF,ON	Direct	R	R	4
%SW2440			ON,,OFF,ON	Direct	R	R	4
%SW2441			ON,,OFF,ON	Direct	R	R	4
%SW2442			ON,,OFF,ON	Direct	R	R	4
%SW2443			ON,,OFF,ON	Direct	R	R	4
%SW2444			ON,,OFF,ON	Direct	R	R	4
%SW2445			ON,,OFF,ON	Direct	R	R	4
%SW2446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-9
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2447			ON,,OFF,ON	Direct	R	R	4
%SW2448			ON,,OFF,ON	Direct	R	R	4
%SW2449			ON,,OFF,ON	Direct	R	R	4
%SW2450			ON,,OFF,ON	Direct	R	R	4
%SW2451			ON,,OFF,ON	Direct	R	R	4
%SW2452			ON,,OFF,ON	Direct	R	R	4
%SW2453			ON,,OFF,ON	Direct	R	R	4
%SW2454			ON,,OFF,ON	Direct	R	R	4
%SW2455			ON,,OFF,ON	Direct	R	R	4
%SW2456			ON,,OFF,ON	Direct	R	R	4
%SW2457			ON,,OFF,ON	Direct	R	R	4
%SW2458			ON,,OFF,ON	Direct	R	R	4
%SW2459			ON,,OFF,ON	Direct	R	R	4
%SW2460			ON,,OFF,ON	Direct	R	R	4
%SW2461			ON,,OFF,ON	Direct	R	R	4
%SW2462			ON,,OFF,ON	Direct	R	R	4
%SW2463			ON,,OFF,ON	Direct	R	R	4
%SW2464			ON,,OFF,ON	Direct	R	R	4
%SW2465			ON,,OFF,ON	Direct	R	R	4
%SW2466			ON,,OFF,ON	Direct	R	R	4
%SW2467			ON,,OFF,ON	Direct	R	R	4
%SW2468			ON,,OFF,ON	Direct	R	R	4
%SW2469			ON,,OFF,ON	Direct	R	R	4
%SW2470			ON,,OFF,ON	Direct	R	R	4
%SW2471			ON,,OFF,ON	Direct	R	R	4
%SW2472			ON,,OFF,ON	Direct	R	R	4
%SW2473			ON,,OFF,ON	Direct	R	R	4
%SW2474			ON,,OFF,ON	Direct	R	R	4
%SW2475			ON,,OFF,ON	Direct	R	R	4
%SW2476			ON,,OFF,ON	Direct	R	R	4
%SW2477			ON,,OFF,ON	Direct	R	R	4
%SW2478			ON,,OFF,ON	Direct	R	R	4
%SW2479			ON,,OFF,ON	Direct	R	R	4
%SW2480			ON,,OFF,ON	Direct	R	R	4
%SW2481			ON,,OFF,ON	Direct	R	R	4
%SW2482			ON,,OFF,ON	Direct	R	R	4
%SW2483			ON,,OFF,ON	Direct	R	R	4
%SW2484			ON,,OFF,ON	Direct	R	R	4
%SW2485			ON,,OFF,ON	Direct	R	R	4
%SW2486			ON,,OFF,ON	Direct	R	R	4
%SW2487			ON,,OFF,ON	Direct	R	R	4
%SW2488			ON,,OFF,ON	Direct	R	R	4
%SW2489			ON,,OFF,ON	Direct	R	R	4
%SW2490			ON,,OFF,ON	Direct	R	R	4
%SW2491			ON,,OFF,ON	Direct	R	R	4
%SW2492			ON,,OFF,ON	Direct	R	R	4
%SW2493			ON,,OFF,ON	Direct	R	R	4
%SW2494			ON,,OFF,ON	Direct	R	R	4
%SW2495			ON,,OFF,ON	Direct	R	R	4
%SW2496			ON,,OFF,ON	Direct	R	R	4
%SW2497			ON,,OFF,ON	Direct	R	R	4
%SW2498			ON,,OFF,ON	Direct	R	R	4
%SW2499			ON,,OFF,ON	Direct	R	R	4
%SW2500			ON,,OFF,ON	Direct	R	R	4
%SW2501			ON,,OFF,ON	Direct	R	R	4
%SW2502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-10
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2503			ON,,OFF,ON	Direct	R	R	4
%SW2504			ON,,OFF,ON	Direct	R	R	4
%SW2505			ON,,OFF,ON	Direct	R	R	4
%SW2506			ON,,OFF,ON	Direct	R	R	4
%SW2507			ON,,OFF,ON	Direct	R	R	4
%SW2508			ON,,OFF,ON	Direct	R	R	4
%SW2509			ON,,OFF,ON	Direct	R	R	4
%SW2510			ON,,OFF,ON	Direct	R	R	4
%SW2511			ON,,OFF,ON	Direct	R	R	4
%SW2512			ON,,OFF,ON	Direct	R	R	4
%SW2513			ON,,OFF,ON	Direct	R	R	4
%SW2514			ON,,OFF,ON	Direct	R	R	4
%SW2515			ON,,OFF,ON	Direct	R	R	4
%SW2516			ON,,OFF,ON	Direct	R	R	4
%SW2517			ON,,OFF,ON	Direct	R	R	4
%SW2518			ON,,OFF,ON	Direct	R	R	4
%SW2519			ON,,OFF,ON	Direct	R	R	4
%SW2520			ON,,OFF,ON	Direct	R	R	4
%SW2521			ON,,OFF,ON	Direct	R	R	4
%SW2522			ON,,OFF,ON	Direct	R	R	4
%SW2523			ON,,OFF,ON	Direct	R	R	4
%SW2524			ON,,OFF,ON	Direct	R	R	4
%SW2525			ON,,OFF,ON	Direct	R	R	4
%SW2526			ON,,OFF,ON	Direct	R	R	4
%SW2527			ON,,OFF,ON	Direct	R	R	4
%SW2528			ON,,OFF,ON	Direct	R	R	4
%SW2529			ON,,OFF,ON	Direct	R	R	4
%SW2530			ON,,OFF,ON	Direct	R	R	4
%SW2531			ON,,OFF,ON	Direct	R	R	4
%SW2532			ON,,OFF,ON	Direct	R	R	4
%SW2533			ON,,OFF,ON	Direct	R	R	4
%SW2534			ON,,OFF,ON	Direct	R	R	4
%SW2535			ON,,OFF,ON	Direct	R	R	4
%SW2536			ON,,OFF,ON	Direct	R	R	4
%SW2537			ON,,OFF,ON	Direct	R	R	4
%SW2538			ON,,OFF,ON	Direct	R	R	4
%SW2539			ON,,OFF,ON	Direct	R	R	4
%SW2540			ON,,OFF,ON	Direct	R	R	4
%SW2541			ON,,OFF,ON	Direct	R	R	4
%SW2542			ON,,OFF,ON	Direct	R	R	4
%SW2543			ON,,OFF,ON	Direct	R	R	4
%SW2544			ON,,OFF,ON	Direct	R	R	4
%SW2545			ON,,OFF,ON	Direct	R	R	4
%SW2546			ON,,OFF,ON	Direct	R	R	4
%SW2547			ON,,OFF,ON	Direct	R	R	4
%SW2548			ON,,OFF,ON	Direct	R	R	4
%SW2549			ON,,OFF,ON	Direct	R	R	4
%SW2550			ON,,OFF,ON	Direct	R	R	4
%SW2551			ON,,OFF,ON	Direct	R	R	4
%SW2552			ON,,OFF,ON	Direct	R	R	4
%SW2553			ON,,OFF,ON	Direct	R	R	4
%SW2554			ON,,OFF,ON	Direct	R	R	4
%SW2555			ON,,OFF,ON	Direct	R	R	4
%SW2556			ON,,OFF,ON	Direct	R	R	4
%SW2557			ON,,OFF,ON	Direct	R	R	4
%SW2558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-11
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2559			ON,,OFF,ON	Direct	R	R	4
%SW2560			ON,,OFF,ON	Direct	R	R	4
%SW2561			ON,,OFF,ON	Direct	R	R	4
%SW2562			ON,,OFF,ON	Direct	R	R	4
%SW2563			ON,,OFF,ON	Direct	R	R	4
%SW2564			ON,,OFF,ON	Direct	R	R	4
%SW2565			ON,,OFF,ON	Direct	R	R	4
%SW2566			ON,,OFF,ON	Direct	R	R	4
%SW2567			ON,,OFF,ON	Direct	R	R	4
%SW2568			ON,,OFF,ON	Direct	R	R	4
%SW2569			ON,,OFF,ON	Direct	R	R	4
%SW2570			ON,,OFF,ON	Direct	R	R	4
%SW2571			ON,,OFF,ON	Direct	R	R	4
%SW2572			ON,,OFF,ON	Direct	R	R	4
%SW2573			ON,,OFF,ON	Direct	R	R	4
%SW2574			ON,,OFF,ON	Direct	R	R	4
%SW2575			ON,,OFF,ON	Direct	R	R	4
%SW2576			ON,,OFF,ON	Direct	R	R	4
%SW2577			ON,,OFF,ON	Direct	R	R	4
%SW2578			ON,,OFF,ON	Direct	R	R	4
%SW2579			ON,,OFF,ON	Direct	R	R	4
%SW2580			ON,,OFF,ON	Direct	R	R	4
%SW2581			ON,,OFF,ON	Direct	R	R	4
%SW2582			ON,,OFF,ON	Direct	R	R	4
%SW2583			ON,,OFF,ON	Direct	R	R	4
%SW2584			ON,,OFF,ON	Direct	R	R	4
%SW2585			ON,,OFF,ON	Direct	R	R	4
%SW2586			ON,,OFF,ON	Direct	R	R	4
%SW2587			ON,,OFF,ON	Direct	R	R	4
%SW2588			ON,,OFF,ON	Direct	R	R	4
%SW2589			ON,,OFF,ON	Direct	R	R	4
%SW2590			ON,,OFF,ON	Direct	R	R	4
%SW2591			ON,,OFF,ON	Direct	R	R	4
%SW2592			ON,,OFF,ON	Direct	R	R	4
%SW2593			ON,,OFF,ON	Direct	R	R	4
%SW2594			ON,,OFF,ON	Direct	R	R	4
%SW2595			ON,,OFF,ON	Direct	R	R	4
%SW2596			ON,,OFF,ON	Direct	R	R	4
%SW2597			ON,,OFF,ON	Direct	R	R	4
%SW2598			ON,,OFF,ON	Direct	R	R	4
%SW2599			ON,,OFF,ON	Direct	R	R	4
%SW2600			ON,,OFF,ON	Direct	R	R	4
%SW2601			ON,,OFF,ON	Direct	R	R	4
%SW2602			ON,,OFF,ON	Direct	R	R	4
%SW2603			ON,,OFF,ON	Direct	R	R	4
%SW2604			ON,,OFF,ON	Direct	R	R	4
%SW2605			ON,,OFF,ON	Direct	R	R	4
%SW2606			ON,,OFF,ON	Direct	R	R	4
%SW2607			ON,,OFF,ON	Direct	R	R	4
%SW2608			ON,,OFF,ON	Direct	R	R	4
%SW2609			ON,,OFF,ON	Direct	R	R	4
%SW2610			ON,,OFF,ON	Direct	R	R	4
%SW2611			ON,,OFF,ON	Direct	R	R	4
%SW2612			ON,,OFF,ON	Direct	R	R	4
%SW2613			ON,,OFF,ON	Direct	R	R	4
%SW2614			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-12
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2615			ON,,OFF,ON	Direct	R	R	4
%SW2616			ON,,OFF,ON	Direct	R	R	4
%SW2617			ON,,OFF,ON	Direct	R	R	4
%SW2618			ON,,OFF,ON	Direct	R	R	4
%SW2619			ON,,OFF,ON	Direct	R	R	4
%SW2620			ON,,OFF,ON	Direct	R	R	4
%SW2621			ON,,OFF,ON	Direct	R	R	4
%SW2622			ON,,OFF,ON	Direct	R	R	4
%SW2623			ON,,OFF,ON	Direct	R	R	4
%SW2624			ON,,OFF,ON	Direct	R	R	4
%SW2625			ON,,OFF,ON	Direct	R	R	4
%SW2626			ON,,OFF,ON	Direct	R	R	4
%SW2627			ON,,OFF,ON	Direct	R	R	4
%SW2628			ON,,OFF,ON	Direct	R	R	4
%SW2629			ON,,OFF,ON	Direct	R	R	4
%SW2630			ON,,OFF,ON	Direct	R	R	4
%SW2631			ON,,OFF,ON	Direct	R	R	4
%SW2632			ON,,OFF,ON	Direct	R	R	4
%SW2633			ON,,OFF,ON	Direct	R	R	4
%SW2634			ON,,OFF,ON	Direct	R	R	4
%SW2635			ON,,OFF,ON	Direct	R	R	4
%SW2636			ON,,OFF,ON	Direct	R	R	4
%SW2637			ON,,OFF,ON	Direct	R	R	4
%SW2638			ON,,OFF,ON	Direct	R	R	4
%SW2639			ON,,OFF,ON	Direct	R	R	4
%SW2640			ON,,OFF,ON	Direct	R	R	4
%SW2641			ON,,OFF,ON	Direct	R	R	4
%SW2642			ON,,OFF,ON	Direct	R	R	4
%SW2643			ON,,OFF,ON	Direct	R	R	4
%SW2644			ON,,OFF,ON	Direct	R	R	4
%SW2645			ON,,OFF,ON	Direct	R	R	4
%SW2646			ON,,OFF,ON	Direct	R	R	4
%SW2647			ON,,OFF,ON	Direct	R	R	4
%SW2648			ON,,OFF,ON	Direct	R	R	4
%SW2649			ON,,OFF,ON	Direct	R	R	4
%SW2650			ON,,OFF,ON	Direct	R	R	4
%SW2651			ON,,OFF,ON	Direct	R	R	4
%SW2652			ON,,OFF,ON	Direct	R	R	4
%SW2653			ON,,OFF,ON	Direct	R	R	4
%SW2654			ON,,OFF,ON	Direct	R	R	4
%SW2655			ON,,OFF,ON	Direct	R	R	4
%SW2656			ON,,OFF,ON	Direct	R	R	4
%SW2657			ON,,OFF,ON	Direct	R	R	4
%SW2658			ON,,OFF,ON	Direct	R	R	4
%SW2659			ON,,OFF,ON	Direct	R	R	4
%SW2660			ON,,OFF,ON	Direct	R	R	4
%SW2661			ON,,OFF,ON	Direct	R	R	4
%SW2662			ON,,OFF,ON	Direct	R	R	4
%SW2663			ON,,OFF,ON	Direct	R	R	4
%SW2664			ON,,OFF,ON	Direct	R	R	4
%SW2665			ON,,OFF,ON	Direct	R	R	4
%SW2666			ON,,OFF,ON	Direct	R	R	4
%SW2667			ON,,OFF,ON	Direct	R	R	4
%SW2668			ON,,OFF,ON	Direct	R	R	4
%SW2669			ON,,OFF,ON	Direct	R	R	4
%SW2670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-13
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2671			ON,,OFF,ON	Direct	R	R	4
%SW2672			ON,,OFF,ON	Direct	R	R	4
%SW2673			ON,,OFF,ON	Direct	R	R	4
%SW2674			ON,,OFF,ON	Direct	R	R	4
%SW2675			ON,,OFF,ON	Direct	R	R	4
%SW2676			ON,,OFF,ON	Direct	R	R	4
%SW2677			ON,,OFF,ON	Direct	R	R	4
%SW2678			ON,,OFF,ON	Direct	R	R	4
%SW2679			ON,,OFF,ON	Direct	R	R	4
%SW2680			ON,,OFF,ON	Direct	R	R	4
%SW2681			ON,,OFF,ON	Direct	R	R	4
%SW2682			ON,,OFF,ON	Direct	R	R	4
%SW2683			ON,,OFF,ON	Direct	R	R	4
%SW2684			ON,,OFF,ON	Direct	R	R	4
%SW2685			ON,,OFF,ON	Direct	R	R	4
%SW2686			ON,,OFF,ON	Direct	R	R	4
%SW2687			ON,,OFF,ON	Direct	R	R	4
%SW2688			ON,,OFF,ON	Direct	R	R	4
%SW2689			ON,,OFF,ON	Direct	R	R	4
%SW2690			ON,,OFF,ON	Direct	R	R	4
%SW2691			ON,,OFF,ON	Direct	R	R	4
%SW2692			ON,,OFF,ON	Direct	R	R	4
%SW2693			ON,,OFF,ON	Direct	R	R	4
%SW2694			ON,,OFF,ON	Direct	R	R	4
%SW2695			ON,,OFF,ON	Direct	R	R	4
%SW2696			ON,,OFF,ON	Direct	R	R	4
%SW2697			ON,,OFF,ON	Direct	R	R	4
%SW2698			ON,,OFF,ON	Direct	R	R	4
%SW2699			ON,,OFF,ON	Direct	R	R	4
%SW2700			ON,,OFF,ON	Direct	R	R	4
%SW2701			ON,,OFF,ON	Direct	R	R	4
%SW2702			ON,,OFF,ON	Direct	R	R	4
%SW2703			ON,,OFF,ON	Direct	R	R	4
%SW2704			ON,,OFF,ON	Direct	R	R	4
%SW2705			ON,,OFF,ON	Direct	R	R	4
%SW2706			ON,,OFF,ON	Direct	R	R	4
%SW2707			ON,,OFF,ON	Direct	R	R	4
%SW2708			ON,,OFF,ON	Direct	R	R	4
%SW2709			ON,,OFF,ON	Direct	R	R	4
%SW2710			ON,,OFF,ON	Direct	R	R	4
%SW2711			ON,,OFF,ON	Direct	R	R	4
%SW2712			ON,,OFF,ON	Direct	R	R	4
%SW2713			ON,,OFF,ON	Direct	R	R	4
%SW2714			ON,,OFF,ON	Direct	R	R	4
%SW2715			ON,,OFF,ON	Direct	R	R	4
%SW2716			ON,,OFF,ON	Direct	R	R	4
%SW2717			ON,,OFF,ON	Direct	R	R	4
%SW2718			ON,,OFF,ON	Direct	R	R	4
%SW2719			ON,,OFF,ON	Direct	R	R	4
%SW2720			ON,,OFF,ON	Direct	R	R	4
%SW2721			ON,,OFF,ON	Direct	R	R	4
%SW2722			ON,,OFF,ON	Direct	R	R	4
%SW2723			ON,,OFF,ON	Direct	R	R	4
%SW2724			ON,,OFF,ON	Direct	R	R	4
%SW2725			ON,,OFF,ON	Direct	R	R	4
%SW2726			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-14
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2727			ON,,OFF,ON	Direct	R	R	4
%SW2728			ON,,OFF,ON	Direct	R	R	4
%SW2729			ON,,OFF,ON	Direct	R	R	4
%SW2730			ON,,OFF,ON	Direct	R	R	4
%SW2731			ON,,OFF,ON	Direct	R	R	4
%SW2732			ON,,OFF,ON	Direct	R	R	4
%SW2733			ON,,OFF,ON	Direct	R	R	4
%SW2734			ON,,OFF,ON	Direct	R	R	4
%SW2735			ON,,OFF,ON	Direct	R	R	4
%SW2736			ON,,OFF,ON	Direct	R	R	4
%SW2737			ON,,OFF,ON	Direct	R	R	4
%SW2738			ON,,OFF,ON	Direct	R	R	4
%SW2739			ON,,OFF,ON	Direct	R	R	4
%SW2740			ON,,OFF,ON	Direct	R	R	4
%SW2741			ON,,OFF,ON	Direct	R	R	4
%SW2742			ON,,OFF,ON	Direct	R	R	4
%SW2743			ON,,OFF,ON	Direct	R	R	4
%SW2744			ON,,OFF,ON	Direct	R	R	4
%SW2745			ON,,OFF,ON	Direct	R	R	4
%SW2746			ON,,OFF,ON	Direct	R	R	4
%SW2747			ON,,OFF,ON	Direct	R	R	4
%SW2748			ON,,OFF,ON	Direct	R	R	4
%SW2749			ON,,OFF,ON	Direct	R	R	4
%SW2750			ON,,OFF,ON	Direct	R	R	4
%SW2751			ON,,OFF,ON	Direct	R	R	4
%SW2752			ON,,OFF,ON	Direct	R	R	4
%SW2753			ON,,OFF,ON	Direct	R	R	4
%SW2754			ON,,OFF,ON	Direct	R	R	4
%SW2755			ON,,OFF,ON	Direct	R	R	4
%SW2756			ON,,OFF,ON	Direct	R	R	4
%SW2757			ON,,OFF,ON	Direct	R	R	4
%SW2758			ON,,OFF,ON	Direct	R	R	4
%SW2759			ON,,OFF,ON	Direct	R	R	4
%SW2760			ON,,OFF,ON	Direct	R	R	4
%SW2761			ON,,OFF,ON	Direct	R	R	4
%SW2762			ON,,OFF,ON	Direct	R	R	4
%SW2763			ON,,OFF,ON	Direct	R	R	4
%SW2764			ON,,OFF,ON	Direct	R	R	4
%SW2765			ON,,OFF,ON	Direct	R	R	4
%SW2766			ON,,OFF,ON	Direct	R	R	4
%SW2767			ON,,OFF,ON	Direct	R	R	4
%SW2768			ON,,OFF,ON	Direct	R	R	4
%SW2769			ON,,OFF,ON	Direct	R	R	4
%SW2770			ON,,OFF,ON	Direct	R	R	4
%SW2771			ON,,OFF,ON	Direct	R	R	4
%SW2772			ON,,OFF,ON	Direct	R	R	4
%SW2773			ON,,OFF,ON	Direct	R	R	4
%SW2774			ON,,OFF,ON	Direct	R	R	4
%SW2775			ON,,OFF,ON	Direct	R	R	4
%SW2776			ON,,OFF,ON	Direct	R	R	4
%SW2777			ON,,OFF,ON	Direct	R	R	4
%SW2778			ON,,OFF,ON	Direct	R	R	4
%SW2779			ON,,OFF,ON	Direct	R	R	4
%SW2780			ON,,OFF,ON	Direct	R	R	4
%SW2781			ON,,OFF,ON	Direct	R	R	4
%SW2782			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-15
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2783			ON,,OFF,ON	Direct	R	R	4
%SW2784			ON,,OFF,ON	Direct	R	R	4
%SW2785			ON,,OFF,ON	Direct	R	R	4
%SW2786			ON,,OFF,ON	Direct	R	R	4
%SW2787			ON,,OFF,ON	Direct	R	R	4
%SW2788			ON,,OFF,ON	Direct	R	R	4
%SW2789			ON,,OFF,ON	Direct	R	R	4
%SW2790			ON,,OFF,ON	Direct	R	R	4
%SW2791			ON,,OFF,ON	Direct	R	R	4
%SW2792			ON,,OFF,ON	Direct	R	R	4
%SW2793			ON,,OFF,ON	Direct	R	R	4
%SW2794			ON,,OFF,ON	Direct	R	R	4
%SW2795			ON,,OFF,ON	Direct	R	R	4
%SW2796			ON,,OFF,ON	Direct	R	R	4
%SW2797			ON,,OFF,ON	Direct	R	R	4
%SW2798			ON,,OFF,ON	Direct	R	R	4
%SW2799			ON,,OFF,ON	Direct	R	R	4
%SW2800			ON,,OFF,ON	Direct	R	R	4
%SW2801			ON,,OFF,ON	Direct	R	R	4
%SW2802			ON,,OFF,ON	Direct	R	R	4
%SW2803			ON,,OFF,ON	Direct	R	R	4
%SW2804			ON,,OFF,ON	Direct	R	R	4
%SW2805			ON,,OFF,ON	Direct	R	R	4
%SW2806			ON,,OFF,ON	Direct	R	R	4
%SW2807			ON,,OFF,ON	Direct	R	R	4
%SW2808			ON,,OFF,ON	Direct	R	R	4
%SW2809			ON,,OFF,ON	Direct	R	R	4
%SW2810			ON,,OFF,ON	Direct	R	R	4
%SW2811			ON,,OFF,ON	Direct	R	R	4
%SW2812			ON,,OFF,ON	Direct	R	R	4
%SW2813			ON,,OFF,ON	Direct	R	R	4
%SW2814			ON,,OFF,ON	Direct	R	R	4
%SW2815			ON,,OFF,ON	Direct	R	R	4
%SW2816			ON,,OFF,ON	Direct	R	R	4
%SW2817			ON,,OFF,ON	Direct	R	R	4
%SW2818			ON,,OFF,ON	Direct	R	R	4
%SW2819			ON,,OFF,ON	Direct	R	R	4
%SW2820			ON,,OFF,ON	Direct	R	R	4
%SW2821			ON,,OFF,ON	Direct	R	R	4
%SW2822			ON,,OFF,ON	Direct	R	R	4
%SW2823			ON,,OFF,ON	Direct	R	R	4
%SW2824			ON,,OFF,ON	Direct	R	R	4
%SW2825			ON,,OFF,ON	Direct	R	R	4
%SW2826			ON,,OFF,ON	Direct	R	R	4
%SW2827			ON,,OFF,ON	Direct	R	R	4
%SW2828			ON,,OFF,ON	Direct	R	R	4
%SW2829			ON,,OFF,ON	Direct	R	R	4
%SW2830			ON,,OFF,ON	Direct	R	R	4
%SW2831			ON,,OFF,ON	Direct	R	R	4
%SW2832			ON,,OFF,ON	Direct	R	R	4
%SW2833			ON,,OFF,ON	Direct	R	R	4
%SW2834			ON,,OFF,ON	Direct	R	R	4
%SW2835			ON,,OFF,ON	Direct	R	R	4
%SW2836			ON,,OFF,ON	Direct	R	R	4
%SW2837			ON,,OFF,ON	Direct	R	R	4
%SW2838			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-16
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2839			ON,,OFF,ON	Direct	R	R	4
%SW2840			ON,,OFF,ON	Direct	R	R	4
%SW2841			ON,,OFF,ON	Direct	R	R	4
%SW2842			ON,,OFF,ON	Direct	R	R	4
%SW2843			ON,,OFF,ON	Direct	R	R	4
%SW2844			ON,,OFF,ON	Direct	R	R	4
%SW2845			ON,,OFF,ON	Direct	R	R	4
%SW2846			ON,,OFF,ON	Direct	R	R	4
%SW2847			ON,,OFF,ON	Direct	R	R	4
%SW2848			ON,,OFF,ON	Direct	R	R	4
%SW2849			ON,,OFF,ON	Direct	R	R	4
%SW2850			ON,,OFF,ON	Direct	R	R	4
%SW2851			ON,,OFF,ON	Direct	R	R	4
%SW2852			ON,,OFF,ON	Direct	R	R	4
%SW2853			ON,,OFF,ON	Direct	R	R	4
%SW2854			ON,,OFF,ON	Direct	R	R	4
%SW2855			ON,,OFF,ON	Direct	R	R	4
%SW2856			ON,,OFF,ON	Direct	R	R	4
%SW2857			ON,,OFF,ON	Direct	R	R	4
%SW2858			ON,,OFF,ON	Direct	R	R	4
%SW2859			ON,,OFF,ON	Direct	R	R	4
%SW2860			ON,,OFF,ON	Direct	R	R	4
%SW2861			ON,,OFF,ON	Direct	R	R	4
%SW2862			ON,,OFF,ON	Direct	R	R	4
%SW2863			ON,,OFF,ON	Direct	R	R	4
%SW2864			ON,,OFF,ON	Direct	R	R	4
%SW2865			ON,,OFF,ON	Direct	R	R	4
%SW2866			ON,,OFF,ON	Direct	R	R	4
%SW2867			ON,,OFF,ON	Direct	R	R	4
%SW2868			ON,,OFF,ON	Direct	R	R	4
%SW2869			ON,,OFF,ON	Direct	R	R	4
%SW2870			ON,,OFF,ON	Direct	R	R	4
%SW2871			ON,,OFF,ON	Direct	R	R	4
%SW2872			ON,,OFF,ON	Direct	R	R	4
%SW2873			ON,,OFF,ON	Direct	R	R	4
%SW2874			ON,,OFF,ON	Direct	R	R	4
%SW2875			ON,,OFF,ON	Direct	R	R	4
%SW2876			ON,,OFF,ON	Direct	R	R	4
%SW2877			ON,,OFF,ON	Direct	R	R	4
%SW2878			ON,,OFF,ON	Direct	R	R	4
%SW2879			ON,,OFF,ON	Direct	R	R	4
%SW2880			ON,,OFF,ON	Direct	R	R	4
%SW2881			ON,,OFF,ON	Direct	R	R	4
%SW2882			ON,,OFF,ON	Direct	R	R	4
%SW2883			ON,,OFF,ON	Direct	R	R	4
%SW2884			ON,,OFF,ON	Direct	R	R	4
%SW2885			ON,,OFF,ON	Direct	R	R	4
%SW2886			ON,,OFF,ON	Direct	R	R	4
%SW2887			ON,,OFF,ON	Direct	R	R	4
%SW2888			ON,,OFF,ON	Direct	R	R	4
%SW2889			ON,,OFF,ON	Direct	R	R	4
%SW2890			ON,,OFF,ON	Direct	R	R	4
%SW2891			ON,,OFF,ON	Direct	R	R	4
%SW2892			ON,,OFF,ON	Direct	R	R	4
%SW2893			ON,,OFF,ON	Direct	R	R	4
%SW2894			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-17
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2895			ON,,OFF,ON	Direct	R	R	4
%SW2896			ON,,OFF,ON	Direct	R	R	4
%SW2897			ON,,OFF,ON	Direct	R	R	4
%SW2898			ON,,OFF,ON	Direct	R	R	4
%SW2899			ON,,OFF,ON	Direct	R	R	4
%SW2900			ON,,OFF,ON	Direct	R	R	4
%SW2901			ON,,OFF,ON	Direct	R	R	4
%SW2902			ON,,OFF,ON	Direct	R	R	4
%SW2903			ON,,OFF,ON	Direct	R	R	4
%SW2904			ON,,OFF,ON	Direct	R	R	4
%SW2905			ON,,OFF,ON	Direct	R	R	4
%SW2906			ON,,OFF,ON	Direct	R	R	4
%SW2907			ON,,OFF,ON	Direct	R	R	4
%SW2908			ON,,OFF,ON	Direct	R	R	4
%SW2909			ON,,OFF,ON	Direct	R	R	4
%SW2910			ON,,OFF,ON	Direct	R	R	4
%SW2911			ON,,OFF,ON	Direct	R	R	4
%SW2912			ON,,OFF,ON	Direct	R	R	4
%SW2913			ON,,OFF,ON	Direct	R	R	4
%SW2914			ON,,OFF,ON	Direct	R	R	4
%SW2915			ON,,OFF,ON	Direct	R	R	4
%SW2916			ON,,OFF,ON	Direct	R	R	4
%SW2917			ON,,OFF,ON	Direct	R	R	4
%SW2918			ON,,OFF,ON	Direct	R	R	4
%SW2919			ON,,OFF,ON	Direct	R	R	4
%SW2920			ON,,OFF,ON	Direct	R	R	4
%SW2921			ON,,OFF,ON	Direct	R	R	4
%SW2922			ON,,OFF,ON	Direct	R	R	4
%SW2923			ON,,OFF,ON	Direct	R	R	4
%SW2924			ON,,OFF,ON	Direct	R	R	4
%SW2925			ON,,OFF,ON	Direct	R	R	4
%SW2926			ON,,OFF,ON	Direct	R	R	4
%SW2927			ON,,OFF,ON	Direct	R	R	4
%SW2928			ON,,OFF,ON	Direct	R	R	4
%SW2929			ON,,OFF,ON	Direct	R	R	4
%SW2930			ON,,OFF,ON	Direct	R	R	4
%SW2931			ON,,OFF,ON	Direct	R	R	4
%SW2932			ON,,OFF,ON	Direct	R	R	4
%SW2933			ON,,OFF,ON	Direct	R	R	4
%SW2934			ON,,OFF,ON	Direct	R	R	4
%SW2935			ON,,OFF,ON	Direct	R	R	4
%SW2936			ON,,OFF,ON	Direct	R	R	4
%SW2937			ON,,OFF,ON	Direct	R	R	4
%SW2938			ON,,OFF,ON	Direct	R	R	4
%SW2939			ON,,OFF,ON	Direct	R	R	4
%SW2940			ON,,OFF,ON	Direct	R	R	4
%SW2941			ON,,OFF,ON	Direct	R	R	4
%SW2942			ON,,OFF,ON	Direct	R	R	4
%SW2943			ON,,OFF,ON	Direct	R	R	4
%SW2944			ON,,OFF,ON	Direct	R	R	4
%SW2945			ON,,OFF,ON	Direct	R	R	4
%SW2946			ON,,OFF,ON	Direct	R	R	4
%SW2947			ON,,OFF,ON	Direct	R	R	4
%SW2948			ON,,OFF,ON	Direct	R	R	4
%SW2949			ON,,OFF,ON	Direct	R	R	4
%SW2950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef3.edf	SHEET:		YOKOGAWA	PAGE:3-13-18
STATION:	FCS0101	SAVED DATE:	3/11/2025 3:24:42 AM	COMMENT:			
SECTION:	Common switch3	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW2951			ON,,OFF,ON	Direct	R	R	4
%SW2952			ON,,OFF,ON	Direct	R	R	4
%SW2953			ON,,OFF,ON	Direct	R	R	4
%SW2954			ON,,OFF,ON	Direct	R	R	4
%SW2955			ON,,OFF,ON	Direct	R	R	4
%SW2956			ON,,OFF,ON	Direct	R	R	4
%SW2957			ON,,OFF,ON	Direct	R	R	4
%SW2958			ON,,OFF,ON	Direct	R	R	4
%SW2959			ON,,OFF,ON	Direct	R	R	4
%SW2960			ON,,OFF,ON	Direct	R	R	4
%SW2961			ON,,OFF,ON	Direct	R	R	4
%SW2962			ON,,OFF,ON	Direct	R	R	4
%SW2963			ON,,OFF,ON	Direct	R	R	4
%SW2964			ON,,OFF,ON	Direct	R	R	4
%SW2965			ON,,OFF,ON	Direct	R	R	4
%SW2966			ON,,OFF,ON	Direct	R	R	4
%SW2967			ON,,OFF,ON	Direct	R	R	4
%SW2968			ON,,OFF,ON	Direct	R	R	4
%SW2969			ON,,OFF,ON	Direct	R	R	4
%SW2970			ON,,OFF,ON	Direct	R	R	4
%SW2971			ON,,OFF,ON	Direct	R	R	4
%SW2972			ON,,OFF,ON	Direct	R	R	4
%SW2973			ON,,OFF,ON	Direct	R	R	4
%SW2974			ON,,OFF,ON	Direct	R	R	4
%SW2975			ON,,OFF,ON	Direct	R	R	4
%SW2976			ON,,OFF,ON	Direct	R	R	4
%SW2977			ON,,OFF,ON	Direct	R	R	4
%SW2978			ON,,OFF,ON	Direct	R	R	4
%SW2979			ON,,OFF,ON	Direct	R	R	4
%SW2980			ON,,OFF,ON	Direct	R	R	4
%SW2981			ON,,OFF,ON	Direct	R	R	4
%SW2982			ON,,OFF,ON	Direct	R	R	4
%SW2983			ON,,OFF,ON	Direct	R	R	4
%SW2984			ON,,OFF,ON	Direct	R	R	4
%SW2985			ON,,OFF,ON	Direct	R	R	4
%SW2986			ON,,OFF,ON	Direct	R	R	4
%SW2987			ON,,OFF,ON	Direct	R	R	4
%SW2988			ON,,OFF,ON	Direct	R	R	4
%SW2989			ON,,OFF,ON	Direct	R	R	4
%SW2990			ON,,OFF,ON	Direct	R	R	4
%SW2991			ON,,OFF,ON	Direct	R	R	4
%SW2992			ON,,OFF,ON	Direct	R	R	4
%SW2993			ON,,OFF,ON	Direct	R	R	4
%SW2994			ON,,OFF,ON	Direct	R	R	4
%SW2995			ON,,OFF,ON	Direct	R	R	4
%SW2996			ON,,OFF,ON	Direct	R	R	4
%SW2997			ON,,OFF,ON	Direct	R	R	4
%SW2998			ON,,OFF,ON	Direct	R	R	4
%SW2999			ON,,OFF,ON	Direct	R	R	4
%SW3000			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-1
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3001			ON,,OFF,ON	Direct	R	R	4
%SW3002			ON,,OFF,ON	Direct	R	R	4
%SW3003			ON,,OFF,ON	Direct	R	R	4
%SW3004			ON,,OFF,ON	Direct	R	R	4
%SW3005			ON,,OFF,ON	Direct	R	R	4
%SW3006			ON,,OFF,ON	Direct	R	R	4
%SW3007			ON,,OFF,ON	Direct	R	R	4
%SW3008			ON,,OFF,ON	Direct	R	R	4
%SW3009			ON,,OFF,ON	Direct	R	R	4
%SW3010			ON,,OFF,ON	Direct	R	R	4
%SW3011			ON,,OFF,ON	Direct	R	R	4
%SW3012			ON,,OFF,ON	Direct	R	R	4
%SW3013			ON,,OFF,ON	Direct	R	R	4
%SW3014			ON,,OFF,ON	Direct	R	R	4
%SW3015			ON,,OFF,ON	Direct	R	R	4
%SW3016			ON,,OFF,ON	Direct	R	R	4
%SW3017			ON,,OFF,ON	Direct	R	R	4
%SW3018			ON,,OFF,ON	Direct	R	R	4
%SW3019			ON,,OFF,ON	Direct	R	R	4
%SW3020			ON,,OFF,ON	Direct	R	R	4
%SW3021			ON,,OFF,ON	Direct	R	R	4
%SW3022			ON,,OFF,ON	Direct	R	R	4
%SW3023			ON,,OFF,ON	Direct	R	R	4
%SW3024			ON,,OFF,ON	Direct	R	R	4
%SW3025			ON,,OFF,ON	Direct	R	R	4
%SW3026			ON,,OFF,ON	Direct	R	R	4
%SW3027			ON,,OFF,ON	Direct	R	R	4
%SW3028			ON,,OFF,ON	Direct	R	R	4
%SW3029			ON,,OFF,ON	Direct	R	R	4
%SW3030			ON,,OFF,ON	Direct	R	R	4
%SW3031			ON,,OFF,ON	Direct	R	R	4
%SW3032			ON,,OFF,ON	Direct	R	R	4
%SW3033			ON,,OFF,ON	Direct	R	R	4
%SW3034			ON,,OFF,ON	Direct	R	R	4
%SW3035			ON,,OFF,ON	Direct	R	R	4
%SW3036			ON,,OFF,ON	Direct	R	R	4
%SW3037			ON,,OFF,ON	Direct	R	R	4
%SW3038			ON,,OFF,ON	Direct	R	R	4
%SW3039			ON,,OFF,ON	Direct	R	R	4
%SW3040			ON,,OFF,ON	Direct	R	R	4
%SW3041			ON,,OFF,ON	Direct	R	R	4
%SW3042			ON,,OFF,ON	Direct	R	R	4
%SW3043			ON,,OFF,ON	Direct	R	R	4
%SW3044			ON,,OFF,ON	Direct	R	R	4
%SW3045			ON,,OFF,ON	Direct	R	R	4
%SW3046			ON,,OFF,ON	Direct	R	R	4
%SW3047			ON,,OFF,ON	Direct	R	R	4
%SW3048			ON,,OFF,ON	Direct	R	R	4
%SW3049			ON,,OFF,ON	Direct	R	R	4
%SW3050			ON,,OFF,ON	Direct	R	R	4
%SW3051			ON,,OFF,ON	Direct	R	R	4
%SW3052			ON,,OFF,ON	Direct	R	R	4
%SW3053			ON,,OFF,ON	Direct	R	R	4
%SW3054			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-2
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3055			ON,,OFF,ON	Direct	R	R	4
%SW3056			ON,,OFF,ON	Direct	R	R	4
%SW3057			ON,,OFF,ON	Direct	R	R	4
%SW3058			ON,,OFF,ON	Direct	R	R	4
%SW3059			ON,,OFF,ON	Direct	R	R	4
%SW3060			ON,,OFF,ON	Direct	R	R	4
%SW3061			ON,,OFF,ON	Direct	R	R	4
%SW3062			ON,,OFF,ON	Direct	R	R	4
%SW3063			ON,,OFF,ON	Direct	R	R	4
%SW3064			ON,,OFF,ON	Direct	R	R	4
%SW3065			ON,,OFF,ON	Direct	R	R	4
%SW3066			ON,,OFF,ON	Direct	R	R	4
%SW3067			ON,,OFF,ON	Direct	R	R	4
%SW3068			ON,,OFF,ON	Direct	R	R	4
%SW3069			ON,,OFF,ON	Direct	R	R	4
%SW3070			ON,,OFF,ON	Direct	R	R	4
%SW3071			ON,,OFF,ON	Direct	R	R	4
%SW3072			ON,,OFF,ON	Direct	R	R	4
%SW3073			ON,,OFF,ON	Direct	R	R	4
%SW3074			ON,,OFF,ON	Direct	R	R	4
%SW3075			ON,,OFF,ON	Direct	R	R	4
%SW3076			ON,,OFF,ON	Direct	R	R	4
%SW3077			ON,,OFF,ON	Direct	R	R	4
%SW3078			ON,,OFF,ON	Direct	R	R	4
%SW3079			ON,,OFF,ON	Direct	R	R	4
%SW3080			ON,,OFF,ON	Direct	R	R	4
%SW3081			ON,,OFF,ON	Direct	R	R	4
%SW3082			ON,,OFF,ON	Direct	R	R	4
%SW3083			ON,,OFF,ON	Direct	R	R	4
%SW3084			ON,,OFF,ON	Direct	R	R	4
%SW3085			ON,,OFF,ON	Direct	R	R	4
%SW3086			ON,,OFF,ON	Direct	R	R	4
%SW3087			ON,,OFF,ON	Direct	R	R	4
%SW3088			ON,,OFF,ON	Direct	R	R	4
%SW3089			ON,,OFF,ON	Direct	R	R	4
%SW3090			ON,,OFF,ON	Direct	R	R	4
%SW3091			ON,,OFF,ON	Direct	R	R	4
%SW3092			ON,,OFF,ON	Direct	R	R	4
%SW3093			ON,,OFF,ON	Direct	R	R	4
%SW3094			ON,,OFF,ON	Direct	R	R	4
%SW3095			ON,,OFF,ON	Direct	R	R	4
%SW3096			ON,,OFF,ON	Direct	R	R	4
%SW3097			ON,,OFF,ON	Direct	R	R	4
%SW3098			ON,,OFF,ON	Direct	R	R	4
%SW3099			ON,,OFF,ON	Direct	R	R	4
%SW3100			ON,,OFF,ON	Direct	R	R	4
%SW3101			ON,,OFF,ON	Direct	R	R	4
%SW3102			ON,,OFF,ON	Direct	R	R	4
%SW3103			ON,,OFF,ON	Direct	R	R	4
%SW3104			ON,,OFF,ON	Direct	R	R	4
%SW3105			ON,,OFF,ON	Direct	R	R	4
%SW3106			ON,,OFF,ON	Direct	R	R	4
%SW3107			ON,,OFF,ON	Direct	R	R	4
%SW3108			ON,,OFF,ON	Direct	R	R	4
%SW3109			ON,,OFF,ON	Direct	R	R	4
%SW3110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-3
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3111			ON,,OFF,ON	Direct	R	R	4
%SW3112			ON,,OFF,ON	Direct	R	R	4
%SW3113			ON,,OFF,ON	Direct	R	R	4
%SW3114			ON,,OFF,ON	Direct	R	R	4
%SW3115			ON,,OFF,ON	Direct	R	R	4
%SW3116			ON,,OFF,ON	Direct	R	R	4
%SW3117			ON,,OFF,ON	Direct	R	R	4
%SW3118			ON,,OFF,ON	Direct	R	R	4
%SW3119			ON,,OFF,ON	Direct	R	R	4
%SW3120			ON,,OFF,ON	Direct	R	R	4
%SW3121			ON,,OFF,ON	Direct	R	R	4
%SW3122			ON,,OFF,ON	Direct	R	R	4
%SW3123			ON,,OFF,ON	Direct	R	R	4
%SW3124			ON,,OFF,ON	Direct	R	R	4
%SW3125			ON,,OFF,ON	Direct	R	R	4
%SW3126			ON,,OFF,ON	Direct	R	R	4
%SW3127			ON,,OFF,ON	Direct	R	R	4
%SW3128			ON,,OFF,ON	Direct	R	R	4
%SW3129			ON,,OFF,ON	Direct	R	R	4
%SW3130			ON,,OFF,ON	Direct	R	R	4
%SW3131			ON,,OFF,ON	Direct	R	R	4
%SW3132			ON,,OFF,ON	Direct	R	R	4
%SW3133			ON,,OFF,ON	Direct	R	R	4
%SW3134			ON,,OFF,ON	Direct	R	R	4
%SW3135			ON,,OFF,ON	Direct	R	R	4
%SW3136			ON,,OFF,ON	Direct	R	R	4
%SW3137			ON,,OFF,ON	Direct	R	R	4
%SW3138			ON,,OFF,ON	Direct	R	R	4
%SW3139			ON,,OFF,ON	Direct	R	R	4
%SW3140			ON,,OFF,ON	Direct	R	R	4
%SW3141			ON,,OFF,ON	Direct	R	R	4
%SW3142			ON,,OFF,ON	Direct	R	R	4
%SW3143			ON,,OFF,ON	Direct	R	R	4
%SW3144			ON,,OFF,ON	Direct	R	R	4
%SW3145			ON,,OFF,ON	Direct	R	R	4
%SW3146			ON,,OFF,ON	Direct	R	R	4
%SW3147			ON,,OFF,ON	Direct	R	R	4
%SW3148			ON,,OFF,ON	Direct	R	R	4
%SW3149			ON,,OFF,ON	Direct	R	R	4
%SW3150			ON,,OFF,ON	Direct	R	R	4
%SW3151			ON,,OFF,ON	Direct	R	R	4
%SW3152			ON,,OFF,ON	Direct	R	R	4
%SW3153			ON,,OFF,ON	Direct	R	R	4
%SW3154			ON,,OFF,ON	Direct	R	R	4
%SW3155			ON,,OFF,ON	Direct	R	R	4
%SW3156			ON,,OFF,ON	Direct	R	R	4
%SW3157			ON,,OFF,ON	Direct	R	R	4
%SW3158			ON,,OFF,ON	Direct	R	R	4
%SW3159			ON,,OFF,ON	Direct	R	R	4
%SW3160			ON,,OFF,ON	Direct	R	R	4
%SW3161			ON,,OFF,ON	Direct	R	R	4
%SW3162			ON,,OFF,ON	Direct	R	R	4
%SW3163			ON,,OFF,ON	Direct	R	R	4
%SW3164			ON,,OFF,ON	Direct	R	R	4
%SW3165			ON,,OFF,ON	Direct	R	R	4
%SW3166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-4
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3167			ON,,OFF,ON	Direct	R	R	4
%SW3168			ON,,OFF,ON	Direct	R	R	4
%SW3169			ON,,OFF,ON	Direct	R	R	4
%SW3170			ON,,OFF,ON	Direct	R	R	4
%SW3171			ON,,OFF,ON	Direct	R	R	4
%SW3172			ON,,OFF,ON	Direct	R	R	4
%SW3173			ON,,OFF,ON	Direct	R	R	4
%SW3174			ON,,OFF,ON	Direct	R	R	4
%SW3175			ON,,OFF,ON	Direct	R	R	4
%SW3176			ON,,OFF,ON	Direct	R	R	4
%SW3177			ON,,OFF,ON	Direct	R	R	4
%SW3178			ON,,OFF,ON	Direct	R	R	4
%SW3179			ON,,OFF,ON	Direct	R	R	4
%SW3180			ON,,OFF,ON	Direct	R	R	4
%SW3181			ON,,OFF,ON	Direct	R	R	4
%SW3182			ON,,OFF,ON	Direct	R	R	4
%SW3183			ON,,OFF,ON	Direct	R	R	4
%SW3184			ON,,OFF,ON	Direct	R	R	4
%SW3185			ON,,OFF,ON	Direct	R	R	4
%SW3186			ON,,OFF,ON	Direct	R	R	4
%SW3187			ON,,OFF,ON	Direct	R	R	4
%SW3188			ON,,OFF,ON	Direct	R	R	4
%SW3189			ON,,OFF,ON	Direct	R	R	4
%SW3190			ON,,OFF,ON	Direct	R	R	4
%SW3191			ON,,OFF,ON	Direct	R	R	4
%SW3192			ON,,OFF,ON	Direct	R	R	4
%SW3193			ON,,OFF,ON	Direct	R	R	4
%SW3194			ON,,OFF,ON	Direct	R	R	4
%SW3195			ON,,OFF,ON	Direct	R	R	4
%SW3196			ON,,OFF,ON	Direct	R	R	4
%SW3197			ON,,OFF,ON	Direct	R	R	4
%SW3198			ON,,OFF,ON	Direct	R	R	4
%SW3199			ON,,OFF,ON	Direct	R	R	4
%SW3200			ON,,OFF,ON	Direct	R	R	4
%SW3201			ON,,OFF,ON	Direct	R	R	4
%SW3202			ON,,OFF,ON	Direct	R	R	4
%SW3203			ON,,OFF,ON	Direct	R	R	4
%SW3204			ON,,OFF,ON	Direct	R	R	4
%SW3205			ON,,OFF,ON	Direct	R	R	4
%SW3206			ON,,OFF,ON	Direct	R	R	4
%SW3207			ON,,OFF,ON	Direct	R	R	4
%SW3208			ON,,OFF,ON	Direct	R	R	4
%SW3209			ON,,OFF,ON	Direct	R	R	4
%SW3210			ON,,OFF,ON	Direct	R	R	4
%SW3211			ON,,OFF,ON	Direct	R	R	4
%SW3212			ON,,OFF,ON	Direct	R	R	4
%SW3213			ON,,OFF,ON	Direct	R	R	4
%SW3214			ON,,OFF,ON	Direct	R	R	4
%SW3215			ON,,OFF,ON	Direct	R	R	4
%SW3216			ON,,OFF,ON	Direct	R	R	4
%SW3217			ON,,OFF,ON	Direct	R	R	4
%SW3218			ON,,OFF,ON	Direct	R	R	4
%SW3219			ON,,OFF,ON	Direct	R	R	4
%SW3220			ON,,OFF,ON	Direct	R	R	4
%SW3221			ON,,OFF,ON	Direct	R	R	4
%SW3222			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-5
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3223			ON,,OFF,ON	Direct	R	R	4
%SW3224			ON,,OFF,ON	Direct	R	R	4
%SW3225			ON,,OFF,ON	Direct	R	R	4
%SW3226			ON,,OFF,ON	Direct	R	R	4
%SW3227			ON,,OFF,ON	Direct	R	R	4
%SW3228			ON,,OFF,ON	Direct	R	R	4
%SW3229			ON,,OFF,ON	Direct	R	R	4
%SW3230			ON,,OFF,ON	Direct	R	R	4
%SW3231			ON,,OFF,ON	Direct	R	R	4
%SW3232			ON,,OFF,ON	Direct	R	R	4
%SW3233			ON,,OFF,ON	Direct	R	R	4
%SW3234			ON,,OFF,ON	Direct	R	R	4
%SW3235			ON,,OFF,ON	Direct	R	R	4
%SW3236			ON,,OFF,ON	Direct	R	R	4
%SW3237			ON,,OFF,ON	Direct	R	R	4
%SW3238			ON,,OFF,ON	Direct	R	R	4
%SW3239			ON,,OFF,ON	Direct	R	R	4
%SW3240			ON,,OFF,ON	Direct	R	R	4
%SW3241			ON,,OFF,ON	Direct	R	R	4
%SW3242			ON,,OFF,ON	Direct	R	R	4
%SW3243			ON,,OFF,ON	Direct	R	R	4
%SW3244			ON,,OFF,ON	Direct	R	R	4
%SW3245			ON,,OFF,ON	Direct	R	R	4
%SW3246			ON,,OFF,ON	Direct	R	R	4
%SW3247			ON,,OFF,ON	Direct	R	R	4
%SW3248			ON,,OFF,ON	Direct	R	R	4
%SW3249			ON,,OFF,ON	Direct	R	R	4
%SW3250			ON,,OFF,ON	Direct	R	R	4
%SW3251			ON,,OFF,ON	Direct	R	R	4
%SW3252			ON,,OFF,ON	Direct	R	R	4
%SW3253			ON,,OFF,ON	Direct	R	R	4
%SW3254			ON,,OFF,ON	Direct	R	R	4
%SW3255			ON,,OFF,ON	Direct	R	R	4
%SW3256			ON,,OFF,ON	Direct	R	R	4
%SW3257			ON,,OFF,ON	Direct	R	R	4
%SW3258			ON,,OFF,ON	Direct	R	R	4
%SW3259			ON,,OFF,ON	Direct	R	R	4
%SW3260			ON,,OFF,ON	Direct	R	R	4
%SW3261			ON,,OFF,ON	Direct	R	R	4
%SW3262			ON,,OFF,ON	Direct	R	R	4
%SW3263			ON,,OFF,ON	Direct	R	R	4
%SW3264			ON,,OFF,ON	Direct	R	R	4
%SW3265			ON,,OFF,ON	Direct	R	R	4
%SW3266			ON,,OFF,ON	Direct	R	R	4
%SW3267			ON,,OFF,ON	Direct	R	R	4
%SW3268			ON,,OFF,ON	Direct	R	R	4
%SW3269			ON,,OFF,ON	Direct	R	R	4
%SW3270			ON,,OFF,ON	Direct	R	R	4
%SW3271			ON,,OFF,ON	Direct	R	R	4
%SW3272			ON,,OFF,ON	Direct	R	R	4
%SW3273			ON,,OFF,ON	Direct	R	R	4
%SW3274			ON,,OFF,ON	Direct	R	R	4
%SW3275			ON,,OFF,ON	Direct	R	R	4
%SW3276			ON,,OFF,ON	Direct	R	R	4
%SW3277			ON,,OFF,ON	Direct	R	R	4
%SW3278			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-6
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3279			ON,,OFF,ON	Direct	R	R	4
%SW3280			ON,,OFF,ON	Direct	R	R	4
%SW3281			ON,,OFF,ON	Direct	R	R	4
%SW3282			ON,,OFF,ON	Direct	R	R	4
%SW3283			ON,,OFF,ON	Direct	R	R	4
%SW3284			ON,,OFF,ON	Direct	R	R	4
%SW3285			ON,,OFF,ON	Direct	R	R	4
%SW3286			ON,,OFF,ON	Direct	R	R	4
%SW3287			ON,,OFF,ON	Direct	R	R	4
%SW3288			ON,,OFF,ON	Direct	R	R	4
%SW3289			ON,,OFF,ON	Direct	R	R	4
%SW3290			ON,,OFF,ON	Direct	R	R	4
%SW3291			ON,,OFF,ON	Direct	R	R	4
%SW3292			ON,,OFF,ON	Direct	R	R	4
%SW3293			ON,,OFF,ON	Direct	R	R	4
%SW3294			ON,,OFF,ON	Direct	R	R	4
%SW3295			ON,,OFF,ON	Direct	R	R	4
%SW3296			ON,,OFF,ON	Direct	R	R	4
%SW3297			ON,,OFF,ON	Direct	R	R	4
%SW3298			ON,,OFF,ON	Direct	R	R	4
%SW3299			ON,,OFF,ON	Direct	R	R	4
%SW3300			ON,,OFF,ON	Direct	R	R	4
%SW3301			ON,,OFF,ON	Direct	R	R	4
%SW3302			ON,,OFF,ON	Direct	R	R	4
%SW3303			ON,,OFF,ON	Direct	R	R	4
%SW3304			ON,,OFF,ON	Direct	R	R	4
%SW3305			ON,,OFF,ON	Direct	R	R	4
%SW3306			ON,,OFF,ON	Direct	R	R	4
%SW3307			ON,,OFF,ON	Direct	R	R	4
%SW3308			ON,,OFF,ON	Direct	R	R	4
%SW3309			ON,,OFF,ON	Direct	R	R	4
%SW3310			ON,,OFF,ON	Direct	R	R	4
%SW3311			ON,,OFF,ON	Direct	R	R	4
%SW3312			ON,,OFF,ON	Direct	R	R	4
%SW3313			ON,,OFF,ON	Direct	R	R	4
%SW3314			ON,,OFF,ON	Direct	R	R	4
%SW3315			ON,,OFF,ON	Direct	R	R	4
%SW3316			ON,,OFF,ON	Direct	R	R	4
%SW3317			ON,,OFF,ON	Direct	R	R	4
%SW3318			ON,,OFF,ON	Direct	R	R	4
%SW3319			ON,,OFF,ON	Direct	R	R	4
%SW3320			ON,,OFF,ON	Direct	R	R	4
%SW3321			ON,,OFF,ON	Direct	R	R	4
%SW3322			ON,,OFF,ON	Direct	R	R	4
%SW3323			ON,,OFF,ON	Direct	R	R	4
%SW3324			ON,,OFF,ON	Direct	R	R	4
%SW3325			ON,,OFF,ON	Direct	R	R	4
%SW3326			ON,,OFF,ON	Direct	R	R	4
%SW3327			ON,,OFF,ON	Direct	R	R	4
%SW3328			ON,,OFF,ON	Direct	R	R	4
%SW3329			ON,,OFF,ON	Direct	R	R	4
%SW3330			ON,,OFF,ON	Direct	R	R	4
%SW3331			ON,,OFF,ON	Direct	R	R	4
%SW3332			ON,,OFF,ON	Direct	R	R	4
%SW3333			ON,,OFF,ON	Direct	R	R	4
%SW3334			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-7
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3335			ON,,OFF,ON	Direct	R	R	4
%SW3336			ON,,OFF,ON	Direct	R	R	4
%SW3337			ON,,OFF,ON	Direct	R	R	4
%SW3338			ON,,OFF,ON	Direct	R	R	4
%SW3339			ON,,OFF,ON	Direct	R	R	4
%SW3340			ON,,OFF,ON	Direct	R	R	4
%SW3341			ON,,OFF,ON	Direct	R	R	4
%SW3342			ON,,OFF,ON	Direct	R	R	4
%SW3343			ON,,OFF,ON	Direct	R	R	4
%SW3344			ON,,OFF,ON	Direct	R	R	4
%SW3345			ON,,OFF,ON	Direct	R	R	4
%SW3346			ON,,OFF,ON	Direct	R	R	4
%SW3347			ON,,OFF,ON	Direct	R	R	4
%SW3348			ON,,OFF,ON	Direct	R	R	4
%SW3349			ON,,OFF,ON	Direct	R	R	4
%SW3350			ON,,OFF,ON	Direct	R	R	4
%SW3351			ON,,OFF,ON	Direct	R	R	4
%SW3352			ON,,OFF,ON	Direct	R	R	4
%SW3353			ON,,OFF,ON	Direct	R	R	4
%SW3354			ON,,OFF,ON	Direct	R	R	4
%SW3355			ON,,OFF,ON	Direct	R	R	4
%SW3356			ON,,OFF,ON	Direct	R	R	4
%SW3357			ON,,OFF,ON	Direct	R	R	4
%SW3358			ON,,OFF,ON	Direct	R	R	4
%SW3359			ON,,OFF,ON	Direct	R	R	4
%SW3360			ON,,OFF,ON	Direct	R	R	4
%SW3361			ON,,OFF,ON	Direct	R	R	4
%SW3362			ON,,OFF,ON	Direct	R	R	4
%SW3363			ON,,OFF,ON	Direct	R	R	4
%SW3364			ON,,OFF,ON	Direct	R	R	4
%SW3365			ON,,OFF,ON	Direct	R	R	4
%SW3366			ON,,OFF,ON	Direct	R	R	4
%SW3367			ON,,OFF,ON	Direct	R	R	4
%SW3368			ON,,OFF,ON	Direct	R	R	4
%SW3369			ON,,OFF,ON	Direct	R	R	4
%SW3370			ON,,OFF,ON	Direct	R	R	4
%SW3371			ON,,OFF,ON	Direct	R	R	4
%SW3372			ON,,OFF,ON	Direct	R	R	4
%SW3373			ON,,OFF,ON	Direct	R	R	4
%SW3374			ON,,OFF,ON	Direct	R	R	4
%SW3375			ON,,OFF,ON	Direct	R	R	4
%SW3376			ON,,OFF,ON	Direct	R	R	4
%SW3377			ON,,OFF,ON	Direct	R	R	4
%SW3378			ON,,OFF,ON	Direct	R	R	4
%SW3379			ON,,OFF,ON	Direct	R	R	4
%SW3380			ON,,OFF,ON	Direct	R	R	4
%SW3381			ON,,OFF,ON	Direct	R	R	4
%SW3382			ON,,OFF,ON	Direct	R	R	4
%SW3383			ON,,OFF,ON	Direct	R	R	4
%SW3384			ON,,OFF,ON	Direct	R	R	4
%SW3385			ON,,OFF,ON	Direct	R	R	4
%SW3386			ON,,OFF,ON	Direct	R	R	4
%SW3387			ON,,OFF,ON	Direct	R	R	4
%SW3388			ON,,OFF,ON	Direct	R	R	4
%SW3389			ON,,OFF,ON	Direct	R	R	4
%SW3390			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-8
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3391			ON,,OFF,ON	Direct	R	R	4
%SW3392			ON,,OFF,ON	Direct	R	R	4
%SW3393			ON,,OFF,ON	Direct	R	R	4
%SW3394			ON,,OFF,ON	Direct	R	R	4
%SW3395			ON,,OFF,ON	Direct	R	R	4
%SW3396			ON,,OFF,ON	Direct	R	R	4
%SW3397			ON,,OFF,ON	Direct	R	R	4
%SW3398			ON,,OFF,ON	Direct	R	R	4
%SW3399			ON,,OFF,ON	Direct	R	R	4
%SW3400			ON,,OFF,ON	Direct	R	R	4
%SW3401			ON,,OFF,ON	Direct	R	R	4
%SW3402			ON,,OFF,ON	Direct	R	R	4
%SW3403			ON,,OFF,ON	Direct	R	R	4
%SW3404			ON,,OFF,ON	Direct	R	R	4
%SW3405			ON,,OFF,ON	Direct	R	R	4
%SW3406			ON,,OFF,ON	Direct	R	R	4
%SW3407			ON,,OFF,ON	Direct	R	R	4
%SW3408			ON,,OFF,ON	Direct	R	R	4
%SW3409			ON,,OFF,ON	Direct	R	R	4
%SW3410			ON,,OFF,ON	Direct	R	R	4
%SW3411			ON,,OFF,ON	Direct	R	R	4
%SW3412			ON,,OFF,ON	Direct	R	R	4
%SW3413			ON,,OFF,ON	Direct	R	R	4
%SW3414			ON,,OFF,ON	Direct	R	R	4
%SW3415			ON,,OFF,ON	Direct	R	R	4
%SW3416			ON,,OFF,ON	Direct	R	R	4
%SW3417			ON,,OFF,ON	Direct	R	R	4
%SW3418			ON,,OFF,ON	Direct	R	R	4
%SW3419			ON,,OFF,ON	Direct	R	R	4
%SW3420			ON,,OFF,ON	Direct	R	R	4
%SW3421			ON,,OFF,ON	Direct	R	R	4
%SW3422			ON,,OFF,ON	Direct	R	R	4
%SW3423			ON,,OFF,ON	Direct	R	R	4
%SW3424			ON,,OFF,ON	Direct	R	R	4
%SW3425			ON,,OFF,ON	Direct	R	R	4
%SW3426			ON,,OFF,ON	Direct	R	R	4
%SW3427			ON,,OFF,ON	Direct	R	R	4
%SW3428			ON,,OFF,ON	Direct	R	R	4
%SW3429			ON,,OFF,ON	Direct	R	R	4
%SW3430			ON,,OFF,ON	Direct	R	R	4
%SW3431			ON,,OFF,ON	Direct	R	R	4
%SW3432			ON,,OFF,ON	Direct	R	R	4
%SW3433			ON,,OFF,ON	Direct	R	R	4
%SW3434			ON,,OFF,ON	Direct	R	R	4
%SW3435			ON,,OFF,ON	Direct	R	R	4
%SW3436			ON,,OFF,ON	Direct	R	R	4
%SW3437			ON,,OFF,ON	Direct	R	R	4
%SW3438			ON,,OFF,ON	Direct	R	R	4
%SW3439			ON,,OFF,ON	Direct	R	R	4
%SW3440			ON,,OFF,ON	Direct	R	R	4
%SW3441			ON,,OFF,ON	Direct	R	R	4
%SW3442			ON,,OFF,ON	Direct	R	R	4
%SW3443			ON,,OFF,ON	Direct	R	R	4
%SW3444			ON,,OFF,ON	Direct	R	R	4
%SW3445			ON,,OFF,ON	Direct	R	R	4
%SW3446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-9
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3447			ON,,OFF,ON	Direct	R	R	4
%SW3448			ON,,OFF,ON	Direct	R	R	4
%SW3449			ON,,OFF,ON	Direct	R	R	4
%SW3450			ON,,OFF,ON	Direct	R	R	4
%SW3451			ON,,OFF,ON	Direct	R	R	4
%SW3452			ON,,OFF,ON	Direct	R	R	4
%SW3453			ON,,OFF,ON	Direct	R	R	4
%SW3454			ON,,OFF,ON	Direct	R	R	4
%SW3455			ON,,OFF,ON	Direct	R	R	4
%SW3456			ON,,OFF,ON	Direct	R	R	4
%SW3457			ON,,OFF,ON	Direct	R	R	4
%SW3458			ON,,OFF,ON	Direct	R	R	4
%SW3459			ON,,OFF,ON	Direct	R	R	4
%SW3460			ON,,OFF,ON	Direct	R	R	4
%SW3461			ON,,OFF,ON	Direct	R	R	4
%SW3462			ON,,OFF,ON	Direct	R	R	4
%SW3463			ON,,OFF,ON	Direct	R	R	4
%SW3464			ON,,OFF,ON	Direct	R	R	4
%SW3465			ON,,OFF,ON	Direct	R	R	4
%SW3466			ON,,OFF,ON	Direct	R	R	4
%SW3467			ON,,OFF,ON	Direct	R	R	4
%SW3468			ON,,OFF,ON	Direct	R	R	4
%SW3469			ON,,OFF,ON	Direct	R	R	4
%SW3470			ON,,OFF,ON	Direct	R	R	4
%SW3471			ON,,OFF,ON	Direct	R	R	4
%SW3472			ON,,OFF,ON	Direct	R	R	4
%SW3473			ON,,OFF,ON	Direct	R	R	4
%SW3474			ON,,OFF,ON	Direct	R	R	4
%SW3475			ON,,OFF,ON	Direct	R	R	4
%SW3476			ON,,OFF,ON	Direct	R	R	4
%SW3477			ON,,OFF,ON	Direct	R	R	4
%SW3478			ON,,OFF,ON	Direct	R	R	4
%SW3479			ON,,OFF,ON	Direct	R	R	4
%SW3480			ON,,OFF,ON	Direct	R	R	4
%SW3481			ON,,OFF,ON	Direct	R	R	4
%SW3482			ON,,OFF,ON	Direct	R	R	4
%SW3483			ON,,OFF,ON	Direct	R	R	4
%SW3484			ON,,OFF,ON	Direct	R	R	4
%SW3485			ON,,OFF,ON	Direct	R	R	4
%SW3486			ON,,OFF,ON	Direct	R	R	4
%SW3487			ON,,OFF,ON	Direct	R	R	4
%SW3488			ON,,OFF,ON	Direct	R	R	4
%SW3489			ON,,OFF,ON	Direct	R	R	4
%SW3490			ON,,OFF,ON	Direct	R	R	4
%SW3491			ON,,OFF,ON	Direct	R	R	4
%SW3492			ON,,OFF,ON	Direct	R	R	4
%SW3493			ON,,OFF,ON	Direct	R	R	4
%SW3494			ON,,OFF,ON	Direct	R	R	4
%SW3495			ON,,OFF,ON	Direct	R	R	4
%SW3496			ON,,OFF,ON	Direct	R	R	4
%SW3497			ON,,OFF,ON	Direct	R	R	4
%SW3498			ON,,OFF,ON	Direct	R	R	4
%SW3499			ON,,OFF,ON	Direct	R	R	4
%SW3500			ON,,OFF,ON	Direct	R	R	4
%SW3501			ON,,OFF,ON	Direct	R	R	4
%SW3502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-10
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3503			ON,,OFF,ON	Direct	R	R	4
%SW3504			ON,,OFF,ON	Direct	R	R	4
%SW3505			ON,,OFF,ON	Direct	R	R	4
%SW3506			ON,,OFF,ON	Direct	R	R	4
%SW3507			ON,,OFF,ON	Direct	R	R	4
%SW3508			ON,,OFF,ON	Direct	R	R	4
%SW3509			ON,,OFF,ON	Direct	R	R	4
%SW3510			ON,,OFF,ON	Direct	R	R	4
%SW3511			ON,,OFF,ON	Direct	R	R	4
%SW3512			ON,,OFF,ON	Direct	R	R	4
%SW3513			ON,,OFF,ON	Direct	R	R	4
%SW3514			ON,,OFF,ON	Direct	R	R	4
%SW3515			ON,,OFF,ON	Direct	R	R	4
%SW3516			ON,,OFF,ON	Direct	R	R	4
%SW3517			ON,,OFF,ON	Direct	R	R	4
%SW3518			ON,,OFF,ON	Direct	R	R	4
%SW3519			ON,,OFF,ON	Direct	R	R	4
%SW3520			ON,,OFF,ON	Direct	R	R	4
%SW3521			ON,,OFF,ON	Direct	R	R	4
%SW3522			ON,,OFF,ON	Direct	R	R	4
%SW3523			ON,,OFF,ON	Direct	R	R	4
%SW3524			ON,,OFF,ON	Direct	R	R	4
%SW3525			ON,,OFF,ON	Direct	R	R	4
%SW3526			ON,,OFF,ON	Direct	R	R	4
%SW3527			ON,,OFF,ON	Direct	R	R	4
%SW3528			ON,,OFF,ON	Direct	R	R	4
%SW3529			ON,,OFF,ON	Direct	R	R	4
%SW3530			ON,,OFF,ON	Direct	R	R	4
%SW3531			ON,,OFF,ON	Direct	R	R	4
%SW3532			ON,,OFF,ON	Direct	R	R	4
%SW3533			ON,,OFF,ON	Direct	R	R	4
%SW3534			ON,,OFF,ON	Direct	R	R	4
%SW3535			ON,,OFF,ON	Direct	R	R	4
%SW3536			ON,,OFF,ON	Direct	R	R	4
%SW3537			ON,,OFF,ON	Direct	R	R	4
%SW3538			ON,,OFF,ON	Direct	R	R	4
%SW3539			ON,,OFF,ON	Direct	R	R	4
%SW3540			ON,,OFF,ON	Direct	R	R	4
%SW3541			ON,,OFF,ON	Direct	R	R	4
%SW3542			ON,,OFF,ON	Direct	R	R	4
%SW3543			ON,,OFF,ON	Direct	R	R	4
%SW3544			ON,,OFF,ON	Direct	R	R	4
%SW3545			ON,,OFF,ON	Direct	R	R	4
%SW3546			ON,,OFF,ON	Direct	R	R	4
%SW3547			ON,,OFF,ON	Direct	R	R	4
%SW3548			ON,,OFF,ON	Direct	R	R	4
%SW3549			ON,,OFF,ON	Direct	R	R	4
%SW3550			ON,,OFF,ON	Direct	R	R	4
%SW3551			ON,,OFF,ON	Direct	R	R	4
%SW3552			ON,,OFF,ON	Direct	R	R	4
%SW3553			ON,,OFF,ON	Direct	R	R	4
%SW3554			ON,,OFF,ON	Direct	R	R	4
%SW3555			ON,,OFF,ON	Direct	R	R	4
%SW3556			ON,,OFF,ON	Direct	R	R	4
%SW3557			ON,,OFF,ON	Direct	R	R	4
%SW3558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-11
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3559			ON,,OFF,ON	Direct	R	R	4
%SW3560			ON,,OFF,ON	Direct	R	R	4
%SW3561			ON,,OFF,ON	Direct	R	R	4
%SW3562			ON,,OFF,ON	Direct	R	R	4
%SW3563			ON,,OFF,ON	Direct	R	R	4
%SW3564			ON,,OFF,ON	Direct	R	R	4
%SW3565			ON,,OFF,ON	Direct	R	R	4
%SW3566			ON,,OFF,ON	Direct	R	R	4
%SW3567			ON,,OFF,ON	Direct	R	R	4
%SW3568			ON,,OFF,ON	Direct	R	R	4
%SW3569			ON,,OFF,ON	Direct	R	R	4
%SW3570			ON,,OFF,ON	Direct	R	R	4
%SW3571			ON,,OFF,ON	Direct	R	R	4
%SW3572			ON,,OFF,ON	Direct	R	R	4
%SW3573			ON,,OFF,ON	Direct	R	R	4
%SW3574			ON,,OFF,ON	Direct	R	R	4
%SW3575			ON,,OFF,ON	Direct	R	R	4
%SW3576			ON,,OFF,ON	Direct	R	R	4
%SW3577			ON,,OFF,ON	Direct	R	R	4
%SW3578			ON,,OFF,ON	Direct	R	R	4
%SW3579			ON,,OFF,ON	Direct	R	R	4
%SW3580			ON,,OFF,ON	Direct	R	R	4
%SW3581			ON,,OFF,ON	Direct	R	R	4
%SW3582			ON,,OFF,ON	Direct	R	R	4
%SW3583			ON,,OFF,ON	Direct	R	R	4
%SW3584			ON,,OFF,ON	Direct	R	R	4
%SW3585			ON,,OFF,ON	Direct	R	R	4
%SW3586			ON,,OFF,ON	Direct	R	R	4
%SW3587			ON,,OFF,ON	Direct	R	R	4
%SW3588			ON,,OFF,ON	Direct	R	R	4
%SW3589			ON,,OFF,ON	Direct	R	R	4
%SW3590			ON,,OFF,ON	Direct	R	R	4
%SW3591			ON,,OFF,ON	Direct	R	R	4
%SW3592			ON,,OFF,ON	Direct	R	R	4
%SW3593			ON,,OFF,ON	Direct	R	R	4
%SW3594			ON,,OFF,ON	Direct	R	R	4
%SW3595			ON,,OFF,ON	Direct	R	R	4
%SW3596			ON,,OFF,ON	Direct	R	R	4
%SW3597			ON,,OFF,ON	Direct	R	R	4
%SW3598			ON,,OFF,ON	Direct	R	R	4
%SW3599			ON,,OFF,ON	Direct	R	R	4
%SW3600			ON,,OFF,ON	Direct	R	R	4
%SW3601			ON,,OFF,ON	Direct	R	R	4
%SW3602			ON,,OFF,ON	Direct	R	R	4
%SW3603			ON,,OFF,ON	Direct	R	R	4
%SW3604			ON,,OFF,ON	Direct	R	R	4
%SW3605			ON,,OFF,ON	Direct	R	R	4
%SW3606			ON,,OFF,ON	Direct	R	R	4
%SW3607			ON,,OFF,ON	Direct	R	R	4
%SW3608			ON,,OFF,ON	Direct	R	R	4
%SW3609			ON,,OFF,ON	Direct	R	R	4
%SW3610			ON,,OFF,ON	Direct	R	R	4
%SW3611			ON,,OFF,ON	Direct	R	R	4
%SW3612			ON,,OFF,ON	Direct	R	R	4
%SW3613			ON,,OFF,ON	Direct	R	R	4
%SW3614			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-12
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3615			ON,,OFF,ON	Direct	R	R	4
%SW3616			ON,,OFF,ON	Direct	R	R	4
%SW3617			ON,,OFF,ON	Direct	R	R	4
%SW3618			ON,,OFF,ON	Direct	R	R	4
%SW3619			ON,,OFF,ON	Direct	R	R	4
%SW3620			ON,,OFF,ON	Direct	R	R	4
%SW3621			ON,,OFF,ON	Direct	R	R	4
%SW3622			ON,,OFF,ON	Direct	R	R	4
%SW3623			ON,,OFF,ON	Direct	R	R	4
%SW3624			ON,,OFF,ON	Direct	R	R	4
%SW3625			ON,,OFF,ON	Direct	R	R	4
%SW3626			ON,,OFF,ON	Direct	R	R	4
%SW3627			ON,,OFF,ON	Direct	R	R	4
%SW3628			ON,,OFF,ON	Direct	R	R	4
%SW3629			ON,,OFF,ON	Direct	R	R	4
%SW3630			ON,,OFF,ON	Direct	R	R	4
%SW3631			ON,,OFF,ON	Direct	R	R	4
%SW3632			ON,,OFF,ON	Direct	R	R	4
%SW3633			ON,,OFF,ON	Direct	R	R	4
%SW3634			ON,,OFF,ON	Direct	R	R	4
%SW3635			ON,,OFF,ON	Direct	R	R	4
%SW3636			ON,,OFF,ON	Direct	R	R	4
%SW3637			ON,,OFF,ON	Direct	R	R	4
%SW3638			ON,,OFF,ON	Direct	R	R	4
%SW3639			ON,,OFF,ON	Direct	R	R	4
%SW3640			ON,,OFF,ON	Direct	R	R	4
%SW3641			ON,,OFF,ON	Direct	R	R	4
%SW3642			ON,,OFF,ON	Direct	R	R	4
%SW3643			ON,,OFF,ON	Direct	R	R	4
%SW3644			ON,,OFF,ON	Direct	R	R	4
%SW3645			ON,,OFF,ON	Direct	R	R	4
%SW3646			ON,,OFF,ON	Direct	R	R	4
%SW3647			ON,,OFF,ON	Direct	R	R	4
%SW3648			ON,,OFF,ON	Direct	R	R	4
%SW3649			ON,,OFF,ON	Direct	R	R	4
%SW3650			ON,,OFF,ON	Direct	R	R	4
%SW3651			ON,,OFF,ON	Direct	R	R	4
%SW3652			ON,,OFF,ON	Direct	R	R	4
%SW3653			ON,,OFF,ON	Direct	R	R	4
%SW3654			ON,,OFF,ON	Direct	R	R	4
%SW3655			ON,,OFF,ON	Direct	R	R	4
%SW3656			ON,,OFF,ON	Direct	R	R	4
%SW3657			ON,,OFF,ON	Direct	R	R	4
%SW3658			ON,,OFF,ON	Direct	R	R	4
%SW3659			ON,,OFF,ON	Direct	R	R	4
%SW3660			ON,,OFF,ON	Direct	R	R	4
%SW3661			ON,,OFF,ON	Direct	R	R	4
%SW3662			ON,,OFF,ON	Direct	R	R	4
%SW3663			ON,,OFF,ON	Direct	R	R	4
%SW3664			ON,,OFF,ON	Direct	R	R	4
%SW3665			ON,,OFF,ON	Direct	R	R	4
%SW3666			ON,,OFF,ON	Direct	R	R	4
%SW3667			ON,,OFF,ON	Direct	R	R	4
%SW3668			ON,,OFF,ON	Direct	R	R	4
%SW3669			ON,,OFF,ON	Direct	R	R	4
%SW3670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-13
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3671			ON,,OFF,ON	Direct	R	R	4
%SW3672			ON,,OFF,ON	Direct	R	R	4
%SW3673			ON,,OFF,ON	Direct	R	R	4
%SW3674			ON,,OFF,ON	Direct	R	R	4
%SW3675			ON,,OFF,ON	Direct	R	R	4
%SW3676			ON,,OFF,ON	Direct	R	R	4
%SW3677			ON,,OFF,ON	Direct	R	R	4
%SW3678			ON,,OFF,ON	Direct	R	R	4
%SW3679			ON,,OFF,ON	Direct	R	R	4
%SW3680			ON,,OFF,ON	Direct	R	R	4
%SW3681			ON,,OFF,ON	Direct	R	R	4
%SW3682			ON,,OFF,ON	Direct	R	R	4
%SW3683			ON,,OFF,ON	Direct	R	R	4
%SW3684			ON,,OFF,ON	Direct	R	R	4
%SW3685			ON,,OFF,ON	Direct	R	R	4
%SW3686			ON,,OFF,ON	Direct	R	R	4
%SW3687			ON,,OFF,ON	Direct	R	R	4
%SW3688			ON,,OFF,ON	Direct	R	R	4
%SW3689			ON,,OFF,ON	Direct	R	R	4
%SW3690			ON,,OFF,ON	Direct	R	R	4
%SW3691			ON,,OFF,ON	Direct	R	R	4
%SW3692			ON,,OFF,ON	Direct	R	R	4
%SW3693			ON,,OFF,ON	Direct	R	R	4
%SW3694			ON,,OFF,ON	Direct	R	R	4
%SW3695			ON,,OFF,ON	Direct	R	R	4
%SW3696			ON,,OFF,ON	Direct	R	R	4
%SW3697			ON,,OFF,ON	Direct	R	R	4
%SW3698			ON,,OFF,ON	Direct	R	R	4
%SW3699			ON,,OFF,ON	Direct	R	R	4
%SW3700			ON,,OFF,ON	Direct	R	R	4
%SW3701			ON,,OFF,ON	Direct	R	R	4
%SW3702			ON,,OFF,ON	Direct	R	R	4
%SW3703			ON,,OFF,ON	Direct	R	R	4
%SW3704			ON,,OFF,ON	Direct	R	R	4
%SW3705			ON,,OFF,ON	Direct	R	R	4
%SW3706			ON,,OFF,ON	Direct	R	R	4
%SW3707			ON,,OFF,ON	Direct	R	R	4
%SW3708			ON,,OFF,ON	Direct	R	R	4
%SW3709			ON,,OFF,ON	Direct	R	R	4
%SW3710			ON,,OFF,ON	Direct	R	R	4
%SW3711			ON,,OFF,ON	Direct	R	R	4
%SW3712			ON,,OFF,ON	Direct	R	R	4
%SW3713			ON,,OFF,ON	Direct	R	R	4
%SW3714			ON,,OFF,ON	Direct	R	R	4
%SW3715			ON,,OFF,ON	Direct	R	R	4
%SW3716			ON,,OFF,ON	Direct	R	R	4
%SW3717			ON,,OFF,ON	Direct	R	R	4
%SW3718			ON,,OFF,ON	Direct	R	R	4
%SW3719			ON,,OFF,ON	Direct	R	R	4
%SW3720			ON,,OFF,ON	Direct	R	R	4
%SW3721			ON,,OFF,ON	Direct	R	R	4
%SW3722			ON,,OFF,ON	Direct	R	R	4
%SW3723			ON,,OFF,ON	Direct	R	R	4
%SW3724			ON,,OFF,ON	Direct	R	R	4
%SW3725			ON,,OFF,ON	Direct	R	R	4
%SW3726			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-14
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3727			ON,,OFF,ON	Direct	R	R	4
%SW3728			ON,,OFF,ON	Direct	R	R	4
%SW3729			ON,,OFF,ON	Direct	R	R	4
%SW3730			ON,,OFF,ON	Direct	R	R	4
%SW3731			ON,,OFF,ON	Direct	R	R	4
%SW3732			ON,,OFF,ON	Direct	R	R	4
%SW3733			ON,,OFF,ON	Direct	R	R	4
%SW3734			ON,,OFF,ON	Direct	R	R	4
%SW3735			ON,,OFF,ON	Direct	R	R	4
%SW3736			ON,,OFF,ON	Direct	R	R	4
%SW3737			ON,,OFF,ON	Direct	R	R	4
%SW3738			ON,,OFF,ON	Direct	R	R	4
%SW3739			ON,,OFF,ON	Direct	R	R	4
%SW3740			ON,,OFF,ON	Direct	R	R	4
%SW3741			ON,,OFF,ON	Direct	R	R	4
%SW3742			ON,,OFF,ON	Direct	R	R	4
%SW3743			ON,,OFF,ON	Direct	R	R	4
%SW3744			ON,,OFF,ON	Direct	R	R	4
%SW3745			ON,,OFF,ON	Direct	R	R	4
%SW3746			ON,,OFF,ON	Direct	R	R	4
%SW3747			ON,,OFF,ON	Direct	R	R	4
%SW3748			ON,,OFF,ON	Direct	R	R	4
%SW3749			ON,,OFF,ON	Direct	R	R	4
%SW3750			ON,,OFF,ON	Direct	R	R	4
%SW3751			ON,,OFF,ON	Direct	R	R	4
%SW3752			ON,,OFF,ON	Direct	R	R	4
%SW3753			ON,,OFF,ON	Direct	R	R	4
%SW3754			ON,,OFF,ON	Direct	R	R	4
%SW3755			ON,,OFF,ON	Direct	R	R	4
%SW3756			ON,,OFF,ON	Direct	R	R	4
%SW3757			ON,,OFF,ON	Direct	R	R	4
%SW3758			ON,,OFF,ON	Direct	R	R	4
%SW3759			ON,,OFF,ON	Direct	R	R	4
%SW3760			ON,,OFF,ON	Direct	R	R	4
%SW3761			ON,,OFF,ON	Direct	R	R	4
%SW3762			ON,,OFF,ON	Direct	R	R	4
%SW3763			ON,,OFF,ON	Direct	R	R	4
%SW3764			ON,,OFF,ON	Direct	R	R	4
%SW3765			ON,,OFF,ON	Direct	R	R	4
%SW3766			ON,,OFF,ON	Direct	R	R	4
%SW3767			ON,,OFF,ON	Direct	R	R	4
%SW3768			ON,,OFF,ON	Direct	R	R	4
%SW3769			ON,,OFF,ON	Direct	R	R	4
%SW3770			ON,,OFF,ON	Direct	R	R	4
%SW3771			ON,,OFF,ON	Direct	R	R	4
%SW3772			ON,,OFF,ON	Direct	R	R	4
%SW3773			ON,,OFF,ON	Direct	R	R	4
%SW3774			ON,,OFF,ON	Direct	R	R	4
%SW3775			ON,,OFF,ON	Direct	R	R	4
%SW3776			ON,,OFF,ON	Direct	R	R	4
%SW3777			ON,,OFF,ON	Direct	R	R	4
%SW3778			ON,,OFF,ON	Direct	R	R	4
%SW3779			ON,,OFF,ON	Direct	R	R	4
%SW3780			ON,,OFF,ON	Direct	R	R	4
%SW3781			ON,,OFF,ON	Direct	R	R	4
%SW3782			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-15
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3783			ON,,OFF,ON	Direct	R	R	4
%SW3784			ON,,OFF,ON	Direct	R	R	4
%SW3785			ON,,OFF,ON	Direct	R	R	4
%SW3786			ON,,OFF,ON	Direct	R	R	4
%SW3787			ON,,OFF,ON	Direct	R	R	4
%SW3788			ON,,OFF,ON	Direct	R	R	4
%SW3789			ON,,OFF,ON	Direct	R	R	4
%SW3790			ON,,OFF,ON	Direct	R	R	4
%SW3791			ON,,OFF,ON	Direct	R	R	4
%SW3792			ON,,OFF,ON	Direct	R	R	4
%SW3793			ON,,OFF,ON	Direct	R	R	4
%SW3794			ON,,OFF,ON	Direct	R	R	4
%SW3795			ON,,OFF,ON	Direct	R	R	4
%SW3796			ON,,OFF,ON	Direct	R	R	4
%SW3797			ON,,OFF,ON	Direct	R	R	4
%SW3798			ON,,OFF,ON	Direct	R	R	4
%SW3799			ON,,OFF,ON	Direct	R	R	4
%SW3800			ON,,OFF,ON	Direct	R	R	4
%SW3801			ON,,OFF,ON	Direct	R	R	4
%SW3802			ON,,OFF,ON	Direct	R	R	4
%SW3803			ON,,OFF,ON	Direct	R	R	4
%SW3804			ON,,OFF,ON	Direct	R	R	4
%SW3805			ON,,OFF,ON	Direct	R	R	4
%SW3806			ON,,OFF,ON	Direct	R	R	4
%SW3807			ON,,OFF,ON	Direct	R	R	4
%SW3808			ON,,OFF,ON	Direct	R	R	4
%SW3809			ON,,OFF,ON	Direct	R	R	4
%SW3810			ON,,OFF,ON	Direct	R	R	4
%SW3811			ON,,OFF,ON	Direct	R	R	4
%SW3812			ON,,OFF,ON	Direct	R	R	4
%SW3813			ON,,OFF,ON	Direct	R	R	4
%SW3814			ON,,OFF,ON	Direct	R	R	4
%SW3815			ON,,OFF,ON	Direct	R	R	4
%SW3816			ON,,OFF,ON	Direct	R	R	4
%SW3817			ON,,OFF,ON	Direct	R	R	4
%SW3818			ON,,OFF,ON	Direct	R	R	4
%SW3819			ON,,OFF,ON	Direct	R	R	4
%SW3820			ON,,OFF,ON	Direct	R	R	4
%SW3821			ON,,OFF,ON	Direct	R	R	4
%SW3822			ON,,OFF,ON	Direct	R	R	4
%SW3823			ON,,OFF,ON	Direct	R	R	4
%SW3824			ON,,OFF,ON	Direct	R	R	4
%SW3825			ON,,OFF,ON	Direct	R	R	4
%SW3826			ON,,OFF,ON	Direct	R	R	4
%SW3827			ON,,OFF,ON	Direct	R	R	4
%SW3828			ON,,OFF,ON	Direct	R	R	4
%SW3829			ON,,OFF,ON	Direct	R	R	4
%SW3830			ON,,OFF,ON	Direct	R	R	4
%SW3831			ON,,OFF,ON	Direct	R	R	4
%SW3832			ON,,OFF,ON	Direct	R	R	4
%SW3833			ON,,OFF,ON	Direct	R	R	4
%SW3834			ON,,OFF,ON	Direct	R	R	4
%SW3835			ON,,OFF,ON	Direct	R	R	4
%SW3836			ON,,OFF,ON	Direct	R	R	4
%SW3837			ON,,OFF,ON	Direct	R	R	4
%SW3838			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-16
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3839			ON,,OFF,ON	Direct	R	R	4
%SW3840			ON,,OFF,ON	Direct	R	R	4
%SW3841			ON,,OFF,ON	Direct	R	R	4
%SW3842			ON,,OFF,ON	Direct	R	R	4
%SW3843			ON,,OFF,ON	Direct	R	R	4
%SW3844			ON,,OFF,ON	Direct	R	R	4
%SW3845			ON,,OFF,ON	Direct	R	R	4
%SW3846			ON,,OFF,ON	Direct	R	R	4
%SW3847			ON,,OFF,ON	Direct	R	R	4
%SW3848			ON,,OFF,ON	Direct	R	R	4
%SW3849			ON,,OFF,ON	Direct	R	R	4
%SW3850			ON,,OFF,ON	Direct	R	R	4
%SW3851			ON,,OFF,ON	Direct	R	R	4
%SW3852			ON,,OFF,ON	Direct	R	R	4
%SW3853			ON,,OFF,ON	Direct	R	R	4
%SW3854			ON,,OFF,ON	Direct	R	R	4
%SW3855			ON,,OFF,ON	Direct	R	R	4
%SW3856			ON,,OFF,ON	Direct	R	R	4
%SW3857			ON,,OFF,ON	Direct	R	R	4
%SW3858			ON,,OFF,ON	Direct	R	R	4
%SW3859			ON,,OFF,ON	Direct	R	R	4
%SW3860			ON,,OFF,ON	Direct	R	R	4
%SW3861			ON,,OFF,ON	Direct	R	R	4
%SW3862			ON,,OFF,ON	Direct	R	R	4
%SW3863			ON,,OFF,ON	Direct	R	R	4
%SW3864			ON,,OFF,ON	Direct	R	R	4
%SW3865			ON,,OFF,ON	Direct	R	R	4
%SW3866			ON,,OFF,ON	Direct	R	R	4
%SW3867			ON,,OFF,ON	Direct	R	R	4
%SW3868			ON,,OFF,ON	Direct	R	R	4
%SW3869			ON,,OFF,ON	Direct	R	R	4
%SW3870			ON,,OFF,ON	Direct	R	R	4
%SW3871			ON,,OFF,ON	Direct	R	R	4
%SW3872			ON,,OFF,ON	Direct	R	R	4
%SW3873			ON,,OFF,ON	Direct	R	R	4
%SW3874			ON,,OFF,ON	Direct	R	R	4
%SW3875			ON,,OFF,ON	Direct	R	R	4
%SW3876			ON,,OFF,ON	Direct	R	R	4
%SW3877			ON,,OFF,ON	Direct	R	R	4
%SW3878			ON,,OFF,ON	Direct	R	R	4
%SW3879			ON,,OFF,ON	Direct	R	R	4
%SW3880			ON,,OFF,ON	Direct	R	R	4
%SW3881			ON,,OFF,ON	Direct	R	R	4
%SW3882			ON,,OFF,ON	Direct	R	R	4
%SW3883			ON,,OFF,ON	Direct	R	R	4
%SW3884			ON,,OFF,ON	Direct	R	R	4
%SW3885			ON,,OFF,ON	Direct	R	R	4
%SW3886			ON,,OFF,ON	Direct	R	R	4
%SW3887			ON,,OFF,ON	Direct	R	R	4
%SW3888			ON,,OFF,ON	Direct	R	R	4
%SW3889			ON,,OFF,ON	Direct	R	R	4
%SW3890			ON,,OFF,ON	Direct	R	R	4
%SW3891			ON,,OFF,ON	Direct	R	R	4
%SW3892			ON,,OFF,ON	Direct	R	R	4
%SW3893			ON,,OFF,ON	Direct	R	R	4
%SW3894			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-17
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3895			ON,,OFF,ON	Direct	R	R	4
%SW3896			ON,,OFF,ON	Direct	R	R	4
%SW3897			ON,,OFF,ON	Direct	R	R	4
%SW3898			ON,,OFF,ON	Direct	R	R	4
%SW3899			ON,,OFF,ON	Direct	R	R	4
%SW3900			ON,,OFF,ON	Direct	R	R	4
%SW3901			ON,,OFF,ON	Direct	R	R	4
%SW3902			ON,,OFF,ON	Direct	R	R	4
%SW3903			ON,,OFF,ON	Direct	R	R	4
%SW3904			ON,,OFF,ON	Direct	R	R	4
%SW3905			ON,,OFF,ON	Direct	R	R	4
%SW3906			ON,,OFF,ON	Direct	R	R	4
%SW3907			ON,,OFF,ON	Direct	R	R	4
%SW3908			ON,,OFF,ON	Direct	R	R	4
%SW3909			ON,,OFF,ON	Direct	R	R	4
%SW3910			ON,,OFF,ON	Direct	R	R	4
%SW3911			ON,,OFF,ON	Direct	R	R	4
%SW3912			ON,,OFF,ON	Direct	R	R	4
%SW3913			ON,,OFF,ON	Direct	R	R	4
%SW3914			ON,,OFF,ON	Direct	R	R	4
%SW3915			ON,,OFF,ON	Direct	R	R	4
%SW3916			ON,,OFF,ON	Direct	R	R	4
%SW3917			ON,,OFF,ON	Direct	R	R	4
%SW3918			ON,,OFF,ON	Direct	R	R	4
%SW3919			ON,,OFF,ON	Direct	R	R	4
%SW3920			ON,,OFF,ON	Direct	R	R	4
%SW3921			ON,,OFF,ON	Direct	R	R	4
%SW3922			ON,,OFF,ON	Direct	R	R	4
%SW3923			ON,,OFF,ON	Direct	R	R	4
%SW3924			ON,,OFF,ON	Direct	R	R	4
%SW3925			ON,,OFF,ON	Direct	R	R	4
%SW3926			ON,,OFF,ON	Direct	R	R	4
%SW3927			ON,,OFF,ON	Direct	R	R	4
%SW3928			ON,,OFF,ON	Direct	R	R	4
%SW3929			ON,,OFF,ON	Direct	R	R	4
%SW3930			ON,,OFF,ON	Direct	R	R	4
%SW3931			ON,,OFF,ON	Direct	R	R	4
%SW3932			ON,,OFF,ON	Direct	R	R	4
%SW3933			ON,,OFF,ON	Direct	R	R	4
%SW3934			ON,,OFF,ON	Direct	R	R	4
%SW3935			ON,,OFF,ON	Direct	R	R	4
%SW3936			ON,,OFF,ON	Direct	R	R	4
%SW3937			ON,,OFF,ON	Direct	R	R	4
%SW3938			ON,,OFF,ON	Direct	R	R	4
%SW3939			ON,,OFF,ON	Direct	R	R	4
%SW3940			ON,,OFF,ON	Direct	R	R	4
%SW3941			ON,,OFF,ON	Direct	R	R	4
%SW3942			ON,,OFF,ON	Direct	R	R	4
%SW3943			ON,,OFF,ON	Direct	R	R	4
%SW3944			ON,,OFF,ON	Direct	R	R	4
%SW3945			ON,,OFF,ON	Direct	R	R	4
%SW3946			ON,,OFF,ON	Direct	R	R	4
%SW3947			ON,,OFF,ON	Direct	R	R	4
%SW3948			ON,,OFF,ON	Direct	R	R	4
%SW3949			ON,,OFF,ON	Direct	R	R	4
%SW3950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef4.edf	SHEET:		YOKOGAWA	PAGE:3-14-18
STATION:	FCS0101	SAVED DATE:	1/17/2025 1:31:10 AM	COMMENT:			
SECTION:	Common switch4	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW3951			ON,,OFF,ON	Direct	R	R	4
%SW3952			ON,,OFF,ON	Direct	R	R	4
%SW3953			ON,,OFF,ON	Direct	R	R	4
%SW3954			ON,,OFF,ON	Direct	R	R	4
%SW3955			ON,,OFF,ON	Direct	R	R	4
%SW3956			ON,,OFF,ON	Direct	R	R	4
%SW3957			ON,,OFF,ON	Direct	R	R	4
%SW3958			ON,,OFF,ON	Direct	R	R	4
%SW3959			ON,,OFF,ON	Direct	R	R	4
%SW3960			ON,,OFF,ON	Direct	R	R	4
%SW3961			ON,,OFF,ON	Direct	R	R	4
%SW3962			ON,,OFF,ON	Direct	R	R	4
%SW3963			ON,,OFF,ON	Direct	R	R	4
%SW3964			ON,,OFF,ON	Direct	R	R	4
%SW3965			ON,,OFF,ON	Direct	R	R	4
%SW3966			ON,,OFF,ON	Direct	R	R	4
%SW3967			ON,,OFF,ON	Direct	R	R	4
%SW3968			ON,,OFF,ON	Direct	R	R	4
%SW3969			ON,,OFF,ON	Direct	R	R	4
%SW3970			ON,,OFF,ON	Direct	R	R	4
%SW3971			ON,,OFF,ON	Direct	R	R	4
%SW3972			ON,,OFF,ON	Direct	R	R	4
%SW3973			ON,,OFF,ON	Direct	R	R	4
%SW3974			ON,,OFF,ON	Direct	R	R	4
%SW3975			ON,,OFF,ON	Direct	R	R	4
%SW3976			ON,,OFF,ON	Direct	R	R	4
%SW3977			ON,,OFF,ON	Direct	R	R	4
%SW3978			ON,,OFF,ON	Direct	R	R	4
%SW3979			ON,,OFF,ON	Direct	R	R	4
%SW3980			ON,,OFF,ON	Direct	R	R	4
%SW3981			ON,,OFF,ON	Direct	R	R	4
%SW3982			ON,,OFF,ON	Direct	R	R	4
%SW3983			ON,,OFF,ON	Direct	R	R	4
%SW3984			ON,,OFF,ON	Direct	R	R	4
%SW3985			ON,,OFF,ON	Direct	R	R	4
%SW3986			ON,,OFF,ON	Direct	R	R	4
%SW3987			ON,,OFF,ON	Direct	R	R	4
%SW3988			ON,,OFF,ON	Direct	R	R	4
%SW3989			ON,,OFF,ON	Direct	R	R	4
%SW3990			ON,,OFF,ON	Direct	R	R	4
%SW3991			ON,,OFF,ON	Direct	R	R	4
%SW3992			ON,,OFF,ON	Direct	R	R	4
%SW3993			ON,,OFF,ON	Direct	R	R	4
%SW3994			ON,,OFF,ON	Direct	R	R	4
%SW3995			ON,,OFF,ON	Direct	R	R	4
%SW3996			ON,,OFF,ON	Direct	R	R	4
%SW3997			ON,,OFF,ON	Direct	R	R	4
%SW3998			ON,,OFF,ON	Direct	R	R	4
%SW3999			ON,,OFF,ON	Direct	R	R	4
%SW4000			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4001			ON,,OFF,ON	Direct	R	R	4
%SW4002			ON,,OFF,ON	Direct	R	R	4
%SW4003			ON,,OFF,ON	Direct	R	R	4
%SW4004			ON,,OFF,ON	Direct	R	R	4
%SW4005			ON,,OFF,ON	Direct	R	R	4
%SW4006			ON,,OFF,ON	Direct	R	R	4
%SW4007			ON,,OFF,ON	Direct	R	R	4
%SW4008			ON,,OFF,ON	Direct	R	R	4
%SW4009			ON,,OFF,ON	Direct	R	R	4
%SW4010			ON,,OFF,ON	Direct	R	R	4
%SW4011			ON,,OFF,ON	Direct	R	R	4
%SW4012			ON,,OFF,ON	Direct	R	R	4
%SW4013			ON,,OFF,ON	Direct	R	R	4
%SW4014			ON,,OFF,ON	Direct	R	R	4
%SW4015			ON,,OFF,ON	Direct	R	R	4
%SW4016			ON,,OFF,ON	Direct	R	R	4
%SW4017			ON,,OFF,ON	Direct	R	R	4
%SW4018			ON,,OFF,ON	Direct	R	R	4
%SW4019			ON,,OFF,ON	Direct	R	R	4
%SW4020			ON,,OFF,ON	Direct	R	R	4
%SW4021			ON,,OFF,ON	Direct	R	R	4
%SW4022			ON,,OFF,ON	Direct	R	R	4
%SW4023			ON,,OFF,ON	Direct	R	R	4
%SW4024			ON,,OFF,ON	Direct	R	R	4
%SW4025			ON,,OFF,ON	Direct	R	R	4
%SW4026			ON,,OFF,ON	Direct	R	R	4
%SW4027			ON,,OFF,ON	Direct	R	R	4
%SW4028			ON,,OFF,ON	Direct	R	R	4
%SW4029			ON,,OFF,ON	Direct	R	R	4
%SW4030			ON,,OFF,ON	Direct	R	R	4
%SW4031			ON,,OFF,ON	Direct	R	R	4
%SW4032			ON,,OFF,ON	Direct	R	R	4
%SW4033			ON,,OFF,ON	Direct	R	R	4
%SW4034			ON,,OFF,ON	Direct	R	R	4
%SW4035			ON,,OFF,ON	Direct	R	R	4
%SW4036			ON,,OFF,ON	Direct	R	R	4
%SW4037			ON,,OFF,ON	Direct	R	R	4
%SW4038			ON,,OFF,ON	Direct	R	R	4
%SW4039			ON,,OFF,ON	Direct	R	R	4
%SW4040			ON,,OFF,ON	Direct	R	R	4
%SW4041			ON,,OFF,ON	Direct	R	R	4
%SW4042			ON,,OFF,ON	Direct	R	R	4
%SW4043			ON,,OFF,ON	Direct	R	R	4
%SW4044			ON,,OFF,ON	Direct	R	R	4
%SW4045			ON,,OFF,ON	Direct	R	R	4
%SW4046			ON,,OFF,ON	Direct	R	R	4
%SW4047			ON,,OFF,ON	Direct	R	R	4
%SW4048			ON,,OFF,ON	Direct	R	R	4
%SW4049			ON,,OFF,ON	Direct	R	R	4
%SW4050			ON,,OFF,ON	Direct	R	R	4
%SW4051			ON,,OFF,ON	Direct	R	R	4
%SW4052			ON,,OFF,ON	Direct	R	R	4
%SW4053			ON,,OFF,ON	Direct	R	R	4
%SW4054			ON,,OFF,ON	Direct	R	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-2
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4055			ON,,OFF,ON	Direct	R	R	4
%SW4056			ON,,OFF,ON	Direct	R	R	4
%SW4057			ON,,OFF,ON	Direct	R	R	4
%SW4058			ON,,OFF,ON	Direct	R	R	4
%SW4059			ON,,OFF,ON	Direct	R	R	4
%SW4060			ON,,OFF,ON	Direct	R	R	4
%SW4061			ON,,OFF,ON	Direct	R	R	4
%SW4062			ON,,OFF,ON	Direct	R	R	4
%SW4063			ON,,OFF,ON	Direct	R	R	4
%SW4064			ON,,OFF,ON	Direct	R	R	4
%SW4065			ON,,OFF,ON	Direct	R	R	4
%SW4066			ON,,OFF,ON	Direct	R	R	4
%SW4067			ON,,OFF,ON	Direct	R	R	4
%SW4068			ON,,OFF,ON	Direct	R	R	4
%SW4069			ON,,OFF,ON	Direct	R	R	4
%SW4070			ON,,OFF,ON	Direct	R	R	4
%SW4071			ON,,OFF,ON	Direct	R	R	4
%SW4072			ON,,OFF,ON	Direct	R	R	4
%SW4073			ON,,OFF,ON	Direct	R	R	4
%SW4074			ON,,OFF,ON	Direct	R	R	4
%SW4075			ON,,OFF,ON	Direct	R	R	4
%SW4076			ON,,OFF,ON	Direct	R	R	4
%SW4077			ON,,OFF,ON	Direct	R	R	4
%SW4078			ON,,OFF,ON	Direct	R	R	4
%SW4079			ON,,OFF,ON	Direct	R	R	4
%SW4080			ON,,OFF,ON	Direct	R	R	4
%SW4081			ON,,OFF,ON	Direct	R	R	4
%SW4082			ON,,OFF,ON	Direct	R	R	4
%SW4083			ON,,OFF,ON	Direct	R	R	4
%SW4084			ON,,OFF,ON	Direct	R	R	4
%SW4085			ON,,OFF,ON	Direct	R	R	4
%SW4086			ON,,OFF,ON	Direct	R	R	4
%SW4087			ON,,OFF,ON	Direct	R	R	4
%SW4088			ON,,OFF,ON	Direct	R	R	4
%SW4089			ON,,OFF,ON	Direct	R	R	4
%SW4090			ON,,OFF,ON	Direct	R	R	4
%SW4091			ON,,OFF,ON	Direct	R	R	4
%SW4092			ON,,OFF,ON	Direct	R	R	4
%SW4093			ON,,OFF,ON	Direct	R	R	4
%SW4094			ON,,OFF,ON	Direct	R	R	4
%SW4095			ON,,OFF,ON	Direct	R	R	4
%SW4096			ON,,OFF,ON	Direct	R	R	4
%SW4097			ON,,OFF,ON	Direct	R	R	4
%SW4098			ON,,OFF,ON	Direct	R	R	4
%SW4099			ON,,OFF,ON	Direct	R	R	4
%SW4100			ON,,OFF,ON	Direct	R	R	4
%SW4101			ON,,OFF,ON	Direct	R	R	4
%SW4102			ON,,OFF,ON	Direct	R	R	4
%SW4103			ON,,OFF,ON	Direct	R	R	4
%SW4104			ON,,OFF,ON	Direct	R	R	4
%SW4105			ON,,OFF,ON	Direct	R	R	4
%SW4106			ON,,OFF,ON	Direct	R	R	4
%SW4107			ON,,OFF,ON	Direct	R	R	4
%SW4108			ON,,OFF,ON	Direct	R	R	4
%SW4109			ON,,OFF,ON	Direct	R	R	4
%SW4110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-3
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4111			ON,,OFF,ON	Direct	R	R	4
%SW4112			ON,,OFF,ON	Direct	R	R	4
%SW4113			ON,,OFF,ON	Direct	R	R	4
%SW4114			ON,,OFF,ON	Direct	R	R	4
%SW4115			ON,,OFF,ON	Direct	R	R	4
%SW4116			ON,,OFF,ON	Direct	R	R	4
%SW4117			ON,,OFF,ON	Direct	R	R	4
%SW4118			ON,,OFF,ON	Direct	R	R	4
%SW4119			ON,,OFF,ON	Direct	R	R	4
%SW4120			ON,,OFF,ON	Direct	R	R	4
%SW4121			ON,,OFF,ON	Direct	R	R	4
%SW4122			ON,,OFF,ON	Direct	R	R	4
%SW4123			ON,,OFF,ON	Direct	R	R	4
%SW4124			ON,,OFF,ON	Direct	R	R	4
%SW4125			ON,,OFF,ON	Direct	R	R	4
%SW4126			ON,,OFF,ON	Direct	R	R	4
%SW4127			ON,,OFF,ON	Direct	R	R	4
%SW4128			ON,,OFF,ON	Direct	R	R	4
%SW4129			ON,,OFF,ON	Direct	R	R	4
%SW4130			ON,,OFF,ON	Direct	R	R	4
%SW4131			ON,,OFF,ON	Direct	R	R	4
%SW4132			ON,,OFF,ON	Direct	R	R	4
%SW4133			ON,,OFF,ON	Direct	R	R	4
%SW4134			ON,,OFF,ON	Direct	R	R	4
%SW4135			ON,,OFF,ON	Direct	R	R	4
%SW4136			ON,,OFF,ON	Direct	R	R	4
%SW4137			ON,,OFF,ON	Direct	R	R	4
%SW4138			ON,,OFF,ON	Direct	R	R	4
%SW4139			ON,,OFF,ON	Direct	R	R	4
%SW4140			ON,,OFF,ON	Direct	R	R	4
%SW4141			ON,,OFF,ON	Direct	R	R	4
%SW4142			ON,,OFF,ON	Direct	R	R	4
%SW4143			ON,,OFF,ON	Direct	R	R	4
%SW4144			ON,,OFF,ON	Direct	R	R	4
%SW4145			ON,,OFF,ON	Direct	R	R	4
%SW4146			ON,,OFF,ON	Direct	R	R	4
%SW4147			ON,,OFF,ON	Direct	R	R	4
%SW4148			ON,,OFF,ON	Direct	R	R	4
%SW4149			ON,,OFF,ON	Direct	R	R	4
%SW4150			ON,,OFF,ON	Direct	R	R	4
%SW4151			ON,,OFF,ON	Direct	R	R	4
%SW4152			ON,,OFF,ON	Direct	R	R	4
%SW4153			ON,,OFF,ON	Direct	R	R	4
%SW4154			ON,,OFF,ON	Direct	R	R	4
%SW4155			ON,,OFF,ON	Direct	R	R	4
%SW4156			ON,,OFF,ON	Direct	R	R	4
%SW4157			ON,,OFF,ON	Direct	R	R	4
%SW4158			ON,,OFF,ON	Direct	R	R	4
%SW4159			ON,,OFF,ON	Direct	R	R	4
%SW4160			ON,,OFF,ON	Direct	R	R	4
%SW4161			ON,,OFF,ON	Direct	R	R	4
%SW4162			ON,,OFF,ON	Direct	R	R	4
%SW4163			ON,,OFF,ON	Direct	R	R	4
%SW4164			ON,,OFF,ON	Direct	R	R	4
%SW4165			ON,,OFF,ON	Direct	R	R	4
%SW4166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-4
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4167			ON,,OFF,ON	Direct	R	R	4
%SW4168			ON,,OFF,ON	Direct	R	R	4
%SW4169			ON,,OFF,ON	Direct	R	R	4
%SW4170			ON,,OFF,ON	Direct	R	R	4
%SW4171			ON,,OFF,ON	Direct	R	R	4
%SW4172			ON,,OFF,ON	Direct	R	R	4
%SW4173			ON,,OFF,ON	Direct	R	R	4
%SW4174			ON,,OFF,ON	Direct	R	R	4
%SW4175			ON,,OFF,ON	Direct	R	R	4
%SW4176			ON,,OFF,ON	Direct	R	R	4
%SW4177			ON,,OFF,ON	Direct	R	R	4
%SW4178			ON,,OFF,ON	Direct	R	R	4
%SW4179			ON,,OFF,ON	Direct	R	R	4
%SW4180			ON,,OFF,ON	Direct	R	R	4
%SW4181			ON,,OFF,ON	Direct	R	R	4
%SW4182			ON,,OFF,ON	Direct	R	R	4
%SW4183			ON,,OFF,ON	Direct	R	R	4
%SW4184			ON,,OFF,ON	Direct	R	R	4
%SW4185			ON,,OFF,ON	Direct	R	R	4
%SW4186			ON,,OFF,ON	Direct	R	R	4
%SW4187			ON,,OFF,ON	Direct	R	R	4
%SW4188			ON,,OFF,ON	Direct	R	R	4
%SW4189			ON,,OFF,ON	Direct	R	R	4
%SW4190			ON,,OFF,ON	Direct	R	R	4
%SW4191			ON,,OFF,ON	Direct	R	R	4
%SW4192			ON,,OFF,ON	Direct	R	R	4
%SW4193			ON,,OFF,ON	Direct	R	R	4
%SW4194			ON,,OFF,ON	Direct	R	R	4
%SW4195			ON,,OFF,ON	Direct	R	R	4
%SW4196			ON,,OFF,ON	Direct	R	R	4
%SW4197			ON,,OFF,ON	Direct	R	R	4
%SW4198			ON,,OFF,ON	Direct	R	R	4
%SW4199			ON,,OFF,ON	Direct	R	R	4
%SW4200			ON,,OFF,ON	Direct	R	R	4
%SW4201			ON,,OFF,ON	Direct	R	R	4
%SW4202			ON,,OFF,ON	Direct	R	R	4
%SW4203			ON,,OFF,ON	Direct	R	R	4
%SW4204			ON,,OFF,ON	Direct	R	R	4
%SW4205			ON,,OFF,ON	Direct	R	R	4
%SW4206			ON,,OFF,ON	Direct	R	R	4
%SW4207			ON,,OFF,ON	Direct	R	R	4
%SW4208			ON,,OFF,ON	Direct	R	R	4
%SW4209			ON,,OFF,ON	Direct	R	R	4
%SW4210			ON,,OFF,ON	Direct	R	R	4
%SW4211			ON,,OFF,ON	Direct	R	R	4
%SW4212			ON,,OFF,ON	Direct	R	R	4
%SW4213			ON,,OFF,ON	Direct	R	R	4
%SW4214			ON,,OFF,ON	Direct	R	R	4
%SW4215			ON,,OFF,ON	Direct	R	R	4
%SW4216			ON,,OFF,ON	Direct	R	R	4
%SW4217			ON,,OFF,ON	Direct	R	R	4
%SW4218			ON,,OFF,ON	Direct	R	R	4
%SW4219			ON,,OFF,ON	Direct	R	R	4
%SW4220			ON,,OFF,ON	Direct	R	R	4
%SW4221			ON,,OFF,ON	Direct	R	R	4
%SW4222			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-5
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4223			ON,,OFF,ON	Direct	R	R	4
%SW4224			ON,,OFF,ON	Direct	R	R	4
%SW4225			ON,,OFF,ON	Direct	R	R	4
%SW4226			ON,,OFF,ON	Direct	R	R	4
%SW4227			ON,,OFF,ON	Direct	R	R	4
%SW4228			ON,,OFF,ON	Direct	R	R	4
%SW4229			ON,,OFF,ON	Direct	R	R	4
%SW4230			ON,,OFF,ON	Direct	R	R	4
%SW4231			ON,,OFF,ON	Direct	R	R	4
%SW4232			ON,,OFF,ON	Direct	R	R	4
%SW4233			ON,,OFF,ON	Direct	R	R	4
%SW4234			ON,,OFF,ON	Direct	R	R	4
%SW4235			ON,,OFF,ON	Direct	R	R	4
%SW4236			ON,,OFF,ON	Direct	R	R	4
%SW4237			ON,,OFF,ON	Direct	R	R	4
%SW4238			ON,,OFF,ON	Direct	R	R	4
%SW4239			ON,,OFF,ON	Direct	R	R	4
%SW4240			ON,,OFF,ON	Direct	R	R	4
%SW4241			ON,,OFF,ON	Direct	R	R	4
%SW4242			ON,,OFF,ON	Direct	R	R	4
%SW4243			ON,,OFF,ON	Direct	R	R	4
%SW4244			ON,,OFF,ON	Direct	R	R	4
%SW4245			ON,,OFF,ON	Direct	R	R	4
%SW4246			ON,,OFF,ON	Direct	R	R	4
%SW4247			ON,,OFF,ON	Direct	R	R	4
%SW4248			ON,,OFF,ON	Direct	R	R	4
%SW4249			ON,,OFF,ON	Direct	R	R	4
%SW4250			ON,,OFF,ON	Direct	R	R	4
%SW4251			ON,,OFF,ON	Direct	R	R	4
%SW4252			ON,,OFF,ON	Direct	R	R	4
%SW4253			ON,,OFF,ON	Direct	R	R	4
%SW4254			ON,,OFF,ON	Direct	R	R	4
%SW4255			ON,,OFF,ON	Direct	R	R	4
%SW4256			ON,,OFF,ON	Direct	R	R	4
%SW4257			ON,,OFF,ON	Direct	R	R	4
%SW4258			ON,,OFF,ON	Direct	R	R	4
%SW4259			ON,,OFF,ON	Direct	R	R	4
%SW4260			ON,,OFF,ON	Direct	R	R	4
%SW4261			ON,,OFF,ON	Direct	R	R	4
%SW4262			ON,,OFF,ON	Direct	R	R	4
%SW4263			ON,,OFF,ON	Direct	R	R	4
%SW4264			ON,,OFF,ON	Direct	R	R	4
%SW4265			ON,,OFF,ON	Direct	R	R	4
%SW4266			ON,,OFF,ON	Direct	R	R	4
%SW4267			ON,,OFF,ON	Direct	R	R	4
%SW4268			ON,,OFF,ON	Direct	R	R	4
%SW4269			ON,,OFF,ON	Direct	R	R	4
%SW4270			ON,,OFF,ON	Direct	R	R	4
%SW4271			ON,,OFF,ON	Direct	R	R	4
%SW4272			ON,,OFF,ON	Direct	R	R	4
%SW4273			ON,,OFF,ON	Direct	R	R	4
%SW4274			ON,,OFF,ON	Direct	R	R	4
%SW4275			ON,,OFF,ON	Direct	R	R	4
%SW4276			ON,,OFF,ON	Direct	R	R	4
%SW4277			ON,,OFF,ON	Direct	R	R	4
%SW4278			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-6
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4279			ON,,OFF,ON	Direct	R	R	4
%SW4280			ON,,OFF,ON	Direct	R	R	4
%SW4281			ON,,OFF,ON	Direct	R	R	4
%SW4282			ON,,OFF,ON	Direct	R	R	4
%SW4283			ON,,OFF,ON	Direct	R	R	4
%SW4284			ON,,OFF,ON	Direct	R	R	4
%SW4285			ON,,OFF,ON	Direct	R	R	4
%SW4286			ON,,OFF,ON	Direct	R	R	4
%SW4287			ON,,OFF,ON	Direct	R	R	4
%SW4288			ON,,OFF,ON	Direct	R	R	4
%SW4289			ON,,OFF,ON	Direct	R	R	4
%SW4290			ON,,OFF,ON	Direct	R	R	4
%SW4291			ON,,OFF,ON	Direct	R	R	4
%SW4292			ON,,OFF,ON	Direct	R	R	4
%SW4293			ON,,OFF,ON	Direct	R	R	4
%SW4294			ON,,OFF,ON	Direct	R	R	4
%SW4295			ON,,OFF,ON	Direct	R	R	4
%SW4296			ON,,OFF,ON	Direct	R	R	4
%SW4297			ON,,OFF,ON	Direct	R	R	4
%SW4298			ON,,OFF,ON	Direct	R	R	4
%SW4299			ON,,OFF,ON	Direct	R	R	4
%SW4300			ON,,OFF,ON	Direct	R	R	4
%SW4301			ON,,OFF,ON	Direct	R	R	4
%SW4302			ON,,OFF,ON	Direct	R	R	4
%SW4303			ON,,OFF,ON	Direct	R	R	4
%SW4304			ON,,OFF,ON	Direct	R	R	4
%SW4305			ON,,OFF,ON	Direct	R	R	4
%SW4306			ON,,OFF,ON	Direct	R	R	4
%SW4307			ON,,OFF,ON	Direct	R	R	4
%SW4308			ON,,OFF,ON	Direct	R	R	4
%SW4309			ON,,OFF,ON	Direct	R	R	4
%SW4310			ON,,OFF,ON	Direct	R	R	4
%SW4311			ON,,OFF,ON	Direct	R	R	4
%SW4312			ON,,OFF,ON	Direct	R	R	4
%SW4313			ON,,OFF,ON	Direct	R	R	4
%SW4314			ON,,OFF,ON	Direct	R	R	4
%SW4315			ON,,OFF,ON	Direct	R	R	4
%SW4316			ON,,OFF,ON	Direct	R	R	4
%SW4317			ON,,OFF,ON	Direct	R	R	4
%SW4318			ON,,OFF,ON	Direct	R	R	4
%SW4319			ON,,OFF,ON	Direct	R	R	4
%SW4320			ON,,OFF,ON	Direct	R	R	4
%SW4321			ON,,OFF,ON	Direct	R	R	4
%SW4322			ON,,OFF,ON	Direct	R	R	4
%SW4323			ON,,OFF,ON	Direct	R	R	4
%SW4324			ON,,OFF,ON	Direct	R	R	4
%SW4325			ON,,OFF,ON	Direct	R	R	4
%SW4326			ON,,OFF,ON	Direct	R	R	4
%SW4327			ON,,OFF,ON	Direct	R	R	4
%SW4328			ON,,OFF,ON	Direct	R	R	4
%SW4329			ON,,OFF,ON	Direct	R	R	4
%SW4330			ON,,OFF,ON	Direct	R	R	4
%SW4331			ON,,OFF,ON	Direct	R	R	4
%SW4332			ON,,OFF,ON	Direct	R	R	4
%SW4333			ON,,OFF,ON	Direct	R	R	4
%SW4334			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-7
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4335			ON,,OFF,ON	Direct	R	R	4
%SW4336			ON,,OFF,ON	Direct	R	R	4
%SW4337			ON,,OFF,ON	Direct	R	R	4
%SW4338			ON,,OFF,ON	Direct	R	R	4
%SW4339			ON,,OFF,ON	Direct	R	R	4
%SW4340			ON,,OFF,ON	Direct	R	R	4
%SW4341			ON,,OFF,ON	Direct	R	R	4
%SW4342			ON,,OFF,ON	Direct	R	R	4
%SW4343			ON,,OFF,ON	Direct	R	R	4
%SW4344			ON,,OFF,ON	Direct	R	R	4
%SW4345			ON,,OFF,ON	Direct	R	R	4
%SW4346			ON,,OFF,ON	Direct	R	R	4
%SW4347			ON,,OFF,ON	Direct	R	R	4
%SW4348			ON,,OFF,ON	Direct	R	R	4
%SW4349			ON,,OFF,ON	Direct	R	R	4
%SW4350			ON,,OFF,ON	Direct	R	R	4
%SW4351			ON,,OFF,ON	Direct	R	R	4
%SW4352			ON,,OFF,ON	Direct	R	R	4
%SW4353			ON,,OFF,ON	Direct	R	R	4
%SW4354			ON,,OFF,ON	Direct	R	R	4
%SW4355			ON,,OFF,ON	Direct	R	R	4
%SW4356			ON,,OFF,ON	Direct	R	R	4
%SW4357			ON,,OFF,ON	Direct	R	R	4
%SW4358			ON,,OFF,ON	Direct	R	R	4
%SW4359			ON,,OFF,ON	Direct	R	R	4
%SW4360			ON,,OFF,ON	Direct	R	R	4
%SW4361			ON,,OFF,ON	Direct	R	R	4
%SW4362			ON,,OFF,ON	Direct	R	R	4
%SW4363			ON,,OFF,ON	Direct	R	R	4
%SW4364			ON,,OFF,ON	Direct	R	R	4
%SW4365			ON,,OFF,ON	Direct	R	R	4
%SW4366			ON,,OFF,ON	Direct	R	R	4
%SW4367			ON,,OFF,ON	Direct	R	R	4
%SW4368			ON,,OFF,ON	Direct	R	R	4
%SW4369			ON,,OFF,ON	Direct	R	R	4
%SW4370			ON,,OFF,ON	Direct	R	R	4
%SW4371			ON,,OFF,ON	Direct	R	R	4
%SW4372			ON,,OFF,ON	Direct	R	R	4
%SW4373			ON,,OFF,ON	Direct	R	R	4
%SW4374			ON,,OFF,ON	Direct	R	R	4
%SW4375			ON,,OFF,ON	Direct	R	R	4
%SW4376			ON,,OFF,ON	Direct	R	R	4
%SW4377			ON,,OFF,ON	Direct	R	R	4
%SW4378			ON,,OFF,ON	Direct	R	R	4
%SW4379			ON,,OFF,ON	Direct	R	R	4
%SW4380			ON,,OFF,ON	Direct	R	R	4
%SW4381			ON,,OFF,ON	Direct	R	R	4
%SW4382			ON,,OFF,ON	Direct	R	R	4
%SW4383			ON,,OFF,ON	Direct	R	R	4
%SW4384			ON,,OFF,ON	Direct	R	R	4
%SW4385			ON,,OFF,ON	Direct	R	R	4
%SW4386			ON,,OFF,ON	Direct	R	R	4
%SW4387			ON,,OFF,ON	Direct	R	R	4
%SW4388			ON,,OFF,ON	Direct	R	R	4
%SW4389			ON,,OFF,ON	Direct	R	R	4
%SW4390			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-8
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4391			ON,,OFF,ON	Direct	R	R	4
%SW4392			ON,,OFF,ON	Direct	R	R	4
%SW4393			ON,,OFF,ON	Direct	R	R	4
%SW4394			ON,,OFF,ON	Direct	R	R	4
%SW4395			ON,,OFF,ON	Direct	R	R	4
%SW4396			ON,,OFF,ON	Direct	R	R	4
%SW4397			ON,,OFF,ON	Direct	R	R	4
%SW4398			ON,,OFF,ON	Direct	R	R	4
%SW4399			ON,,OFF,ON	Direct	R	R	4
%SW4400			ON,,OFF,ON	Direct	R	R	4
%SW4401			ON,,OFF,ON	Direct	R	R	4
%SW4402			ON,,OFF,ON	Direct	R	R	4
%SW4403			ON,,OFF,ON	Direct	R	R	4
%SW4404			ON,,OFF,ON	Direct	R	R	4
%SW4405			ON,,OFF,ON	Direct	R	R	4
%SW4406			ON,,OFF,ON	Direct	R	R	4
%SW4407			ON,,OFF,ON	Direct	R	R	4
%SW4408			ON,,OFF,ON	Direct	R	R	4
%SW4409			ON,,OFF,ON	Direct	R	R	4
%SW4410			ON,,OFF,ON	Direct	R	R	4
%SW4411			ON,,OFF,ON	Direct	R	R	4
%SW4412			ON,,OFF,ON	Direct	R	R	4
%SW4413			ON,,OFF,ON	Direct	R	R	4
%SW4414			ON,,OFF,ON	Direct	R	R	4
%SW4415			ON,,OFF,ON	Direct	R	R	4
%SW4416			ON,,OFF,ON	Direct	R	R	4
%SW4417			ON,,OFF,ON	Direct	R	R	4
%SW4418			ON,,OFF,ON	Direct	R	R	4
%SW4419			ON,,OFF,ON	Direct	R	R	4
%SW4420			ON,,OFF,ON	Direct	R	R	4
%SW4421			ON,,OFF,ON	Direct	R	R	4
%SW4422			ON,,OFF,ON	Direct	R	R	4
%SW4423			ON,,OFF,ON	Direct	R	R	4
%SW4424			ON,,OFF,ON	Direct	R	R	4
%SW4425			ON,,OFF,ON	Direct	R	R	4
%SW4426			ON,,OFF,ON	Direct	R	R	4
%SW4427			ON,,OFF,ON	Direct	R	R	4
%SW4428			ON,,OFF,ON	Direct	R	R	4
%SW4429			ON,,OFF,ON	Direct	R	R	4
%SW4430			ON,,OFF,ON	Direct	R	R	4
%SW4431			ON,,OFF,ON	Direct	R	R	4
%SW4432			ON,,OFF,ON	Direct	R	R	4
%SW4433			ON,,OFF,ON	Direct	R	R	4
%SW4434			ON,,OFF,ON	Direct	R	R	4
%SW4435			ON,,OFF,ON	Direct	R	R	4
%SW4436			ON,,OFF,ON	Direct	R	R	4
%SW4437			ON,,OFF,ON	Direct	R	R	4
%SW4438			ON,,OFF,ON	Direct	R	R	4
%SW4439			ON,,OFF,ON	Direct	R	R	4
%SW4440			ON,,OFF,ON	Direct	R	R	4
%SW4441			ON,,OFF,ON	Direct	R	R	4
%SW4442			ON,,OFF,ON	Direct	R	R	4
%SW4443			ON,,OFF,ON	Direct	R	R	4
%SW4444			ON,,OFF,ON	Direct	R	R	4
%SW4445			ON,,OFF,ON	Direct	R	R	4
%SW4446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-9
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4447			ON,,OFF,ON	Direct	R	R	4
%SW4448			ON,,OFF,ON	Direct	R	R	4
%SW4449			ON,,OFF,ON	Direct	R	R	4
%SW4450			ON,,OFF,ON	Direct	R	R	4
%SW4451			ON,,OFF,ON	Direct	R	R	4
%SW4452			ON,,OFF,ON	Direct	R	R	4
%SW4453			ON,,OFF,ON	Direct	R	R	4
%SW4454			ON,,OFF,ON	Direct	R	R	4
%SW4455			ON,,OFF,ON	Direct	R	R	4
%SW4456			ON,,OFF,ON	Direct	R	R	4
%SW4457			ON,,OFF,ON	Direct	R	R	4
%SW4458			ON,,OFF,ON	Direct	R	R	4
%SW4459			ON,,OFF,ON	Direct	R	R	4
%SW4460			ON,,OFF,ON	Direct	R	R	4
%SW4461			ON,,OFF,ON	Direct	R	R	4
%SW4462			ON,,OFF,ON	Direct	R	R	4
%SW4463			ON,,OFF,ON	Direct	R	R	4
%SW4464			ON,,OFF,ON	Direct	R	R	4
%SW4465			ON,,OFF,ON	Direct	R	R	4
%SW4466			ON,,OFF,ON	Direct	R	R	4
%SW4467			ON,,OFF,ON	Direct	R	R	4
%SW4468			ON,,OFF,ON	Direct	R	R	4
%SW4469			ON,,OFF,ON	Direct	R	R	4
%SW4470			ON,,OFF,ON	Direct	R	R	4
%SW4471			ON,,OFF,ON	Direct	R	R	4
%SW4472			ON,,OFF,ON	Direct	R	R	4
%SW4473			ON,,OFF,ON	Direct	R	R	4
%SW4474			ON,,OFF,ON	Direct	R	R	4
%SW4475			ON,,OFF,ON	Direct	R	R	4
%SW4476			ON,,OFF,ON	Direct	R	R	4
%SW4477			ON,,OFF,ON	Direct	R	R	4
%SW4478			ON,,OFF,ON	Direct	R	R	4
%SW4479			ON,,OFF,ON	Direct	R	R	4
%SW4480			ON,,OFF,ON	Direct	R	R	4
%SW4481			ON,,OFF,ON	Direct	R	R	4
%SW4482			ON,,OFF,ON	Direct	R	R	4
%SW4483			ON,,OFF,ON	Direct	R	R	4
%SW4484			ON,,OFF,ON	Direct	R	R	4
%SW4485			ON,,OFF,ON	Direct	R	R	4
%SW4486			ON,,OFF,ON	Direct	R	R	4
%SW4487			ON,,OFF,ON	Direct	R	R	4
%SW4488			ON,,OFF,ON	Direct	R	R	4
%SW4489			ON,,OFF,ON	Direct	R	R	4
%SW4490			ON,,OFF,ON	Direct	R	R	4
%SW4491			ON,,OFF,ON	Direct	R	R	4
%SW4492			ON,,OFF,ON	Direct	R	R	4
%SW4493			ON,,OFF,ON	Direct	R	R	4
%SW4494			ON,,OFF,ON	Direct	R	R	4
%SW4495			ON,,OFF,ON	Direct	R	R	4
%SW4496			ON,,OFF,ON	Direct	R	R	4
%SW4497			ON,,OFF,ON	Direct	R	R	4
%SW4498			ON,,OFF,ON	Direct	R	R	4
%SW4499			ON,,OFF,ON	Direct	R	R	4
%SW4500			ON,,OFF,ON	Direct	R	R	4
%SW4501			ON,,OFF,ON	Direct	R	R	4
%SW4502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-10
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4503			ON,,OFF,ON	Direct	R	R	4
%SW4504			ON,,OFF,ON	Direct	R	R	4
%SW4505			ON,,OFF,ON	Direct	R	R	4
%SW4506			ON,,OFF,ON	Direct	R	R	4
%SW4507			ON,,OFF,ON	Direct	R	R	4
%SW4508			ON,,OFF,ON	Direct	R	R	4
%SW4509			ON,,OFF,ON	Direct	R	R	4
%SW4510			ON,,OFF,ON	Direct	R	R	4
%SW4511			ON,,OFF,ON	Direct	R	R	4
%SW4512			ON,,OFF,ON	Direct	R	R	4
%SW4513			ON,,OFF,ON	Direct	R	R	4
%SW4514			ON,,OFF,ON	Direct	R	R	4
%SW4515			ON,,OFF,ON	Direct	R	R	4
%SW4516			ON,,OFF,ON	Direct	R	R	4
%SW4517			ON,,OFF,ON	Direct	R	R	4
%SW4518			ON,,OFF,ON	Direct	R	R	4
%SW4519			ON,,OFF,ON	Direct	R	R	4
%SW4520			ON,,OFF,ON	Direct	R	R	4
%SW4521			ON,,OFF,ON	Direct	R	R	4
%SW4522			ON,,OFF,ON	Direct	R	R	4
%SW4523			ON,,OFF,ON	Direct	R	R	4
%SW4524			ON,,OFF,ON	Direct	R	R	4
%SW4525			ON,,OFF,ON	Direct	R	R	4
%SW4526			ON,,OFF,ON	Direct	R	R	4
%SW4527			ON,,OFF,ON	Direct	R	R	4
%SW4528			ON,,OFF,ON	Direct	R	R	4
%SW4529			ON,,OFF,ON	Direct	R	R	4
%SW4530			ON,,OFF,ON	Direct	R	R	4
%SW4531			ON,,OFF,ON	Direct	R	R	4
%SW4532			ON,,OFF,ON	Direct	R	R	4
%SW4533			ON,,OFF,ON	Direct	R	R	4
%SW4534			ON,,OFF,ON	Direct	R	R	4
%SW4535			ON,,OFF,ON	Direct	R	R	4
%SW4536			ON,,OFF,ON	Direct	R	R	4
%SW4537			ON,,OFF,ON	Direct	R	R	4
%SW4538			ON,,OFF,ON	Direct	R	R	4
%SW4539			ON,,OFF,ON	Direct	R	R	4
%SW4540			ON,,OFF,ON	Direct	R	R	4
%SW4541			ON,,OFF,ON	Direct	R	R	4
%SW4542			ON,,OFF,ON	Direct	R	R	4
%SW4543			ON,,OFF,ON	Direct	R	R	4
%SW4544			ON,,OFF,ON	Direct	R	R	4
%SW4545			ON,,OFF,ON	Direct	R	R	4
%SW4546			ON,,OFF,ON	Direct	R	R	4
%SW4547			ON,,OFF,ON	Direct	R	R	4
%SW4548			ON,,OFF,ON	Direct	R	R	4
%SW4549			ON,,OFF,ON	Direct	R	R	4
%SW4550			ON,,OFF,ON	Direct	R	R	4
%SW4551			ON,,OFF,ON	Direct	R	R	4
%SW4552			ON,,OFF,ON	Direct	R	R	4
%SW4553			ON,,OFF,ON	Direct	R	R	4
%SW4554			ON,,OFF,ON	Direct	R	R	4
%SW4555			ON,,OFF,ON	Direct	R	R	4
%SW4556			ON,,OFF,ON	Direct	R	R	4
%SW4557			ON,,OFF,ON	Direct	R	R	4
%SW4558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-11
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4559			ON,,OFF,ON	Direct	R	R	4
%SW4560			ON,,OFF,ON	Direct	R	R	4
%SW4561			ON,,OFF,ON	Direct	R	R	4
%SW4562			ON,,OFF,ON	Direct	R	R	4
%SW4563			ON,,OFF,ON	Direct	R	R	4
%SW4564			ON,,OFF,ON	Direct	R	R	4
%SW4565			ON,,OFF,ON	Direct	R	R	4
%SW4566			ON,,OFF,ON	Direct	R	R	4
%SW4567			ON,,OFF,ON	Direct	R	R	4
%SW4568			ON,,OFF,ON	Direct	R	R	4
%SW4569			ON,,OFF,ON	Direct	R	R	4
%SW4570			ON,,OFF,ON	Direct	R	R	4
%SW4571			ON,,OFF,ON	Direct	R	R	4
%SW4572			ON,,OFF,ON	Direct	R	R	4
%SW4573			ON,,OFF,ON	Direct	R	R	4
%SW4574			ON,,OFF,ON	Direct	R	R	4
%SW4575			ON,,OFF,ON	Direct	R	R	4
%SW4576			ON,,OFF,ON	Direct	R	R	4
%SW4577			ON,,OFF,ON	Direct	R	R	4
%SW4578			ON,,OFF,ON	Direct	R	R	4
%SW4579			ON,,OFF,ON	Direct	R	R	4
%SW4580			ON,,OFF,ON	Direct	R	R	4
%SW4581			ON,,OFF,ON	Direct	R	R	4
%SW4582			ON,,OFF,ON	Direct	R	R	4
%SW4583			ON,,OFF,ON	Direct	R	R	4
%SW4584			ON,,OFF,ON	Direct	R	R	4
%SW4585			ON,,OFF,ON	Direct	R	R	4
%SW4586			ON,,OFF,ON	Direct	R	R	4
%SW4587			ON,,OFF,ON	Direct	R	R	4
%SW4588			ON,,OFF,ON	Direct	R	R	4
%SW4589			ON,,OFF,ON	Direct	R	R	4
%SW4590			ON,,OFF,ON	Direct	R	R	4
%SW4591			ON,,OFF,ON	Direct	R	R	4
%SW4592			ON,,OFF,ON	Direct	R	R	4
%SW4593			ON,,OFF,ON	Direct	R	R	4
%SW4594			ON,,OFF,ON	Direct	R	R	4
%SW4595			ON,,OFF,ON	Direct	R	R	4
%SW4596			ON,,OFF,ON	Direct	R	R	4
%SW4597			ON,,OFF,ON	Direct	R	R	4
%SW4598			ON,,OFF,ON	Direct	R	R	4
%SW4599			ON,,OFF,ON	Direct	R	R	4
%SW4600			ON,,OFF,ON	Direct	R	R	4
%SW4601			ON,,OFF,ON	Direct	R	R	4
%SW4602			ON,,OFF,ON	Direct	R	R	4
%SW4603			ON,,OFF,ON	Direct	R	R	4
%SW4604			ON,,OFF,ON	Direct	R	R	4
%SW4605			ON,,OFF,ON	Direct	R	R	4
%SW4606			ON,,OFF,ON	Direct	R	R	4
%SW4607			ON,,OFF,ON	Direct	R	R	4
%SW4608			ON,,OFF,ON	Direct	R	R	4
%SW4609			ON,,OFF,ON	Direct	R	R	4
%SW4610			ON,,OFF,ON	Direct	R	R	4
%SW4611			ON,,OFF,ON	Direct	R	R	4
%SW4612			ON,,OFF,ON	Direct	R	R	4
%SW4613			ON,,OFF,ON	Direct	R	R	4
%SW4614			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-12
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4615			ON,,OFF,ON	Direct	R	R	4
%SW4616			ON,,OFF,ON	Direct	R	R	4
%SW4617			ON,,OFF,ON	Direct	R	R	4
%SW4618			ON,,OFF,ON	Direct	R	R	4
%SW4619			ON,,OFF,ON	Direct	R	R	4
%SW4620			ON,,OFF,ON	Direct	R	R	4
%SW4621			ON,,OFF,ON	Direct	R	R	4
%SW4622			ON,,OFF,ON	Direct	R	R	4
%SW4623			ON,,OFF,ON	Direct	R	R	4
%SW4624			ON,,OFF,ON	Direct	R	R	4
%SW4625			ON,,OFF,ON	Direct	R	R	4
%SW4626			ON,,OFF,ON	Direct	R	R	4
%SW4627			ON,,OFF,ON	Direct	R	R	4
%SW4628			ON,,OFF,ON	Direct	R	R	4
%SW4629			ON,,OFF,ON	Direct	R	R	4
%SW4630			ON,,OFF,ON	Direct	R	R	4
%SW4631			ON,,OFF,ON	Direct	R	R	4
%SW4632			ON,,OFF,ON	Direct	R	R	4
%SW4633			ON,,OFF,ON	Direct	R	R	4
%SW4634			ON,,OFF,ON	Direct	R	R	4
%SW4635			ON,,OFF,ON	Direct	R	R	4
%SW4636			ON,,OFF,ON	Direct	R	R	4
%SW4637			ON,,OFF,ON	Direct	R	R	4
%SW4638			ON,,OFF,ON	Direct	R	R	4
%SW4639			ON,,OFF,ON	Direct	R	R	4
%SW4640			ON,,OFF,ON	Direct	R	R	4
%SW4641			ON,,OFF,ON	Direct	R	R	4
%SW4642			ON,,OFF,ON	Direct	R	R	4
%SW4643			ON,,OFF,ON	Direct	R	R	4
%SW4644			ON,,OFF,ON	Direct	R	R	4
%SW4645			ON,,OFF,ON	Direct	R	R	4
%SW4646			ON,,OFF,ON	Direct	R	R	4
%SW4647			ON,,OFF,ON	Direct	R	R	4
%SW4648			ON,,OFF,ON	Direct	R	R	4
%SW4649			ON,,OFF,ON	Direct	R	R	4
%SW4650			ON,,OFF,ON	Direct	R	R	4
%SW4651			ON,,OFF,ON	Direct	R	R	4
%SW4652			ON,,OFF,ON	Direct	R	R	4
%SW4653			ON,,OFF,ON	Direct	R	R	4
%SW4654			ON,,OFF,ON	Direct	R	R	4
%SW4655			ON,,OFF,ON	Direct	R	R	4
%SW4656			ON,,OFF,ON	Direct	R	R	4
%SW4657			ON,,OFF,ON	Direct	R	R	4
%SW4658			ON,,OFF,ON	Direct	R	R	4
%SW4659			ON,,OFF,ON	Direct	R	R	4
%SW4660			ON,,OFF,ON	Direct	R	R	4
%SW4661			ON,,OFF,ON	Direct	R	R	4
%SW4662			ON,,OFF,ON	Direct	R	R	4
%SW4663			ON,,OFF,ON	Direct	R	R	4
%SW4664			ON,,OFF,ON	Direct	R	R	4
%SW4665			ON,,OFF,ON	Direct	R	R	4
%SW4666			ON,,OFF,ON	Direct	R	R	4
%SW4667			ON,,OFF,ON	Direct	R	R	4
%SW4668			ON,,OFF,ON	Direct	R	R	4
%SW4669			ON,,OFF,ON	Direct	R	R	4
%SW4670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-13
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4671			ON,,OFF,ON	Direct	R	R	4
%SW4672			ON,,OFF,ON	Direct	R	R	4
%SW4673			ON,,OFF,ON	Direct	R	R	4
%SW4674			ON,,OFF,ON	Direct	R	R	4
%SW4675			ON,,OFF,ON	Direct	R	R	4
%SW4676			ON,,OFF,ON	Direct	R	R	4
%SW4677			ON,,OFF,ON	Direct	R	R	4
%SW4678			ON,,OFF,ON	Direct	R	R	4
%SW4679			ON,,OFF,ON	Direct	R	R	4
%SW4680			ON,,OFF,ON	Direct	R	R	4
%SW4681			ON,,OFF,ON	Direct	R	R	4
%SW4682			ON,,OFF,ON	Direct	R	R	4
%SW4683			ON,,OFF,ON	Direct	R	R	4
%SW4684			ON,,OFF,ON	Direct	R	R	4
%SW4685			ON,,OFF,ON	Direct	R	R	4
%SW4686			ON,,OFF,ON	Direct	R	R	4
%SW4687			ON,,OFF,ON	Direct	R	R	4
%SW4688			ON,,OFF,ON	Direct	R	R	4
%SW4689			ON,,OFF,ON	Direct	R	R	4
%SW4690			ON,,OFF,ON	Direct	R	R	4
%SW4691			ON,,OFF,ON	Direct	R	R	4
%SW4692			ON,,OFF,ON	Direct	R	R	4
%SW4693			ON,,OFF,ON	Direct	R	R	4
%SW4694			ON,,OFF,ON	Direct	R	R	4
%SW4695			ON,,OFF,ON	Direct	R	R	4
%SW4696			ON,,OFF,ON	Direct	R	R	4
%SW4697			ON,,OFF,ON	Direct	R	R	4
%SW4698			ON,,OFF,ON	Direct	R	R	4
%SW4699			ON,,OFF,ON	Direct	R	R	4
%SW4700			ON,,OFF,ON	Direct	R	R	4
%SW4701			ON,,OFF,ON	Direct	R	R	4
%SW4702			ON,,OFF,ON	Direct	R	R	4
%SW4703			ON,,OFF,ON	Direct	R	R	4
%SW4704			ON,,OFF,ON	Direct	R	R	4
%SW4705			ON,,OFF,ON	Direct	R	R	4
%SW4706			ON,,OFF,ON	Direct	R	R	4
%SW4707			ON,,OFF,ON	Direct	R	R	4
%SW4708			ON,,OFF,ON	Direct	R	R	4
%SW4709			ON,,OFF,ON	Direct	R	R	4
%SW4710			ON,,OFF,ON	Direct	R	R	4
%SW4711			ON,,OFF,ON	Direct	R	R	4
%SW4712			ON,,OFF,ON	Direct	R	R	4
%SW4713			ON,,OFF,ON	Direct	R	R	4
%SW4714			ON,,OFF,ON	Direct	R	R	4
%SW4715			ON,,OFF,ON	Direct	R	R	4
%SW4716			ON,,OFF,ON	Direct	R	R	4
%SW4717			ON,,OFF,ON	Direct	R	R	4
%SW4718			ON,,OFF,ON	Direct	R	R	4
%SW4719			ON,,OFF,ON	Direct	R	R	4
%SW4720			ON,,OFF,ON	Direct	R	R	4
%SW4721			ON,,OFF,ON	Direct	R	R	4
%SW4722			ON,,OFF,ON	Direct	R	R	4
%SW4723			ON,,OFF,ON	Direct	R	R	4
%SW4724			ON,,OFF,ON	Direct	R	R	4
%SW4725			ON,,OFF,ON	Direct	R	R	4
%SW4726			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-14
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4727			ON,,OFF,ON	Direct	R	R	4
%SW4728			ON,,OFF,ON	Direct	R	R	4
%SW4729			ON,,OFF,ON	Direct	R	R	4
%SW4730			ON,,OFF,ON	Direct	R	R	4
%SW4731			ON,,OFF,ON	Direct	R	R	4
%SW4732			ON,,OFF,ON	Direct	R	R	4
%SW4733			ON,,OFF,ON	Direct	R	R	4
%SW4734			ON,,OFF,ON	Direct	R	R	4
%SW4735			ON,,OFF,ON	Direct	R	R	4
%SW4736			ON,,OFF,ON	Direct	R	R	4
%SW4737			ON,,OFF,ON	Direct	R	R	4
%SW4738			ON,,OFF,ON	Direct	R	R	4
%SW4739			ON,,OFF,ON	Direct	R	R	4
%SW4740			ON,,OFF,ON	Direct	R	R	4
%SW4741			ON,,OFF,ON	Direct	R	R	4
%SW4742			ON,,OFF,ON	Direct	R	R	4
%SW4743			ON,,OFF,ON	Direct	R	R	4
%SW4744			ON,,OFF,ON	Direct	R	R	4
%SW4745			ON,,OFF,ON	Direct	R	R	4
%SW4746			ON,,OFF,ON	Direct	R	R	4
%SW4747			ON,,OFF,ON	Direct	R	R	4
%SW4748			ON,,OFF,ON	Direct	R	R	4
%SW4749			ON,,OFF,ON	Direct	R	R	4
%SW4750			ON,,OFF,ON	Direct	R	R	4
%SW4751			ON,,OFF,ON	Direct	R	R	4
%SW4752			ON,,OFF,ON	Direct	R	R	4
%SW4753			ON,,OFF,ON	Direct	R	R	4
%SW4754			ON,,OFF,ON	Direct	R	R	4
%SW4755			ON,,OFF,ON	Direct	R	R	4
%SW4756			ON,,OFF,ON	Direct	R	R	4
%SW4757			ON,,OFF,ON	Direct	R	R	4
%SW4758			ON,,OFF,ON	Direct	R	R	4
%SW4759			ON,,OFF,ON	Direct	R	R	4
%SW4760			ON,,OFF,ON	Direct	R	R	4
%SW4761			ON,,OFF,ON	Direct	R	R	4
%SW4762			ON,,OFF,ON	Direct	R	R	4
%SW4763			ON,,OFF,ON	Direct	R	R	4
%SW4764			ON,,OFF,ON	Direct	R	R	4
%SW4765			ON,,OFF,ON	Direct	R	R	4
%SW4766			ON,,OFF,ON	Direct	R	R	4
%SW4767			ON,,OFF,ON	Direct	R	R	4
%SW4768			ON,,OFF,ON	Direct	R	R	4
%SW4769			ON,,OFF,ON	Direct	R	R	4
%SW4770			ON,,OFF,ON	Direct	R	R	4
%SW4771			ON,,OFF,ON	Direct	R	R	4
%SW4772			ON,,OFF,ON	Direct	R	R	4
%SW4773			ON,,OFF,ON	Direct	R	R	4
%SW4774			ON,,OFF,ON	Direct	R	R	4
%SW4775			ON,,OFF,ON	Direct	R	R	4
%SW4776			ON,,OFF,ON	Direct	R	R	4
%SW4777			ON,,OFF,ON	Direct	R	R	4
%SW4778			ON,,OFF,ON	Direct	R	R	4
%SW4779			ON,,OFF,ON	Direct	R	R	4
%SW4780			ON,,OFF,ON	Direct	R	R	4
%SW4781			ON,,OFF,ON	Direct	R	R	4
%SW4782			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-15
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4783			ON,,OFF,ON	Direct	R	R	4
%SW4784			ON,,OFF,ON	Direct	R	R	4
%SW4785			ON,,OFF,ON	Direct	R	R	4
%SW4786			ON,,OFF,ON	Direct	R	R	4
%SW4787			ON,,OFF,ON	Direct	R	R	4
%SW4788			ON,,OFF,ON	Direct	R	R	4
%SW4789			ON,,OFF,ON	Direct	R	R	4
%SW4790			ON,,OFF,ON	Direct	R	R	4
%SW4791			ON,,OFF,ON	Direct	R	R	4
%SW4792			ON,,OFF,ON	Direct	R	R	4
%SW4793			ON,,OFF,ON	Direct	R	R	4
%SW4794			ON,,OFF,ON	Direct	R	R	4
%SW4795			ON,,OFF,ON	Direct	R	R	4
%SW4796			ON,,OFF,ON	Direct	R	R	4
%SW4797			ON,,OFF,ON	Direct	R	R	4
%SW4798			ON,,OFF,ON	Direct	R	R	4
%SW4799			ON,,OFF,ON	Direct	R	R	4
%SW4800			ON,,OFF,ON	Direct	R	R	4
%SW4801			ON,,OFF,ON	Direct	R	R	4
%SW4802			ON,,OFF,ON	Direct	R	R	4
%SW4803			ON,,OFF,ON	Direct	R	R	4
%SW4804			ON,,OFF,ON	Direct	R	R	4
%SW4805			ON,,OFF,ON	Direct	R	R	4
%SW4806			ON,,OFF,ON	Direct	R	R	4
%SW4807			ON,,OFF,ON	Direct	R	R	4
%SW4808			ON,,OFF,ON	Direct	R	R	4
%SW4809			ON,,OFF,ON	Direct	R	R	4
%SW4810			ON,,OFF,ON	Direct	R	R	4
%SW4811			ON,,OFF,ON	Direct	R	R	4
%SW4812			ON,,OFF,ON	Direct	R	R	4
%SW4813			ON,,OFF,ON	Direct	R	R	4
%SW4814			ON,,OFF,ON	Direct	R	R	4
%SW4815			ON,,OFF,ON	Direct	R	R	4
%SW4816			ON,,OFF,ON	Direct	R	R	4
%SW4817			ON,,OFF,ON	Direct	R	R	4
%SW4818			ON,,OFF,ON	Direct	R	R	4
%SW4819			ON,,OFF,ON	Direct	R	R	4
%SW4820			ON,,OFF,ON	Direct	R	R	4
%SW4821			ON,,OFF,ON	Direct	R	R	4
%SW4822			ON,,OFF,ON	Direct	R	R	4
%SW4823			ON,,OFF,ON	Direct	R	R	4
%SW4824			ON,,OFF,ON	Direct	R	R	4
%SW4825			ON,,OFF,ON	Direct	R	R	4
%SW4826			ON,,OFF,ON	Direct	R	R	4
%SW4827			ON,,OFF,ON	Direct	R	R	4
%SW4828			ON,,OFF,ON	Direct	R	R	4
%SW4829			ON,,OFF,ON	Direct	R	R	4
%SW4830			ON,,OFF,ON	Direct	R	R	4
%SW4831			ON,,OFF,ON	Direct	R	R	4
%SW4832			ON,,OFF,ON	Direct	R	R	4
%SW4833			ON,,OFF,ON	Direct	R	R	4
%SW4834			ON,,OFF,ON	Direct	R	R	4
%SW4835			ON,,OFF,ON	Direct	R	R	4
%SW4836			ON,,OFF,ON	Direct	R	R	4
%SW4837			ON,,OFF,ON	Direct	R	R	4
%SW4838			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-16
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4839			ON,,OFF,ON	Direct	R	R	4
%SW4840			ON,,OFF,ON	Direct	R	R	4
%SW4841			ON,,OFF,ON	Direct	R	R	4
%SW4842			ON,,OFF,ON	Direct	R	R	4
%SW4843			ON,,OFF,ON	Direct	R	R	4
%SW4844			ON,,OFF,ON	Direct	R	R	4
%SW4845			ON,,OFF,ON	Direct	R	R	4
%SW4846			ON,,OFF,ON	Direct	R	R	4
%SW4847			ON,,OFF,ON	Direct	R	R	4
%SW4848			ON,,OFF,ON	Direct	R	R	4
%SW4849			ON,,OFF,ON	Direct	R	R	4
%SW4850			ON,,OFF,ON	Direct	R	R	4
%SW4851			ON,,OFF,ON	Direct	R	R	4
%SW4852			ON,,OFF,ON	Direct	R	R	4
%SW4853			ON,,OFF,ON	Direct	R	R	4
%SW4854			ON,,OFF,ON	Direct	R	R	4
%SW4855			ON,,OFF,ON	Direct	R	R	4
%SW4856			ON,,OFF,ON	Direct	R	R	4
%SW4857			ON,,OFF,ON	Direct	R	R	4
%SW4858			ON,,OFF,ON	Direct	R	R	4
%SW4859			ON,,OFF,ON	Direct	R	R	4
%SW4860			ON,,OFF,ON	Direct	R	R	4
%SW4861			ON,,OFF,ON	Direct	R	R	4
%SW4862			ON,,OFF,ON	Direct	R	R	4
%SW4863			ON,,OFF,ON	Direct	R	R	4
%SW4864			ON,,OFF,ON	Direct	R	R	4
%SW4865			ON,,OFF,ON	Direct	R	R	4
%SW4866			ON,,OFF,ON	Direct	R	R	4
%SW4867			ON,,OFF,ON	Direct	R	R	4
%SW4868			ON,,OFF,ON	Direct	R	R	4
%SW4869			ON,,OFF,ON	Direct	R	R	4
%SW4870			ON,,OFF,ON	Direct	R	R	4
%SW4871			ON,,OFF,ON	Direct	R	R	4
%SW4872			ON,,OFF,ON	Direct	R	R	4
%SW4873			ON,,OFF,ON	Direct	R	R	4
%SW4874			ON,,OFF,ON	Direct	R	R	4
%SW4875			ON,,OFF,ON	Direct	R	R	4
%SW4876			ON,,OFF,ON	Direct	R	R	4
%SW4877			ON,,OFF,ON	Direct	R	R	4
%SW4878			ON,,OFF,ON	Direct	R	R	4
%SW4879			ON,,OFF,ON	Direct	R	R	4
%SW4880			ON,,OFF,ON	Direct	R	R	4
%SW4881			ON,,OFF,ON	Direct	R	R	4
%SW4882			ON,,OFF,ON	Direct	R	R	4
%SW4883			ON,,OFF,ON	Direct	R	R	4
%SW4884			ON,,OFF,ON	Direct	R	R	4
%SW4885			ON,,OFF,ON	Direct	R	R	4
%SW4886			ON,,OFF,ON	Direct	R	R	4
%SW4887			ON,,OFF,ON	Direct	R	R	4
%SW4888			ON,,OFF,ON	Direct	R	R	4
%SW4889			ON,,OFF,ON	Direct	R	R	4
%SW4890			ON,,OFF,ON	Direct	R	R	4
%SW4891			ON,,OFF,ON	Direct	R	R	4
%SW4892			ON,,OFF,ON	Direct	R	R	4
%SW4893			ON,,OFF,ON	Direct	R	R	4
%SW4894			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-17
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4895			ON,,OFF,ON	Direct	R	R	4
%SW4896			ON,,OFF,ON	Direct	R	R	4
%SW4897			ON,,OFF,ON	Direct	R	R	4
%SW4898			ON,,OFF,ON	Direct	R	R	4
%SW4899			ON,,OFF,ON	Direct	R	R	4
%SW4900			ON,,OFF,ON	Direct	R	R	4
%SW4901			ON,,OFF,ON	Direct	R	R	4
%SW4902			ON,,OFF,ON	Direct	R	R	4
%SW4903			ON,,OFF,ON	Direct	R	R	4
%SW4904			ON,,OFF,ON	Direct	R	R	4
%SW4905			ON,,OFF,ON	Direct	R	R	4
%SW4906			ON,,OFF,ON	Direct	R	R	4
%SW4907			ON,,OFF,ON	Direct	R	R	4
%SW4908			ON,,OFF,ON	Direct	R	R	4
%SW4909			ON,,OFF,ON	Direct	R	R	4
%SW4910			ON,,OFF,ON	Direct	R	R	4
%SW4911			ON,,OFF,ON	Direct	R	R	4
%SW4912			ON,,OFF,ON	Direct	R	R	4
%SW4913			ON,,OFF,ON	Direct	R	R	4
%SW4914			ON,,OFF,ON	Direct	R	R	4
%SW4915			ON,,OFF,ON	Direct	R	R	4
%SW4916			ON,,OFF,ON	Direct	R	R	4
%SW4917			ON,,OFF,ON	Direct	R	R	4
%SW4918			ON,,OFF,ON	Direct	R	R	4
%SW4919			ON,,OFF,ON	Direct	R	R	4
%SW4920			ON,,OFF,ON	Direct	R	R	4
%SW4921			ON,,OFF,ON	Direct	R	R	4
%SW4922			ON,,OFF,ON	Direct	R	R	4
%SW4923			ON,,OFF,ON	Direct	R	R	4
%SW4924			ON,,OFF,ON	Direct	R	R	4
%SW4925			ON,,OFF,ON	Direct	R	R	4
%SW4926			ON,,OFF,ON	Direct	R	R	4
%SW4927			ON,,OFF,ON	Direct	R	R	4
%SW4928			ON,,OFF,ON	Direct	R	R	4
%SW4929			ON,,OFF,ON	Direct	R	R	4
%SW4930			ON,,OFF,ON	Direct	R	R	4
%SW4931			ON,,OFF,ON	Direct	R	R	4
%SW4932			ON,,OFF,ON	Direct	R	R	4
%SW4933			ON,,OFF,ON	Direct	R	R	4
%SW4934			ON,,OFF,ON	Direct	R	R	4
%SW4935			ON,,OFF,ON	Direct	R	R	4
%SW4936			ON,,OFF,ON	Direct	R	R	4
%SW4937			ON,,OFF,ON	Direct	R	R	4
%SW4938			ON,,OFF,ON	Direct	R	R	4
%SW4939			ON,,OFF,ON	Direct	R	R	4
%SW4940			ON,,OFF,ON	Direct	R	R	4
%SW4941			ON,,OFF,ON	Direct	R	R	4
%SW4942			ON,,OFF,ON	Direct	R	R	4
%SW4943			ON,,OFF,ON	Direct	R	R	4
%SW4944			ON,,OFF,ON	Direct	R	R	4
%SW4945			ON,,OFF,ON	Direct	R	R	4
%SW4946			ON,,OFF,ON	Direct	R	R	4
%SW4947			ON,,OFF,ON	Direct	R	R	4
%SW4948			ON,,OFF,ON	Direct	R	R	4
%SW4949			ON,,OFF,ON	Direct	R	R	4
%SW4950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef5.edf	SHEET:		YOKOGAWA	PAGE:3-15-18
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch5	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW4951			ON,,OFF,ON	Direct	R	R	4
%SW4952			ON,,OFF,ON	Direct	R	R	4
%SW4953			ON,,OFF,ON	Direct	R	R	4
%SW4954			ON,,OFF,ON	Direct	R	R	4
%SW4955			ON,,OFF,ON	Direct	R	R	4
%SW4956			ON,,OFF,ON	Direct	R	R	4
%SW4957			ON,,OFF,ON	Direct	R	R	4
%SW4958			ON,,OFF,ON	Direct	R	R	4
%SW4959			ON,,OFF,ON	Direct	R	R	4
%SW4960			ON,,OFF,ON	Direct	R	R	4
%SW4961			ON,,OFF,ON	Direct	R	R	4
%SW4962			ON,,OFF,ON	Direct	R	R	4
%SW4963			ON,,OFF,ON	Direct	R	R	4
%SW4964			ON,,OFF,ON	Direct	R	R	4
%SW4965			ON,,OFF,ON	Direct	R	R	4
%SW4966			ON,,OFF,ON	Direct	R	R	4
%SW4967			ON,,OFF,ON	Direct	R	R	4
%SW4968			ON,,OFF,ON	Direct	R	R	4
%SW4969			ON,,OFF,ON	Direct	R	R	4
%SW4970			ON,,OFF,ON	Direct	R	R	4
%SW4971			ON,,OFF,ON	Direct	R	R	4
%SW4972			ON,,OFF,ON	Direct	R	R	4
%SW4973			ON,,OFF,ON	Direct	R	R	4
%SW4974			ON,,OFF,ON	Direct	R	R	4
%SW4975			ON,,OFF,ON	Direct	R	R	4
%SW4976			ON,,OFF,ON	Direct	R	R	4
%SW4977			ON,,OFF,ON	Direct	R	R	4
%SW4978			ON,,OFF,ON	Direct	R	R	4
%SW4979			ON,,OFF,ON	Direct	R	R	4
%SW4980			ON,,OFF,ON	Direct	R	R	4
%SW4981			ON,,OFF,ON	Direct	R	R	4
%SW4982			ON,,OFF,ON	Direct	R	R	4
%SW4983			ON,,OFF,ON	Direct	R	R	4
%SW4984			ON,,OFF,ON	Direct	R	R	4
%SW4985			ON,,OFF,ON	Direct	R	R	4
%SW4986			ON,,OFF,ON	Direct	R	R	4
%SW4987			ON,,OFF,ON	Direct	R	R	4
%SW4988			ON,,OFF,ON	Direct	R	R	4
%SW4989			ON,,OFF,ON	Direct	R	R	4
%SW4990			ON,,OFF,ON	Direct	R	R	4
%SW4991			ON,,OFF,ON	Direct	R	R	4
%SW4992			ON,,OFF,ON	Direct	R	R	4
%SW4993			ON,,OFF,ON	Direct	R	R	4
%SW4994			ON,,OFF,ON	Direct	R	R	4
%SW4995			ON,,OFF,ON	Direct	R	R	4
%SW4996			ON,,OFF,ON	Direct	R	R	4
%SW4997			ON,,OFF,ON	Direct	R	R	4
%SW4998			ON,,OFF,ON	Direct	R	R	4
%SW4999			ON,,OFF,ON	Direct	R	R	4
%SW5000			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5001			ON,,OFF,ON	Direct	R	R	4
%SW5002			ON,,OFF,ON	Direct	R	R	4
%SW5003			ON,,OFF,ON	Direct	R	R	4
%SW5004			ON,,OFF,ON	Direct	R	R	4
%SW5005			ON,,OFF,ON	Direct	R	R	4
%SW5006			ON,,OFF,ON	Direct	R	R	4
%SW5007			ON,,OFF,ON	Direct	R	R	4
%SW5008			ON,,OFF,ON	Direct	R	R	4
%SW5009			ON,,OFF,ON	Direct	R	R	4
%SW5010			ON,,OFF,ON	Direct	R	R	4
%SW5011			ON,,OFF,ON	Direct	R	R	4
%SW5012			ON,,OFF,ON	Direct	R	R	4
%SW5013			ON,,OFF,ON	Direct	R	R	4
%SW5014			ON,,OFF,ON	Direct	R	R	4
%SW5015			ON,,OFF,ON	Direct	R	R	4
%SW5016			ON,,OFF,ON	Direct	R	R	4
%SW5017			ON,,OFF,ON	Direct	R	R	4
%SW5018			ON,,OFF,ON	Direct	R	R	4
%SW5019			ON,,OFF,ON	Direct	R	R	4
%SW5020			ON,,OFF,ON	Direct	R	R	4
%SW5021			ON,,OFF,ON	Direct	R	R	4
%SW5022			ON,,OFF,ON	Direct	R	R	4
%SW5023			ON,,OFF,ON	Direct	R	R	4
%SW5024			ON,,OFF,ON	Direct	R	R	4
%SW5025			ON,,OFF,ON	Direct	R	R	4
%SW5026			ON,,OFF,ON	Direct	R	R	4
%SW5027			ON,,OFF,ON	Direct	R	R	4
%SW5028			ON,,OFF,ON	Direct	R	R	4
%SW5029			ON,,OFF,ON	Direct	R	R	4
%SW5030			ON,,OFF,ON	Direct	R	R	4
%SW5031			ON,,OFF,ON	Direct	R	R	4
%SW5032			ON,,OFF,ON	Direct	R	R	4
%SW5033			ON,,OFF,ON	Direct	R	R	4
%SW5034			ON,,OFF,ON	Direct	R	R	4
%SW5035			ON,,OFF,ON	Direct	R	R	4
%SW5036			ON,,OFF,ON	Direct	R	R	4
%SW5037			ON,,OFF,ON	Direct	R	R	4
%SW5038			ON,,OFF,ON	Direct	R	R	4
%SW5039			ON,,OFF,ON	Direct	R	R	4
%SW5040			ON,,OFF,ON	Direct	R	R	4
%SW5041			ON,,OFF,ON	Direct	R	R	4
%SW5042			ON,,OFF,ON	Direct	R	R	4
%SW5043			ON,,OFF,ON	Direct	R	R	4
%SW5044			ON,,OFF,ON	Direct	R	R	4
%SW5045			ON,,OFF,ON	Direct	R	R	4
%SW5046			ON,,OFF,ON	Direct	R	R	4
%SW5047			ON,,OFF,ON	Direct	R	R	4
%SW5048			ON,,OFF,ON	Direct	R	R	4
%SW5049			ON,,OFF,ON	Direct	R	R	4
%SW5050			ON,,OFF,ON	Direct	R	R	4
%SW5051			ON,,OFF,ON	Direct	R	R	4
%SW5052			ON,,OFF,ON	Direct	R	R	4
%SW5053			ON,,OFF,ON	Direct	R	R	4
%SW5054			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-2
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5055			ON,,OFF,ON	Direct	R	R	4
%SW5056			ON,,OFF,ON	Direct	R	R	4
%SW5057			ON,,OFF,ON	Direct	R	R	4
%SW5058			ON,,OFF,ON	Direct	R	R	4
%SW5059			ON,,OFF,ON	Direct	R	R	4
%SW5060			ON,,OFF,ON	Direct	R	R	4
%SW5061			ON,,OFF,ON	Direct	R	R	4
%SW5062			ON,,OFF,ON	Direct	R	R	4
%SW5063			ON,,OFF,ON	Direct	R	R	4
%SW5064			ON,,OFF,ON	Direct	R	R	4
%SW5065			ON,,OFF,ON	Direct	R	R	4
%SW5066			ON,,OFF,ON	Direct	R	R	4
%SW5067			ON,,OFF,ON	Direct	R	R	4
%SW5068			ON,,OFF,ON	Direct	R	R	4
%SW5069			ON,,OFF,ON	Direct	R	R	4
%SW5070			ON,,OFF,ON	Direct	R	R	4
%SW5071			ON,,OFF,ON	Direct	R	R	4
%SW5072			ON,,OFF,ON	Direct	R	R	4
%SW5073			ON,,OFF,ON	Direct	R	R	4
%SW5074			ON,,OFF,ON	Direct	R	R	4
%SW5075			ON,,OFF,ON	Direct	R	R	4
%SW5076			ON,,OFF,ON	Direct	R	R	4
%SW5077			ON,,OFF,ON	Direct	R	R	4
%SW5078			ON,,OFF,ON	Direct	R	R	4
%SW5079			ON,,OFF,ON	Direct	R	R	4
%SW5080			ON,,OFF,ON	Direct	R	R	4
%SW5081			ON,,OFF,ON	Direct	R	R	4
%SW5082			ON,,OFF,ON	Direct	R	R	4
%SW5083			ON,,OFF,ON	Direct	R	R	4
%SW5084			ON,,OFF,ON	Direct	R	R	4
%SW5085			ON,,OFF,ON	Direct	R	R	4
%SW5086			ON,,OFF,ON	Direct	R	R	4
%SW5087			ON,,OFF,ON	Direct	R	R	4
%SW5088			ON,,OFF,ON	Direct	R	R	4
%SW5089			ON,,OFF,ON	Direct	R	R	4
%SW5090			ON,,OFF,ON	Direct	R	R	4
%SW5091			ON,,OFF,ON	Direct	R	R	4
%SW5092			ON,,OFF,ON	Direct	R	R	4
%SW5093			ON,,OFF,ON	Direct	R	R	4
%SW5094			ON,,OFF,ON	Direct	R	R	4
%SW5095			ON,,OFF,ON	Direct	R	R	4
%SW5096			ON,,OFF,ON	Direct	R	R	4
%SW5097			ON,,OFF,ON	Direct	R	R	4
%SW5098			ON,,OFF,ON	Direct	R	R	4
%SW5099			ON,,OFF,ON	Direct	R	R	4
%SW5100			ON,,OFF,ON	Direct	R	R	4
%SW5101			ON,,OFF,ON	Direct	R	R	4
%SW5102			ON,,OFF,ON	Direct	R	R	4
%SW5103			ON,,OFF,ON	Direct	R	R	4
%SW5104			ON,,OFF,ON	Direct	R	R	4
%SW5105			ON,,OFF,ON	Direct	R	R	4
%SW5106			ON,,OFF,ON	Direct	R	R	4
%SW5107			ON,,OFF,ON	Direct	R	R	4
%SW5108			ON,,OFF,ON	Direct	R	R	4
%SW5109			ON,,OFF,ON	Direct	R	R	4
%SW5110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-3
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5111			ON,,OFF,ON	Direct	R	R	4
%SW5112			ON,,OFF,ON	Direct	R	R	4
%SW5113			ON,,OFF,ON	Direct	R	R	4
%SW5114			ON,,OFF,ON	Direct	R	R	4
%SW5115			ON,,OFF,ON	Direct	R	R	4
%SW5116			ON,,OFF,ON	Direct	R	R	4
%SW5117			ON,,OFF,ON	Direct	R	R	4
%SW5118			ON,,OFF,ON	Direct	R	R	4
%SW5119			ON,,OFF,ON	Direct	R	R	4
%SW5120			ON,,OFF,ON	Direct	R	R	4
%SW5121			ON,,OFF,ON	Direct	R	R	4
%SW5122			ON,,OFF,ON	Direct	R	R	4
%SW5123			ON,,OFF,ON	Direct	R	R	4
%SW5124			ON,,OFF,ON	Direct	R	R	4
%SW5125			ON,,OFF,ON	Direct	R	R	4
%SW5126			ON,,OFF,ON	Direct	R	R	4
%SW5127			ON,,OFF,ON	Direct	R	R	4
%SW5128			ON,,OFF,ON	Direct	R	R	4
%SW5129			ON,,OFF,ON	Direct	R	R	4
%SW5130			ON,,OFF,ON	Direct	R	R	4
%SW5131			ON,,OFF,ON	Direct	R	R	4
%SW5132			ON,,OFF,ON	Direct	R	R	4
%SW5133			ON,,OFF,ON	Direct	R	R	4
%SW5134			ON,,OFF,ON	Direct	R	R	4
%SW5135			ON,,OFF,ON	Direct	R	R	4
%SW5136			ON,,OFF,ON	Direct	R	R	4
%SW5137			ON,,OFF,ON	Direct	R	R	4
%SW5138			ON,,OFF,ON	Direct	R	R	4
%SW5139			ON,,OFF,ON	Direct	R	R	4
%SW5140			ON,,OFF,ON	Direct	R	R	4
%SW5141			ON,,OFF,ON	Direct	R	R	4
%SW5142			ON,,OFF,ON	Direct	R	R	4
%SW5143			ON,,OFF,ON	Direct	R	R	4
%SW5144			ON,,OFF,ON	Direct	R	R	4
%SW5145			ON,,OFF,ON	Direct	R	R	4
%SW5146			ON,,OFF,ON	Direct	R	R	4
%SW5147			ON,,OFF,ON	Direct	R	R	4
%SW5148			ON,,OFF,ON	Direct	R	R	4
%SW5149			ON,,OFF,ON	Direct	R	R	4
%SW5150			ON,,OFF,ON	Direct	R	R	4
%SW5151			ON,,OFF,ON	Direct	R	R	4
%SW5152			ON,,OFF,ON	Direct	R	R	4
%SW5153			ON,,OFF,ON	Direct	R	R	4
%SW5154			ON,,OFF,ON	Direct	R	R	4
%SW5155			ON,,OFF,ON	Direct	R	R	4
%SW5156			ON,,OFF,ON	Direct	R	R	4
%SW5157			ON,,OFF,ON	Direct	R	R	4
%SW5158			ON,,OFF,ON	Direct	R	R	4
%SW5159			ON,,OFF,ON	Direct	R	R	4
%SW5160			ON,,OFF,ON	Direct	R	R	4
%SW5161			ON,,OFF,ON	Direct	R	R	4
%SW5162			ON,,OFF,ON	Direct	R	R	4
%SW5163			ON,,OFF,ON	Direct	R	R	4
%SW5164			ON,,OFF,ON	Direct	R	R	4
%SW5165			ON,,OFF,ON	Direct	R	R	4
%SW5166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-4
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5167			ON,,OFF,ON	Direct	R	R	4
%SW5168			ON,,OFF,ON	Direct	R	R	4
%SW5169			ON,,OFF,ON	Direct	R	R	4
%SW5170			ON,,OFF,ON	Direct	R	R	4
%SW5171			ON,,OFF,ON	Direct	R	R	4
%SW5172			ON,,OFF,ON	Direct	R	R	4
%SW5173			ON,,OFF,ON	Direct	R	R	4
%SW5174			ON,,OFF,ON	Direct	R	R	4
%SW5175			ON,,OFF,ON	Direct	R	R	4
%SW5176			ON,,OFF,ON	Direct	R	R	4
%SW5177			ON,,OFF,ON	Direct	R	R	4
%SW5178			ON,,OFF,ON	Direct	R	R	4
%SW5179			ON,,OFF,ON	Direct	R	R	4
%SW5180			ON,,OFF,ON	Direct	R	R	4
%SW5181			ON,,OFF,ON	Direct	R	R	4
%SW5182			ON,,OFF,ON	Direct	R	R	4
%SW5183			ON,,OFF,ON	Direct	R	R	4
%SW5184			ON,,OFF,ON	Direct	R	R	4
%SW5185			ON,,OFF,ON	Direct	R	R	4
%SW5186			ON,,OFF,ON	Direct	R	R	4
%SW5187			ON,,OFF,ON	Direct	R	R	4
%SW5188			ON,,OFF,ON	Direct	R	R	4
%SW5189			ON,,OFF,ON	Direct	R	R	4
%SW5190			ON,,OFF,ON	Direct	R	R	4
%SW5191			ON,,OFF,ON	Direct	R	R	4
%SW5192			ON,,OFF,ON	Direct	R	R	4
%SW5193			ON,,OFF,ON	Direct	R	R	4
%SW5194			ON,,OFF,ON	Direct	R	R	4
%SW5195			ON,,OFF,ON	Direct	R	R	4
%SW5196			ON,,OFF,ON	Direct	R	R	4
%SW5197			ON,,OFF,ON	Direct	R	R	4
%SW5198			ON,,OFF,ON	Direct	R	R	4
%SW5199			ON,,OFF,ON	Direct	R	R	4
%SW5200			ON,,OFF,ON	Direct	R	R	4
%SW5201			ON,,OFF,ON	Direct	R	R	4
%SW5202			ON,,OFF,ON	Direct	R	R	4
%SW5203			ON,,OFF,ON	Direct	R	R	4
%SW5204			ON,,OFF,ON	Direct	R	R	4
%SW5205			ON,,OFF,ON	Direct	R	R	4
%SW5206			ON,,OFF,ON	Direct	R	R	4
%SW5207			ON,,OFF,ON	Direct	R	R	4
%SW5208			ON,,OFF,ON	Direct	R	R	4
%SW5209			ON,,OFF,ON	Direct	R	R	4
%SW5210			ON,,OFF,ON	Direct	R	R	4
%SW5211			ON,,OFF,ON	Direct	R	R	4
%SW5212			ON,,OFF,ON	Direct	R	R	4
%SW5213			ON,,OFF,ON	Direct	R	R	4
%SW5214			ON,,OFF,ON	Direct	R	R	4
%SW5215			ON,,OFF,ON	Direct	R	R	4
%SW5216			ON,,OFF,ON	Direct	R	R	4
%SW5217			ON,,OFF,ON	Direct	R	R	4
%SW5218			ON,,OFF,ON	Direct	R	R	4
%SW5219			ON,,OFF,ON	Direct	R	R	4
%SW5220			ON,,OFF,ON	Direct	R	R	4
%SW5221			ON,,OFF,ON	Direct	R	R	4
%SW5222			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-5
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5223			ON,,OFF,ON	Direct	R	R	4
%SW5224			ON,,OFF,ON	Direct	R	R	4
%SW5225			ON,,OFF,ON	Direct	R	R	4
%SW5226			ON,,OFF,ON	Direct	R	R	4
%SW5227			ON,,OFF,ON	Direct	R	R	4
%SW5228			ON,,OFF,ON	Direct	R	R	4
%SW5229			ON,,OFF,ON	Direct	R	R	4
%SW5230			ON,,OFF,ON	Direct	R	R	4
%SW5231			ON,,OFF,ON	Direct	R	R	4
%SW5232			ON,,OFF,ON	Direct	R	R	4
%SW5233			ON,,OFF,ON	Direct	R	R	4
%SW5234			ON,,OFF,ON	Direct	R	R	4
%SW5235			ON,,OFF,ON	Direct	R	R	4
%SW5236			ON,,OFF,ON	Direct	R	R	4
%SW5237			ON,,OFF,ON	Direct	R	R	4
%SW5238			ON,,OFF,ON	Direct	R	R	4
%SW5239			ON,,OFF,ON	Direct	R	R	4
%SW5240			ON,,OFF,ON	Direct	R	R	4
%SW5241			ON,,OFF,ON	Direct	R	R	4
%SW5242			ON,,OFF,ON	Direct	R	R	4
%SW5243			ON,,OFF,ON	Direct	R	R	4
%SW5244			ON,,OFF,ON	Direct	R	R	4
%SW5245			ON,,OFF,ON	Direct	R	R	4
%SW5246			ON,,OFF,ON	Direct	R	R	4
%SW5247			ON,,OFF,ON	Direct	R	R	4
%SW5248			ON,,OFF,ON	Direct	R	R	4
%SW5249			ON,,OFF,ON	Direct	R	R	4
%SW5250			ON,,OFF,ON	Direct	R	R	4
%SW5251			ON,,OFF,ON	Direct	R	R	4
%SW5252			ON,,OFF,ON	Direct	R	R	4
%SW5253			ON,,OFF,ON	Direct	R	R	4
%SW5254			ON,,OFF,ON	Direct	R	R	4
%SW5255			ON,,OFF,ON	Direct	R	R	4
%SW5256			ON,,OFF,ON	Direct	R	R	4
%SW5257			ON,,OFF,ON	Direct	R	R	4
%SW5258			ON,,OFF,ON	Direct	R	R	4
%SW5259			ON,,OFF,ON	Direct	R	R	4
%SW5260			ON,,OFF,ON	Direct	R	R	4
%SW5261			ON,,OFF,ON	Direct	R	R	4
%SW5262			ON,,OFF,ON	Direct	R	R	4
%SW5263			ON,,OFF,ON	Direct	R	R	4
%SW5264			ON,,OFF,ON	Direct	R	R	4
%SW5265			ON,,OFF,ON	Direct	R	R	4
%SW5266			ON,,OFF,ON	Direct	R	R	4
%SW5267			ON,,OFF,ON	Direct	R	R	4
%SW5268			ON,,OFF,ON	Direct	R	R	4
%SW5269			ON,,OFF,ON	Direct	R	R	4
%SW5270			ON,,OFF,ON	Direct	R	R	4
%SW5271			ON,,OFF,ON	Direct	R	R	4
%SW5272			ON,,OFF,ON	Direct	R	R	4
%SW5273			ON,,OFF,ON	Direct	R	R	4
%SW5274			ON,,OFF,ON	Direct	R	R	4
%SW5275			ON,,OFF,ON	Direct	R	R	4
%SW5276			ON,,OFF,ON	Direct	R	R	4
%SW5277			ON,,OFF,ON	Direct	R	R	4
%SW5278			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-6
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5279			ON,,OFF,ON	Direct	R	R	4
%SW5280			ON,,OFF,ON	Direct	R	R	4
%SW5281			ON,,OFF,ON	Direct	R	R	4
%SW5282			ON,,OFF,ON	Direct	R	R	4
%SW5283			ON,,OFF,ON	Direct	R	R	4
%SW5284			ON,,OFF,ON	Direct	R	R	4
%SW5285			ON,,OFF,ON	Direct	R	R	4
%SW5286			ON,,OFF,ON	Direct	R	R	4
%SW5287			ON,,OFF,ON	Direct	R	R	4
%SW5288			ON,,OFF,ON	Direct	R	R	4
%SW5289			ON,,OFF,ON	Direct	R	R	4
%SW5290			ON,,OFF,ON	Direct	R	R	4
%SW5291			ON,,OFF,ON	Direct	R	R	4
%SW5292			ON,,OFF,ON	Direct	R	R	4
%SW5293			ON,,OFF,ON	Direct	R	R	4
%SW5294			ON,,OFF,ON	Direct	R	R	4
%SW5295			ON,,OFF,ON	Direct	R	R	4
%SW5296			ON,,OFF,ON	Direct	R	R	4
%SW5297			ON,,OFF,ON	Direct	R	R	4
%SW5298			ON,,OFF,ON	Direct	R	R	4
%SW5299			ON,,OFF,ON	Direct	R	R	4
%SW5300			ON,,OFF,ON	Direct	R	R	4
%SW5301			ON,,OFF,ON	Direct	R	R	4
%SW5302			ON,,OFF,ON	Direct	R	R	4
%SW5303			ON,,OFF,ON	Direct	R	R	4
%SW5304			ON,,OFF,ON	Direct	R	R	4
%SW5305			ON,,OFF,ON	Direct	R	R	4
%SW5306			ON,,OFF,ON	Direct	R	R	4
%SW5307			ON,,OFF,ON	Direct	R	R	4
%SW5308			ON,,OFF,ON	Direct	R	R	4
%SW5309			ON,,OFF,ON	Direct	R	R	4
%SW5310			ON,,OFF,ON	Direct	R	R	4
%SW5311			ON,,OFF,ON	Direct	R	R	4
%SW5312			ON,,OFF,ON	Direct	R	R	4
%SW5313			ON,,OFF,ON	Direct	R	R	4
%SW5314			ON,,OFF,ON	Direct	R	R	4
%SW5315			ON,,OFF,ON	Direct	R	R	4
%SW5316			ON,,OFF,ON	Direct	R	R	4
%SW5317			ON,,OFF,ON	Direct	R	R	4
%SW5318			ON,,OFF,ON	Direct	R	R	4
%SW5319			ON,,OFF,ON	Direct	R	R	4
%SW5320			ON,,OFF,ON	Direct	R	R	4
%SW5321			ON,,OFF,ON	Direct	R	R	4
%SW5322			ON,,OFF,ON	Direct	R	R	4
%SW5323			ON,,OFF,ON	Direct	R	R	4
%SW5324			ON,,OFF,ON	Direct	R	R	4
%SW5325			ON,,OFF,ON	Direct	R	R	4
%SW5326			ON,,OFF,ON	Direct	R	R	4
%SW5327			ON,,OFF,ON	Direct	R	R	4
%SW5328			ON,,OFF,ON	Direct	R	R	4
%SW5329			ON,,OFF,ON	Direct	R	R	4
%SW5330			ON,,OFF,ON	Direct	R	R	4
%SW5331			ON,,OFF,ON	Direct	R	R	4
%SW5332			ON,,OFF,ON	Direct	R	R	4
%SW5333			ON,,OFF,ON	Direct	R	R	4
%SW5334			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-7
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5335			ON,,OFF,ON	Direct	R	R	4
%SW5336			ON,,OFF,ON	Direct	R	R	4
%SW5337			ON,,OFF,ON	Direct	R	R	4
%SW5338			ON,,OFF,ON	Direct	R	R	4
%SW5339			ON,,OFF,ON	Direct	R	R	4
%SW5340			ON,,OFF,ON	Direct	R	R	4
%SW5341			ON,,OFF,ON	Direct	R	R	4
%SW5342			ON,,OFF,ON	Direct	R	R	4
%SW5343			ON,,OFF,ON	Direct	R	R	4
%SW5344			ON,,OFF,ON	Direct	R	R	4
%SW5345			ON,,OFF,ON	Direct	R	R	4
%SW5346			ON,,OFF,ON	Direct	R	R	4
%SW5347			ON,,OFF,ON	Direct	R	R	4
%SW5348			ON,,OFF,ON	Direct	R	R	4
%SW5349			ON,,OFF,ON	Direct	R	R	4
%SW5350			ON,,OFF,ON	Direct	R	R	4
%SW5351			ON,,OFF,ON	Direct	R	R	4
%SW5352			ON,,OFF,ON	Direct	R	R	4
%SW5353			ON,,OFF,ON	Direct	R	R	4
%SW5354			ON,,OFF,ON	Direct	R	R	4
%SW5355			ON,,OFF,ON	Direct	R	R	4
%SW5356			ON,,OFF,ON	Direct	R	R	4
%SW5357			ON,,OFF,ON	Direct	R	R	4
%SW5358			ON,,OFF,ON	Direct	R	R	4
%SW5359			ON,,OFF,ON	Direct	R	R	4
%SW5360			ON,,OFF,ON	Direct	R	R	4
%SW5361			ON,,OFF,ON	Direct	R	R	4
%SW5362			ON,,OFF,ON	Direct	R	R	4
%SW5363			ON,,OFF,ON	Direct	R	R	4
%SW5364			ON,,OFF,ON	Direct	R	R	4
%SW5365			ON,,OFF,ON	Direct	R	R	4
%SW5366			ON,,OFF,ON	Direct	R	R	4
%SW5367			ON,,OFF,ON	Direct	R	R	4
%SW5368			ON,,OFF,ON	Direct	R	R	4
%SW5369			ON,,OFF,ON	Direct	R	R	4
%SW5370			ON,,OFF,ON	Direct	R	R	4
%SW5371			ON,,OFF,ON	Direct	R	R	4
%SW5372			ON,,OFF,ON	Direct	R	R	4
%SW5373			ON,,OFF,ON	Direct	R	R	4
%SW5374			ON,,OFF,ON	Direct	R	R	4
%SW5375			ON,,OFF,ON	Direct	R	R	4
%SW5376			ON,,OFF,ON	Direct	R	R	4
%SW5377			ON,,OFF,ON	Direct	R	R	4
%SW5378			ON,,OFF,ON	Direct	R	R	4
%SW5379			ON,,OFF,ON	Direct	R	R	4
%SW5380			ON,,OFF,ON	Direct	R	R	4
%SW5381			ON,,OFF,ON	Direct	R	R	4
%SW5382			ON,,OFF,ON	Direct	R	R	4
%SW5383			ON,,OFF,ON	Direct	R	R	4
%SW5384			ON,,OFF,ON	Direct	R	R	4
%SW5385			ON,,OFF,ON	Direct	R	R	4
%SW5386			ON,,OFF,ON	Direct	R	R	4
%SW5387			ON,,OFF,ON	Direct	R	R	4
%SW5388			ON,,OFF,ON	Direct	R	R	4
%SW5389			ON,,OFF,ON	Direct	R	R	4
%SW5390			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-8
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5391			ON,,OFF,ON	Direct	R	R	4
%SW5392			ON,,OFF,ON	Direct	R	R	4
%SW5393			ON,,OFF,ON	Direct	R	R	4
%SW5394			ON,,OFF,ON	Direct	R	R	4
%SW5395			ON,,OFF,ON	Direct	R	R	4
%SW5396			ON,,OFF,ON	Direct	R	R	4
%SW5397			ON,,OFF,ON	Direct	R	R	4
%SW5398			ON,,OFF,ON	Direct	R	R	4
%SW5399			ON,,OFF,ON	Direct	R	R	4
%SW5400			ON,,OFF,ON	Direct	R	R	4
%SW5401			ON,,OFF,ON	Direct	R	R	4
%SW5402			ON,,OFF,ON	Direct	R	R	4
%SW5403			ON,,OFF,ON	Direct	R	R	4
%SW5404			ON,,OFF,ON	Direct	R	R	4
%SW5405			ON,,OFF,ON	Direct	R	R	4
%SW5406			ON,,OFF,ON	Direct	R	R	4
%SW5407			ON,,OFF,ON	Direct	R	R	4
%SW5408			ON,,OFF,ON	Direct	R	R	4
%SW5409			ON,,OFF,ON	Direct	R	R	4
%SW5410			ON,,OFF,ON	Direct	R	R	4
%SW5411			ON,,OFF,ON	Direct	R	R	4
%SW5412			ON,,OFF,ON	Direct	R	R	4
%SW5413			ON,,OFF,ON	Direct	R	R	4
%SW5414			ON,,OFF,ON	Direct	R	R	4
%SW5415			ON,,OFF,ON	Direct	R	R	4
%SW5416			ON,,OFF,ON	Direct	R	R	4
%SW5417			ON,,OFF,ON	Direct	R	R	4
%SW5418			ON,,OFF,ON	Direct	R	R	4
%SW5419			ON,,OFF,ON	Direct	R	R	4
%SW5420			ON,,OFF,ON	Direct	R	R	4
%SW5421			ON,,OFF,ON	Direct	R	R	4
%SW5422			ON,,OFF,ON	Direct	R	R	4
%SW5423			ON,,OFF,ON	Direct	R	R	4
%SW5424			ON,,OFF,ON	Direct	R	R	4
%SW5425			ON,,OFF,ON	Direct	R	R	4
%SW5426			ON,,OFF,ON	Direct	R	R	4
%SW5427			ON,,OFF,ON	Direct	R	R	4
%SW5428			ON,,OFF,ON	Direct	R	R	4
%SW5429			ON,,OFF,ON	Direct	R	R	4
%SW5430			ON,,OFF,ON	Direct	R	R	4
%SW5431			ON,,OFF,ON	Direct	R	R	4
%SW5432			ON,,OFF,ON	Direct	R	R	4
%SW5433			ON,,OFF,ON	Direct	R	R	4
%SW5434			ON,,OFF,ON	Direct	R	R	4
%SW5435			ON,,OFF,ON	Direct	R	R	4
%SW5436			ON,,OFF,ON	Direct	R	R	4
%SW5437			ON,,OFF,ON	Direct	R	R	4
%SW5438			ON,,OFF,ON	Direct	R	R	4
%SW5439			ON,,OFF,ON	Direct	R	R	4
%SW5440			ON,,OFF,ON	Direct	R	R	4
%SW5441			ON,,OFF,ON	Direct	R	R	4
%SW5442			ON,,OFF,ON	Direct	R	R	4
%SW5443			ON,,OFF,ON	Direct	R	R	4
%SW5444			ON,,OFF,ON	Direct	R	R	4
%SW5445			ON,,OFF,ON	Direct	R	R	4
%SW5446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-9
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5447			ON,,OFF,ON	Direct	R	R	4
%SW5448			ON,,OFF,ON	Direct	R	R	4
%SW5449			ON,,OFF,ON	Direct	R	R	4
%SW5450			ON,,OFF,ON	Direct	R	R	4
%SW5451			ON,,OFF,ON	Direct	R	R	4
%SW5452			ON,,OFF,ON	Direct	R	R	4
%SW5453			ON,,OFF,ON	Direct	R	R	4
%SW5454			ON,,OFF,ON	Direct	R	R	4
%SW5455			ON,,OFF,ON	Direct	R	R	4
%SW5456			ON,,OFF,ON	Direct	R	R	4
%SW5457			ON,,OFF,ON	Direct	R	R	4
%SW5458			ON,,OFF,ON	Direct	R	R	4
%SW5459			ON,,OFF,ON	Direct	R	R	4
%SW5460			ON,,OFF,ON	Direct	R	R	4
%SW5461			ON,,OFF,ON	Direct	R	R	4
%SW5462			ON,,OFF,ON	Direct	R	R	4
%SW5463			ON,,OFF,ON	Direct	R	R	4
%SW5464			ON,,OFF,ON	Direct	R	R	4
%SW5465			ON,,OFF,ON	Direct	R	R	4
%SW5466			ON,,OFF,ON	Direct	R	R	4
%SW5467			ON,,OFF,ON	Direct	R	R	4
%SW5468			ON,,OFF,ON	Direct	R	R	4
%SW5469			ON,,OFF,ON	Direct	R	R	4
%SW5470			ON,,OFF,ON	Direct	R	R	4
%SW5471			ON,,OFF,ON	Direct	R	R	4
%SW5472			ON,,OFF,ON	Direct	R	R	4
%SW5473			ON,,OFF,ON	Direct	R	R	4
%SW5474			ON,,OFF,ON	Direct	R	R	4
%SW5475			ON,,OFF,ON	Direct	R	R	4
%SW5476			ON,,OFF,ON	Direct	R	R	4
%SW5477			ON,,OFF,ON	Direct	R	R	4
%SW5478			ON,,OFF,ON	Direct	R	R	4
%SW5479			ON,,OFF,ON	Direct	R	R	4
%SW5480			ON,,OFF,ON	Direct	R	R	4
%SW5481			ON,,OFF,ON	Direct	R	R	4
%SW5482			ON,,OFF,ON	Direct	R	R	4
%SW5483			ON,,OFF,ON	Direct	R	R	4
%SW5484			ON,,OFF,ON	Direct	R	R	4
%SW5485			ON,,OFF,ON	Direct	R	R	4
%SW5486			ON,,OFF,ON	Direct	R	R	4
%SW5487			ON,,OFF,ON	Direct	R	R	4
%SW5488			ON,,OFF,ON	Direct	R	R	4
%SW5489			ON,,OFF,ON	Direct	R	R	4
%SW5490			ON,,OFF,ON	Direct	R	R	4
%SW5491			ON,,OFF,ON	Direct	R	R	4
%SW5492			ON,,OFF,ON	Direct	R	R	4
%SW5493			ON,,OFF,ON	Direct	R	R	4
%SW5494			ON,,OFF,ON	Direct	R	R	4
%SW5495			ON,,OFF,ON	Direct	R	R	4
%SW5496			ON,,OFF,ON	Direct	R	R	4
%SW5497			ON,,OFF,ON	Direct	R	R	4
%SW5498			ON,,OFF,ON	Direct	R	R	4
%SW5499			ON,,OFF,ON	Direct	R	R	4
%SW5500			ON,,OFF,ON	Direct	R	R	4
%SW5501			ON,,OFF,ON	Direct	R	R	4
%SW5502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-10
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5503			ON,,OFF,ON	Direct	R	R	4
%SW5504			ON,,OFF,ON	Direct	R	R	4
%SW5505			ON,,OFF,ON	Direct	R	R	4
%SW5506			ON,,OFF,ON	Direct	R	R	4
%SW5507			ON,,OFF,ON	Direct	R	R	4
%SW5508			ON,,OFF,ON	Direct	R	R	4
%SW5509			ON,,OFF,ON	Direct	R	R	4
%SW5510			ON,,OFF,ON	Direct	R	R	4
%SW5511			ON,,OFF,ON	Direct	R	R	4
%SW5512			ON,,OFF,ON	Direct	R	R	4
%SW5513			ON,,OFF,ON	Direct	R	R	4
%SW5514			ON,,OFF,ON	Direct	R	R	4
%SW5515			ON,,OFF,ON	Direct	R	R	4
%SW5516			ON,,OFF,ON	Direct	R	R	4
%SW5517			ON,,OFF,ON	Direct	R	R	4
%SW5518			ON,,OFF,ON	Direct	R	R	4
%SW5519			ON,,OFF,ON	Direct	R	R	4
%SW5520			ON,,OFF,ON	Direct	R	R	4
%SW5521			ON,,OFF,ON	Direct	R	R	4
%SW5522			ON,,OFF,ON	Direct	R	R	4
%SW5523			ON,,OFF,ON	Direct	R	R	4
%SW5524			ON,,OFF,ON	Direct	R	R	4
%SW5525			ON,,OFF,ON	Direct	R	R	4
%SW5526			ON,,OFF,ON	Direct	R	R	4
%SW5527			ON,,OFF,ON	Direct	R	R	4
%SW5528			ON,,OFF,ON	Direct	R	R	4
%SW5529			ON,,OFF,ON	Direct	R	R	4
%SW5530			ON,,OFF,ON	Direct	R	R	4
%SW5531			ON,,OFF,ON	Direct	R	R	4
%SW5532			ON,,OFF,ON	Direct	R	R	4
%SW5533			ON,,OFF,ON	Direct	R	R	4
%SW5534			ON,,OFF,ON	Direct	R	R	4
%SW5535			ON,,OFF,ON	Direct	R	R	4
%SW5536			ON,,OFF,ON	Direct	R	R	4
%SW5537			ON,,OFF,ON	Direct	R	R	4
%SW5538			ON,,OFF,ON	Direct	R	R	4
%SW5539			ON,,OFF,ON	Direct	R	R	4
%SW5540			ON,,OFF,ON	Direct	R	R	4
%SW5541			ON,,OFF,ON	Direct	R	R	4
%SW5542			ON,,OFF,ON	Direct	R	R	4
%SW5543			ON,,OFF,ON	Direct	R	R	4
%SW5544			ON,,OFF,ON	Direct	R	R	4
%SW5545			ON,,OFF,ON	Direct	R	R	4
%SW5546			ON,,OFF,ON	Direct	R	R	4
%SW5547			ON,,OFF,ON	Direct	R	R	4
%SW5548			ON,,OFF,ON	Direct	R	R	4
%SW5549			ON,,OFF,ON	Direct	R	R	4
%SW5550			ON,,OFF,ON	Direct	R	R	4
%SW5551			ON,,OFF,ON	Direct	R	R	4
%SW5552			ON,,OFF,ON	Direct	R	R	4
%SW5553			ON,,OFF,ON	Direct	R	R	4
%SW5554			ON,,OFF,ON	Direct	R	R	4
%SW5555			ON,,OFF,ON	Direct	R	R	4
%SW5556			ON,,OFF,ON	Direct	R	R	4
%SW5557			ON,,OFF,ON	Direct	R	R	4
%SW5558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-11
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5559			ON,,OFF,ON	Direct	R	R	4
%SW5560			ON,,OFF,ON	Direct	R	R	4
%SW5561			ON,,OFF,ON	Direct	R	R	4
%SW5562			ON,,OFF,ON	Direct	R	R	4
%SW5563			ON,,OFF,ON	Direct	R	R	4
%SW5564			ON,,OFF,ON	Direct	R	R	4
%SW5565			ON,,OFF,ON	Direct	R	R	4
%SW5566			ON,,OFF,ON	Direct	R	R	4
%SW5567			ON,,OFF,ON	Direct	R	R	4
%SW5568			ON,,OFF,ON	Direct	R	R	4
%SW5569			ON,,OFF,ON	Direct	R	R	4
%SW5570			ON,,OFF,ON	Direct	R	R	4
%SW5571			ON,,OFF,ON	Direct	R	R	4
%SW5572			ON,,OFF,ON	Direct	R	R	4
%SW5573			ON,,OFF,ON	Direct	R	R	4
%SW5574			ON,,OFF,ON	Direct	R	R	4
%SW5575			ON,,OFF,ON	Direct	R	R	4
%SW5576			ON,,OFF,ON	Direct	R	R	4
%SW5577			ON,,OFF,ON	Direct	R	R	4
%SW5578			ON,,OFF,ON	Direct	R	R	4
%SW5579			ON,,OFF,ON	Direct	R	R	4
%SW5580			ON,,OFF,ON	Direct	R	R	4
%SW5581			ON,,OFF,ON	Direct	R	R	4
%SW5582			ON,,OFF,ON	Direct	R	R	4
%SW5583			ON,,OFF,ON	Direct	R	R	4
%SW5584			ON,,OFF,ON	Direct	R	R	4
%SW5585			ON,,OFF,ON	Direct	R	R	4
%SW5586			ON,,OFF,ON	Direct	R	R	4
%SW5587			ON,,OFF,ON	Direct	R	R	4
%SW5588			ON,,OFF,ON	Direct	R	R	4
%SW5589			ON,,OFF,ON	Direct	R	R	4
%SW5590			ON,,OFF,ON	Direct	R	R	4
%SW5591			ON,,OFF,ON	Direct	R	R	4
%SW5592			ON,,OFF,ON	Direct	R	R	4
%SW5593			ON,,OFF,ON	Direct	R	R	4
%SW5594			ON,,OFF,ON	Direct	R	R	4
%SW5595			ON,,OFF,ON	Direct	R	R	4
%SW5596			ON,,OFF,ON	Direct	R	R	4
%SW5597			ON,,OFF,ON	Direct	R	R	4
%SW5598			ON,,OFF,ON	Direct	R	R	4
%SW5599			ON,,OFF,ON	Direct	R	R	4
%SW5600			ON,,OFF,ON	Direct	R	R	4
%SW5601			ON,,OFF,ON	Direct	R	R	4
%SW5602			ON,,OFF,ON	Direct	R	R	4
%SW5603			ON,,OFF,ON	Direct	R	R	4
%SW5604			ON,,OFF,ON	Direct	R	R	4
%SW5605			ON,,OFF,ON	Direct	R	R	4
%SW5606			ON,,OFF,ON	Direct	R	R	4
%SW5607			ON,,OFF,ON	Direct	R	R	4
%SW5608			ON,,OFF,ON	Direct	R	R	4
%SW5609			ON,,OFF,ON	Direct	R	R	4
%SW5610			ON,,OFF,ON	Direct	R	R	4
%SW5611			ON,,OFF,ON	Direct	R	R	4
%SW5612			ON,,OFF,ON	Direct	R	R	4
%SW5613			ON,,OFF,ON	Direct	R	R	4
%SW5614			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-12
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5615			ON,,OFF,ON	Direct	R	R	4
%SW5616			ON,,OFF,ON	Direct	R	R	4
%SW5617			ON,,OFF,ON	Direct	R	R	4
%SW5618			ON,,OFF,ON	Direct	R	R	4
%SW5619			ON,,OFF,ON	Direct	R	R	4
%SW5620			ON,,OFF,ON	Direct	R	R	4
%SW5621			ON,,OFF,ON	Direct	R	R	4
%SW5622			ON,,OFF,ON	Direct	R	R	4
%SW5623			ON,,OFF,ON	Direct	R	R	4
%SW5624			ON,,OFF,ON	Direct	R	R	4
%SW5625			ON,,OFF,ON	Direct	R	R	4
%SW5626			ON,,OFF,ON	Direct	R	R	4
%SW5627			ON,,OFF,ON	Direct	R	R	4
%SW5628			ON,,OFF,ON	Direct	R	R	4
%SW5629			ON,,OFF,ON	Direct	R	R	4
%SW5630			ON,,OFF,ON	Direct	R	R	4
%SW5631			ON,,OFF,ON	Direct	R	R	4
%SW5632			ON,,OFF,ON	Direct	R	R	4
%SW5633			ON,,OFF,ON	Direct	R	R	4
%SW5634			ON,,OFF,ON	Direct	R	R	4
%SW5635			ON,,OFF,ON	Direct	R	R	4
%SW5636			ON,,OFF,ON	Direct	R	R	4
%SW5637			ON,,OFF,ON	Direct	R	R	4
%SW5638			ON,,OFF,ON	Direct	R	R	4
%SW5639			ON,,OFF,ON	Direct	R	R	4
%SW5640			ON,,OFF,ON	Direct	R	R	4
%SW5641			ON,,OFF,ON	Direct	R	R	4
%SW5642			ON,,OFF,ON	Direct	R	R	4
%SW5643			ON,,OFF,ON	Direct	R	R	4
%SW5644			ON,,OFF,ON	Direct	R	R	4
%SW5645			ON,,OFF,ON	Direct	R	R	4
%SW5646			ON,,OFF,ON	Direct	R	R	4
%SW5647			ON,,OFF,ON	Direct	R	R	4
%SW5648			ON,,OFF,ON	Direct	R	R	4
%SW5649			ON,,OFF,ON	Direct	R	R	4
%SW5650			ON,,OFF,ON	Direct	R	R	4
%SW5651			ON,,OFF,ON	Direct	R	R	4
%SW5652			ON,,OFF,ON	Direct	R	R	4
%SW5653			ON,,OFF,ON	Direct	R	R	4
%SW5654			ON,,OFF,ON	Direct	R	R	4
%SW5655			ON,,OFF,ON	Direct	R	R	4
%SW5656			ON,,OFF,ON	Direct	R	R	4
%SW5657			ON,,OFF,ON	Direct	R	R	4
%SW5658			ON,,OFF,ON	Direct	R	R	4
%SW5659			ON,,OFF,ON	Direct	R	R	4
%SW5660			ON,,OFF,ON	Direct	R	R	4
%SW5661			ON,,OFF,ON	Direct	R	R	4
%SW5662			ON,,OFF,ON	Direct	R	R	4
%SW5663			ON,,OFF,ON	Direct	R	R	4
%SW5664			ON,,OFF,ON	Direct	R	R	4
%SW5665			ON,,OFF,ON	Direct	R	R	4
%SW5666			ON,,OFF,ON	Direct	R	R	4
%SW5667			ON,,OFF,ON	Direct	R	R	4
%SW5668			ON,,OFF,ON	Direct	R	R	4
%SW5669			ON,,OFF,ON	Direct	R	R	4
%SW5670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-13
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5671			ON,,OFF,ON	Direct	R	R	4
%SW5672			ON,,OFF,ON	Direct	R	R	4
%SW5673			ON,,OFF,ON	Direct	R	R	4
%SW5674			ON,,OFF,ON	Direct	R	R	4
%SW5675			ON,,OFF,ON	Direct	R	R	4
%SW5676			ON,,OFF,ON	Direct	R	R	4
%SW5677			ON,,OFF,ON	Direct	R	R	4
%SW5678			ON,,OFF,ON	Direct	R	R	4
%SW5679			ON,,OFF,ON	Direct	R	R	4
%SW5680			ON,,OFF,ON	Direct	R	R	4
%SW5681			ON,,OFF,ON	Direct	R	R	4
%SW5682			ON,,OFF,ON	Direct	R	R	4
%SW5683			ON,,OFF,ON	Direct	R	R	4
%SW5684			ON,,OFF,ON	Direct	R	R	4
%SW5685			ON,,OFF,ON	Direct	R	R	4
%SW5686			ON,,OFF,ON	Direct	R	R	4
%SW5687			ON,,OFF,ON	Direct	R	R	4
%SW5688			ON,,OFF,ON	Direct	R	R	4
%SW5689			ON,,OFF,ON	Direct	R	R	4
%SW5690			ON,,OFF,ON	Direct	R	R	4
%SW5691			ON,,OFF,ON	Direct	R	R	4
%SW5692			ON,,OFF,ON	Direct	R	R	4
%SW5693			ON,,OFF,ON	Direct	R	R	4
%SW5694			ON,,OFF,ON	Direct	R	R	4
%SW5695			ON,,OFF,ON	Direct	R	R	4
%SW5696			ON,,OFF,ON	Direct	R	R	4
%SW5697			ON,,OFF,ON	Direct	R	R	4
%SW5698			ON,,OFF,ON	Direct	R	R	4
%SW5699			ON,,OFF,ON	Direct	R	R	4
%SW5700			ON,,OFF,ON	Direct	R	R	4
%SW5701			ON,,OFF,ON	Direct	R	R	4
%SW5702			ON,,OFF,ON	Direct	R	R	4
%SW5703			ON,,OFF,ON	Direct	R	R	4
%SW5704			ON,,OFF,ON	Direct	R	R	4
%SW5705			ON,,OFF,ON	Direct	R	R	4
%SW5706			ON,,OFF,ON	Direct	R	R	4
%SW5707			ON,,OFF,ON	Direct	R	R	4
%SW5708			ON,,OFF,ON	Direct	R	R	4
%SW5709			ON,,OFF,ON	Direct	R	R	4
%SW5710			ON,,OFF,ON	Direct	R	R	4
%SW5711			ON,,OFF,ON	Direct	R	R	4
%SW5712			ON,,OFF,ON	Direct	R	R	4
%SW5713			ON,,OFF,ON	Direct	R	R	4
%SW5714			ON,,OFF,ON	Direct	R	R	4
%SW5715			ON,,OFF,ON	Direct	R	R	4
%SW5716			ON,,OFF,ON	Direct	R	R	4
%SW5717			ON,,OFF,ON	Direct	R	R	4
%SW5718			ON,,OFF,ON	Direct	R	R	4
%SW5719			ON,,OFF,ON	Direct	R	R	4
%SW5720			ON,,OFF,ON	Direct	R	R	4
%SW5721			ON,,OFF,ON	Direct	R	R	4
%SW5722			ON,,OFF,ON	Direct	R	R	4
%SW5723			ON,,OFF,ON	Direct	R	R	4
%SW5724			ON,,OFF,ON	Direct	R	R	4
%SW5725			ON,,OFF,ON	Direct	R	R	4
%SW5726			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-14
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5727			ON,,OFF,ON	Direct	R	R	4
%SW5728			ON,,OFF,ON	Direct	R	R	4
%SW5729			ON,,OFF,ON	Direct	R	R	4
%SW5730			ON,,OFF,ON	Direct	R	R	4
%SW5731			ON,,OFF,ON	Direct	R	R	4
%SW5732			ON,,OFF,ON	Direct	R	R	4
%SW5733			ON,,OFF,ON	Direct	R	R	4
%SW5734			ON,,OFF,ON	Direct	R	R	4
%SW5735			ON,,OFF,ON	Direct	R	R	4
%SW5736			ON,,OFF,ON	Direct	R	R	4
%SW5737			ON,,OFF,ON	Direct	R	R	4
%SW5738			ON,,OFF,ON	Direct	R	R	4
%SW5739			ON,,OFF,ON	Direct	R	R	4
%SW5740			ON,,OFF,ON	Direct	R	R	4
%SW5741			ON,,OFF,ON	Direct	R	R	4
%SW5742			ON,,OFF,ON	Direct	R	R	4
%SW5743			ON,,OFF,ON	Direct	R	R	4
%SW5744			ON,,OFF,ON	Direct	R	R	4
%SW5745			ON,,OFF,ON	Direct	R	R	4
%SW5746			ON,,OFF,ON	Direct	R	R	4
%SW5747			ON,,OFF,ON	Direct	R	R	4
%SW5748			ON,,OFF,ON	Direct	R	R	4
%SW5749			ON,,OFF,ON	Direct	R	R	4
%SW5750			ON,,OFF,ON	Direct	R	R	4
%SW5751			ON,,OFF,ON	Direct	R	R	4
%SW5752			ON,,OFF,ON	Direct	R	R	4
%SW5753			ON,,OFF,ON	Direct	R	R	4
%SW5754			ON,,OFF,ON	Direct	R	R	4
%SW5755			ON,,OFF,ON	Direct	R	R	4
%SW5756			ON,,OFF,ON	Direct	R	R	4
%SW5757			ON,,OFF,ON	Direct	R	R	4
%SW5758			ON,,OFF,ON	Direct	R	R	4
%SW5759			ON,,OFF,ON	Direct	R	R	4
%SW5760			ON,,OFF,ON	Direct	R	R	4
%SW5761			ON,,OFF,ON	Direct	R	R	4
%SW5762			ON,,OFF,ON	Direct	R	R	4
%SW5763			ON,,OFF,ON	Direct	R	R	4
%SW5764			ON,,OFF,ON	Direct	R	R	4
%SW5765			ON,,OFF,ON	Direct	R	R	4
%SW5766			ON,,OFF,ON	Direct	R	R	4
%SW5767			ON,,OFF,ON	Direct	R	R	4
%SW5768			ON,,OFF,ON	Direct	R	R	4
%SW5769			ON,,OFF,ON	Direct	R	R	4
%SW5770			ON,,OFF,ON	Direct	R	R	4
%SW5771			ON,,OFF,ON	Direct	R	R	4
%SW5772			ON,,OFF,ON	Direct	R	R	4
%SW5773			ON,,OFF,ON	Direct	R	R	4
%SW5774			ON,,OFF,ON	Direct	R	R	4
%SW5775			ON,,OFF,ON	Direct	R	R	4
%SW5776			ON,,OFF,ON	Direct	R	R	4
%SW5777			ON,,OFF,ON	Direct	R	R	4
%SW5778			ON,,OFF,ON	Direct	R	R	4
%SW5779			ON,,OFF,ON	Direct	R	R	4
%SW5780			ON,,OFF,ON	Direct	R	R	4
%SW5781			ON,,OFF,ON	Direct	R	R	4
%SW5782			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-15
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5783			ON,,OFF,ON	Direct	R	R	4
%SW5784			ON,,OFF,ON	Direct	R	R	4
%SW5785			ON,,OFF,ON	Direct	R	R	4
%SW5786			ON,,OFF,ON	Direct	R	R	4
%SW5787			ON,,OFF,ON	Direct	R	R	4
%SW5788			ON,,OFF,ON	Direct	R	R	4
%SW5789			ON,,OFF,ON	Direct	R	R	4
%SW5790			ON,,OFF,ON	Direct	R	R	4
%SW5791			ON,,OFF,ON	Direct	R	R	4
%SW5792			ON,,OFF,ON	Direct	R	R	4
%SW5793			ON,,OFF,ON	Direct	R	R	4
%SW5794			ON,,OFF,ON	Direct	R	R	4
%SW5795			ON,,OFF,ON	Direct	R	R	4
%SW5796			ON,,OFF,ON	Direct	R	R	4
%SW5797			ON,,OFF,ON	Direct	R	R	4
%SW5798			ON,,OFF,ON	Direct	R	R	4
%SW5799			ON,,OFF,ON	Direct	R	R	4
%SW5800			ON,,OFF,ON	Direct	R	R	4
%SW5801			ON,,OFF,ON	Direct	R	R	4
%SW5802			ON,,OFF,ON	Direct	R	R	4
%SW5803			ON,,OFF,ON	Direct	R	R	4
%SW5804			ON,,OFF,ON	Direct	R	R	4
%SW5805			ON,,OFF,ON	Direct	R	R	4
%SW5806			ON,,OFF,ON	Direct	R	R	4
%SW5807			ON,,OFF,ON	Direct	R	R	4
%SW5808			ON,,OFF,ON	Direct	R	R	4
%SW5809			ON,,OFF,ON	Direct	R	R	4
%SW5810			ON,,OFF,ON	Direct	R	R	4
%SW5811			ON,,OFF,ON	Direct	R	R	4
%SW5812			ON,,OFF,ON	Direct	R	R	4
%SW5813			ON,,OFF,ON	Direct	R	R	4
%SW5814			ON,,OFF,ON	Direct	R	R	4
%SW5815			ON,,OFF,ON	Direct	R	R	4
%SW5816			ON,,OFF,ON	Direct	R	R	4
%SW5817			ON,,OFF,ON	Direct	R	R	4
%SW5818			ON,,OFF,ON	Direct	R	R	4
%SW5819			ON,,OFF,ON	Direct	R	R	4
%SW5820			ON,,OFF,ON	Direct	R	R	4
%SW5821			ON,,OFF,ON	Direct	R	R	4
%SW5822			ON,,OFF,ON	Direct	R	R	4
%SW5823			ON,,OFF,ON	Direct	R	R	4
%SW5824			ON,,OFF,ON	Direct	R	R	4
%SW5825			ON,,OFF,ON	Direct	R	R	4
%SW5826			ON,,OFF,ON	Direct	R	R	4
%SW5827			ON,,OFF,ON	Direct	R	R	4
%SW5828			ON,,OFF,ON	Direct	R	R	4
%SW5829			ON,,OFF,ON	Direct	R	R	4
%SW5830			ON,,OFF,ON	Direct	R	R	4
%SW5831			ON,,OFF,ON	Direct	R	R	4
%SW5832			ON,,OFF,ON	Direct	R	R	4
%SW5833			ON,,OFF,ON	Direct	R	R	4
%SW5834			ON,,OFF,ON	Direct	R	R	4
%SW5835			ON,,OFF,ON	Direct	R	R	4
%SW5836			ON,,OFF,ON	Direct	R	R	4
%SW5837			ON,,OFF,ON	Direct	R	R	4
%SW5838			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-16
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5839			ON,,OFF,ON	Direct	R	R	4
%SW5840			ON,,OFF,ON	Direct	R	R	4
%SW5841			ON,,OFF,ON	Direct	R	R	4
%SW5842			ON,,OFF,ON	Direct	R	R	4
%SW5843			ON,,OFF,ON	Direct	R	R	4
%SW5844			ON,,OFF,ON	Direct	R	R	4
%SW5845			ON,,OFF,ON	Direct	R	R	4
%SW5846			ON,,OFF,ON	Direct	R	R	4
%SW5847			ON,,OFF,ON	Direct	R	R	4
%SW5848			ON,,OFF,ON	Direct	R	R	4
%SW5849			ON,,OFF,ON	Direct	R	R	4
%SW5850			ON,,OFF,ON	Direct	R	R	4
%SW5851			ON,,OFF,ON	Direct	R	R	4
%SW5852			ON,,OFF,ON	Direct	R	R	4
%SW5853			ON,,OFF,ON	Direct	R	R	4
%SW5854			ON,,OFF,ON	Direct	R	R	4
%SW5855			ON,,OFF,ON	Direct	R	R	4
%SW5856			ON,,OFF,ON	Direct	R	R	4
%SW5857			ON,,OFF,ON	Direct	R	R	4
%SW5858			ON,,OFF,ON	Direct	R	R	4
%SW5859			ON,,OFF,ON	Direct	R	R	4
%SW5860			ON,,OFF,ON	Direct	R	R	4
%SW5861			ON,,OFF,ON	Direct	R	R	4
%SW5862			ON,,OFF,ON	Direct	R	R	4
%SW5863			ON,,OFF,ON	Direct	R	R	4
%SW5864			ON,,OFF,ON	Direct	R	R	4
%SW5865			ON,,OFF,ON	Direct	R	R	4
%SW5866			ON,,OFF,ON	Direct	R	R	4
%SW5867			ON,,OFF,ON	Direct	R	R	4
%SW5868			ON,,OFF,ON	Direct	R	R	4
%SW5869			ON,,OFF,ON	Direct	R	R	4
%SW5870			ON,,OFF,ON	Direct	R	R	4
%SW5871			ON,,OFF,ON	Direct	R	R	4
%SW5872			ON,,OFF,ON	Direct	R	R	4
%SW5873			ON,,OFF,ON	Direct	R	R	4
%SW5874			ON,,OFF,ON	Direct	R	R	4
%SW5875			ON,,OFF,ON	Direct	R	R	4
%SW5876			ON,,OFF,ON	Direct	R	R	4
%SW5877			ON,,OFF,ON	Direct	R	R	4
%SW5878			ON,,OFF,ON	Direct	R	R	4
%SW5879			ON,,OFF,ON	Direct	R	R	4
%SW5880			ON,,OFF,ON	Direct	R	R	4
%SW5881			ON,,OFF,ON	Direct	R	R	4
%SW5882			ON,,OFF,ON	Direct	R	R	4
%SW5883			ON,,OFF,ON	Direct	R	R	4
%SW5884			ON,,OFF,ON	Direct	R	R	4
%SW5885			ON,,OFF,ON	Direct	R	R	4
%SW5886			ON,,OFF,ON	Direct	R	R	4
%SW5887			ON,,OFF,ON	Direct	R	R	4
%SW5888			ON,,OFF,ON	Direct	R	R	4
%SW5889			ON,,OFF,ON	Direct	R	R	4
%SW5890			ON,,OFF,ON	Direct	R	R	4
%SW5891			ON,,OFF,ON	Direct	R	R	4
%SW5892			ON,,OFF,ON	Direct	R	R	4
%SW5893			ON,,OFF,ON	Direct	R	R	4
%SW5894			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-17
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5895			ON,,OFF,ON	Direct	R	R	4
%SW5896			ON,,OFF,ON	Direct	R	R	4
%SW5897			ON,,OFF,ON	Direct	R	R	4
%SW5898			ON,,OFF,ON	Direct	R	R	4
%SW5899			ON,,OFF,ON	Direct	R	R	4
%SW5900			ON,,OFF,ON	Direct	R	R	4
%SW5901			ON,,OFF,ON	Direct	R	R	4
%SW5902			ON,,OFF,ON	Direct	R	R	4
%SW5903			ON,,OFF,ON	Direct	R	R	4
%SW5904			ON,,OFF,ON	Direct	R	R	4
%SW5905			ON,,OFF,ON	Direct	R	R	4
%SW5906			ON,,OFF,ON	Direct	R	R	4
%SW5907			ON,,OFF,ON	Direct	R	R	4
%SW5908			ON,,OFF,ON	Direct	R	R	4
%SW5909			ON,,OFF,ON	Direct	R	R	4
%SW5910			ON,,OFF,ON	Direct	R	R	4
%SW5911			ON,,OFF,ON	Direct	R	R	4
%SW5912			ON,,OFF,ON	Direct	R	R	4
%SW5913			ON,,OFF,ON	Direct	R	R	4
%SW5914			ON,,OFF,ON	Direct	R	R	4
%SW5915			ON,,OFF,ON	Direct	R	R	4
%SW5916			ON,,OFF,ON	Direct	R	R	4
%SW5917			ON,,OFF,ON	Direct	R	R	4
%SW5918			ON,,OFF,ON	Direct	R	R	4
%SW5919			ON,,OFF,ON	Direct	R	R	4
%SW5920			ON,,OFF,ON	Direct	R	R	4
%SW5921			ON,,OFF,ON	Direct	R	R	4
%SW5922			ON,,OFF,ON	Direct	R	R	4
%SW5923			ON,,OFF,ON	Direct	R	R	4
%SW5924			ON,,OFF,ON	Direct	R	R	4
%SW5925			ON,,OFF,ON	Direct	R	R	4
%SW5926			ON,,OFF,ON	Direct	R	R	4
%SW5927			ON,,OFF,ON	Direct	R	R	4
%SW5928			ON,,OFF,ON	Direct	R	R	4
%SW5929			ON,,OFF,ON	Direct	R	R	4
%SW5930			ON,,OFF,ON	Direct	R	R	4
%SW5931			ON,,OFF,ON	Direct	R	R	4
%SW5932			ON,,OFF,ON	Direct	R	R	4
%SW5933			ON,,OFF,ON	Direct	R	R	4
%SW5934			ON,,OFF,ON	Direct	R	R	4
%SW5935			ON,,OFF,ON	Direct	R	R	4
%SW5936			ON,,OFF,ON	Direct	R	R	4
%SW5937			ON,,OFF,ON	Direct	R	R	4
%SW5938			ON,,OFF,ON	Direct	R	R	4
%SW5939			ON,,OFF,ON	Direct	R	R	4
%SW5940			ON,,OFF,ON	Direct	R	R	4
%SW5941			ON,,OFF,ON	Direct	R	R	4
%SW5942			ON,,OFF,ON	Direct	R	R	4
%SW5943			ON,,OFF,ON	Direct	R	R	4
%SW5944			ON,,OFF,ON	Direct	R	R	4
%SW5945			ON,,OFF,ON	Direct	R	R	4
%SW5946			ON,,OFF,ON	Direct	R	R	4
%SW5947			ON,,OFF,ON	Direct	R	R	4
%SW5948			ON,,OFF,ON	Direct	R	R	4
%SW5949			ON,,OFF,ON	Direct	R	R	4
%SW5950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef6.edf	SHEET:		YOKOGAWA	PAGE:3-16-18
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Common switch6	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW5951			ON,,OFF,ON	Direct	R	R	4
%SW5952			ON,,OFF,ON	Direct	R	R	4
%SW5953			ON,,OFF,ON	Direct	R	R	4
%SW5954			ON,,OFF,ON	Direct	R	R	4
%SW5955			ON,,OFF,ON	Direct	R	R	4
%SW5956			ON,,OFF,ON	Direct	R	R	4
%SW5957			ON,,OFF,ON	Direct	R	R	4
%SW5958			ON,,OFF,ON	Direct	R	R	4
%SW5959			ON,,OFF,ON	Direct	R	R	4
%SW5960			ON,,OFF,ON	Direct	R	R	4
%SW5961			ON,,OFF,ON	Direct	R	R	4
%SW5962			ON,,OFF,ON	Direct	R	R	4
%SW5963			ON,,OFF,ON	Direct	R	R	4
%SW5964			ON,,OFF,ON	Direct	R	R	4
%SW5965			ON,,OFF,ON	Direct	R	R	4
%SW5966			ON,,OFF,ON	Direct	R	R	4
%SW5967			ON,,OFF,ON	Direct	R	R	4
%SW5968			ON,,OFF,ON	Direct	R	R	4
%SW5969			ON,,OFF,ON	Direct	R	R	4
%SW5970			ON,,OFF,ON	Direct	R	R	4
%SW5971			ON,,OFF,ON	Direct	R	R	4
%SW5972			ON,,OFF,ON	Direct	R	R	4
%SW5973			ON,,OFF,ON	Direct	R	R	4
%SW5974			ON,,OFF,ON	Direct	R	R	4
%SW5975			ON,,OFF,ON	Direct	R	R	4
%SW5976			ON,,OFF,ON	Direct	R	R	4
%SW5977			ON,,OFF,ON	Direct	R	R	4
%SW5978			ON,,OFF,ON	Direct	R	R	4
%SW5979			ON,,OFF,ON	Direct	R	R	4
%SW5980			ON,,OFF,ON	Direct	R	R	4
%SW5981			ON,,OFF,ON	Direct	R	R	4
%SW5982			ON,,OFF,ON	Direct	R	R	4
%SW5983			ON,,OFF,ON	Direct	R	R	4
%SW5984			ON,,OFF,ON	Direct	R	R	4
%SW5985			ON,,OFF,ON	Direct	R	R	4
%SW5986			ON,,OFF,ON	Direct	R	R	4
%SW5987			ON,,OFF,ON	Direct	R	R	4
%SW5988			ON,,OFF,ON	Direct	R	R	4
%SW5989			ON,,OFF,ON	Direct	R	R	4
%SW5990			ON,,OFF,ON	Direct	R	R	4
%SW5991			ON,,OFF,ON	Direct	R	R	4
%SW5992			ON,,OFF,ON	Direct	R	R	4
%SW5993			ON,,OFF,ON	Direct	R	R	4
%SW5994			ON,,OFF,ON	Direct	R	R	4
%SW5995			ON,,OFF,ON	Direct	R	R	4
%SW5996			ON,,OFF,ON	Direct	R	R	4
%SW5997			ON,,OFF,ON	Direct	R	R	4
%SW5998			ON,,OFF,ON	Direct	R	R	4
%SW5999			ON,,OFF,ON	Direct	R	R	4
%SW6000			ON,,OFF,ON	Direct	R	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-1
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6001			ON,,OFF,ON	Direct	G	R	4
%SW6002			ON,,OFF,ON	Direct	G	R	4
%SW6003	87LDSH-001	LOAD SHEDDING-1	ON,,OFF,ON	Direct	G	R	4
%SW6004	87LDSH-002	LOAD SHEDDING-2	ON,,OFF,ON	Direct	G	R	4
%SW6005			ON,,OFF,ON	Direct	G	R	4
%SW6006			ON,,OFF,ON	Direct	G	R	4
%SW6007			ON,,OFF,ON	Direct	G	R	4
%SW6008			ON,,OFF,ON	Direct	G	R	4
%SW6009			ON,,OFF,ON	Direct	G	R	4
%SW6010			ON,,OFF,ON	Direct	G	R	4
%SW6011			ON,,OFF,ON	Direct	G	R	4
%SW6012			ON,,OFF,ON	Direct	G	R	4
%SW6013			ON,,OFF,ON	Direct	G	R	4
%SW6014			ON,,OFF,ON	Direct	G	R	4
%SW6015			ON,,OFF,ON	Direct	G	R	4
%SW6016			ON,,OFF,ON	Direct	G	R	4
%SW6017			ON,,OFF,ON	Direct	G	R	4
%SW6018			ON,,OFF,ON	Direct	G	R	4
%SW6019			ON,,OFF,ON	Direct	G	R	4
%SW6020			ON,,OFF,ON	Direct	G	R	4
%SW6021			ON,,OFF,ON	Direct	G	R	4
%SW6022			ON,,OFF,ON	Direct	G	R	4
%SW6023			ON,,OFF,ON	Direct	G	R	4
%SW6024			ON,,OFF,ON	Direct	G	R	4
%SW6025			ON,,OFF,ON	Direct	G	R	4
%SW6026			ON,,OFF,ON	Direct	G	R	4
%SW6027			ON,,OFF,ON	Direct	G	R	4
%SW6028			ON,,OFF,ON	Direct	G	R	4
%SW6029			ON,,OFF,ON	Direct	G	R	4
%SW6030			ON,,OFF,ON	Direct	G	R	4
%SW6031			ON,,OFF,ON	Direct	G	R	4
%SW6032			ON,,OFF,ON	Direct	G	R	4
%SW6033			ON,,OFF,ON	Direct	G	R	4
%SW6034			ON,,OFF,ON	Direct	G	R	4
%SW6035			ON,,OFF,ON	Direct	G	R	4
%SW6036			ON,,OFF,ON	Direct	G	R	4
%SW6037			ON,,OFF,ON	Direct	G	R	4
%SW6038			ON,,OFF,ON	Direct	G	R	4
%SW6039			ON,,OFF,ON	Direct	G	R	4
%SW6040			ON,,OFF,ON	Direct	G	R	4
%SW6041			ON,,OFF,ON	Direct	G	R	4
%SW6042			ON,,OFF,ON	Direct	G	R	4
%SW6043			ON,,OFF,ON	Direct	G	R	4
%SW6044			ON,,OFF,ON	Direct	G	R	4
%SW6045			ON,,OFF,ON	Direct	G	R	4
%SW6046			ON,,OFF,ON	Direct	G	R	4
%SW6047			ON,,OFF,ON	Direct	G	R	4
%SW6048			ON,,OFF,ON	Direct	G	R	4
%SW6049			ON,,OFF,ON	Direct	G	R	4
%SW6050			ON,,OFF,ON	Direct	G	R	4
%SW6051			ON,,OFF,ON	Direct	G	R	4
%SW6052			ON,,OFF,ON	Direct	G	R	4
%SW6053			ON,,OFF,ON	Direct	G	R	4
%SW6054			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-2
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6055			ON,,OFF,ON	Direct	G	R	4
%SW6056			ON,,OFF,ON	Direct	G	R	4
%SW6057			ON,,OFF,ON	Direct	G	R	4
%SW6058			ON,,OFF,ON	Direct	G	R	4
%SW6059			ON,,OFF,ON	Direct	G	R	4
%SW6060			ON,,OFF,ON	Direct	G	R	4
%SW6061			ON,,OFF,ON	Direct	G	R	4
%SW6062			ON,,OFF,ON	Direct	G	R	4
%SW6063			ON,,OFF,ON	Direct	G	R	4
%SW6064			ON,,OFF,ON	Direct	G	R	4
%SW6065			ON,,OFF,ON	Direct	G	R	4
%SW6066			ON,,OFF,ON	Direct	G	R	3
%SW6067			ON,,OFF,ON	Direct	G	R	3
%SW6068			ON,,OFF,ON	Direct	G	R	3
%SW6069			ON,,OFF,ON	Direct	G	R	3
%SW6070			ON,,OFF,ON	Direct	G	R	3
%SW6071			ON,,OFF,ON	Direct	G	R	3
%SW6072			ON,,OFF,ON	Direct	G	R	3
%SW6073			ON,,OFF,ON	Direct	G	R	3
%SW6074			ON,,OFF,ON	Direct	G	R	3
%SW6075			ON,,OFF,ON	Direct	G	R	3
%SW6076			ON,,OFF,ON	Direct	G	R	3
%SW6077			ON,,OFF,ON	Direct	G	R	3
%SW6078			ON,,OFF,ON	Direct	G	R	3
%SW6079			ON,,OFF,ON	Direct	G	R	3
%SW6080			ON,,OFF,ON	Direct	G	R	4
%SW6081			ON,,OFF,ON	Direct	G	R	3
%SW6082			ON,,OFF,ON	Direct	G	R	3
%SW6083			ON,,OFF,ON	Direct	G	R	3
%SW6084			ON,,OFF,ON	Direct	G	R	3
%SW6085			ON,,OFF,ON	Direct	G	R	3
%SW6086			ON,,OFF,ON	Direct	G	R	3
%SW6087			ON,,OFF,ON	Direct	G	R	3
%SW6088			ON,,OFF,ON	Direct	G	R	3
%SW6089			ON,,OFF,ON	Direct	G	R	3
%SW6090			ON,,OFF,ON	Direct	G	R	3
%SW6091			ON,,OFF,ON	Direct	G	R	3
%SW6092			ON,,OFF,ON	Direct	G	R	4
%SW6093			ON,,OFF,ON	Direct	G	R	4
%SW6094			ON,,OFF,ON	Direct	G	R	4
%SW6095			ON,,OFF,ON	Direct	G	R	4
%SW6096			ON,,OFF,ON	Direct	G	R	3
%SW6097			ON,,OFF,ON	Direct	G	R	3
%SW6098			ON,,OFF,ON	Direct	G	R	3
%SW6099			ON,,OFF,ON	Direct	G	R	3
%SW6100			ON,,OFF,ON	Direct	G	R	3
%SW6101			ON,,OFF,ON	Direct	G	R	3
%SW6102			ON,,OFF,ON	Direct	G	R	3
%SW6103			ON,,OFF,ON	Direct	G	R	3
%SW6104			ON,,OFF,ON	Direct	G	R	3
%SW6105			ON,,OFF,ON	Direct	G	R	3
%SW6106			ON,,OFF,ON	Direct	G	R	3
%SW6107			ON,,OFF,ON	Direct	G	R	3
%SW6108			ON,,OFF,ON	Direct	G	R	4
%SW6109			ON,,OFF,ON	Direct	G	R	4
%SW6110			ON,,OFF,ON	Direct	G	R	4

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PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-3
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6111			ON,,OFF,ON	Direct	G	R	4
%SW6112			ON,,OFF,ON	Direct	G	R	4
%SW6113			ON,,OFF,ON	Direct	G	R	4
%SW6114			ON,,OFF,ON	Direct	G	R	4
%SW6115			ON,,OFF,ON	Direct	G	R	4
%SW6116			ON,,OFF,ON	Direct	G	R	4
%SW6117			ON,,OFF,ON	Direct	G	R	4
%SW6118			ON,,OFF,ON	Direct	G	R	4
%SW6119			ON,,OFF,ON	Direct	G	R	4
%SW6120			ON,,OFF,ON	Direct	G	R	4
%SW6121			ON,,OFF,ON	Direct	G	R	4
%SW6122			ON,,OFF,ON	Direct	G	R	4
%SW6123			ON,,OFF,ON	Direct	G	R	4
%SW6124			ON,,OFF,ON	Direct	G	R	4
%SW6125			ON,,OFF,ON	Direct	G	R	4
%SW6126			ON,,OFF,ON	Direct	G	R	4
%SW6127			ON,,OFF,ON	Direct	G	R	4
%SW6128			ON,,OFF,ON	Direct	G	R	4
%SW6129			ON,,OFF,ON	Direct	G	R	4
%SW6130			ON,,OFF,ON	Direct	G	R	4
%SW6131			ON,,OFF,ON	Direct	G	R	4
%SW6132			ON,,OFF,ON	Direct	G	R	4
%SW6133			ON,,OFF,ON	Direct	G	R	4
%SW6134			ON,,OFF,ON	Direct	G	R	4
%SW6135			ON,,OFF,ON	Direct	G	R	4
%SW6136			ON,,OFF,ON	Direct	G	R	4
%SW6137			ON,,OFF,ON	Direct	G	R	4
%SW6138			ON,,OFF,ON	Direct	G	R	4
%SW6139			ON,,OFF,ON	Direct	G	R	4
%SW6140			ON,,OFF,ON	Direct	G	R	4
%SW6141			ON,,OFF,ON	Direct	G	R	4
%SW6142			ON,,OFF,ON	Direct	G	R	4
%SW6143			ON,,OFF,ON	Direct	G	R	4
%SW6144			ON,,OFF,ON	Direct	G	R	4
%SW6145			ON,,OFF,ON	Direct	G	R	4
%SW6146			ON,,OFF,ON	Direct	G	R	4
%SW6147			ON,,OFF,ON	Direct	G	R	4
%SW6148			ON,,OFF,ON	Direct	G	R	4
%SW6149			ON,,OFF,ON	Direct	G	R	4
%SW6150			ON,,OFF,ON	Direct	G	R	4
%SW6151			ON,,OFF,ON	Direct	G	R	4
%SW6152			ON,,OFF,ON	Direct	G	R	4
%SW6153			ON,,OFF,ON	Direct	G	R	4
%SW6154			ON,,OFF,ON	Direct	G	R	4
%SW6155			ON,,OFF,ON	Direct	G	R	4
%SW6156			ON,,OFF,ON	Direct	G	R	4
%SW6157			ON,,OFF,ON	Direct	G	R	4
%SW6158			ON,,OFF,ON	Direct	G	R	4
%SW6159			ON,,OFF,ON	Direct	G	R	4
%SW6160			ON,,OFF,ON	Direct	G	R	4
%SW6161			ON,,OFF,ON	Direct	G	R	4
%SW6162			ON,,OFF,ON	Direct	G	R	4
%SW6163			ON,,OFF,ON	Direct	G	R	4
%SW6164			ON,,OFF,ON	Direct	G	R	4
%SW6165			ON,,OFF,ON	Direct	G	R	4
%SW6166			ON,,OFF,ON	Direct	G	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-4
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6167			ON,,OFF,ON	Direct	G	R	4
%SW6168			ON,,OFF,ON	Direct	G	R	4
%SW6169			ON,,OFF,ON	Direct	G	R	4
%SW6170			ON,,OFF,ON	Direct	G	R	4
%SW6171			ON,,OFF,ON	Direct	G	R	4
%SW6172			ON,,OFF,ON	Direct	G	R	4
%SW6173			ON,,OFF,ON	Direct	G	R	4
%SW6174			ON,,OFF,ON	Direct	G	R	4
%SW6175			ON,,OFF,ON	Direct	G	R	4
%SW6176			ON,,OFF,ON	Direct	G	R	4
%SW6177			ON,,OFF,ON	Direct	G	R	4
%SW6178			ON,,OFF,ON	Direct	G	R	4
%SW6179			ON,,OFF,ON	Direct	G	R	4
%SW6180			ON,,OFF,ON	Direct	G	R	4
%SW6181			ON,,OFF,ON	Direct	G	R	4
%SW6182			ON,,OFF,ON	Direct	G	R	4
%SW6183			ON,,OFF,ON	Direct	G	R	4
%SW6184			ON,,OFF,ON	Direct	G	R	4
%SW6185			ON,,OFF,ON	Direct	G	R	4
%SW6186			ON,,OFF,ON	Direct	G	R	4
%SW6187			ON,,OFF,ON	Direct	G	R	4
%SW6188			ON,,OFF,ON	Direct	G	R	4
%SW6189			ON,,OFF,ON	Direct	G	R	4
%SW6190			ON,,OFF,ON	Direct	G	R	4
%SW6191			ON,,OFF,ON	Direct	G	R	4
%SW6192			ON,,OFF,ON	Direct	G	R	4
%SW6193			ON,,OFF,ON	Direct	G	R	4
%SW6194			ON,,OFF,ON	Direct	G	R	4
%SW6195			ON,,OFF,ON	Direct	G	R	4
%SW6196			ON,,OFF,ON	Direct	G	R	4
%SW6197			ON,,OFF,ON	Direct	G	GR	4
%SW6198			ON,,OFF,ON	Direct	G	GR	4
%SW6199			ON,,OFF,ON	Direct	G	GR	4
%SW6200			ON,,OFF,ON	Direct	G	GR	4
%SW6201			ON,,OFF,ON	Direct	G	GR	4
%SW6202			ON,,OFF,ON	Direct	G	GR	4
%SW6203			NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6204			ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6205			NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6206			NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6207			READY,,N_READY,READY	Direct	G	R	4
%SW6208			READY,,N_READY,READY	Direct	G	R	4
%SW6209			READY,,N_READY,READY	Direct	G	R	4
%SW6210			READY,,N_READY,READY	Direct	G	R	4
%SW6211			NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6212			ON,,OFF,ON	Direct	G	GR	4
%SW6213			ON,,OFF,ON	Direct	G	GR	4
%SW6214			CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6215			ON,,OFF,ON	Direct	R	GR	4
%SW6216			ON,,OFF,ON	Direct	G	GR	4
%SW6217			ON,,OFF,ON	Direct	G	GR	4
%SW6218			READY,,N_READY,READY	Direct	G	R	4
%SW6219			CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6220		QF1 PROT TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6221		QF1 PROT TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6222		QF1 PROT TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4

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PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-5
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6223		QF1 PROT TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6224			READY,,N_READY,READY	Direct	G	R	4
%SW6225			READY,,N_READY,READY	Direct	G	R	4
%SW6226			LOCAL,,REMOTE ,LOCAL	Direct	G	GR	4
%SW6227			READY,,N_READY,READY	Direct	G	R	4
%SW6228			READY,,N_READY,READY	Direct	G	R	4
%SW6229			TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6230			TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6231			TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6232			TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6233		QF1 - OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6234		QF1 - CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6235		QF1 - CONNECTED	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6236		QF1 - TEST	ON,,OFF,ON	Direct	R	GR	4
%SW6237		QF1 - TRIP UNIT DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6238			CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6239			TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6240			TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6241			CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6242			CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6243			CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6244			CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6245			LOCAL,,REMOTE ,LOCAL	Direct	R	GR	4
%SW6246			CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6247			CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6248			CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6249			OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6250			TRIP,,NORMAL,TRIP	Direct	R	G	4
%SW6251			NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6252		AC UPS F&G BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6253		AC UPS F&G BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6254		AC UPS F&G BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6255		AC UPS PAS LN A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6256		AC UPS PAS LN A CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6257		AC UPS PAS LN A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6258		AC UPS PAS LN A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6259		AC UPS PAS LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6260		AC UPS PAS LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6261		AC UPS PAS LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6262		AC UPS PAS LN B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6263		AC UPS PAS LN B CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6264		AC UPS PAS LN B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6265		AC UPS PAS LN B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6266		AC UPS PAS LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6267		AC UPS PAS LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6268		AC UPS PAS LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6269		AC UPS F&G LN A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6270		AC UPS F&G LN A CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6271		AC UPS F&G LN A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6272		AC UPS F&G LN A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6273		AC UPS F&G LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6274		AC UPS F&G LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6275		AC UPS F&G LN A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6276		AC UPS F&G LN B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6277		AC UPS F&G LN B CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6278		AC UPS F&G LN B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4

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PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-6
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6279		AC UPS F&G LN B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6280		AC UPS F&G LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6281		AC UPS F&G LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6282		AC UPS F&G LN B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6283		WELD TOP DECK CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6284		WELD TOP DECK CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6285		WELD TOP DECK CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6286		WELD TOP DECK CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6287		WELD TOP DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6288		WELD TOP DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6289		WELD TOP DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6290		AC UPS PAS BYP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6291		AC UPS PAS BYP CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6292		AC UPS PAS BYP CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6293		AC UPS PAS BYP CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6294		AC UPS PAS BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6295		AC UPS PAS BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6296		AC UPS PAS BYP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6297		DC BAT FDR A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6298		DC BAT FDR A CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6299		DC BAT FDR A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6300		DC BAT FDR A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6301		DC BAT FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6302		DC BAT FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6303		DC BAT FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6304		DC BAT FDR B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6305		DC BAT FDR B CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6306		DC BAT FDR B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6307		DC BAT FDR B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6308		DC BAT FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6309		DC BAT FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6310		DC BAT FDR B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6311		NAVAID FDR A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6312		NAVAID FDR A CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6313		NAVAID FDR A CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6314		NAVAID FDR A CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6315		NAVAID FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6316		NAVAID FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6317		NAVAID FDR A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6318		NAVAID FDR B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6319		NAVAID FDR B CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6320		NAVAID FDR B CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6321		NAVAID FDR B CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6322			ON,,OFF,ON	Direct	G	R	4
%SW6323			ON,,OFF,ON	Direct	G	R	4
%SW6324			ON,,OFF,ON	Direct	G	R	4
%SW6325		WELD LOW DECK CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6326		WELD LOW DECK CB OP	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6327		WELD LOW DECK CB TRIP	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6328		WELD LOW DECK CB FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6329		WELD LOW DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6330		WELD LOW DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6331		WELD LOW DECK AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6332		DB BOP TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6333		DB BOP TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6334		DB BOP TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4

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PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-7
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6335		DB BOP TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6336		DB BOP OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6337		DB BOP CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6338		DB BOP TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6339		DB BOP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6340		DB BOP CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6341		DB BOP TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6342		DB BOP FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6343		DB BOP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	GR	4
%SW6344		DB BOP CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6345		DB BOP CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6346		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6347		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6348		DB BOP SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6349		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6350		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6351		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6352		DB BOP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6353		CRANE TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6354		CRANE TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6355		CRANE TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6356		CRANE TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6357		CRANE OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6358		CRANE CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
%SW6359		CRANE TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6360		CRANE CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6361		CRANE CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6362		CRANE TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6363		CRANE FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6364		CRANE INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6365		CRANE CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6366		CRANE CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6367		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6368		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6369		CRANE SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6370		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6371		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6372		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6373		CRANE AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6374		WTP TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6375		WTP TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6376		WTP TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6377		WTP TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6378		WTP OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6379		WTP CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6380		WTP TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6381		WTP CB CLS	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6382		WTP CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6383		WTP TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6384		WTP FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6385		WTP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6386		WTP CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6387		WTP CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6388		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6389		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6390		WTP SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-8
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6391		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6392		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6393		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6394		WTP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6395		HVAC PNL HV TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6396		HVAC PNL HV TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6397		HVAC PNL HV TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6398		HVAC PNL HV TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6399		HVAC PNL HV OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6400		HVAC PNL HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6401		HVAC PNL HV TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6402		HVAC PNL HV CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6403		HVAC PNL HV CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6404		HVAC PNL HV TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6405		HVAC PNL HV FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6406		HVAC PNL HV INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6407		HVAC PNL HV CN CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6408		HVAC PNL HV CN OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6409		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6410		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6411		HVAC PNL HV SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6412		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6413		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6414		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6415		HVAC PNL HV AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6416		FC AUX LD TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6417		FC AUX LD TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6418		FC AUX LD TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6419		FC AUX LD TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6420		FC AUX LD OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6421		FC AUX LD CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6422		FC AUX LD TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6423		FC AUX LDCB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6424		FC AUX LDCB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6425		FC AUX LDTRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6426		FC AUX LDFDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6427		FC AUX LDINTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6428		FC AUX LD CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6429		FC AUX LD CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6430		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6431		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6432		FC AUX LD SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6433		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6434		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6435		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6436		FC AUX LDAVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6437		BESS PCS TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6438		BESS PCS TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6439		BESS PCS TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6440		BESS PCS TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6441		BESS PCS HV OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6442		BESS PCS HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6443		BESS PCS HV TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6444		BESS PCS CAB CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6445		BESS PCS CAB CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6446		BESS PCS CAB TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-9
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6447		BESS PCS CAB FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6448		BESS PCS CAB INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6449		BESS PCS CAB CN CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6450		BESS PCS CAB CN OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6451		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6452		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6453		BESS PCS CAB SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6454		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6455		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6456		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6457		BESS PCS CAB AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6458		IA 01A TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6459		IA 01A TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6460		IA 01A TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6461		IA 01A TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6462		IA 01A OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6463		IA 01A CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6464		IA 01A TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6465		IA 01A CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6466		IA 01A CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6467		IA 01A TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6468		IA 01A FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6469		IA 01A INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6470		IA 01A CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6471		IA 01A CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6472		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6473		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6474		IA 01A SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6475		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6476		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6477		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6478		IA 01A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6479		HVAC LV RM TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6480		HVAC LV RM TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6481		HVAC LV RM TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6482		HVAC LV RM TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6483		HVAC LV RM OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6484		HVAC LV RM CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6485		HVAC LV RM TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6486		HVAC LV RM CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6487		HVAC LV RM CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6488		HVAC LV RM TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6489		HVAC LV RM FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6490		HVAC LV RM INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6491		HVAC LV RM CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6492		HVAC LV RM CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6493		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6494		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6495		HVAC LV RM SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6496		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6497		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6498		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6499		HVAC LV RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6500		HVAC UPS RM TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6501		HVAC UPS RM TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6502		HVAC UPS RM TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-10
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6503		HVAC UPS RM TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6504		HVAC UPS RM OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6505		HVAC UPS RM CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6506		HVAC UPS RM TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6507		HVAC UPS RM CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6508		HVAC UPS RM CB OPN	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6509		HVAC UPS RM TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6510		HVAC UPS RM FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6511		HVAC UPS RM INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6512		HVAC UPS RM CN CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6513		HVAC UPS RM CN OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6514		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6515		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6516		HVAC UPS RM SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6517		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6518		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6519		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6520		HVAC UPS RM AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6521		HVAC ITER TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6522		HVAC ITER TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6523		HVAC ITER TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6524		HVAC ITER TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6525		HVAC ITER OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6526		HVAC ITER CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6527		HVAC ITER TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6528		HVAC ITER CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6529		HVAC ITER CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6530		HVAC ITER TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6531		HVAC ITER FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6532		HVAC ITER INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6533		HVAC ITER CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6534		HVAC ITER CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6535		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6536		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6537		HVAC ITER SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6538		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6539		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6540		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6541		HVAC ITER AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6542		ICCP TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6543		ICCP TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6544		ICCP TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6545		ICCP TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6546		ICCP OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6547		ICCP CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6548		ICCP TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6549		ICCP CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6550		ICCP CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6551		ICCP TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6552		ICCP FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6553		ICCP INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6554		ICCP CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	R	GR	4
%SW6555		ICCP CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	G	GR	4
%SW6556		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6557		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6558		ICCP SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-11
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6559		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6560		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6561		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6562		ICCP AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6563		IA 01B TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6564		IA 01B TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6565		IA 01B TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6566		IA 01B TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6567		IA 01B OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6568		IA 01B CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6569		IA 01B TRIP DISCON	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6570		IA 01B CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6571		IA 01B CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6572		IA 01B TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6573		IA 01B FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6574		IA 01B INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6575		IA 01B CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6576		IA 01B CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6577		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6578		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6579		IA 01B SA1 LOC	LOCAL,,REMOTE ,LOCAL	Reverse	G	R	4
%SW6580		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6581		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6582		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6583		IA 01B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6584		BESS LV1 TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6585		BESS LV1 TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6586		BESS LV1 TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6587		BESS LV1 TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6588		BESS LV1 HV OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6589		BESS LV1 HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6590		DPT OL FLTRS HI ALM	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6591		BESS LV1 CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6592		BESS LV1 CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6593		BESS LV1 TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6594		BESS LV1 FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6595		BESS LV1 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6596		BESS LV1 CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6597		BESS LV1 CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6598		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6599		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6600		BESS LV1 SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6601		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6602		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6603		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6604		BESS LV1 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6605		BESS LV2 TRIP L	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6606		BESS LV2 TRIP S	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6607		BESS LV2 TRIP I	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6608		BESS LV2 TRIP G	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6609		BESS LV2 HV OPEN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6610		BESS LV2 HV CLOSED	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6611		DRYER-1 DEPR SOV OPN	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW6612		BESS LV2 CB CLS	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6613		BESS LV2 CB OPN	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6614		BESS LV2 TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-12
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6615		BESS LV2 FDR AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6616		BESS LV2 INTER FLT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6617		BESS LV2 CONT CLS CMD	CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6618		BESS LV2 CONT OPN CMD	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6619		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6620		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6621		BESS LV2 SA1 LOC	LOCAL,,REMOTE ,LOCAL	Direct	G	R	4
%SW6622		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6623		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6624		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6625		BESS LV2 AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6626			CLOSED,,N_CLOSED,CLOSED	Direct	G	GR	4
%SW6627			OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6628			ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6629			ON,,OFF,ON	Direct	G	R	4
%SW6630			NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6631		TEMP GEN/BAT AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6632		TEMP GEN/BAT AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6633		SW PMP A LOC	REMOTE ,,LOCAL,REMOTE	Reverse	G	R	4
%SW6634		SW PMP A RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
%SW6635		SW PMP A TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6636		SW PMP A AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6637		SW PMP A ESD ACT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6638		SW PMP A PA1 LOC STOP	STOP,,,STOP	Reverse	R	GR	4
%SW6639		SW PMP A STRT CMD	START,,,START	Direct	G	GR	4
%SW6640		SW PMP A STOP CMD	STOP,,,STOP	Direct	R	GR	4
%SW6641		SW PMP B LOC	REMOTE ,,LOCAL,REMOTE	Reverse	G	R	4
%SW6642		SW PMP B RUNNING	RUNNING,,STOPPED,RUNNING	Direct	G	R	4
%SW6643		SW PMP B TRIPPED	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6644		SW PMP B AVAIL	ON,,OFF,ON	Direct	G	R	4
%SW6645		SW PMP B ESD ACT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6646		SW PMP B PA1 LOC STOP	STOP,,,STOP	Reverse	R	GR	4
%SW6647		SW PMP B STRT CMD	START,,,START	Direct	G	GR	4
%SW6648		SW PMP B STOP CMD	STOP,,,STOP	Direct	R	GR	4
%SW6649			ON,,OFF,ON	Direct	G	R	4
%SW6650			ON,,OFF,ON	Direct	G	R	4
%SW6651			ON,,OFF,ON	Direct	G	R	4
%SW6652			ON,,OFF,ON	Direct	G	R	4
%SW6653			ON,,OFF,ON	Direct	G	R	4
%SW6654			ON,,OFF,ON	Direct	G	R	4
%SW6655			ON,,OFF,ON	Direct	G	R	4
%SW6656			ON,,OFF,ON	Direct	G	R	4
%SW6657			ON,,OFF,ON	Direct	G	R	4
%SW6658			ON,,OFF,ON	Reverse	G	R	4
%SW6659			ON,,OFF,ON	Reverse	G	R	4
%SW6660			ON,,OFF,ON	Reverse	G	R	4
%SW6661			ON,,OFF,ON	Reverse	G	R	4
%SW6662			ON,,OFF,ON	Direct	G	R	4
%SW6663			ON,,OFF,ON	Direct	G	R	4
%SW6664			ON,,OFF,ON	Direct	G	R	4
%SW6665			ON,,OFF,ON	Direct	G	R	4
%SW6666			ON,,OFF,ON	Direct	G	R	4
%SW6667			ON,,OFF,ON	Direct	G	R	4
%SW6668			ON,,OFF,ON	Direct	G	R	4
%SW6669			ON,,OFF,ON	Direct	G	R	4
%SW6670			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-13
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6671			ON,,OFF,ON	Direct	G	R	4
%SW6672			ON,,OFF,ON	Direct	G	R	4
%SW6673			ON,,OFF,ON	Direct	G	R	4
%SW6674			ON,,OFF,ON	Direct	G	R	4
%SW6675			ON,,OFF,ON	Direct	G	R	4
%SW6676			ON,,OFF,ON	Direct	G	R	4
%SW6677			ON,,OFF,ON	Direct	G	R	4
%SW6678			ON,,OFF,ON	Direct	G	R	4
%SW6679			ON,,OFF,ON	Direct	G	R	4
%SW6680			ON,,OFF,ON	Direct	G	R	4
%SW6681			ON,,OFF,ON	Direct	G	R	4
%SW6682			ON,,OFF,ON	Direct	G	R	4
%SW6683			ON,,OFF,ON	Direct	G	R	4
%SW6684			ON,,OFF,ON	Direct	G	R	4
%SW6685			ON,,OFF,ON	Direct	G	R	4
%SW6686			ON,,OFF,ON	Direct	G	R	4
%SW6687			ON,,OFF,ON	Direct	G	R	4
%SW6688			ON,,OFF,ON	Direct	G	R	4
%SW6689			ON,,OFF,ON	Direct	G	R	4
%SW6690			ON,,OFF,ON	Direct	G	R	4
%SW6691			ON,,OFF,ON	Direct	G	R	4
%SW6692			ON,,OFF,ON	Direct	G	R	4
%SW6693			ON,,OFF,ON	Direct	G	R	4
%SW6694			ON,,OFF,ON	Direct	G	R	4
%SW6695			ON,,OFF,ON	Direct	G	R	4
%SW6696			ON,,OFF,ON	Direct	G	R	4
%SW6697			ON,,OFF,ON	Direct	G	R	4
%SW6698			ON,,OFF,ON	Direct	G	R	4
%SW6699			ON,,OFF,ON	Direct	G	R	4
%SW6700			ON,,OFF,ON	Direct	G	R	4
%SW6701			ON,,OFF,ON	Direct	G	R	4
%SW6702			ON,,OFF,ON	Direct	G	R	4
%SW6703			ON,,OFF,ON	Direct	G	R	4
%SW6704			ON,,OFF,ON	Direct	G	R	4
%SW6705			ON,,OFF,ON	Direct	G	R	4
%SW6706			ON,,OFF,ON	Direct	G	R	4
%SW6707			ON,,OFF,ON	Direct	G	R	4
%SW6708			ON,,OFF,ON	Direct	G	R	4
%SW6709			ON,,OFF,ON	Direct	G	R	4
%SW6710			ON,,OFF,ON	Direct	G	R	4
%SW6711			ON,,OFF,ON	Direct	G	R	4
%SW6712			ON,,OFF,ON	Direct	G	R	4
%SW6713			ON,,OFF,ON	Direct	G	R	4
%SW6714			ON,,OFF,ON	Direct	G	R	4
%SW6715			ON,,OFF,ON	Direct	G	R	4
%SW6716			ON,,OFF,ON	Direct	G	R	4
%SW6717			ON,,OFF,ON	Direct	G	R	4
%SW6718			ON,,OFF,ON	Direct	G	R	4
%SW6719			ON,,OFF,ON	Direct	G	R	4
%SW6720			ON,,OFF,ON	Direct	G	R	4
%SW6721			ON,,OFF,ON	Direct	G	R	4
%SW6722			ON,,OFF,ON	Direct	G	R	4
%SW6723			ON,,OFF,ON	Direct	G	R	4
%SW6724			ON,,OFF,ON	Direct	G	R	4
%SW6725			ON,,OFF,ON	Direct	G	R	4
%SW6726			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-14
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6727			ON,,OFF,ON	Direct	G	R	4
%SW6728			ON,,OFF,ON	Direct	G	R	4
%SW6729			ON,,OFF,ON	Direct	G	R	4
%SW6730			ON,,OFF,ON	Direct	G	R	4
%SW6731			ON,,OFF,ON	Direct	G	R	4
%SW6732			ON,,OFF,ON	Direct	G	R	4
%SW6733			ON,,OFF,ON	Direct	G	R	4
%SW6734			ON,,OFF,ON	Direct	G	R	4
%SW6735			ON,,OFF,ON	Direct	G	R	4
%SW6736			ON,,OFF,ON	Direct	G	R	4
%SW6737			ON,,OFF,ON	Direct	G	R	4
%SW6738			ON,,OFF,ON	Direct	G	R	4
%SW6739			ON,,OFF,ON	Direct	G	R	4
%SW6740			ON,,OFF,ON	Direct	G	R	4
%SW6741			ON,,OFF,ON	Direct	G	R	4
%SW6742			ON,,OFF,ON	Direct	G	R	4
%SW6743			ON,,OFF,ON	Direct	G	R	4
%SW6744			ON,,OFF,ON	Direct	G	R	4
%SW6745			ON,,OFF,ON	Direct	G	R	4
%SW6746			ON,,OFF,ON	Direct	G	R	4
%SW6747			ON,,OFF,ON	Direct	G	R	4
%SW6748			ON,,OFF,ON	Direct	G	R	4
%SW6749			ON,,OFF,ON	Direct	G	R	4
%SW6750			ON,,OFF,ON	Direct	G	R	4
%SW6751			ON,,OFF,ON	Direct	G	R	4
%SW6752			ON,,OFF,ON	Direct	G	R	4
%SW6753			ON,,OFF,ON	Direct	G	R	4
%SW6754			ON,,OFF,ON	Direct	G	R	4
%SW6755			ON,,OFF,ON	Direct	G	R	4
%SW6756			ON,,OFF,ON	Direct	G	R	4
%SW6757			ON,,OFF,ON	Direct	G	R	4
%SW6758			ON,,OFF,ON	Direct	G	R	4
%SW6759			ON,,OFF,ON	Direct	G	R	4
%SW6760			ON,,OFF,ON	Direct	G	R	4
%SW6761			ON,,OFF,ON	Direct	G	R	4
%SW6762			ON,,OFF,ON	Direct	G	R	4
%SW6763			ON,,OFF,ON	Direct	G	R	4
%SW6764			ON,,OFF,ON	Direct	G	R	4
%SW6765			ON,,OFF,ON	Direct	G	R	4
%SW6766			ON,,OFF,ON	Direct	G	R	4
%SW6767			ON,,OFF,ON	Direct	G	R	4
%SW6768			ON,,OFF,ON	Direct	G	R	4
%SW6769			ON,,OFF,ON	Direct	G	R	4
%SW6770			ON,,OFF,ON	Direct	G	R	4
%SW6771			ON,,OFF,ON	Direct	G	R	4
%SW6772			ON,,OFF,ON	Direct	G	R	4
%SW6773			ON,,OFF,ON	Direct	G	R	4
%SW6774			ON,,OFF,ON	Direct	G	R	4
%SW6775			ON,,OFF,ON	Direct	G	R	4
%SW6776			ON,,OFF,ON	Direct	G	R	4
%SW6777			ON,,OFF,ON	Direct	G	R	4
%SW6778			ON,,OFF,ON	Direct	G	R	4
%SW6779			ON,,OFF,ON	Direct	G	R	4
%SW6780			ON,,OFF,ON	Direct	G	R	4
%SW6781			ON,,OFF,ON	Direct	G	R	4
%SW6782			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-15
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6783			ON,,OFF,ON	Direct	G	R	4
%SW6784			ON,,OFF,ON	Direct	G	R	4
%SW6785			ON,,OFF,ON	Direct	G	R	4
%SW6786			ON,,OFF,ON	Direct	G	R	4
%SW6787			ON,,OFF,ON	Direct	G	R	4
%SW6788			ON,,OFF,ON	Direct	G	R	4
%SW6789			ON,,OFF,ON	Direct	G	R	4
%SW6790			ON,,OFF,ON	Direct	G	R	4
%SW6791			ON,,OFF,ON	Direct	G	R	4
%SW6792			ON,,OFF,ON	Direct	G	R	4
%SW6793			ON,,OFF,ON	Direct	G	R	4
%SW6794			ON,,OFF,ON	Direct	G	R	4
%SW6795	87HSTBY-001	PERM HOT STANDBY	ON,,OFF,ON	Direct	G	R	4
%SW6796	87CSTBY-001	PERM COLD STANDBY	ON,,OFF,ON	Direct	G	R	4
%SW6797	87EMG-001	PERM TO ENTER EMG MODE	ON,,OFF,ON	Direct	G	R	4
%SW6798	87EXP-001	PERM TO EXPORT MODE	ON,,OFF,ON	Direct	G	R	4
%SW6799	87PERMSTF-001	PERM TO START FUELCELL	ON,,OFF,ON	Direct	G	R	4
%SW6800	87PERMSTE-001	PERM TO START ELECT	ON,,OFF,ON	Direct	G	R	4
%SW6801	87INDFULL-001	FUEL TANKS ARE FULL	ON,,OFF,ON	Direct	G	R	4
%SW6802	87XA-001	FAULT	NORMAL,,FAULT,NORMAL	Direct	G	R	4
%SW6803	87STRQ-0001	EMCS PERM TO ST ELECT	START,,,START	Direct	G	GR	4
%SW6804	87STF-002	EMCS PERM TO STR FUELCEL	START,,,START	Direct	R	GR	4
%SW6805	87XS-002	POWER OUT MODE	ALARM,,NORMAL,ALARM	Direct	R	G	4
%SW6806			ON,,OFF,ON	Direct	G	R	4
%SW6807			ON,,OFF,ON	Direct	G	R	4
%SW6808			ON,,OFF,ON	Direct	G	R	4
%SW6809			ON,,OFF,ON	Direct	G	R	4
%SW6810			ON,,OFF,ON	Direct	G	R	4
%SW6811			ON,,OFF,ON	Direct	G	R	4
%SW6812			ON,,OFF,ON	Direct	G	R	4
%SW6813			ON,,OFF,ON	Direct	G	R	4
%SW6814			ON,,OFF,ON	Direct	G	R	4
%SW6815			ON,,OFF,ON	Direct	G	R	4
%SW6816			ON,,OFF,ON	Direct	G	R	4
%SW6817			ON,,OFF,ON	Direct	G	R	4
%SW6818			ON,,OFF,ON	Direct	G	R	4
%SW6819			ON,,OFF,ON	Direct	G	R	4
%SW6820			ON,,OFF,ON	Direct	G	R	4
%SW6821			ON,,OFF,ON	Direct	G	R	4
%SW6822			ON,,OFF,ON	Direct	G	R	4
%SW6823			ON,,OFF,ON	Direct	G	R	4
%SW6824			ON,,OFF,ON	Direct	G	R	4
%SW6825			ON,,OFF,ON	Direct	G	R	4
%SW6826			ON,,OFF,ON	Direct	G	R	4
%SW6827			ON,,OFF,ON	Direct	G	R	4
%SW6828			ON,,OFF,ON	Direct	G	R	4
%SW6829			ON,,OFF,ON	Direct	G	R	4
%SW6830			ON,,OFF,ON	Direct	G	R	4
%SW6831			ON,,OFF,ON	Direct	G	R	4
%SW6832			ON,,OFF,ON	Direct	G	R	4
%SW6833			ON,,OFF,ON	Direct	G	R	4
%SW6834			ON,,OFF,ON	Direct	G	R	4
%SW6835			ON,,OFF,ON	Direct	G	R	4
%SW6836			ON,,OFF,ON	Direct	G	R	4
%SW6837			ON,,OFF,ON	Direct	G	R	4
%SW6838			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-16
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6839			ON,,OFF,ON	Direct	G	R	4
%SW6840			ON,,OFF,ON	Direct	G	R	4
%SW6841			ON,,OFF,ON	Direct	G	R	4
%SW6842			ON,,OFF,ON	Direct	G	R	4
%SW6843			ON,,OFF,ON	Direct	G	R	4
%SW6844			ON,,OFF,ON	Direct	G	R	4
%SW6845			ON,,OFF,ON	Direct	G	R	4
%SW6846			ON,,OFF,ON	Direct	G	R	4
%SW6847			ON,,OFF,ON	Direct	G	R	4
%SW6848			ON,,OFF,ON	Direct	G	R	4
%SW6849			ON,,OFF,ON	Direct	G	R	4
%SW6850			ON,,OFF,ON	Direct	G	R	4
%SW6851			ON,,OFF,ON	Direct	G	R	4
%SW6852			ON,,OFF,ON	Direct	G	R	4
%SW6853			ON,,OFF,ON	Direct	G	R	4
%SW6854			ON,,OFF,ON	Direct	G	R	4
%SW6855			ON,,OFF,ON	Direct	G	R	4
%SW6856			ON,,OFF,ON	Direct	G	R	4
%SW6857			ON,,OFF,ON	Direct	G	R	4
%SW6858			ON,,OFF,ON	Direct	G	R	4
%SW6859			ON,,OFF,ON	Direct	G	R	4
%SW6860			ON,,OFF,ON	Direct	G	R	4
%SW6861			ON,,OFF,ON	Direct	G	R	4
%SW6862			ON,,OFF,ON	Direct	G	R	4
%SW6863			ON,,OFF,ON	Direct	G	R	4
%SW6864			ON,,OFF,ON	Direct	G	R	4
%SW6865			ON,,OFF,ON	Direct	G	R	4
%SW6866			ON,,OFF,ON	Direct	G	R	4
%SW6867			ON,,OFF,ON	Direct	G	R	4
%SW6868			ON,,OFF,ON	Direct	G	R	4
%SW6869			ON,,OFF,ON	Direct	G	R	4
%SW6870			ON,,OFF,ON	Direct	G	R	4
%SW6871			ON,,OFF,ON	Direct	G	R	4
%SW6872			ON,,OFF,ON	Direct	G	R	4
%SW6873			ON,,OFF,ON	Direct	G	R	4
%SW6874			ON,,OFF,ON	Direct	G	R	4
%SW6875			ON,,OFF,ON	Direct	G	R	4
%SW6876			ON,,OFF,ON	Direct	G	R	4
%SW6877			ON,,OFF,ON	Direct	G	R	4
%SW6878			ON,,OFF,ON	Direct	G	R	4
%SW6879			ON,,OFF,ON	Direct	G	R	4
%SW6880			ON,,OFF,ON	Direct	G	R	4
%SW6881			ON,,OFF,ON	Direct	G	R	4
%SW6882			ON,,OFF,ON	Direct	G	R	4
%SW6883			ON,,OFF,ON	Direct	G	R	4
%SW6884			ON,,OFF,ON	Direct	G	R	4
%SW6885			ON,,OFF,ON	Direct	G	R	4
%SW6886			ON,,OFF,ON	Direct	G	R	4
%SW6887			ON,,OFF,ON	Direct	G	R	4
%SW6888			ON,,OFF,ON	Direct	G	R	4
%SW6889			ON,,OFF,ON	Direct	G	R	4
%SW6890			ON,,OFF,ON	Direct	G	R	4
%SW6891			ON,,OFF,ON	Direct	G	R	4
%SW6892			ON,,OFF,ON	Direct	G	R	4
%SW6893			ON,,OFF,ON	Direct	G	R	4
%SW6894			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-17
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6895			ON,,OFF,ON	Direct	G	R	4
%SW6896			ON,,OFF,ON	Direct	G	R	4
%SW6897			ON,,OFF,ON	Direct	G	R	4
%SW6898			ON,,OFF,ON	Direct	G	R	4
%SW6899			ON,,OFF,ON	Direct	G	R	4
%SW6900			ON,,OFF,ON	Direct	G	R	4
%SW6901			ON,,OFF,ON	Direct	G	R	4
%SW6902			ON,,OFF,ON	Direct	G	R	4
%SW6903			ON,,OFF,ON	Direct	G	R	4
%SW6904			ON,,OFF,ON	Direct	G	R	4
%SW6905			ON,,OFF,ON	Direct	G	R	4
%SW6906			ON,,OFF,ON	Direct	G	R	4
%SW6907			ON,,OFF,ON	Direct	G	R	4
%SW6908			ON,,OFF,ON	Direct	G	R	4
%SW6909			ON,,OFF,ON	Direct	G	R	4
%SW6910			ON,,OFF,ON	Direct	G	R	4
%SW6911			ON,,OFF,ON	Direct	G	R	4
%SW6912			ON,,OFF,ON	Direct	G	R	4
%SW6913			ON,,OFF,ON	Direct	G	R	4
%SW6914			ON,,OFF,ON	Direct	G	R	4
%SW6915			ON,,OFF,ON	Direct	G	R	4
%SW6916			ON,,OFF,ON	Direct	G	R	4
%SW6917			ON,,OFF,ON	Direct	G	R	4
%SW6918			ON,,OFF,ON	Direct	G	R	4
%SW6919			ON,,OFF,ON	Direct	G	R	4
%SW6920		QF1 - CLOSE COMMAND	CLOSED,,N_CLOSED,CLOSED	Direct	G	R	4
%SW6921		QF1 - OPEN COMMAND	OPENED,,N_OPENED,OPENED	Direct	R	GR	4
%SW6922			ON,,OFF,ON	Direct	G	R	4
%SW6923			ON,,OFF,ON	Direct	G	R	4
%SW6924			ON,,OFF,ON	Direct	G	R	4
%SW6925			ON,,OFF,ON	Direct	G	R	4
%SW6926			ON,,OFF,ON	Direct	G	R	4
%SW6927			ON,,OFF,ON	Direct	G	R	4
%SW6928			ON,,OFF,ON	Direct	G	R	4
%SW6929			ON,,OFF,ON	Direct	G	R	4
%SW6930			ON,,OFF,ON	Direct	G	R	4
%SW6931			ON,,OFF,ON	Direct	G	R	4
%SW6932			ON,,OFF,ON	Direct	G	R	4
%SW6933			ON,,OFF,ON	Direct	G	R	4
%SW6934			ON,,OFF,ON	Direct	G	R	4
%SW6935			ON,,OFF,ON	Direct	G	R	4
%SW6936			ON,,OFF,ON	Direct	G	R	4
%SW6937			ON,,OFF,ON	Direct	G	R	4
%SW6938			ON,,OFF,ON	Direct	G	R	4
%SW6939			ON,,OFF,ON	Direct	G	R	4
%SW6940			ON,,OFF,ON	Direct	G	R	4
%SW6941			ON,,OFF,ON	Direct	G	R	4
%SW6942			ON,,OFF,ON	Direct	G	R	4
%SW6943			ON,,OFF,ON	Direct	G	R	4
%SW6944			ON,,OFF,ON	Direct	G	R	4
%SW6945			ON,,OFF,ON	Direct	G	R	4
%SW6946			ON,,OFF,ON	Direct	G	R	4
%SW6947			ON,,OFF,ON	Direct	G	R	4
%SW6948			ON,,OFF,ON	Direct	G	R	4
%SW6949			ON,,OFF,ON	Direct	G	R	4
%SW6950			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef7.edf	SHEET:		YOKOGAWA	PAGE:3-17-18
STATION:	FCS0101	SAVED DATE:	5/19/2025 12:50:47 AM	COMMENT:			
SECTION:	Common switch7	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW6951			ON,,OFF,ON	Direct	G	R	4
%SW6952			ON,,OFF,ON	Direct	G	R	4
%SW6953			ON,,OFF,ON	Direct	G	R	4
%SW6954			ON,,OFF,ON	Direct	G	R	4
%SW6955			ON,,OFF,ON	Direct	G	R	4
%SW6956			ON,,OFF,ON	Direct	G	R	4
%SW6957			ON,,OFF,ON	Direct	G	R	4
%SW6958			ON,,OFF,ON	Direct	G	R	4
%SW6959			ON,,OFF,ON	Direct	G	R	4
%SW6960			ON,,OFF,ON	Direct	G	R	4
%SW6961			ON,,OFF,ON	Direct	G	R	4
%SW6962			ON,,OFF,ON	Direct	G	R	4
%SW6963			ON,,OFF,ON	Direct	G	R	4
%SW6964			ON,,OFF,ON	Direct	G	R	4
%SW6965			ON,,OFF,ON	Direct	G	R	4
%SW6966			ON,,OFF,ON	Direct	G	R	4
%SW6967			ON,,OFF,ON	Direct	G	R	4
%SW6968			ON,,OFF,ON	Direct	G	R	4
%SW6969			ON,,OFF,ON	Direct	G	R	4
%SW6970			ON,,OFF,ON	Direct	G	R	4
%SW6971			ON,,OFF,ON	Direct	G	R	4
%SW6972			ON,,OFF,ON	Direct	G	R	4
%SW6973			ON,,OFF,ON	Direct	G	R	4
%SW6974			ON,,OFF,ON	Direct	G	R	4
%SW6975			ON,,OFF,ON	Direct	G	R	4
%SW6976			ON,,OFF,ON	Direct	G	R	4
%SW6977			ON,,OFF,ON	Direct	G	R	4
%SW6978			ON,,OFF,ON	Direct	G	R	4
%SW6979			ON,,OFF,ON	Direct	G	R	4
%SW6980			ON,,OFF,ON	Direct	G	R	4
%SW6981			ON,,OFF,ON	Direct	G	R	4
%SW6982			ON,,OFF,ON	Direct	G	R	4
%SW6983			ON,,OFF,ON	Direct	G	R	4
%SW6984			ON,,OFF,ON	Direct	G	R	4
%SW6985			ON,,OFF,ON	Direct	G	R	4
%SW6986			ON,,OFF,ON	Direct	G	R	4
%SW6987			ON,,OFF,ON	Direct	G	R	4
%SW6988			ON,,OFF,ON	Direct	G	R	4
%SW6989			ON,,OFF,ON	Direct	G	R	4
%SW6990			ON,,OFF,ON	Direct	G	R	4
%SW6991			ON,,OFF,ON	Direct	G	R	4
%SW6992			ON,,OFF,ON	Direct	G	R	4
%SW6993			ON,,OFF,ON	Direct	G	R	4
%SW6994			ON,,OFF,ON	Direct	G	R	4
%SW6995			ON,,OFF,ON	Direct	G	R	4
%SW6996			ON,,OFF,ON	Direct	G	R	4
%SW6997			ON,,OFF,ON	Direct	G	R	4
%SW6998			ON,,OFF,ON	Direct	G	R	4
%SW6999			ON,,OFF,ON	Direct	G	R	4
%SW7000			ON,,OFF,ON	Direct	G	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-1
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7001	P-50001ACMFL	SWP-A COMMON FLT	ON,,OFF,ON	Direct	R	R	4
%SW7002	P-50001BCMFL	SWP-B COMMON FLT	ON,,OFF,ON	Direct	R	R	4
%SW7003	P-50001ABGST	SWP-AB GROUP STRt	ON,,OFF,ON	Direct	R	R	4
%SW7004	WTPAST	WTP AUTO START	ON,,OFF,ON	Direct	R	R	4
%SW7005			ON,,OFF,ON	Direct	R	R	4
%SW7006			ON,,OFF,ON	Direct	R	R	4
%SW7007			ON,,OFF,ON	Direct	R	R	4
%SW7008		EXPRTPM	ON,,OFF,ON	Direct	R	R	4
%SW7009	EXPRTSEQFL	EXPORT MODE FAIL	ON,,OFF,ON	Direct	R	R	4
%SW7010	FUELCLSTP	FUEL CELL STPCMD	ON,,OFF,ON	Direct	R	R	4
%SW7011	EMGMDSTPM	EMERGNCY MODE STPM	ON,,OFF,ON	Direct	R	R	4
%SW7012	P-50001ABGSP	SWP-AB GROUP STOP	ON,,OFF,ON	Direct	R	R	4
%SW7013	WTPASP	WTP AUTO STOP	ON,,OFF,ON	Direct	R	R	4
%SW7014	AUXELASP	AUTO STOP AUX ELECTROLIS	ON,,OFF,ON	Direct	R	R	4
%SW7015	DISMODEPM	DISCH MODE PERMMISSIVE	ON,,OFF,ON	Direct	R	R	4
%SW7016	ELECSTRREQ	ELECTROLYSER START REQ	ON,,OFF,ON	Direct	R	R	4
%SW7017			ON,,OFF,ON	Direct	R	R	4
%SW7018			ON,,OFF,ON	Direct	R	R	4
%SW7019	83XA-0001	SOLAR PACKAGE FLT	TRIP,,NORMAL,TRIP	Direct	R	GR	4
%SW7020			STOP,,,STOP	Direct	R	GR	4
%SW7021	87US-0001	FUEL CELL 1 RUNNING	RUN,,STOP,RUN	Direct	G	GR	4
%SW7022	87US-0002	FUEL CELL 2 RUNNING	RUN,,STOP,RUN	Direct	G	GR	4
%SW7023	87US-0003	FUEL CELL 3 RUNNING	RUN,,STOP,RUN	Direct	G	GR	4
%SW7024	87US-0004	FUEL CELL 4 RUNNING	RUN,,STOP,RUN	Direct	G	GR	4
%SW7025	87US-0005	FUEL CELL 5 RUNNING	RUN,,STOP,RUN	Direct	G	GR	4
%SW7026	87US-0006	FUEL CELL 6 RUNNING	RUN,,STOP,RUN	Direct	G	GR	4
%SW7027	87TRP-001	ASD_ESD_ESD1D TRIP	ON,,OFF,ON	Direct	R	G	4
%SW7028			ON,,OFF,ON	Direct	R	GR	4
%SW7029			ON,,OFF,ON	Direct	R	R	4
%SW7030			ON,,OFF,ON	Direct	R	R	4
%SW7031			ON,,OFF,ON	Direct	R	R	4
%SW7032			ON,,OFF,ON	Direct	R	R	4
%SW7033			ON,,OFF,ON	Direct	R	R	4
%SW7034			ON,,OFF,ON	Direct	R	R	4
%SW7035			ON,,OFF,ON	Direct	R	R	4
%SW7036			ON,,OFF,ON	Direct	R	R	4
%SW7037			ON,,OFF,ON	Direct	R	R	4
%SW7038			ON,,OFF,ON	Direct	R	R	4
%SW7039			ON,,OFF,ON	Direct	R	R	4
%SW7040			ON,,OFF,ON	Direct	R	R	4
%SW7041			ON,,OFF,ON	Direct	R	R	4
%SW7042			ON,,OFF,ON	Direct	R	R	4
%SW7043			ON,,OFF,ON	Direct	R	R	4
%SW7044			ON,,OFF,ON	Direct	R	R	4
%SW7045			ON,,OFF,ON	Direct	R	R	4
%SW7046			ON,,OFF,ON	Direct	R	R	4
%SW7047	SDNFQISW	PURGING SDWN TOTALIZER	ON,,OFF,ON	Direct	R	R	4
%SW7048	MTCFQISW	PURGING MNTNCE TOTALIZER	ON,,OFF,ON	Direct	R	R	4
%SW7049			ON,,OFF,ON	Direct	R	R	4
%SW7050			ON,,OFF,ON	Direct	R	R	4
%SW7051			ON,,OFF,ON	Direct	R	R	4
%SW7052			ON,,OFF,ON	Direct	R	R	4
%SW7053			ON,,OFF,ON	Direct	R	R	4
%SW7054			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-2
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7055			ON,,OFF,ON	Direct	R	R	4
%SW7056	20HSL-7152	QF1 OPEN COMMAND	N_OPEN,,OPEN,N_OPEN	Reverse	R	R	4
%SW7057	20HSH-7152	QF1 CLOSE COMMAND	N_CLOSE,,CLOSE,N_CLOSE	Reverse	R	R	4
%SW7058			ON,,OFF,ON	Direct	R	R	4
%SW7059			ON,,OFF,ON	Direct	R	R	4
%SW7060			ON,,OFF,ON	Direct	R	R	4
%SW7061			ON,,OFF,ON	Direct	R	R	4
%SW7062			ON,,OFF,ON	Direct	R	R	4
%SW7063			ON,,OFF,ON	Direct	R	R	4
%SW7064			ON,,OFF,ON	Direct	R	R	4
%SW7065			ON,,OFF,ON	Direct	R	R	4
%SW7066			ON,,OFF,ON	Direct	R	R	4
%SW7067			ON,,OFF,ON	Direct	R	R	4
%SW7068			ON,,OFF,ON	Direct	R	R	4
%SW7069			ON,,OFF,ON	Direct	R	R	4
%SW7070			ON,,OFF,ON	Direct	R	R	4
%SW7071			ON,,OFF,ON	Direct	R	R	4
%SW7072			ON,,OFF,ON	Direct	R	R	4
%SW7073			ON,,OFF,ON	Direct	R	R	4
%SW7074			ON,,OFF,ON	Direct	R	R	4
%SW7075			ON,,OFF,ON	Direct	R	R	4
%SW7076			ON,,OFF,ON	Direct	R	R	4
%SW7077			ON,,OFF,ON	Direct	R	R	4
%SW7078			ON,,OFF,ON	Direct	R	R	4
%SW7079			ON,,OFF,ON	Direct	R	R	4
%SW7080			ON,,OFF,ON	Direct	R	R	4
%SW7081			ON,,OFF,ON	Direct	R	R	4
%SW7082			ON,,OFF,ON	Direct	R	R	4
%SW7083			ON,,OFF,ON	Direct	R	R	4
%SW7084			ON,,OFF,ON	Direct	R	R	4
%SW7085			ON,,OFF,ON	Direct	R	R	4
%SW7086			ON,,OFF,ON	Direct	R	R	4
%SW7087			ON,,OFF,ON	Direct	R	R	4
%SW7088			ON,,OFF,ON	Direct	R	R	4
%SW7089			ON,,OFF,ON	Direct	R	R	4
%SW7090			ON,,OFF,ON	Direct	R	R	4
%SW7091			ON,,OFF,ON	Direct	R	R	4
%SW7092			ON,,OFF,ON	Direct	R	R	4
%SW7093			ON,,OFF,ON	Direct	R	R	4
%SW7094			ON,,OFF,ON	Direct	R	R	4
%SW7095			ON,,OFF,ON	Direct	R	R	4
%SW7096			ON,,OFF,ON	Direct	R	R	4
%SW7097			ON,,OFF,ON	Direct	R	R	4
%SW7098			ON,,OFF,ON	Direct	R	R	4
%SW7099			ON,,OFF,ON	Direct	R	R	4
%SW7100			ON,,OFF,ON	Direct	R	R	4
%SW7101			ON,,OFF,ON	Direct	R	R	4
%SW7102			ON,,OFF,ON	Direct	R	R	4
%SW7103			ON,,OFF,ON	Direct	R	R	4
%SW7104			ON,,OFF,ON	Direct	R	R	4
%SW7105			ON,,OFF,ON	Direct	R	R	4
%SW7106			ON,,OFF,ON	Direct	R	R	4
%SW7107			ON,,OFF,ON	Direct	R	R	4
%SW7108			ON,,OFF,ON	Direct	R	R	4
%SW7109			ON,,OFF,ON	Direct	R	R	4
%SW7110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-3
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7111			ON,,OFF,ON	Direct	R	R	4
%SW7112			ON,,OFF,ON	Direct	R	R	4
%SW7113			ON,,OFF,ON	Direct	R	R	4
%SW7114			ON,,OFF,ON	Direct	R	R	4
%SW7115			ON,,OFF,ON	Direct	R	R	4
%SW7116			ON,,OFF,ON	Direct	R	R	4
%SW7117			ON,,OFF,ON	Direct	R	R	4
%SW7118			ON,,OFF,ON	Direct	R	R	4
%SW7119			ON,,OFF,ON	Direct	R	R	4
%SW7120			ON,,OFF,ON	Direct	R	R	4
%SW7121			ON,,OFF,ON	Direct	R	R	4
%SW7122			ON,,OFF,ON	Direct	R	R	4
%SW7123			ON,,OFF,ON	Direct	R	R	4
%SW7124			ON,,OFF,ON	Direct	R	R	4
%SW7125			ON,,OFF,ON	Direct	R	R	4
%SW7126			ON,,OFF,ON	Direct	R	R	4
%SW7127			ON,,OFF,ON	Direct	R	R	4
%SW7128			ON,,OFF,ON	Direct	R	R	4
%SW7129			ON,,OFF,ON	Direct	R	R	4
%SW7130			ON,,OFF,ON	Direct	R	R	4
%SW7131			ON,,OFF,ON	Direct	R	R	4
%SW7132			ON,,OFF,ON	Direct	R	R	4
%SW7133			ON,,OFF,ON	Direct	R	R	4
%SW7134			ON,,OFF,ON	Direct	R	R	4
%SW7135			ON,,OFF,ON	Direct	R	R	4
%SW7136			ON,,OFF,ON	Direct	R	R	4
%SW7137			ON,,OFF,ON	Direct	R	R	4
%SW7138			ON,,OFF,ON	Direct	R	R	4
%SW7139			ON,,OFF,ON	Direct	R	R	4
%SW7140			ON,,OFF,ON	Direct	R	R	4
%SW7141			ON,,OFF,ON	Direct	R	R	4
%SW7142			ON,,OFF,ON	Direct	R	R	4
%SW7143			ON,,OFF,ON	Direct	R	R	4
%SW7144			ON,,OFF,ON	Direct	R	R	4
%SW7145			ON,,OFF,ON	Direct	R	R	4
%SW7146			ON,,OFF,ON	Direct	R	R	4
%SW7147			ON,,OFF,ON	Direct	R	R	4
%SW7148			ON,,OFF,ON	Direct	R	R	4
%SW7149			ON,,OFF,ON	Direct	R	R	4
%SW7150			ON,,OFF,ON	Direct	R	R	4
%SW7151			ON,,OFF,ON	Direct	R	R	4
%SW7152			ON,,OFF,ON	Direct	R	R	4
%SW7153			ON,,OFF,ON	Direct	R	R	4
%SW7154			ON,,OFF,ON	Direct	R	R	4
%SW7155			ON,,OFF,ON	Direct	R	R	4
%SW7156			ON,,OFF,ON	Direct	R	R	4
%SW7157			ON,,OFF,ON	Direct	R	R	4
%SW7158			ON,,OFF,ON	Direct	R	R	4
%SW7159			ON,,OFF,ON	Direct	R	R	4
%SW7160			ON,,OFF,ON	Direct	R	R	4
%SW7161			ON,,OFF,ON	Direct	R	R	4
%SW7162			ON,,OFF,ON	Direct	R	R	4
%SW7163			ON,,OFF,ON	Direct	R	R	4
%SW7164			ON,,OFF,ON	Direct	R	R	4
%SW7165			ON,,OFF,ON	Direct	R	R	4
%SW7166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-4
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7167			ON,,OFF,ON	Direct	R	R	4
%SW7168			ON,,OFF,ON	Direct	R	R	4
%SW7169			ON,,OFF,ON	Direct	R	R	4
%SW7170			ON,,OFF,ON	Direct	R	R	4
%SW7171			ON,,OFF,ON	Direct	R	R	4
%SW7172			ON,,OFF,ON	Direct	R	R	4
%SW7173			ON,,OFF,ON	Direct	R	R	4
%SW7174			ON,,OFF,ON	Direct	R	R	4
%SW7175			ON,,OFF,ON	Direct	R	R	4
%SW7176			ON,,OFF,ON	Direct	R	R	4
%SW7177			ON,,OFF,ON	Direct	R	R	4
%SW7178			ON,,OFF,ON	Direct	R	R	4
%SW7179			ON,,OFF,ON	Direct	R	R	4
%SW7180			ON,,OFF,ON	Direct	R	R	4
%SW7181			ON,,OFF,ON	Direct	R	R	4
%SW7182			ON,,OFF,ON	Direct	R	R	4
%SW7183			ON,,OFF,ON	Direct	R	R	4
%SW7184			ON,,OFF,ON	Direct	R	R	4
%SW7185			ON,,OFF,ON	Direct	R	R	4
%SW7186			ON,,OFF,ON	Direct	R	R	4
%SW7187			ON,,OFF,ON	Direct	R	R	4
%SW7188			ON,,OFF,ON	Direct	R	R	4
%SW7189			ON,,OFF,ON	Direct	R	R	4
%SW7190			ON,,OFF,ON	Direct	R	R	4
%SW7191			ON,,OFF,ON	Direct	R	R	4
%SW7192			ON,,OFF,ON	Direct	R	R	4
%SW7193			ON,,OFF,ON	Direct	R	R	4
%SW7194			ON,,OFF,ON	Direct	R	R	4
%SW7195			ON,,OFF,ON	Direct	R	R	4
%SW7196			ON,,OFF,ON	Direct	R	R	4
%SW7197			ON,,OFF,ON	Direct	R	R	4
%SW7198			ON,,OFF,ON	Direct	R	R	4
%SW7199			ON,,OFF,ON	Direct	R	R	4
%SW7200			ON,,OFF,ON	Direct	R	R	4
%SW7201			ON,,OFF,ON	Direct	R	R	4
%SW7202			ON,,OFF,ON	Direct	R	R	4
%SW7203			ON,,OFF,ON	Direct	R	R	4
%SW7204			ON,,OFF,ON	Direct	R	R	4
%SW7205			ON,,OFF,ON	Direct	R	R	4
%SW7206			ON,,OFF,ON	Direct	R	R	4
%SW7207			ON,,OFF,ON	Direct	R	R	4
%SW7208			ON,,OFF,ON	Direct	R	R	4
%SW7209			ON,,OFF,ON	Direct	R	R	4
%SW7210			ON,,OFF,ON	Direct	R	R	4
%SW7211			ON,,OFF,ON	Direct	R	R	4
%SW7212			ON,,OFF,ON	Direct	R	R	4
%SW7213			ON,,OFF,ON	Direct	R	R	4
%SW7214			ON,,OFF,ON	Direct	R	R	4
%SW7215			ON,,OFF,ON	Direct	R	R	4
%SW7216			ON,,OFF,ON	Direct	R	R	4
%SW7217			ON,,OFF,ON	Direct	R	R	4
%SW7218			ON,,OFF,ON	Direct	R	R	4
%SW7219			ON,,OFF,ON	Direct	R	R	4
%SW7220			ON,,OFF,ON	Direct	R	R	4
%SW7221			ON,,OFF,ON	Direct	R	R	4
%SW7222			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-5
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7223			ON,,OFF,ON	Direct	R	R	4
%SW7224			ON,,OFF,ON	Direct	R	R	4
%SW7225			ON,,OFF,ON	Direct	R	R	4
%SW7226			ON,,OFF,ON	Direct	R	R	4
%SW7227			ON,,OFF,ON	Direct	R	R	4
%SW7228			ON,,OFF,ON	Direct	R	R	4
%SW7229			ON,,OFF,ON	Direct	R	R	4
%SW7230			ON,,OFF,ON	Direct	R	R	4
%SW7231			ON,,OFF,ON	Direct	R	R	4
%SW7232			ON,,OFF,ON	Direct	R	R	4
%SW7233			ON,,OFF,ON	Direct	R	R	4
%SW7234			ON,,OFF,ON	Direct	R	R	4
%SW7235			ON,,OFF,ON	Direct	R	R	4
%SW7236			ON,,OFF,ON	Direct	R	R	4
%SW7237			ON,,OFF,ON	Direct	R	R	4
%SW7238			ON,,OFF,ON	Direct	R	R	4
%SW7239			ON,,OFF,ON	Direct	R	R	4
%SW7240			ON,,OFF,ON	Direct	R	R	4
%SW7241			ON,,OFF,ON	Direct	R	R	4
%SW7242			ON,,OFF,ON	Direct	R	R	4
%SW7243			ON,,OFF,ON	Direct	R	R	4
%SW7244			ON,,OFF,ON	Direct	R	R	4
%SW7245			ON,,OFF,ON	Direct	R	R	4
%SW7246			ON,,OFF,ON	Direct	R	R	4
%SW7247			ON,,OFF,ON	Direct	R	R	4
%SW7248			ON,,OFF,ON	Direct	R	R	4
%SW7249			ON,,OFF,ON	Direct	R	R	4
%SW7250			ON,,OFF,ON	Direct	R	R	4
%SW7251			ON,,OFF,ON	Direct	R	R	4
%SW7252			ON,,OFF,ON	Direct	R	R	4
%SW7253			ON,,OFF,ON	Direct	R	R	4
%SW7254			ON,,OFF,ON	Direct	R	R	4
%SW7255			ON,,OFF,ON	Direct	R	R	4
%SW7256			ON,,OFF,ON	Direct	R	R	4
%SW7257			ON,,OFF,ON	Direct	R	R	4
%SW7258			ON,,OFF,ON	Direct	R	R	4
%SW7259			ON,,OFF,ON	Direct	R	R	4
%SW7260			ON,,OFF,ON	Direct	R	R	4
%SW7261			ON,,OFF,ON	Direct	R	R	4
%SW7262			ON,,OFF,ON	Direct	R	R	4
%SW7263			ON,,OFF,ON	Direct	R	R	4
%SW7264			ON,,OFF,ON	Direct	R	R	4
%SW7265			ON,,OFF,ON	Direct	R	R	4
%SW7266			ON,,OFF,ON	Direct	R	R	4
%SW7267			ON,,OFF,ON	Direct	R	R	4
%SW7268			ON,,OFF,ON	Direct	R	R	4
%SW7269			ON,,OFF,ON	Direct	R	R	4
%SW7270			ON,,OFF,ON	Direct	R	R	4
%SW7271			ON,,OFF,ON	Direct	R	R	4
%SW7272			ON,,OFF,ON	Direct	R	R	4
%SW7273			ON,,OFF,ON	Direct	R	R	4
%SW7274			ON,,OFF,ON	Direct	R	R	4
%SW7275			ON,,OFF,ON	Direct	R	R	4
%SW7276			ON,,OFF,ON	Direct	R	R	4
%SW7277			ON,,OFF,ON	Direct	R	R	4
%SW7278			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-6
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7279			ON,,OFF,ON	Direct	R	R	4
%SW7280			ON,,OFF,ON	Direct	R	R	4
%SW7281			ON,,OFF,ON	Direct	R	R	4
%SW7282			ON,,OFF,ON	Direct	R	R	4
%SW7283			ON,,OFF,ON	Direct	R	R	4
%SW7284			ON,,OFF,ON	Direct	R	R	4
%SW7285			ON,,OFF,ON	Direct	R	R	4
%SW7286			ON,,OFF,ON	Direct	R	R	4
%SW7287			ON,,OFF,ON	Direct	R	R	4
%SW7288			ON,,OFF,ON	Direct	R	R	4
%SW7289			ON,,OFF,ON	Direct	R	R	4
%SW7290			ON,,OFF,ON	Direct	R	R	4
%SW7291			ON,,OFF,ON	Direct	R	R	4
%SW7292			ON,,OFF,ON	Direct	R	R	4
%SW7293			ON,,OFF,ON	Direct	R	R	4
%SW7294			ON,,OFF,ON	Direct	R	R	4
%SW7295			ON,,OFF,ON	Direct	R	R	4
%SW7296			ON,,OFF,ON	Direct	R	R	4
%SW7297			ON,,OFF,ON	Direct	R	R	4
%SW7298			ON,,OFF,ON	Direct	R	R	4
%SW7299			ON,,OFF,ON	Direct	R	R	4
%SW7300			ON,,OFF,ON	Direct	R	R	4
%SW7301			ON,,OFF,ON	Direct	R	R	4
%SW7302			ON,,OFF,ON	Direct	R	R	4
%SW7303			ON,,OFF,ON	Direct	R	R	4
%SW7304			ON,,OFF,ON	Direct	R	R	4
%SW7305			ON,,OFF,ON	Direct	R	R	4
%SW7306			ON,,OFF,ON	Direct	R	R	4
%SW7307			ON,,OFF,ON	Direct	R	R	4
%SW7308			ON,,OFF,ON	Direct	R	R	4
%SW7309			ON,,OFF,ON	Direct	R	R	4
%SW7310			ON,,OFF,ON	Direct	R	R	4
%SW7311			ON,,OFF,ON	Direct	R	R	4
%SW7312			ON,,OFF,ON	Direct	R	R	4
%SW7313			ON,,OFF,ON	Direct	R	R	4
%SW7314			ON,,OFF,ON	Direct	R	R	4
%SW7315			ON,,OFF,ON	Direct	R	R	4
%SW7316			ON,,OFF,ON	Direct	R	R	4
%SW7317			ON,,OFF,ON	Direct	R	R	4
%SW7318			ON,,OFF,ON	Direct	R	R	4
%SW7319			ON,,OFF,ON	Direct	R	R	4
%SW7320			ON,,OFF,ON	Direct	R	R	4
%SW7321			ON,,OFF,ON	Direct	R	R	4
%SW7322			ON,,OFF,ON	Direct	R	R	4
%SW7323			ON,,OFF,ON	Direct	R	R	4
%SW7324			ON,,OFF,ON	Direct	R	R	4
%SW7325			ON,,OFF,ON	Direct	R	R	4
%SW7326			ON,,OFF,ON	Direct	R	R	4
%SW7327			ON,,OFF,ON	Direct	R	R	4
%SW7328			ON,,OFF,ON	Direct	R	R	4
%SW7329			ON,,OFF,ON	Direct	R	R	4
%SW7330			ON,,OFF,ON	Direct	R	R	4
%SW7331			ON,,OFF,ON	Direct	R	R	4
%SW7332			ON,,OFF,ON	Direct	R	R	4
%SW7333			ON,,OFF,ON	Direct	R	R	4
%SW7334			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-7
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7335			ON,,OFF,ON	Direct	R	R	4
%SW7336			ON,,OFF,ON	Direct	R	R	4
%SW7337			ON,,OFF,ON	Direct	R	R	4
%SW7338			ON,,OFF,ON	Direct	R	R	4
%SW7339			ON,,OFF,ON	Direct	R	R	4
%SW7340			ON,,OFF,ON	Direct	R	R	4
%SW7341			ON,,OFF,ON	Direct	R	R	4
%SW7342			ON,,OFF,ON	Direct	R	R	4
%SW7343			ON,,OFF,ON	Direct	R	R	4
%SW7344			ON,,OFF,ON	Direct	R	R	4
%SW7345			ON,,OFF,ON	Direct	R	R	4
%SW7346			ON,,OFF,ON	Direct	R	R	4
%SW7347			ON,,OFF,ON	Direct	R	R	4
%SW7348			ON,,OFF,ON	Direct	R	R	4
%SW7349			ON,,OFF,ON	Direct	R	R	4
%SW7350			ON,,OFF,ON	Direct	R	R	4
%SW7351			ON,,OFF,ON	Direct	R	R	4
%SW7352			ON,,OFF,ON	Direct	R	R	4
%SW7353			ON,,OFF,ON	Direct	R	R	4
%SW7354			ON,,OFF,ON	Direct	R	R	4
%SW7355			ON,,OFF,ON	Direct	R	R	4
%SW7356			ON,,OFF,ON	Direct	R	R	4
%SW7357			ON,,OFF,ON	Direct	R	R	4
%SW7358			ON,,OFF,ON	Direct	R	R	4
%SW7359			ON,,OFF,ON	Direct	R	R	4
%SW7360			ON,,OFF,ON	Direct	R	R	4
%SW7361			ON,,OFF,ON	Direct	R	R	4
%SW7362			ON,,OFF,ON	Direct	R	R	4
%SW7363			ON,,OFF,ON	Direct	R	R	4
%SW7364			ON,,OFF,ON	Direct	R	R	4
%SW7365			ON,,OFF,ON	Direct	R	R	4
%SW7366			ON,,OFF,ON	Direct	R	R	4
%SW7367			ON,,OFF,ON	Direct	R	R	4
%SW7368			ON,,OFF,ON	Direct	R	R	4
%SW7369			ON,,OFF,ON	Direct	R	R	4
%SW7370			ON,,OFF,ON	Direct	R	R	4
%SW7371			ON,,OFF,ON	Direct	R	R	4
%SW7372			ON,,OFF,ON	Direct	R	R	4
%SW7373			ON,,OFF,ON	Direct	R	R	4
%SW7374			ON,,OFF,ON	Direct	R	R	4
%SW7375			ON,,OFF,ON	Direct	R	R	4
%SW7376			ON,,OFF,ON	Direct	R	R	4
%SW7377			ON,,OFF,ON	Direct	R	R	4
%SW7378			ON,,OFF,ON	Direct	R	R	4
%SW7379			ON,,OFF,ON	Direct	R	R	4
%SW7380			ON,,OFF,ON	Direct	R	R	4
%SW7381			ON,,OFF,ON	Direct	R	R	4
%SW7382			ON,,OFF,ON	Direct	R	R	4
%SW7383			ON,,OFF,ON	Direct	R	R	4
%SW7384			ON,,OFF,ON	Direct	R	R	4
%SW7385			ON,,OFF,ON	Direct	R	R	4
%SW7386			ON,,OFF,ON	Direct	R	R	4
%SW7387			ON,,OFF,ON	Direct	R	R	4
%SW7388			ON,,OFF,ON	Direct	R	R	4
%SW7389			ON,,OFF,ON	Direct	R	R	4
%SW7390			ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-8
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7391			ON,,OFF,ON	Direct	R	R	4
%SW7392			ON,,OFF,ON	Direct	R	R	4
%SW7393			ON,,OFF,ON	Direct	R	R	4
%SW7394			ON,,OFF,ON	Direct	R	R	4
%SW7395			ON,,OFF,ON	Direct	R	R	4
%SW7396			ON,,OFF,ON	Direct	R	R	4
%SW7397			ON,,OFF,ON	Direct	R	R	4
%SW7398			ON,,OFF,ON	Direct	R	R	4
%SW7399			ON,,OFF,ON	Direct	R	R	4
%SW7400			ON,,OFF,ON	Direct	R	R	4
%SW7401			ON,,OFF,ON	Direct	R	R	4
%SW7402			ON,,OFF,ON	Direct	R	R	4
%SW7403			ON,,OFF,ON	Direct	R	R	4
%SW7404			ON,,OFF,ON	Direct	R	R	4
%SW7405			ON,,OFF,ON	Direct	R	R	4
%SW7406			ON,,OFF,ON	Direct	R	R	4
%SW7407			ON,,OFF,ON	Direct	R	R	4
%SW7408			ON,,OFF,ON	Direct	R	R	4
%SW7409			ON,,OFF,ON	Direct	R	R	4
%SW7410			ON,,OFF,ON	Direct	R	R	4
%SW7411			ON,,OFF,ON	Direct	R	R	4
%SW7412			ON,,OFF,ON	Direct	R	R	4
%SW7413			ON,,OFF,ON	Direct	R	R	4
%SW7414			ON,,OFF,ON	Direct	R	R	4
%SW7415			ON,,OFF,ON	Direct	R	R	4
%SW7416			ON,,OFF,ON	Direct	R	R	4
%SW7417			ON,,OFF,ON	Direct	R	R	4
%SW7418			ON,,OFF,ON	Direct	R	R	4
%SW7419			ON,,OFF,ON	Direct	R	R	4
%SW7420			ON,,OFF,ON	Direct	R	R	4
%SW7421			ON,,OFF,ON	Direct	R	R	4
%SW7422			ON,,OFF,ON	Direct	R	R	4
%SW7423			ON,,OFF,ON	Direct	R	R	4
%SW7424			ON,,OFF,ON	Direct	R	R	4
%SW7425			ON,,OFF,ON	Direct	R	R	4
%SW7426			ON,,OFF,ON	Direct	R	R	4
%SW7427			ON,,OFF,ON	Direct	R	R	4
%SW7428			ON,,OFF,ON	Direct	R	R	4
%SW7429			ON,,OFF,ON	Direct	R	R	4
%SW7430			ON,,OFF,ON	Direct	R	R	4
%SW7431			ON,,OFF,ON	Direct	R	R	4
%SW7432			ON,,OFF,ON	Direct	R	R	4
%SW7433			ON,,OFF,ON	Direct	R	R	4
%SW7434			ON,,OFF,ON	Direct	R	R	4
%SW7435			ON,,OFF,ON	Direct	R	R	4
%SW7436			ON,,OFF,ON	Direct	R	R	4
%SW7437			ON,,OFF,ON	Direct	R	R	4
%SW7438			ON,,OFF,ON	Direct	R	R	4
%SW7439			ON,,OFF,ON	Direct	R	R	4
%SW7440			ON,,OFF,ON	Direct	R	R	4
%SW7441			ON,,OFF,ON	Direct	R	R	4
%SW7442			ON,,OFF,ON	Direct	R	R	4
%SW7443			ON,,OFF,ON	Direct	R	R	4
%SW7444			ON,,OFF,ON	Direct	R	R	4
%SW7445			ON,,OFF,ON	Direct	R	R	4
%SW7446			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-9
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7447			ON,,OFF,ON	Direct	R	R	4
%SW7448			ON,,OFF,ON	Direct	R	R	4
%SW7449			ON,,OFF,ON	Direct	R	R	4
%SW7450			ON,,OFF,ON	Direct	R	R	4
%SW7451			ON,,OFF,ON	Direct	R	R	4
%SW7452			ON,,OFF,ON	Direct	R	R	4
%SW7453			ON,,OFF,ON	Direct	R	R	4
%SW7454			ON,,OFF,ON	Direct	R	R	4
%SW7455			ON,,OFF,ON	Direct	R	R	4
%SW7456			ON,,OFF,ON	Direct	R	R	4
%SW7457			ON,,OFF,ON	Direct	R	R	4
%SW7458			ON,,OFF,ON	Direct	R	R	4
%SW7459			ON,,OFF,ON	Direct	R	R	4
%SW7460			ON,,OFF,ON	Direct	R	R	4
%SW7461			ON,,OFF,ON	Direct	R	R	4
%SW7462			ON,,OFF,ON	Direct	R	R	4
%SW7463			ON,,OFF,ON	Direct	R	R	4
%SW7464			ON,,OFF,ON	Direct	R	R	4
%SW7465			ON,,OFF,ON	Direct	R	R	4
%SW7466			ON,,OFF,ON	Direct	R	R	4
%SW7467			ON,,OFF,ON	Direct	R	R	4
%SW7468			ON,,OFF,ON	Direct	R	R	4
%SW7469			ON,,OFF,ON	Direct	R	R	4
%SW7470			ON,,OFF,ON	Direct	R	R	4
%SW7471			ON,,OFF,ON	Direct	R	R	4
%SW7472			ON,,OFF,ON	Direct	R	R	4
%SW7473			ON,,OFF,ON	Direct	R	R	4
%SW7474			ON,,OFF,ON	Direct	R	R	4
%SW7475			ON,,OFF,ON	Direct	R	R	4
%SW7476			ON,,OFF,ON	Direct	R	R	4
%SW7477			ON,,OFF,ON	Direct	R	R	4
%SW7478			ON,,OFF,ON	Direct	R	R	4
%SW7479			ON,,OFF,ON	Direct	R	R	4
%SW7480			ON,,OFF,ON	Direct	R	R	4
%SW7481			ON,,OFF,ON	Direct	R	R	4
%SW7482			ON,,OFF,ON	Direct	R	R	4
%SW7483			ON,,OFF,ON	Direct	R	R	4
%SW7484			ON,,OFF,ON	Direct	R	R	4
%SW7485			ON,,OFF,ON	Direct	R	R	4
%SW7486			ON,,OFF,ON	Direct	R	R	4
%SW7487			ON,,OFF,ON	Direct	R	R	4
%SW7488			ON,,OFF,ON	Direct	R	R	4
%SW7489			ON,,OFF,ON	Direct	R	R	4
%SW7490			ON,,OFF,ON	Direct	R	R	4
%SW7491			ON,,OFF,ON	Direct	R	R	4
%SW7492			ON,,OFF,ON	Direct	R	R	4
%SW7493			ON,,OFF,ON	Direct	R	R	4
%SW7494			ON,,OFF,ON	Direct	R	R	4
%SW7495			ON,,OFF,ON	Direct	R	R	4
%SW7496			ON,,OFF,ON	Direct	R	R	4
%SW7497			ON,,OFF,ON	Direct	R	R	4
%SW7498			ON,,OFF,ON	Direct	R	R	4
%SW7499			ON,,OFF,ON	Direct	R	R	4
%SW7500			ON,,OFF,ON	Direct	R	R	4
%SW7501			ON,,OFF,ON	Direct	R	R	4
%SW7502			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-10
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7503			ON,,OFF,ON	Direct	R	R	4
%SW7504			ON,,OFF,ON	Direct	R	R	4
%SW7505			ON,,OFF,ON	Direct	R	R	4
%SW7506			ON,,OFF,ON	Direct	R	R	4
%SW7507			ON,,OFF,ON	Direct	R	R	4
%SW7508			ON,,OFF,ON	Direct	R	R	4
%SW7509			ON,,OFF,ON	Direct	R	R	4
%SW7510			ON,,OFF,ON	Direct	R	R	4
%SW7511			ON,,OFF,ON	Direct	R	R	4
%SW7512			ON,,OFF,ON	Direct	R	R	4
%SW7513			ON,,OFF,ON	Direct	R	R	4
%SW7514			ON,,OFF,ON	Direct	R	R	4
%SW7515			ON,,OFF,ON	Direct	R	R	4
%SW7516			ON,,OFF,ON	Direct	R	R	4
%SW7517			ON,,OFF,ON	Direct	R	R	4
%SW7518			ON,,OFF,ON	Direct	R	R	4
%SW7519			ON,,OFF,ON	Direct	R	R	4
%SW7520			ON,,OFF,ON	Direct	R	R	4
%SW7521			ON,,OFF,ON	Direct	R	R	4
%SW7522			ON,,OFF,ON	Direct	R	R	4
%SW7523			ON,,OFF,ON	Direct	R	R	4
%SW7524			ON,,OFF,ON	Direct	R	R	4
%SW7525			ON,,OFF,ON	Direct	R	R	4
%SW7526			ON,,OFF,ON	Direct	R	R	4
%SW7527			ON,,OFF,ON	Direct	R	R	4
%SW7528			ON,,OFF,ON	Direct	R	R	4
%SW7529			ON,,OFF,ON	Direct	R	R	4
%SW7530			ON,,OFF,ON	Direct	R	R	4
%SW7531			ON,,OFF,ON	Direct	R	R	4
%SW7532			ON,,OFF,ON	Direct	R	R	4
%SW7533			ON,,OFF,ON	Direct	R	R	4
%SW7534			ON,,OFF,ON	Direct	R	R	4
%SW7535			ON,,OFF,ON	Direct	R	R	4
%SW7536			ON,,OFF,ON	Direct	R	R	4
%SW7537			ON,,OFF,ON	Direct	R	R	4
%SW7538			ON,,OFF,ON	Direct	R	R	4
%SW7539			ON,,OFF,ON	Direct	R	R	4
%SW7540			ON,,OFF,ON	Direct	R	R	4
%SW7541			ON,,OFF,ON	Direct	R	R	4
%SW7542			ON,,OFF,ON	Direct	R	R	4
%SW7543			ON,,OFF,ON	Direct	R	R	4
%SW7544			ON,,OFF,ON	Direct	R	R	4
%SW7545			ON,,OFF,ON	Direct	R	R	4
%SW7546			ON,,OFF,ON	Direct	R	R	4
%SW7547			ON,,OFF,ON	Direct	R	R	4
%SW7548			ON,,OFF,ON	Direct	R	R	4
%SW7549			ON,,OFF,ON	Direct	R	R	4
%SW7550			ON,,OFF,ON	Direct	R	R	4
%SW7551			ON,,OFF,ON	Direct	R	R	4
%SW7552			ON,,OFF,ON	Direct	R	R	4
%SW7553			ON,,OFF,ON	Direct	R	R	4
%SW7554			ON,,OFF,ON	Direct	R	R	4
%SW7555			ON,,OFF,ON	Direct	R	R	4
%SW7556			ON,,OFF,ON	Direct	R	R	4
%SW7557			ON,,OFF,ON	Direct	R	R	4
%SW7558			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-11
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7559			ON,,OFF,ON	Direct	R	R	4
%SW7560			ON,,OFF,ON	Direct	R	R	4
%SW7561			ON,,OFF,ON	Direct	R	R	4
%SW7562			ON,,OFF,ON	Direct	R	R	4
%SW7563			ON,,OFF,ON	Direct	R	R	4
%SW7564			ON,,OFF,ON	Direct	R	R	4
%SW7565			ON,,OFF,ON	Direct	R	R	4
%SW7566			ON,,OFF,ON	Direct	R	R	4
%SW7567			ON,,OFF,ON	Direct	R	R	4
%SW7568			ON,,OFF,ON	Direct	R	R	4
%SW7569			ON,,OFF,ON	Direct	R	R	4
%SW7570			ON,,OFF,ON	Direct	R	R	4
%SW7571			ON,,OFF,ON	Direct	R	R	4
%SW7572			ON,,OFF,ON	Direct	R	R	4
%SW7573			ON,,OFF,ON	Direct	R	R	4
%SW7574			ON,,OFF,ON	Direct	R	R	4
%SW7575			ON,,OFF,ON	Direct	R	R	4
%SW7576			ON,,OFF,ON	Direct	R	R	4
%SW7577			ON,,OFF,ON	Direct	R	R	4
%SW7578			ON,,OFF,ON	Direct	R	R	4
%SW7579			ON,,OFF,ON	Direct	R	R	4
%SW7580			ON,,OFF,ON	Direct	R	R	4
%SW7581			ON,,OFF,ON	Direct	R	R	4
%SW7582			ON,,OFF,ON	Direct	R	R	4
%SW7583			ON,,OFF,ON	Direct	R	R	4
%SW7584			ON,,OFF,ON	Direct	R	R	4
%SW7585			ON,,OFF,ON	Direct	R	R	4
%SW7586			ON,,OFF,ON	Direct	R	R	4
%SW7587			ON,,OFF,ON	Direct	R	R	4
%SW7588			ON,,OFF,ON	Direct	R	R	4
%SW7589			ON,,OFF,ON	Direct	R	R	4
%SW7590			ON,,OFF,ON	Direct	R	R	4
%SW7591			ON,,OFF,ON	Direct	R	R	4
%SW7592			ON,,OFF,ON	Direct	R	R	4
%SW7593			ON,,OFF,ON	Direct	R	R	4
%SW7594			ON,,OFF,ON	Direct	R	R	4
%SW7595			ON,,OFF,ON	Direct	R	R	4
%SW7596			ON,,OFF,ON	Direct	R	R	4
%SW7597			ON,,OFF,ON	Direct	R	R	4
%SW7598			ON,,OFF,ON	Direct	R	R	4
%SW7599			ON,,OFF,ON	Direct	R	R	4
%SW7600			ON,,OFF,ON	Direct	R	R	4
%SW7601			ON,,OFF,ON	Direct	R	R	4
%SW7602			ON,,OFF,ON	Direct	R	R	4
%SW7603			ON,,OFF,ON	Direct	R	R	4
%SW7604			ON,,OFF,ON	Direct	R	R	4
%SW7605			ON,,OFF,ON	Direct	R	R	4
%SW7606			ON,,OFF,ON	Direct	R	R	4
%SW7607			ON,,OFF,ON	Direct	R	R	4
%SW7608			ON,,OFF,ON	Direct	R	R	4
%SW7609			ON,,OFF,ON	Direct	R	R	4
%SW7610			ON,,OFF,ON	Direct	R	R	4
%SW7611			ON,,OFF,ON	Direct	R	R	4
%SW7612			ON,,OFF,ON	Direct	R	R	4
%SW7613			ON,,OFF,ON	Direct	R	R	4
%SW7614			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-12
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7615			ON,,OFF,ON	Direct	R	R	4
%SW7616			ON,,OFF,ON	Direct	R	R	4
%SW7617			ON,,OFF,ON	Direct	R	R	4
%SW7618			ON,,OFF,ON	Direct	R	R	4
%SW7619			ON,,OFF,ON	Direct	R	R	4
%SW7620			ON,,OFF,ON	Direct	R	R	4
%SW7621			ON,,OFF,ON	Direct	R	R	4
%SW7622			ON,,OFF,ON	Direct	R	R	4
%SW7623			ON,,OFF,ON	Direct	R	R	4
%SW7624			ON,,OFF,ON	Direct	R	R	4
%SW7625			ON,,OFF,ON	Direct	R	R	4
%SW7626			ON,,OFF,ON	Direct	R	R	4
%SW7627			ON,,OFF,ON	Direct	R	R	4
%SW7628			ON,,OFF,ON	Direct	R	R	4
%SW7629			ON,,OFF,ON	Direct	R	R	4
%SW7630			ON,,OFF,ON	Direct	R	R	4
%SW7631			ON,,OFF,ON	Direct	R	R	4
%SW7632			ON,,OFF,ON	Direct	R	R	4
%SW7633			ON,,OFF,ON	Direct	R	R	4
%SW7634			ON,,OFF,ON	Direct	R	R	4
%SW7635			ON,,OFF,ON	Direct	R	R	4
%SW7636			ON,,OFF,ON	Direct	R	R	4
%SW7637			ON,,OFF,ON	Direct	R	R	4
%SW7638			ON,,OFF,ON	Direct	R	R	4
%SW7639			ON,,OFF,ON	Direct	R	R	4
%SW7640			ON,,OFF,ON	Direct	R	R	4
%SW7641			ON,,OFF,ON	Direct	R	R	4
%SW7642			ON,,OFF,ON	Direct	R	R	4
%SW7643			ON,,OFF,ON	Direct	R	R	4
%SW7644			ON,,OFF,ON	Direct	R	R	4
%SW7645			ON,,OFF,ON	Direct	R	R	4
%SW7646			ON,,OFF,ON	Direct	R	R	4
%SW7647			ON,,OFF,ON	Direct	R	R	4
%SW7648			ON,,OFF,ON	Direct	R	R	4
%SW7649			ON,,OFF,ON	Direct	R	R	4
%SW7650			ON,,OFF,ON	Direct	R	R	4
%SW7651			ON,,OFF,ON	Direct	R	R	4
%SW7652			ON,,OFF,ON	Direct	R	R	4
%SW7653			ON,,OFF,ON	Direct	R	R	4
%SW7654			ON,,OFF,ON	Direct	R	R	4
%SW7655			ON,,OFF,ON	Direct	R	R	4
%SW7656			ON,,OFF,ON	Direct	R	R	4
%SW7657			ON,,OFF,ON	Direct	R	R	4
%SW7658			ON,,OFF,ON	Direct	R	R	4
%SW7659			ON,,OFF,ON	Direct	R	R	4
%SW7660			ON,,OFF,ON	Direct	R	R	4
%SW7661			ON,,OFF,ON	Direct	R	R	4
%SW7662			ON,,OFF,ON	Direct	R	R	4
%SW7663			ON,,OFF,ON	Direct	R	R	4
%SW7664			ON,,OFF,ON	Direct	R	R	4
%SW7665			ON,,OFF,ON	Direct	R	R	4
%SW7666			ON,,OFF,ON	Direct	R	R	4
%SW7667			ON,,OFF,ON	Direct	R	R	4
%SW7668			ON,,OFF,ON	Direct	R	R	4
%SW7669			ON,,OFF,ON	Direct	R	R	4
%SW7670			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-13
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7671			ON,,OFF,ON	Direct	R	R	4
%SW7672			ON,,OFF,ON	Direct	R	R	4
%SW7673			ON,,OFF,ON	Direct	R	R	4
%SW7674			ON,,OFF,ON	Direct	R	R	4
%SW7675			ON,,OFF,ON	Direct	R	R	4
%SW7676			ON,,OFF,ON	Direct	R	R	4
%SW7677			ON,,OFF,ON	Direct	R	R	4
%SW7678			ON,,OFF,ON	Direct	R	R	4
%SW7679			ON,,OFF,ON	Direct	R	R	4
%SW7680			ON,,OFF,ON	Direct	R	R	4
%SW7681			ON,,OFF,ON	Direct	R	R	4
%SW7682			ON,,OFF,ON	Direct	R	R	4
%SW7683			ON,,OFF,ON	Direct	R	R	4
%SW7684			ON,,OFF,ON	Direct	R	R	4
%SW7685			ON,,OFF,ON	Direct	R	R	4
%SW7686			ON,,OFF,ON	Direct	R	R	4
%SW7687			ON,,OFF,ON	Direct	R	R	4
%SW7688			ON,,OFF,ON	Direct	R	R	4
%SW7689			ON,,OFF,ON	Direct	R	R	4
%SW7690			ON,,OFF,ON	Direct	R	R	4
%SW7691			ON,,OFF,ON	Direct	R	R	4
%SW7692			ON,,OFF,ON	Direct	R	R	4
%SW7693			ON,,OFF,ON	Direct	R	R	4
%SW7694			ON,,OFF,ON	Direct	R	R	4
%SW7695			ON,,OFF,ON	Direct	R	R	4
%SW7696			ON,,OFF,ON	Direct	R	R	4
%SW7697			ON,,OFF,ON	Direct	R	R	4
%SW7698			ON,,OFF,ON	Direct	R	R	4
%SW7699			ON,,OFF,ON	Direct	R	R	4
%SW7700			ON,,OFF,ON	Direct	R	R	4
%SW7701			ON,,OFF,ON	Direct	R	R	4
%SW7702			ON,,OFF,ON	Direct	R	R	4
%SW7703			ON,,OFF,ON	Direct	R	R	4
%SW7704			ON,,OFF,ON	Direct	R	R	4
%SW7705			ON,,OFF,ON	Direct	R	R	4
%SW7706			ON,,OFF,ON	Direct	R	R	4
%SW7707			ON,,OFF,ON	Direct	R	R	4
%SW7708			ON,,OFF,ON	Direct	R	R	4
%SW7709			ON,,OFF,ON	Direct	R	R	4
%SW7710			ON,,OFF,ON	Direct	R	R	4
%SW7711			ON,,OFF,ON	Direct	R	R	4
%SW7712			ON,,OFF,ON	Direct	R	R	4
%SW7713			ON,,OFF,ON	Direct	R	R	4
%SW7714			ON,,OFF,ON	Direct	R	R	4
%SW7715			ON,,OFF,ON	Direct	R	R	4
%SW7716			ON,,OFF,ON	Direct	R	R	4
%SW7717			ON,,OFF,ON	Direct	R	R	4
%SW7718			ON,,OFF,ON	Direct	R	R	4
%SW7719			ON,,OFF,ON	Direct	R	R	4
%SW7720			ON,,OFF,ON	Direct	R	R	4
%SW7721			ON,,OFF,ON	Direct	R	R	4
%SW7722			ON,,OFF,ON	Direct	R	R	4
%SW7723			ON,,OFF,ON	Direct	R	R	4
%SW7724			ON,,OFF,ON	Direct	R	R	4
%SW7725			ON,,OFF,ON	Direct	R	R	4
%SW7726			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-14
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7727			ON,,OFF,ON	Direct	R	R	4
%SW7728			ON,,OFF,ON	Direct	R	R	4
%SW7729			ON,,OFF,ON	Direct	R	R	4
%SW7730			ON,,OFF,ON	Direct	R	R	4
%SW7731			ON,,OFF,ON	Direct	R	R	4
%SW7732			ON,,OFF,ON	Direct	R	R	4
%SW7733			ON,,OFF,ON	Direct	R	R	4
%SW7734			ON,,OFF,ON	Direct	R	R	4
%SW7735			ON,,OFF,ON	Direct	R	R	4
%SW7736			ON,,OFF,ON	Direct	R	R	4
%SW7737			ON,,OFF,ON	Direct	R	R	4
%SW7738			ON,,OFF,ON	Direct	R	R	4
%SW7739			ON,,OFF,ON	Direct	R	R	4
%SW7740			ON,,OFF,ON	Direct	R	R	4
%SW7741			ON,,OFF,ON	Direct	R	R	4
%SW7742			ON,,OFF,ON	Direct	R	R	4
%SW7743			ON,,OFF,ON	Direct	R	R	4
%SW7744			ON,,OFF,ON	Direct	R	R	4
%SW7745			ON,,OFF,ON	Direct	R	R	4
%SW7746			ON,,OFF,ON	Direct	R	R	4
%SW7747			ON,,OFF,ON	Direct	R	R	4
%SW7748			ON,,OFF,ON	Direct	R	R	4
%SW7749			ON,,OFF,ON	Direct	R	R	4
%SW7750			ON,,OFF,ON	Direct	R	R	4
%SW7751			ON,,OFF,ON	Direct	R	R	4
%SW7752			ON,,OFF,ON	Direct	R	R	4
%SW7753			ON,,OFF,ON	Direct	R	R	4
%SW7754			ON,,OFF,ON	Direct	R	R	4
%SW7755			ON,,OFF,ON	Direct	R	R	4
%SW7756			ON,,OFF,ON	Direct	R	R	4
%SW7757			ON,,OFF,ON	Direct	R	R	4
%SW7758			ON,,OFF,ON	Direct	R	R	4
%SW7759			ON,,OFF,ON	Direct	R	R	4
%SW7760			ON,,OFF,ON	Direct	R	R	4
%SW7761			ON,,OFF,ON	Direct	R	R	4
%SW7762			ON,,OFF,ON	Direct	R	R	4
%SW7763			ON,,OFF,ON	Direct	R	R	4
%SW7764			ON,,OFF,ON	Direct	R	R	4
%SW7765			ON,,OFF,ON	Direct	R	R	4
%SW7766			ON,,OFF,ON	Direct	R	R	4
%SW7767			ON,,OFF,ON	Direct	R	R	4
%SW7768			ON,,OFF,ON	Direct	R	R	4
%SW7769			ON,,OFF,ON	Direct	R	R	4
%SW7770			ON,,OFF,ON	Direct	R	R	4
%SW7771			ON,,OFF,ON	Direct	R	R	4
%SW7772			ON,,OFF,ON	Direct	R	R	4
%SW7773			ON,,OFF,ON	Direct	R	R	4
%SW7774			ON,,OFF,ON	Direct	R	R	4
%SW7775			ON,,OFF,ON	Direct	R	R	4
%SW7776			ON,,OFF,ON	Direct	R	R	4
%SW7777			ON,,OFF,ON	Direct	R	R	4
%SW7778			ON,,OFF,ON	Direct	R	R	4
%SW7779			ON,,OFF,ON	Direct	R	R	4
%SW7780			ON,,OFF,ON	Direct	R	R	4
%SW7781			ON,,OFF,ON	Direct	R	R	4
%SW7782			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-15
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7783			ON,,OFF,ON	Direct	R	R	4
%SW7784			ON,,OFF,ON	Direct	R	R	4
%SW7785			ON,,OFF,ON	Direct	R	R	4
%SW7786			ON,,OFF,ON	Direct	R	R	4
%SW7787			ON,,OFF,ON	Direct	R	R	4
%SW7788			ON,,OFF,ON	Direct	R	R	4
%SW7789			ON,,OFF,ON	Direct	R	R	4
%SW7790			ON,,OFF,ON	Direct	R	R	4
%SW7791			ON,,OFF,ON	Direct	R	R	4
%SW7792			ON,,OFF,ON	Direct	R	R	4
%SW7793			ON,,OFF,ON	Direct	R	R	4
%SW7794			ON,,OFF,ON	Direct	R	R	4
%SW7795			ON,,OFF,ON	Direct	R	R	4
%SW7796			ON,,OFF,ON	Direct	R	R	4
%SW7797			ON,,OFF,ON	Direct	R	R	4
%SW7798			ON,,OFF,ON	Direct	R	R	4
%SW7799			ON,,OFF,ON	Direct	R	R	4
%SW7800			ON,,OFF,ON	Direct	R	R	4
%SW7801			ON,,OFF,ON	Direct	R	R	4
%SW7802			ON,,OFF,ON	Direct	R	R	4
%SW7803			ON,,OFF,ON	Direct	R	R	4
%SW7804			ON,,OFF,ON	Direct	R	R	4
%SW7805			ON,,OFF,ON	Direct	R	R	4
%SW7806			ON,,OFF,ON	Direct	R	R	4
%SW7807			ON,,OFF,ON	Direct	R	R	4
%SW7808			ON,,OFF,ON	Direct	R	R	4
%SW7809			ON,,OFF,ON	Direct	R	R	4
%SW7810			ON,,OFF,ON	Direct	R	R	4
%SW7811			ON,,OFF,ON	Direct	R	R	4
%SW7812			ON,,OFF,ON	Direct	R	R	4
%SW7813			ON,,OFF,ON	Direct	R	R	4
%SW7814			ON,,OFF,ON	Direct	R	R	4
%SW7815			ON,,OFF,ON	Direct	R	R	4
%SW7816			ON,,OFF,ON	Direct	R	R	4
%SW7817			ON,,OFF,ON	Direct	R	R	4
%SW7818			ON,,OFF,ON	Direct	R	R	4
%SW7819			ON,,OFF,ON	Direct	R	R	4
%SW7820			ON,,OFF,ON	Direct	R	R	4
%SW7821			ON,,OFF,ON	Direct	R	R	4
%SW7822			ON,,OFF,ON	Direct	R	R	4
%SW7823			ON,,OFF,ON	Direct	R	R	4
%SW7824			ON,,OFF,ON	Direct	R	R	4
%SW7825			ON,,OFF,ON	Direct	R	R	4
%SW7826			ON,,OFF,ON	Direct	R	R	4
%SW7827			ON,,OFF,ON	Direct	R	R	4
%SW7828			ON,,OFF,ON	Direct	R	R	4
%SW7829			ON,,OFF,ON	Direct	R	R	4
%SW7830			ON,,OFF,ON	Direct	R	R	4
%SW7831			ON,,OFF,ON	Direct	R	R	4
%SW7832			ON,,OFF,ON	Direct	R	R	4
%SW7833			ON,,OFF,ON	Direct	R	R	4
%SW7834			ON,,OFF,ON	Direct	R	R	4
%SW7835			ON,,OFF,ON	Direct	R	R	4
%SW7836			ON,,OFF,ON	Direct	R	R	4
%SW7837			ON,,OFF,ON	Direct	R	R	4
%SW7838			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-16
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7839			ON,,OFF,ON	Direct	R	R	4
%SW7840			ON,,OFF,ON	Direct	R	R	4
%SW7841			ON,,OFF,ON	Direct	R	R	4
%SW7842			ON,,OFF,ON	Direct	R	R	4
%SW7843			ON,,OFF,ON	Direct	R	R	4
%SW7844			ON,,OFF,ON	Direct	R	R	4
%SW7845			ON,,OFF,ON	Direct	R	R	4
%SW7846			ON,,OFF,ON	Direct	R	R	4
%SW7847			ON,,OFF,ON	Direct	R	R	4
%SW7848			ON,,OFF,ON	Direct	R	R	4
%SW7849			ON,,OFF,ON	Direct	R	R	4
%SW7850			ON,,OFF,ON	Direct	R	R	4
%SW7851			ON,,OFF,ON	Direct	R	R	4
%SW7852			ON,,OFF,ON	Direct	R	R	4
%SW7853			ON,,OFF,ON	Direct	R	R	4
%SW7854			ON,,OFF,ON	Direct	R	R	4
%SW7855			ON,,OFF,ON	Direct	R	R	4
%SW7856			ON,,OFF,ON	Direct	R	R	4
%SW7857			ON,,OFF,ON	Direct	R	R	4
%SW7858			ON,,OFF,ON	Direct	R	R	4
%SW7859			ON,,OFF,ON	Direct	R	R	4
%SW7860			ON,,OFF,ON	Direct	R	R	4
%SW7861			ON,,OFF,ON	Direct	R	R	4
%SW7862			ON,,OFF,ON	Direct	R	R	4
%SW7863			ON,,OFF,ON	Direct	R	R	4
%SW7864			ON,,OFF,ON	Direct	R	R	4
%SW7865			ON,,OFF,ON	Direct	R	R	4
%SW7866			ON,,OFF,ON	Direct	R	R	4
%SW7867			ON,,OFF,ON	Direct	R	R	4
%SW7868			ON,,OFF,ON	Direct	R	R	4
%SW7869			ON,,OFF,ON	Direct	R	R	4
%SW7870			ON,,OFF,ON	Direct	R	R	4
%SW7871			ON,,OFF,ON	Direct	R	R	4
%SW7872			ON,,OFF,ON	Direct	R	R	4
%SW7873			ON,,OFF,ON	Direct	R	R	4
%SW7874			ON,,OFF,ON	Direct	R	R	4
%SW7875			ON,,OFF,ON	Direct	R	R	4
%SW7876			ON,,OFF,ON	Direct	R	R	4
%SW7877			ON,,OFF,ON	Direct	R	R	4
%SW7878			ON,,OFF,ON	Direct	R	R	4
%SW7879			ON,,OFF,ON	Direct	R	R	4
%SW7880			ON,,OFF,ON	Direct	R	R	4
%SW7881			ON,,OFF,ON	Direct	R	R	4
%SW7882			ON,,OFF,ON	Direct	R	R	4
%SW7883			ON,,OFF,ON	Direct	R	R	4
%SW7884			ON,,OFF,ON	Direct	R	R	4
%SW7885			ON,,OFF,ON	Direct	R	R	4
%SW7886			ON,,OFF,ON	Direct	R	R	4
%SW7887			ON,,OFF,ON	Direct	R	R	4
%SW7888			ON,,OFF,ON	Direct	R	R	4
%SW7889			ON,,OFF,ON	Direct	R	R	4
%SW7890			ON,,OFF,ON	Direct	R	R	4
%SW7891			ON,,OFF,ON	Direct	R	R	4
%SW7892			ON,,OFF,ON	Direct	R	R	4
%SW7893			ON,,OFF,ON	Direct	R	R	4
%SW7894			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-17
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7895			ON,,OFF,ON	Direct	R	R	4
%SW7896			ON,,OFF,ON	Direct	R	R	4
%SW7897			ON,,OFF,ON	Direct	R	R	4
%SW7898			ON,,OFF,ON	Direct	R	R	4
%SW7899			ON,,OFF,ON	Direct	R	R	4
%SW7900			ON,,OFF,ON	Direct	R	R	4
%SW7901			ON,,OFF,ON	Direct	R	R	4
%SW7902			ON,,OFF,ON	Direct	R	R	4
%SW7903			ON,,OFF,ON	Direct	R	R	4
%SW7904			ON,,OFF,ON	Direct	R	R	4
%SW7905			ON,,OFF,ON	Direct	R	R	4
%SW7906			ON,,OFF,ON	Direct	R	R	4
%SW7907			ON,,OFF,ON	Direct	R	R	4
%SW7908			ON,,OFF,ON	Direct	R	R	4
%SW7909			ON,,OFF,ON	Direct	R	R	4
%SW7910			ON,,OFF,ON	Direct	R	R	4
%SW7911			ON,,OFF,ON	Direct	R	R	4
%SW7912			ON,,OFF,ON	Direct	R	R	4
%SW7913			ON,,OFF,ON	Direct	R	R	4
%SW7914			ON,,OFF,ON	Direct	R	R	4
%SW7915			ON,,OFF,ON	Direct	R	R	4
%SW7916			ON,,OFF,ON	Direct	R	R	4
%SW7917			ON,,OFF,ON	Direct	R	R	4
%SW7918			ON,,OFF,ON	Direct	R	R	4
%SW7919			ON,,OFF,ON	Direct	R	R	4
%SW7920			ON,,OFF,ON	Direct	R	R	4
%SW7921			ON,,OFF,ON	Direct	R	R	4
%SW7922			ON,,OFF,ON	Direct	R	R	4
%SW7923			ON,,OFF,ON	Direct	R	R	4
%SW7924			ON,,OFF,ON	Direct	R	R	4
%SW7925			ON,,OFF,ON	Direct	R	R	4
%SW7926			ON,,OFF,ON	Direct	R	R	4
%SW7927			ON,,OFF,ON	Direct	R	R	4
%SW7928			ON,,OFF,ON	Direct	R	R	4
%SW7929			ON,,OFF,ON	Direct	R	R	4
%SW7930			ON,,OFF,ON	Direct	R	R	4
%SW7931			ON,,OFF,ON	Direct	R	R	4
%SW7932			ON,,OFF,ON	Direct	R	R	4
%SW7933			ON,,OFF,ON	Direct	R	R	4
%SW7934			ON,,OFF,ON	Direct	R	R	4
%SW7935			ON,,OFF,ON	Direct	R	R	4
%SW7936			ON,,OFF,ON	Direct	R	R	4
%SW7937			ON,,OFF,ON	Direct	R	R	4
%SW7938			ON,,OFF,ON	Direct	R	R	4
%SW7939			ON,,OFF,ON	Direct	R	R	4
%SW7940			ON,,OFF,ON	Direct	R	R	4
%SW7941			ON,,OFF,ON	Direct	R	R	4
%SW7942			ON,,OFF,ON	Direct	R	R	4
%SW7943			ON,,OFF,ON	Direct	R	R	4
%SW7944			ON,,OFF,ON	Direct	R	R	4
%SW7945			ON,,OFF,ON	Direct	R	R	4
%SW7946			ON,,OFF,ON	Direct	R	R	4
%SW7947			ON,,OFF,ON	Direct	R	R	4
%SW7948			ON,,OFF,ON	Direct	R	R	4
%SW7949			ON,,OFF,ON	Direct	R	R	4
%SW7950			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef8.edf	SHEET:		YOKOGAWA	PAGE:3-18-18
STATION:	FCS0101	SAVED DATE:	6/10/2025 12:43:57 AM	COMMENT:			
SECTION:	Common switch8	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW7951			ON,,OFF,ON	Direct	R	R	4
%SW7952			ON,,OFF,ON	Direct	R	R	4
%SW7953			ON,,OFF,ON	Direct	R	R	4
%SW7954			ON,,OFF,ON	Direct	R	R	4
%SW7955			ON,,OFF,ON	Direct	R	R	4
%SW7956			ON,,OFF,ON	Direct	R	R	4
%SW7957			ON,,OFF,ON	Direct	R	R	4
%SW7958			ON,,OFF,ON	Direct	R	R	4
%SW7959			ON,,OFF,ON	Direct	R	R	4
%SW7960			ON,,OFF,ON	Direct	R	R	4
%SW7961			ON,,OFF,ON	Direct	R	R	4
%SW7962			ON,,OFF,ON	Direct	R	R	4
%SW7963			ON,,OFF,ON	Direct	R	R	4
%SW7964			ON,,OFF,ON	Direct	R	R	4
%SW7965			ON,,OFF,ON	Direct	R	R	4
%SW7966			ON,,OFF,ON	Direct	R	R	4
%SW7967			ON,,OFF,ON	Direct	R	R	4
%SW7968			ON,,OFF,ON	Direct	R	R	4
%SW7969			ON,,OFF,ON	Direct	R	R	4
%SW7970			ON,,OFF,ON	Direct	R	R	4
%SW7971			ON,,OFF,ON	Direct	R	R	4
%SW7972			ON,,OFF,ON	Direct	R	R	4
%SW7973			ON,,OFF,ON	Direct	R	R	4
%SW7974			ON,,OFF,ON	Direct	R	R	4
%SW7975			ON,,OFF,ON	Direct	R	R	4
%SW7976			ON,,OFF,ON	Direct	R	R	4
%SW7977			ON,,OFF,ON	Direct	R	R	4
%SW7978			ON,,OFF,ON	Direct	R	R	4
%SW7979			ON,,OFF,ON	Direct	R	R	4
%SW7980			ON,,OFF,ON	Direct	R	R	4
%SW7981			ON,,OFF,ON	Direct	R	R	4
%SW7982			ON,,OFF,ON	Direct	R	R	4
%SW7983			ON,,OFF,ON	Direct	R	R	4
%SW7984			ON,,OFF,ON	Direct	R	R	4
%SW7985			ON,,OFF,ON	Direct	R	R	4
%SW7986			ON,,OFF,ON	Direct	R	R	4
%SW7987			ON,,OFF,ON	Direct	R	R	4
%SW7988			ON,,OFF,ON	Direct	R	R	4
%SW7989			ON,,OFF,ON	Direct	R	R	4
%SW7990			ON,,OFF,ON	Direct	R	R	4
%SW7991			ON,,OFF,ON	Direct	R	R	4
%SW7992			ON,,OFF,ON	Direct	R	R	4
%SW7993			ON,,OFF,ON	Direct	R	R	4
%SW7994			ON,,OFF,ON	Direct	R	R	4
%SW7995			ON,,OFF,ON	Direct	R	R	4
%SW7996			ON,,OFF,ON	Direct	R	R	4
%SW7997			ON,,OFF,ON	Direct	R	R	4
%SW7998			ON,,OFF,ON	Direct	R	R	4
%SW7999			ON,,OFF,ON	Direct	R	R	4
%SW8000			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-1
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Common Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8001	FCS0101ICS	Initial cold start	ON,,OFF,ON	Direct	R	R	4
%SW8002	FCS0101RSRT	Restart	ON,,OFF,ON	Direct	R	R	4
%SW8003		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8004		ST16 Init Start Cmd	ON,,OFF,ON	Direct	R	R	4
%SW8005		ST16 Init ReStart Cmd	ON,,OFF,ON	Direct	R	R	4
%SW8006			ON,,OFF,ON	Direct	R	R	4
%SW8007		Moment/prlng PWR Fail	ON,,OFF,ON	Direct	R	R	4
%SW8008		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8009		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8010		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8011		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8012		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8013		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8014		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8015		FB Output during OOP	ON,,OFF,ON	Direct	R	R	4
%SW8016		Online upgrading	ON,,OFF,ON	Direct	R	R	4
%SW8017	FCS0101RCPUSTS	R-side CPU status	ON,,OFF,ON	Direct	R	R	4
%SW8018	FCS0101LCPUSTS	L-side CPU status	ON,,OFF,ON	Direct	R	R	4
%SW8019	FCS0101CPUTEMP	CPU temperature	ON,,OFF,ON	Direct	R	R	4
%SW8020	FCS0101FCUTEMP	CPU node (FCU) temp	ON,,OFF,ON	Direct	R	R	4
%SW8021	FCS0101CPUPWR	CPU node power supply	ON,,OFF,ON	Direct	R	R	4
%SW8022	FCS0101IOPWR	I/O node power supply	ON,,OFF,ON	Direct	R	R	4
%SW8023		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8024		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8025		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8026		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8027	FCS0101RCPUCTSTS	R-side CPU CTRL status	ON,,OFF,ON	Direct	R	R	4
%SW8028	FCS0101LCPUCTSTS	L-side CPU CTRL status	ON,,OFF,ON	Direct	R	R	4
%SW8029	FCS0101ESBSTS	ESB buses	ON,,OFF,ON	Direct	R	R	4
%SW8030		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8031		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8032		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8033	FCS0101NODE1STS	Node 1 COMM status	ON,,OFF,ON	Direct	R	R	4
%SW8034	FCS0101NODE2STS	Node 2 COMM status	ON,,OFF,ON	Direct	R	R	4
%SW8035	FCS0101NODE3STS	Node 3 COMM status	ON,,OFF,ON	Direct	R	R	4
%SW8036	FCS0101NODE4STS	Node 4 COMM status	ON,,OFF,ON	Direct	R	R	4
%SW8037		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8038		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8039		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8040		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8041		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8042		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8043		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8044		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8045		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8046		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8047		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8048		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8049		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8050		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8051		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8052		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8053		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8054		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-2
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8055		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8056		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8057		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8058		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8059		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8060		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8061		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8062		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8063		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8064		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8065	FCS0101CPUIDLE	CPU idle time (sec.)	ON,,OFF,ON	Direct	R	R	4
%SW8066		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8067		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8068		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8069		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8070		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8071		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8072		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8073	FCS0101CPULOAD	COMM load (%)	ON,,OFF,ON	Direct	R	R	4
%SW8074		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8075		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8076		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8077		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8078		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8079		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8080		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8081		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8082		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8083		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8084		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8085		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8086		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8087		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8088		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8089		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8090		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8091		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8092		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8093		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8094		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8095		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8096		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8097	FCS0101N1S1STS	Node 1 Slot 1 Status	ON,,OFF,ON	Direct	R	R	4
%SW8098	FCS0101N1S2STS	Node 1 Slot 2 Status	ON,,OFF,ON	Direct	R	R	4
%SW8099	FCS0101N1S3STS	Node 1 Slot 3 Status	ON,,OFF,ON	Direct	R	R	4
%SW8100	FCS0101N1S4STS	Node 1 Slot 4 Status	ON,,OFF,ON	Direct	R	R	4
%SW8101	FCS0101N1S5STS	Node 1 Slot 5 Status	ON,,OFF,ON	Direct	R	R	4
%SW8102		Node 1 Slot 6 Status	ON,,OFF,ON	Direct	R	R	4
%SW8103		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8104		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8105	FCS0101N2S1STS	Node 2 Slot 1 Status	ON,,OFF,ON	Direct	R	R	4
%SW8106	FCS0101N2S2STS	Node 2 Slot 2 Status	ON,,OFF,ON	Direct	R	R	4
%SW8107	FCS0101N2S3STS	Node 2 Slot 3 Status	ON,,OFF,ON	Direct	R	R	4
%SW8108	FCS0101N2S4STS	Node 2 Slot 4 Status	ON,,OFF,ON	Direct	R	R	4
%SW8109	FCS0101N2S5STS	Node 2 Slot 5 Status	ON,,OFF,ON	Direct	R	R	4
%SW8110	FCS0101N2S6STS	Node 2 Slot 6 Status	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-3
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8111	FCS0101N2S7STS	Node 2 Slot 7 Status	ON,,OFF,ON	Direct	R	R	4
%SW8112	FCS0101N2S8STS	Node 2 Slot 8 Status	ON,,OFF,ON	Direct	R	R	4
%SW8113	FCS0101N3S1STS	Node 3 Slot 1 Status	ON,,OFF,ON	Direct	R	R	4
%SW8114	FCS0101N3S2STS	Node 3 Slot 2 Status	ON,,OFF,ON	Direct	R	R	4
%SW8115	FCS0101N3S3STS	Node 3 Slot 3 Status	ON,,OFF,ON	Direct	R	R	4
%SW8116	FCS0101N3S4STS	Node 3 Slot 4 Status	ON,,OFF,ON	Direct	R	R	4
%SW8117	FCS0101N3S5STS	Node 3 Slot 5 Status	ON,,OFF,ON	Direct	R	R	4
%SW8118	FCS0101N3S6STS	Node 3 Slot 6 Status	ON,,OFF,ON	Direct	R	R	4
%SW8119	FCS0101N3S7STS	Node 3 Slot 7 Status	ON,,OFF,ON	Direct	R	R	4
%SW8120	FCS0101N3S8STS	Node 3 Slot 8 Status	ON,,OFF,ON	Direct	R	R	4
%SW8121	FCS0101N4S1STS	Node 4 Slot 1 Status	ON,,OFF,ON	Direct	R	R	4
%SW8122	FCS0101N4S2STS	Node 4 Slot 2 Status	ON,,OFF,ON	Direct	R	R	4
%SW8123	FCS0101N4S3STS	Node 4 Slot 3 Status	ON,,OFF,ON	Direct	R	R	4
%SW8124	FCS0101N4S4STS	Node 4 Slot 4 Status	ON,,OFF,ON	Direct	R	R	4
%SW8125	FCS0101N4S5STS	Node 4 Slot 5 Status	ON,,OFF,ON	Direct	R	R	4
%SW8126	FCS0101N4S6STS	Node 4 Slot 6 Status	ON,,OFF,ON	Direct	R	R	4
%SW8127	FCS0101N4S7STS	Node 4 Slot 7 Status	ON,,OFF,ON	Direct	R	R	4
%SW8128	FCS0101N4S8STS	Node 4 Slot 8 Status	ON,,OFF,ON	Direct	R	R	4
%SW8129		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8130		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8131		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8132		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8133		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8134		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8135		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8136		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8137		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8138		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8139		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8140		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8141		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8142		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8143		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8144		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8145		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8146		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8147		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8148		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8149		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8150		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8151		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8152		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8153		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8154		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8155		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8156		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8157		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8158		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8159		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8160		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8161		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8162		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8163		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8164		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8165		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8166		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-4
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8167		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8168		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8169		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8170		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8171		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8172		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8173		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8174		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8175		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8176		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8177		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8178		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8179		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8180		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8181		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8182		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8183		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8184		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8185		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8186		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8187		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8188		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8189		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8190		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8191		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8192		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8193		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8194		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8195		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8196		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8197		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8198		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8199		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8200		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8201		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8202		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8203		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8204		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8205		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8206		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8207		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8208		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8209		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8210		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8211		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8212		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8213		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8214		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8215		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8216		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8217		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8218		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8219		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8220		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8221		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8222		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-5
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8223		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8224		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8225		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8226		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8227		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8228		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8229		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8230		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8231		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8232		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8233		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8234		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8235		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8236		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8237		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8238		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8239		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8240		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8241		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8242		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8243		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8244		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8245		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8246		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8247		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8248		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8249		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8250		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8251		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8252		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8253		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8254		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8255		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8256		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8257		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8258		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8259		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8260		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8261		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8262		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8263		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8264		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8265		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8266		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8267		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8268		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8269		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8270		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8271		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8272		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8273		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8274		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8275		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8276		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8277		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8278		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-6
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8279		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8280		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8281		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8282		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8283		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8284		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8285		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8286		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8287		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8288		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8289		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8290		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8291		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8292		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8293		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8294		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8295		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8296		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8297		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8298		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8299		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8300		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8301		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8302		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8303		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8304		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8305		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8306		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8307		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8308		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8309		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8310		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8311		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8312		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8313		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8314		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8315		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8316		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8317		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8318		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8319		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8320		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8321		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8322		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8323		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8324		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8325		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8326		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8327		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8328		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8329		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8330		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8331		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8332		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8333		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8334		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-7
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8335		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8336		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8337		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8338		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8339		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8340		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8341		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8342		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8343		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8344		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8345		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8346		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8347		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8348		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8349		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8350		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8351		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8352		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8353		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8354		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8355		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8356		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8357		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8358		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8359		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8360		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8361		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8362		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8363		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8364		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8365		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8366		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8367		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8368		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8369		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8370		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8371		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8372		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8373		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8374		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8375		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8376		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8377		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8378		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8379		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8380		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8381		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8382		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8383		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8384		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8385		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8386		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8387		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8388		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8389		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8390		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-8
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8391		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8392		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8393		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8394		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8395		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8396		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8397		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8398		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8399		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8400		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8401		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8402		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8403		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8404		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8405		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8406		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8407		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8408		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8409		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8410		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8411		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8412		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8413		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8414		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8415		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8416		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8417		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8418		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8419		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8420		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8421		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8422		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8423		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8424		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8425		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8426		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8427		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8428		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8429		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8430		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8431		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8432		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8433		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8434		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8435		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8436		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8437		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8438		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8439		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8440		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8441		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8442		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8443		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8444		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8445		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8446		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-9
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8447		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8448		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8449		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8450		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8451		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8452		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8453		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8454		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8455		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8456		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8457		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8458		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8459		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8460		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8461		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8462		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8463		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8464		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8465		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8466		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8467		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8468		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8469		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8470		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8471		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8472		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8473		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8474		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8475		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8476		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8477		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8478		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8479		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8480		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8481		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8482		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8483		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8484		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8485		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8486		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8487		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8488		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8489		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8490		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8491		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8492		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8493		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8494		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8495		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8496		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8497		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8498		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8499		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8500		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8501		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8502		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-10
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8503		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8504		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8505		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8506		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8507		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8508		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8509		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8510		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8511		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8512		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8513		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8514		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8515		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8516		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8517		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8518		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8519		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8520		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8521		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8522		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8523		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8524		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8525		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8526		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8527		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8528		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8529		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8530		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8531		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8532		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8533		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8534		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8535		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8536		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8537		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8538		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8539		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8540		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8541		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8542		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8543		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8544		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8545		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8546		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8547		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8548		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8549		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8550		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8551		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8552		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8553		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8554		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8555		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8556		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8557		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8558		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-11
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8559		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8560		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8561		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8562		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8563		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8564		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8565		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8566		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8567		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8568		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8569		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8570		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8571		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8572		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8573		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8574		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8575		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8576		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8577		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8578		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8579		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8580		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8581		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8582		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8583		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8584		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8585		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8586		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8587		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8588		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8589		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8590		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8591		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8592		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8593		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8594		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8595		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8596		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8597		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8598		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8599		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8600		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8601		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8602		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8603		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8604		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8605		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8606		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8607		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8608		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8609		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8610		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8611		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8612		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8613		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8614		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-12
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8615		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8616		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8617		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8618		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8619		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8620		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8621		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8622		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8623		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8624		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8625		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8626		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8627		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8628		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8629		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8630		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8631		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8632		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8633		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8634		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8635		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8636		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8637		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8638		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8639		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8640		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8641		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8642		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8643		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8644		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8645		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8646		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8647		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8648		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8649		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8650		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8651		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8652		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8653		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8654		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8655		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8656		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8657		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8658		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8659		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8660		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8661		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8662		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8663		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8664		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8665		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8666		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8667		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8668		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8669		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8670		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-13
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8671		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8672		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8673		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8674		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8675		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8676		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8677		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8678		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8679		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8680		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8681		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8682		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8683		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8684		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8685		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8686		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8687		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8688		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8689		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8690		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8691		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8692		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8693		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8694		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8695		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8696		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8697		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8698		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8699		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8700		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8701		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8702		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8703		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8704		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8705		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8706		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8707		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8708		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8709		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8710		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8711		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8712		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8713		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8714		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8715		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8716		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8717		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8718		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8719		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8720		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8721		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8722		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8723		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8724		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8725		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8726		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-14
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8727		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8728		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8729		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8730		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8731		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8732		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8733		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8734		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8735		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8736		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8737		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8738		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8739		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8740		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8741		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8742		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8743		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8744		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8745		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8746		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8747		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8748		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8749		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8750		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8751		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8752		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8753		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8754		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8755		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8756		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8757		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8758		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8759		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8760		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8761		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8762		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8763		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8764		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8765		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8766		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8767		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8768		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8769		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8770		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8771		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8772		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8773		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8774		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8775		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8776		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8777		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8778		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8779		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8780		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8781		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8782		System Reserved	ON,,OFF,ON	Direct	R	R	4

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-15
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8783		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8784		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8785		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8786		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8787		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8788		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8789		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8790		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8791		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8792		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8793		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8794		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8795		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8796		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8797		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8798		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8799		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8800		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8801		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8802		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8803		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8804		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8805		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8806		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8807		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8808		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8809		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8810		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8811		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8812		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8813		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8814		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8815		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8816		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8817		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8818		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8819		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8820		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8821		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8822		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8823		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8824		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8825		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8826		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8827		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8828		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8829		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8830		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8831		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8832		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8833		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8834		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8835		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8836		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8837		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8838		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-16
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8839		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8840		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8841		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8842		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8843		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8844		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8845		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8846		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8847		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8848		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8849		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8850		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8851		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8852		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8853		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8854		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8855		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8856		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8857		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8858		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8859		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8860		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8861		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8862		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8863		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8864		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8865		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8866		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8867		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8868		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8869		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8870		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8871		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8872		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8873		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8874		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8875		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8876		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8877		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8878		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8879		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8880		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8881		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8882		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8883		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8884		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8885		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8886		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8887		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8888		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8889		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8890		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8891		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8892		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8893		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8894		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-17
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8895		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8896		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8897		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8898		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8899		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8900		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8901		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8902		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8903		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8904		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8905		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8906		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8907		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8908		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8909		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8910		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8911		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8912		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8913		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8914		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8915		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8916		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8917		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8918		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8919		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8920		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8921		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8922		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8923		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8924		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8925		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8926		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8927		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8928		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8929		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8930		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8931		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8932		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8933		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8934		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8935		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8936		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8937		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8938		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8939		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8940		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8941		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8942		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8943		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8944		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8945		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8946		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8947		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8948		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8949		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8950		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SwitchDef9.edf	SHEET:		YOKOGAWA	PAGE:3-19-18
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:15:22 AM	COMMENT:			
SECTION:	Common switch9	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%SW8951		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8952		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8953		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8954		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8955		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8956		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8957		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8958		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8959		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8960		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8961		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8962		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8963		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8964		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8965		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8966		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8967		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8968		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8969		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8970		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8971		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8972		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8973		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8974		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8975		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8976		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8977		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8978		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8979		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8980		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8981		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8982		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8983		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8984		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8985		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8986		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8987		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8988		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8989		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8990		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8991		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8992		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8993		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8994		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8995		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8996		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8997		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8998		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW8999		System Reserved	ON,,OFF,ON	Direct	R	R	4
%SW9000		System Reserved	ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	GSwitchdef.edf	SHEET:		YOKOGAWA	PAGE:3-20-1
STATION:	FCS0101	SAVED DATE:	12/8/2024 10:03:05 PM	COMMENT:			
SECTION:	Global Switch	PRINTED DATE:	9/15/2025	DRAWER:			

Global Switch Builder

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%GS001	83XA-001GS	SOLAR PKG CUMM FLT	TRIP,,NORMAL,TRIP	Direct	R	G	4
%GS002			ON,,OFF,ON	Direct	R	R	4
%GS003			ON,,OFF,ON	Direct	R	R	4
%GS004			ON,,OFF,ON	Direct	R	R	4
%GS005			ON,,OFF,ON	Direct	R	R	4
%GS006			ON,,OFF,ON	Direct	R	R	4
%GS007			ON,,OFF,ON	Direct	R	R	4
%GS008			ON,,OFF,ON	Direct	R	R	4
%GS009			ON,,OFF,ON	Direct	R	R	4
%GS010			ON,,OFF,ON	Direct	R	R	4
%GS011			ON,,OFF,ON	Direct	R	R	4
%GS012			ON,,OFF,ON	Direct	R	R	4
%GS013			ON,,OFF,ON	Direct	R	R	4
%GS014			ON,,OFF,ON	Direct	R	R	4
%GS015			ON,,OFF,ON	Direct	R	R	4
%GS016			ON,,OFF,ON	Direct	R	R	4
%GS017			ON,,OFF,ON	Direct	R	R	4
%GS018			ON,,OFF,ON	Direct	R	R	4
%GS019			ON,,OFF,ON	Direct	R	R	4
%GS020			ON,,OFF,ON	Direct	R	R	4
%GS021			ON,,OFF,ON	Direct	R	R	4
%GS022			ON,,OFF,ON	Direct	R	R	4
%GS023			ON,,OFF,ON	Direct	R	R	4
%GS024			ON,,OFF,ON	Direct	R	R	4
%GS025			ON,,OFF,ON	Direct	R	R	4
%GS026			ON,,OFF,ON	Direct	R	R	4
%GS027			ON,,OFF,ON	Direct	R	R	4
%GS028			ON,,OFF,ON	Direct	R	R	4
%GS029			ON,,OFF,ON	Direct	R	R	4
%GS030			ON,,OFF,ON	Direct	R	R	4
%GS031			ON,,OFF,ON	Direct	R	R	4
%GS032			ON,,OFF,ON	Direct	R	R	4
%GS033			ON,,OFF,ON	Direct	R	R	4
%GS034			ON,,OFF,ON	Direct	R	R	4
%GS035			ON,,OFF,ON	Direct	R	R	4
%GS036			ON,,OFF,ON	Direct	R	R	4
%GS037			ON,,OFF,ON	Direct	R	R	4
%GS038			ON,,OFF,ON	Direct	R	R	4
%GS039			ON,,OFF,ON	Direct	R	R	4
%GS040			ON,,OFF,ON	Direct	R	R	4
%GS041			ON,,OFF,ON	Direct	R	R	4
%GS042			ON,,OFF,ON	Direct	R	R	4
%GS043			ON,,OFF,ON	Direct	R	R	4
%GS044			ON,,OFF,ON	Direct	R	R	4
%GS045			ON,,OFF,ON	Direct	R	R	4
%GS046			ON,,OFF,ON	Direct	R	R	4
%GS047			ON,,OFF,ON	Direct	R	R	4
%GS048			ON,,OFF,ON	Direct	R	R	4
%GS049			ON,,OFF,ON	Direct	R	R	4
%GS050			ON,,OFF,ON	Direct	R	R	4
%GS051			ON,,OFF,ON	Direct	R	R	4
%GS052			ON,,OFF,ON	Direct	R	R	4
%GS053			ON,,OFF,ON	Direct	R	R	4
%GS054			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	GSwitchdef.edf	SHEET:		YOKOGAWA	PAGE:3-20-2
STATION:	FCS0101	SAVED DATE:	12/8/2024 10:03:05 PM	COMMENT:			
SECTION:	Global Switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%GS055			ON,,OFF,ON	Direct	R	R	4
%GS056			ON,,OFF,ON	Direct	R	R	4
%GS057			ON,,OFF,ON	Direct	R	R	4
%GS058			ON,,OFF,ON	Direct	R	R	4
%GS059			ON,,OFF,ON	Direct	R	R	4
%GS060			ON,,OFF,ON	Direct	R	R	4
%GS061			ON,,OFF,ON	Direct	R	R	4
%GS062			ON,,OFF,ON	Direct	R	R	4
%GS063			ON,,OFF,ON	Direct	R	R	4
%GS064			ON,,OFF,ON	Direct	R	R	4
%GS065			ON,,OFF,ON	Direct	R	R	4
%GS066			ON,,OFF,ON	Direct	R	R	4
%GS067			ON,,OFF,ON	Direct	R	R	4
%GS068			ON,,OFF,ON	Direct	R	R	4
%GS069			ON,,OFF,ON	Direct	R	R	4
%GS070			ON,,OFF,ON	Direct	R	R	4
%GS071			ON,,OFF,ON	Direct	R	R	4
%GS072			ON,,OFF,ON	Direct	R	R	4
%GS073			ON,,OFF,ON	Direct	R	R	4
%GS074			ON,,OFF,ON	Direct	R	R	4
%GS075			ON,,OFF,ON	Direct	R	R	4
%GS076			ON,,OFF,ON	Direct	R	R	4
%GS077			ON,,OFF,ON	Direct	R	R	4
%GS078			ON,,OFF,ON	Direct	R	R	4
%GS079			ON,,OFF,ON	Direct	R	R	4
%GS080			ON,,OFF,ON	Direct	R	R	4
%GS081			ON,,OFF,ON	Direct	R	R	4
%GS082			ON,,OFF,ON	Direct	R	R	4
%GS083			ON,,OFF,ON	Direct	R	R	4
%GS084			ON,,OFF,ON	Direct	R	R	4
%GS085			ON,,OFF,ON	Direct	R	R	4
%GS086			ON,,OFF,ON	Direct	R	R	4
%GS087			ON,,OFF,ON	Direct	R	R	4
%GS088			ON,,OFF,ON	Direct	R	R	4
%GS089			ON,,OFF,ON	Direct	R	R	4
%GS090			ON,,OFF,ON	Direct	R	R	4
%GS091			ON,,OFF,ON	Direct	R	R	4
%GS092			ON,,OFF,ON	Direct	R	R	4
%GS093			ON,,OFF,ON	Direct	R	R	4
%GS094			ON,,OFF,ON	Direct	R	R	4
%GS095			ON,,OFF,ON	Direct	R	R	4
%GS096			ON,,OFF,ON	Direct	R	R	4
%GS097			ON,,OFF,ON	Direct	R	R	4
%GS098			ON,,OFF,ON	Direct	R	R	4
%GS099			ON,,OFF,ON	Direct	R	R	4
%GS100			ON,,OFF,ON	Direct	R	R	4
%GS101			ON,,OFF,ON	Direct	R	R	4
%GS102			ON,,OFF,ON	Direct	R	R	4
%GS103			ON,,OFF,ON	Direct	R	R	4
%GS104			ON,,OFF,ON	Direct	R	R	4
%GS105			ON,,OFF,ON	Direct	R	R	4
%GS106			ON,,OFF,ON	Direct	R	R	4
%GS107			ON,,OFF,ON	Direct	R	R	4
%GS108			ON,,OFF,ON	Direct	R	R	4
%GS109			ON,,OFF,ON	Direct	R	R	4
%GS110			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	GSwitchdef.edf	SHEET:		YOKOGAWA	PAGE:3-20-3
STATION:	FCS0101	SAVED DATE:	12/8/2024 10:03:05 PM	COMMENT:			
SECTION:	Global Switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%GS111			ON,,OFF,ON	Direct	R	R	4
%GS112			ON,,OFF,ON	Direct	R	R	4
%GS113			ON,,OFF,ON	Direct	R	R	4
%GS114			ON,,OFF,ON	Direct	R	R	4
%GS115			ON,,OFF,ON	Direct	R	R	4
%GS116			ON,,OFF,ON	Direct	R	R	4
%GS117			ON,,OFF,ON	Direct	R	R	4
%GS118			ON,,OFF,ON	Direct	R	R	4
%GS119			ON,,OFF,ON	Direct	R	R	4
%GS120			ON,,OFF,ON	Direct	R	R	4
%GS121			ON,,OFF,ON	Direct	R	R	4
%GS122			ON,,OFF,ON	Direct	R	R	4
%GS123			ON,,OFF,ON	Direct	R	R	4
%GS124			ON,,OFF,ON	Direct	R	R	4
%GS125			ON,,OFF,ON	Direct	R	R	4
%GS126			ON,,OFF,ON	Direct	R	R	4
%GS127			ON,,OFF,ON	Direct	R	R	4
%GS128			ON,,OFF,ON	Direct	R	R	4
%GS129			ON,,OFF,ON	Direct	R	R	4
%GS130			ON,,OFF,ON	Direct	R	R	4
%GS131			ON,,OFF,ON	Direct	R	R	4
%GS132			ON,,OFF,ON	Direct	R	R	4
%GS133			ON,,OFF,ON	Direct	R	R	4
%GS134			ON,,OFF,ON	Direct	R	R	4
%GS135			ON,,OFF,ON	Direct	R	R	4
%GS136			ON,,OFF,ON	Direct	R	R	4
%GS137			ON,,OFF,ON	Direct	R	R	4
%GS138			ON,,OFF,ON	Direct	R	R	4
%GS139			ON,,OFF,ON	Direct	R	R	4
%GS140			ON,,OFF,ON	Direct	R	R	4
%GS141			ON,,OFF,ON	Direct	R	R	4
%GS142			ON,,OFF,ON	Direct	R	R	4
%GS143			ON,,OFF,ON	Direct	R	R	4
%GS144			ON,,OFF,ON	Direct	R	R	4
%GS145			ON,,OFF,ON	Direct	R	R	4
%GS146			ON,,OFF,ON	Direct	R	R	4
%GS147			ON,,OFF,ON	Direct	R	R	4
%GS148			ON,,OFF,ON	Direct	R	R	4
%GS149			ON,,OFF,ON	Direct	R	R	4
%GS150			ON,,OFF,ON	Direct	R	R	4
%GS151			ON,,OFF,ON	Direct	R	R	4
%GS152			ON,,OFF,ON	Direct	R	R	4
%GS153			ON,,OFF,ON	Direct	R	R	4
%GS154			ON,,OFF,ON	Direct	R	R	4
%GS155			ON,,OFF,ON	Direct	R	R	4
%GS156			ON,,OFF,ON	Direct	R	R	4
%GS157			ON,,OFF,ON	Direct	R	R	4
%GS158			ON,,OFF,ON	Direct	R	R	4
%GS159			ON,,OFF,ON	Direct	R	R	4
%GS160			ON,,OFF,ON	Direct	R	R	4
%GS161			ON,,OFF,ON	Direct	R	R	4
%GS162			ON,,OFF,ON	Direct	R	R	4
%GS163			ON,,OFF,ON	Direct	R	R	4
%GS164			ON,,OFF,ON	Direct	R	R	4
%GS165			ON,,OFF,ON	Direct	R	R	4
%GS166			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	GSwitchdef.edf	SHEET:		YOKOGAWA	PAGE:3-20-4
STATION:	FCS0101	SAVED DATE:	12/8/2024 10:03:05 PM	COMMENT:			
SECTION:	Global Switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%GS167			ON,,OFF,ON	Direct	R	R	4
%GS168			ON,,OFF,ON	Direct	R	R	4
%GS169			ON,,OFF,ON	Direct	R	R	4
%GS170			ON,,OFF,ON	Direct	R	R	4
%GS171			ON,,OFF,ON	Direct	R	R	4
%GS172			ON,,OFF,ON	Direct	R	R	4
%GS173			ON,,OFF,ON	Direct	R	R	4
%GS174			ON,,OFF,ON	Direct	R	R	4
%GS175			ON,,OFF,ON	Direct	R	R	4
%GS176			ON,,OFF,ON	Direct	R	R	4
%GS177			ON,,OFF,ON	Direct	R	R	4
%GS178			ON,,OFF,ON	Direct	R	R	4
%GS179			ON,,OFF,ON	Direct	R	R	4
%GS180			ON,,OFF,ON	Direct	R	R	4
%GS181			ON,,OFF,ON	Direct	R	R	4
%GS182			ON,,OFF,ON	Direct	R	R	4
%GS183			ON,,OFF,ON	Direct	R	R	4
%GS184			ON,,OFF,ON	Direct	R	R	4
%GS185			ON,,OFF,ON	Direct	R	R	4
%GS186			ON,,OFF,ON	Direct	R	R	4
%GS187			ON,,OFF,ON	Direct	R	R	4
%GS188			ON,,OFF,ON	Direct	R	R	4
%GS189			ON,,OFF,ON	Direct	R	R	4
%GS190			ON,,OFF,ON	Direct	R	R	4
%GS191			ON,,OFF,ON	Direct	R	R	4
%GS192			ON,,OFF,ON	Direct	R	R	4
%GS193			ON,,OFF,ON	Direct	R	R	4
%GS194			ON,,OFF,ON	Direct	R	R	4
%GS195			ON,,OFF,ON	Direct	R	R	4
%GS196			ON,,OFF,ON	Direct	R	R	4
%GS197			ON,,OFF,ON	Direct	R	R	4
%GS198			ON,,OFF,ON	Direct	R	R	4
%GS199			ON,,OFF,ON	Direct	R	R	4
%GS200			ON,,OFF,ON	Direct	R	R	4
%GS201			ON,,OFF,ON	Direct	R	R	4
%GS202			ON,,OFF,ON	Direct	R	R	4
%GS203			ON,,OFF,ON	Direct	R	R	4
%GS204			ON,,OFF,ON	Direct	R	R	4
%GS205			ON,,OFF,ON	Direct	R	R	4
%GS206			ON,,OFF,ON	Direct	R	R	4
%GS207			ON,,OFF,ON	Direct	R	R	4
%GS208			ON,,OFF,ON	Direct	R	R	4
%GS209			ON,,OFF,ON	Direct	R	R	4
%GS210			ON,,OFF,ON	Direct	R	R	4
%GS211			ON,,OFF,ON	Direct	R	R	4
%GS212			ON,,OFF,ON	Direct	R	R	4
%GS213			ON,,OFF,ON	Direct	R	R	4
%GS214			ON,,OFF,ON	Direct	R	R	4
%GS215			ON,,OFF,ON	Direct	R	R	4
%GS216			ON,,OFF,ON	Direct	R	R	4
%GS217			ON,,OFF,ON	Direct	R	R	4
%GS218			ON,,OFF,ON	Direct	R	R	4
%GS219			ON,,OFF,ON	Direct	R	R	4
%GS220			ON,,OFF,ON	Direct	R	R	4
%GS221			ON,,OFF,ON	Direct	R	R	4
%GS222			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	GSwitchdef.edf	SHEET:		YOKOGAWA	PAGE:3-20-5
STATION:	FCS0101	SAVED DATE:	12/8/2024 10:03:05 PM	COMMENT:			
SECTION:	Global Switch	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Tag Name	Tag Comment	Switch Position Label	Label	Btn1	Btn2	Lvl
%GS223			ON,,OFF,ON	Direct	R	R	4
%GS224			ON,,OFF,ON	Direct	R	R	4
%GS225			ON,,OFF,ON	Direct	R	R	4
%GS226			ON,,OFF,ON	Direct	R	R	4
%GS227			ON,,OFF,ON	Direct	R	R	4
%GS228			ON,,OFF,ON	Direct	R	R	4
%GS229			ON,,OFF,ON	Direct	R	R	4
%GS230			ON,,OFF,ON	Direct	R	R	4
%GS231			ON,,OFF,ON	Direct	R	R	4
%GS232			ON,,OFF,ON	Direct	R	R	4
%GS233			ON,,OFF,ON	Direct	R	R	4
%GS234			ON,,OFF,ON	Direct	R	R	4
%GS235			ON,,OFF,ON	Direct	R	R	4
%GS236			ON,,OFF,ON	Direct	R	R	4
%GS237			ON,,OFF,ON	Direct	R	R	4
%GS238			ON,,OFF,ON	Direct	R	R	4
%GS239			ON,,OFF,ON	Direct	R	R	4
%GS240			ON,,OFF,ON	Direct	R	R	4
%GS241			ON,,OFF,ON	Direct	R	R	4
%GS242			ON,,OFF,ON	Direct	R	R	4
%GS243			ON,,OFF,ON	Direct	R	R	4
%GS244			ON,,OFF,ON	Direct	R	R	4
%GS245			ON,,OFF,ON	Direct	R	R	4
%GS246			ON,,OFF,ON	Direct	R	R	4
%GS247			ON,,OFF,ON	Direct	R	R	4
%GS248			ON,,OFF,ON	Direct	R	R	4
%GS249			ON,,OFF,ON	Direct	R	R	4
%GS250			ON,,OFF,ON	Direct	R	R	4
%GS251			ON,,OFF,ON	Direct	R	R	4
%GS252			ON,,OFF,ON	Direct	R	R	4
%GS253			ON,,OFF,ON	Direct	R	R	4
%GS254			ON,,OFF,ON	Direct	R	R	4
%GS255			ON,,OFF,ON	Direct	R	R	4
%GS256			ON,,OFF,ON	Direct	R	R	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SD0101.edf	SHEET:		YOKOGAWA	PAGE:3-21-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Printout Message	PRINTED DATE:	9/15/2025	DRAWER:			

Printout Message Builder

Element Number	Message	Data1	Format1	Data2	Format2	Data3	Format3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	OG0101.edf	SHEET:		YOKOGAWA	PAGE:3-22-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Operator Guide	PRINTED DATE:	9/15/2025	DRAWER:			

Operator Guide Builder

Element Number	Message	Color	Related Window Name

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	EV0101.edf	SHEET:		YOKOGAWA	PAGE:3-23-1
STATION:	FCS0101	SAVED DATE:	6/18/2024 8:05:58 PM	COMMENT:			
SECTION:	Signal Event	PRINTED DATE:	9/15/2025	DRAWER:			

Signal Event Builder

Element Number	Signal Name Character String	Signal Transmission Destination Tag Name	Parameter2	Comment

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Annunciator Builder

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0001	V2501A N2 PR LO	V25AN2LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0002	V2501B N2 PR LO	V25BN2LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0003	V2501C N2 PR LO	V25CN2LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0004	V2501D N2 PR LO	V25DN2LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0005	V2501E N2 PR LO	V25EN2LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0006	V2501F N2 PR LO	V25FN2LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0007	HV/MV SWGR RPDO ALM	B100TDC01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0008	HV/MV SWGR REDO ALM	B100TDC02AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0009	HV/MV SWGR RMD ALM	B100TIR01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0010	HV/MV SWGR RPDO ALM	B200TDC01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0011	HV/MV SWGR REDO ALM	B200TDC02AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0012	HV/MV SWGR RMD ALM	B200TIR01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0013	HV/MV SWGR RPDO ALM	B300TDC01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0014	HV/MV SWGR REDO ALM	B300TDC02AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0015	HV/MV SWGR RMD ALM	B300TIR01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0016	HV/MV SWGR RPDO ALM	B400TDC01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0017	HV/MV SWGR REDO ALM	B400TDC02AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0018	HV/MV SWGR RMD ALM	B400TIR01AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0019			ALARM,,NORMAL,ALARM	Direct	4
%AN0020	PCS PWR SUP FAIL ALM	87XA051AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0021	PCS HI TEMP ALM	87XA052AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0022	PCS DIGITAL TB ALM	87XA053AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0023	SIS PWR SUP FAIL ALM	87XA054AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0024	SW PMP A T.TRIP	P50001A-TTAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0025	SW PMP B T.TRIP	P50001B-TTAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0026			ALARM,,NORMAL,ALARM	Direct	4
%AN0027			ALARM,,NORMAL,ALARM	Direct	4
%AN0028			ALARM,,NORMAL,ALARM	Direct	4
%AN0029			ALARM,,NORMAL,ALARM	Direct	4
%AN0030			ALARM,,NORMAL,ALARM	Direct	4
%AN0031			ALARM,,NORMAL,ALARM	Direct	4
%AN0032			ALARM,,NORMAL,ALARM	Direct	4
%AN0033	VESSEL-A PURGING FAIL	T3AAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0034	VESSEL-B PURGING FAIL	T3BAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0035	VESSEL-C PURGING FAIL	T3CAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0036	VESSEL-D PURGING FAIL	T3DAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0037	VESSEL-E PURGING FAIL	T3EAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0038	VESSEL-F PURGING FAIL	T3FAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0039			ON,,OFF,ON	Direct	4
%AN0040	P-5001A DISC PR HI	50PAH-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0041	P-5001A DISC PR LO	50PAL-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0042	H2 VENT STACK Q-43004 LO	43LAL003	ALARM,,NORMAL,ALARM	Direct	4
%AN0043	B-50014 INOL TEMPDIFF HI	50DTAH-002	ALARM,,NORMAL,ALARM	Direct	4
%AN0044	B-50014 DISC PR HI	50PAH-014	ALARM,,NORMAL,ALARM	Direct	4
%AN0045	KO DRUM V-43001 PRS HI	43PAH-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0046	KO DRUM V-43001 LVL HI	43LAH-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0047	KO DRUM V-43001 LVL LO	43LAL-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0048	KO DRUM V-43001 FLO HI	43FAH-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0049	H2 VENT LVLV LO	43LAL-003	ALARM,,NORMAL,ALARM	Direct	4
%AN0050	VESSEL LEVEL T-5001 HI	55LAH-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0051	VESSEL LEVEL T-5001 LO	55LAL-001	ALARM,,NORMAL,ALARM	Direct	4
%AN0052	INSTR AIR TO DISTB LO	63PAL-003	ALARM,,NORMAL,ALARM	Direct	4
%AN0053	P-5001B DISC PR HI	50PAH-002	ALARM,,NORMAL,ALARM	Direct	4
%AN0054	P-5001B DISC PR LO	50PAL-002	ALARM,,NORMAL,ALARM	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0055	H2-FC PKG BOTH VLV OPN	25ZSH-055A_BAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0056	N2-DIST HDR BOTH VLV OPN	64ZSH-031A_BAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0057	H2-V25001A VLV DISC	25FV-031DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0058	H2-V25001B VLV DISC	25FV-032DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0059	H2-V25001C VLV DISC	25FV-033DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0060	H2-V25001D VLV DISC	25FV-034DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0061	H2-V25001E VLV DISC	25FV-038DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0062	H2-V25001F VLV DISC	25FV-036DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0063	H2-V25001A VLV DISC	25PV-035DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0064	H2-V25001B VLV DISC	25PV-037DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0065	H2-V25001C VLV DISC	25PV-040DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0066	H2-V25001D VLV DISC	25PV-043DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0067	H2-V25001E VLV DISC	25PV-046DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0068	H2-V25001F VLV DISC	25PV-049DAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0069	H2-FC PKG VLV A DISC	25PV-055ADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0070	H2-FC PKG VLV B DISC	25PV-055BDAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0071	N2-DIST HDR VLV A DISC	64PV-031ADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0072	N2-DIST HDR VLV B DISC	64PV-031BDAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0073			ON,,OFF,ON	Direct	4
%AN0074	VESSEL-A PURGING FAIL	T5AAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0075	VESSEL-B PURGING FAIL	T5BAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0076	VESSEL-C PURGING FAIL	T5CAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0077	VESSEL-D PURGING FAIL	T5DAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0078	VESSEL-E PURGING FAIL	T5EAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0079	VESSEL-F PURGING FAIL	T5FAH	ALARM,,NORMAL,ALARM	Direct	4
%AN0080			ALARM,,NORMAL,ALARM	Direct	4
%AN0081	PIC031A/B OPEN	64PIC031-OPNAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0082	ALL VESSEL FULL	25UA-V2500AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0083	H2 OL CV A FB DISC	25PIC055A-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0084	H2 OL CV B FB DISC	25PIC055B-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0085	H2 OL HDR CV A FB DISC	64PIC031A-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0086	H2 OL HDR CV B FB DISC	64PIC031B-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0087	V-25001A FIC FB DISC	25FIC031-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0088	V-25001A PIC FB DISC	25PIC035-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0089	V-25001B FIC FB DISC	25FIC032-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0090	V-25001B PIC FB DISC	25PIC037-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0091	V-25001C FIC FB DISC	25FIC033-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0092	V-25001C PIC FB DISC	25PIC040-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0093	V-25001D FIC FB DISC	25FIC034-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0094	V-25001D PIC FB DISC	25PIC043-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0095	V-25001E FIC FB DISC	25FIC038-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0096	V-25001E PIC FB DISC	25PIC046-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0097	V-25001F FIC FB DISC	25FIC036-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0098	V-25001F PIC FB DISC	25PIC049-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0099	H2 OL HDR PR DEV	25PI055-DVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0100	H2 OL HDR PRPOS FB	64PI031-DVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0101	CRITICALFAULT	20XA-5301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0102	DOUCANFAULT	20XA-5302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0103	MAINSFAULT	20XA-5303AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0104	RECTIFIERFAULT	20XA-5304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0105	BATTERYALARM	20XA-5305AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0106	INVERTERFAULT	20XA-5306AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0107	SBSFAULT	20XA-5307AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0108	BATTTEMP.SENSFAULT	20XA-5308AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0109	FANFAULT	20XA-5309AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0110	POWERSTACKOVERTEMP	20XA-5310AN	ALARM,,NORMAL,ALARM	Direct	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-3
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0111	SBSMAINSFAULT	20XA-5311AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0112	ACKNOWLEDGE FAULT	20XA-5313AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0113	TEST ERROR	20XA-5315AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0114	TEST ERROR	20XA-5316AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0115	CRITICALFAULT	20XA-5401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0116	DOUCANFAULT	20XA-5402AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0117	MAINSFAULT	20XA-5403AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0118	RECTIFIERFAULT	20XA-5404AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0119	BATTERYALARM	20XA-5405AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0120	INVERTERFAULT	20XA-5406AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0121	SBSFAULT	20XA-5407AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0122	BATTTEMP.SENSFAULT	20XA-5408AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0123	FANFAULT	20XA-5409AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0124	POWERSTACKOVERTEMP	20XA-5410AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0125	SBSMAINSFAULT	20XA-5411AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0126	ACKNOWLEDGE FAULT	20XA-5413AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0127	TEST ERROR	20XA-5415AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0128	TEST ERROR	20XA-5416AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0129			ALARM,,NORMAL,ALARM	Direct	4
%AN0130			ALARM,,NORMAL,ALARM	Direct	4
%AN0131	NET PANEL VENT FAN ALARM	87XA061AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0132	NET POWER DIODE FAULT	87XA062AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0133	NET CUMUL BREAKER FAULT	87XA063AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0134	NET HIGH TEMP ALARM	87XA064AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0135	SERV PANEL BREAKER FAIL	87XA073AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0136			ALARM,,NORMAL,ALARM	Direct	4
%AN0137	SG200N1 SA FAULT	87XA-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0138	SG200N1 LOSS 230VAC AUXV	87XA-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0139	SG200N1 MOT FEED FLT B3	87XA-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0140	SG200D2 MCBS HEALTY	87XA-7105AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0141	DP200N1 SA FAULT	87XA-7104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0142	DP200N1 N EMER LIGHT ACT	87XA-7108AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0143	AC UPS F&G BYP INT.FAULT	70XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0144	A2/+05 INTERNAL FAULT	82XA-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0145	TEMP GEN/BAT INTER FLT	87XA-7204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0146	AC UPS PAS A INT.FAULT	87XA-7209AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0147	A3/+02 INTERNAL FAULT	82XA-7401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0148	DB BOP INTERNAL FAULT	87XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0149	CRANE INTERNAL FAULT	87XA-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0150	A3/+05 INTERNAL FAULT	82XA-7501AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0151	WTP INTERNAL FAULT	50XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0152	AC UPS PAS LN B CB FLT	87XA-7205AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0153	HVAC PNL HV INTER FLT	77XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0154	FC AUX LDINTER FLT	80XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0155	BESS PCS CAB INTER FLT	85XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0156	SP A4/+05 INTER FLT	82XA-7601AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0157	SP A4/+06 INTER FLT	82XA-7701AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0158	IA 01A INTER FLT	63XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0159	SP A5/+01 INTER FLT	82XA-7801AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0160	HVAC LV RM INTER FLT	77XA-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0161	HVAC UPS RM INTER FLT	77XA-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0162	HVAC ITER INTER FLT	77XA-7204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0163	ICCP INTER FLT	87XA-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0164	SP A5/+06 INTER FLT	82XA-7901AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0165	IA 01B INTER FLT	63XA-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0166			ALARM,,NORMAL,ALARM	Direct	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-4
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0167	BESS LV2 INTERNAL FAULT	85XA-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0168	BESS LV1 INTERNAL FAULT	85XA-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0169	A6/+04 INTERNAL FAULT	82XA-7911AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0170	AC UPS F&G A INT.FAULT	70XA-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0171	AC UPS F&G B INT.FAULT	70XA-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0172	WELD TOP DECK INT.FAULT	83XA-7206AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0173			ALARM,,NORMAL,ALARM	Direct	4
%AN0174	AC UPS PAS BYP INT.FAULT	85XA-7207AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0175	DC BAT FDR A INT.FAULT	85XA-7204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0176	DC BAT FDR B INT.FAULT	85XA-7205AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0177	WELD LOW DECK INT.FAULT	83XA-7208AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0178	NAVAID FDR A INT.FAULT	72XA-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0179	NAVAID FDR B INT.FAULT	72XA-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0180			ALARM,,NORMAL,ALARM	Direct	4
%AN0181	QF1 INTERNAL FAULT	20XA-7201AN	FAULT,,NORMAL,FAULT	Direct	4
%AN0182			ALARM,,NORMAL,ALARM	Direct	4
%AN0183			ALARM,,NORMAL,ALARM	Direct	4
%AN0184			ALARM,,NORMAL,ALARM	Direct	4
%AN0185			ALARM,,NORMAL,ALARM	Direct	4
%AN0186			ALARM,,NORMAL,ALARM	Direct	4
%AN0187	FAULT	87XA-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0188	NONCRITICALFAULT	20UA-5301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0189	GENSETOPERATION	20UA-5302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0190	OVERLOAD	20UA-5303AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0191	USERDEF_AUX2 – RECT	20UA-5304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0192	USERDEF_AUX2 – RECT	20UA-5305AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0193	USERDEF_AUX3 – RECT	20UA-5306AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0194	USERDEF_AUX4 – RECT	20UA-5307AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0195	USERDEF_AUX5 – RECT	20UA-5308AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0196	USERDEF_AUX6 – RECT	20UA-5309AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0197	USERDEF_AUX7– RECT	20UA-5310AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0198	BATTERTY MCCB OPEN	20UA-5311AN	OPEN,,CLOSE,OPEN	Direct	4
%AN0199	USERDEF_AUX2 – INV	20UA-5312AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0200	USERDEF_AUX3 – INV	20UA-5313AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0201	USERDEF_AUX4 – INV	20UA-5314AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0202	USERDEF_AUX5 – INV	20UA-5315AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0203	USERDEF_AUX6 – INV	20UA-5316AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0204	USERDEF_AUX7 – INV	20UA-5317AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0205	USERDEF_AUX1 – SBS	20UA-5318AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0206	USERDEF_AUX2 – SBS	20UA-5319AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0207	USERDEF_AUX3 – SBS	20UA-5320AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0208	USERDEF_AUX4 – SBS	20UA-5321AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0209	USERDEF_AUX5 – SBS	20UA-5322AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0210	USERDEF_AUX6 – SBS	20UA-5323AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0211	USERDEF_AUX7 – SBS	20UA-5324AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0212	TEST WARNING	20UA-5325AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0213	TEST WARNING	20UA-5326AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0214	NONCRITICALFAULT	20UA-5401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0215	GENSETOPERATION	20UA-5402AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0216	OVERLOAD	20UA-5403AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0217	USERDEF_AUX1 – RECT	20UA-5404AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0218	USERDEF_AUX2 – RECT	20UA-5405AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0219	USERDEF_AUX3 – RECT	20UA-5406AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0220	USERDEF_AUX4 – RECT	20UA-5407AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0221	USERDEF_AUX5 – RECT	20UA-5408AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0222	USERDEF_AUX6 – RECT	20UA-5409AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0223	USERDEF_AUX7– RECT	20UA-5410AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0224	USERDEF_AUX1 – INV	20UA-5411AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0225	USERDEF_AUX2 – INV	20UA-5412AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0226	USERDEF_AUX3 – INV	20UA-5413AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0227	USERDEF_AUX4 – INV	20UA-5414AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0228	USERDEF_AUX5 – INV	20UA-5415AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0229	USERDEF_AUX6 – INV	20UA-5416AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0230	USERDEF_AUX7 – INV	20UA-5417AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0231	USERDEF_AUX1 – SBS	20UA-5418AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0232	USERDEF_AUX2 – SBS	20UA-5419AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0233	USERDEF_AUX3 – SBS	20UA-5420AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0234	USERDEF_AUX4 – SBS	20UA-5421AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0235	USERDEF_AUX5 – SBS	20UA-5422AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0236	USERDEF_AUX6 – SBS	20UA-5423AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0237	USERDEF_AUX7 – SBS	20UA-5424AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0238	TEST WARNING	20UA-54025AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0239	TEST WARNING	20UA-54026AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0240	LIFE TEST	20US-5443AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0241	EMERGENCY SWITCH OFF	20US-5310AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0242	RECTIFIER WARNING	20US-5311AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0243	INVERTER WARNING	20US-5312AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0244	SBSWARNING	20US-5313AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0245	EQUALISINGCHARGE	20US-5314AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0246	CHARGE	20US-5315AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0247	TRICKLECHARGE	20US-5316AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0248	BATTERYTEMP TOHIGH	20TA-5301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0249	CIRCUITBREAKER	20XS-5301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0250	BATTERYWARNING	20US-5317AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0251	BATTERYLOW	20US-5318AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0252	OVERLOAD	20US-5319AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0253	SHORTCIRCUIT	20US-5320AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0254	DCUNDERVOLTAGE	20US-5321AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0255	DCOVERVOLTAGE	20US-5322AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0256	SBSREADY	20RDY-5301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0257	SBSBLOCKED	20US-5323AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0258	RECTIFIERON	20US-5324AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0259	INVERTERON	20US-5325AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0260	SBSON	20US-5326AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0261	LIFECHECK BIT	LIFECHECKAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0262	ACKNOWLEDGE FAULT	20HS-5304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0263	EQUALISING CHARGING	20HS-5305AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0264	CHARGE	20HS-5306AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0265	TRICKLE CHARGING	20HS-5307AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0266	ECO MODE	20US-5330AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0267	ACKNOWLEDGE FAULT	20HS-5309AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0268			ALARM,,NORMAL,ALARM	Direct	4
%AN0269			ALARM,,NORMAL,ALARM	Direct	4
%AN0270	TEST NOT IMPLEMENTED	20US-5331AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0271	TEST IMPL WAITNG APPROVA	20US-5332AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0272	TEST APPROVED	20US-5333AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0273	TEST RUNNING	20US-5334AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0274	TEST SUCCESSFUL	20US-5335AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0275	TEST CANCELLED	20US-5336AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0276			ALARM,,NORMAL,ALARM	Direct	4
%AN0277			ALARM,,NORMAL,ALARM	Direct	4
%AN0278	TEST NOT IMPLEMENTED	20US-5337AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0279	TEST IMPL WAITNG APPROVA	20US-5338AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0280	TEST APPROVED	20US-5339AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0281	TEST RUNNING	20US-5340AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0282	TEST SUCCESSFUL	20US-5341AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0283	TEST CANCELLED	20US-5342AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0284	EMERGENCYSWITCHOFF	20US-5410AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0285	RECTIFIERWARNING	20US-5411AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0286	INVERTERWARNING	20US-5412AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0287	SBSWARNING	20US-5413AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0288	EQUALISINGCHARGE	20US-5414AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0289	CHARGE	20US-5415AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0290	TRICKLECHARGE	20US-5416AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0291	BATTERYTEMP TOHIGH	20TA-5401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0292	CIRCUITBREAKER	20XS-5401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0293	BATTERYWARNING	20US-5417AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0294	BATTERYLOW	20US-5418AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0295	OVERLOAD	20US-5419AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0296	SHORTCIRCUIT	20US-5420AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0297	DCUNDERVOLTAGE	20US-5421AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0298	DCOVERVOLTAGE	20US-5422AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0299	SBSREADY	20RDY-5401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0300	SBSBLOCKED	20US-5423AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0301	RECTIFIERON	20US-5424AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0302	INVERTERON	20US-5425AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0303	SBSON	20US-5426AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0304	LIFECHECK BIT	LIFECHECKBITAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0305			ALARM,,NORMAL,ALARM	Direct	4
%AN0306			ALARM,,NORMAL,ALARM	Direct	4
%AN0307			ALARM,,NORMAL,ALARM	Direct	4
%AN0308			ALARM,,NORMAL,ALARM	Direct	4
%AN0309			ALARM,,NORMAL,ALARM	Direct	4
%AN0310			ALARM,,NORMAL,ALARM	Direct	4
%AN0311			ALARM,,NORMAL,ALARM	Direct	4
%AN0312			ALARM,,NORMAL,ALARM	Direct	4
%AN0313	TEST NOT IMPLEMENTED	20US-5431AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0314	TEST IMPL WAITNG APPROVA	20US-5432AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0315	TEST APPROVED	20US-5433AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0316	TEST RUNNING	20US-5434AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0317	TEST SUCCESSFUL	20US-5435AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0318	TEST CANCELLED	20US-5436AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0319	START TEST	20HS-54014AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0320	CANCEL TEST	20HS-5415AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0321	TEST NOT IMPLEMENTED	20US-5437AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0322	TEST IMPL WAITING FOR AP	20US-5438AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0323	TEST APPROVED	20US-5439AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0324	TEST RUNNING	20US-5440AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0325	TEST SUCCESSFUL	20US-5441AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0326	TEST CANCELLED	20US-5442AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0327	LOSS 230VAC AUX VOLT	87A1XL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0328	FP1 WATCHDOG PROT	87A1XL-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0329	MCB'S HEALTHY	87A1XL-005AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0330	DP-200N1 EMG LITE ON	87A1XL-007AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0331	DP-200N1 EMG LITE ACT	87A1XL-008AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0332	DP-200N1 EMG CB CLS	87A1XZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0333	DP-200N1 TRC HEAT ACT	87A1XL-009AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0334	DP-200N1 TRC HEAT CB	87A1XZSL-002AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0335	DP-200N1 TRC HEAT CB	87A1XZSL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0336	CB CLS	201BXZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0337	CB OPN	201BXZSH-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0338	SA1 LOCAL	201CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0339	AC UPS F&G BYP CB CLS	702BXZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0340	AC UPS F&G BYP CB OP	702BXZSH-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0341	AC UPS PAS LN A CB CLS	872BXZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0342	AC UPS PAS LN A CB OP	872BXZSH-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0343	AC UPS PAS LN B CB CLS	872BXZSL-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0344	AC UPS PAS LN B CB OP	872BXZSH-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0345	AC UPS F&G LN A CB CLS	702BXZSL-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0346	AC UPS F&G LN A CB OP	702BXZSH-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0347	AC UPS F&G LN B CB CLS	702BXZSL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0348	AC UPS F&G LN B CB OP	702BXZSH-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0349	WELD TOP DECK CB CLS	872BXZSL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0350	WELD TOP DECK CB OP	872BXZSH-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0351	AC UPS PAS BYP CB CLS	872BXZSL-004AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0352	AC UPS PAS BYP CB OP	872BXZSH-004AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0353	DC BAT FDR A CB CLS	852BXZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0354	DC BAT FDR A CB OP	852BXZSH-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0355	DC BAT FDR B CB CLS	852BXZSL-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0356	DC BAT FDR B CB OP	852BXZSH-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0357	NAVAID FDR A CB CLS	722BXZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0358	NAVAID FDR A CB OP	722BXZSH-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0359	NAVAID FDR B CB CLS	722BXZSL-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0360	NAVAID FDR B CB OP	722BXZSH-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0361	WELD LOW DECK CB CLS	872BXZSL-005AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0362	WELD LOW DECK CB OP	872BXZSH-005AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0363	DB BOP SA1 LOC	872CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0364	CRANE SA1 LOC	872CXL-010AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0365	WTP SA1 LOC	502CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0366	HVAC PNL HV SA1 LOC	772CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0367	FC AUX LD SA1 LOC	802CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0368	BESS PCS CAB SA1 LOC	852CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0369	IA 01A SA1 LOC	632CXL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0370	HVAC LV RM SA1 LOC	772CXL-010AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0371	HVAC UPS RM SA1 LOC	772CXL-017AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0372	HVAC ITER SA1 LOC	772CXL-024AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0373	ICCP SA1 LOC	872CXL-017AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0374	IA 01B SA1 LOC	632CXL-010AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0375	BESS LV1 SA1 LOC	852CXL-010AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0376	BESS LV2 SA1 LOC	852CXL-017AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0377	TEMP GEN/BAT CB CLS	872BXZSL-009AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0378	TEMP GEN/BAT CB OPN	872BXZSH-009AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0379	SW PMP A PA1 LOC STOP	50PA1-001AAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0380	SW PMP B PA1 LOC STOP	50PA1-001BAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0381	DEW POINT Tx BAD PV	63AIT051-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0382	PT IA REC BAD PV	63PT064-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0383	TT IN AIR BAD PV	63TIT051-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0384	TT IA REC BAD PV	63TIT052-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0385	FT OL AIR BAD PV	63FIT051-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0386	DPT IN FLTRS BAD PV	63PDI051-BPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0387	DPT OL FLTRS BAD PV	63PDI052-BPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0388	PLANT GENERAL ALM	63ALARM-PLANTAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0389	PLANT READY	63PLANT-READYAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0390	PLANT RUNN	63PLANT-RUNAN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0391	DRYER 1 ALM	63ALARMDRY-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0392	DRYER 2 ALM	63ALARMDRY-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0393	REMOTE START CMD	63STCMDAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0394	REMOTE STOP CMD	63SPCMDAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0395	IL PRES TRANS- BAD PV	64PT051-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0396	T1 PRES TRANS- BAD PV	64PT052-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0397	T2 PRES TRANS- BAD PV	64PT053-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0398	OL B PRES TRANS- BAD PV	64PT057-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0399	PRES TRANS OL FIL-BAD PV	64PT059-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0400	OXYGEN TRANS- BAD PV	64PDIT056-BADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0401	DIF PRES TRANS OL FIL-PV	64AT051-BADPVAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0402	PLANT GEN ALARM	64ALARM-PLANTAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0403	PLANT READY	64PLANT-READYAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0404	PLANT RUNNING	64PLANT-RUNAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0405	PERM HOT STANDBY	87HSTBY-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0406	PERM COLD STANDBY	87CSTBY-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0407	PERM TO ENTER EMG MODE	87EMG-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0408	PERM TO EXPORT MODE	87EXP-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0409	PERM TO START FUELCELL	87PERMSTF-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0410	PERM TO START ELECT	87PERMSTE-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0411	FUEL TANKS ARE FULL	87INDFULL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0412	PERM TO START ELECT	87PERM-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0413	EMCS PERM TO ST FUELCELL	87STF-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0414	POWER OUT MODE	87XS-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0415	LOAD SHEDDING 2	87LDSH-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0416	SWP-A COMMON FLT	P-50001ACMFLAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0417	SWP-B COMMON FLT	P-50001BCMFLAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0418			ALARM,,NORMAL,ALARM	Direct	4
%AN0419			ALARM,,NORMAL,ALARM	Direct	4
%AN0420			ALARM,,NORMAL,ALARM	Direct	4
%AN0421			ALARM,,NORMAL,ALARM	Direct	4
%AN0422	EXPORT MODE FAIL	EXPRTSEQFLAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0423	FUEL CELL STPCMD	FUELCLSTPAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0424	EMERGNCY MODE STPM	EMGMDSTPMAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0425	WTP AUTO STOP	WTPASPAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0426	AUTO STOP AUX ELECTROLIS	AUXELASPAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0427	DISCH MODE PERMMISSIVE	DISMODEPMAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0428	NITROGEN PLANT SHUTDOWN	64ESD-SIS001HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0429	INTERNAL CAB THRMOSTAT	64TH001-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0430	VALVE XY001 ALARM	64XY001-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0431	VALVE XY002 ALARM	64XY002-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0432	VALVE XY003 ALARM	64XY003-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0433	VALVE XY004 ALARM	64XY004-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0434	VALVE XY005 ALARM	64XY005-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0435	VALVE XY006 ALARM	64XY006-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0436	VALVE XY007 ALARM	64XY007-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0437	VALVE XY008 ALARM	64XY008-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0438	VALVE XY009 ALARM	64XY009-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0439	LIFE TEST	20US-5343AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0440	LOAD SHEDDING 1	87LDSH-001AN	ON,,OFF,ON	Direct	4
%AN0441	CHARGE	20UA-5327AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0442	TRICKLE CHARGE	20UA-5328AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0443	CHARGE	20UA-5427AN	ON,,OFF,ON	Direct	4
%AN0444	TRICKLE CHARGE	20UA-5428AN	ON,,OFF,ON	Direct	4
%AN0445	H2 TANK FULL	87H2TK-0001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0446	VALVE 64XV-60 ALARM	64XY060-HAN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0447	VALVE 64XV-61 ALARM	64XY061-HAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0448			ON,,OFF,ON	Direct	4
%AN0449			ON,,OFF,ON	Direct	4
%AN0450			ON,,OFF,ON	Direct	4
%AN0451	VSL-A STARTUP PURG CMPLT T1AAH		ON,,OFF,ON	Direct	4
%AN0452	VSL-B STARTUP PURG CMPLT T1BAH		ON,,OFF,ON	Direct	4
%AN0453	VSL-C STARTUP PURG CMPLT T1CAH		ON,,OFF,ON	Direct	4
%AN0454	VSL-D STARTUP PURG CMPLT T1DAH		ON,,OFF,ON	Direct	4
%AN0455	VSL-E STARTUP PURG CMPLT T1EAH		ON,,OFF,ON	Direct	4
%AN0456	VSL-F STARTUP PURG CMPLT T1FAH		ON,,OFF,ON	Direct	4
%AN0457			ON,,OFF,ON	Direct	4
%AN0458			ON,,OFF,ON	Direct	4
%AN0459			ON,,OFF,ON	Direct	4
%AN0460			ON,,OFF,ON	Direct	4
%AN0461			ON,,OFF,ON	Direct	4
%AN0462			ON,,OFF,ON	Direct	4
%AN0463			ON,,OFF,ON	Direct	4
%AN0464			ON,,OFF,ON	Direct	4
%AN0465			ON,,OFF,ON	Direct	4
%AN0466			ON,,OFF,ON	Direct	4
%AN0467			ON,,OFF,ON	Direct	4
%AN0468			ON,,OFF,ON	Direct	4
%AN0469			ON,,OFF,ON	Direct	4
%AN0470			ON,,OFF,ON	Direct	4
%AN0471			ON,,OFF,ON	Direct	4
%AN0472			ON,,OFF,ON	Direct	4
%AN0473			ON,,OFF,ON	Direct	4
%AN0474			ON,,OFF,ON	Direct	4
%AN0475			ON,,OFF,ON	Direct	4
%AN0476			ON,,OFF,ON	Direct	4
%AN0477			ON,,OFF,ON	Direct	4
%AN0478			ON,,OFF,ON	Direct	4
%AN0479			ON,,OFF,ON	Direct	4
%AN0480			ON,,OFF,ON	Direct	4
%AN0481			ON,,OFF,ON	Direct	4
%AN0482			ON,,OFF,ON	Direct	4
%AN0483			ON,,OFF,ON	Direct	4
%AN0484			ON,,OFF,ON	Direct	4
%AN0485			ON,,OFF,ON	Direct	4
%AN0486			ON,,OFF,ON	Direct	4
%AN0487			ON,,OFF,ON	Direct	4
%AN0488			ON,,OFF,ON	Direct	4
%AN0489			ON,,OFF,ON	Direct	4
%AN0490			ON,,OFF,ON	Direct	4
%AN0491			ON,,OFF,ON	Direct	4
%AN0492			ON,,OFF,ON	Direct	4
%AN0493			ON,,OFF,ON	Direct	4
%AN0494			ON,,OFF,ON	Direct	4
%AN0495			ON,,OFF,ON	Direct	4
%AN0496			ON,,OFF,ON	Direct	4
%AN0497			ON,,OFF,ON	Direct	4
%AN0498			ON,,OFF,ON	Direct	4
%AN0499			ON,,OFF,ON	Direct	4
%AN0500			ON,,OFF,ON	Direct	4
%AN0501	P50001A TRIP ALARM	50XA-004AAN	ON,,OFF,ON	Direct	4
%AN0502	P50001B TRIP ALARM	50XA-004BAN	ON,,OFF,ON	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0503			ON,,OFF,ON	Direct	4
%AN0504			ON,,OFF,ON	Direct	4
%AN0505			ON,,OFF,ON	Direct	4
%AN0506			ON,,OFF,ON	Direct	4
%AN0507			ON,,OFF,ON	Direct	4
%AN0508			ON,,OFF,ON	Direct	4
%AN0509			ON,,OFF,ON	Direct	4
%AN0510			ON,,OFF,ON	Direct	4
%AN0511	ALM DRIER-1 TWR A PS	63PS054HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0512	ALM DRIER-1 TWR B PS	63PS056HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0513	ALM DRIER-2 TWR A PS	63PS058HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0514	ALM DRIER-2 TWR B PS	63PS060HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0515	Compressor-1 GENERAL ALM	63COMP001HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0516	Compressor-2 GENERAL ALM	63COMP002HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0517	SURG ARR 230VAC_SERV ALM	6320FS12HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0518	SURG ARR 230VAC_UPS ALM	6321FS12HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0519	INT CAB HRMOSTAT ALM	63TH001HAN	ALARM,,NORMAL,ALARM	Direct	6
%AN0520			ON,,OFF,ON	Direct	4
%AN0521			ON,,OFF,ON	Direct	4
%AN0522			ON,,OFF,ON	Direct	4
%AN0523			ON,,OFF,ON	Direct	4
%AN0524			ON,,OFF,ON	Direct	4
%AN0525			ON,,OFF,ON	Direct	4
%AN0526			ON,,OFF,ON	Direct	4
%AN0527			ON,,OFF,ON	Direct	4
%AN0528			ON,,OFF,ON	Direct	4
%AN0529			ON,,OFF,ON	Direct	4
%AN0530			ON,,OFF,ON	Direct	4
%AN0531			ON,,OFF,ON	Direct	4
%AN0532			ON,,OFF,ON	Direct	4
%AN0533			ON,,OFF,ON	Direct	4
%AN0534			ON,,OFF,ON	Direct	4
%AN0535			ON,,OFF,ON	Direct	4
%AN0536			ON,,OFF,ON	Direct	4
%AN0537			ON,,OFF,ON	Direct	4
%AN0538			ON,,OFF,ON	Direct	4
%AN0539			ON,,OFF,ON	Direct	4
%AN0540			ON,,OFF,ON	Direct	4
%AN0541	QF1 SA1 LOCAL	20LOC-7302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0542	A2/+05 INTERNAL FAULT	82LOC-7304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0543	A3/+02 SA1 ON LOCAL	82LOC-7404AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0544	DB BOP SA1 ON LOCAL	87LOC-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0545	CRANE SA1 ON LOCAL	87LOC-7302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0546	A3/+05 SA1 ON LOCAL	82LOC-7504AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0547	WTP SA1 ON LOCAL	50LOC-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0548	HVAC PNL HV SA1 LOC	77LOC-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0549	FC AUX LD SA1 LOC	80LOC-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0550	BESS PCS CAB SA1 LOC	85LOC-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0551	SP A4/+05 SA1 LOC	82LOC-7604AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0552	SP A4/+06 SA1 LOC	82LOC-7704AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0553	IA 01A SA1 LOC	63LOC-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0554	SP A5/+01 SA1 LOC	82LOC-7804AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0555	HVAC LV RM SA1 LOC	77LOC-7302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0556	HVAC UPS RM SA1 LOC	77LOC-7303AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0557	HVAC ITER SA1 LOC	77LOC-7304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0558	ICCP SA1 LOC	87LOC-7303AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0559	SP A5/+06 SA1 LOC	82LOC-7904AN	START,PAUSE,RESTART,START2	Direct	4
%AN0560	IA 01B SA1 LOC	63LOC-7302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0561	BESS LV2 LOCAL	85LOC-7302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0562	BESS LV1 LOCAL	85LOC-7303AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0563	A6/+04 LOCAL	82LOC-7914AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0564			ON,,OFF,ON	Direct	4
%AN0565			ON,,OFF,ON	Direct	4
%AN0566			ON,,OFF,ON	Direct	4
%AN0567			ON,,OFF,ON	Direct	4
%AN0568			ON,,OFF,ON	Direct	4
%AN0569			ON,,OFF,ON	Direct	4
%AN0570	87LDSH-001A ANN	87LDSH-001AAN	ON,,OFF,ON	Direct	4
%AN0571	87LDSH-001B ANN	87LDSH-001BAN	ON,,OFF,ON	Direct	4
%AN0572			ON,,OFF,ON	Direct	4
%AN0573			ON,,OFF,ON	Direct	4
%AN0574			ON,,OFF,ON	Direct	4
%AN0575			ON,,OFF,ON	Direct	4
%AN0576			ON,,OFF,ON	Direct	4
%AN0577			ON,,OFF,ON	Direct	4
%AN0578			ON,,OFF,ON	Direct	4
%AN0579			ON,,OFF,ON	Direct	4
%AN0580			ON,,OFF,ON	Direct	4
%AN0581			ON,,OFF,ON	Direct	4
%AN0582			ON,,OFF,ON	Direct	4
%AN0583			ON,,OFF,ON	Direct	4
%AN0584			ON,,OFF,ON	Direct	4
%AN0585			ON,,OFF,ON	Direct	4
%AN0586			ON,,OFF,ON	Direct	4
%AN0587	INST AIR LIFECHECK BIT	63WDINST-AN	ON,,OFF,ON	Direct	4
%AN0588	NITROGEN LIFECHECK BIT	64WDNIT-AN	ON,,OFF,ON	Direct	4
%AN0589	NITRGN CURRENT PHASE FLT	64CURPHSFLT-AN	ON,,OFF,ON	Direct	4
%AN0590			ON,,OFF,ON	Direct	4
%AN0591			ON,,OFF,ON	Direct	4
%AN0592			ON,,OFF,ON	Direct	4
%AN0593			ON,,OFF,ON	Direct	4
%AN0594			ON,,OFF,ON	Direct	4
%AN0595			ALARM,,NORMAL,ALARM	Direct	4
%AN0596			ALARM,,NORMAL,ALARM	Direct	4
%AN0597			ALARM,,NORMAL,ALARM	Direct	4
%AN0598			ALARM,,NORMAL,ALARM	Direct	4
%AN0599			ALARM,,NORMAL,ALARM	Direct	4
%AN0600			ALARM,,NORMAL,ALARM	Direct	4
%AN0601			ALARM,,NORMAL,ALARM	Direct	4
%AN0602			ALARM,,NORMAL,ALARM	Direct	4
%AN0603			ALARM,,NORMAL,ALARM	Direct	4
%AN0604			ALARM,,NORMAL,ALARM	Direct	4
%AN0605			ON,,OFF,ON	Direct	4
%AN0606			ON,,OFF,ON	Direct	4
%AN0607			ON,,OFF,ON	Direct	4
%AN0608			ON,,OFF,ON	Direct	4
%AN0609			ON,,OFF,ON	Direct	4
%AN0610			ON,,OFF,ON	Direct	4
%AN0611			ON,,OFF,ON	Direct	4
%AN0612			ON,,OFF,ON	Direct	4
%AN0613			ON,,OFF,ON	Direct	4
%AN0614			ON,,OFF,ON	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0615			ON,,OFF,ON	Direct	4
%AN0616			ON,,OFF,ON	Direct	4
%AN0617			ON,,OFF,ON	Direct	4
%AN0618			ON,,OFF,ON	Direct	4
%AN0619			ON,,OFF,ON	Direct	4
%AN0620			ON,,OFF,ON	Direct	4
%AN0621			ON,,OFF,ON	Direct	4
%AN0622			ON,,OFF,ON	Direct	4
%AN0623			ON,,OFF,ON	Direct	4
%AN0624			ON,,OFF,ON	Direct	4
%AN0625			ON,,OFF,ON	Direct	4
%AN0626			ON,,OFF,ON	Direct	4
%AN0627			ON,,OFF,ON	Direct	4
%AN0628			ON,,OFF,ON	Direct	4
%AN0629			ON,,OFF,ON	Direct	4
%AN0630	HFD001 DMP DSCR ALRM	77HFD001-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0631	HFD002 DMP DSCR ALRM	77HFD002-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0632	HFD003 DMP DSCR ALRM	77HFD003-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0633	HFD004 DMP DSCR ALRM	77HFD004-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0634	HFD005 DMP DSCR ALRM	77HFD005-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0635	HFD006 DMP DSCR ALRM	77HFD006-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0636	HFD007 DMP DSCR ALRM	77HFD007-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0637	HFD008 DMP DSCR ALRM	77HFD008-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0638	HFD009 DMP DSCR ALRM	77HFD009-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0639	HFD010 DMP DSCR ALRM	77HFD010-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0640	HFD011 DMP DSCR ALRM	77HFD011-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0641	HFD012 DMP DSCR ALRM	77HFD012-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0642	HFD013 DMP DSCR ALRM	77HFD013-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0643	HFD014 DMP DSCR ALRM	77HFD014-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0644	HFD015 DMP DSCR ALRM	77HFD015-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0645	HFD016 DMP DSCR ALRM	77HFD016-DSAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0646			ON,,OFF,ON	Direct	4
%AN0647			ON,,OFF,ON	Direct	4
%AN0648			ON,,OFF,ON	Direct	4
%AN0649			ON,,OFF,ON	Direct	4
%AN0650			ALARM,,NORMAL,ALARM	Direct	4
%AN0651			ON,,OFF,ON	Direct	4
%AN0652			ON,,OFF,ON	Direct	4
%AN0653			ON,,OFF,ON	Direct	4
%AN0654			ON,,OFF,ON	Direct	4
%AN0655			ON,,OFF,ON	Direct	4
%AN0656			ON,,OFF,ON	Direct	4
%AN0657			ON,,OFF,ON	Direct	4
%AN0658			ON,,OFF,ON	Direct	4
%AN0659			ON,,OFF,ON	Direct	4
%AN0660			ON,,OFF,ON	Direct	4
%AN0661			ON,,OFF,ON	Direct	4
%AN0662			ON,,OFF,ON	Direct	4
%AN0663			ON,,OFF,ON	Direct	4
%AN0664			ON,,OFF,ON	Direct	4
%AN0665			ON,,OFF,ON	Direct	4
%AN0666			ON,,OFF,ON	Direct	4
%AN0667			ON,,OFF,ON	Direct	4
%AN0668			ON,,OFF,ON	Direct	4
%AN0669			ON,,OFF,ON	Direct	4
%AN0670			ON,,OFF,ON	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0671			ON,,OFF,ON	Direct	4
%AN0672			ON,,OFF,ON	Direct	4
%AN0673			ON,,OFF,ON	Direct	4
%AN0674			ON,,OFF,ON	Direct	4
%AN0675			ON,,OFF,ON	Direct	4
%AN0676			ON,,OFF,ON	Direct	4
%AN0677			ON,,OFF,ON	Direct	4
%AN0678			ON,,OFF,ON	Direct	4
%AN0679			ON,,OFF,ON	Direct	4
%AN0680			ON,,OFF,ON	Direct	4
%AN0681			ON,,OFF,ON	Direct	4
%AN0682			ON,,OFF,ON	Direct	4
%AN0683			ON,,OFF,ON	Direct	4
%AN0684			ON,,OFF,ON	Direct	4
%AN0685			ON,,OFF,ON	Direct	4
%AN0686			ON,,OFF,ON	Direct	4
%AN0687			ON,,OFF,ON	Direct	4
%AN0688			ON,,OFF,ON	Direct	4
%AN0689			ON,,OFF,ON	Direct	4
%AN0690			ON,,OFF,ON	Direct	4
%AN0691			ALARM,,NORMAL,ALARM	Direct	4
%AN0692			ALARM,,NORMAL,ALARM	Direct	4
%AN0693			ALARM,,NORMAL,ALARM	Direct	4
%AN0694	MANUAL CALL POINT	50HS-021AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0695	WTP CONTAINR FIRE DETECT	950SDZ-05201	ALARM,,NORMAL,ALARM	Direct	4
%AN0696	WTP CONTAINR FIRE DETECT	950SDZ-05202	ALARM,,NORMAL,ALARM	Direct	4
%AN0697	WTP CONTAINR FIRE DETECT	950SDZ-05203	ALARM,,NORMAL,ALARM	Direct	4
%AN0698	SIA SYS COMM FAULT	50XS-099AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0699			ON,,OFF,ON	Direct	4
%AN0700	SEAWTR IL VLV FAIL	50XV020_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0701	P50003A SUCTVLV FAIL	50XV021_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0702	P50003B SUCTVLV FAIL	50XV022_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0703	P50003A FLSHVLV FAIL	50XV023_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0704	P50003B FLSHVLV FAIL	50XV024_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0705	A50007A_B VLV FAIL	50XV025_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0706	FRSH WTR DRNA50007AB FL	50XV026_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0707	BRN VLV A50007A FAIL	50XV027_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0708	FRSH WTR VLVA50007B FAIL	50XV028_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0709	FRSH WTR DRNA50007B FAIL	50XV029_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0710	BRN VLV A50007B FAIL	50XV030_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0711	FRSH WTR OL VLV FAIL	50XV031_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0712	FRSH WTR VLVOFFSPEC FAIL	50XV032_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0713	BCK WSH PMP FAILURE	50P50002A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0714	BCK WSH PMP FAILURE	50P50002B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0715	SW BSTR PMP FAILURE	50P50003A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0716	SW BSTR PMP FAILURE	50P50003B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0717	HP PMP FAILURE	50P50004A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0718	HP PMP FAILURE	50P50004B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0719	CAUSTIC SODADSING PMP FL	50P50005A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0720	CAUSTIC SODADSING PMP FL	50P50005B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0721	ANTISCALANT DSING PMP FL	50P50006A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0722	ANTISCALANT DSING PMP FL	50P50006B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0723	BIOCID DSNG CNTR IL FAIL	50P50007A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0724	BIOCID DSNG CNTR IL FAIL	50P50007B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0725	BIOCIDE DSNG SWTR IN FL	50P50008A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0726	BIOCIDE DSNG SWTR IN FL	50P50008B_FAN	TRIP,,NORMAL,TRIP	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0727	FRSH WTR PMP FAILURE	50P50009A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0728	FRSH WTR PMP FAILURE	50P50009B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0729	BIOCIDE DSNGPMP WST TK F	50P50010A_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0730	BIOCIDE DSNGPMP WST TK F	50P50010B_FAN	TRIP,,NORMAL,TRIP	Direct	4
%AN0731	SEA WTR DRN H-50001	50XV033_FAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0732	SEA WTR DRN T-50006	50XV034_FAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0733	SEA WTR DRN T-50008	50XV035_FAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0734			ALARM,,NORMAL,ALARM	Direct	4
%AN0735	REDUNDANCY CPU FAIL	63RED_FAILAN	NORMAL,,FAULT,NORMAL	Reverse	4
%AN0736	REDUNDANCY CPU FAIL	63CPU_SWITCHAN	NORMAL,,FAULT,NORMAL	Reverse	4
%AN0737	IM ERROR	63IM_ERRAN	NORMAL,,FAULT,NORMAL	Reverse	4
%AN0738	PNPN COUPLERERROR	63PNPN_ERRAN	NORMAL,,FAULT,NORMAL	Reverse	4
%AN0739	NETWORK PN/IE_1 ERROR	63NET_ERRAN	NORMAL,,FAULT,NORMAL	Reverse	4
%AN0740			ALARM,,NORMAL,ALARM	Direct	4
%AN0741	H2 DETECT CONTAINER HI	950GDZ-020AH	ALARM,,NORMAL,ALARM	Direct	4
%AN0742	H2 DETECT CONTAINER HIHI	950GDZ-020AHH	ALARM,,NORMAL,ALARM	Direct	4
%AN0743	H2 DETECT CONTAINER HI	950GDZ-020BH	ALARM,,NORMAL,ALARM	Direct	4
%AN0744	H2 DETECT CONTAINER HIHI	950GDZ-020BHH	ALARM,,NORMAL,ALARM	Direct	4
%AN0745	H2 DETECT CONTAINER HI	950GDZ-020CH	ALARM,,NORMAL,ALARM	Direct	4
%AN0746	H2 DETECT CONTAINER HIHI	950GDZ-020CHH	ALARM,,NORMAL,ALARM	Direct	4
%AN0747			ALARM,,NORMAL,ALARM	Direct	4
%AN0748			ALARM,,NORMAL,ALARM	Direct	4
%AN0749			ALARM,,NORMAL,ALARM	Direct	4
%AN0750			ALARM,,NORMAL,ALARM	Direct	4
%AN0751			ALARM,,NORMAL,ALARM	Direct	4
%AN0752			ALARM,,NORMAL,ALARM	Direct	4
%AN0753			ALARM,,NORMAL,ALARM	Direct	4
%AN0754			ALARM,,NORMAL,ALARM	Direct	4
%AN0755			ALARM,,NORMAL,ALARM	Direct	4
%AN0756			ALARM,,NORMAL,ALARM	Direct	4
%AN0757			ALARM,,NORMAL,ALARM	Direct	4
%AN0758			ALARM,,NORMAL,ALARM	Direct	4
%AN0759			ALARM,,NORMAL,ALARM	Direct	4
%AN0760			ALARM,,NORMAL,ALARM	Direct	4
%AN0761			ALARM,,NORMAL,ALARM	Direct	4
%AN0762			ALARM,,NORMAL,ALARM	Direct	4
%AN0763			ALARM,,NORMAL,ALARM	Direct	4
%AN0764			ALARM,,NORMAL,ALARM	Direct	4
%AN0765			ALARM,,NORMAL,ALARM	Direct	4
%AN0766			ALARM,,NORMAL,ALARM	Direct	4
%AN0767			ALARM,,NORMAL,ALARM	Direct	4
%AN0768			ALARM,,NORMAL,ALARM	Direct	4
%AN0769			ALARM,,NORMAL,ALARM	Direct	4
%AN0770			ALARM,,NORMAL,ALARM	Direct	4
%AN0771			ALARM,,NORMAL,ALARM	Direct	4
%AN0772			ALARM,,NORMAL,ALARM	Direct	4
%AN0773			ALARM,,NORMAL,ALARM	Direct	4
%AN0774			ALARM,,NORMAL,ALARM	Direct	4
%AN0775			ALARM,,NORMAL,ALARM	Direct	4
%AN0776			ALARM,,NORMAL,ALARM	Direct	4
%AN0777			ON,,OFF,ON	Direct	4
%AN0778			ON,,OFF,ON	Direct	4
%AN0779			ON,,OFF,ON	Direct	4
%AN0780			ON,,OFF,ON	Direct	4
%AN0781			ON,,OFF,ON	Direct	4
%AN0782			ON,,OFF,ON	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0783			ON,,OFF,ON	Direct	4
%AN0784			ON,,OFF,ON	Direct	4
%AN0785			ON,,OFF,ON	Direct	4
%AN0786			ON,,OFF,ON	Direct	4
%AN0787			ON,,OFF,ON	Direct	4
%AN0788			ON,,OFF,ON	Direct	4
%AN0789			ON,,OFF,ON	Direct	4
%AN0790			ON,,OFF,ON	Direct	4
%AN0791			ON,,OFF,ON	Direct	4
%AN0792			ON,,OFF,ON	Direct	4
%AN0793			ON,,OFF,ON	Direct	4
%AN0794			ON,,OFF,ON	Direct	4
%AN0795			ON,,OFF,ON	Direct	4
%AN0796			ON,,OFF,ON	Direct	4
%AN0797			ON,,OFF,ON	Direct	4
%AN0798			ON,,OFF,ON	Direct	4
%AN0799			ON,,OFF,ON	Direct	4
%AN0800			ON,,OFF,ON	Direct	4
%AN0801			ON,,OFF,ON	Direct	4
%AN0802			ON,,OFF,ON	Direct	4
%AN0803			ON,,OFF,ON	Direct	4
%AN0804			ON,,OFF,ON	Direct	4
%AN0805			ON,,OFF,ON	Direct	4
%AN0806			ON,,OFF,ON	Direct	4
%AN0807	PROCESS STUP CHRG FAIL-A	T2AAH	ON,,OFF,ON	Direct	4
%AN0808	PROCESS STUP CHRG FAIL-B	T2BAH	ON,,OFF,ON	Direct	4
%AN0809	PROCESS STUP CHRG FAIL-C	T2CAH	ON,,OFF,ON	Direct	4
%AN0810	PROCESS STUP CHRG FAIL-D	T2DAH	ON,,OFF,ON	Direct	4
%AN0811	PROCESS STUP CHRG FAIL-E	T2EAH	ON,,OFF,ON	Direct	4
%AN0812	PROCESS STUP CHRG FAIL-F	T2FAH	ON,,OFF,ON	Direct	4
%AN0813			ON,,OFF,ON	Direct	4
%AN0814			ON,,OFF,ON	Direct	4
%AN0815			ON,,OFF,ON	Direct	4
%AN0816			ON,,OFF,ON	Direct	4
%AN0817			ON,,OFF,ON	Direct	4
%AN0818			ON,,OFF,ON	Direct	4
%AN0819			ON,,OFF,ON	Direct	4
%AN0820			ON,,OFF,ON	Direct	4
%AN0821	GRAD ALM RECOVERY	25PI-035GRADNR	ON,,OFF,ON	Direct	4
%AN0822	GRAD ALM RECOVERY	25PI-037GRADNR	ON,,OFF,ON	Direct	4
%AN0823	GRAD ALM RECOVERY	25PI-040GRADNR	ON,,OFF,ON	Direct	4
%AN0824	GRAD ALM RECOVERY	25PI-043GRADNR	ON,,OFF,ON	Direct	4
%AN0825	GRAD ALM RECOVERY	25PI-046GRADNR	ON,,OFF,ON	Direct	4
%AN0826	GRAD ALM RECOVERY	25PI-049GRADNR	ON,,OFF,ON	Direct	4
%AN0827			ON,,OFF,ON	Direct	4
%AN0828			ON,,OFF,ON	Direct	4
%AN0829			ON,,OFF,ON	Direct	4
%AN0830			ON,,OFF,ON	Direct	4
%AN0831	SG200N1 FP1 WD PROT	87XS-7116AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0832	QF1 TRIP	20XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0833	AC UPS F&G BYP TRIPPED	70XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0834	A2/+05 TRIPPED	82XS-7306AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0835	TEMP GEN/BAT CB TRIPPED	87XS-7204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0836	AC UPS PAS A CB TRIPPED	87XS-7209AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0837	A3/+02 TRIPPED	82XS-7406AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0838	DB BOP TRIPPED	87XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0839	CRANE TRIPPED	87XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0840	A3/+05 TRIPPED	82XS-7506AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0841	WTP TRIPPED	50XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0842	QF1 PROT TRIP L	20XS-7117AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0843	QF1 PROT TRIP S	20XS-7118AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0844	QF1 PROT TRIP I	20XS-7119AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0845	QF1 PROT TRIP G	20XS-7120AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0846	QF1 - TRIP UNIT DISCON	20XS-7121AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0847	A2/+05 TRIP L	82XS-7301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0848	A2/+05 TRIP S	82XS-7302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0849	A2/+05 TRIP I	82XS-7303AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0850	A2/+05 TRIP G	82XS-7304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0851	A2/+05 DISCON	82XS-7305AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0852	A3/+02 TRIP L	82XS-7401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0853	A3/+02 TRIP S	82XS-7402AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0854	A3/+02 TRIP I	82XS-7403AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0855	A3/+02 TRIP G	82XS-7404AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0856	A3/+02 DISCON	82XS-7405AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0857	DB BOP TRIP L	87XS-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0858	DB BOP TRIP S	87XS-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0859	DB BOP TRIP I	87XS-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0860	DB BOP TRIP G	87XS-7104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0861	DB BOP TRIP DISCON	87XS-7105AN	NORMAL,,FAULT,NORMAL	Direct	4
%AN0862	CRANE TRIP L	87XS-7106AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0863	CRANE TRIP S	87XS-7107AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0864	CRANE TRIP I	87XS-7108AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0865	CRANE TRIP G	87XS-7109AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0866	CRANE TRIP DISCON	87XS-7110AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0867	A3/+05 TRIP L	82XS-7501AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0868	A3/+05 TRIP S	82XS-7502AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0869	A3/+05 TRIP I	82XS-7503AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0870	A3/+05 TRIP G	82XS-7504AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0871	A3/+05 DISCON	82XS-7505AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0872	WTP TRIP L	50XS-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0873	WTP TRIP S	50XS-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0874	WTP TRIP I	50XS-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0875	WTP TRIP G	50XS-7104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0876	WTP TRIP DISCON	50XS-7105AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0877	AC UPS PAS LN B CB TRIP	87XS-7205AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0878	HVAC PNL HV TRIPPED	77XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0879	FC AUX LDTRIPPED	80XS-7206AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0880	BESS PCS CAB TRIPPED	85XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0881	SP A4/+05 TRIPPED	82XS-7606AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0882	SP A4/+06 TRIPPED	82XS-7706AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0883	IA 01A TRIPPED	63XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0884	SP A5/+01 TRIPPED	82XS-7806AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0885	HVAC LV RM TRIPPED	77XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0886	HVAC UPS RM TRIPPED	77XS-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0887	HVAC ITER TRIPPED	77XS-7204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0888	ICCP TRIPPED	87XS-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0889	SP A5/+06 TRIPPED	82XS-7906AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0890	IA 01B TRIPPED	63XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0891	HVAC PNL HV PROT TRIP L	77XS-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0892	HVAC PNL HV PROT TRIP S	77XS-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0893	HVAC PNL HV PROT TRIP I	77XS-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0894	HVAC PNL HV PROT TRIP G	77XS-7104AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0895	HVAC PNL HV TRIP DISC	77XS-7105AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0896	FC AUX LD PROT TRIP L	80XS-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0897	FC AUX LD PROT TRIP S	80XS-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0898	FC AUX LD PROT TRIP I	80XS-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0899	FC AUX LD PROT TRIP G	80XS-7104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0900	FC AUX LD TRIP DISC	80XS-7105AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0901	BESS PCS HV PROT TRIP L	85XS-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0902	BESS PCS HV PROT TRIP S	85XS-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0903	BESS PCS HV PROT TRIP I	85XS-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0904	BESS PCS HV PROT TRIP G	85XS-7104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0905	BESS PCS HV TRIP DISC	85XS-7105AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0906	A4/+05 PROT TRIP L	82XS-7601AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0907	A4/+05 PROT TRIP S	82XS-7602AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0908	A4/+05 PROT TRIP I	82XS-7603AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0909	A4/+05 PROT TRIP G	82XS-7604AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0910	A4/+05 TRIP DISC	82XS-7605AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0911	A4/+06 PROT TRIP L	82XS-7701AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0912	A4/+06 PROT TRIP S	82XS-7702AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0913	A4/+06 PROT TRIP I	82XS-7703AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0914	A4/+06 PROT TRIP G	82XS-7704AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0915	A4/+06 TRIP DISC	82XS-7705AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0916	IA 01A PROT TRIP L	63XS-7101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0917	IA 01A PROT TRIP S	63XS-7102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0918	IA 01A PROT TRIP I	63XS-7103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0919	IA 01A PROT TRIP G	63XS-7104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0920	IA 01A TRIP DISC	63XS-7105AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0921	A5/+01 PROT TRIP L	82XS-7801AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0922	A5/+01 PROT TRIP S	82XS-7802AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0923	A5/+01 PROT TRIP I	82XS-7803AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0924	A5/+01 PROT TRIP G	82XS-7804AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0925	A5/+01 TRIP DISC	82XS-7805AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0926	HVAC LV RM PROT TRIP L	77XS-7106AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0927	HVAC LV RM PROT TRIP S	77XS-7107AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0928	HVAC LV RM PROT TRIP I	77XS-7108AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0929	HVAC LV RM PROT TRIP G	77XS-7109AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0930	HVAC LV RM TRIP DISC	77XS-7110AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0931	HVAC UPS RM PROT TRIP L	77XS-7111AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0932	HVAC UPS RM PROT TRIP S	77XS-7112AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0933	HVAC UPS RM PROT TRIP I	77XS-7113AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0934	HVAC UPS RM PROT TRIP G	77XS-7114AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0935	HVAC UPS RM TRIP DISC	77XS-7115AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0936	HVAC ITER PROT TRIP L	77XS-7116AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0937	HVAC ITER PROT TRIP S	77XS-7117AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0938	HVAC ITER PROT TRIP I	77XS-7118AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0939	HVAC ITER PROT TRIP G	77XS-7119AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0940	HVAC ITER TRIP DISC	77XS-7120AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0941	ICCP PROT TRIP L	87XS-7111AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0942	ICCP PROT TRIP S	87XS-7112AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0943	ICCP PROT TRIP I	87XS-7113AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0944	ICCP PROT TRIP G	87XS-7114AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0945	ICCP TRIP DISC	87XS-7115AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0946	A5/+06 PROT TRIP L	82XS-7901AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0947	A5/+06 PROT TRIP S	82XS-7902AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0948	A5/+06 PROT TRIP I	82XS-7903AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0949	A5/+06 PROT TRIP G	82XS-7904AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0950	A5/+06 TRIP DISC	82XS-7905AN	ALARM,,NORMAL,ALARM	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN0951	IA 01B PROT TRIP L	63XS-7106AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0952	IA 01B PROT TRIP S	63XS-7107AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0953	IA 01B PROT TRIP I	63XS-7108AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0954	IA 01B PROT TRIP G	63XS-7109AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0955	IA 01B TRIP DISC	63XS-7110AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0956	SW PMP B ESD ACT	50XS-001BAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0957	BESS LV2 TRIPPED	85XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0958	BESS LV1 TRIPPED	85XS-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0959	A6/+04 TRIPPED	82XS-7916AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0960	AC UPS F&G A TRIPPED	70XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0961	AC UPS F&G B TRIPPED	70XS-7203AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0962	WELD TOP DECK TRIPPED	83XS-7206AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0963	SW PMP A ESD ACT	50XS-001AAN	ALARM,,NORMAL,ALARM	Direct	4
%AN0964	AC UPS PAS BYP TRIPPED	85XS-7207AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0965	DC BAT FDR A TRIPPED	85XS-7204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0966	WELD LOW DECK TRIPPED	83XS-7208AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0967	DC BAT FDR B TRIPPED	85XS-7205AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0968	NAVAID FDR A TRIPPED	72XS-7201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0969	NAVAID FDR B TRIPPED	72XS-7202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0970	BESS LV2 PROT TRIP L	85XS-7106AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0971	BESS LV2 PROT TRIP S	85XS-7107AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0972	BESS LV2 PROT TRIP I	85XS-7108AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0973	BESS LV2 PROT TRIP G	85XS-7109AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0974	BESS LV2 TRIP DISC	85XS-7110AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0975	BESS LV1 PROT TRIP L	85XS-7111AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0976	BESS LV1 PROT TRIP S	85XS-7112AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0977	BESS LV1 PROT TRIP I	85XS-7113AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0978	BESS LV1 PROT TRIP G	85XS-7114AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0979	BESS LV1 TRIP DISC	85XS-7115AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0980	A6/+04 PROT TRIP L	82XS-7911AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0981	A6/+04 PROT TRIP S	82XS-7912AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0982	A6/+04 PROT TRIP I	82XS-7913AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0983	A6/+04 PROT TRIP G	82XS-7914AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0984	A6/+04 TRIP DISC	82XS-7915AN	ALARM,,NORMAL,ALARM	Direct	4
%AN0985			ON,,OFF,ON	Direct	4
%AN0986			ON,,OFF,ON	Direct	4
%AN0987			ON,,OFF,ON	Direct	4
%AN0988			ON,,OFF,ON	Direct	4
%AN0989			ON,,OFF,ON	Direct	4
%AN0990			ON,,OFF,ON	Direct	4
%AN0991			ON,,OFF,ON	Direct	4
%AN0992			ON,,OFF,ON	Direct	4
%AN0993			ON,,OFF,ON	Direct	4
%AN0994			ON,,OFF,ON	Direct	4
%AN0995			ON,,OFF,ON	Direct	4
%AN0996			ON,,OFF,ON	Direct	4
%AN0997			ON,,OFF,ON	Direct	4
%AN0998			ON,,OFF,ON	Direct	4
%AN0999			ON,,OFF,ON	Direct	4
%AN1000			ON,,OFF,ON	Direct	4
%AN1001			ON,,OFF,ON	Direct	4
%AN1002			ON,,OFF,ON	Direct	4
%AN1003			ON,,OFF,ON	Direct	4
%AN1004			ON,,OFF,ON	Direct	4
%AN1005			ON,,OFF,ON	Direct	4
%AN1006			ON,,OFF,ON	Direct	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-19
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1007			ON,,OFF,ON	Direct	4
%AN1008			ON,,OFF,ON	Direct	4
%AN1009			ON,,OFF,ON	Direct	4
%AN1010			ON,,OFF,ON	Direct	4
%AN1011			ON,,OFF,ON	Direct	4
%AN1012			ON,,OFF,ON	Direct	4
%AN1013			ON,,OFF,ON	Direct	4
%AN1014			ON,,OFF,ON	Direct	4
%AN1015			ON,,OFF,ON	Direct	4
%AN1016			ON,,OFF,ON	Direct	4
%AN1017			ON,,OFF,ON	Direct	4
%AN1018			ON,,OFF,ON	Direct	4
%AN1019			ON,,OFF,ON	Direct	4
%AN1020			ON,,OFF,ON	Direct	4
%AN1021			ON,,OFF,ON	Direct	4
%AN1022			ON,,OFF,ON	Direct	4
%AN1023			ON,,OFF,ON	Direct	4
%AN1024			ON,,OFF,ON	Direct	4
%AN1025			ON,,OFF,ON	Direct	4
%AN1026			ON,,OFF,ON	Direct	4
%AN1027			ON,,OFF,ON	Direct	4
%AN1028			ON,,OFF,ON	Direct	4
%AN1029			ON,,OFF,ON	Direct	4
%AN1030			ON,,OFF,ON	Direct	4
%AN1031			ON,,OFF,ON	Direct	4
%AN1032			ON,,OFF,ON	Direct	4
%AN1033			ON,,OFF,ON	Direct	4
%AN1034			ON,,OFF,ON	Direct	4
%AN1035			ON,,OFF,ON	Direct	4
%AN1036			ON,,OFF,ON	Direct	4
%AN1037			ON,,OFF,ON	Direct	4
%AN1038			ON,,OFF,ON	Direct	4
%AN1039			ON,,OFF,ON	Direct	4
%AN1040			ON,,OFF,ON	Direct	4
%AN1041			ON,,OFF,ON	Direct	4
%AN1042			ON,,OFF,ON	Direct	4
%AN1043			ON,,OFF,ON	Direct	4
%AN1044			ON,,OFF,ON	Direct	4
%AN1045			ON,,OFF,ON	Direct	4
%AN1046			ON,,OFF,ON	Direct	4
%AN1047			ON,,OFF,ON	Direct	4
%AN1048			ON,,OFF,ON	Direct	4
%AN1049			ON,,OFF,ON	Direct	4
%AN1050			ON,,OFF,ON	Direct	4
%AN1051			ON,,OFF,ON	Direct	4
%AN1052			ON,,OFF,ON	Direct	4
%AN1053			ON,,OFF,ON	Direct	4
%AN1054			ON,,OFF,ON	Direct	4
%AN1055			ON,,OFF,ON	Direct	4
%AN1056			ON,,OFF,ON	Direct	4
%AN1057			ON,,OFF,ON	Direct	4
%AN1058			ON,,OFF,ON	Direct	4
%AN1059			ON,,OFF,ON	Direct	4
%AN1060			ON,,OFF,ON	Direct	4
%AN1061			ON,,OFF,ON	Direct	4
%AN1062			ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-20
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1063			ON,,OFF,ON	Direct	4
%AN1064			ON,,OFF,ON	Direct	4
%AN1065			ON,,OFF,ON	Direct	4
%AN1066			ON,,OFF,ON	Direct	4
%AN1067	DP-200N1 EMG CB CLS	87ZSL-7108AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1068	DP-200N1 TRC HEAT CB	87ZSL-7105AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1069	DP-200N1 TRC HEAT CB	87ZSL-7106AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1070	CB CLS	20ZSL-7201AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1071	CB OPN	20ZSH-7201AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1072	QF1 - OPEN	20ZSH-7103AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1073	QF1 - CLOSED	20ZSL-7103AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1074			CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1075			OPENED,,N_OPENED,OPENED	Direct	4
%AN1076	QF1 - TEST	20TST-7101AN	ON,,OFF,ON	Direct	4
%AN1077	DP-200N1 EMG LITE ON	87US-7107AN	ON,,OFF,ON	Direct	4
%AN1078	DP-200N1 TRC HEAT ACT	87US-7109AN	ON,,OFF,ON	Direct	4
%AN1079	QF1 - CONNECTED	20US-7101AN	ON,,OFF,ON	Direct	4
%AN1080			ON,,OFF,ON	Direct	4
%AN1081			ON,,OFF,ON	Direct	4
%AN1082			ON,,OFF,ON	Direct	4
%AN1083			ON,,OFF,ON	Direct	4
%AN1084			ON,,OFF,ON	Direct	4
%AN1085			ON,,OFF,ON	Direct	4
%AN1086			ON,,OFF,ON	Direct	4
%AN1087			ON,,OFF,ON	Direct	4
%AN1088			ON,,OFF,ON	Direct	4
%AN1089			ON,,OFF,ON	Direct	4
%AN1090			ON,,OFF,ON	Direct	4
%AN1091	LO ALM STUP CHARGING	25PI-035LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1092	LO ALM STUP CHARGING	25PI-037LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1093	LO ALM STUP CHARGING	25PI-040LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1094	LO ALM STUP CHARGING	25PI-043LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1095	LO ALM STUP CHARGING	25PI-046LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1096	LO ALM STUP CHARGING	25PI-049LOAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1097			ON,,OFF,ON	Direct	4
%AN1098			ON,,OFF,ON	Direct	4
%AN1099			ON,,OFF,ON	Direct	4
%AN1100			ON,,OFF,ON	Direct	4
%AN1101	NON CRITICAL FAULT	20UA-5351AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1102	CRITICAL FAULT	20XA-5351AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1103	USERDEF_DIGIN1ACTIVE	20US-5357AN	ON,,OFF,ON	Direct	4
%AN1104	USERDEF_DIGIN2ACTIVE	20US-5358AN	ON,,OFF,ON	Direct	4
%AN1105	USERDEF_DIGIN3ACTIVE	20US-5359AN	ON,,OFF,ON	Direct	4
%AN1106	EMERGENCYSWITCHOFF	20US-5360AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1107	DOU CAN FAULT	20XA-5352AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1108	MAINS FAULT	20XA-5353AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1109	RECTIFIER WARNING	20US-5361AN	ON,,OFF,ON	Direct	4
%AN1110	RECTIFIER FAULT	20XA-5354AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1111	BATTERY ALARM	20XA-5355AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1112	INVERTER WARNING	20US-5362AN	ON,,OFF,ON	Direct	4
%AN1113	INVERTER FAULT	20XA-5356AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1114	SBS WARNING	20US-5363AN	ON,,OFF,ON	Direct	4
%AN1115	SBS FAULT	20XA-5357AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1116	EQUALISING CHARGE	20US-5364AN	ON,,OFF,ON	Direct	4
%AN1117	CHARGE	20US-5365AN	ON,,OFF,ON	Direct	4
%AN1118	TRICKLE CHARGE	20US-5366AN	ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-21
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1119	GENSET OPERATION	20UA-5352AN	ON,,OFF,ON	Direct	4
%AN1120	BATT TEMP SENS FAULT	20XA-5358AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1121	BATTERY TEMP TOHIGH	20TA-5351AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1122	CIRCUIT BREAKER	20XS-5351AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1123	BATTERY WARNING	20US-5367AN	ON,,OFF,ON	Direct	4
%AN1124	BATTERY LOW	20US-5368AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1125	OVERLOAD	20US-5369AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1126	FAN FAULT	20XA-5359AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1127	OVERLOAD	20UA-5353AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1128	SHORT CIRCUIT	20US-5370AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1129	DC UNDER VOLTAGE	20US-5371AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1130	DC OVER VOLTAGE	20US-5372AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1131			ON,,OFF,ON	Direct	4
%AN1132	POWER STACK OVERTEMP	20XA-5360AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1133	SBS READY	20RDY5351AN	ON,,OFF,ON	Direct	4
%AN1134	SBS MAINS FAULT	20XA-5361AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1135	SBSB LOCKED	20US-5373AN	ON,,OFF,ON	Direct	4
%AN1136	RECTIFIER ON	20US-5374AN	ON,,OFF,ON	Direct	4
%AN1137	INVERTER ON	20US-5375AN	ON,,OFF,ON	Direct	4
%AN1138	SBS ON	20US-5376AN	ON,,OFF,ON	Direct	4
%AN1139	LIFE CHECK BIT	20US-5393AN	ON,,OFF,ON	Direct	4
%AN1140	BATTERTY MCCB OPEN	20UA-5354AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1141	USERDEF_AUX2 – RECT	20UA-5355AN	ON,,OFF,ON	Direct	4
%AN1142	USERDEF_AUX3 – RECT	20UA-5356AN	ON,,OFF,ON	Direct	4
%AN1143	USERDEF_AUX4 – RECT	20UA-5357AN	ON,,OFF,ON	Direct	4
%AN1144	USERDEF_AUX5 – RECT	20UA-5358AN	ON,,OFF,ON	Direct	4
%AN1145	USERDEF_AUX6 – RECT	20UA-5359AN	ON,,OFF,ON	Direct	4
%AN1146	USERDEF_AUX7– RECT	20UA-5360AN	ON,,OFF,ON	Direct	4
%AN1147	USERDEF_AUX1 – INV	20UA-5361AN	ON,,OFF,ON	Direct	4
%AN1148	USERDEF_AUX2 – INV	20UA-5362AN	ON,,OFF,ON	Direct	4
%AN1149	USERDEF_AUX3 – INV	20UA-5363AN	ON,,OFF,ON	Direct	4
%AN1150	USERDEF_AUX4 – INV	20UA-5364AN	ON,,OFF,ON	Direct	4
%AN1151	USERDEF_AUX5 – INV	20UA-5365AN	ON,,OFF,ON	Direct	4
%AN1152	USERDEF_AUX6 – INV	20UA-5366AN	ON,,OFF,ON	Direct	4
%AN1153	USERDEF_AUX7 – INV	20UA-5367AN	ON,,OFF,ON	Direct	4
%AN1154	USERDEF_AUX1 – SBS	20UA-5368AN	ON,,OFF,ON	Direct	4
%AN1155	USERDEF_AUX2 – SBS	20UA-5369AN	ON,,OFF,ON	Direct	4
%AN1156	USERDEF_AUX3 – SBS	20UA-5370AN	ON,,OFF,ON	Direct	4
%AN1157	USERDEF_AUX4 – SBS	20UA-5371AN	ON,,OFF,ON	Direct	4
%AN1158	USERDEF_AUX5 – SBS	20UA-5372AN	ON,,OFF,ON	Direct	4
%AN1159	USERDEF_AUX6 – SBS	20UA-5373AN	ON,,OFF,ON	Direct	4
%AN1160	USERDEF_AUX7 – SBS	20UA-5374AN	ON,,OFF,ON	Direct	4
%AN1161	ON	20HS-5352AN	ON,,OFF,ON	Direct	4
%AN1162			ON,,OFF,ON	Direct	4
%AN1163	OFF	20HS-5353AN	ON,,OFF,ON	Direct	4
%AN1164	ACKNOWLEDGE FAULT	20HS-5354AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1165	EQUALISING CHARGING	20HS-5355AN	ON,,OFF,ON	Direct	4
%AN1166	CHARGE	20HS-5356AN	ON,,OFF,ON	Direct	4
%AN1167	TRICKLE CHARGING	20HS-5357AN	ON,,OFF,ON	Direct	4
%AN1168	ON	20HS-5366AN	ON,,OFF,ON	Direct	4
%AN1169	OFF	20HS-5367AN	ON,,OFF,ON	Direct	4
%AN1170	ECO MODE	20HS-5368AN	ON,,OFF,ON	Direct	4
%AN1171	ACKNOWLEDGE FAULT	20HS-5369AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1172	ACKNOWLEDGE FAULT	20HS-5359AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1173	START TEST	20HS-5361AN	ON,,OFF,ON	Direct	4
%AN1174	CANCEL TEST	20HS-5362AN	ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-22
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1175	TEST NOT IMPLEMENTED	20US-5381AN	ON,,OFF,ON	Direct	4
%AN1176		20US-5382AN	ON,,OFF,ON	Direct	4
%AN1177	TEST APPROVED	20US-5383AN	ON,,OFF,ON	Direct	4
%AN1178	TEST RUNNING	20US-5384AN	ON,,OFF,ON	Direct	4
%AN1179	TEST SUCCESSFUL	20US-5385AN	ON,,OFF,ON	Direct	4
%AN1180	TEST CANCELLED	20US-5386AN	ON,,OFF,ON	Direct	4
%AN1181	TEST WARNING	20UA-5375AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1182	TEST ERROR	20XA-5365AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1183	START TEST	20HS-5364AN	ON,,OFF,ON	Direct	4
%AN1184	CANCEL TEST	20HS-5365AN	ON,,OFF,ON	Direct	4
%AN1185	TEST NOT IMPLEMENTED	20US-5387AN	ON,,OFF,ON	Direct	4
%AN1186		20US-5388AN	ON,,OFF,ON	Direct	4
%AN1187	TEST APPROVED	20US-5389AN	ON,,OFF,ON	Direct	4
%AN1188	TEST RUNNING	20US-5390AN	ON,,OFF,ON	Direct	4
%AN1189	TEST SUCCESSFUL	20US-5391AN	ON,,OFF,ON	Direct	4
%AN1190	TEST CANCELLED	20US-5392AN	ON,,OFF,ON	Direct	4
%AN1191	TEST WARNING	20UA-5376AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1192	TEST ERROR	20XA-5366AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1193			ON,,OFF,ON	Direct	4
%AN1194			ON,,OFF,ON	Direct	4
%AN1195			ON,,OFF,ON	Direct	4
%AN1196			ON,,OFF,ON	Direct	4
%AN1197			ON,,OFF,ON	Direct	4
%AN1198			ON,,OFF,ON	Direct	4
%AN1199			ON,,OFF,ON	Direct	4
%AN1200	VSL A CHRG NOT CMPLT	25CHRVSLAAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1201	VSL B CHRG NOT CMPLT	25CHRVSLBAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1202	VSL C CHRG NOT CMPLT	25CHRVSLCAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1203	VSL D CHRG NOT CMPLT	25CHRVSLDAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1204	VSL E CHRG NOT CMPLT	25CHRVSLEAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1205	VSL F CHRG NOT CMPLT	25CHRVSLFAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1206			ON,,OFF,ON	Direct	4
%AN1207	VSL A STCHRG NOT CMPLT	25STVSLAAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1208	VSL B STCHRG NOT CMPLT	25STVSLBAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1209	VSL C STCHRG NOT CMPLT	25STVSLCAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1210	VSL D STCHRG NOT CMPLT	25STVSLDAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1211	VSL E STCHRG NOT CMPLT	25STVSLEAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1212	VSL F STCHRG NOT CMPLT	25STVSLFAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1213			ON,,OFF,ON	Direct	4
%AN1214			ON,,OFF,ON	Direct	4
%AN1215			ON,,OFF,ON	Direct	4
%AN1216	-VE GRADIENTCHARGING	25PI-049GRADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1217	-VE GRADIENTCHARGING	25PI-046GRADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1218	-VE GRADIENTCHARGING	25PI-043GRADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1219	-VE GRADIENTCHARGING	25PI-040GRADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1220	-VE GRADIENTCHARGING	25PI-037GRADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1221	-VE GRADIENTCHARGING	25PI-035GRADAN	ALARM,,NORMAL,ALARM	Direct	4
%AN1222			ON,,OFF,ON	Direct	4
%AN1223	INSUFFIENT FLOW 25FI-031	25FQI-031AN01	ON,,OFF,ON	Direct	4
%AN1224	INSUFFIENT FLOW 25FI-032	25FQI-032AN01	ON,,OFF,ON	Direct	4
%AN1225	INSUFFIENT FLOW 25FI-033	25FQI-033AN01	ON,,OFF,ON	Direct	4
%AN1226	INSUFFIENT FLOW 25FI-034	25FQI-034AN01	ON,,OFF,ON	Direct	4
%AN1227	INSUFFIENT FLOW 25FI-038	25FQI-038AN01	ON,,OFF,ON	Direct	4
%AN1228	INSUFFIENT FLOW 25FI-036	25FQI-036AN01	ON,,OFF,ON	Direct	4
%AN1229			ON,,OFF,ON	Direct	4
%AN1230			ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-23
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1231			ON,,OFF,ON	Direct	4
%AN1232			ON,,OFF,ON	Direct	4
%AN1233			ON,,OFF,ON	Direct	4
%AN1234			ON,,OFF,ON	Direct	4
%AN1235			ON,,OFF,ON	Direct	4
%AN1236			ON,,OFF,ON	Direct	4
%AN1237			ON,,OFF,ON	Direct	4
%AN1238			ON,,OFF,ON	Direct	4
%AN1239			ON,,OFF,ON	Direct	4
%AN1240			ON,,OFF,ON	Direct	4
%AN1241			ON,,OFF,ON	Direct	4
%AN1242			ON,,OFF,ON	Direct	4
%AN1243			ON,,OFF,ON	Direct	4
%AN1244			ON,,OFF,ON	Direct	4
%AN1245			ON,,OFF,ON	Direct	4
%AN1246			ON,,OFF,ON	Direct	4
%AN1247			ON,,OFF,ON	Direct	4
%AN1248			ON,,OFF,ON	Direct	4
%AN1249			ON,,OFF,ON	Direct	4
%AN1250			ON,,OFF,ON	Direct	4
%AN1251			ON,,OFF,ON	Direct	4
%AN1252			ON,,OFF,ON	Direct	4
%AN1253			ON,,OFF,ON	Direct	4
%AN1254			ON,,OFF,ON	Direct	4
%AN1255			ON,,OFF,ON	Direct	4
%AN1256			ON,,OFF,ON	Direct	4
%AN1257			ON,,OFF,ON	Direct	4
%AN1258			ON,,OFF,ON	Direct	4
%AN1259			ON,,OFF,ON	Direct	4
%AN1260			ON,,OFF,ON	Direct	4
%AN1261			ON,,OFF,ON	Direct	4
%AN1262			ON,,OFF,ON	Direct	4
%AN1263			ON,,OFF,ON	Direct	4
%AN1264			ON,,OFF,ON	Direct	4
%AN1265			ON,,OFF,ON	Direct	4
%AN1266			ON,,OFF,ON	Direct	4
%AN1267			ON,,OFF,ON	Direct	4
%AN1268			ON,,OFF,ON	Direct	4
%AN1269			ON,,OFF,ON	Direct	4
%AN1270			ON,,OFF,ON	Direct	4
%AN1271			ON,,OFF,ON	Direct	4
%AN1272			ON,,OFF,ON	Direct	4
%AN1273			ON,,OFF,ON	Direct	4
%AN1274			ON,,OFF,ON	Direct	4
%AN1275			ON,,OFF,ON	Direct	4
%AN1276			ON,,OFF,ON	Direct	4
%AN1277			ON,,OFF,ON	Direct	4
%AN1278			ON,,OFF,ON	Direct	4
%AN1279			ON,,OFF,ON	Direct	4
%AN1280			ON,,OFF,ON	Direct	4
%AN1281			ON,,OFF,ON	Direct	4
%AN1282			ON,,OFF,ON	Direct	4
%AN1283			ON,,OFF,ON	Direct	4
%AN1284			ON,,OFF,ON	Direct	4
%AN1285			ON,,OFF,ON	Direct	4
%AN1286			ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-24
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1287			ON,,OFF,ON	Direct	4
%AN1288			ON,,OFF,ON	Direct	4
%AN1289			ON,,OFF,ON	Direct	4
%AN1290			ON,,OFF,ON	Direct	4
%AN1291			ON,,OFF,ON	Direct	4
%AN1292			ON,,OFF,ON	Direct	4
%AN1293			ON,,OFF,ON	Direct	4
%AN1294			ON,,OFF,ON	Direct	4
%AN1295			ON,,OFF,ON	Direct	4
%AN1296			ON,,OFF,ON	Direct	4
%AN1297			ON,,OFF,ON	Direct	4
%AN1298			ON,,OFF,ON	Direct	4
%AN1299			ON,,OFF,ON	Direct	4
%AN1300			ON,,OFF,ON	Direct	4
%AN1301	NON CRITICAL FAULT	20UA-5451AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1302	CRITICAL FAULT	20XA-5451AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1303	USERDEF_DIGIN1ACTIVE	20US-5457AN	ON,,OFF,ON	Direct	4
%AN1304	USERDEF_DIGIN2ACTIVE	20US-5458AN	ON,,OFF,ON	Direct	4
%AN1305	USERDEF_DIGIN3ACTIVE	20US-5459AN	ON,,OFF,ON	Direct	4
%AN1306	EMERGENCYSWITCHOFF	20US-5460AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1307	DOU CAN FAULT	20XA-5452AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1308	MAINS FAULT	20XA-5453AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1309	RECTIFIER WARNING	20US-5461AN	ON,,OFF,ON	Direct	4
%AN1310	RECTIFIER FAULT	20XA-5454AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1311	BATTERY ALARM	20XA-5455AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1312	INVERTER WARNING	20US-5462AN	ON,,OFF,ON	Direct	4
%AN1313	INVERTER FAULT	20XA-5456AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1314	SBS WARNING	20US-5463AN	ON,,OFF,ON	Direct	4
%AN1315	SBS FAULT	20XA-5457AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1316	EQUALISING CHARGE	20US-5464AN	ON,,OFF,ON	Direct	4
%AN1317	CHARGE	20UA-5477AN	ON,,OFF,ON	Direct	4
%AN1318	TRICKLE CHARGE	20UA-5478AN	ON,,OFF,ON	Direct	4
%AN1319	GENSET OPERATION	20UA-5452AN	ON,,OFF,ON	Direct	4
%AN1320	BATT TEMP SENS FAULT	20XA-5458AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1321	BATTERY TEMP TOHIGH	20TA-5451AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1322	CIRCUIT BREAKER	20XS-5451AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1323	BATTERY WARNING	20US-5467AN	ON,,OFF,ON	Direct	4
%AN1324	BATTERY LOW	20US-5468AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1325	OVERLOAD	20US-5469AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1326	FAN FAULT	20XA-5459AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1327	OVERLOAD	20UA-5453AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1328	SHORT CIRCUIT	20US-5470AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1329	DC UNDER VOLTAGE	20US-5471AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1330	DC OVER VOLTAGE	20US-5472AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1331			ON,,OFF,ON	Direct	4
%AN1332	POWER STACK OVERTEMP	20XA-5460AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1333	SBS READY	20RDY5451AN	ON,,OFF,ON	Direct	4
%AN1334	SBS MAINS FAULT	20XA-5461AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1335	SBSB LOCKED	20US-5473AN	ON,,OFF,ON	Direct	4
%AN1336	RECTIFIER ON	20US-5474AN	ON,,OFF,ON	Direct	4
%AN1337	INVERTER ON	20US-5475AN	ON,,OFF,ON	Direct	4
%AN1338	SBS ON	20US-5476AN	ON,,OFF,ON	Direct	4
%AN1339	LIFE CHECK BIT	20US-5493AN	ON,,OFF,ON	Direct	4
%AN1340	USERDEF_AUX1 – RECT	20UA-5454AN	ON,,OFF,ON	Direct	4
%AN1341	USERDEF_AUX2 – RECT	20UA-5455AN	ON,,OFF,ON	Direct	4
%AN1342	USERDEF_AUX3 – RECT	20UA-5456AN	ON,,OFF,ON	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1343	USERDEF_AUX4 – RECT	20UA-5457AN	ON,,OFF,ON	Direct	4
%AN1344	USERDEF_AUX5 – RECT	20UA-5458AN	ON,,OFF,ON	Direct	4
%AN1345	USERDEF_AUX6 – RECT	20UA-5459AN	ON,,OFF,ON	Direct	4
%AN1346	USERDEF_AUX7– RECT	20UA-5460AN	ON,,OFF,ON	Direct	4
%AN1347	USERDEF_AUX1 – INV	20UA-5461AN	ON,,OFF,ON	Direct	4
%AN1348	USERDEF_AUX2 – INV	20UA-5462AN	ON,,OFF,ON	Direct	4
%AN1349	USERDEF_AUX3 – INV	20UA-5463AN	ON,,OFF,ON	Direct	4
%AN1350	USERDEF_AUX4 – INV	20UA-5464AN	ON,,OFF,ON	Direct	4
%AN1351	USERDEF_AUX5 – INV	20UA-5465AN	ON,,OFF,ON	Direct	4
%AN1352	USERDEF_AUX6 – INV	20UA-5466AN	ON,,OFF,ON	Direct	4
%AN1353	USERDEF_AUX7 – INV	20UA-5467AN	ON,,OFF,ON	Direct	4
%AN1354	USERDEF_AUX1 – SBS	20UA-5468AN	ON,,OFF,ON	Direct	4
%AN1355	USERDEF_AUX2 – SBS	20UA-5469AN	ON,,OFF,ON	Direct	4
%AN1356	USERDEF_AUX3 – SBS	20UA-5470AN	ON,,OFF,ON	Direct	4
%AN1357	USERDEF_AUX4 – SBS	20UA-5471AN	ON,,OFF,ON	Direct	4
%AN1358	USERDEF_AUX5 – SBS	20UA-5472AN	ON,,OFF,ON	Direct	4
%AN1359	USERDEF_AUX6 – SBS	20UA-5473AN	ON,,OFF,ON	Direct	4
%AN1360	USERDEF_AUX7 – SBS	20UA-5474AN	ON,,OFF,ON	Direct	4
%AN1361		AN	ON,,OFF,ON	Direct	4
%AN1362	ON	20HS-5452AN	ON,,OFF,ON	Direct	4
%AN1363	OFF	20HS-5453AN	ON,,OFF,ON	Direct	4
%AN1364	ACKNOWLEDGE FAULT	20HS-5454AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1365	EQUALISING CHARGING	20HS-5455AN	ON,,OFF,ON	Direct	4
%AN1366	CHARGE	20HS-5456AN	ON,,OFF,ON	Direct	4
%AN1367	TRICKLE CHARGING	20HS-5457AN	ON,,OFF,ON	Direct	4
%AN1368	ON	20HS-5466AN	ON,,OFF,ON	Direct	4
%AN1369	OFF	20HS-5467AN	ON,,OFF,ON	Direct	4
%AN1370	ECO MODE	20HS-5468AN	ON,,OFF,ON	Direct	4
%AN1371	ACKNOWLEDGE FAULT	20HS-5469AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1372	ACKNOWLEDGE FAULT	20HS-5459AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1373	START TEST	20HS-5461AN	ON,,OFF,ON	Direct	4
%AN1374	CANCEL TEST	20HS-5462AN	ON,,OFF,ON	Direct	4
%AN1375	TEST NOT IMPLEMENTED	20US-5481AN	ON,,OFF,ON	Direct	4
%AN1376		20US-5482AN	ON,,OFF,ON	Direct	4
%AN1377	TEST APPROVED	20US-5483AN	ON,,OFF,ON	Direct	4
%AN1378	TEST RUNNING	20US-5484AN	ON,,OFF,ON	Direct	4
%AN1379	TEST SUCCESSFUL	20US-5485AN	ON,,OFF,ON	Direct	4
%AN1380	TEST CANCELLED	20US-5486AN	ON,,OFF,ON	Direct	4
%AN1381	TEST WARNING	20UA-5475AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1382	TEST ERROR	20XA-5465AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1383	START TEST	20HS-5463AN	ON,,OFF,ON	Direct	4
%AN1384	CANCEL TEST	20HS-5464AN	ON,,OFF,ON	Direct	4
%AN1385	TEST NOT IMPLEMENTED	20US-5487AN	ON,,OFF,ON	Direct	4
%AN1386		20US-5488AN	ON,,OFF,ON	Direct	4
%AN1387	TEST APPROVED	20US-5489AN	ON,,OFF,ON	Direct	4
%AN1388	TEST RUNNING	20US-5490AN	ON,,OFF,ON	Direct	4
%AN1389	TEST SUCCESSFUL	20US-5491AN	ON,,OFF,ON	Direct	4
%AN1390	TEST CANCELLED	20US-5492AN	ON,,OFF,ON	Direct	4
%AN1391	TEST WARNING	20UA-5476AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1392	TEST ERROR	20XA-5466AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1393			ON,,OFF,ON	Direct	4
%AN1394			ON,,OFF,ON	Direct	4
%AN1395			ON,,OFF,ON	Direct	4
%AN1396			ON,,OFF,ON	Direct	4
%AN1397			ON,,OFF,ON	Direct	4
%AN1398			ON,,OFF,ON	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1399			ON,,OFF,ON	Direct	4
%AN1400			ON,,OFF,ON	Direct	4
%AN1401	HI MAINS VOLT	20XA-2001AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1402	LO MAINS VOLT	20XA-2002AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1403	CHARGER FAIL	20XA-2003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1404	HI BATTERY VOLT	20XA-2004AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1405	LO BATTERY VOLT	20XA-2005AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1406	HI DC VOLT	20XA-2006AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1407	LO DC VOLT	20XA-2007AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1408			ALARM,,NORMAL,ALARM	Direct	4
%AN1409			ALARM,,NORMAL,ALARM	Direct	4
%AN1410	Q1 OPEN	20US-2003AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1411	REMOTE OFF INHIBITION	20US-2004AN	ON,,OFF,ON	Direct	4
%AN1412	BATTERY PROTECTION	20XA-2024AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1413	GROUND FLT -	20XA-2009AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1414	GROUND FLT +	20XA-2008AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1415	DISTRIBUTION FAULT	20XA-2025AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1416	BATT SYMMETRIC FAULT	20XA-2026AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1417	VENTILATION FAULT	20XA-2027AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1418	CHARGER CURR LMT	20US-2001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1419	BATTERY CURR LMT	20US-2002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1420	HI CHARGER CURR	20XA-2010AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1421	HI BATTERY CURR	20XA-2011AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1422	HI TEMP	20XA-2012AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1423	TEMP SENSOR ERROR	20XA-2013AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1424	INTERNAL COMM ERR	20XA-2014AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1425	BATTERY TEST FAIL	20XA-2015AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1426	BATTERY TEST ABORTED	20XA-2016AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1427	HI BATTERY TEMP	20XA-2017AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1428	HI FLOAT CURR	20XA-2018AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1429	LONG CHARGE TIME	20XA-2019AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1430	NO POWER SUPPLY VOLT	20XA-2020AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1431	BATTERY IN OPERATION	20XA-2021AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1432	BATTERY SYMMETRY FLT	20XA-2022AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1433			ON,,OFF,ON	Direct	4
%AN1434			ON,,OFF,ON	Direct	4
%AN1435			ON,,OFF,ON	Direct	4
%AN1436			ON,,OFF,ON	Direct	4
%AN1437			ON,,OFF,ON	Direct	4
%AN1438			ON,,OFF,ON	Direct	4
%AN1439			ON,,OFF,ON	Direct	4
%AN1440			ON,,OFF,ON	Direct	4
%AN1441			ON,,OFF,ON	Direct	4
%AN1442			ON,,OFF,ON	Direct	4
%AN1443			ON,,OFF,ON	Direct	4
%AN1444			ON,,OFF,ON	Direct	4
%AN1445			ON,,OFF,ON	Direct	4
%AN1446			ON,,OFF,ON	Direct	4
%AN1447			ON,,OFF,ON	Direct	4
%AN1448			ON,,OFF,ON	Direct	4
%AN1449			ON,,OFF,ON	Direct	4
%AN1450			ON,,OFF,ON	Direct	4
%AN1451	HI MAINS VOLT	20XA-2031AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1452	LO MAINS VOLT	20XA-2032AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1453	CHARGER FAIL	20XA-2033AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1454	HI BATTERY VOLT	20XA-2034AN	FAULT,,NORMAL,FAULT	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1455	LO BATTERY VOLT	20XA-2035AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1456	HI DC VOLT	20XA-2036AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1457	LO DC VOLT	20XA-2037AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1458			ALARM,,NORMAL,ALARM	Direct	4
%AN1459			ALARM,,NORMAL,ALARM	Direct	4
%AN1460	Q1 OPEN	20US-2033AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1461	REMOTE OFF INHIBITION	20US-2034AN	ON,,OFF,ON	Direct	4
%AN1462	BATTERY PROTECTION	20XA-2054AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1463	GROUND FLT -	20XA-2039AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1464	GROUND FLT +	20XA-2038AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1465	DISTRIBUTION FAULT	20XA-2055AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1466	BATT SYMMETRIC FAULT	20XA-2056AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1467	VENTILATION FAULT	20XA-2057AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1468	CHARGER CURR LMT	20US-2031AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1469	BATTERY CURR LMT	20US-2032AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1470	HI CHARGER CURR	20XA-2040AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1471	HI BATTERY CURR	20XA-2041AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1472	HI TEMP	20XA-2042AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1473	TEMP SENSOR ERROR	20XA-2043AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1474	INTERNAL COMM ERR	20XA-2044AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1475	BATTERY TEST FAIL	20XA-2045AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1476	BATTERY TEST ABORTED	20XA-2046AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1477	HI BATTERY TEMP	20XA-2047AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1478	HI FLOAT CURR	20XA-2048AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1479	LONG CHARGE TIME	20XA-2049AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1480	NO POWER SUPPLY VOLT	20XA-2050AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1481	BATTERY IN OPERATION	20XA-2051AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1482	BATTERY SYMMETRY FLT	20XA-2052AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1483			ON,,OFF,ON	Direct	4
%AN1484			ON,,OFF,ON	Direct	4
%AN1485			ON,,OFF,ON	Direct	4
%AN1486			ON,,OFF,ON	Direct	4
%AN1487			ON,,OFF,ON	Direct	4
%AN1488			ON,,OFF,ON	Direct	4
%AN1489			ON,,OFF,ON	Direct	4
%AN1490			ON,,OFF,ON	Direct	4
%AN1491			ON,,OFF,ON	Direct	4
%AN1492			ON,,OFF,ON	Direct	4
%AN1493			ON,,OFF,ON	Direct	4
%AN1494			ON,,OFF,ON	Direct	4
%AN1495			ON,,OFF,ON	Direct	4
%AN1496			ON,,OFF,ON	Direct	4
%AN1497			ON,,OFF,ON	Direct	4
%AN1498			ON,,OFF,ON	Direct	4
%AN1499	FOR HVAC 52,53,54		ON,,OFF,ON	Direct	4
%AN1500	B300-HSB-001 MN BKR TRP	77B3HSBXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1501	B300-HSB-001 PL EM BTN	77B3PEB-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1502	B300-HSB-001 MOD LTE TRP	77HSBXS-033AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1503	B300-HSB-001 MOD SKT TRP	77HSBXS-333AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1504	HSS-77-007/8/9 HTR TRP	77HSSXS-789AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1505	B300-HSB-001 AUX SEC TRP	77B3HSBAXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1506	HSS-77-007/8/9 HTR FLT	77B3UXA-789AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1507	HHU-77005 FLTR CLOGGED	77PFFC-005AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1508	HHU-77005 MOT DMP FLT	77MDF-005AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1509	HFM-77-301 PTC PRTN	77PTCP-301AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1510	HFM-77-301 VSD FLT	77VSDF-301AN	FAULT,,NORMAL,FAULT	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1511	HFM-77-301 PRS FN TRP	77PFTRP-301AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1512	HFM-77-302 BRK BELT ALM	77BBA-302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1513	HFM-77-302 FN TRP	77SFTRP-302AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1514	HCO-77-301 CMP TRP	77CTRP-301AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1515	HCO-77-301 HP ALM	77HPA-301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1516	HCO-77-301 LP ALM	77LPA-301AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1517	HFM77-305/306 CND FN TRP	77CFTRP-305306AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1518	HFM77-305/306 FN VSD FLT	77VSDF-305306AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1519	HSS-77-301 THR PTR	77TSPH-301AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1520	HSS-77-301 HTR TRP	77EHTRP-301AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1521	HSS-77-301 HTR MDLTN FLT	77EHMF-301AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1522	HHU-77005 MN BKR TRP	77MBTRP-005AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1523	HHU-77005 FLTR CLOGGED	77FC-005AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1524	HHU-77006 MOT DMP FLT	77MDF-006AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1525	HFM-77-303 PTC PRTN	77PTCP-303AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1526	HFM-77-303 VSD FLT	77VSDF-303AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1527	HFM-77-303 PRS FN TRP	77PFTRP-303AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1528	HFM-77-304 BRK BELT ALM	77BBA-304AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1529	HFM-77-304 FN TRP	77SFTRP-304AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1530	HCO-77-302 CMP TRP	77CTRP-302AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1531	HCO-77-302 HP ALM	77HPA-302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1532	HCO-77-302 LP ALM	77LPA-302AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1533	HFM77-307/308 CND FN TRP	77CFTRP-307308AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1534	HFM77-307/308 FN VSD FLT	77VSDF-307308AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1535	HHU-77006 FLTR CLOGGED	77FC-006AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1536	HSS-77-305 THR PTR	77TSPH-305AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1537	HSS-77-305 HTR TRP	77EHTRP-305AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1538	HSS77-305 HTR MODLTN FLT	77EHMF-305AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1539	HHU-77006 MN BRK TRP	77MBTRP-006AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1540	HFD-77007 NOT CLS	77HFDZSL-007AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1541	HFD-77007 NOT OPN	77HFDZSH-007AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1542	HFD-77008 NOT CLS	77HFDZSL-008AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1543	HFD-77008 NOT OPN	77HFDZSH-008AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1544	HFD-77009 NOT CLS	77HFDZSL-009AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1545	HFD-77009 NOT OPN	77HFDZSH-009AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1546	B300 - MOD SERVER ERROR	77HSBXA-333AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1547	B300-MODBUS FLT	77HSBXA-033AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1548	HHU-77006 FN FTR CLOGGED	77PFFC-006AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1549	HFD-77010 NOT CLS	77HFDZSL-010AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1550	HFD-77010 NOT OPN	77HFDZSH-010AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1551	HFD-77011 NOT CLS	77HFDZSL-011AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1552	HFD-77011 NOT OPN	77HFDZSH-011AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1553	77-TT-301 FLT	77TTXA-301AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1554	77-TT-302 FLT	77TTXA-302AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1555	77-TT-303 FLT	77TTXA-303AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1556	77-TT-304 FLT	77TTXA-304AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1557	77-PT-301 FLT	77PTXA-301AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1558	HVAC SYSTEM MAJOR FAULT	B300SMF-001AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1559	B300-SYS START FROM PCS	77B3HSBHS-001AN	START,,STOP,START	Direct	4
%AN1560	B300-SYS STOP FROM PCS	77B3HSBHSS-001AN	START,,STOP,START	Reverse	4
%AN1561	B300-SYS RSTR FROM PCS	77B3HSBHRS-001AN	RESET,,-,RESET	Direct	4
%AN1562	B300-MODBUS WATCHDOG	77B3WD-001AN	ON,,OFF,ON	Direct	4
%AN1563	B400		ON,,OFF,ON	Direct	4
%AN1564	B400-HSB-001 MN BKR TRP	77B4HSBXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1565	B400-HSB-001 PL EM BTN	77B4PEB-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1566	B400-HSB-001 MOD LTE TRP	77HSBXS-044AN	TRIP,,NORMAL,TRIP	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1567	B400-HSB-001 MOD SKT TRP	77HSBXS-444AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1568	HSS77-0010/11/12 HTR TRP	77HSSXS-101112AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1569	B400-HSB-001 AUX SEC TRP	77B4HSBAXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1570	HSS77-0010/11/12 HTR FLT	77B3UXA-101112AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1571	HHU-77007 PR FAN LOW PR	77PFFC-007AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1572	HHU-77007 MOT DMP FLT	77MDF-007AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1573	HFM-77-401 PTC PRTN	77PTCP-401AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1574	HFM-77-401 VSD FLT	77VSDF-401AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1575	HFM-77-401 PRS FN TRP	77PFTRP-401AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1576	HFM-77-402 BRK BELT ALM	77BBA-402AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1577	HFM-77-402 FN TRP	77SFTRP-402AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1578	HCO-77-401 CMP TRP	77CTRP-401AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1579	HCO-77-401 HP ALM	77HPA-401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1580	HCO-77-401 LP ALM	77LPA-401AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1581	HFM77-405/406 CND FN TRP	77CFTRP-405406AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1582	HFM77-405/406 FN VSD FLT	77VSDF-405406AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1583	HSS-77-401 THTR START	77TSPH-401AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1584	HSS-77-401 HTR TRP	77EHTRP-401AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1585	HSS77-401 HTR MODLTN FLT	77EHMF-401AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1586	HHU-77007 MN BKR TRP	77MBTRP-007AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1587	HHU-77007 FLTR CLOGGED	77FC-007AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1588	HHU-77008 MOT DMP FLT	77MDF-008AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1589	HFM-77-403 PTC PRTN	77PTCP-403AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1590	HFM-77-403 VSD FLT	77VSDF-403AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1591	HFM-77-403 PRS FN TRP	77PFTRP-403AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1592	HFM-77-404 BRK BELT ALM	77BBA-404AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1593	HFM-77-404 FN TRP	77SFTRP-404AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1594	HCO-77-402 CMP TRP	77CTRP-402AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1595	HCO-77-402 HP ALM	77HPA-402AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1596	HCO-77-402 LP ALM	77LPA-402AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1597	HFM77-407/408 CND FN TRP	77CFTRP-407408AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1598	HFM77-407/408 FN VSD FLT	77VSDF-407408AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1599	HHU-77008 FLTR CLOGGED	77FC-008AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1600	HSS-77-405 THTR START	77TSPH-405AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1601	HSS-77-405 HTR TRP	77EHTRP-405AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1602	HSS77-405 HTR MODLTN FLT	77EHMF-405AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1603	HHU-77008 MN BRK TRP	77MBTRP-008AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1604	HFD-77012 NOT CLS	77HFDZSL-012AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1605	HFD-77012 NOT OPN	77HFDZSH-012AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1606	HFD-77013 NOT CLS	77HFDZSL-013AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1607	HFD-77013 NOT OPN	77HFDZSH-013AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1608	HFD-77014 NOT CLS	77HFDZSL-014AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1609	HFD-77014 NOT OPN	77HFDZSH-014AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1610	B400-MOD SERVER ERROR	77HSBXA-444AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1611	B400 - MOD FLT	77HSBXA-044AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1612	HHU-77008 PR FAN LO PR	77PFFC-008AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1613	HFD-77015 NOT CLS	77HFDZSL-015AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1614	HFD-77015 NOT OPN	77HFDZSH-015AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1615	HFD-77016 NOT CLS	77HFDZSL-016AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1616	HFD-77016 NOT OPN	77HFDZSH-016AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1617	77-TT-401 FLT	77TTXA-401AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1618	77-TT-402 FLT	77TTXA-402AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1619	77-TT-403 FLT	77TTXA-403AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1620	77-TT-404 FLT	77TTXA-404AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1621	77-PT-401 FLT	77PTXA-401AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1622	HVAC SYSTEM MAJOR FLT	B400SMF-001AN	FAULT,,NORMAL,FAULT	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1623	B400-SYS START FROM PCS	77B4HSBHS-001AN	START,,STOP,START	Direct	4
%AN1624	B400-SYS STOP FROM PCS	77B4HSBHSS-001AN	START,,STOP,START	Direct	4
%AN1625	B400-SYS RSTR FROM PCS	77B4HSBHRS-001AN	RESET,,-,RESET	Direct	4
%AN1626	B400-MODBUS WATCHDOG	77B4WD-001AN	ON,,OFF,ON	Direct	4
%AN1627	B200		ON,,OFF,ON	Direct	4
%AN1628	HFD-77004 NOT OPN	77HFDZSH-004AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1629	HFD-77004 NOT CLS	77HFDZSL-004AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1630	HFD-77005 NOT OPN	77HFDZSH-005AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1631	HFD-77005 NOT CLS	77HFDZSL-005AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1632	HFD-77006 NOT OPN	77HFDZSH-006AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1633	HFD-77006 NOT CLS	77HFDZSL-006AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1634	HDZ-77-201 NOT OPN	77HFZZSH-201AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1635	HDZ-77-201 NOT CLS	77HDZZSL-201AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1636	HDZ-77-202 NOT OPN	77HFZZSH-202AN	OPENED,,N_OPENED,OPENED	Direct	4
%AN1637	HDZ-77-202 NOT CLS	77HDZZSL-202AN	CLOSED,,N_CLOSED,CLOSED	Direct	4
%AN1638	HFM-77-201 PTC PROT	77HFMPXS-201AN	ON,,OFF,ON	Direct	4
%AN1639	TSH/HH-77-201 HTR PROT	77HFM-TSH-201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1640	HFM-77-201 TRIP	77HFMXS-201AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1641	HFM-77-201 VSD MALFCTN	77HFMXA-201AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1642	HSS-77-201 TRIP	77HSSXS-201AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1643	HSS-77-201 MODULATN FLT	77HSSXA-201AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1644	HHU-77003 AUX TRIP	77HHUAXS-003AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1645	HHU-77003 MN BRK TRIP	77HHUXS-003AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1646	HHU-77003 NO FLOW	77HHUXA-201AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1647	HFM-77-202 PTC PROT	77HFMPXS-202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1648	TSH/HH-77-202 HTR PROT	77-TSH-202AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1649	HFM-77-202 TRIP	77HFMXS-202AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1650	HFM-77-202 VSD MALFCTN	77HFMXA-202AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1651	HSS-77-202 TRIP	77HSSXS-202AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1652	HSS-77-202 MODULATN FLT	77HSSXA-202AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1653	HHU-77004 AUX TRIP	77HHUAXS-004AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1654	HHU-77004 MN BRK TRIP	77HHUXS-004AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1655	B200-HSB-001 MN BRK TRIP	77HSBXS-002AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1656	B200HSB001 MOD LITE TRIP	77HSBXS-022AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1657	B200HSB001 MOD SOKT TRIP	77HSBXS-222AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1658	B200-HSB-001 AUX TRIP	77B2HSBAXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1659	HSS77004/5/6 SPCHTR TRIP	77B2HSSXS-456AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1660	HSS-77-004/5/6 FLT	77HSSXA-456AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1661	77-TT-201 FLT	77TTXA-201AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1662	77-TT-202 FLT	77TTXA-202AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1663	77-TT-203 FLT	77TTXA-203AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1664	77-TT-204 FLT	77TTXA-204AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1665	77-PT-201 FLT	77PTXA-201AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1666	HVAC SYSTEM MAJOR FLT	77B2HSBXA-001AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1667	MODULE LOW PRESS	77HSB-LP-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1668	MODBUS FLT	77HSBXA-022AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1669	MODBUS SERVER ERROR	77HSBXA-222AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1670	MODBUS WATCHDOG	77B2WD-001AN	ON,,OFF,ON	Direct	4
%AN1671	SYSTEM START FROM PCS	77B2HSBHS-001AN	START,,STOP,START	Direct	4
%AN1672	SYSTEM STOP FROM PCS	77B2HSBHSS-001AN	START,,STOP,START	Reverse	4
%AN1673	SYSTEM RSTR FROM PCS	77B2HSBHRS-001AN	RESET,,-,RESET	Direct	4
%AN1674	77HHUUS-101112 FAULT	77HHUUS-101112AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1675	77HHUUS-007 FAULT	77HHUUS-007AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1676	77HHUUS-007 FAULT	77HHUUS-008AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1677	77HHUUS-789 FAULT	77HHUUS-789AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1678	77HHUUS-005 FAULT	77HHUUS-005AN	FAULT,,NORMAL,FAULT	Direct	4

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Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1679	77HHUUS-006 FAULT	77HHUUS-006AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1680	77HHUXA-004 NO FLOW	77HHUXA-204AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1681	HHU-77001 FAULT	77HHUUS-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1682	HHU-77002 FAULT	77HHUUS-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1683	HHU-77123 FAULT	77HHUUS-123AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1684	HHU-77003 FAULT	77HHUUS-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1685	HHU-77004 FAULT	77HHUUS-004AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1686	HHU-77567 FAULT	77HHUUS-567AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1687			ON,,OFF,ON	Direct	4
%AN1688			ON,,OFF,ON	Direct	4
%AN1689			ON,,OFF,ON	Direct	4
%AN1690			ON,,OFF,ON	Direct	4
%AN1691	HFD-77001 NOT OPN	77HFDZSH-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1692	HFD-77001 NOT CLS	77HFDZSL-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1693	HFD-77002 NOT OPN	77HFDZSH-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1694	HFD-77002 NOT CLS	77HFDZSL-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1695	HFD-77003 NOT OPN	77HFDZSH-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1696	HFD-77003 NOT CLS	77HFDZSL-003AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1697	HDZ-77-101 NOT OPN	77HFZZSH-101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1698	HDZ-77-101 NOT CLS	77HDZZSL-101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1699	HDZ-77-102 NOT OPN	77HFZZSH-102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1700	HDZ-77-102 NOT CLS	77HDZZSL-102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1701	HFM-77-101 PTC PROT	77HDFXS-001AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1702	TSH/HH-77-101 HTR PROT	77HDFXA-001AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1703	HFM-77-101 PTC PROT	77HFMPXS-101AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1704	TSH/HH-77-101 HTR PROT	77HFMTSH-101AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1705	HFM-77-101 TRIP	77HFMXS-101AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1706	HFM-77-101 VSD MALFCTN	77HFMXA-101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1707	HSS-77-101 TRIP	77HSSXS-101AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1708	HSS-77-101 MODULATN FLT	77HSSXA-101AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1709	HHU-77001 AUX TRIP	77HHUAXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1710	HHU-77001 MN BRK TRIP	77HHUXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1711	HHU-77001 NO FLOW	77HHUXA-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1712	HFM-77-102 PTC PROT	77HFMPXS-102AN	FAULT,,NORMAL,FAULT	Direct	4
%AN1713	TSH/HH-77-102	77TSH-102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1714	HFM-77-102 TRIP	77HFMXS-102AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1715	HFM-77-102 VSD MALFCTN	77HFMXA-102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1716	HSS-77-102 TRIP	77HSSXS-102AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1717	HSS-77-102 MODULATN FLT	77HSSXA-102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1718	HHU-77002 AUX TRIP	77HHUAXS-002AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1719	HHU-77002 MN BRK TRIP	77HHUXS-002AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1720	B100-HSB-001 MN BRK TRIP	77HSBXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1721	B100HSB001 MOD LITE TRIP	77HSBXS-011AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1722	B100HSB001 MOD SOKT TRIP	77HSBXS-111AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1723	B100-HSB-001 AUX TRIP	77HSBAXS-001AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1724	HSS77001/2/3 SPCHTR TRIP	77HSSXS-123AN	TRIP,,NORMAL,TRIP	Direct	4
%AN1725	HSS-77-001/2/3 FLT	77HSSXA-123AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1726	77-TT-101 FLT	77TTXA-101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1727	77-TT-102 FLT	77TTXA-102AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1728	77-TT-103 FLT	77TTXA-103AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1729	77-TT-104 FLT	77TTXA-104AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1730	77-PT-101 FLT	77PTXA-101AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1731	MAJOR FLT	77HSBXA-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1732	MODULE LOW PRESS	77HSB-LP-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1733	MODBUS FLT	77HSBXA-011AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1734	MODBUS SERVER ERROR	77HSBXA-111AN	ALARM,,NORMAL,ALARM	Direct	4

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%AN1735	WATCHDOG FAIL	77B1WD-001AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1736	HHU-77002 NO FLOW	77HHUXA-002AN	ALARM,,NORMAL,ALARM	Direct	4
%AN1737			ON,,OFF,ON	Direct	4
%AN1738			ON,,OFF,ON	Direct	4
%AN1739			ON,,OFF,ON	Direct	4
%AN1740			ON,,OFF,ON	Direct	4
%AN1741			ON,,OFF,ON	Direct	4
%AN1742			ON,,OFF,ON	Direct	4
%AN1743			ON,,OFF,ON	Direct	4
%AN1744			ON,,OFF,ON	Direct	4
%AN1745			ON,,OFF,ON	Direct	4
%AN1746			ON,,OFF,ON	Direct	4
%AN1747			ON,,OFF,ON	Direct	4
%AN1748			ON,,OFF,ON	Direct	4
%AN1749			ON,,OFF,ON	Direct	4
%AN1750			ON,,OFF,ON	Direct	4
%AN1751			ON,,OFF,ON	Direct	4
%AN1752			ON,,OFF,ON	Direct	4
%AN1753			ON,,OFF,ON	Direct	4
%AN1754			ON,,OFF,ON	Direct	4
%AN1755			ON,,OFF,ON	Direct	4
%AN1756			ON,,OFF,ON	Direct	4
%AN1757			ON,,OFF,ON	Direct	4
%AN1758			ON,,OFF,ON	Direct	4
%AN1759			ON,,OFF,ON	Direct	4
%AN1760			ON,,OFF,ON	Direct	4
%AN1761			ON,,OFF,ON	Direct	4
%AN1762			ON,,OFF,ON	Direct	4
%AN1763			ON,,OFF,ON	Direct	4
%AN1764			ON,,OFF,ON	Direct	4
%AN1765			ON,,OFF,ON	Direct	4
%AN1766			ON,,OFF,ON	Direct	4
%AN1767			ON,,OFF,ON	Direct	4
%AN1768			ON,,OFF,ON	Direct	4
%AN1769			ON,,OFF,ON	Direct	4
%AN1770			ON,,OFF,ON	Direct	4
%AN1771			ON,,OFF,ON	Direct	4
%AN1772			ON,,OFF,ON	Direct	4
%AN1773			ON,,OFF,ON	Direct	4
%AN1774			ON,,OFF,ON	Direct	4
%AN1775			ON,,OFF,ON	Direct	4
%AN1776			ON,,OFF,ON	Direct	4
%AN1777			ON,,OFF,ON	Direct	4
%AN1778			ON,,OFF,ON	Direct	4
%AN1779			ON,,OFF,ON	Direct	4
%AN1780			ON,,OFF,ON	Direct	4
%AN1781			ON,,OFF,ON	Direct	4
%AN1782			ON,,OFF,ON	Direct	4
%AN1783			ON,,OFF,ON	Direct	4
%AN1784			ON,,OFF,ON	Direct	4
%AN1785			ON,,OFF,ON	Direct	4
%AN1786			ON,,OFF,ON	Direct	4
%AN1787			ON,,OFF,ON	Direct	4
%AN1788			ON,,OFF,ON	Direct	4
%AN1789			ON,,OFF,ON	Direct	4
%AN1790			ON,,OFF,ON	Direct	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-33
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1791			ON,,OFF,ON	Direct	4
%AN1792			ON,,OFF,ON	Direct	4
%AN1793			ON,,OFF,ON	Direct	4
%AN1794			ON,,OFF,ON	Direct	4
%AN1795			ON,,OFF,ON	Direct	4
%AN1796			ON,,OFF,ON	Direct	4
%AN1797			ON,,OFF,ON	Direct	4
%AN1798			ON,,OFF,ON	Direct	4
%AN1799			ON,,OFF,ON	Direct	4
%AN1800			ON,,OFF,ON	Direct	4
%AN1801			ON,,OFF,ON	Direct	4
%AN1802			ON,,OFF,ON	Direct	4
%AN1803			ON,,OFF,ON	Direct	4
%AN1804			ON,,OFF,ON	Direct	4
%AN1805			ON,,OFF,ON	Direct	4
%AN1806			ON,,OFF,ON	Direct	4
%AN1807			ON,,OFF,ON	Direct	4
%AN1808			ON,,OFF,ON	Direct	4
%AN1809			ON,,OFF,ON	Direct	4
%AN1810			ON,,OFF,ON	Direct	4
%AN1811			ON,,OFF,ON	Direct	4
%AN1812			ON,,OFF,ON	Direct	4
%AN1813			ON,,OFF,ON	Direct	4
%AN1814			ON,,OFF,ON	Direct	4
%AN1815			ON,,OFF,ON	Direct	4
%AN1816			ON,,OFF,ON	Direct	4
%AN1817			ON,,OFF,ON	Direct	4
%AN1818			ON,,OFF,ON	Direct	4
%AN1819			ON,,OFF,ON	Direct	4
%AN1820			ON,,OFF,ON	Direct	4
%AN1821			ON,,OFF,ON	Direct	4
%AN1822			ON,,OFF,ON	Direct	4
%AN1823			ON,,OFF,ON	Direct	4
%AN1824			ON,,OFF,ON	Direct	4
%AN1825			ON,,OFF,ON	Direct	4
%AN1826			ON,,OFF,ON	Direct	4
%AN1827			ON,,OFF,ON	Direct	4
%AN1828			ON,,OFF,ON	Direct	4
%AN1829			ON,,OFF,ON	Direct	4
%AN1830			ON,,OFF,ON	Direct	4
%AN1831			ON,,OFF,ON	Direct	4
%AN1832			ON,,OFF,ON	Direct	4
%AN1833			ON,,OFF,ON	Direct	4
%AN1834			ON,,OFF,ON	Direct	4
%AN1835			ON,,OFF,ON	Direct	4
%AN1836			ON,,OFF,ON	Direct	4
%AN1837			ON,,OFF,ON	Direct	4
%AN1838			ON,,OFF,ON	Direct	4
%AN1839			ON,,OFF,ON	Direct	4
%AN1840			ON,,OFF,ON	Direct	4
%AN1841			ON,,OFF,ON	Direct	4
%AN1842			ON,,OFF,ON	Direct	4
%AN1843			ON,,OFF,ON	Direct	4
%AN1844			ON,,OFF,ON	Direct	4
%AN1845			ON,,OFF,ON	Direct	4
%AN1846			ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-34
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1847			ON,,OFF,ON	Direct	4
%AN1848			ON,,OFF,ON	Direct	4
%AN1849			ON,,OFF,ON	Direct	4
%AN1850			ON,,OFF,ON	Direct	4
%AN1851			ON,,OFF,ON	Direct	4
%AN1852			ON,,OFF,ON	Direct	4
%AN1853			ON,,OFF,ON	Direct	4
%AN1854			ON,,OFF,ON	Direct	4
%AN1855			ON,,OFF,ON	Direct	4
%AN1856			ON,,OFF,ON	Direct	4
%AN1857			ON,,OFF,ON	Direct	4
%AN1858			ON,,OFF,ON	Direct	4
%AN1859			ON,,OFF,ON	Direct	4
%AN1860			ON,,OFF,ON	Direct	4
%AN1861			ON,,OFF,ON	Direct	4
%AN1862			ON,,OFF,ON	Direct	4
%AN1863			ON,,OFF,ON	Direct	4
%AN1864			ON,,OFF,ON	Direct	4
%AN1865			ON,,OFF,ON	Direct	4
%AN1866			ON,,OFF,ON	Direct	4
%AN1867			ON,,OFF,ON	Direct	4
%AN1868			ON,,OFF,ON	Direct	4
%AN1869			ON,,OFF,ON	Direct	4
%AN1870			ON,,OFF,ON	Direct	4
%AN1871			ON,,OFF,ON	Direct	4
%AN1872			ON,,OFF,ON	Direct	4
%AN1873			ON,,OFF,ON	Direct	4
%AN1874			ON,,OFF,ON	Direct	4
%AN1875			ON,,OFF,ON	Direct	4
%AN1876			ON,,OFF,ON	Direct	4
%AN1877			ON,,OFF,ON	Direct	4
%AN1878			ON,,OFF,ON	Direct	4
%AN1879			ON,,OFF,ON	Direct	4
%AN1880			ON,,OFF,ON	Direct	4
%AN1881			ON,,OFF,ON	Direct	4
%AN1882			ON,,OFF,ON	Direct	4
%AN1883			ON,,OFF,ON	Direct	4
%AN1884			ON,,OFF,ON	Direct	4
%AN1885			ON,,OFF,ON	Direct	4
%AN1886			ON,,OFF,ON	Direct	4
%AN1887			ON,,OFF,ON	Direct	4
%AN1888			ON,,OFF,ON	Direct	4
%AN1889			ON,,OFF,ON	Direct	4
%AN1890			ON,,OFF,ON	Direct	4
%AN1891			ON,,OFF,ON	Direct	4
%AN1892			ON,,OFF,ON	Direct	4
%AN1893			ON,,OFF,ON	Direct	4
%AN1894			ON,,OFF,ON	Direct	4
%AN1895			ON,,OFF,ON	Direct	4
%AN1896			ON,,OFF,ON	Direct	4
%AN1897			ON,,OFF,ON	Direct	4
%AN1898			ON,,OFF,ON	Direct	4
%AN1899			ON,,OFF,ON	Direct	4
%AN1900			ON,,OFF,ON	Direct	4
%AN1901			ON,,OFF,ON	Direct	4
%AN1902			ON,,OFF,ON	Direct	4

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PROJECT:	BLPH-CW1	FILE NAME:	AN0101.edf	SHEET:		YOKOGAWA	PAGE:3-24-35
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1903			ON,,OFF,ON	Direct	4
%AN1904			ON,,OFF,ON	Direct	4
%AN1905			ON,,OFF,ON	Direct	4
%AN1906			ON,,OFF,ON	Direct	4
%AN1907			ON,,OFF,ON	Direct	4
%AN1908			ON,,OFF,ON	Direct	4
%AN1909			ON,,OFF,ON	Direct	4
%AN1910			ON,,OFF,ON	Direct	4
%AN1911			ON,,OFF,ON	Direct	4
%AN1912			ON,,OFF,ON	Direct	4
%AN1913			ON,,OFF,ON	Direct	4
%AN1914			ON,,OFF,ON	Direct	4
%AN1915			ON,,OFF,ON	Direct	4
%AN1916			ON,,OFF,ON	Direct	4
%AN1917			ON,,OFF,ON	Direct	4
%AN1918			ON,,OFF,ON	Direct	4
%AN1919			ON,,OFF,ON	Direct	4
%AN1920			ON,,OFF,ON	Direct	4
%AN1921			ON,,OFF,ON	Direct	4
%AN1922			ON,,OFF,ON	Direct	4
%AN1923			ON,,OFF,ON	Direct	4
%AN1924			ON,,OFF,ON	Direct	4
%AN1925			ON,,OFF,ON	Direct	4
%AN1926			ON,,OFF,ON	Direct	4
%AN1927			ON,,OFF,ON	Direct	4
%AN1928			ON,,OFF,ON	Direct	4
%AN1929			ON,,OFF,ON	Direct	4
%AN1930			ON,,OFF,ON	Direct	4
%AN1931			ON,,OFF,ON	Direct	4
%AN1932			ON,,OFF,ON	Direct	4
%AN1933			ON,,OFF,ON	Direct	4
%AN1934			ON,,OFF,ON	Direct	4
%AN1935			ON,,OFF,ON	Direct	4
%AN1936			ON,,OFF,ON	Direct	4
%AN1937			ON,,OFF,ON	Direct	4
%AN1938			ON,,OFF,ON	Direct	4
%AN1939			ON,,OFF,ON	Direct	4
%AN1940			ON,,OFF,ON	Direct	4
%AN1941			ON,,OFF,ON	Direct	4
%AN1942			ON,,OFF,ON	Direct	4
%AN1943			ON,,OFF,ON	Direct	4
%AN1944			ON,,OFF,ON	Direct	4
%AN1945			ON,,OFF,ON	Direct	4
%AN1946			ON,,OFF,ON	Direct	4
%AN1947			ON,,OFF,ON	Direct	4
%AN1948			ON,,OFF,ON	Direct	4
%AN1949			ON,,OFF,ON	Direct	4
%AN1950			ON,,OFF,ON	Direct	4
%AN1951			ON,,OFF,ON	Direct	4
%AN1952			ON,,OFF,ON	Direct	4
%AN1953			ON,,OFF,ON	Direct	4
%AN1954			ON,,OFF,ON	Direct	4
%AN1955			ON,,OFF,ON	Direct	4
%AN1956			ON,,OFF,ON	Direct	4
%AN1957			ON,,OFF,ON	Direct	4
%AN1958			ON,,OFF,ON	Direct	4

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STATION:	FCS0101	SAVED DATE:	7/25/2025 10:14:09 AM	COMMENT:			
SECTION:	Annunciator	PRINTED DATE:	9/15/2025	DRAWER:			

Element Number	Message	Tag Name	Switch Position Label	Label	Lvl
%AN1959			ON,,OFF,ON	Direct	4
%AN1960			ON,,OFF,ON	Direct	4
%AN1961			ON,,OFF,ON	Direct	4
%AN1962			ON,,OFF,ON	Direct	4
%AN1963			ON,,OFF,ON	Direct	4
%AN1964			ON,,OFF,ON	Direct	4
%AN1965			ON,,OFF,ON	Direct	4
%AN1966			ON,,OFF,ON	Direct	4
%AN1967			ON,,OFF,ON	Direct	4
%AN1968			ON,,OFF,ON	Direct	4
%AN1969			ON,,OFF,ON	Direct	4
%AN1970			ON,,OFF,ON	Direct	4
%AN1971			ON,,OFF,ON	Direct	4
%AN1972			ON,,OFF,ON	Direct	4
%AN1973			ON,,OFF,ON	Direct	4
%AN1974			ON,,OFF,ON	Direct	4
%AN1975			ON,,OFF,ON	Direct	4
%AN1976			ON,,OFF,ON	Direct	4
%AN1977			ON,,OFF,ON	Direct	4
%AN1978			ON,,OFF,ON	Direct	4
%AN1979			ON,,OFF,ON	Direct	4
%AN1980			ON,,OFF,ON	Direct	4
%AN1981			ON,,OFF,ON	Direct	4
%AN1982			ON,,OFF,ON	Direct	4
%AN1983			ON,,OFF,ON	Direct	4
%AN1984			ON,,OFF,ON	Direct	4
%AN1985			ON,,OFF,ON	Direct	4
%AN1986			ON,,OFF,ON	Direct	4
%AN1987			ON,,OFF,ON	Direct	4
%AN1988			ON,,OFF,ON	Direct	4
%AN1989			ON,,OFF,ON	Direct	4
%AN1990			ON,,OFF,ON	Direct	4
%AN1991			ON,,OFF,ON	Direct	4
%AN1992			ON,,OFF,ON	Direct	4
%AN1993			ON,,OFF,ON	Direct	4
%AN1994			ON,,OFF,ON	Direct	4
%AN1995			ON,,OFF,ON	Direct	4
%AN1996			ON,,OFF,ON	Direct	4
%AN1997			ON,,OFF,ON	Direct	4
%AN1998			ON,,OFF,ON	Direct	4
%AN1999			ON,,OFF,ON	Direct	4
%AN2000			ON,,OFF,ON	Direct	4

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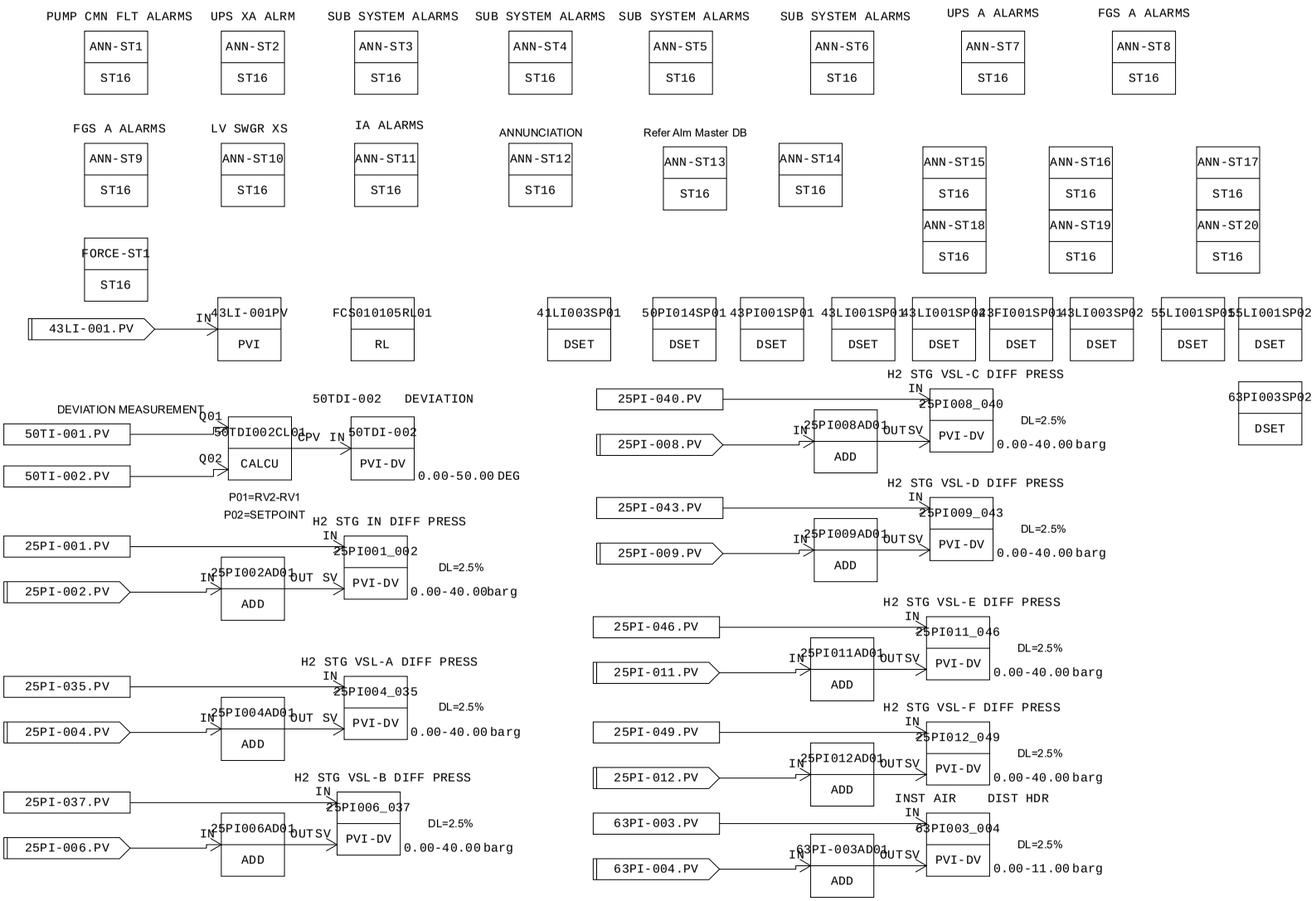
PROJECT:	BLPH-CW1	FILE NAME:	FUNCTION_BLOCK_LIST	SHEET:		YOKOGAWA	PAGE:3-2 5-1-1
STATION:	FCS0101	SAVED DATE:	9/15/2025 9:53:30 AM	COMMENT:			
SECTION:	Control Drawing List	PRINTED DATE:	9/15/2025	DRAWER:			

Control Drawing List

No.	Name	Sheet name	Upper Equipment Name	Control Drawing	Comment
001	DR0005			YES	ANNUNCIATION
002	DR0006			YES	INITIALIZATION TABLE
003	DR0007			YES	PULSE DO
004	DR0008			YES	Damper Alarms
005	DR0009			YES	UPS B ALARMS
006	DR0014			YES	
007	DR0021			YES	PVI INDICATOR
008	DR0022			YES	PVI INDICATOR
009	DR0024			YES	ANALOG OUTPUT
010	DR0031			YES	TYP003- ON/OFF VALVES
011	DR0032			YES	TYP003- ON/OFF VALVES
012	DR0035			YES	25PT-055A AVERAGE CALCU, DEV ALM
013	DR0036			YES	25PIC-055A/B VALVE
014	DR0037			YES	64PIC-031A/B VALVE
015	DR0038			YES	HYDROGEN VESSEL-A CONTROL
016	DR0039			YES	HYDROGEN VESSEL-B CONTROL
017	DR0040			YES	HYDROGEN VESSEL-C CONTROL
018	DR0041			YES	HYDROGEN VESSEL-D CONTROL
019	DR0042			YES	HYDROGEN VESSEL-E CONTROL
020	DR0043			YES	HYDROGEN VESSEL-F CONTROL
021	DR0044			YES	FLOW TOTALIZER
022	DR0046			YES	P-50001A DUTY/STANDBY PUMP
023	DR0080			YES	SEQUENCE LOGIC
024	DR0081			YES	SEQUENCE LOGIC
025	DR0101			YES	IA SUBSYSTEM
026	DR0102			YES	N2 SUBSYSTEM
027	DR0103			YES	200 F3 PAS UPS-A
028	DR0104			YES	200F3 PAS UPS-A
029	DR0105			YES	200F4 FGS UPA-A
030	DR0106			YES	VALVES - NITROGEN
031	DR0107			YES	EMCS SUBSYSTEM
032	DR0108			YES	EMCS MODBUS REDUNDANCY
033	DR0109			YES	IA VALVES
034	DR0110			YES	LV SUBSYTEM CB
035	DR0111			YES	LV SUBSYTEM CB
036	DR0112			YES	LOAD SHED SELECTION PB
037	DR0113			YES	HVAC B100, B200
038	DR0114			YES	HVAC-51,52,53,54
039	DR0115			YES	LV SUBSYSTEM AI
040	DR0116			YES	LV SUBSYSTEM AI
041	DR0117			YES	LV SUBSYSTEM AI
042	DR0118			YES	LV SUBSYSTEM AI
043	DR0119			YES	LV SUB SYSTEM PVI
044	DR0120			YES	LV SUBSYSTEM AI
045	DR0121			YES	LV SUBSYSTEM AI
046	DR0122			YES	LV SUBSYSTEM AI
047	DR0123			YES	LV SUBSYSTEM AI
048	DR0125			YES	WTP SUBSYSTEM
049	DR0126			YES	WTP SUBSYSTEM
050	DR0127			YES	WTP SUBSYSTEM
051	DR0128			YES	WTP SUBSYSTEM
052	DR0130			YES	LVSWGR CB
053	DR0131			YES	LV SWGR CB
054	DR0134			YES	200F4 FGS UPS-A
055	DR0135			YES	2500F3 PAS UPS-B
056	DR0136			YES	200F3/4 PAS FGS UPS B
057	DR0137			YES	200F4 FGS UPS-B
058	DR0138			YES	200F1DC UPS-A
059	DR0139			YES	200F1 DC UPS-B
060	DR0140			YES	200F4 FGS UPA-A
061	DR0143			YES	LV SUBSYSTEM AI
062	DR0145			YES	EMCS BESS MODBUS
063	DR0150			YES	LV SUBSYSTEM AI SPARE
064	DR0151			YES	LV SUBSYSTEM AI SPARE
065	DR0152			YES	LV SUBSYSTEM AI SPARE
066	DR0153			YES	LV SUBSYSTEM AI SPARE
067	DR0154			YES	LV SUBSYSTEM AI SPARE
068	DR0155			YES	LV SUBSYSTEM AI SPARE
069	DR0156			YES	LV SUBSYSTEM AI SPARE
070	DR0157			YES	LV SUBSYSTEM AI SPARE
071	DR0161			YES	LVSWGR CB SPARE
072	DR0200			YES	FCS IDLE TIME

PROJECT:	BLPH-CW1	FILE NAME:	DR0005.edf	SHEET:		YOKOGAWA	PAGE:3-25-2-1
STATION:	FCS0101	SAVED DATE:	7/2/2025 5:11:17 AM	COMMENT:	ANNUNCIATION		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0005 | BLPH-CW | ANNUNCIATIONS]



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PROJECT:	BLPH-CW1	FILE NAME:	DR0005.edf	SHEET:		YOKOGAWA	PAGE:3-25-2-2
STATION:	FCS0101	SAVED DATE:	7/2/2025 5:11:17 AM	COMMENT:	ANNUNCIATION		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:ANNUNCIATION

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	ANN-ST1	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
002	50TDI002CL01	CALCU	DIFF CALCU	0.0	100.0	%	No	No	
						4			
003	50TDI-002	PVI-DV	50TDI-002 DEVIATION	0.00	50.00	DEG	No	No	50TDI002CL01.CPV
						4			
004	41LI003SP01	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
005	50PI014SP01	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
006	43LI001SP01	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
007	43LI001SP02	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
008	43FI001SP01	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
009	43LI003SP02	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
010	55LI001SP01	DSET	ALARM SP BASED ALMBB	0.0	999.0	%			
						4			
011	55LI001SP02	DSET	ALARM SP BASED ALMBB	0.0	999.0	%			
						4			
012	63PI003SP02	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
013	43PI001SP01	DSET	ALARM SP BASED ALMBB	0.0	100.0	%			
						4			
014	ANN-ST2	ST16	UPS XA ALRM	0	0				
						4			
015	ANN-ST3	ST16	SUB SYSTEM ALARMS	0	0				
						4			
016	ANN-ST4	ST16	SUB SYSTEM ALARMS	0	0				
						4			
017	ANN-ST5	ST16	SUB SYSTEM ALARMS	0	0				
						4			
018	ANN-ST6	ST16	SUB SYSTEM ALARMS	0	0				
						4			
019	FCS010105RL01	RL	PUMP CMN FLT ALARMS	0	0				
						4			
020	43LI-001PV	PVI	KO DRUM V-43001 LVL	0.0	560.0	mmH2O	No	No	>43LI-001.PV
						4			
021	ANN-ST7	ST16	UPS A ALARMS	0	0				
						4			
022	ANN-ST8	ST16	FGS A ALARMS	0	0				
						4			
023	ANN-ST9	ST16	FGS A ALARMS	0	0				
						4			
024	ANN-ST10	ST16	LV SWGR XS	0	0				
						4			
025	ANN-ST11	ST16	IA ALARMS	0	0				
						4			
026	ANN-ST12	ST16	SUB SYSTEM ALARMS	0	0				
						4			
027	ANN-ST13	ST16	LOGGING ALARMS	0	0				
						4			

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028	ANN-ST14	ST16	LOGGING ALARMS		0	0					
							4				
029	25PI002AD01	ADD 25PI001_002.SV	H2 STG IN DIFF PRESS		0.0	100.0	%		No		>25PI-002.PV
							4				
030	25PI001_002	PVI-DV	H2 STG IN DIFF PRESS		0.00	40.00	barg		No	No	25PI-001.PV
							4				
031	25PI004AD01	ADD 25PI004_035.SV	H2 STG VSL-A DIFF PRESS		0.0	100.0	%		No		>25PI-004.PV
							4				
032	25PI004_035	PVI-DV	H2 STG VSL-A DIFF PRESS		0.00	40.00	barg		No	No	25PI-035.PV
							4				
033	25PI006AD01	ADD 25PI006_037.SV	H2 STG VSL-B DIFF PRESS		0.0	100.0	%		No		>25PI-006.PV
							4				
034	25PI006_037	PVI-DV	H2 STG VSL-B DIFF PRESS		0.00	40.00	barg		No	No	25PI-037.PV
							4				
035	25PI008AD01	ADD 25PI008_040.SV	H2 STG VSL-C DIFF PRESS		0.0	100.0	%		No		>25PI-008.PV
							4				
036	25PI008_040	PVI-DV	H2 STG VSL-C DIFF PRESS		0.00	40.00	barg		No	No	25PI-040.PV
							4				
037	25PI009AD01	ADD 25PI009_043.SV	H2 STG VSL-D DIFF PRESS		0.0	100.0	%		No		>25PI-009.PV
							4				
038	25PI009_043	PVI-DV	H2 STG VSL-D DIFF PRESS		0.00	40.00	barg		No	No	25PI-043.PV
							4				
039	25PI011AD01	ADD 25PI011_046.SV	H2 STG VSL-E DIFF PRESS		0.0	100.0	%		No		>25PI-011.PV
							4				
040	25PI011_046	PVI-DV	H2 STG VSL-E DIFF PRESS		0.00	40.00	barg		No	No	25PI-046.PV
							4				
041	25PI012AD01	ADD 25PI012_049.SV	H2 STG VSL-F DIFF PRESS		0.0	100.0	%		No		>25PI-012.PV
							4				
042	25PI012_049	PVI-DV	H2 STG VSL-F DIFF PRESS		0.00	40.00	barg		No	No	25PI-049.PV
							4				
043	ANN-ST15	ST16	LV ZS		0	0					
							4				
044	ANN-ST16	ST16	LV SWGR XS		0	0					
							4				
045	ANN-ST17	ST16	LC SWGR XS		0	0					
							4				
046	ANN-ST18	ST16	LV XS_LOC		0	0					
							4				
047	63PI-003AD01	ADD 63PI003_004.SV	INST AIR	DIST HDR	0.0	100.0	%		No		>63PI-004.PV
							4				
048	63PI003_004	PVI-DV	INST AIR	DIST HDR	0.00	11.00	barg		No	No	63PI-003.PV
							4				
049	ANN-ST19	ST16	LV XS_LOC		0	0					
							4				
050	ANN-ST20	ST16	LV XS_LOC		0	0					
							4				
051	FORCE-ST1	ST16	FORCING		0	0					
							4				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-4
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST1 PUMP CMN FLT ALARMS)

Basic

Tag Name	ANN-ST1
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-5
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST1 PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	B100TDC-001.PV	OFF	B100 HV/MV PRIM DR OPN	Y								B100 HV/MV SWGR RPDO
C02	B100TDC-002.PV	OFF	B100 HV/MV RM EMERDO	.Y								B100 HV/MV SWGR REDO
C03	B100TIR-001.PV	OFF	B100 HV/MV RM DR OPN	..Y								B100 HV/MV SWGR RMD
C04	B200TDC-001.PV	OFF	B200 LV SWGRPRIM DR OPN	...Y								B200 LV SWGRREDO
C05	B200TDC-002.PV	OFF	B200 LV SWGREMER DR OPN		Y							B200 LV SWGRRMD
C06	B200TIR-001.PV	OFF	B200 HV/MV SWGR RPDO		.Y							B200 HV/MV SWGR RPDO
C07	B300TDC-001.PV	OFF	B300 UPS RM DR OPN		..Y							B300 UPS RPDO
C08	B300TDC-002.PV	OFF	B300 UPS RM DR OPN		...Y							B300 UPS REDO
C09	B300TIR-001.PV	OFF	B300 UPS RM MOTN DETECT			Y						B300 UPS RMD
C10	B400TDC-001.PV	OFF	B400 ITER DR OPN			.Y						B400 EQUIP RPDO
C11	B400TDC-002.PV	OFF	B400 ITER EMER DR OPN			..Y						B400 EQUIP REDO
C12	B400TIR-001.PV	OFF	B400 ITER MOTN DETECT			...Y						B400 EQUIP RMD
C13												
C14	87XA-051.PV	OFF	PCS PNL VENTFAN FLT				Y					PCS PWR SUP FAIL ALM
C15	87XA-052.PV	OFF	PCS PNL PSDIODE FAIL				.Y					PCS HI TEMP ALM
C16	87XA-053.PV	OFF	PCS PNL CUMLBRK FLT				..Y					PCS DIGITAL TB ALM
C17	87XA-054.PV	OFF	PCS PNL HI TEMP ALM				...Y					SIS PWR SUP FAIL ALM
C18	FCS010105RL01.X01	LT	PUMP CMN FLT ALARMS					Y				43LI-003.PV
C19	FCS010105RL01.X02	GT	PUMP CMN FLT ALARMS					.Y				50PI-014.PV
C20	FCS010105RL01.X03	GT	PUMP CMN FLT ALARMS					..Y				43PI-001.PV
C21	FCS010105RL01.X04	GT	PUMP CMN FLT ALARMS					...Y				43LI-001.PV
C22	FCS010105RL01.X05	LT	PUMP CMN FLT ALARMS						Y			43LI-001.PV
C23	FCS010105RL01.X06	GT	PUMP CMN FLT ALARMS						.Y			43FT-001.PV
C24	FCS010105RL01.X07	LT	PUMP CMN FLT ALARMS						..Y			43LI-003.PV
C25	FCS010105RL01.X08	GT	PUMP CMN FLT ALARMS						...Y			55-LIT-001
C26	FCS010105RL01.X09	LT	PUMP CMN FLT ALARMS							Y		55-LIT-001
C27	FCS010105RL01.X10	LT	PUMP CMN FLT ALARMS							.Y		63-PT-003
C28	87XA-061.PV	OFF	NET PANEL VENT FAN ALARM								Y	
C29	87XA-062.PV	OFF	NET POWER DIODE FAULT								Y	
C30	87XA-063.PV	OFF	NET CUMUL BREAKER FAULT								.Y	
C31	87XA-064.PV	OFF	NET HIGH TEMP ALARM								..Y	
C32	87XA-073.PV	OFF	SERV PANEL BREAKER FAIL								...Y	
A01	B100TDC01AN.PV	L	HV/MV SWGR RPDO ALM	Y								HV/MV SWGR RPDO ALM
A02	B100TDC02AN.PV	L	HV/MV SWGR REDO ALM	.Y								HV/MV SWGR REDO ALM
A03	B100TIR01AN.PV	L	HV/MV SWGR RMD ALM	..Y								HV/MV SWGR RMD ALM
A04	B200TDC01AN.PV	L	HV/MV SWGR RPDO ALM	...Y								HV/MV SWGR RPDO ALM
A05	B200TDC02AN.PV	L	HV/MV SWGR REDO ALM		Y							HV/MV SWGR REDO ALM
A06	B200TIR01AN.PV	L	HV/MV SWGR RMD ALM		.Y							HV/MV SWGR RMD ALM
A07	B300TDC01AN.PV	L	HV/MV SWGR RPDO ALM		..Y							HV/MV SWGR RPDO ALM
A08	B300TDC02AN.PV	L	HV/MV SWGR REDO ALM		...Y							HV/MV SWGR REDO ALM
A09	B300TIR01AN.PV	L	HV/MV SWGR RMD ALM			Y						HV/MV SWGR RMD ALM
A10	B400TDC01AN.PV	L	HV/MV SWGR RPDO ALM			.Y						HV/MV SWGR RPDO ALM
A11	B400TDC02AN.PV	L	HV/MV SWGR REDO ALM			..Y						HV/MV SWGR REDO ALM
A12	B400TIR01AN.PV	L	HV/MV SWGR RMD ALM			...Y						HV/MV SWGR RMD ALM
A13												
A14	87XA051AN.PV	L	PCS PWR SUP FAIL ALM				Y					PCS PWR SUP FAIL ALM
A15	87XA052AN.PV	L	PCS HI TEMP ALM				.Y					PCS HI TEMP ALM
A16	87XA053AN.PV	L	PCS DIGITAL TB ALM				..Y					PCS DIGITAL TB ALM
A17	87XA054AN.PV	L	SIS PWR SUP FAIL ALM				...Y					SIS PWR SUP FAIL ALM
A18	43LAL003.PV	L	H2 VENT STACK Q-43004 LO					Y				
A19	50PAH-014.PV	L	B-50014 DISC PR HI					.Y				
A20	43PAH-001.PV	L	KO DRUM V-43001 PRS HI					..Y				
A21	43LAH-001.PV	L	KO DRUM V-43001 LVL HI					...Y				
A22	43LAL-001.PV	L	KO DRUM V-43001 LVL LO						Y			
A23	43FAH-001.PV	L	KO DRUM V-43001 FLO HI						.Y			
A24	43LAL-003.PV	L	H2 VENT LVLV LO						..Y			
A25	55LAH-001.PV	L	VESSEL LEVEL T-5001 HI						...Y			
A26	55LAL-001.PV	L	VESSEL LEVEL T-5001 LO							Y		
A27	63PAL-003.PV	L	INSTR AIR TO DISTB LO							.Y		
A28	87XA061AN.PV	L	NET PANEL VENT FAN ALARM								Y	
A29	87XA062AN.PV	L	NET POWER DIODE FAULT								Y	
A30	87XA063AN.PV	L	NET CUMUL BREAKER FAULT								.Y	
A31	87XA064AN.PV	L	NET HIGH TEMP ALARM								..Y	
A32	87XA073AN.PV	L	SERV PANEL BREAKER FAIL								...Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	50TDI002CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-6
STATION:	FCS0101	SAVED DATE:	6/8/2025 11:37:50 PM	COMMENT:	DIFF CALCU		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50TDI002CL01 DIFF CALCU)

Basic

Tag Name	50TDI002CL01
Model Name	CALCU
Tag Comment	DIFF CALCU
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50TDI002CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-7
STATION:	FCS0101	SAVED DATE:	6/8/2025 11:37:50 PM	COMMENT:	DIFF CALCU		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50TDI002CL01 DIFF CALCU)

Line Number	General-Purpose Calculation Formula
001	PROGRAM
002	ALIAS TDAH 50DTAH-002.PV
003	P01=RV2-RV1
004	CPV= labs(P01)
005	*IF(P01>P02)THEN
006	*TDAH=1
007	*ELSE
008	*TDAH =0
009	*END IF
010	*END

PROJECT:	BLPH-CW1	FILE NAME:	50TDI-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-8
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	50TDI-002 DEVIATION		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50TDI-002 50TDI-002 DEVIATION)

Basic

Tag Name	50TDI-002
Model Name	PVI-DV
Tag Comment	50TDI-002 DEVIATION
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (41LI003SP01 ALARM SP BASED ALMBB)

Basic

Tag Name	41LI003SP01
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB
Lvl	4
Scan Period	Basic Scan

Tag Detail (50PI014SP01 ALARM SP BASED ALMBB)

Basic

Tag Name	50PI014SP01
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB
Lvl	4
Scan Period	Basic Scan

Tag Detail (43LI001SP01 ALARM SP BASED ALMBB)

Basic

Tag Name	43LI001SP01
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB
Lvl	4
Scan Period	Basic Scan

Tag Detail (43LI001SP02 ALARM SP BASED ALMBB)

Basic

Tag Name	43LI001SP02
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB
Lvl	4
Scan Period	Basic Scan

Tag Detail (43FI001SP01 ALARM SP BASED ALMBB)

Basic

Tag Name	43FI001SP01
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB
Lvl	4
Scan Period	Basic Scan

Tag Detail (43LI003SP02 ALARM SP BASED ALMBB)

Basic

Tag Name	43LI003SP02
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB
Lvl	4
Scan Period	Basic Scan

Tag Detail (55LI001SP01 ALARM SP BASED ALMBB)

Basic

Tag Name	55LI001SP01
Model Name	DSET
Tag Comment	ALARM SP BASED ALMBB

PROJECT:	BLPH-CW1	FILE NAME:	55LI001SP01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-9
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	ALARM SP BASED ALMBB		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

	Lvl	4
	Scan Period	Basic Scan

Tag Detail (55LI001SP02 ALARM SP BASED ALMBB)

Basic

	Tag Name	55LI001SP02
	Model Name	DSET
	Tag Comment	ALARM SP BASED ALMBB
	Lvl	4
	Scan Period	Basic Scan

Tag Detail (63PI003SP02 ALARM SP BASED ALMBB)

Basic

	Tag Name	63PI003SP02
	Model Name	DSET
	Tag Comment	ALARM SP BASED ALMBB
	Lvl	4
	Scan Period	Basic Scan

Tag Detail (43PI001SP01 ALARM SP BASED ALMBB)

Basic

	Tag Name	43PI001SP01
	Model Name	DSET
	Tag Comment	ALARM SP BASED ALMBB
	Lvl	4
	Scan Period	Basic Scan

Tag Detail (ANN-ST2 UPS XA ALRM)

Basic

	Tag Name	ANN-ST2
	Model Name	ST16
	Tag Comment	UPS XA ALRM
	Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-10
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	UPS XA ALRM		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST2 UPS XA ALRM)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20XA-5301.PV	ON	CRITICAL FAULT	Y								
C02	20XA-5302.PV	ON	DOU CAN FAULT	.Y								
C03	20XA-5303.PV	ON	MAINS FAULT	..Y								
C04	20XA-5304.PV	ON	RECTIFIER FAULT	...Y								
C05	20XA-5305.PV	ON	BATTERY ALARM		Y							
C06	20XA-5306.PV	ON	INVERTER FAULT		.Y							
C07	20XA-5307.PV	ON	SBS FAULT		..Y							
C08	20XA-5308.PV	ON	BATT TEMP SENS FAULT		...Y							
C09	20XA-5309.PV	ON	FAN FAULT			Y						
C10	20XA-5310.PV	ON	POWER STACK OVERTEMP			.Y						
C11	20XA-5311.PV	ON	SBS MAINS FAULT			..Y						
C12												
C13	20XA-5315.PV	ON	TEST ERROR				Y					
C14	20XA-5316.PV	ON	TEST ERROR				.Y					
C15	20XA-5401.PV	ON	CRITICAL FAULT				..Y					
C16	20XA-5402.PV	ON	DOUCAN FAULT				...Y					
C17	20XA-5403.PV	ON	MAINS FAULT					Y				
C18	20XA-5404.PV	ON	RECTIFIER FAULT					.Y				
C19	20XA-5405.PV	ON	BATTERY ALARM					..Y				
C20	20XA-5406.PV	ON	INVERTER FAULT					...Y				
C21	20XA-5407.PV	ON	SBS FAULT						Y			
C22	20XA-5408.PV	ON	BATTT EMP SENS FAULT						.Y			
C23	20XA-5409.PV	ON	FAN FAULT						..Y			
C24	20XA-5410.PV	ON	POWER STACK OVERTEMP						...Y			
C25	20XA-5411.PV	ON	SBSMAINS FAULT							Y		
C26												
C27	20XA-5415.PV	ON	TEST ERROR							.Y		
C28	20XA-5416.PV	ON	TEST ERROR							..Y		
C29												
C30												
C31												
C32												
A01	20XA-5301AN.PV	L	CRITICALFAULT	Y								
A02	20XA-5302AN.PV	L	DOUCANFAULT	.Y								
A03	20XA-5303AN.PV	L	MAINSFAULT	..Y								
A04	20XA-5304AN.PV	L	RECTIFIERFAULT	...Y								
A05	20XA-5305AN.PV	L	BATTERYALARM		Y							
A06	20XA-5306AN.PV	L	INVERTERFAULT		.Y							
A07	20XA-5307AN.PV	L	SBSFAULT		..Y							
A08	20XA-5308AN.PV	L	BATTTEMP.SENSFAULT		...Y							
A09	20XA-5309AN.PV	L	FANFAULT			Y						
A10	20XA-5310AN.PV	L	POWERSTACKOVERTEMP			.Y						
A11	20XA-5311AN.PV	L	SBSMAINSFAULT			..Y						
A12												
A13	20XA-5315AN.PV	L	TEST ERROR				Y					
A14	20XA-5316AN.PV	L	TEST ERROR				.Y					
A15	20XA-5401AN.PV	L	CRITICALFAULT				..Y					
A16	20XA-5402AN.PV	L	DOUCANFAULT				...Y					
A17	20XA-5403AN.PV	L	MAINSFAULT					Y				
A18	20XA-5404AN.PV	L	RECTIFIERFAULT					.Y				
A19	20XA-5405AN.PV	L	BATTERYALARM					..Y				
A20	20XA-5406AN.PV	L	INVERTERFAULT					...Y				
A21	20XA-5407AN.PV	L	SBSFAULT						Y			
A22	20XA-5408AN.PV	L	BATTTEMP.SENSFAULT						.Y			
A23	20XA-5409AN.PV	L	FANFAULT						..Y			
A24	20XA-5410AN.PV	L	POWERSTACKOVERTEMP						...Y			
A25	20XA-5411AN.PV	L	SBSMAINSFAULT							Y		
A26												
A27	20XA-5415AN.PV	L	TEST ERROR							.Y		
A28	20XA-5416AN.PV	L	TEST ERROR							..Y		
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-11
STATION:	FCS0101	SAVED DATE:	6/9/2025 11:47:48 PM	COMMENT:	SUB SYSTEM ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST3 SUB SYSTEM ALARMS)

Basic

Tag Name	ANN-ST3
Model Name	ST16
Tag Comment	SUB SYSTEM ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-12
STATION:	FCS0101	SAVED DATE:	6/9/2025 11:47:48 PM	COMMENT:	SUB SYSTEM ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST3 SUB SYSTEM ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	87XA-7101.PV	OFF	SG200N1 SA FAULT	Y								
C02	87XA-7102.PV	OFF	SG200N1 LOSS 230VAC AUXV	.Y								
C03	87XA-7103.PV	OFF	SG200N1 MOT FEED FLT B3	..Y								
C04	87XA-7105.PV	OFF	SG200D2 MCBS HEALTY	...Y								
C05	87XA-7104.PV	OFF	DP200N1 SA FAULT		Y							
C06	87XA-7108.PV	OFF	DP200N1 N EMER LIGHT ACT		.Y							
C07	70XA-7201.PV	OFF	AC UPS F&G BYP INT.FAULT		..Y							
C08	82XA-7301.PV	OFF	A2/+05 INTERNAL FAULT		...Y							
C09	87XA-7204.PV	OFF	TEMP GEN/BAT INTER FLT			Y						
C10	87XA-7209.PV	OFF	AC UPS PAS A INT.FAULT			.Y						
C11	82XA-7401.PV	OFF	A3/+02 INTERNAL FAULT			..Y						
C12	87XA-7201.PV	OFF	DB BOP INTERNAL FAULT			...Y						
C13	87XA-7202.PV	OFF	CRANE INTERNAL FAULT				Y					
C14	82XA-7501.PV	OFF	A3/+05 INTERNAL FAULT				.Y					
C15	50XA-7201.PV	OFF	WTP INTERNAL FAULT				..Y					
C16	87XA-7205.PV	OFF	AC UPS PAS LN B CB FLT				...Y					
C17	77XA-7201.PV	OFF	HVAC PNL HV INTER FLT					Y				
C18	80XA-7201.PV	OFF	FC AUX LDINTER FLT					.Y				
C19	85XA-7201.PV	OFF	BESS PCS CAB INTER FLT					..Y				
C20	82XA-7601.PV	OFF	SP A4/+05 INTER FLT					...Y				
C21	82XA-7701.PV	OFF	SP A4/+06 INTER FLT						Y			
C22	63XA-7201.PV	OFF	IA 01A INTER FLT						.Y			
C23	82XA-7801.PV	OFF	SP A5/+01 INTER FLT						..Y			
C24	77XA-7202.PV	OFF	HVAC LV RM INTER FLT						...Y			
C25	77XA-7203.PV	OFF	HVAC UPS RM INTER FLT							Y		
C26	77XA-7204.PV	OFF	HVAC ITER INTER FLT							.Y		
C27	87XA-7203.PV	OFF	ICCP INTER FLT							..Y		
C28	82XA-7901.PV	OFF	SP A5/+06 INTER FLT							...Y		
C29	63XA-7202.PV	OFF	IA 01B INTER FLT								Y	
C30											.Y	
C31	85XA-7202.PV	OFF	BESS LV2 INTERNAL FAULT								..Y	
C32	85XA-7203.PV	OFF	BESS LV1 INTERNAL FAULT								...Y	
A01	87XA-7101AN.PV	L	SG200N1 SA FAULT	Y								
A02	87XA-7102AN.PV	L	SG200N1 LOSS 230VAC AUXV	.Y								
A03	87XA-7103AN.PV	L	SG200N1 MOT FEED FLT B3	..Y								
A04	87XA-7105AN.PV	L	SG200D2 MCBS HEALTY	...Y								
A05	87XA-7104AN.PV	L	DP200N1 SA FAULT		Y							
A06	87XA-7108AN.PV	L	DP200N1 N EMER LIGHT ACT		.Y							
A07	70XA-7201AN.PV	L	AC UPS F&G BYP INT.FAULT		..Y							
A08	82XA-7301AN.PV	L	A2/+05 INTERNAL FAULT		...Y							
A09	87XA-7204AN.PV	L	TEMP GEN/BAT INTER FLT			Y						
A10	87XA-7209AN.PV	L	AC UPS PAS A INT.FAULT			.Y						
A11	82XA-7401AN.PV	L	A3/+02 INTERNAL FAULT			..Y						
A12	87XA-7201AN.PV	L	DB BOP INTERNAL FAULT			...Y						
A13	87XA-7202AN.PV	L	CRANE INTERNAL FAULT				Y					
A14	82XA-7501AN.PV	L	A3/+05 INTERNAL FAULT				.Y					
A15	50XA-7201AN.PV	L	WTP INTERNAL FAULT				..Y					
A16	87XA-7205AN.PV	L	AC UPS PAS LN B CB FLT				...Y					
A17	77XA-7201AN.PV	L	HVAC PNL HV INTER FLT					Y				
A18	80XA-7201AN.PV	L	FC AUX LDINTER FLT					.Y				
A19	85XA-7201AN.PV	L	BESS PCS CAB INTER FLT					..Y				
A20	82XA-7601AN.PV	L	SP A4/+05 INTER FLT					...Y				
A21	82XA-7701AN.PV	L	SP A4/+06 INTER FLT						Y			
A22	63XA-7201AN.PV	L	IA 01A INTER FLT						.Y			
A23	82XA-7801AN.PV	L	SP A5/+01 INTER FLT						..Y			
A24	77XA-7202AN.PV	L	HVAC LV RM INTER FLT						...Y			
A25	77XA-7203AN.PV	L	HVAC UPS RM INTER FLT							Y		
A26	77XA-7204AN.PV	L	HVAC ITER INTER FLT							.Y		
A27	87XA-7203AN.PV	L	ICCP INTER FLT							..Y		
A28	82XA-7901AN.PV	L	SP A5/+06 INTER FLT							...Y		
A29	63XA-7202AN.PV	L	IA 01B INTER FLT								Y	
A30											.Y	
A31	85XA-7202AN.PV	L	BESS LV2 INTERNAL FAULT								..Y	
A32	85XA-7203AN.PV	L	BESS LV1 INTERNAL FAULT								...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST4.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-13
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST4 SUB SYSTEM ALARMS)

Basic

Tag Name	ANN-ST4
Model Name	ST16
Tag Comment	SUB SYSTEM ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST4.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-14
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	SUB SYSTEM ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST4 SUB SYSTEM ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	82XA-7911.PV	OFF	A6/+04 INTERNAL FAULT	Y								
C02	70XA-7202.PV	OFF	AC UPS F&G A INT.FAULT	.Y								
C03	70XA-7203.PV	OFF	AC UPS F&G B INT.FAULT	..Y								
C04	83XA-7206.PV	OFF	WELD TOP DECK INT.FAULT	...Y								
C05					Y							
C06	85XA-7207.PV	OFF	AC UPS PAS BYP INT.FAULT		.Y							
C07	85XA-7204.PV	OFF	DC BAT FDR A INT.FAULT		..Y							
C08	85XA-7205.PV	OFF	DC BAT FDR B INT.FAULT		...Y							
C09	83XA-7208.PV	OFF	WELD LOW DECK INT.FAULT			Y						
C10	72XA-7201.PV	OFF	NAVAID FDR A INT.FAULT			.Y						
C11	72XA-7202.PV	OFF	NAVAID FDR B INT.FAULT			..Y						
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23	87XA-001.PV	ON	FAULT						Y			
C24	20UA-5301.PV	ON	NON CRITICAL FAULT						.Y			
C25	20UA-5302.PV	ON	GENSET OPERATION							Y		
C26	20UA-5303.PV	ON	OVERLOAD							.Y		
C27	20UA-5304.PV	ON	USERDEF_AUX2 – RECT							..Y		
C28	20UA-5305.PV	ON	USERDEF_AUX2 – RECT							...Y		
C29	20UA-5306.PV	ON	USERDEF_AUX3 – RECT								Y	
C30	20UA-5307.PV	ON	USERDEF_AUX4 – RECT								.Y	
C31	20UA-5308.PV	ON	USERDEF_AUX5 – RECT								..Y	
C32	20UA-5309.PV	ON	USERDEF_AUX6 – RECT								...Y	
A01	82XA-7911AN.PV	L	A6/+04 INTERNAL FAULT	Y								
A02	70XA-7202AN.PV	L	AC UPS F&G A INT.FAULT	.Y								
A03	70XA-7203AN.PV	L	AC UPS F&G B INT.FAULT	..Y								
A04	83XA-7206AN.PV	L	WELD TOP DECK INT.FAULT	...Y								
A05					Y							
A06	85XA-7207AN.PV	L	AC UPS PAS BYP INT.FAULT		.Y							
A07	85XA-7204AN.PV	L	DC BAT FDR A INT.FAULT		..Y							
A08	85XA-7205AN.PV	L	DC BAT FDR B INT.FAULT		...Y							
A09	83XA-7208AN.PV	L	WELD LOW DECK INT.FAULT			Y						
A10	72XA-7201AN.PV	L	NAVAID FDR A INT.FAULT			.Y						
A11	72XA-7202AN.PV	L	NAVAID FDR B INT.FAULT			..Y						
A12												
A13												
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23	87XA-001AN.PV	L	FAULT						Y			
A24	20UA-5301AN.PV	L	NONCRITICALFAULT						.Y			
A25	20UA-5302AN.PV	L	GENSETOPERATION							Y		
A26	20UA-5303AN.PV	L	OVERLOAD							.Y		
A27	20UA-5304AN.PV	L	USERDEF_AUX2 – RECT							..Y		
A28	20UA-5305AN.PV	L	USERDEF_AUX2 – RECT							...Y		
A29	20UA-5306AN.PV	L	USERDEF_AUX3 – RECT								Y	
A30	20UA-5307AN.PV	L	USERDEF_AUX4 – RECT								.Y	
A31	20UA-5308AN.PV	L	USERDEF_AUX5 – RECT								..Y	
A32	20UA-5309AN.PV	L	USERDEF_AUX6 – RECT								...Y	
PREV			THEN									
NEXT			ELSE									

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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST5 SUB SYSTEM ALARMS)

Basic

Tag Name	ANN-ST5
Model Name	ST16
Tag Comment	SUB SYSTEM ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST5.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-16
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST5 SUB SYSTEM ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	20UA-5310.PV	ON	USERDEF_AUX7- RECT	Y							
C02	20UA-5311.PV	ON	BATTERTY MCCB OPEN	.Y							
C03	20UA-5312.PV	ON	USERDEF_AUX2 – INV	..Y							
C04	20UA-5313.PV	ON	USERDEF_AUX3 – INV	...Y							
C05	20UA-5314.PV	ON	USERDEF_AUX4 – INV		Y						
C06	20UA-5315.PV	ON	USERDEF_AUX5 – INV		.Y						
C07	20UA-5316.PV	ON	USERDEF_AUX6 – INV		..Y						
C08	20UA-5317.PV	ON	USERDEF_AUX7 – INV		...Y						
C09	20UA-5318.PV	ON	USERDEF_AUX1 – SBS			Y					
C10	20UA-5319.PV	ON	USERDEF_AUX2 – SBS			.Y					
C11	20UA-5320.PV	ON	USERDEF_AUX3 – SBS			..Y					
C12	20UA-5321.PV	ON	USERDEF_AUX4 – SBS			...Y					
C13	20UA-5322.PV	ON	USERDEF_AUX5 – SBS			Y					
C14	20UA-5323.PV	ON	USERDEF_AUX6 – SBS			.Y					
C15	20UA-5324.PV	ON	USERDEF_AUX7 – SBS			..Y					
C16	20UA-5325.PV	ON	TEST WARNING			...Y					
C17	20UA-5326.PV	ON	TEST WARNING				Y				
C18	20UA-5401.PV	ON	NONCRITICAL FAULT				.Y				
C19	20UA-5402.PV	ON	GEN SET OPERATION				..Y				
C20	20UA-5403.PV	ON	OVERLOAD				...Y				
C21	20UA-5404.PV	ON	BATTERTY MCCB OPEN					Y			
C22	20UA-5405.PV	ON	USERDEF_AUX2 – RECT					.Y			
C23	20UA-5406.PV	ON	USERDEF_AUX3 – RECT					..Y			
C24	20UA-5407.PV	ON	USERDEF_AUX4 – RECT					...Y			
C25	20UA-5408.PV	ON	USERDEF_AUX5 – RECT						Y		
C26	20UA-5409.PV	ON	USERDEF_AUX6 – RECT						.Y		
C27	20UA-5410.PV	ON	USERDEF_AUX7- RECT						..Y		
C28	20UA-5411.PV	ON	BATTERTY MCCB OPEN						...Y		
C29	20UA-5412.PV	ON	USERDEF_AUX2 – INV							Y	
C30	20UA-5413.PV	ON	USERDEF_AUX3 – INV							.Y	
C31	20UA-5414.PV	ON	USERDEF_AUX4 – INV							..Y	
C32	20UA-5415.PV	ON	USERDEF_AUX5 – INV							...Y	
A01	20UA-5310AN.PV	L	USERDEF_AUX7- RECT	Y							
A02	20UA-5311AN.PV	L	BATTERTY MCCB OPEN	.Y							
A03	20UA-5312AN.PV	L	USERDEF_AUX2 – INV	..Y							
A04	20UA-5313AN.PV	L	USERDEF_AUX3 – INV	...Y							
A05	20UA-5314AN.PV	L	USERDEF_AUX4 – INV		Y						
A06	20UA-5315AN.PV	L	USERDEF_AUX5 – INV		.Y						
A07	20UA-5316AN.PV	L	USERDEF_AUX6 – INV		..Y						
A08	20UA-5317AN.PV	L	USERDEF_AUX7 – INV		...Y						
A09	20UA-5318AN.PV	L	USERDEF_AUX1 – SBS			Y					
A10	20UA-5319AN.PV	L	USERDEF_AUX2 – SBS			.Y					
A11	20UA-5320AN.PV	L	USERDEF_AUX3 – SBS			..Y					
A12	20UA-5321AN.PV	L	USERDEF_AUX4 – SBS			...Y					
A13	20UA-5322AN.PV	L	USERDEF_AUX5 – SBS			Y					
A14	20UA-5323AN.PV	L	USERDEF_AUX6 – SBS			.Y					
A15	20UA-5324AN.PV	L	USERDEF_AUX7 – SBS			..Y					
A16	20UA-5325AN.PV	L	TEST WARNING			...Y					
A17	20UA-5326AN.PV	L	TEST WARNING				Y				
A18	20UA-5401AN.PV	L	NONCRITICALFAULT				.Y				
A19	20UA-5402AN.PV	L	GENSETOPERATION				..Y				
A20	20UA-5403AN.PV	L	OVERLOAD				...Y				
A21	20UA-5404AN.PV	L	USERDEF_AUX1 – RECT					Y			
A22	20UA-5405AN.PV	L	USERDEF_AUX2 – RECT					.Y			
A23	20UA-5406AN.PV	L	USERDEF_AUX3 – RECT					..Y			
A24	20UA-5407AN.PV	L	USERDEF_AUX4 – RECT					...Y			
A25	20UA-5408AN.PV	L	USERDEF_AUX5 – RECT						Y		
A26	20UA-5409AN.PV	L	USERDEF_AUX6 – RECT						.Y		
A27	20UA-5410AN.PV	L	USERDEF_AUX7- RECT						..Y		
A28	20UA-5411AN.PV	L	USERDEF_AUX1 – INV						...Y		
A29	20UA-5412AN.PV	L	USERDEF_AUX2 – INV							Y	
A30	20UA-5413AN.PV	L	USERDEF_AUX3 – INV							.Y	
A31	20UA-5414AN.PV	L	USERDEF_AUX4 – INV							..Y	
A32	20UA-5415AN.PV	L	USERDEF_AUX5 – INV							...Y	
	PREV		THEN								
	NEXT		ELSE								

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Tag Detail (ANN-ST6 SUB SYSTEM ALARMS)

Basic

Tag Name	ANN-ST6
Model Name	ST16
Tag Comment	SUB SYSTEM ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST6.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-18
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST6 SUB SYSTEM ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20UA-5416.PV	ON	USERDEF_AUX6 - INV	Y								
C02	20UA-5417.PV	ON	USERDEF_AUX7 - INV	.Y								
C03	20UA-5418.PV	ON	USERDEF_AUX1 - SBS	..Y								
C04	20UA-5419.PV	ON	USERDEF_AUX2 - SBS	...Y								
C05	20UA-5420.PV	ON	USERDEF_AUX3 - SBS		Y							
C06	20UA-5421.PV	ON	USERDEF_AUX4 - SBS		.Y							
C07	20UA-5422.PV	ON	USERDEF_AUX5 - SBS		..Y							
C08	20UA-5423.PV	ON	USERDEF_AUX6 - SBS		...Y	N						
C09	20UA-5424.PV	ON	USERDEF_AUX7 - SBS			Y						
C10	20UA-5425.PV	ON	TEST WARNING			.Y						
C11	20UA-5426.PV	ON	TEST WARNING			..Y						
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	20UA-5416AN.PV	L	USERDEF_AUX6 - INV	Y								
A02	20UA-5417AN.PV	L	USERDEF_AUX7 - INV	.Y								
A03	20UA-5418AN.PV	L	USERDEF_AUX1 - SBS	..Y								
A04	20UA-5419AN.PV	L	USERDEF_AUX2 - SBS	...Y								
A05	20UA-5420AN.PV	L	USERDEF_AUX3 - SBS		Y							
A06	20UA-5421AN.PV	L	USERDEF_AUX4 - SBS		.Y							
A07	20UA-5422AN.PV	L	USERDEF_AUX5 - SBS		..Y							
A08	20UA-5423AN.PV	L	USERDEF_AUX6 - SBS		...Y							
A09	20UA-5424AN.PV	L	USERDEF_AUX7 - SBS			Y						
A10	20UA-54025AN.PV	L	TEST WARNING			.Y						
A11	20UA-54026AN.PV	L	TEST WARNING			..Y						
A12												
A13												
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	FCS010105RL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-19
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS010105RL01 PUMP CMN FLT ALARMS)

Basic

Tag Name	FCS010105RL01
Model Name	RL
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001	43LI-003.PV	Relational Operation	41LI003SP01.SV	
002	50PI-014.PV	Relational Operation	50PI014SP01.SV	
003	43PI-001.PV	Relational Operation	43PI001SP01.SV	
004	43LI-001PV.PV	Relational Operation	43LI001SP01.SV	
005	43LI-001PV.PV	Relational Operation	43LI001SP02.SV	
006	43FI-001.PV	Relational Operation	43FI001SP01.SV	
007	43LI-003.PV	Relational Operation	43LI003SP02.SV	
008	55LI-001.PV	Relational Operation	55LI001SP01.SV	
009	55LI-001.PV	Relational Operation	55LI001SP02.SV	
010	63PI-003.PV	Relational Operation	63PI003SP02.SV	
011	25PI-035.PV	Relational Operation	30	
012	25PI-037.PV	Relational Operation	30	
013	25PI-040.PV	Relational Operation	30	
014	25PI-043.PV	Relational Operation	30	
015	25PI-046.PV	Relational Operation	30	
016	25PI-049.PV	Relational Operation	30	

Tag Detail (43LI-001PV KO DRUM V-43001 LVL)

Basic

Tag Name	43LI-001PV
Model Name	PVI
Tag Comment	KO DRUM V-43001 LVL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (ANN-ST7 UPS A ALARMS)

Basic

Tag Name	ANN-ST7
Model Name	ST16
Tag Comment	UPS A ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST7.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-20
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST7 UPS A ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20US-5310.PV	ON	EMERGENCYSWITCHOFF	Y								
C02	20US-5311.PV	ON	RECTIFIER WARNING	.Y								
C03	20US-5312.PV	ON	INVERTER WARNING	..Y								
C04	20US-5313.PV	ON	SBS WARNING	...Y								
C05	20US-5314.PV	ON	EQUALISING CHARGE		Y							
C06	20UA-5327.PV	ON	CHARGE		.Y							
C07	20UA-5328.PV	ON	TRICKLE CHARGE		..Y							
C08	20TA-5301.PV	ON	BATTERY TEMP TOHIGH		...Y							
C09	20XS-5301.PV	ON	CIRCUIT BREAKER			Y						
C10	20US-5317.PV	ON	BATTERY WARNING			.Y						
C11	20US-5318.PV	ON	BATTERY LOW			..Y						
C12	20US-5319.PV	ON	OVERLOAD			...Y						
C13	20US-5320.PV	ON	SHORT CIRCUIT				Y					
C14	20US-5321.PV	ON	DC UNDER VOLTAGE				.Y					
C15	20US-5322.PV	ON	DC OVER VOLTAGE				..Y					
C16	20RDY-5301.PV	ON	SBS READY				...Y					
C17	20US-5323.PV	ON	SBSB LOCKED					Y				
C18	20US-5324.PV	ON	RECTIFIER ON					.Y				
C19	20US-5325.PV	ON	INVERTER ON					..Y				
C20	20US-5326.PV	ON	SBS ON					...Y				
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29	20US-5331.PV	ON	TEST NOT IMPLEMENTED								Y	
C30	20US-5332.PV	ON	TEST IMPL WAITNG APPROVA								.Y	
C31	20US-5333.PV	ON	TEST APPROVED								..Y	
C32	20US-5334.PV	ON	TEST RUNNING								...Y	
A01	20US-5310AN.PV	L	EMERGENCY SWITCH OFF	Y								
A02	20US-5311AN.PV	L	RECTIFIER WARNING	.Y								
A03	20US-5312AN.PV	L	INVERTER WARNING	..Y								
A04	20US-5313AN.PV	L	SBSWARNING	...Y								
A05	20US-5314AN.PV	L	EQUALISINGCHARGE		Y							
A06	20UA-5327AN.PV	L	CHARGE		.Y							
A07	20UA-5328AN.PV	L	TRICKLE CHARGE		..Y							
A08	20TA-5301AN.PV	L	BATTERYTEMP TOHIGH		...Y							
A09	20XS-5301AN.PV	L	CIRCUITBREAKER			Y						
A10	20US-5317AN.PV	L	BATTERYWARNING			.Y						
A11	20US-5318AN.PV	L	BATTERYLOW			..Y						
A12	20US-5319AN.PV	L	OVERLOAD			...Y						
A13	20US-5320AN.PV	L	SHORTCIRCUIT				Y					
A14	20US-5321AN.PV	L	DCUNDERVOLTAGE				.Y					
A15	20US-5322AN.PV	L	DCOVERVOLTAGE				..Y					
A16	20RDY-5301AN.PV	L	SBSREADY				...Y					
A17	20US-5323AN.PV	L	SBSBLOCKED					Y				
A18	20US-5324AN.PV	L	RECTIFIERON					.Y				
A19	20US-5325AN.PV	L	INVERTERON					..Y				
A20	20US-5326AN.PV	L	SBSON					...Y				
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29	20US-5331AN.PV	L	TEST NOT IMPLEMENTED								Y	
A30	20US-5332AN.PV	L	TEST IMPL WAITNG APPROVA								.Y	
A31	20US-5333AN.PV	L	TEST APPROVED								..Y	
A32	20US-5334AN.PV	L	TEST RUNNING								...Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST8.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-21
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST8 FGS A ALARMS)

Basic

Tag Name	ANN-ST8
Model Name	ST16
Tag Comment	FGS A ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST8.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-22
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	FGS A ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST8 FGS A ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20US-5335.PV	ON	TEST SUCCESSFUL	Y								
C02	20US-5336.PV	ON	TEST CANCELLED	.Y								
C03												
C04												
C05	20US-5337.PV	ON	TEST NOT IMPLEMENTED		Y							
C06	20US-5338.PV	ON	TEST IMPL WAITNG APPROVA		.Y							
C07	20US-5339.PV	ON	TEST APPROVED		..Y							
C08	20US-5340.PV	ON	TEST RUNNING		...Y							
C09	20US-5341.PV	ON	TEST SUCCESSFUL			Y						
C10	20US-5342.PV	ON	TEST CANCELLED			.Y						
C11	20US-5410.PV	ON	EMERGENCYSWITCHOFF			..Y						
C12	20US-5411.PV	ON	RECTIFIER WARNING			...Y						
C13	20US-5412.PV	ON	INVERTER WARNING				Y					
C14	20US-5413.PV	ON	SBS WARNING				.Y					
C15	20US-5414.PV	ON	EQUALISING CHARGE				..Y					
C16	20UA-5427.PV	ON	CHARGE				...Y					
C17	20UA-5428.PV	ON	TRICKLE CHARGE					Y				
C18	20TA-5401.PV	ON	BATTERY TEMP TO HIGH					.Y				
C19	20XS-5401.PV	ON	CIRCUIT BREAKER					..Y				
C20	20US-5417.PV	ON	BATTERY WARNING					...Y				
C21	20US-5418.PV	ON	BATTERY LOW						Y			
C22	20US-5419.PV	ON	OVERLOAD						.Y			
C23	20US-5420.PV	ON	SHORT CIRCUIT						..Y			
C24	20US-5421.PV	ON	DC UNDER VOLTAGE						...Y			
C25	20US-5422.PV	ON	DC OVER VOLTAGE							Y		
C26	20RDY-5401.PV	ON	SBSREADY							.Y		
C27	20US-5423.PV	ON	SBSBLOCKED							..Y		
C28	20US-5424.PV	ON	RECTIFIERON							...Y		
C29	20US-5425.PV	ON	INVERTERON								Y	
C30	20US-5426.PV	ON	SBS ON								.Y	
C31											..Y	
C32												
A01	20US-5335AN.PV	L	TEST SUCCESSFUL	Y								
A02	20US-5336AN.PV	L	TEST CANCELLED	.Y								
A03												
A04												
A05	20US-5337AN.PV	L	TEST NOT IMPLEMENTED		Y							
A06	20US-5338AN.PV	L	TEST IMPL WAITNG APPROVA		.Y							
A07	20US-5339AN.PV	L	TEST APPROVED		..Y							
A08	20US-5340AN.PV	L	TEST RUNNING		...Y							
A09	20US-5341AN.PV	L	TEST SUCCESSFUL			Y						
A10	20US-5342AN.PV	L	TEST CANCELLED			.Y						
A11	20US-5410AN.PV	L	EMERGENCYSWITCHOFF			..Y						
A12	20US-5411AN.PV	L	RECTIFIERWARNING			...Y						
A13	20US-5412AN.PV	L	INVERTERWARNING				Y					
A14	20US-5413AN.PV	L	SBSWARNING				.Y					
A15	20US-5414AN.PV	L	EQUALISINGCHARGE				..Y					
A16	20UA-5427AN.PV	L	CHARGE				...Y					
A17	20UA-5428AN.PV	L	TRICKLE CHARGE					Y				
A18	20TA-5401AN.PV	L	BATTERYTEMP TOHIGH					.Y				
A19	20XS-5401AN.PV	L	CIRCUITBREAKER					..Y				
A20	20US-5417AN.PV	L	BATTERYWARNING					...Y				
A21	20US-5418AN.PV	L	BATTERYLOW						Y			
A22	20US-5419AN.PV	L	OVERLOAD						.Y			
A23	20US-5420AN.PV	L	SHORTCIRCUIT						..Y			
A24	20US-5421AN.PV	L	DCUNDERVOLTAGE						...Y			
A25	20US-5422AN.PV	L	DCOVERVOLTAGE							Y		
A26	20RDY-5401AN.PV	L	SBSREADY							.Y		
A27	20US-5423AN.PV	L	SBSBLOCKED							..Y		
A28	20US-5424AN.PV	L	RECTIFIERON							...Y		
A29	20US-5425AN.PV	L	INVERTERON								Y	
A30	20US-5426AN.PV	L	SBSON								.Y	
A31											..Y	
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST9.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-23
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	FGS A ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST9 FGS A ALARMS)

Basic

Tag Name	ANN-ST9
Model Name	ST16
Tag Comment	FGS A ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST9.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-24
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	FGS A ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST9 FGS A ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01												
C02												
C03												
C04												
C05												
C06												
C07												
C08	20US-5431.PV	ON	TEST NOT IMPLEMENTED			Y						
C09	20US-5432.PV	ON	TEST IMPL WAITNG APPROVA			Y						
C10	20US-5433.PV	ON	TEST APPROVED			.Y						
C11	20US-5434.PV	ON	TEST RUNNING			..Y						
C12	20US-5435.PV	ON	TEST SUCCESSFUL			...Y						
C13	20US-5436.PV	ON	TEST CANCELLED				Y					
C14												
C15												
C16	20US-5437.PV	ON	TEST NOT IMPLEMENTED					Y				
C17	20US-5438.PV	ON	TEST IMPL WAITING FOR AP					Y				
C18	20US-5439.PV	ON	TEST APPROVED					.Y				
C19	20US-5440.PV	ON	TEST RUNNING					..Y				
C20	20US-5441.PV	ON	TEST SUCCESSFUL					...Y				
C21	20US-5442.PV	ON	TEST CANCELLED						Y			
C22									.Y			
C23									..Y			
C24									...Y			
C25										Y		
C26										.Y		
C27										..Y		
C28										...Y		
C29											Y	
C30											.Y	
C31											..Y	
C32											...Y	
A01												
A02												
A03												
A04												
A05												
A06												
A07												
A08	20US-5431AN.PV	L	TEST NOT IMPLEMENTED			Y						
A09	20US-5432AN.PV	L	TEST IMPL WAITNG APPROVA			Y						
A10	20US-5433AN.PV	L	TEST APPROVED			.Y						
A11	20US-5434AN.PV	L	TEST RUNNING			..Y						
A12	20US-5435AN.PV	L	TEST SUCCESSFUL			...Y						
A13	20US-5436AN.PV	L	TEST CANCELLED				Y					
A14												
A15												
A16	20US-5437AN.PV	L	TEST NOT IMPLEMENTED					Y				
A17	20US-5438AN.PV	L	TEST IMPL WAITING FOR AP					Y				
A18	20US-5439AN.PV	L	TEST APPROVED					.Y				
A19	20US-5440AN.PV	L	TEST RUNNING					..Y				
A20	20US-5441AN.PV	L	TEST SUCCESSFUL					...Y				
A21	20US-5442AN.PV	L	TEST CANCELLED						Y			
A22									.Y			
A23									..Y			
A24									...Y			
A25										Y		
A26										.Y		
A27										..Y		
A28										...Y		
A29											Y	
A30											.Y	
A31											..Y	
A32											...Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST10.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-25
STATION:	FCS0101	SAVED DATE:	4/17/2025 11:35:25 PM	COMMENT:	LV SWGR XS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST10 LV SWGR XS)

Basic

Tag Name	ANN-ST10
Model Name	ST16
Tag Comment	LV SWGR XS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST10.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-26
STATION:	FCS0101	SAVED DATE:	4/17/2025 11:35:25 PM	COMMENT:	LV SWGR XS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST10 LV SWGR XS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	87XS-7116.PV	0	SG200N1 FP1 WD PROT	Y								
C02	20XS-7202.PV	1	QF1 TRIP	.Y								
C03	70XS-7201.PV	1	AC UPS F&G BYP TRIPPED	..Y								
C04	82XS-7306.PV	1	A2/+05 TRIPPED	...Y								
C05	87XS-7204.PV	1	TEMP GEN/BAT CB TRIPPED		Y							
C06	87XS-7209.PV	1	AC UPS PAS A CB TRIPPED		.Y							
C07	82XS-7406.PV	1	A3/+02 TRIPPED		..Y							
C08	87XS-7201.PV	1	DB BOP TRIPPED		...Y							
C09	87XS-7202.PV	1	CRANE TRIPPED			Y						
C10	82XS-7506.PV	1	A3/+05 TRIPPED			.Y						
C11	50XS-7201.PV	1	WTP TRIPPED			..Y						
C12	20XS-7117.PV	1	QF1 PROT TRIP L			...Y						
C13	20XS-7118.PV	1	QF1 PROT TRIP S				Y					
C14	20XS-7119.PV	1	QF1 PROT TRIP I				.Y					
C15	20XS-7120.PV	1	QF1 PROT TRIP G				..Y					
C16	20XS-7121.PV	1	QF1 - TRIP UNIT DISCON				...Y					
C17	82XS-7301.PV	1	A2/+05 TRIP L					Y				
C18	82XS-7302.PV	1	A2/+05 TRIP S					.Y				
C19	82XS-7303.PV	1	A2/+05 TRIP I					..Y				
C20	82XS-7304.PV	1	A2/+05 TRIP G					...Y				
C21	82XS-7305.PV	1	A2/+05 DISCON						Y			
C22	82XS-7401.PV	1	A3/+02 TRIP L						.Y			
C23	82XS-7402.PV	1	A3/+02 TRIP S						..Y			
C24	82XS-7403.PV	1	A3/+02 TRIP I						...Y			
C25	82XS-7404.PV	1	A3/+02 TRIP G							Y		
C26	82XS-7405.PV	1	A3/+02 DISCON							.Y		
C27	87XS-7101.PV	1	DB BOP TRIP L							..Y		
C28	87XS-7102.PV	1	DB BOP TRIP S							...Y		
C29	87XS-7103.PV	1	DB BOP TRIP I								Y	
C30	87XS-7104.PV	1	DB BOP TRIP G								.Y	
C31	87XS-7105.PV	1	DB BOP TRIP DISCON								..Y	
C32	87XS-7106.PV	1	CRANE TRIP L								...Y	
A01	87XS-7116AN.PV	L	SG200N1 FP1 WD PROT	Y								
A02	20XS-7202AN.PV	L	QF1 TRIP	.Y								
A03	70XS-7201AN.PV	L	AC UPS F&G BYP TRIPPED	..Y								
A04	82XS-7306AN.PV	L	A2/+05 TRIPPED	...Y								
A05	87XS-7204AN.PV	L	TEMP GEN/BAT CB TRIPPED		Y							
A06	87XS-7209AN.PV	L	AC UPS PAS A CB TRIPPED		.Y							
A07	82XS-7406AN.PV	L	A3/+02 TRIPPED		..Y							
A08	87XS-7201AN.PV	L	DB BOP TRIPPED		...Y							
A09	87XS-7202AN.PV	L	CRANE TRIPPED			Y						
A10	82XS-7506AN.PV	L	A3/+05 TRIPPED			.Y						
A11	50XS-7201AN.PV	L	WTP TRIPPED			..Y						
A12	20XS-7117AN.PV	L	QF1 PROT TRIP L			...Y						
A13	20XS-7118AN.PV	L	QF1 PROT TRIP S				Y					
A14	20XS-7119AN.PV	L	QF1 PROT TRIP I				.Y					
A15	20XS-7120AN.PV	L	QF1 PROT TRIP G				..Y					
A16	20XS-7121AN.PV	L	QF1 - TRIP UNIT DISCON				...Y					
A17	82XS-7301AN.PV	L	A2/+05 TRIP L					Y				
A18	82XS-7302AN.PV	L	A2/+05 TRIP S					.Y				
A19	82XS-7303AN.PV	L	A2/+05 TRIP I					..Y				
A20	82XS-7304AN.PV	L	A2/+05 TRIP G					...Y				
A21	82XS-7305AN.PV	L	A2/+05 DISCON						Y			
A22	82XS-7401AN.PV	L	A3/+02 TRIP L						.Y			
A23	82XS-7402AN.PV	L	A3/+02 TRIP S						..Y			
A24	82XS-7403AN.PV	L	A3/+02 TRIP I						...Y			
A25	82XS-7404AN.PV	L	A3/+02 TRIP G							Y		
A26	82XS-7405AN.PV	L	A3/+02 DISCON							.Y		
A27	87XS-7101AN.PV	L	DB BOP TRIP L							..Y		
A28	87XS-7102AN.PV	L	DB BOP TRIP S							...Y		
A29	87XS-7103AN.PV	L	DB BOP TRIP I								Y	
A30	87XS-7104AN.PV	L	DB BOP TRIP G								.Y	
A31	87XS-7105AN.PV	L	DB BOP TRIP DISCON								..Y	
A32	87XS-7106AN.PV	L	CRANE TRIP L								...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST11.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-27
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	IA ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST11 IA ALARMS)

Basic

Tag Name	ANN-ST11
Model Name	ST16
Tag Comment	IA ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST11.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-28
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	IA ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST11 IA ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	63RED_FAIL.PV	OFF	REDUNDANCY CPU FAIL	Y								
C02	63CPU_SWITCH.PV	OFF	REDUNDANCY CPU FAIL	.Y								
C03	63IM_ERR.PV	OFF	IM ERROR	..Y								
C04	63PNPN_ERR.PV	OFF	PNPN COUPLERERROR	...Y								
C05	63NET_ERR.PV	OFF	NETWORK PN/IE_1 ERROR		Y							
C06												
C07												
C08												
C09												
C10	50PA1-001A.PV	OFF	SW PMP A STOPPED BY PA1			Y						
C11	50PA1-001B.PV	OFF	SW PMP B STOPPED BY PA1			.Y						
C12	63AIT051-BADPV.PV	OFF	DEW POINT Tx BAD PV			Y						
C13	63PT064-BADPV.PV	OFF	PT IA REC BAD PV				Y					
C14	63TIT051-BADPV.PV	OFF	TT IN AIR BAD PV				.Y					
C15	63TIT052-BADPV.PV	OFF	TT IA REC BAD PV				..Y					
C16	63FIT051-BADPV.PV	OFF	FT OL AIR BAD PV				...Y					
C17	63PDI051-BPV.PV	OFF	DPT IN FLTRS BAD PV					Y				
C18	63PDI052-BPV.PV	OFF	DPT OL FLTRS BAD PV					.Y				
C19	63ALARM-PLANT.PV	ON	PLANT GENERAL ALM					..Y				
C20	63PLANT-READY.PV	OFF	PLANT READY					...Y				
C21	63PLANT-RUNNING.PV	ON	PLANT RUNN						Y			
C22	63ALARMDRY-001.PV	ON	DRYER 1 ALM						.Y			
C23	63ALARMDRY-002.PV	ON	DRYER 2 ALM						..Y			
C24												
C25												
C26	64PT051-BADPV.PV	OFF	IL PRES TRANS- BAD PV							Y		
C27	64PT052-BADPV.PV	OFF	T1 PRES TRANS- BAD PV							.Y		
C28	64PT053-BADPV.PV	OFF	T2 PRES TRANS- BAD PV							..Y		
C29	64PT057-BADPV.PV	OFF	OL B PRES TRANS- BAD PV								Y	
C30	64PT059-BADPV.PV	OFF	PRES TRANS OL FIL-BAD PV								.Y	
C31	64PDIT056-BADPV.PV	OFF	OXYGEN TRANS- BAD PV								..Y	
C32	64AT051-BADPV.PV	OFF	DIF PRES TRANS OL FIL-PV								...Y	
A01	63RED_FAILAN.PV	L	REDUNDANCY CPU FAIL	Y								
A02	63CPU_SWITCHAN.PV	L	REDUNDANCY CPU FAIL	.Y								
A03	63IM_ERRAN.PV	L	IM ERROR	..Y								
A04	63PNPN_ERRAN.PV	L	PNPN COUPLERERROR	...Y								
A05	63NET_ERRAN.PV	L	NETWORK PN/IE_1 ERROR		Y							
A06												
A07												
A08												
A09												
A10	50PA1-001AAN.PV	L	SW PMP A PA1 LOC STOP			Y						
A11	50PA1-001BAN.PV	L	SW PMP B PA1 LOC STOP			.Y						
A12	63AIT051-BADPVAN.PV	L	DEW POINT Tx BAD PV			Y						
A13	63PT064-BADPVAN.PV	L	PT IA REC BAD PV				Y					
A14	63TIT051-BADPVAN.PV	L	TT IN AIR BAD PV				.Y					
A15	63TIT052-BADPVAN.PV	L	TT IA REC BAD PV				..Y					
A16	63FIT051-BADPVAN.PV	L	FT OL AIR BAD PV				...Y					
A17	63PDI051-BPVAN.PV	L	DPT IN FLTRS BAD PV					Y				
A18	63PDI052-BPVAN.PV	L	DPT OL FLTRS BAD PV					.Y				
A19	63ALARM-PLANTAN.PV	L	PLANT GENERAL ALM					..Y				
A20	63PLANT-READYAN.PV	L	PLANT READY					...Y				
A21	63PLANT-RUNAN.PV	L	PLANT RUNN						Y			
A22	63ALARMDRY-001AN.PV	L	DRYER 1 ALM						.Y			
A23	63ALARMDRY-002AN.PV	L	DRYER 2 ALM						..Y			
A24												
A25												
A26	64PT051-BADPVAN.PV	L	IL PRES TRANS- BAD PV							Y		
A27	64PT052-BADPVAN.PV	L	T1 PRES TRANS- BAD PV							.Y		
A28	64PT053-BADPVAN.PV	L	T2 PRES TRANS- BAD PV							..Y		
A29	64PT057-BADPVAN.PV	L	OL B PRES TRANS- BAD PV								Y	
A30	64PT059-BADPVAN.PV	L	PRES TRANS OL FIL-BAD PV								.Y	
A31	64PDIT056-BADAN.PV	L	OXYGEN TRANS- BAD PV								..Y	
A32	64AT051-BADPVAN.PV	L	DIF PRES TRANS OL FIL-PV								...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST12.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-29
STATION:	FCS0101	SAVED DATE:	5/24/2025 5:49:18 AM	COMMENT:	SUB SYSTEM ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST12 SUB SYSTEM ALARMS)

Basic

Tag Name	ANN-ST12
Model Name	ST16
Tag Comment	SUB SYSTEM ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST12.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-30
STATION:	FCS0101	SAVED DATE:	5/24/2025 5:49:18 AM	COMMENT:	SUB SYSTEM ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST12 SUB SYSTEM ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	64ALARM-PLANT.PV	OFF	PLANT GEN ALARM	Y							
C02	64PLANT-READY.PV	OFF	PLANT READY	.Y							
C03	64PLANT-RUNNING.PV	OFF	PLANT RUNNING	..Y							
C04	87HSTBY-001.PV	ON	PERM HOT STANDBY	...Y							
C05	87CSTBY-001.PV	ON	PERM COLD STANDBY		Y						
C06	87EMG-001.PV	ON	PERM TO ENTER EMG MODE		.Y						
C07	87EXP-001.PV	ON	PERM TO EXPORT MODE		..Y						
C08	87PERMSTF-001.PV	ON	PERM TO START FUELCELL		...Y						
C09	87PERMSTE-001.PV	ON	PERM TO START ELECT			Y					
C10	87INDFULL-001.PV	ON	FUEL TANKS ARE FULL			.Y					
C11	87H2TK-0001.PV	ON	ALL STORAGE FULL			..Y					
C12	87STF-002.PV	ON	EMCS PERM TO STR FUELCEL			...Y					
C13	87XS-002.PV	ON	POWER OUT MODE				Y				
C14	87LDSH-002.PV	ON	LOAD SHEDDING-2				.Y				
C15	P-50001ACMFL.PV	ON	SWP-A COMMON FLT				..Y				
C16	P-50001BCMFL.PV	ON	SWP-B COMMON FLT				...Y				
C17	WTPAST.PV	ON	WTP AUTO START					Y			
C18											
C19											
C20											
C21	EXPRTSEQFL.PV	ON	EXPORT MODE FAIL					Y			
C22	FUELCLSTP.PV	ON	FUEL CELL STPCMD					.Y			
C23	EMGMDSTPM.PV	ON	EMERGNCY MODE STPM					..Y			
C24	WTPASP.PV	ON	WTP AUTO STOP					...Y			
C25	AUXELASP.PV	ON	AUTO STOP AUX ELECTROLIS						Y		
C26	DISMODEPM.PV	ON	DISCH MODE PERMMISSIVE						.Y		
C27	64ESD-SIS-001-H.PV	OFF	PLANT SHITDOWN ALM						..Y		
C28	64TH001-H.PV	OFF	INTERNAL CABINET THERMOS						...Y		
C29	87LDSH-001.PV	ON	LOAD SHEDDING-1							Y	
C30											
C31											
C32											
A01	64ALARM-PLANTAN.PV	L	PLANT GEN ALARM	Y							
A02	64PLANT-READYAN.PV	L	PLANT READY	.Y							
A03	64PLANT-RUNAN.PV	L	PLANT RUNNING	..Y							
A04	87HSTBY-001AN.PV	L	PERM HOT STANDBY	...Y							
A05	87CSTBY-001AN.PV	L	PERM COLD STANDBY		Y						
A06	87EMG-001AN.PV	L	PERM TO ENTER EMG MODE		.Y						
A07	87EXP-001AN.PV	L	PERM TO EXPORT MODE		..Y						
A08	87PERMSTF-001AN.PV	L	PERM TO START FUELCELL		...Y						
A09	87PERMSTE-001AN.PV	L	PERM TO START ELECT			Y					
A10	87INDFULL-001AN.PV	L	FUEL TANKS ARE FULL			.Y					
A11	87H2TK-0001AN.PV	L	H2 TANK FULL			..Y					
A12	87STF-002AN.PV	L	EMCS PERM TO ST FUELCELL			...Y					
A13	87XS-002AN.PV	L	POWER OUT MODE				Y				
A14	87LDSH-002AN.PV	L	LOAD SHEDDING 2				.Y				
A15	P-50001ACMFLAN.PV	L	SWP-A COMMON FLT				..Y				
A16	P-50001BCMFLAN.PV	L	SWP-B COMMON FLT				...Y				
A17											
A18											
A19											
A20											
A21	EXPRTSEQFLAN.PV	L	EXPORT MODE FAIL					Y			
A22	FUELCLSTPAN.PV	L	FUEL CELL STPCMD					.Y			
A23	EMGMDSTPMAN.PV	L	EMERGNCY MODE STPM					..Y			
A24	WTPASPAN.PV	L	WTP AUTO STOP					...Y			
A25	AUXELASPAN.PV	L	AUTO STOP AUX ELECTROLIS						Y		
A26	DISMODEPMAN.PV	L	DISCH MODE PERMMISSIVE						.Y		
A27	64ESD-SIS001HAN.PV	L	NITROGEN PLANT SHUTDOWN						..Y		
A28	64TH001-HAN.PV	L	INTERNAL CAB THRMOSTAT						...Y		
A29	87LDSH-001AN.PV	L	LOAD SHEDDING 1							Y	
A30											
A31											
A32											
PREV			THEN								
NEXT			ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST13.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-31
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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST13 LOGGING ALARMS)

Basic

Tag Name	ANN-ST13
Model Name	ST16
Tag Comment	LOGGING ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST13.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-32
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	LOGGING ALARMS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST13 LOGGING ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	25ZSH-055A.PV	ON	H2 OL HDR PRLS OPN	Y								
C02	25ZSH-055B.PV	ON	H2 OL HDR PRLS OPN	Y								
C03	64ZSH-031A.PV	ON	N2 LS OPNPR CTRL TO HDR	.Y								
C04	64ZSH-031B.PV	ON	N2 LS OPNPR CTRL TO HDR	.Y								
C05	25ZSL-031.PV	ON	N2 LS CLSTO V-25001A	..Y								
C06	25ZSH-031.PV	ON	N2 LS OPNTO V-25001A	..Y								
C07	25ZSL-031.PV	OFF	N2 LS CLSTO V-25001A	...Y								
C08	25ZSH-031.PV	OFF	N2 LS OPNTO V-25001A	...Y								
C09	25ZSL-032.PV	ON	N2 LS CLSTO V-25001B	....Y								
C10	25ZSH-032.PV	ON	N2 LS OPNTO V-25001B	....Y								
C11	25ZSL-032.PV	OFF	N2 LS CLSTO V-25001B	.....Y								
C12	25ZSH-032.PV	OFF	N2 LS OPNTO V-25001B	.....Y								
C13	25ZSL-033.PV	ON	N2 LS CLSTO V-25001C	......Y								
C14	25ZSH-033.PV	ON	N2 LS OPNTO V-25001C	......Y								
C15	25ZSL-033.PV	OFF	N2 LS CLSTO V-25001C	.......Y								
C16	25ZSH-033.PV	OFF	N2 LS OPNTO V-25001C	.......Y								
C17	25ZSL-034.PV	ON	N2 LS CLSTO V-25001D	........Y								
C18	25ZSH-034.PV	ON	N2 LS OPNTO V-25001D	........Y								
C19	25ZSL-034.PV	OFF	N2 LS CLSTO V-25001D	.........Y								
C20	25ZSH-034.PV	OFF	N2 LS OPNTO V-25001D	.........Y								
C21	25ZSL-038.PV	ON	N2 LS CLSTO V-25001E	..........Y								
C22	25ZSH-038.PV	ON	N2 LS OPNTO V-25001E	..........Y								
C23	25ZSL-038.PV	OFF	N2 LS CLSTO V-25001E	...........Y								
C24	25ZSH-038.PV	OFF	N2 LS OPNTO V-25001E	...........Y								
C25	25ZSL-036.PV	ON	N2 LS CLSTO V-25001F	............Y								
C26	25ZSH-036.PV	ON	N2 LS OPNTO V-25001F	............Y								
C27	25ZSL-036.PV	OFF	N2 LS CLSTO V-25001F	.............Y								
C28	25ZSH-036.PV	OFF	N2 LS OPNTO V-25001F	.............Y								
C29	25ZSL-035.PV	ON	V-25001A LS CLS PR CTRL	..............Y								
C30	25ZSH-035.PV	ON	V-25001A LS OPN PR CTRL	..............Y								
C31	25ZSL-035.PV	OFF	V-25001A LS CLS PR CTRL	...............Y								
C32	25ZSH-035.PV	OFF	V-25001A LS OPN PR CTRL	...............Y								
C33	25ZSL-037.PV	ON	V-25001B LS CLS PR CTRL	................Y								
C34	25ZSH-037.PV	ON	V-25001B LS OPN PR CTRL	................Y								
C35	25ZSL-037.PV	OFF	V-25001B LS CLS PR CTRL	.................Y								
C36	25ZSH-037.PV	OFF	V-25001B LS OPN PR CTRL	.................Y								
C37	25ZSL-040.PV	ON	V-25001C LS CLS PR CTRL	..................Y								
C38	25ZSH-040.PV	ON	V-25001C LS OPN PR CTRL	..................Y								
C39	25ZSL-040.PV	OFF	V-25001C LS CLS PR CTRL	...................Y								
C40	25ZSH-040.PV	OFF	V-25001C LS OPN PR CTRL	...................Y								
C41	25ZSL-043.PV	ON	V-25001D LS CLS PR CTRL	....................Y								
C42	25ZSH-043.PV	ON	V-25001D LS OPN PR CTRL	....................Y								
C43	25ZSL-043.PV	OFF	V-25001D LS CLS PR CTRL	.....................Y								
C44	25ZSH-043.PV	OFF	V-25001D LS OPN PR CTRL	.....................Y								
C45	25ZSL-046.PV	ON	V-25001E LS CLS PR CTRL	......................Y								
C46	25ZSH-046.PV	ON	V-25001E LS OPN PR CTRL	......................Y								
C47	25ZSL-046.PV	OFF	V-25001E LS CLS PR CTRL	.......................Y								
C48	25ZSH-046.PV	OFF	V-25001E LS OPN PR CTRL	.......................Y								
A01	25ZSH-055A_BAN.PV	L	H2-FC PKG BOTH VLV OPN	Y								
A02	64ZSH-031A_BAN.PV	L	N2-DIST HDR BOTH VLV OPN	.Y								
A03	25FV-031DAN.PV	L	H2-V25001A VLV DISC	..YY								
A04	25FV-032DAN.PV	L	H2-V25001B VLV DISC	....YY								
A05	25FV-033DAN.PV	L	H2-V25001C VLV DISC	......YY								
A06	25FV-034DAN.PV	L	H2-V25001D VLV DISC	........YY								
A07	25FV-038DAN.PV	L	H2-V25001E VLV DISC	..........YY								
A08	25FV-036DAN.PV	L	H2-V25001F VLV DISC	............YY								
A09	25PV-035DAN.PV	L	H2-V25001A VLV DISC	..............YY								
A10	25PV-037DAN.PV	L	H2-V25001B VLV DISC	................YY								
A11	25PV-040DAN.PV	L	H2-V25001C VLV DISC	..................YY								
A12	25PV-043DAN.PV	L	H2-V25001D VLV DISC	....................YY								
A13	25PV-046DAN.PV	L	H2-V25001E VLV DISC	......................YY								
A14												
A15												
A16												
PREV			THEN									
NEXT			ELSE									

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SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST14 LOGGING ALARMS)

Basic

Tag Name	ANN-ST14
Model Name	ST16
Tag Comment	LOGGING ALARMS
Lvl	4

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Sequence Tables (ANN-ST14 LOGGING ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	25ZSL-049.PV	ON	V-25001F LS CLS PR CTRL	Y								
C02	25ZSH-049.PV	ON	V-25001F LS OPN PR CTRL	Y								
C03	25ZSL-049.PV	OFF	V-25001F LS CLS PR CTRL	.Y								
C04	25ZSH-049.PV	OFF	V-25001F LS OPN PR CTRL	.Y								
C05	25ZSL-055A.PV	ON	H2 OL HDR PRLS CLS	..Y								
C06	25ZSH-055A.PV	ON	H2 OL HDR PRLS OPN	..Y								
C07	25ZSL-055A.PV	OFF	H2 OL HDR PRLS CLS	...Y								
C08	25ZSH-055A.PV	OFF	H2 OL HDR PRLS OPN	...Y								
C09	25ZSL-055B.PV	ON	H2 OL HDR PRLS CLS	....Y								
C10	25ZSH-055B.PV	ON	H2 OL HDR PRLS OPN	....Y								
C11	25ZSL-055B.PV	OFF	H2 OL HDR PRLS CLS	.....Y								
C12	25ZSH-055B.PV	OFF	H2 OL HDR PRLS OPN	.....Y								
C13	64ZSH-031A.PV	ON	N2 LS OPNPR CTRL TO HDR	......Y								
C14	64ZSL-031A.PV	ON	N2 LS CLSPR CTRL TO HDR	......Y								
C15	64ZSH-031A.PV	OFF	N2 LS OPNPR CTRL TO HDR	.......Y								
C16	64ZSL-031A.PV	OFF	N2 LS CLSPR CTRL TO HDR	.......Y								
C17	64ZSH-031B.PV	ON	N2 LS OPNPR CTRL TO HDR	........Y								
C18	64ZSL-031B.PV	ON	N2 LS CLSPR CTRL TO HDR	........Y								
C19	64ZSH-031B.PV	OFF	N2 LS OPNPR CTRL TO HDR	.........Y								
C20	64ZSL-031B.PV	OFF	N2 LS CLSPR CTRL TO HDR	.........Y								
C21												
C22	64XY051-H.PV	OFF	VALVE XY051 ALARM			..........Y						
C23	64XY052-H.PV	OFF	VALVE XY052 ALARM			...........Y						
C24	64XY053-H.PV	OFF	VALVE XY053 ALARM			............Y						
C25	64XY054-H.PV	OFF	VALVE XY054 ALARM			.............Y						
C26	64XY055-H.PV	OFF	VALVE XY055 ALARM			..............Y						
C27	64XY056-H.PV	OFF	VALVE XY056 ALARM			...............Y						
C28	64XY057-H.PV	OFF	VALVE XY057 ALARM			................Y						
C29	64XY058-H.PV	OFF	VALVE XY058 ALARM									
C30	64XY059-H.PV	OFF	VALVE XY059 ALARM									
C31												
C32	FCS010105RL01.X11	GT	PUMP CMN FLT ALARMS									
C33	FCS010105RL01.X12	GT	PUMP CMN FLT ALARMS									
C34	FCS010105RL01.X13	GT	PUMP CMN FLT ALARMS									
C35	FCS010105RL01.X14	GT	PUMP CMN FLT ALARMS									
C36	FCS010105RL01.X15	GT	PUMP CMN FLT ALARMS									
C37	FCS010105RL01.X16	GT	PUMP CMN FLT ALARMS									
C38												
C39												
C40												
C41												
C42												
C43												
C44												
C45												
C46												
C47												
C48												
A01	25PV-049DAN.PV	L	H2-V25001F VLV DISC	YY								
A02	25PV-055ADAN.PV	L	H2-FC PKG VLV A DISC	..YY								
A03	25PV-055BDAN.PV	L	H2-FC PKG VLV B DISC	....YY								
A04	64PV-031ADAN.PV	L	N2-DIST HDR VLV A DISC	.....YY								
A05	64PV-031BDAN.PV	L	N2-DIST HDR VLV B DISC	......YY								
A06	64XY001-HAN.PV	L	VALVE XY001 ALARM			..........Y						
A07	64XY002-HAN.PV	L	VALVE XY002 ALARM			...........Y						
A08	64XY003-HAN.PV	L	VALVE XY003 ALARM			............Y						
A09	64XY004-HAN.PV	L	VALVE XY004 ALARM			.............Y						
A10	64XY005-HAN.PV	L	VALVE XY005 ALARM			..............Y						
A11	64XY006-HAN.PV	L	VALVE XY006 ALARM			...............Y						
A12	64XY007-HAN.PV	L	VALVE XY007 ALARM			................Y						
A13	64XY008-HAN.PV	L	VALVE XY008 ALARM									
A14	64XY009-HAN.PV	L	VALVE XY009 ALARM									
A15	87H2TK-0001.PV	L	ALL STORAGE FULL									
A16	25UA-V2500AN.PV	L	ALL VESSEL FULL									
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	25PI002AD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-35
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:41 AM	COMMENT:	H2 STG IN DIFF PRESS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI002AD01 H2 STG IN DIFF PRESS)

Basic

Tag Name	25PI002AD01
Model Name	ADD
Tag Comment	H2 STG IN DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	>25PI-002.PV
Calculation Output(OUT)	25PI001_002.SV
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (25PI001_002 H2 STG IN DIFF PRESS)

Basic

Tag Name	25PI001_002
Model Name	PVI-DV
Tag Comment	H2 STG IN DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI004AD01 H2 STG VSL-A DIFF PRESS)

Basic

Tag Name	25PI004AD01
Model Name	ADD
Tag Comment	H2 STG VSL-A DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	>25PI-004.PV
Calculation Output(OUT)	25PI004_035.SV
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (25PI004_035 H2 STG VSL-A DIFF PRESS)

Basic

Tag Name	25PI004_035
Model Name	PVI-DV
Tag Comment	H2 STG VSL-A DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI006AD01 H2 STG VSL-B DIFF PRESS)

Basic

Tag Name	25PI006AD01
Model Name	ADD
Tag Comment	H2 STG VSL-B DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	

PROJECT:	BLPH-CW1	FILE NAME:	25PI006AD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-36
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Input Signal Conversion No

Connection
Main Input(IN) >25PI-006.PV
Calculation Output(OUT) 25PI006_037.SV
Auxiliary Output(SUB)
Sub Input(Q01)

Tag Detail (25PI006_037 H2 STG VSL-B DIFF PRESS)

Basic
Tag Name 25PI006_037
Model Name PVI-DV
Tag Comment H2 STG VSL-B DIFF PRESS
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion No
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (25PI008AD01 H2 STG VSL-C DIFF PRESS)

Basic
Tag Name 25PI008AD01
Model Name ADD
Tag Comment H2 STG VSL-C DIFF PRESS
Lvl 4
Scan Period Basic Scan
Start Timing Periodic Execution
Input Signal Conversion
Input Signal Conversion No

Connection
Main Input(IN) >25PI-008.PV
Calculation Output(OUT) 25PI008_040.SV
Auxiliary Output(SUB)
Sub Input(Q01)

Tag Detail (25PI008_040 H2 STG VSL-C DIFF PRESS)

Basic
Tag Name 25PI008_040
Model Name PVI-DV
Tag Comment H2 STG VSL-C DIFF PRESS
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion No
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (25PI009AD01 H2 STG VSL-D DIFF PRESS)

Basic
Tag Name 25PI009AD01
Model Name ADD
Tag Comment H2 STG VSL-D DIFF PRESS
Lvl 4
Scan Period Basic Scan
Start Timing Periodic Execution
Input Signal Conversion
Input Signal Conversion No

Connection
Main Input(IN) >25PI-009.PV
Calculation Output(OUT) 25PI009_043.SV
Auxiliary Output(SUB)
Sub Input(Q01)

PROJECT:	BLPH-CW1	FILE NAME:	25PI009AD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-37
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:42 AM	COMMENT:	H2 STG VSL-D DIFF PRESS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI009_043 H2 STG VSL-D DIFF PRESS)

Basic

Tag Name	25PI009_043
Model Name	PVI-DV
Tag Comment	H2 STG VSL-D DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI011AD01 H2 STG VSL-E DIFF PRESS)

Basic

Tag Name	25PI011AD01
Model Name	ADD
Tag Comment	H2 STG VSL-E DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	>25PI-011.PV
Calculation Output(OUT)	25PI011_046.SV
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (25PI011_046 H2 STG VSL-E DIFF PRESS)

Basic

Tag Name	25PI011_046
Model Name	PVI-DV
Tag Comment	H2 STG VSL-E DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI012AD01 H2 STG VSL-F DIFF PRESS)

Basic

Tag Name	25PI012AD01
Model Name	ADD
Tag Comment	H2 STG VSL-F DIFF PRESS
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	>25PI-012.PV
Calculation Output(OUT)	25PI012_049.SV
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (25PI012_049 H2 STG VSL-F DIFF PRESS)

Basic

Tag Name	25PI012_049
Model Name	PVI-DV
Tag Comment	H2 STG VSL-F DIFF PRESS
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	25PI012_049.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-38
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:42 AM	COMMENT:	H2 STG VSL-F DIFF PRESS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (ANN-ST15 LV ZS)

Basic

Tag Name	ANN-ST15
Model Name	ST16
Tag Comment	LV ZS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST15.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-39
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV ZS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST15 LV ZS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	63PS054-H.PV	OFF	ALM DRIER-1 TWR A PS	Y								
C02	63PS056-H.PV	OFF	ALM DRIER-1 TWR B PS	.Y								
C03	63PS058-H.PV	OFF	ALM DRIER-2 TWR A PS	..Y								
C04	63PS060-H.PV	OFF	ALM DRIER-2 TWR B PS	...Y								
C05	63COMP001-H.PV	OFF	COMPRESSOR-1 GENERAL ALM		Y							
C06	63COMP002-H.PV	OFF	COMPRESSOR-2 GENERAL ALM		.Y							
C07	6320FS12-H.PV	OFF	SURG ARR 230VAC_SERV ALM		..Y							
C08	6321FS12-H.PV	OFF	SURG ARR 230VAC_UPS ALM		...Y							
C09	63TH001-H.PV	OFF	INT CAB HRMOSTAT ALM			Y						
C10												
C11	87ZSL-7108.PV	ON	DP200N1 N EMER CB CLS			.Y						
C12	87ZSL-7105.PV	ON	DP20N1 TR HEAT CB CLS			..Y						
C13	87ZSL-7106.PV	ON	DP200N1 MAIN UT CB CLS				Y					
C14												
C15												
C16	20ZSH-7103.PV	ON	QF1 - OPEN				.Y					
C17	20ZSL-7103.PV	ON	QF1 - CLOSED					Y				
C18												
C19												
C20	20TST-7101.PV	ON	QF1 - TEST					.Y				
C21	64XY060-H.PV	OFF	VALVE XY060 ALARM						Y			
C22	64XY061-H.PV	OFF	VALVE XY061 ALARM						.Y			
C23												
C24												
C25	87US-7107.PV	ON	DP200N1 N EMER LIGHT AUT							Y		
C26	87US-7109.PV	ON	DP20N1 TRACE HEAT ACT							.Y		
C27	20US-7101.PV	ON	QF1 - CONNECTED							..Y		
C28												
C29												
C30												
C31												
C32												
A01	63PS054HAN.PV	L	ALM DRIER-1 TWR A PS	Y								
A02	63PS056HAN.PV	L	ALM DRIER-1 TWR B PS	.Y								
A03	63PS058HAN.PV	L	ALM DRIER-2 TWR A PS	..Y								
A04	63PS060HAN.PV	L	ALM DRIER-2 TWR B PS	...Y								
A05	63COMP001HAN.PV	L	Compressor-1 GENERAL ALM		Y							
A06	63COMP002HAN.PV	L	Compressor-2 GENERAL ALM		.Y							
A07	6320FS12HAN.PV	L	SURG ARR 230VAC_SERV ALM		..Y							
A08	6321FS12HAN.PV	L	SURG ARR 230VAC_UPS ALM		...Y							
A09	63TH001HAN.PV	L	INT CAB HRMOSTAT ALM			Y						
A10												
A11	87ZSL-7108AN.PV	L	DP-200N1 EMG CB CLS			.Y						
A12	87ZSL-7105AN.PV	L	DP-200N1 TRC HEAT CB			..Y						
A13	87ZSL-7106AN.PV	L	DP-200N1 TRC HEAT CB				Y					
A14												
A15												
A16	20ZSH-7103AN.PV	L	QF1 - OPEN				.Y					
A17	20ZSL-7103AN.PV	L	QF1 - CLOSED					Y				
A18												
A19												
A20	20TST-7101AN.PV	L	QF1 - TEST					.Y				
A21	64XY060-HAN.PV	L	VALVE 64XV-60 ALARM						Y			
A22	64XY061-HAN.PV	L	VALVE 64XV-61 ALARM						.Y			
A23												
A24												
A25	87US-7107AN.PV	L	DP-200N1 EMG LITE ON							Y		
A26	87US-7109AN.PV	L	DP-200N1 TRC HEAT ACT							.Y		
A27	20US-7101AN.PV	L	QF1 - CONNECTED							..Y		
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-40
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV SWGR XS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST16 LV SWGR XS)

Basic

Tag Name	ANN-ST16
Model Name	ST16
Tag Comment	LV SWGR XS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-41
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV SWGR XS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST16 LV SWGR XS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	87XS-7107.PV	1	CRANE TRIP S	Y							
C02	87XS-7108.PV	1	CRANE TRIP I	.Y							
C03	87XS-7109.PV	1	CRANE TRIP G	..Y							
C04	87XS-7110.PV	1	CRANE TRIP DISCON	...Y							
C05	82XS-7501.PV	1	A3/+05 TRIP L		Y						
C06	82XS-7502.PV	1	A3/+05 TRIP S		.Y						
C07	82XS-7503.PV	1	A3/+05 TRIP I		..Y						
C08	82XS-7504.PV	1	A3/+05 TRIP G		...Y						
C09	82XS-7505.PV	1	A3/+05 DISCON			Y					
C10	50XS-7101.PV	1	WTP TRIP L			.Y					
C11	50XS-7102.PV	1	WTP TRIP S			..Y					
C12	50XS-7103.PV	1	WTP TRIP I			...Y					
C13	50XS-7104.PV	1	WTP TRIP G				Y				
C14	50XS-7105.PV	1	WTP TRIP DISCON				.Y				
C15	87XS-7205.PV	1	AC UPS PAS LN B CB TRIP				..Y				
C16	77XS-7201.PV	1	HVAC PNL HV TRIPPED				...Y				
C17	80XS-7206.PV	1	FC AUX LDTRIPPED					Y			
C18	85XS-7201.PV	1	BESS PCS CAB TRIPPED					.Y			
C19	82XS-7606.PV	1	SP A4/+05 TRIPPED					..Y			
C20	82XS-7706.PV	1	SP A4/+06 TRIPPED					...Y			
C21	63XS-7201.PV	1	IA 01A TRIPPED						Y		
C22	82XS-7806.PV	1	SP A5/+01 TRIPPED						.Y		
C23	77XS-7202.PV	1	HVAC LV RM TRIPPED						..Y		
C24	77XS-7203.PV	1	HVAC UPS RM TRIPPED						...Y		
C25	77XS-7204.PV	1	HVAC ITER TRIPPED							Y	
C26	87XS-7203.PV	1	ICCP TRIPPED							.Y	
C27	82XS-7906.PV	1	SP A5/+06 TRIPPED							..Y	
C28	63XS-7202.PV	1	IA 01B TRIPPED							...Y	
C29	77XS-7101.PV	1	HVAC PNL HV PROT TRIP L							Y	
C30	77XS-7102.PV	1	HVAC PNL HV PROT TRIP S							.Y	
C31	77XS-7103.PV	1	HVAC PNL HV PROT TRIP I							..Y	
C32	77XS-7104.PV	1	HVAC PNL HV PROT TRIP G							...Y	
A01	87XS-7107AN.PV	L	CRANE TRIP S	Y							
A02	87XS-7108AN.PV	L	CRANE TRIP I	.Y							
A03	87XS-7109AN.PV	L	CRANE TRIP G	..Y							
A04	87XS-7110AN.PV	L	CRANE TRIP DISCON	...Y							
A05	82XS-7501AN.PV	L	A3/+05 TRIP L		Y						
A06	82XS-7502AN.PV	L	A3/+05 TRIP S		.Y						
A07	82XS-7503AN.PV	L	A3/+05 TRIP I		..Y						
A08	82XS-7504AN.PV	L	A3/+05 TRIP G		...Y						
A09	82XS-7505AN.PV	L	A3/+05 DISCON			Y					
A10	50XS-7101AN.PV	L	WTP TRIP L			.Y					
A11	50XS-7102AN.PV	L	WTP TRIP S			..Y					
A12	50XS-7103AN.PV	L	WTP TRIP I			...Y					
A13	50XS-7104AN.PV	L	WTP TRIP G				Y				
A14	50XS-7105AN.PV	L	WTP TRIP DISCON				.Y				
A15	87XS-7205AN.PV	L	AC UPS PAS LN B CB TRIP				..Y				
A16	77XS-7201AN.PV	L	HVAC PNL HV TRIPPED				...Y				
A17	80XS-7206AN.PV	L	FC AUX LDTRIPPED					Y			
A18	85XS-7201AN.PV	L	BESS PCS CAB TRIPPED					.Y			
A19	82XS-7606AN.PV	L	SP A4/+05 TRIPPED					..Y			
A20	82XS-7706AN.PV	L	SP A4/+06 TRIPPED					...Y			
A21	63XS-7201AN.PV	L	IA 01A TRIPPED						Y		
A22	82XS-7806AN.PV	L	SP A5/+01 TRIPPED						.Y		
A23	77XS-7202AN.PV	L	HVAC LV RM TRIPPED						..Y		
A24	77XS-7203AN.PV	L	HVAC UPS RM TRIPPED						...Y		
A25	77XS-7204AN.PV	L	HVAC ITER TRIPPED							Y	
A26	87XS-7203AN.PV	L	ICCP TRIPPED							.Y	
A27	82XS-7906AN.PV	L	SP A5/+06 TRIPPED							..Y	
A28	63XS-7202AN.PV	L	IA 01B TRIPPED							...Y	
A29	77XS-7101AN.PV	L	HVAC PNL HV PROT TRIP L							Y	
A30	77XS-7102AN.PV	L	HVAC PNL HV PROT TRIP S							.Y	
A31	77XS-7103AN.PV	L	HVAC PNL HV PROT TRIP I							..Y	
A32	77XS-7104AN.PV	L	HVAC PNL HV PROT TRIP G							...Y	
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-42
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LC SWGR XS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST17 LC SWGR XS)

Basic

Tag Name	ANN-ST17
Model Name	ST16
Tag Comment	LC SWGR XS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-43
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LC SWGR XS		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST17 LC SWGR XS)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	77XS-7105.PV	1	HVAC PNL HV TRIP DISC	Y							
C02	80XS-7101.PV	1	FC AUX LD PROT TRIP L	.Y							
C03	80XS-7102.PV	1	FC AUX LD PROT TRIP S	..Y							
C04	80XS-7103.PV	1	FC AUX LD PROT TRIP I	...Y							
C05	80XS-7104.PV	1	FC AUX LD PROT TRIP G		Y						
C06	80XS-7105.PV	1	FC AUX LD TRIP DISC		.Y						
C07	85XS-7101.PV	1	BESS PCS HV PROT TRIP L		..Y						
C08	85XS-7102.PV	1	BESS PCS HV PROT TRIP S		...Y						
C09	85XS-7103.PV	1	BESS PCS HV PROT TRIP I			Y					
C10	85XS-7104.PV	1	BESS PCS HV PROT TRIP G			.Y					
C11	85XS-7105.PV	1	BESS PCS HV TRIP DISC			..Y					
C12	82XS-7601.PV	1	A4/+05 PROT TRIP L			...Y					
C13	82XS-7602.PV	1	A4/+05 PROT TRIP S				Y				
C14	82XS-7603.PV	1	A4/+05 PROT TRIP I				.Y				
C15	82XS-7604.PV	1	A4/+05 PROT TRIP G				..Y				
C16	82XS-7605.PV	1	A4/+05 TRIP DISC				...Y				
C17	82XS-7701.PV	1	A4/+06 PROT TRIP L					Y			
C18	82XS-7702.PV	1	A4/+06 PROT TRIP S					.Y			
C19	82XS-7703.PV	1	A4/+06 PROT TRIP I					..Y			
C20	82XS-7704.PV	1	A4/+06 PROT TRIP G					...Y			
C21	82XS-7705.PV	1	A4/+06 TRIP DISC						Y		
C22	63XS-7101.PV	1	IA 01A PROT TRIP L						.Y		
C23	63XS-7102.PV	1	IA 01A PROT TRIP S						..Y		
C24	63XS-7103.PV	1	IA 01A PROT TRIP I						...Y		
C25	63XS-7104.PV	1	IA 01A PROT TRIP G							Y	
C26	63XS-7105.PV	1	IA 01A TRIP DISC							.Y	
C27	82XS-7801.PV	1	A5/+01 PROT TRIP L							..Y	
C28	82XS-7802.PV	1	A5/+01 PROT TRIP S							...Y	
C29	82XS-7803.PV	1	A5/+01 PROT TRIP I								Y
C30	82XS-7804.PV	1	A5/+01 PROT TRIP G								.Y
C31	82XS-7805.PV	1	A5/+01 TRIP DISC								..Y
C32	77XS-7106.PV	1	HVAC LV RM PROT TRIP L								...Y
A01	77XS-7105AN.PV	L	HVAC PNL HV TRIP DISC	Y							
A02	80XS-7101AN.PV	L	FC AUX LD PROT TRIP L	.Y							
A03	80XS-7102AN.PV	L	FC AUX LD PROT TRIP S	..Y							
A04	80XS-7103AN.PV	L	FC AUX LD PROT TRIP I	...Y							
A05	80XS-7104AN.PV	L	FC AUX LD PROT TRIP G		Y						
A06	80XS-7105AN.PV	L	FC AUX LD TRIP DISC		.Y						
A07	85XS-7101AN.PV	L	BESS PCS HV PROT TRIP L		..Y						
A08	85XS-7102AN.PV	L	BESS PCS HV PROT TRIP S		...Y						
A09	85XS-7103AN.PV	L	BESS PCS HV PROT TRIP I			Y					
A10	85XS-7104AN.PV	L	BESS PCS HV PROT TRIP G			.Y					
A11	85XS-7105AN.PV	L	BESS PCS HV TRIP DISC			..Y					
A12	82XS-7601AN.PV	L	A4/+05 PROT TRIP L			...Y					
A13	82XS-7602AN.PV	L	A4/+05 PROT TRIP S				Y				
A14	82XS-7603AN.PV	L	A4/+05 PROT TRIP I				.Y				
A15	82XS-7604AN.PV	L	A4/+05 PROT TRIP G				..Y				
A16	82XS-7605AN.PV	L	A4/+05 TRIP DISC				...Y				
A17	82XS-7701AN.PV	L	A4/+06 PROT TRIP L					Y			
A18	82XS-7702AN.PV	L	A4/+06 PROT TRIP S					.Y			
A19	82XS-7703AN.PV	L	A4/+06 PROT TRIP I					..Y			
A20	82XS-7704AN.PV	L	A4/+06 PROT TRIP G					...Y			
A21	82XS-7705AN.PV	L	A4/+06 TRIP DISC						Y		
A22	63XS-7101AN.PV	L	IA 01A PROT TRIP L						.Y		
A23	63XS-7102AN.PV	L	IA 01A PROT TRIP S						..Y		
A24	63XS-7103AN.PV	L	IA 01A PROT TRIP I						...Y		
A25	63XS-7104AN.PV	L	IA 01A PROT TRIP G							Y	
A26	63XS-7105AN.PV	L	IA 01A TRIP DISC							.Y	
A27	82XS-7801AN.PV	L	A5/+01 PROT TRIP L							..Y	
A28	82XS-7802AN.PV	L	A5/+01 PROT TRIP S							...Y	
A29	82XS-7803AN.PV	L	A5/+01 PROT TRIP I								Y
A30	82XS-7804AN.PV	L	A5/+01 PROT TRIP G								.Y
A31	82XS-7805AN.PV	L	A5/+01 TRIP DISC								..Y
A32	77XS-7106AN.PV	L	HVAC LV RM PROT TRIP L								...Y
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST18.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-44
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV XS_LOC		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST18 LV XS_LOC)

Basic

Tag Name	ANN-ST18
Model Name	ST16
Tag Comment	LV XS_LOC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST18.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-45
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV XS_LOC		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST18 LV XS_LOC)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77XS-7107.PV	1	HVAC LV RM PROT TRIP S	Y								
C02	77XS-7108.PV	1	HVAC LV RM PROT TRIP I	.Y								
C03	77XS-7109.PV	1	HVAC LV RM PROT TRIP G	..Y								
C04	77XS-7110.PV	1	HVAC LV RM TRIP DISC	...Y								
C05	77XS-7111.PV	1	HVAC UPS RM PROT TRIP L		Y							
C06	77XS-7112.PV	1	HVAC UPS RM PROT TRIP S		.Y							
C07	77XS-7113.PV	1	HVAC UPS RM PROT TRIP I		..Y							
C08	77XS-7114.PV	1	HVAC UPS RM PROT TRIP G		...Y							
C09	77XS-7115.PV	1	HVAC UPS RM TRIP DISC			Y						
C10	77XS-7116.PV	1	HVAC ITER PROT TRIP L			.Y						
C11	77XS-7117.PV	1	HVAC ITER PROT TRIP S			..Y						
C12	77XS-7118.PV	1	HVAC ITER PROT TRIP I			...Y						
C13	77XS-7119.PV	1	HVAC ITER PROT TRIP G				Y					
C14	77XS-7120.PV	1	HVAC ITER TRIP DISC				.Y					
C15	87XS-7111.PV	1	ICCP PROT TRIP L				..Y					
C16	87XS-7112.PV	1	ICCP PROT TRIP S				...Y					
C17	87XS-7113.PV	1	ICCP PROT TRIP I					Y				
C18	87XS-7114.PV	1	ICCP PROT TRIP G					.Y				
C19	87XS-7115.PV	1	ICCP TRIP DISC					..Y				
C20	82XS-7901.PV	1	A5/+06 PROT TRIP L					...Y				
C21	82XS-7902.PV	1	A5/+06 PROT TRIP S						Y			
C22	82XS-7903.PV	1	A5/+06 PROT TRIP I						.Y			
C23	82XS-7904.PV	1	A5/+06 PROT TRIP G						..Y			
C24	82XS-7905.PV	1	A5/+06 TRIP DISC						...Y			
C25	63XS-7106.PV	1	IA 01B PROT TRIP L							Y		
C26	63XS-7107.PV	1	IA 01B PROT TRIP S							.Y		
C27	63XS-7108.PV	1	IA 01B PROT TRIP I							..Y		
C28	63XS-7109.PV	1	IA 01B PROT TRIP G							...Y		
C29	63XS-7110.PV	1	IA 01B TRIP DISC								Y	
C30	50XS-001B.PV	0	SW PMP B ESD ACT								.Y	
C31	85XS-7202.PV	1	BESS LV2 TRIPPED								..Y	
C32	85XS-7203.PV	1	BESS LV1 TRIPPED								...Y	
A01	77XS-7107AN.PV	L	HVAC LV RM PROT TRIP S	Y								
A02	77XS-7108AN.PV	L	HVAC LV RM PROT TRIP I	.Y								
A03	77XS-7109AN.PV	L	HVAC LV RM PROT TRIP G	..Y								
A04	77XS-7110AN.PV	L	HVAC LV RM TRIP DISC	...Y								
A05	77XS-7111AN.PV	L	HVAC UPS RM PROT TRIP L		Y							
A06	77XS-7112AN.PV	L	HVAC UPS RM PROT TRIP S		.Y							
A07	77XS-7113AN.PV	L	HVAC UPS RM PROT TRIP I		..Y							
A08	77XS-7114AN.PV	L	HVAC UPS RM PROT TRIP G		...Y							
A09	77XS-7115AN.PV	L	HVAC UPS RM TRIP DISC			Y						
A10	77XS-7116AN.PV	L	HVAC ITER PROT TRIP L			.Y						
A11	77XS-7117AN.PV	L	HVAC ITER PROT TRIP S			..Y						
A12	77XS-7118AN.PV	L	HVAC ITER PROT TRIP I			...Y						
A13	77XS-7119AN.PV	L	HVAC ITER PROT TRIP G				Y					
A14	77XS-7120AN.PV	L	HVAC ITER TRIP DISC				.Y					
A15	87XS-7111AN.PV	L	ICCP PROT TRIP L				..Y					
A16	87XS-7112AN.PV	L	ICCP PROT TRIP S				...Y					
A17	87XS-7113AN.PV	L	ICCP PROT TRIP I					Y				
A18	87XS-7114AN.PV	L	ICCP PROT TRIP G					.Y				
A19	87XS-7115AN.PV	L	ICCP TRIP DISC					..Y				
A20	82XS-7901AN.PV	L	A5/+06 PROT TRIP L					...Y				
A21	82XS-7902AN.PV	L	A5/+06 PROT TRIP S						Y			
A22	82XS-7903AN.PV	L	A5/+06 PROT TRIP I						.Y			
A23	82XS-7904AN.PV	L	A5/+06 PROT TRIP G						..Y			
A24	82XS-7905AN.PV	L	A5/+06 TRIP DISC						...Y			
A25	63XS-7106AN.PV	L	IA 01B PROT TRIP L							Y		
A26	63XS-7107AN.PV	L	IA 01B PROT TRIP S							.Y		
A27	63XS-7108AN.PV	L	IA 01B PROT TRIP I							..Y		
A28	63XS-7109AN.PV	L	IA 01B PROT TRIP G							...Y		
A29	63XS-7110AN.PV	L	IA 01B TRIP DISC								Y	
A30	50XS-001BAN.PV	L	SW PMP B ESD ACT								.Y	
A31	85XS-7202AN.PV	L	BESS LV2 TRIPPED								..Y	
A32	85XS-7203AN.PV	L	BESS LV1 TRIPPED								...Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	63PI-003AD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-46
STATION:	FCS0101	SAVED DATE:	4/16/2025 9:19:42 AM	COMMENT:	INST AIR DIST HDR		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63PI-003AD01 INST AIR DIST HDR)

Basic

Tag Name	63PI-003AD01
Model Name	ADD
Tag Comment	INST AIR DIST HDR
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	>63PI-004.PV
Calculation Output(OUT)	63PI003_004.SV
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (63PI003_004 INST AIR DIST HDR)

Basic

Tag Name	63PI003_004
Model Name	PVI-DV
Tag Comment	INST AIR DIST HDR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (ANN-ST19 LV XS_LOC)

Basic

Tag Name	ANN-ST19
Model Name	ST16
Tag Comment	LV XS_LOC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST19.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-47
STATION:	FCS0101	SAVED DATE:	4/17/2025 11:35:25 PM	COMMENT:	LV XS_LOC		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST19 LV XS_LOC)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	20LOC-7302.PV	ON	QF1 SA1 LOCAL	Y							
C02	82LOC-7304.PV	ON	A2/+05 LOCAL	.Y							
C03	82LOC-7404.PV	ON	A3/+02 SA1 ON LOCAL	..Y							
C04	87LOC-7301.PV	ON	DB BOP SA1 ON LOCAL	...Y							
C05	87LOC-7302.PV	ON	CRANE SA1 ON LOCAL		Y						
C06	82LOC-7504.PV	ON	A3/+05 SA1 ON LOCAL		.Y						
C07	50LOC-7301.PV	ON	WTP SA1 ON LOCAL		..Y						
C08	77LOC-7201.PV	ON	HVAC PNL HV SA1 LOC		...Y						
C09	80LOC-7301.PV	ON	FC AUX LD SA1 LOC			Y					
C10	85LOC-7301.PV	ON	BESS PCS CAB SA1 LOC			.Y					
C11	82LOC-7604.PV	ON	SP A4/+05 SA1 LOC			..Y					
C12	82LOC-7704.PV	ON	SP A4/+06 SA1 LOC			...Y					
C13	63LOC-7301.PV	ON	IA 01A SA1 LOC				Y				
C14	82LOC-7804.PV	ON	SP A5/+01 SA1 LOC				.Y				
C15	77LOC-7302.PV	ON	HVAC LV RM SA1 LOC				..Y				
C16	77LOC-7303.PV	ON	HVAC UPS RM SA1 LOC				...Y				
C17	77LOC-7304.PV	ON	HVAC ITER SA1 LOC					Y			
C18	87LOC-7303.PV	ON	ICCP SA1 LOC					.Y			
C19	82LOC-7904.PV	ON	SP A5/+06 SA1 LOC					..Y			
C20	63LOC-7302.PV	ON	IA 01B SA1 LOC					...Y			
C21	85LOC-7302.PV	ON	BESS LV2 LOCAL					Y			
C22	85LOC-7303.PV	ON	BESS LV1 LOCAL					.Y			
C23	82LOC-7914.PV	ON	A6/+04 LOCAL					..Y			
C24											
C25											
C26											
C27											
C28											
C29											
C30											
C31											
C32											
A01	20LOC-7302AN.PV	L	QF1 SA1 LOCAL	Y							
A02	82LOC-7304AN.PV	L	A2/+05 INTERNAL FAULT	.Y							
A03	82LOC-7404AN.PV	L	A3/+02 SA1 ON LOCAL	..Y							
A04	87LOC-7301AN.PV	L	DB BOP SA1 ON LOCAL	...Y							
A05	87LOC-7302AN.PV	L	CRANE SA1 ON LOCAL		Y						
A06	82LOC-7504AN.PV	L	A3/+05 SA1 ON LOCAL		.Y						
A07	50LOC-7301AN.PV	L	WTP SA1 ON LOCAL		..Y						
A08	77LOC-7201AN.PV	L	HVAC PNL HV SA1 LOC		...Y						
A09	80LOC-7301AN.PV	L	FC AUX LD SA1 LOC			Y					
A10	85LOC-7301AN.PV	L	BESS PCS CAB SA1 LOC			.Y					
A11	82LOC-7604AN.PV	L	SP A4/+05 SA1 LOC			..Y					
A12	82LOC-7704AN.PV	L	SP A4/+06 SA1 LOC			...Y					
A13	63LOC-7301AN.PV	L	IA 01A SA1 LOC				Y				
A14	82LOC-7804AN.PV	L	SP A5/+01 SA1 LOC				.Y				
A15	77LOC-7302AN.PV	L	HVAC LV RM SA1 LOC				..Y				
A16	77LOC-7303AN.PV	L	HVAC UPS RM SA1 LOC				...Y				
A17	77LOC-7304AN.PV	L	HVAC ITER SA1 LOC					Y			
A18	87LOC-7303AN.PV	L	ICCP SA1 LOC					.Y			
A19	82LOC-7904AN.PV	L	SP A5/+06 SA1 LOC					..Y			
A20	63LOC-7302AN.PV	L	IA 01B SA1 LOC					...Y			
A21	85LOC-7302AN.PV	L	BESS LV2 LOCAL					Y			
A22	85LOC-7303AN.PV	L	BESS LV1 LOCAL					.Y			
A23	82LOC-7914AN.PV	L	A6/+04 LOCAL					..Y			
A24											
A25											
A26											
A27											
A28											
A29											
A30											
A31											
A32											
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST20.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-48
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV XS_LOC		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (ANN-ST20 LV XS_LOC)

Basic

Tag Name	ANN-ST20
Model Name	ST16
Tag Comment	LV XS_LOC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	ANN-ST20.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-49
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:10:35 AM	COMMENT:	LV XS_LOC		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (ANN-ST20 LV XS_LOC)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	82XS-7916.PV	1	A6/+04 TRIPPED	Y								
C02	70XS-7202.PV	1	AC UPS F&G A TRIPPED	.Y								
C03	70XS-7203.PV	1	AC UPS F&G B TRIPPED	..Y								
C04	83XS-7206.PV	1	WELD TOP DECK TRIPPED	...Y								
C05	50XS-001A.PV	0	SW PMP A ESD ACT		Y							
C06	85XS-7207.PV	1	AC UPS PAS BYP TRIPPED		.Y							
C07	85XS-7204.PV	1	DC BAT FDR A TRIPPED		..Y							
C08	83XS-7208.PV	1	WELD LOW DECK TRIPPED		...Y							
C09	85XS-7205.PV	1	DC BAT FDR B TRIPPED			Y						
C10	72XS-7201.PV	1	NAVAID FDR A TRIPPED			.Y						
C11	72XS-7202.PV	1	NAVAID FDR B TRIPPED			..Y						
C12	85XS-7106.PV	1	BESS LV2 PROT TRIP L			...Y						
C13	85XS-7107.PV	1	BESS LV2 PROT TRIP S				Y					
C14	85XS-7108.PV	1	BESS LV2 PROT TRIP I				.Y					
C15	85XS-7109.PV	1	BESS LV2 PROT TRIP G				..Y					
C16	85XS-7110.PV	1	BESS LV2 TRIP DISC				...Y					
C17	85XS-7111.PV	1	BESS LV1 PROT TRIP L					Y				
C18	85XS-7112.PV	1	BESS LV1 PROT TRIP S					.Y				
C19	85XS-7113.PV	1	BESS LV1 PROT TRIP I					..Y				
C20	85XS-7114.PV	1	BESS LV1 PROT TRIP G					...Y				
C21	85XS-7115.PV	1	BESS LV1 TRIP DISC						Y			
C22	82XS-7911.PV	1	A6/+04 PROT TRIP L						.Y			
C23	82XS-7912.PV	1	A6/+04 PROT TRIP S						..Y			
C24	82XS-7913.PV	1	A6/+04 PROT TRIP I						...Y			
C25	82XS-7914.PV	1	A6/+04 PROT TRIP G							Y		
C26	82XS-7915.PV	1	A6/+04 TRIP DISC							.Y		
C27										..Y		
C28										...Y		
C29											Y	
C30											.Y	
C31											..Y	
C32											...Y	
A01	82XS-7916AN.PV	L	A6/+04 TRIPPED	Y								
A02	70XS-7202AN.PV	L	AC UPS F&G A TRIPPED	.Y								
A03	70XS-7203AN.PV	L	AC UPS F&G B TRIPPED	..Y								
A04	83XS-7206AN.PV	L	WELD TOP DECK TRIPPED	...Y								
A05	50XS-001AAN.PV	L	SW PMP A ESD ACT		Y							
A06	85XS-7207AN.PV	L	AC UPS PAS BYP TRIPPED		.Y							
A07	85XS-7204AN.PV	L	DC BAT FDR A TRIPPED		..Y							
A08	83XS-7208AN.PV	L	WELD LOW DECK TRIPPED		...Y							
A09	85XS-7205AN.PV	L	DC BAT FDR B TRIPPED			Y						
A10	72XS-7201AN.PV	L	NAVAID FDR A TRIPPED			.Y						
A11	72XS-7202AN.PV	L	NAVAID FDR B TRIPPED			..Y						
A12	85XS-7106AN.PV	L	BESS LV2 PROT TRIP L			...Y						
A13	85XS-7107AN.PV	L	BESS LV2 PROT TRIP S				Y					
A14	85XS-7108AN.PV	L	BESS LV2 PROT TRIP I				.Y					
A15	85XS-7109AN.PV	L	BESS LV2 PROT TRIP G				..Y					
A16	85XS-7110AN.PV	L	BESS LV2 TRIP DISC				...Y					
A17	85XS-7111AN.PV	L	BESS LV1 PROT TRIP L					Y				
A18	85XS-7112AN.PV	L	BESS LV1 PROT TRIP S					.Y				
A19	85XS-7113AN.PV	L	BESS LV1 PROT TRIP I					..Y				
A20	85XS-7114AN.PV	L	BESS LV1 PROT TRIP G					...Y				
A21	85XS-7115AN.PV	L	BESS LV1 TRIP DISC						Y			
A22	82XS-7911AN.PV	L	A6/+04 PROT TRIP L						.Y			
A23	82XS-7912AN.PV	L	A6/+04 PROT TRIP S						..Y			
A24	82XS-7913AN.PV	L	A6/+04 PROT TRIP I						...Y			
A25	82XS-7914AN.PV	L	A6/+04 PROT TRIP G							Y		
A26	82XS-7915AN.PV	L	A6/+04 TRIP DISC							.Y		
A27										..Y		
A28										...Y		
A29											Y	
A30											.Y	
A31											..Y	
A32											...Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	FORCE-ST1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-50
STATION:	FCS0101	SAVED DATE:	4/17/2025 3:30:22 AM	COMMENT:	FORCING		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FORCE-ST1 FORCING)

Basic

Tag Name	FORCE-ST1
Model Name	ST16
Tag Comment	FORCING
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FORCE-ST1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-2-51
STATION:	FCS0101	SAVED DATE:	4/17/2025 3:30:22 AM	COMMENT:	FORCING		
SECTION:	DR0005	PRINTED DATE:	9/15/2025	DRAWER:			

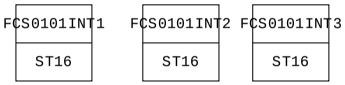
Sequence Tables (FORCE-ST1 FORCING)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	Comment
C01					
C02					
C03					
C04					
C05					
C06					
C07					
C08					
C09					
C10					
C11					
C12					
C13					
C14					
C15					
C16					
C17					
C18					
C19					
C20					
C21					
C22					
C23					
C24					
C25					
C26					
C27					
C28					
C29					
C30					
C31					
C32					
A01	ALWAYS-ON.PV	L		Y	
A02					
A03					
A04					
A05					
A06					
A07					
A08					
A09					
A10					
A11					
A12					
A13					
A14					
A15					
A16					
A17					
A18					
A19					
A20					
A21					
A22					
A23					
A24					
A25					
A26					
A27					
A28					
A29					
A30					
A31					
A32					
	PREV		THEN		
	NEXT		ELSE		

PROJECT:	BLPH-CW1	FILE NAME:	DR0006.edf	SHEET:		YOKOGAWA	PAGE:3-25-3-1
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:27:21 AM	COMMENT:	INITIALIZATION TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0006 | BLPH-CW | INITIALIZATION TABLE]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0006.edf	SHEET:		YOKOGAWA	PAGE:3-25-3-2
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:27:21 AM	COMMENT:	INITIALIZATION TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:INITIALIZATION TABLE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	FCS0101INT1	ST16	INIT TABLE	0	0				
						4			
002	FCS0101INT2	ST16	INIT TABLE	0	0				
						4			
003	FCS0101INT3	ST16	INIT TABLE	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101INT1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-3-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:16 AM	COMMENT:	INIT TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101INT1 INIT TABLE)

Basic

Tag Name	FCS0101INT1
Model Name	ST16
Tag Comment	INIT TABLE
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101INT1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-3-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:16 AM	COMMENT:	INIT TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101INT1 INIT TABLE)

Start Timing Restricted Initial Execution Type(B)
Output Timing
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	Comment
C01					
C02					
C03					
C04					
C05					
C06					
C07					
C08					
C09					
C10					
C11					
C12					
C13					
C14					
C15					
C16					
A01	ANN-ST1.MODE	AUT	PUMP CMN FLT ALARMS	Y	
A02	ANN-ST2.MODE	AUT	UPS XA ALRM	Y	
A03	ANN-ST3.MODE	AUT	SUB SYSTEM ALARMS	Y	
A04	ANN-ST4.MODE	AUT	SUB SYSTEM ALARMS	Y	
A05	ANN-ST5.MODE	AUT	SUB SYSTEM ALARMS	Y	
A06	ANN-ST6.MODE	AUT	SUB SYSTEM ALARMS	Y	
A07	ANN-ST7.MODE	AUT	UPS A ALARMS	Y	
A08	ANN-ST8.MODE	AUT	FGS A ALARMS	Y	
A09	ANN-ST9.MODE	AUT	FGS A ALARMS	Y	
A10	ANN-ST10.MODE	AUT	LV SWGR XS	Y	
A11	ANN-ST11.MODE	AUT	IA ALARMS	Y	
A12	ANN-ST12.MODE	AUT	SUB SYSTEM ALARMS	Y	
A13	ANN-ST13.MODE	AUT	LOGGING ALARMS	Y	
A14	ANN-ST14.MODE	AUT	LOGGING ALARMS	Y	
A15	ANN-ST15.MODE	AUT	LV ZS	Y	
A16	ANN-ST16.MODE	AUT	LV SWGR XS	Y	
A17	ANN-ST17.MODE	AUT	LC SWGR XS	Y	
A18	ANN-ST18.MODE	AUT	LV XS_LOC	Y	
A19	FCS01007LC01.MODE	AUT	UPS LIFECHK	Y	
A20	FCS01007LC02.MODE	AUT	EMCS SEQ ANN	Y	
A21	FCS01007LC03.MODE	AUT	UPS PAS DO LOGIC	Y	
A22	FCS01007LC04.MODE	AUT	UPS PAS DO LOGIC	Y	
A23	FCS01007LC05.MODE	AUT	UPS F&G DO LOGIC	Y	
A24	FCS01007LC06.MODE	AUT	UPS F&G DO LOGIC	Y	
A25	FCS01007LC08.MODE	AUT	ANN LOGIC	Y	
A26	FCS01007LC07.MODE	AUT	HVAC DO LOGIC	Y	
A27	FGSDMP_ALRM1.MODE	AUT	FGS DMP ALRM LOGIC	Y	
A28	FGSDMP_ALRM2.MODE	AUT	FGS DMP ALRM LOGIC	Y	
A29	FCS0101009-ST01.MODE	AUT	PAS B ALARM	Y	
A30	FCS0101009-ST02.MODE	AUT	PAS B ALARM	Y	
A31	FCS0101009-ST03.MODE	AUT	PAS B ALARM	Y	
A32	FCS0101009-ST04.MODE	AUT	FGS B ALARM	Y	
A33	FCS0101009-ST05.MODE	AUT	FGS B ALARM	Y	
A34	FCS0101009-ST06.MODE	AUT	FGS B ALARM	Y	
A35	50XV-AUTLC1.MODE	AUT		Y	
A36	50XV-AUTLC2.MODE	AUT	PMP A,B BYPASS AUT LOGIC	Y	
A37	50XV-AUTLC3.MODE	AUT	PMP A,B BYPASS AUT LOGIC	Y	
A38	50XV-AUTLC4.MODE	AUT	PMP A,B BYPASS AUT LOGIC	Y	
A39	50XV-AUTST1.MODE	AUT		Y	
A40	50XV-AUTLC5.MODE	AUT	PMP A,B BYPASS AUT LOGIC	Y	
A41	25PY055-LC1.MODE	AUT	DISC ALARM	Y	
A42	25PIC55A-ST.MODE	AUT	25PIC55 INITIALIZATION	Y	
A43	25PY055-LC2.MODE	AUT	BOTH VLV OPN DISC ALARM	Y	
A44	25PY055-LC3.MODE	AUT	VALVE OPERATION	Y	
A45	64PY031-LC.MODE	AUT		Y	
A46	25PIC31A-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y	
A47	25FY031-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y	
A48	25PY035-LC.MODE	AUT	V-25001A LOGIC	Y	
	PREV		THEN		
	NEXT		ELSE		

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101INT2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-3-5
STATION:	FCS0101	SAVED DATE:	5/22/2025 1:26:59 AM	COMMENT:	INIT TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101INT2 INIT TABLE)

Basic

Tag Name	FCS0101INT2
Model Name	ST16
Tag Comment	INIT TABLE
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101INT2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-3-6
STATION:	FCS0101	SAVED DATE:	5/22/2025 1:26:59 AM	COMMENT:	INIT TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101INT2 INIT TABLE)

Start Timing Restricted Initial Execution Type(B)
Output Timing
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01											
C02											
C03											
C04											
C05											
C06											
C07											
C08											
C09											
C10											
C11											
C12											
C13											
C14											
C15											
C16											
A01	25FY032-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y							
A02	25PY037-LC.MODE	AUT	V-25001B LOGIC	Y							
A03	25FY033-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y							
A04	25PY040-LC.MODE	AUT	V-25001C LOGIC	Y							
A05	25FY034-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y							
A06	25PY043-LC.MODE	AUT	V-25001D LOGIC	Y							
A07	25FY038-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y							
A08	25PY046-LC.MODE	AUT	V-25001E LOGIC	Y							
A09	25FY036-ST.MODE	AUT	PUMP CMN FLT ALARMS	Y							
A10	25PY049-LC.MODE	AUT	V-25001F LOGIC	Y							
A11	P50001A-LC1.MODE	AUT	PUMP LOGIC	Y							
A12	P50001B-LC1.MODE	AUT	PUMP LOGIC	Y							
A13	P50001B-LC3.MODE	AUT	PUMP B D/S LOGIC	Y							
A14	P50001A-LC2.MODE	AUT	PUMP A D/S LOGIC	Y							
A15	P50001B-LC2.MODE	AUT	PUMP B D/S LOGIC	Y							
A16	S1009ABLC1.MODE	AUT	PUMP DUT/ STBY LOGIC	Y							
A17	FCS01080LC01.MODE	AUT		Y							
A18	FCS010181ST01.MODE	AUT		Y							
A19	63HSLC01.MODE	AUT		Y							
A20	63ST-01.MODE	AUT		Y							
A21	64HS-LC01.MODE	AUT	STRT/STP, ALM SUPPRESS	Y							
A22	87EMCS-ST01.MODE	AUT	EMCS SEQ ANN	Y							
A23	87DB200N1LC.MODE	AUT	INTERLOCK	Y							
A24	50A50000LC.MODE	AUT	INTERLOCK	Y							
A25	77B100HSB001LC.MODE	AUT	INTERLOCK	Y							
A26	80A80000LC.MODE	AUT	INTERLOCK	Y							
A27	85CP850F03LC.MODE	AUT	INTERLOCK	Y							
A28	63K63001ALC.MODE	AUT	INTERLOCK	Y							
A29	77B200HSB001LC.MODE	AUT	INTERLOCK	Y							
A30	77B300HSB001LC.MODE	AUT	INTERLOCK	Y							
A31	77B400HSB001LC.MODE	AUT	INTERLOCK	Y							
A32	87CN200N1LC.MODE	AUT	INTERLOCK	Y							
A33	63K63001BLC.MODE	AUT	INTERLOCK	Y							
A34	85CP850E1LC.MODE	AUT	INTERLOCK	Y							
A35	85CP850E2LC.MODE	AUT	INTERLOCK	Y							
A36	87JB200E3LC.MODE	AUT	INTERLOCK	Y							
A37	77B200-ST01.MODE	AUT	B-200 HVAC ANN	Y							
A38	77B200-ST02.MODE	AUT	B-200 HVAC ANN	Y							
A39	77B100-ST01.MODE	AUT	B-100 HVAC ANN	Y							
A40	77B100-ST02.MODE	AUT	B-100 HVAC ANN	Y							
A41	77B400-ST01.MODE	AUT	B-400 HVAC ANN	Y							
A42	77B400-ST02.MODE	AUT	B-400 HVAC ANN	Y							
A43	77B300-ST01.MODE	AUT	B-300 HVAC ANN	Y							
A44	77B300-ST02.MODE	AUT	B-300 HVAC ANN	Y							
A45	50WTP-ST01.MODE	AUT	WTP ANN	Y							
A46	50WTP-ST02.MODE	AUT	WTP ANN	Y							
A47	50WTP-LC01.MODE	AUT	WTP DO LOGIC	Y							
A48	20A20000LC.MODE	AUT	INTERLOCK	Y							
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101INT3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-3-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:16 AM	COMMENT:	INIT TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101INT3 INIT TABLE)

Basic

Tag Name	FCS0101INT3
Model Name	ST16
Tag Comment	INIT TABLE
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101INT3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-3-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:16 AM	COMMENT:	INIT TABLE		
SECTION:	DR0006	PRINTED DATE:	9/15/2025	DRAWER:			

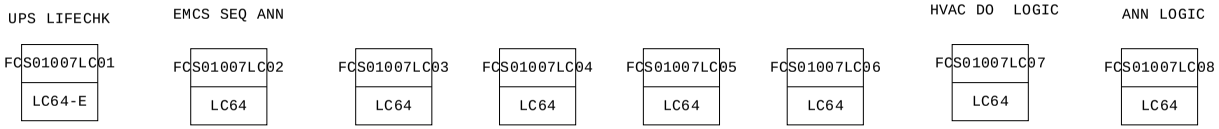
Sequence Tables (FCS0101INT3 INIT TABLE)

Start Timing Restricted Initial Execution Type(B)
Output Timing
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4 5 6 7 8 9 10111213141516171819202122232425262728293031 32	Comment
C01					
C02					
C03					
C04					
C05					
C06					
C07					
C08					
C09					
C10					
C11					
C12					
C13					
C14					
C15					
C16					
A01	FCS010131ST01.MODE	AUT	LV SWGR IL	Y	
A02	FCS0101138-ST01.MODE	AUT		Y	
A03	FCS0101139-ST01.MODE	AUT		Y	
A04	FCS010144-SFC01.BSTS	RUN	FLOW TOTALIZER SFC	Y	
A05	BLPHSEQ.BSTS	RUN	MAIN SEQUENCE	Y	
A06	SEQPERM01.BSTS	RUN	IDLE MONITORING SEQ	Y	
A07	SEQPERM03.BSTS	RUN	EXPORT MONITORING SEQ	Y	
A08	SEQPERM04.BSTS	RUN	COLD STDBYMONITORING SEQ	Y	
A09	SEQPERM05.BSTS	RUN	RESEARCH MONITORING SEQ	Y	
A10	SEQPERM02.BSTS	RUN	IMPORT MONITORING SEQ	Y	
A11	SEQPERM06.BSTS	RUN	CONCRRENCYMONITORING SEQ	Y	
A12	SEQPERM07.BSTS	RUN	MONITORING SEQ	Y	
A13	SEQPERM08.BSTS	RUN	HOT STDBY MONITORING SEQ	Y	
A14	SEQPERM09.BSTS	RUN	EMERGENCY MONITORING	Y	
A15	SEQPERM10.BSTS	RUN	POWERCUT MONITORING SEQ	Y	
A16	SEQPERM11.BSTS	RUN	MAINTENANCMONITORING SEQ	Y	
A17	SEQPERM12.BSTS	RUN	MONITORING CONCURENCY	Y	
A18	SEQPERM13.BSTS	RUN	TIMER SEC TO HR_MIN CONV	Y	
A19	SEQPERM14.BSTS	RUN	ALARM SEQ	Y	
A20	SEQPERM15.BSTS	RUN	ALARM SUP LOGIC	Y	
A21	SEQPERM16.BSTS	RUN	BLPHSEQ RESEARCH MODE	Y	
A22	SEQPERM17.BSTS	RUN	BLPHSEQ EMERGENCY MODE	Y	
A23				Y	
A24				Y	
A25				Y	
A26				Y	
A27				Y	
A28				Y	
A29				Y	
A30				Y	
A31				Y	
A32				Y	
A33				Y	
A34				Y	
A35				Y	
A36				Y	
A37				Y	
A38				Y	
A39				Y	
A40				Y	
A41				Y	
A42				Y	
A43				Y	
A44				Y	
A45				Y	
A46				Y	
A47				Y	
A48				Y	
	PREV		THEN		
	NEXT		ELSE		

PROJECT:	BLPH-CW1	FILE NAME:	DR0007.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 5:06:21 AM	COMMENT:	PULSE DO		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0007| BLPH-CW | TYP001 | PULSE DO]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0007.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-2
STATION:	FCS0101	SAVED DATE:	5/3/2025 5:06:21 AM	COMMENT:	PULSE DO		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:PULSE DO

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	FCS01007LC01	LC64-E	UPS LIFECHK	0	0	4			
002	FCS01007LC02	LC64	EMCS SEQ ANN	0	0	4			
003	FCS01007LC03	LC64	UPS PAS DO LOGIC	0	0	4			
004	FCS01007LC04	LC64	UPS PAS DO LOGIC	0	0	4			
005	FCS01007LC05	LC64	UPS F&G DO LOGIC	0	0	4			
006	FCS01007LC06	LC64	UPS F&G DO LOGIC	0	0	4			
007	FCS01007LC08	LC64	ANN LOGIC	0	0	4			
008	FCS01007LC07	LC64	HVAC DO LOGIC	0	0	4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS LIFECHK		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC01 UPS LIFECHK)

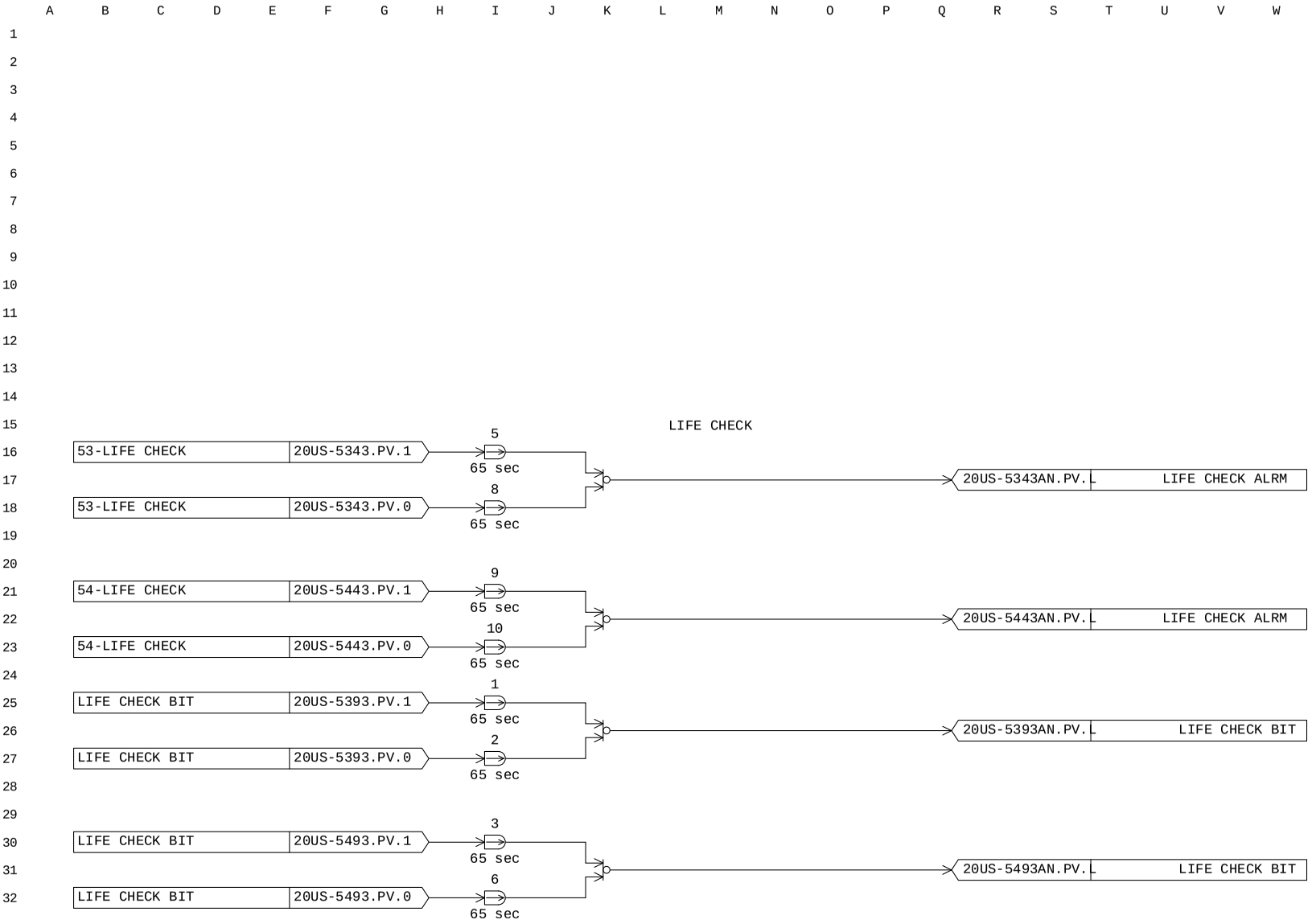
Basic

Tag Name	FCS01007LC01
Model Name	LC64-E
Tag Comment	UPS LIFECHK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS LIFECHK		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC01 UPS LIFECHK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	EMCS SEQ ANN		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC02 EMCS SEQ ANN)

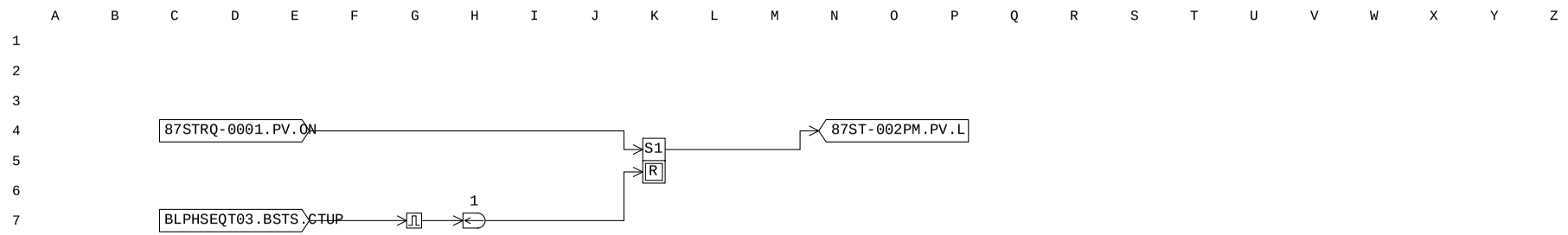
Basic

Tag Name	FCS01007LC02
Model Name	LC64
Tag Comment	EMCS SEQ ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC02.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	EMCS SEQ ANN		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC02 EMCS SEQ ANN)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————



PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC03.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS PAS DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC03 UPS PAS DO LOGIC)

Basic

Tag Name	FCS01007LC03
Model Name	LC64
Tag Comment	UPS PAS DO LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC03.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS PAS DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC03 UPS PAS DO LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS PAS DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC04 UPS PAS DO LOGIC)

Basic

Tag Name	FCS01007LC04
Model Name	LC64
Tag Comment	UPS PAS DO LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC04.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS PAS DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC04 UPS PAS DO LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS FG DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC05 UPS F&G DO LOGIC)

Basic

Tag Name	FCS01007LC05
Model Name	LC64
Tag Comment	UPS F&G DO LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC05.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS FG DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC05 UPS F&G DO LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS FG DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC06 UPS F&G DO LOGIC)

Basic

Tag Name	FCS01007LC06
Model Name	LC64
Tag Comment	UPS F&G DO LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC06.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	UPS FG DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC06 UPS F&G DO LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC08.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	ANN LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC08 ANN LOGIC)

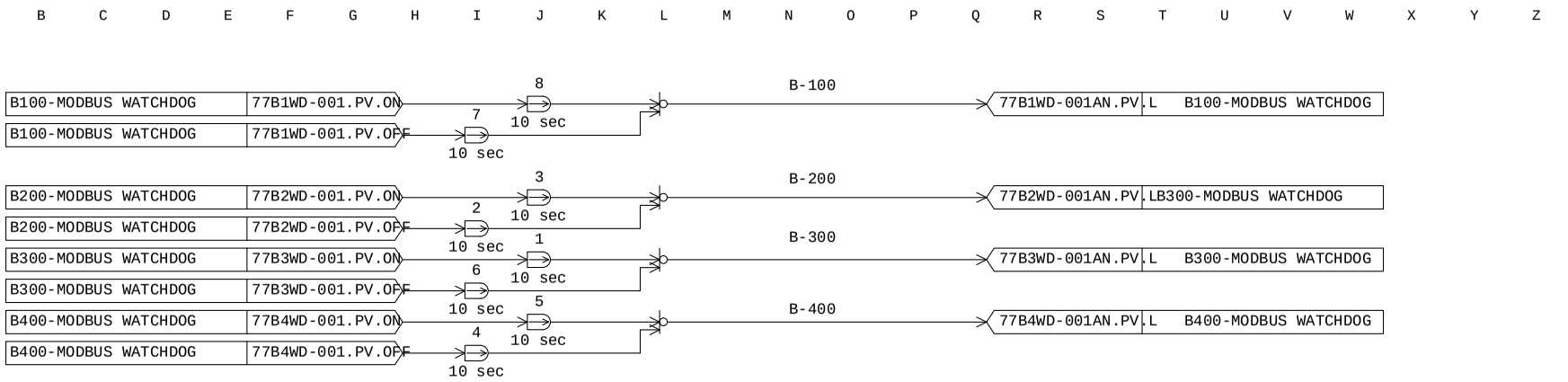
Basic

Tag Name	FCS01007LC08
Model Name	LC64
Tag Comment	ANN LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC08.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-16
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	ANN LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FCS01007LC08 ANN LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC07.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-4-17
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	HVAC DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS01007LC07 HVAC DO LOGIC)

Basic

Tag Name	FCS01007LC07
Model Name	LC64
Tag Comment	HVAC DO LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS01007LC07.edf	SHEET:		YOKOGAWA	PAGE:3-25-4-18
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:19 AM	COMMENT:	HVAC DO LOGIC		
SECTION:	DR0007	PRINTED DATE:	9/15/2025	DRAWER:			

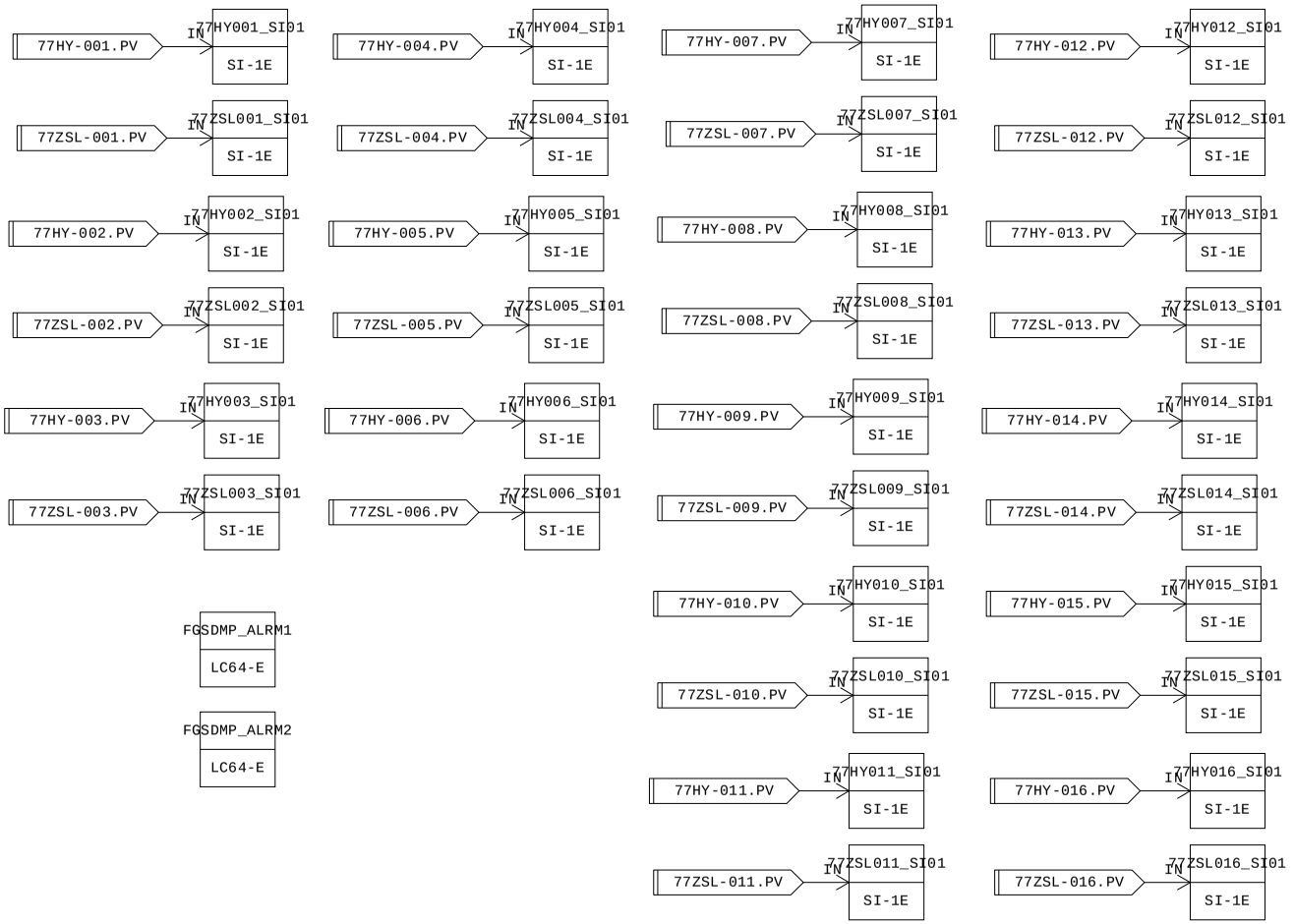
Logic Chart (FCS01007LC07 HVAC DO LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0008.edf	SHEET:		YOKOGAWA	PAGE:3-25-5-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	Damper Alarms		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0008.edf	SHEET:		YOKOGAWA	PAGE:3-25-5-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	Damper Alarms		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:Damper Alarms

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	FGSDMP_ALRM1	LC64-E	FGS DMP ALRM LOGIC	0	0	4			
002	77HY001_SI01	SI-1E	B100 F DAMP AHU1 INL.AIR	0	0	4			>77HY-001.PV
003	77ZSL001_SI01	SI-1E	B100 F DAMP AHU1 INL.AIR	0	0	4			>77ZSL-001.PV
004	77HY002_SI01	SI-1E	B100 F DAMP AHU2 INL.AIR	0	0	4			>77HY-002.PV
005	77ZSL002_SI01	SI-1E	B100 F DAMP AHU2 INL.AIR	0	0	4			>77ZSL-002.PV
006	77HY003_SI01	SI-1E	FIRE DUMP.1 B200 LV S.R	0	0	4			>77HY-003.PV
007	77ZSL003_SI01	SI-1E	B100 F DAMP EXHAUST AIR	0	0	4			>77ZSL-003.PV
008	77HY004_SI01	SI-1E	FIRE DUMP.2 B200 LV S.R	0	0	4			>77HY-004.PV
009	77ZSL004_SI01	SI-1E	B200 F DAMP AHU3 INL.AIR	0	0	4			>77ZSL-004.PV
010	77HY005_SI01	SI-1E	FIRE DUMP.1 B300 UPS RM	0	0	4			>77HY-005.PV
011	77ZSL005_SI01	SI-1E	B200 F DAMP AHU4 INL.AIR	0	0	4			>77ZSL-005.PV
012	77HY006_SI01	SI-1E	FIRE DUMP.2 B300 UPS RM	0	0	4			>77HY-006.PV
013	77ZSL006_SI01	SI-1E	B200 F DAMP EXHAUST AIR	0	0	4			>77ZSL-006.PV
014	77HY007_SI01	SI-1E	B300 F DAMP AHU5 INL.AIR	0	0	4			>77HY-007.PV
015	77ZSL007_SI01	SI-1E	B300 F DAMP AHU5 INL.AIR	0	0	4			>77ZSL-007.PV
016	77HY008_SI01	SI-1E	B300 F DAMP AHU5 RTN.AIR	0	0	4			>77HY-008.PV
017	77ZSL008_SI01	SI-1E	B300 F DAMP AHU5 RTN.AIR	0	0	4			>77ZSL-008.PV
018	77HY009_SI01	SI-1E	B300 F DAMP.AHU6 IL AIR	0	0	4			>77HY-009.PV
019	77ZSL009_SI01	SI-1E	B300 F DAMP.AHU6 IL AIR	0	0	4			>77ZSL-009.PV
020	77HY010_SI01	SI-1E	B300 F DAMP.AHU6 RT AIR	0	0	4			>77HY-010.PV
021	77ZSL010_SI01	SI-1E	B300 F DAMP.AHU6 RT AIR	0	0	4			>77ZSL-010.PV
022	77HY011_SI01	SI-1E	B300 F DAMP.EX AIR	0	0	4			>77HY-011.PV
023	77ZSL011_SI01	SI-1E	B300 F DAMP.EX AIR	0	0	4			>77ZSL-011.PV
024	77HY015_SI01	SI-1E	B400 F DAMP.AHU8 RT AIR	0	0	4			>77HY-015.PV
025	77ZSL015_SI01	SI-1E	B400 F DAMP.AHU8 RT AIR	0	0	4			>77ZSL-015.PV
026	77HY012_SI01	SI-1E	B400 F DAMP.AHU7 IL AIR	0	0	4			>77HY-012.PV
027	77ZSL012_SI01	SI-1E	B400 F DAMP.AHU7 IL AIR	0	0	4			>77ZSL-012.PV

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0008.edf	SHEET:		YOKOGAWA	PAGE:3-25-5-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	Damper Alarms		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

028	77HY013_SI01	SI-1E	B400 F DAMP.AHU7 RT AIR	0	0	4	>77HY-013.PV
029	77ZSL013_SI01	SI-1E	B400 F DAMP.AHU7 RT AIR	0	0	4	>77ZSL-013.PV
030	77HY014_SI01	SI-1E	B400 F DAMP.AHU8 IL AIR	0	0	4	>77HY-014.PV
031	77ZSL014_SI01	SI-1E	B400 F DAMP.AHU8 IL AIR	0	0	4	>77ZSL-014.PV
032	77HY016_SI01	SI-1E	B400 F DAMP.EX AIR	0	0	4	>77HY-016.PV
033	77ZSL016_SI01	SI-1E	B400 F DAMP.EX AIR	0	0	4	>77ZSL-016.PV
034	FGSDMP_ALRM2	LC64-E	FGS DMP ALRM LOGIC	0	0	4	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FGSDMP_ALRM1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-5-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	FGS DMP ALRM LOGIC		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FGSDMP_ALRM1 FGS DMP ALRM LOGIC)

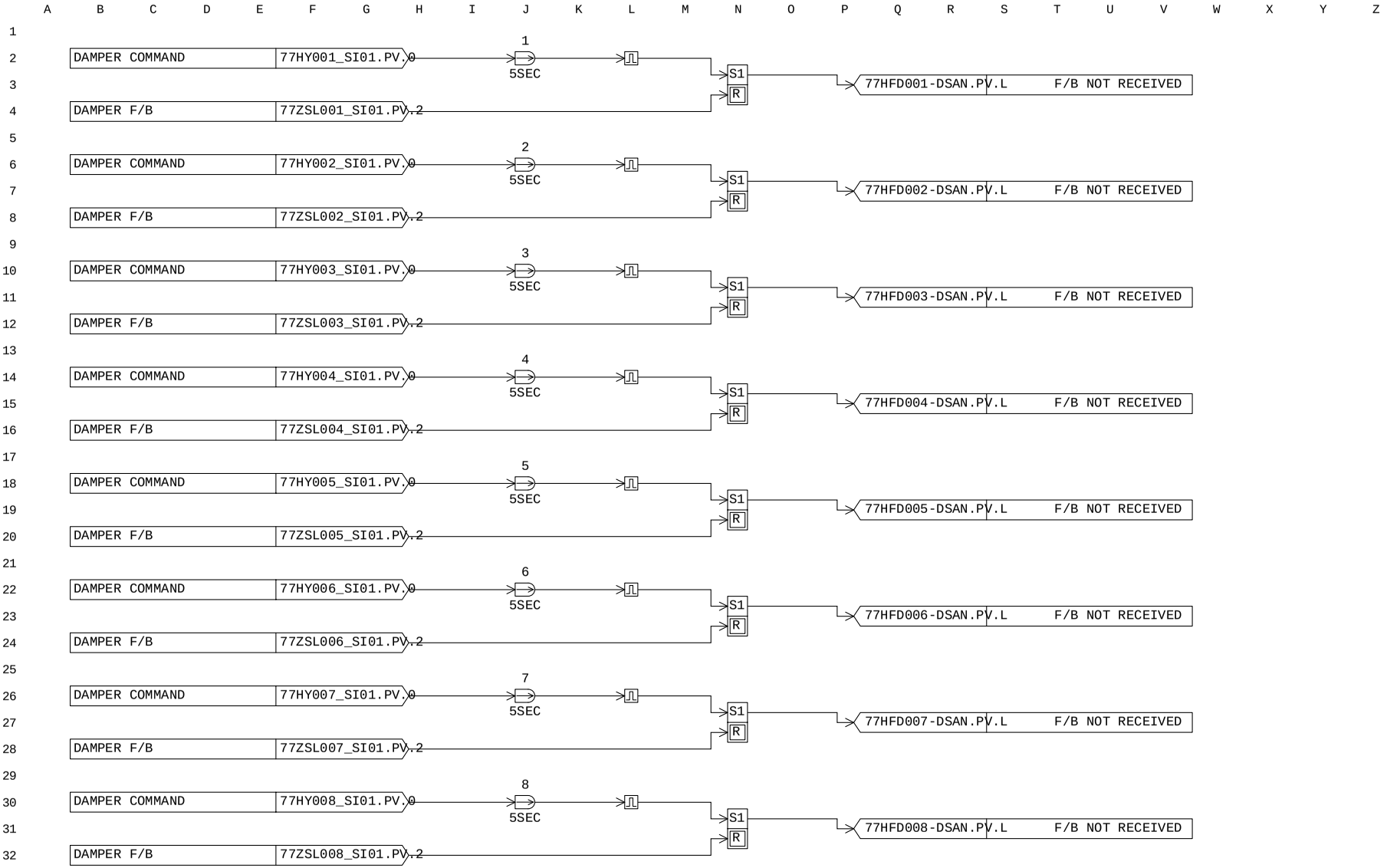
Basic

Tag Name	FGSDMP_ALRM1
Model Name	LC64-E
Tag Comment	FGS DMP ALRM LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FGSDMP_ALRM1.edf	SHEET:		YOKOGAWA	PAGE:3-25-5-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	FGS DMP ALRM LOGIC		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (FGSDMP_ALRM1 FGS DMP ALRM LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77HY001_SI01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-5-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	B100 F DAMP AHU1 INL.AIR		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77HY001_SI01 B100 F DAMP AHU1 INL.AIR)

Basic

Tag Name	77HY001_SI01
Model Name	SI-1E
Tag Comment	B100 F DAMP AHU1 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL001_SI01 B100 F DAMP AHU1 INL.AIR)

Basic

Tag Name	77ZSL001_SI01
Model Name	SI-1E
Tag Comment	B100 F DAMP AHU1 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY002_SI01 B100 F DAMP AHU2 INL.AIR)

Basic

Tag Name	77HY002_SI01
Model Name	SI-1E
Tag Comment	B100 F DAMP AHU2 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL002_SI01 B100 F DAMP AHU2 INL.AIR)

Basic

Tag Name	77ZSL002_SI01
Model Name	SI-1E
Tag Comment	B100 F DAMP AHU2 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ON,,OFF,ON
Label	Direct

Tag Detail (77HY003_SI01 FIRE DUMP.1 B200 LV S.R)

Basic

Tag Name	77HY003_SI01
Model Name	SI-1E
Tag Comment	FIRE DUMP.1 B200 LV S.R
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL003_SI01 B100 F DAMP EXHAUST AIR)

Basic

Tag Name	77ZSL003_SI01
Model Name	SI-1E
Tag Comment	B100 F DAMP EXHAUST AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY004_SI01 FIRE DUMP.2 B200 LV S.R)

Basic

Tag Name	77HY004_SI01
Model Name	SI-1E
Tag Comment	FIRE DUMP.2 B200 LV S.R
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

PROJECT:	BLPH-CW1	FILE NAME:	77HY004_SI01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-5-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	FIRE DUMP.2 B200 LV S.R		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77ZSL004_SI01 B200 F DAMP AHU3 INL.AIR)

Basic

Tag Name	77ZSL004_SI01
Model Name	SI-1E
Tag Comment	B200 F DAMP AHU3 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY005_SI01 FIRE DUMP.1 B300 UPS RM)

Basic

Tag Name	77HY005_SI01
Model Name	SI-1E
Tag Comment	FIRE DUMP.1 B300 UPS RM
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL005_SI01 B200 F DAMP AHU4 INL.AIR)

Basic

Tag Name	77ZSL005_SI01
Model Name	SI-1E
Tag Comment	B200 F DAMP AHU4 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY006_SI01 FIRE DUMP.2 B300 UPS RM)

Basic

Tag Name	77HY006_SI01
Model Name	SI-1E
Tag Comment	FIRE DUMP.2 B300 UPS RM
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL006_SI01 B200 F DAMP EXHAUST AIR)

Basic

Tag Name	77ZSL006_SI01
Model Name	SI-1E
Tag Comment	B200 F DAMP EXHAUST AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77HY007_SI01 B300 F DAMP AHU5 INL.AIR)

Basic

Tag Name	77HY007_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP AHU5 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL007_SI01 B300 F DAMP AHU5 INL.AIR)

Basic

Tag Name	77ZSL007_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP AHU5 INL.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	77ZSL007_SI01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-5-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	B300 F DAMP AHU5 INL.AIR		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77HY008_SI01 B300 F DAMP AHU5 RTN.AIR)

Basic

Tag Name	77HY008_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP AHU5 RTN.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL008_SI01 B300 F DAMP AHU5 RTN.AIR)

Basic

Tag Name	77ZSL008_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP AHU5 RTN.AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY009_SI01 B300 F DAMP.AHU6 IL AIR)

Basic

Tag Name	77HY009_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP.AHU6 IL AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSE,,N_CLOSE,CLOSE
Label	Reverse

Tag Detail (77ZSL009_SI01 B300 F DAMP.AHU6 IL AIR)

Basic

Tag Name	77ZSL009_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP.AHU6 IL AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY010_SI01 B300 F DAMP.AHU6 RT AIR)

Basic

Tag Name	77HY010_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP.AHU6 RT AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL010_SI01 B300 F DAMP.AHU6 RT AIR)

Basic

Tag Name	77ZSL010_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP.AHU6 RT AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY011_SI01 B300 F DAMP.EX AIR)

Basic

Tag Name	77HY011_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP.EX AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

PROJECT:	BLPH-CW1	FILE NAME:	77HY011_SI01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-5-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	B300 F DAMP.EX AIR		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77ZSL011_SI01 B300 F DAMP.EX AIR)

Basic

Tag Name	77ZSL011_SI01
Model Name	SI-1E
Tag Comment	B300 F DAMP.EX AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY015_SI01 B400 F DAMP.AHU8 RT AIR)

Basic

Tag Name	77HY015_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU8 RT AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL015_SI01 B400 F DAMP.AHU8 RT AIR)

Basic

Tag Name	77ZSL015_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU8 RT AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77HY012_SI01 B400 F DAMP.AHU7 IL AIR)

Basic

Tag Name	77HY012_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU7 IL AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL012_SI01 B400 F DAMP.AHU7 IL AIR)

Basic

Tag Name	77ZSL012_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU7 IL AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (77HY013_SI01 B400 F DAMP.AHU7 RT AIR)

Basic

Tag Name	77HY013_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU7 RT AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL013_SI01 B400 F DAMP.AHU7 RT AIR)

Basic

Tag Name	77ZSL013_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU7 RT AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED

Label	Direct

Tag Detail (77HY014_SI01 B400 F DAMP.AHU8 IL AIR)

Basic

Tag Name	77HY014_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU8 IL AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL014_SI01 B400 F DAMP.AHU8 IL AIR)

Basic

Tag Name	77ZSL014_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.AHU8 IL AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77HY016_SI01 B400 F DAMP.EX AIR)

Basic

Tag Name	77HY016_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.EX AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Reverse

Tag Detail (77ZSL016_SI01 B400 F DAMP.EX AIR)

Basic

Tag Name	77ZSL016_SI01
Model Name	SI-1E
Tag Comment	B400 F DAMP.EX AIR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	CLOSED,,N_CLOSED,CLOSED
Label	Direct

Tag Detail (FGSDMP_ALRM2 FGS DMP ALRM LOGIC)

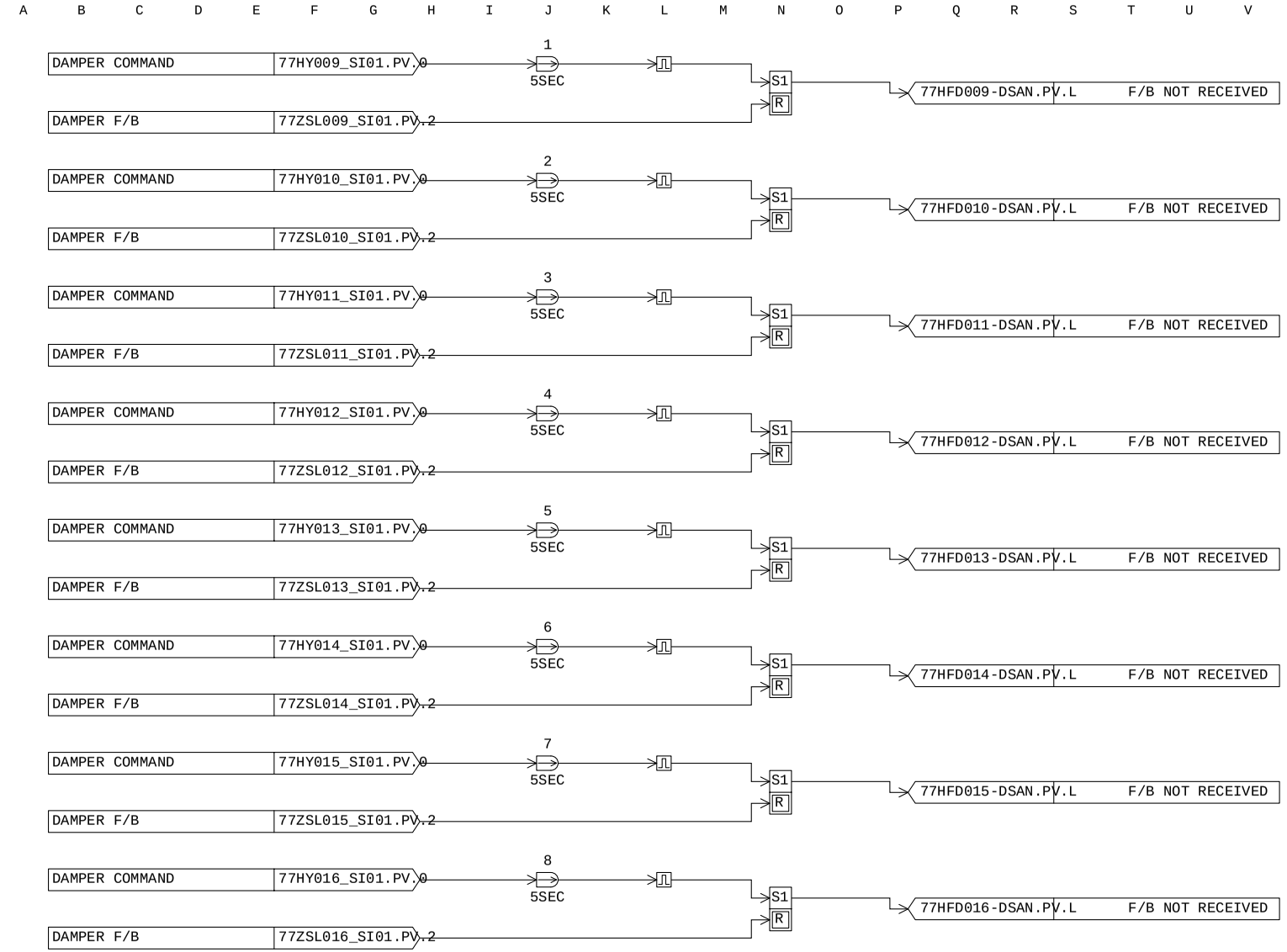
Basic

Tag Name	FGSDMP_ALRM2
Model Name	LC64-E
Tag Comment	FGS DMP ALRM LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FGSDMP_ALRM2.edf	SHEET:		YOKOGAWA	PAGE:3-25-5-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:22 AM	COMMENT:	FGS DMP ALRM LOGIC		
SECTION:	DR0008	PRINTED DATE:	9/15/2025	DRAWER:			

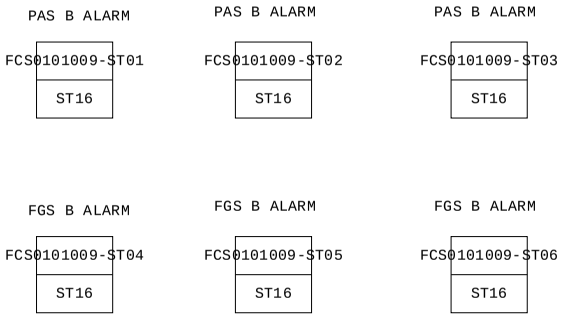
Logic Chart (FGSDMP_ALRM2 FGS DMP ALRM LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0009.edf	SHEET:		YOKOGAWA	PAGE:3-25-6-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 5:09:54 AM	COMMENT:	UPS B ALARMS		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0009.edf	SHEET:		YOKOGAWA	PAGE:3-25-6-2
STATION:	FCS0101	SAVED DATE:	5/3/2025 5:09:54 AM	COMMENT:	UPS B ALARMS		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:UPS B ALARMS

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	FCS0101009-ST01	ST16	PAS B ALARM	0	0				
						4			
002	FCS0101009-ST02	ST16	PAS B ALARM	0	0				
						4			
003	FCS0101009-ST03	ST16	PAS B ALARM	0	0				
						4			
004	FCS0101009-ST04	ST16	FGS B ALARM	0	0				
						4			
005	FCS0101009-ST05	ST16	FGS B ALARM	0	0				
						4			
006	FCS0101009-ST06	ST16	FGS B ALARM	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-3
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	PAS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101009-ST01 PAS B ALARM)

Basic

Tag Name	FCS0101009-ST01
Model Name	ST16
Tag Comment	PAS B ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-4
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	PAS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101009-ST01 PAS B ALARM)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20UA-5351.PV	ON	NON CRITICAL FAULT	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C02	20XA-5351.PV	ON	CRITICAL FAULT	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C03	20US-5357.PV	ON	USERDEF_DIGIN1ACTIVE	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C04	20US-5358.PV	ON	USERDEF_DIGIN2ACTIVE	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C05	20US-5359.PV	ON	USERDEF_DIGIN3ACTIVE	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C06	20US-5360.PV	ON	EMERGENCYSWITCHOFF	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C07	20XA-5352.PV	ON	DOU CAN FAULT	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C08	20XA-5353.PV	ON	MAINS FAULT	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C09	20US-5361.PV	ON	RECTIFIER WARNING	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C10	20XA-5354.PV	ON	RECTIFIER FAULT	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C11	20XA-5355.PV	ON	BATTERY ALARM	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	
C12	20US-5362.PV	ON	INVERTER WARNING	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	
C13	20XA-5356.PV	ON	INVERTER FAULT	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	
C14	20US-5363.PV	ON	SBS WARNING	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	
C15	20XA-5357.PV	ON	SBS FAULT	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	
C16	20US-5364.PV	ON	EQUALISING CHARGE	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	
C17	20US-5365.PV	ON	CHARGE	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	
C18	20US-5366.PV	ON	TRICKLE CHARGE	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	
C19	20UA-5352.PV	ON	GENSET OPERATION	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	
C20	20XA-5358.PV	ON	BATT TEMP SENS FAULT	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	
C21	20TA-5351.PV	ON	BATTERY TEMP TOHIGH	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	
C22	20XS-5351.PV	ON	CIRCUIT BREAKER	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	
C23	20US-5367.PV	ON	BATTERY WARNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	
C24	20US-5368.PV	ON	BATTERY LOW	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	
C25	20US-5369.PV	ON	OVERLOAD	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	
C26	20XA-5359.PV	ON	FAN FAULT	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	
C27	20UA-5353.PV	ON	OVERLOAD	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	
C28	20US-5370.PV	ON	SHORT CIRCUIT	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	
C29	20US-5371.PV	ON	DC UNDER VOLTAGE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	
C30	20US-5372.PV	ON	DC OVER VOLTAGE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	
C31				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	
C32				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	
A01	20UA-5351AN.PV	L	NON CRITICAL FAULT	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A02	20XA-5351AN.PV	L	CRITICAL FAULT	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A03	20US-5357AN.PV	L	USERDEF_DIGIN1ACTIVE	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A04	20US-5358AN.PV	L	USERDEF_DIGIN2ACTIVE	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A05	20US-5359AN.PV	L	USERDEF_DIGIN3ACTIVE	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A06	20US-5360AN.PV	L	EMERGENCYSWITCHOFF	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A07	20XA-5352AN.PV	L	DOU CAN FAULT	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A08	20XA-5353AN.PV	L	MAINS FAULT	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A09	20US-5361AN.PV	L	RECTIFIER WARNING	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A10	20XA-5354AN.PV	L	RECTIFIER FAULT	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A11	20XA-5355AN.PV	L	BATTERY ALARM	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	
A12	20US-5362AN.PV	L	INVERTER WARNING	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	
A13	20XA-5356AN.PV	L	INVERTER FAULT	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	
A14	20US-5363AN.PV	L	SBS WARNING	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	
A15	20XA-5357AN.PV	L	SBS FAULT	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	
A16	20US-5364AN.PV	L	EQUALISING CHARGE	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	
A17	20US-5365AN.PV	L	CHARGE	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	
A18	20US-5366AN.PV	L	TRICKLE CHARGE	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	
A19	20UA-5352AN.PV	L	GENSET OPERATION	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	
A20	20XA-5358AN.PV	L	BATT TEMP SENS FAULT	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	
A21	20TA-5351AN.PV	L	BATTERY TEMP TOHIGH	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	
A22	20XS-5351AN.PV	L	CIRCUIT BREAKER	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	
A23	20US-5367AN.PV	L	BATTERY WARNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	
A24	20US-5368AN.PV	L	BATTERY LOW	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	
A25	20US-5369AN.PV	L	OVERLOAD	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	
A26	20XA-5359AN.PV	L	FAN FAULT	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	
A27	20UA-5353AN.PV	L	OVERLOAD	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	
A28	20US-5370AN.PV	L	SHORT CIRCUIT	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	
A29	20US-5371AN.PV	L	DC UNDER VOLTAGE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	
A30	20US-5372AN.PV	L	DC OVER VOLTAGE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	
A31				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	
A32				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	
	PREV		THEN	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
	NEXT		ELSE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-5
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	PAS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101009-ST02 PAS B ALARM)

Basic

Tag Name	FCS0101009-ST02
Model Name	ST16
Tag Comment	PAS B ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-6
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	PAS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101009-ST02 PAS B ALARM)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	20XA-5360.PV	ON	POWER STACK OVERTEMP	Y							
C02	20RDY5351.PV	ON	SBS READY	.Y							
C03	20XA-5361.PV	ON	SBS MAINS FAULT	..Y							
C04	20US-5373.PV	ON	SBSB LOCKED	...Y							
C05	20US-5374.PV	ON	RECTIFIER ON		Y						
C06	20US-5375.PV	ON	INVERTER ON		.Y						
C07	20US-5376.PV	ON	SBS ON		..Y						
C08											
C09	20UA-5354.PV	ON	BATTERTY MCCB OPEN			Y					
C10	20UA-5355.PV	ON	USERDEF_AUX2 - RECT			.Y					
C11	20UA-5356.PV	ON	USERDEF_AUX3 - RECT			..Y					
C12	20UA-5357.PV	ON	USERDEF_AUX4 - RECT			...Y					
C13	20UA-5358.PV	ON	USERDEF_AUX5 - RECT			Y					
C14	20UA-5359.PV	ON	USERDEF_AUX6 - RECT			.Y					
C15	20UA-5360.PV	ON	USERDEF_AUX7- RECT			..Y					
C16	20UA-5361.PV	ON	BATTERTY MCCB OPEN			...Y					
C17	20UA-5362.PV	ON	USERDEF_AUX2 - INV				Y				
C18	20UA-5363.PV	ON	USERDEF_AUX3 - INV				.Y				
C19	20UA-5364.PV	ON	USERDEF_AUX4 - INV				..Y				
C20	20UA-5365.PV	ON	USERDEF_AUX5 - INV				...Y				
C21	20UA-5366.PV	ON	USERDEF_AUX6 - INV					Y			
C22	20UA-5367.PV	ON	USERDEF_AUX7 - INV					.Y			
C23	20UA-5368.PV	ON	USERDEF_AUX1 - SBS					..Y			
C24	20UA-5369.PV	ON	USERDEF_AUX2 - SBS					...Y			
C25	20UA-5370.PV	ON	USERDEF_AUX3 - SBS						Y		
C26	20UA-5371.PV	ON	USERDEF_AUX4 - SBS						.Y		
C27	20UA-5372.PV	ON	USERDEF_AUX5 - SBS						..Y		
C28	20UA-5373.PV	ON	USERDEF_AUX6 - SBS						...Y		
C29	20UA-5374.PV	ON	USERDEF_AUX7 - SBS							Y	
C30										.Y	
C31										..Y	
C32										...Y	
A01	20XA-5360AN.PV	L	POWER STACK OVERTEMP	Y							
A02	20RDY5351AN.PV	L	SBS READY	.Y							
A03	20XA-5361AN.PV	L	SBS MAINS FAULT	..Y							
A04	20US-5373AN.PV	L	SBSB LOCKED	...Y							
A05	20US-5374AN.PV	L	RECTIFIER ON		Y						
A06	20US-5375AN.PV	L	INVERTER ON		.Y						
A07	20US-5376AN.PV	L	SBS ON		..Y						
A08					...Y						
A09	20UA-5354AN.PV	L	BATTERTY MCCB OPEN			Y					
A10	20UA-5355AN.PV	L	USERDEF_AUX2 - RECT			.Y					
A11	20UA-5356AN.PV	L	USERDEF_AUX3 - RECT			..Y					
A12	20UA-5357AN.PV	L	USERDEF_AUX4 - RECT			...Y					
A13	20UA-5358AN.PV	L	USERDEF_AUX5 - RECT			Y					
A14	20UA-5359AN.PV	L	USERDEF_AUX6 - RECT			.Y					
A15	20UA-5360AN.PV	L	USERDEF_AUX7- RECT			..Y					
A16	20UA-5361AN.PV	L	USERDEF_AUX1 - INV			...Y					
A17	20UA-5362AN.PV	L	USERDEF_AUX2 - INV				Y				
A18	20UA-5363AN.PV	L	USERDEF_AUX3 - INV				.Y				
A19	20UA-5364AN.PV	L	USERDEF_AUX4 - INV				..Y				
A20	20UA-5365AN.PV	L	USERDEF_AUX5 - INV				...Y				
A21	20UA-5366AN.PV	L	USERDEF_AUX6 - INV					Y			
A22	20UA-5367AN.PV	L	USERDEF_AUX7 - INV					.Y			
A23	20UA-5368AN.PV	L	USERDEF_AUX1 - SBS					..Y			
A24	20UA-5369AN.PV	L	USERDEF_AUX2 - SBS					...Y			
A25	20UA-5370AN.PV	L	USERDEF_AUX3 - SBS						Y		
A26	20UA-5371AN.PV	L	USERDEF_AUX4 - SBS						.Y		
A27	20UA-5372AN.PV	L	USERDEF_AUX5 - SBS						..Y		
A28	20UA-5373AN.PV	L	USERDEF_AUX6 - SBS						...Y		
A29	20UA-5374AN.PV	L	USERDEF_AUX7 - SBS							Y	
A30										.Y	
A31										..Y	
A32										...Y	
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-7
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	PAS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101009-ST03 PAS B ALARM)

Basic

Tag Name	FCS0101009-ST03
Model Name	ST16
Tag Comment	PAS B ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-8
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	PAS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101009-ST03 PAS B ALARM)

Start Timing — Periodic Execution Type(T)
Output Timing — Output Each Time Conditions are Satisfied(E)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01				Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C02				. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C03				. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C04				. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C05				. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C06				. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C07				. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C08				. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C09				. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C10				. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C11				. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	
C12				. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	
C13	20US-5381.PV	ON	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	
C14	20US-5382.PV	ON	TEST IMPL WAITNG APPROVA	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	
C15	20US-5383.PV	ON	TEST APPROVED	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	
C16	20US-5384.PV	ON	TEST RUNNING	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	
C17	20US-5385.PV	ON	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	
C18	20US-5386.PV	ON	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	
C19	20UA-5375.PV	ON	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	
C20	20XA-5365.PV	ON	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	
C21				. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	
C22				. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	
C23	20US-5387.PV	ON	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	
C24	20US-5388.PV	ON	TEST IMPL WAITNG APPROVA	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	
C25	20US-5389.PV	ON	TEST APPROVED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	
C26	20US-5390.PV	ON	TEST RUNNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	
C27	20US-5391.PV	ON	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	
C28	20US-5392.PV	ON	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	
C29	20UA-5376.PV	ON	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	
C30	20XA-5366.PV	ON	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	
C31				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	
C32				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	
A01				Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A02				. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A03				. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A04				. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A05				. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A06				. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A07				. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A08				. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A09				. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A10				. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A11				. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	
A12				. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	
A13	20US-5381AN.PV	L	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	
A14	20US-5382AN.PV	L		. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	
A15	20US-5383AN.PV	L	TEST APPROVED	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	
A16	20US-5384AN.PV	L	TEST RUNNING	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	
A17	20US-5385AN.PV	L	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	
A18	20US-5386AN.PV	L	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	
A19	20UA-5375AN.PV	L	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	
A20	20XA-5365AN.PV	L	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	
A21				. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	
A22				. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	
A23	20US-5387AN.PV	L	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	
A24	20US-5388AN.PV	L		. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	
A25	20US-5389AN.PV	L	TEST APPROVED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	
A26	20US-5390AN.PV	L	TEST RUNNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	
A27	20US-5391AN.PV	L	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	
A28	20US-5392AN.PV	L	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	
A29	20UA-5376AN.PV	L	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	
A30	20XA-5366AN.PV	L	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	
A31				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	
A32				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	
PREV			THEN	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
NEXT			ELSE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-9
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	FGS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101009-ST04 FGS B ALARM)

Basic

Tag Name	FCS0101009-ST04
Model Name	ST16
Tag Comment	FGS B ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-10
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	FGS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101009-ST04 FGS B ALARM)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20UA-5451.PV	ON	NONCRITICAL FAULT	Y								
C02	20XA-5451.PV	ON	CRITICAL FAULT	.Y								
C03	20US-5457.PV	ON	USERDEF_DIGIN1ACTIVE	..Y								
C04	20US-5458.PV	ON	USERDEF_DIGIN2ACTIVE	...Y								
C05	20US-5459.PV	ON	USERDEF_DIGIN3ACTIVE		Y							
C06	20US-5460.PV	ON	EMERGENCYSWITCHOFF		.Y							
C07	20XA-5452.PV	ON	DOUCAN FAULT		..Y							
C08	20XA-5453.PV	ON	MAINS FAULT		...Y							
C09	20US-5461.PV	ON	RECTIFIER WARNING			Y						
C10	20XA-5454.PV	ON	RECTIFIER FAULT			.Y						
C11	20XA-5455.PV	ON	BATTERY ALARM			..Y						
C12	20US-5462.PV	ON	INVERTER WARNING			...Y						
C13	20XA-5456.PV	ON	INVERTER FAULT				Y					
C14	20US-5463.PV	ON	SBS WARNING				.Y					
C15	20XA-5457.PV	ON	SBS FAULT				..Y					
C16	20US-5464.PV	ON	EQUALISING CHARGE				...Y					
C17	20UA-5477.PV	ON	CHARGE					Y				
C18	20UA-5478.PV	ON	TRICKLE CHARGE					.Y				
C19	20UA-5452.PV	ON	GEN SET OPERATION					..Y				
C20	20XA-5458.PV	ON	BATTT EMP SENS FAULT					...Y				
C21	20TA-5451.PV	ON	BATTERY TEMP TO HIGH						Y			
C22	20XS-5451.PV	ON	CIRCUIT BREAKER						.Y			
C23	20US-5467.PV	ON	BATTERY WARNING						..Y			
C24	20US-5468.PV	ON	BATTERY LOW						...Y			
C25	20US-5469.PV	ON	OVERLOAD							Y		
C26	20XA-5459.PV	ON	FAN FAULT							.Y		
C27	20UA-5453.PV	ON	OVERLOAD							..Y		
C28	20US-5470.PV	ON	SHORT CIRCUIT							...Y		
C29	20US-5471.PV	ON	DC UNDER VOLTAGE								Y	
C30	20US-5472.PV	ON	DC OVER VOLTAGE								.Y	
C31											..Y	
C32											...Y	
A01	20UA-5451AN.PV	L	NON CRITICAL FAULT	Y								
A02	20XA-5451AN.PV	L	CRITICAL FAULT	.Y								
A03	20US-5457AN.PV	L	USERDEF_DIGIN1ACTIVE	..Y								
A04	20US-5458AN.PV	L	USERDEF_DIGIN2ACTIVE	...Y								
A05	20US-5459AN.PV	L	USERDEF_DIGIN3ACTIVE		Y							
A06	20US-5460AN.PV	L	EMERGENCYSWITCHOFF		.Y							
A07	20XA-5452AN.PV	L	DOU CAN FAULT		..Y							
A08	20XA-5453AN.PV	L	MAINS FAULT		...Y							
A09	20US-5461AN.PV	L	RECTIFIER WARNING			Y						
A10	20XA-5454AN.PV	L	RECTIFIER FAULT			.Y						
A11	20XA-5455AN.PV	L	BATTERY ALARM			..Y						
A12	20US-5462AN.PV	L	INVERTER WARNING			...Y						
A13	20XA-5456AN.PV	L	INVERTER FAULT				Y					
A14	20US-5463AN.PV	L	SBS WARNING				.Y					
A15	20XA-5457AN.PV	L	SBS FAULT				..Y					
A16	20US-5464AN.PV	L	EQUALISING CHARGE				...Y					
A17	20UA-5477AN.PV	L	CHARGE					Y				
A18	20UA-5478AN.PV	L	TRICKLE CHARGE					.Y				
A19	20UA-5452AN.PV	L	GENSET OPERATION					..Y				
A20	20XA-5458AN.PV	L	BATT TEMP SENS FAULT					...Y				
A21	20TA-5451AN.PV	L	BATTERY TEMP TOHIGH						Y			
A22	20XS-5451AN.PV	L	CIRCUIT BREAKER						.Y			
A23	20US-5467AN.PV	L	BATTERY WARNING						..Y			
A24	20US-5468AN.PV	L	BATTERY LOW						...Y			
A25	20US-5469AN.PV	L	OVERLOAD							Y		
A26	20XA-5459AN.PV	L	FAN FAULT							.Y		
A27	20UA-5453AN.PV	L	OVERLOAD							..Y		
A28	20US-5470AN.PV	L	SHORT CIRCUIT							...Y		
A29	20US-5471AN.PV	L	DC UNDER VOLTAGE								Y	
A30	20US-5472AN.PV	L	DC OVER VOLTAGE								.Y	
A31											..Y	
A32											...Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-11
STATION:	FCS0101	SAVED DATE:	5/3/2025 5:09:54 AM	COMMENT:	FGS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101009-ST05 FGS B ALARM)

Basic

Tag Name	FCS0101009-ST05
Model Name	ST16
Tag Comment	FGS B ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-12
STATION:	FCS0101	SAVED DATE:	5/3/2025 5:09:54 AM	COMMENT:	FGS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101009-ST05 FGS B ALARM)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	20XA-5460.PV	ON	POWER STACK OVERTEMP	Y							
C02	20RDY5451.PV	ON	SBSREADY	.Y							
C03	20XA-5461.PV	ON	SBSMAINS FAULT	..Y							
C04	20US-5473.PV	ON	SBSBLOCKED	...Y							
C05	20US-5474.PV	ON	RECTIFIERON		Y						
C06	20US-5475.PV	ON	INVERTERON		.Y						
C07	20US-5476.PV	ON	SBS ON		..Y						
C08											
C09	20UA-5454.PV	ON	BATTERTY MCCB OPEN			Y					
C10	20UA-5455.PV	ON	USERDEF_AUX2 - RECT			.Y					
C11	20UA-5456.PV	ON	USERDEF_AUX3 - RECT			..Y					
C12	20UA-5457.PV	ON	USERDEF_AUX4 - RECT			...Y					
C13	20UA-5458.PV	ON	USERDEF_AUX5 - RECT			Y					
C14	20UA-5459.PV	ON	USERDEF_AUX6 - RECT			.Y					
C15	20UA-5460.PV	ON	USERDEF_AUX7- RECT			..Y					
C16	20UA-5461.PV	ON	BATTERTY MCCB OPEN			...Y					
C17	20UA-5462.PV	ON	USERDEF_AUX2 - INV				Y				
C18	20UA-5463.PV	ON	USERDEF_AUX3 - INV				.Y				
C19	20UA-5464.PV	ON	USERDEF_AUX4 - INV				..Y				
C20	20UA-5465.PV	ON	USERDEF_AUX5 - INV				...Y				
C21	20UA-5466.PV	ON	USERDEF_AUX6 - INV					Y			
C22	20UA-5467.PV	ON	USERDEF_AUX7 - INV					.Y			
C23	20UA-5468.PV	ON	USERDEF_AUX1 - SBS					..Y			
C24	20UA-5469.PV	ON	USERDEF_AUX2 - SBS					...Y			
C25	20UA-5470.PV	ON	USERDEF_AUX3 - SBS						Y		
C26	20UA-5471.PV	ON	USERDEF_AUX4 - SBS						.Y		
C27	20UA-5472.PV	ON	USERDEF_AUX5 - SBS						..Y		
C28	20UA-5473.PV	ON	USERDEF_AUX6 - SBS						...Y		
C29	20UA-5474.PV	ON	USERDEF_AUX7 - SBS							Y	
C30										.Y	
C31										..Y	
C32										...Y	
A01	20XA-5460AN.PV	L	POWER STACK OVERTEMP	Y							
A02	20RDY5451AN.PV	L	SBS READY	.Y							
A03	20XA-5461AN.PV	L	SBS MAINS FAULT	..Y							
A04	20US-5473AN.PV	L	SBSB LOCKED	...Y							
A05	20US-5474AN.PV	L	RECTIFIER ON		Y						
A06	20US-5475AN.PV	L	INVERTER ON		.Y						
A07	20US-5476AN.PV	L	SBS ON		..Y						
A08											
A09	20UA-5454AN.PV	L	USERDEF_AUX1 - RECT			Y					
A10	20UA-5455AN.PV	L	USERDEF_AUX2 - RECT			.Y					
A11	20UA-5456AN.PV	L	USERDEF_AUX3 - RECT			..Y					
A12	20UA-5457AN.PV	L	USERDEF_AUX4 - RECT			...Y					
A13	20UA-5458AN.PV	L	USERDEF_AUX5 - RECT			Y					
A14	20UA-5459AN.PV	L	USERDEF_AUX6 - RECT			.Y					
A15	20UA-5460AN.PV	L	USERDEF_AUX7- RECT			..Y					
A16	20UA-5461AN.PV	L	USERDEF_AUX1 - INV			...Y					
A17	20UA-5462AN.PV	L	USERDEF_AUX2 - INV				Y				
A18	20UA-5463AN.PV	L	USERDEF_AUX3 - INV				.Y				
A19	20UA-5464AN.PV	L	USERDEF_AUX4 - INV				..Y				
A20	20UA-5465AN.PV	L	USERDEF_AUX5 - INV				...Y				
A21	20UA-5466AN.PV	L	USERDEF_AUX6 - INV					Y			
A22	20UA-5467AN.PV	L	USERDEF_AUX7 - INV					.Y			
A23	20UA-5468AN.PV	L	USERDEF_AUX1 - SBS					..Y			
A24	20UA-5469AN.PV	L	USERDEF_AUX2 - SBS					...Y			
A25	20UA-5470AN.PV	L	USERDEF_AUX3 - SBS						Y		
A26	20UA-5471AN.PV	L	USERDEF_AUX4 - SBS						.Y		
A27	20UA-5472AN.PV	L	USERDEF_AUX5 - SBS						..Y		
A28	20UA-5473AN.PV	L	USERDEF_AUX6 - SBS						...Y		
A29	20UA-5474AN.PV	L	USERDEF_AUX7 - SBS							Y	
A30										.Y	
A31										..Y	
A32										...Y	
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-13
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	FGS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101009-ST06 FGS B ALARM)

Basic

Tag Name	FCS0101009-ST06
Model Name	ST16
Tag Comment	FGS B ALARM
Lvl	4

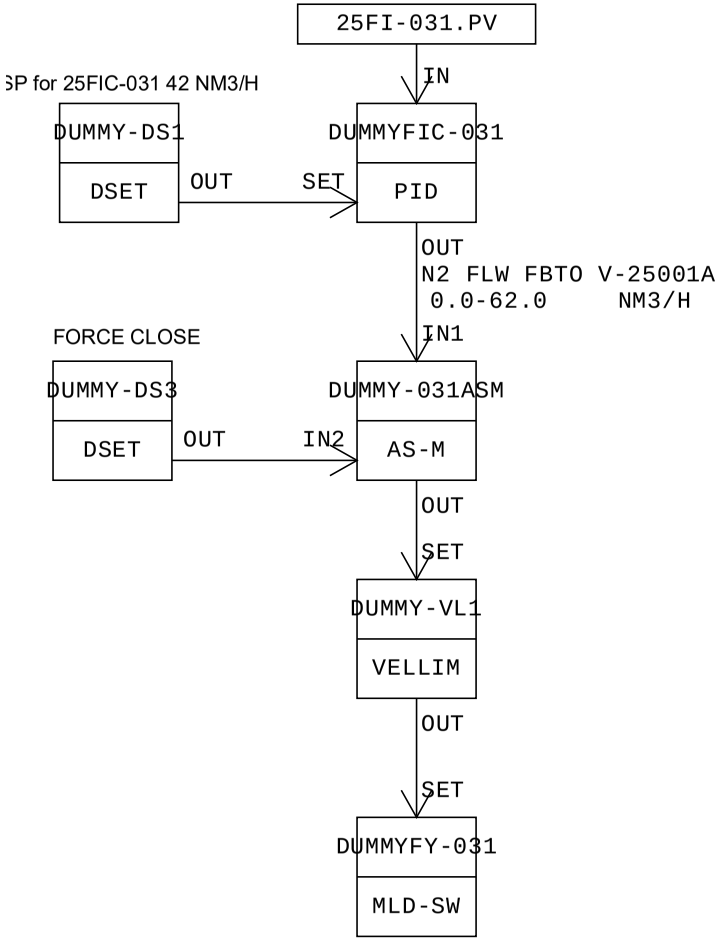
PROJECT:	BLPH-CW1	FILE NAME:	FCS0101009-ST06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-6-14
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:47:23 AM	COMMENT:	FGS B ALARM		
SECTION:	DR0009	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101009-ST06 FGS B ALARM)

Start Timing — Periodic Execution Type(T)
Output Timing — Output Each Time Conditions are Satisfied(E)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01				Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C02				. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C03				. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C04				. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C05				. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C06				. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C07				. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C08				. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C09				. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C10				. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	
C11				. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	
C12				. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	
C13				. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	
C14	20US-5481.PV	ON	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	
C15	20US-5482.PV	ON	TEST IMPL WAITNG APPROVA	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	
C16	20US-5483.PV	ON	TEST APPROVED	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	
C17	20US-5484.PV	ON	TEST RUNNING	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	
C18	20US-5485.PV	ON	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	
C19	20US-5486.PV	ON	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	
C20	20UA-5475.PV	ON	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	
C21	20XA-5465.PV	ON	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	
C22				. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	
C23				. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	
C24	20US-5487.PV	ON	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	
C25	20US-5488.PV	ON	TEST IMPL WAITING FOR AP	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	
C26	20US-5489.PV	ON	TEST APPROVED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	
C27	20US-5490.PV	ON	TEST RUNNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	
C28	20US-5491.PV	ON	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	
C29	20US-5492.PV	ON	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	
C30	20UA-5476.PV	ON	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	
C31	20XA-5466.PV	ON	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	
C32				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	
A01				Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A02				. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A03				. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A04				. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A05				. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A06				. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A07				. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A08				. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A09				. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A10				. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	. . . .	
A11				. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	. . . .	
A12				. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	. . . .	
A13				. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	. . . .	
A14	20US-5481AN.PV	L	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	. . . .	
A15	20US-5482AN.PV	L		. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	. . . .	
A16	20US-5483AN.PV	L	TEST APPROVED	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	. . . .	
A17	20US-5484AN.PV	L	TEST RUNNING	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	. . . .	
A18	20US-5485AN.PV	L	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	. . . .	
A19	20US-5486AN.PV	L	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	. . . .	
A20	20UA-5475AN.PV	L	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	. . . .	
A21	20XA-5465AN.PV	L	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	. . . .	
A22				. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	. . . .	
A23				. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	. . . .	
A24	20US-5487AN.PV	L	TEST NOT IMPLEMENTED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	. . . .	
A25	20US-5488AN.PV	L		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	. . . .	
A26	20US-5489AN.PV	L	TEST APPROVED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	. . . .	
A27	20US-5490AN.PV	L	TEST RUNNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	. . . .	
A28	20US-5491AN.PV	L	TEST SUCCESSFUL	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	. . . .	
A29	20US-5492AN.PV	L	TEST CANCELLED	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	Y . . .	
A30	20UA-5476AN.PV	L	TEST WARNING	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. Y . .	
A31	20XA-5466AN.PV	L	TEST ERROR	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . Y .	
A32				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . Y	
	PREV		THEN	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
	NEXT		ELSE	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
				. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	

PROJECT:	BLPH-CW1	FILE NAME:	DR0014.edf	SHEET:		YOKOGAWA	PAGE:3-25-7-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 1:11:02 AM	COMMENT:			
SECTION:	DR0014	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0014.edf	SHEET:		YOKOGAWA	PAGE:3-25-7-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 1:11:02 AM	COMMENT:			
SECTION:	DR0014	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	DUMMY-DS1	DSET	SET POINT 25FIC-031	0	62.0	NM3/H			
		DUMMYFIC-031.SET				4			
002	DUMMYFIC-031	PID	N2 FLW FBTO V-25001A	0.0	62.0	NM3/H	No	No	25FI-031.PV
		DUMMY-031ASM.IN1		DUMMY-DS1.OUT		3			
003	DUMMY-DS3	DSET	FOCE CLOSE 25FIC-031	0.0	100.0	(None)			
		DUMMY-031ASM.IN2				4			
004	DUMMY-031ASM	AS-M	V-25001A SELECTOR	0.0	100.0	%			
		DUMMY-VL1.SET				4			
005	DUMMY-VL1	VELLIM	N2 FLW FBTO V-25001A	0	0	%			
		DUMMYFY-031.SET		DUMMY-031ASM.OUT		4			
006	DUMMYFY-031	MLD-SW	N2 CMD TO V-25001A	0	0	%			
				DUMMY-VL1.OUT		3			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DUMMY-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-7-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 1:11:02 AM	COMMENT:	SET POINT 25FIC-031		
SECTION:	DR0014	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (DUMMY-DS1 SET POINT 25FIC-031)

Basic

Tag Name	DUMMY-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-031
Lvl	4
Scan Period	Basic Scan

Tag Detail (DUMMYFIC-031 N2 FLW FBTO V-25001A)

Basic

Tag Name	DUMMYFIC-031
Model Name	PID
Tag Comment	N2 FLW FBTO V-25001A
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (DUMMY-DS3 FOCE CLOSE 25FIC-031)

Basic

Tag Name	DUMMY-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-031
Lvl	4
Scan Period	Basic Scan

Tag Detail (DUMMY-031ASM V-25001A SELECTOR)

Basic

Tag Name	DUMMY-031ASM
Model Name	AS-M
Tag Comment	V-25001A SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	DUMMYFIC-031.OUT
Signal Input 2(IN2)	DUMMY-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	DUMMY-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (DUMMY-VL1 N2 FLW FBTO V-25001A)

Basic

Tag Name	DUMMY-VL1
Model Name	VELLIM
Tag Comment	N2 FLW FBTO V-25001A
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (DUMMYFY-031 N2 CMD TO V-25001A)

Basic

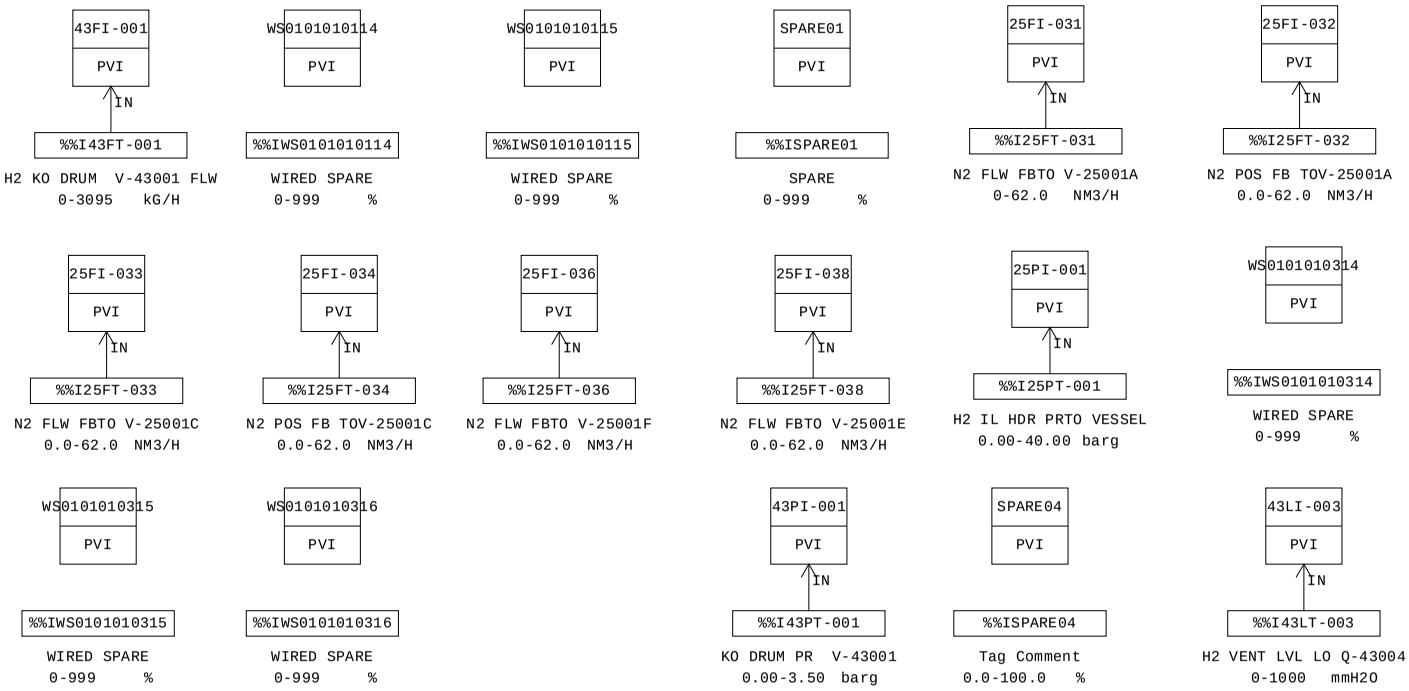
Tag Name	DUMMYFY-031
Model Name	MLD-SW

PROJECT:	BLPH-CW1	FILE NAME:	DUMMYFY-031.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-7-4
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:23:02 AM	COMMENT:	N2 CMD TO V-25001A		
SECTION:	DR0014	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Comment	N2 CMD TO V-25001A
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

PROJECT:	BLPH-CW1	FILE NAME:	DR0021.edf	SHEET:		YOKOGAWA	PAGE:3-25-8-1
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:14:39 AM	COMMENT:	PVI INDICATOR		
SECTION:	DR0021	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0021 | BLPH-CW | TYP001 | PVI INDICATOR]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0021.edf	SHEET:		YOKOGAWA	PAGE:3-25-8-2
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:14:39 AM	COMMENT:	PVI INDICATOR		
SECTION:	DR0021	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:PVI INDICATOR

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FI-031	PVI	N2 FLW FBTO V-25001A	0	62.0	NM3/H	No	Second	%%I25FT-031
						4			
002	25FI-032	PVI	N2 POS FB TOV-25001A	0.0	62.0	NM3/H	No	Second	%%I25FT-032
						4			
003	25PI-001	PVI	H2 IL HDR PRTO VESSEL	0.00	40.00	barg	No	No	%%I25PT-001
						4			
004	SPARE04	PVI		0.0	100.0	%	No	No	
						4			
005	WS0101010114	PVI	WIRED SPARE	0	999	%	No	No	
						4			
006	WS0101010115	PVI	WIRED SPARE	0	999	%	No	No	
						4			
007	SPARE01	PVI	SPARE	0	999	%	No	No	
						4			
008	25FI-033	PVI	N2 FLW FBTO V-25001C	0.0	62.0	NM3/H	No	Second	%%I25FT-033
						4			
009	25FI-034	PVI	N2 POS FB TOV-25001C	0.0	62.0	NM3/H	No	Second	%%I25FT-034
						4			
010	43FI-001	PVI	H2 KO DRUM V-43001 FLW	0	3095	kG/H	No	No	%%I43FT-001
						4			
011	25FI-036	PVI	N2 FLW FBTO V-25001F	0.0	62.0	NM3/H	No	Second	%%I25FT-036
						4			
012	25FI-038	PVI	N2 FLW FBTO V-25001E	0.0	62.0	NM3/H	No	Second	%%I25FT-038
						4			
013	WS0101010315	PVI	WIRED SPARE	0	999	%	No	No	
						4			
014	WS0101010314	PVI	WIRED SPARE	0	999	%	No	No	
						4			
015	43PI-001	PVI	KO DRUM PR V-43001	0.00	3.50	barg	No	No	%%I43PT-001
						4			
016	43LI-003	PVI	H2 VENT LVL LO Q-43004	0	1000	mmH2O	No	No	%%I43LT-003
						4			
017	WS0101010316	PVI	WIRED SPARE	0	999	%	No	No	
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FI-031.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-8-3
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:14:39 AM	COMMENT:	N2 FLW FBTO V-25001A		
SECTION:	DR0021	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FI-031 N2 FLW FBTO V-25001A)

Basic

Tag Name	25FI-031
Model Name	PVI
Tag Comment	N2 FLW FBTO V-25001A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	Second
Totalizer Low-Input Cut Value	0%

Tag Detail (25FI-032 N2 POS FB TOV-25001A)

Basic

Tag Name	25FI-032
Model Name	PVI
Tag Comment	N2 POS FB TOV-25001A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	Second
Totalizer Low-Input Cut Value	0%

Tag Detail (25PI-001 H2 IL HDR PRTO VESSEL)

Basic

Tag Name	25PI-001
Model Name	PVI
Tag Comment	H2 IL HDR PRTO VESSEL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE04)

Basic

Tag Name	SPARE04
Model Name	PVI
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (WS0101010114 WIRED SPARE)

Basic

Tag Name	WS0101010114
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	WS0101010114.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-8-4
STATION:	FCS0101	SAVED DATE:	5/3/2025 4:26:53 AM	COMMENT:	WIRED SPARE		
SECTION:	DR0021	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (WS0101010115 WIRED SPARE)

Basic

Tag Name	WS0101010115
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE01 SPARE)

Basic

Tag Name	SPARE01
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FI-033 N2 FLW FBTO V-25001C)

Basic

Tag Name	25FI-033
Model Name	PVI
Tag Comment	N2 FLW FBTO V-25001C
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	Second
Totalizer Low-Input Cut Value	0%

Tag Detail (25FI-034 N2 POS FB TOV-25001C)

Basic

Tag Name	25FI-034
Model Name	PVI
Tag Comment	N2 POS FB TOV-25001C
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	Second
Totalizer Low-Input Cut Value	0%

Tag Detail (43FI-001 H2 KO DRUM V-43001 FLW)

Basic

Tag Name	43FI-001
Model Name	PVI
Tag Comment	H2 KO DRUM V-43001 FLW
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	43FI-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-8-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:25 AM	COMMENT:	H2 KO DRUM V-43001 FLW		
SECTION:	DR0021	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FI-036 N2 FLW FBTO V-25001F)

Basic

Tag Name	25FI-036
Model Name	PVI
Tag Comment	N2 FLW FBTO V-25001F
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	Second
Totalizer Low-Input Cut Value	0%

Tag Detail (25FI-038 N2 FLW FBTO V-25001E)

Basic

Tag Name	25FI-038
Model Name	PVI
Tag Comment	N2 FLW FBTO V-25001E
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	Second
Totalizer Low-Input Cut Value	0%

Tag Detail (WS0101010315 WIRED SPARE)

Basic

Tag Name	WS0101010315
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (WS0101010314 WIRED SPARE)

Basic

Tag Name	WS0101010314
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (43PI-001 KO DRUM PR V-43001)

Basic

Tag Name	43PI-001
Model Name	PVI
Tag Comment	KO DRUM PR V-43001
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	43PI-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-8-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:25 AM	COMMENT:	KO DRUM PR V-43001		
SECTION:	DR0021	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (43LI-003 H2 VENT LVL LO Q-43004)

Basic

Tag Name	43LI-003
Model Name	PVI
Tag Comment	H2 VENT LVL LO Q-43004
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

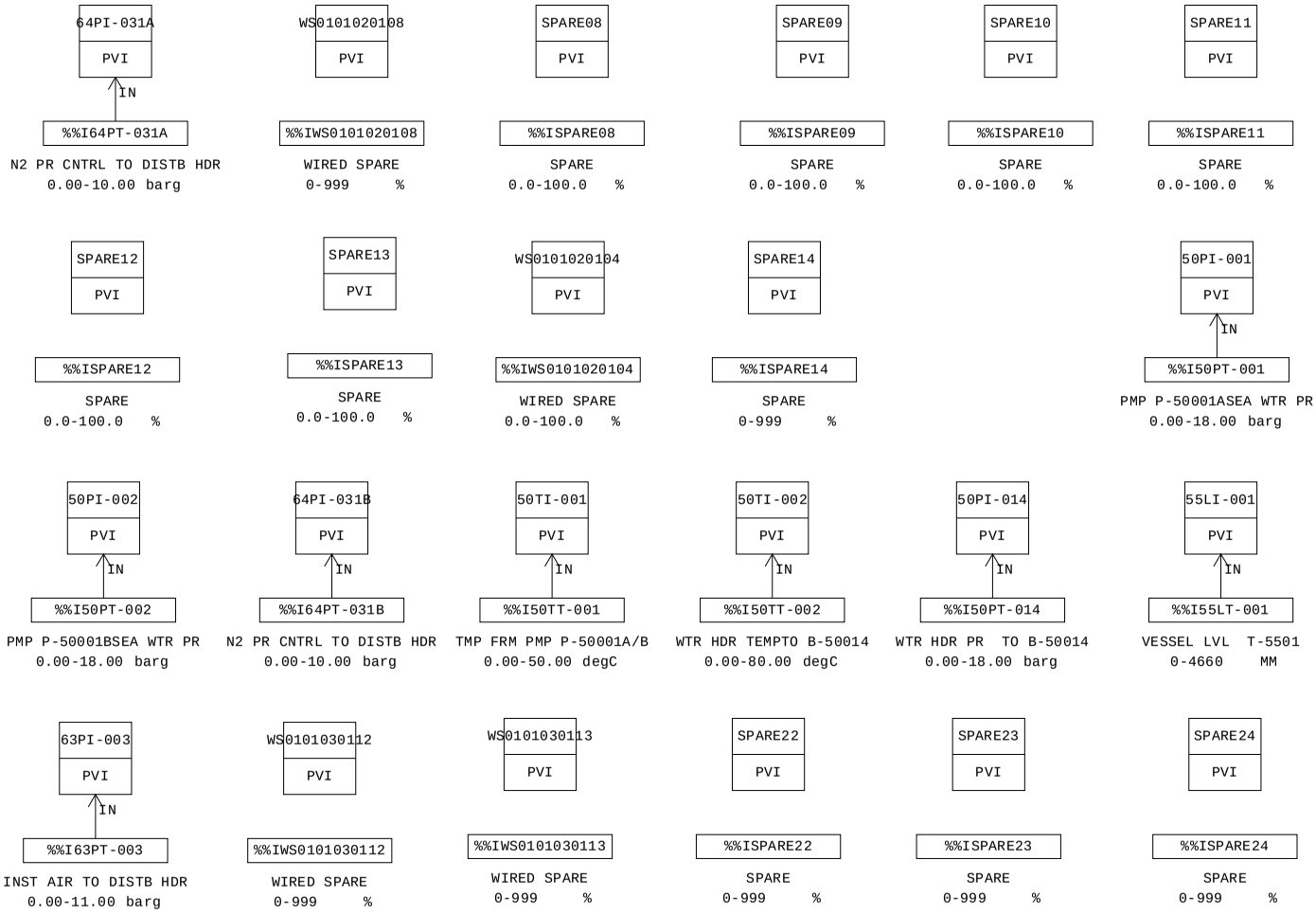
Tag Detail (WS0101010316 WIRED SPARE)

Basic

Tag Name	WS0101010316
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0022.edf	SHEET:		YOKOGAWA	PAGE:3-25-9-1
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:54:27 AM	COMMENT:	PVI INDICATOR		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0022 | BLPH-CW | TYP001 | PVI INDICATOR]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0022.edf	SHEET:		YOKOGAWA	PAGE:3-25-9-2
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:54:27 AM	COMMENT:	PVI INDICATOR		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:PVI INDICATOR

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	50PI-001	PVI	PMP P-50001ASEA WTR PR	0.00	18.00	barg	No	No	%%I50PT-001
						4			
002	50TI-001	PVI	TMP FRM PMP P-50001A/B	0.00	50.00	degC	No	No	%%I50TT-001
						4			
003	50PI-002	PVI	PMP P-50001BSEA WTR PR	0.00	18.00	barg	No	No	%%I50PT-002
						4			
004	50PI-014	PVI	WTR HDR PR TO B-50014	0.00	18.00	barg	No	No	%%I50PT-014
						4			
005	50TI-002	PVI	WTR HDR TEMPTO B-50014	0.00	80.00	degC	No	No	%%I50TT-002
						4			
006	55LI-001	PVI	VESSEL LVL T-5501	0	4660	MM	No	No	%%I55LT-001
						4			
007	WS0101020108	PVI	WIRED SPARE	0	999	%	No	No	
						4			
008	64PI-031A	PVI	N2 PR CNTRL TO DISTB HDR	0.00	10.00	barg	No	No	%%I64PT-031A
						4			
009	SPARE08	PVI	SPARE	0.0	100.0	%	No	No	
						4			
010	WS0101020104	PVI	WIRED SPARE	0.0	100.0	%	No	No	
						4			
011	SPARE14	PVI	SPARE	0	999	%	No	No	
						4			
012	64PI-031B	PVI	N2 PR CNTRL TO DISTB HDR	0.00	10.00	barg	No	No	%%I64PT-031B
						4			
013	63PI-003	PVI	INST AIR TO DISTB HDR	0.00	11.00	barg	No	No	%%I63PT-003
						4			
014	WS0101030112	PVI	WIRED SPARE	0	999	%	No	No	
						4			
015	WS0101030113	PVI	WIRED SPARE	0	999	%	No	No	
						4			
016	SPARE22	PVI	SPARE	0	999	%	No	No	
						4			
017	SPARE23	PVI	SPARE	0	999	%	No	No	
						4			
018	SPARE24	PVI	SPARE	0	999	%	No	No	
						4			
019	SPARE09	PVI	SPARE	0.0	100.0	%	No	No	
						4			
020	SPARE10	PVI	SPARE	0.0	100.0	%	No	No	
						4			
021	SPARE11	PVI	SPARE	0.0	100.0	%	No	No	
						4			
022	SPARE13	PVI	SPARE	0.0	100.0	%	No	No	
						4			
023	SPARE12	PVI	SPARE	0.0	100.0	%	No	No	
						4			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50PI-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-9-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:28 AM	COMMENT:	PMP P-50001ASEA WTR PR		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PI-001 PMP P-50001ASEA WTR PR)

Basic

Tag Name	50PI-001
Model Name	PVI
Tag Comment	PMP P-50001ASEA WTR PR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50TI-001 TMP FRM PMP P-50001A/B)

Basic

Tag Name	50TI-001
Model Name	PVI
Tag Comment	TMP FRM PMP P-50001A/B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-002 PMP P-50001BSEA WTR PR)

Basic

Tag Name	50PI-002
Model Name	PVI
Tag Comment	PMP P-50001BSEA WTR PR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-014 WTR HDR PR TO B-50014)

Basic

Tag Name	50PI-014
Model Name	PVI
Tag Comment	WTR HDR PR TO B-50014
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50TI-002 WTR HDR TEMPTO B-50014)

Basic

Tag Name	50TI-002
Model Name	PVI
Tag Comment	WTR HDR TEMPTO B-50014
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	50TI-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-9-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:28 AM	COMMENT:	WTR HDR TEMPTO B-50014		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (55LI-001 VESSEL LVL T-5501)

Basic

Tag Name	55LI-001
Model Name	PVI
Tag Comment	VESSEL LVL T-5501
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (WS0101020108 WIRED SPARE)

Basic

Tag Name	WS0101020108
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI-031A N2 PR CNTRL TO DISTB HDR)

Basic

Tag Name	64PI-031A
Model Name	PVI
Tag Comment	N2 PR CNTRL TO DISTB HDR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE08 SPARE)

Basic

Tag Name	SPARE08
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (WS0101020104 WIRED SPARE)

Basic

Tag Name	WS0101020104
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	WS0101020104.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-9-5
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:54:27 AM	COMMENT:	WIRED SPARE		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SPARE14 SPARE)

Basic

Tag Name	SPARE14
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI-031B N2 PR CNTRL TO DISTB HDR)

Basic

Tag Name	64PI-031B
Model Name	PVI
Tag Comment	N2 PR CNTRL TO DISTB HDR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63PI-003 INST AIR TO DISTB HDR)

Basic

Tag Name	63PI-003
Model Name	PVI
Tag Comment	INST AIR TO DISTB HDR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (WS0101030112 WIRED SPARE)

Basic

Tag Name	WS0101030112
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (WS0101030113 WIRED SPARE)

Basic

Tag Name	WS0101030113
Model Name	PVI
Tag Comment	WIRED SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	WS0101030113.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-9-6
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:54:27 AM	COMMENT:	WIRED SPARE		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SPARE22 SPARE)

Basic

Tag Name	SPARE22
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE23 SPARE)

Basic

Tag Name	SPARE23
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE24 SPARE)

Basic

Tag Name	SPARE24
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE09 SPARE)

Basic

Tag Name	SPARE09
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE10 SPARE)

Basic

Tag Name	SPARE10
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	SPARE10.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-9-7
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:54:27 AM	COMMENT:	SPARE		
SECTION:	DR0022	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SPARE11 SPARE)

Basic

Tag Name	SPARE11
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE13 SPARE)

Basic

Tag Name	SPARE13
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (SPARE12 SPARE)

Basic

Tag Name	SPARE12
Model Name	PVI
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0024.edf	SHEET:		YOKOGAWA	PAGE:3-25-10-1
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:52:10 AM	COMMENT:	ANALOG OUTPUT		
SECTION:	DR0024	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0022 | BLPH-CW | TYP001 | ANALOG OUTPUT]

SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
SPARE02	SPARE03	SPARE15	SPARE16	SPARE17	SPARE18	SPARE19	SPARE20
MLD	MLD	MLD	MLD	MLD	MLD	MLD	MLD
%%OSPARE02	%%OSPARE03	%%OSPARE15	%%OSPARE16	%%OSPARE17	%%OSPARE18	%%OSPARE19	%%OSPARE20
0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0
WIRED SPARE	WIRED SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
WS0101030309	WS0101030310	SPARE25	SPARE26	SPARE27	SPARE28	SPARE29	SPARE30
MLD	MLD	MLD	MLD	MLD	MLD	MLD	MLD
%%OWS0101030309	%%OWS0101030310	%%OSPARE25	%%OSPARE26	%%OSPARE27	%%OSPARE28	%%OSPARE29	%%OSPARE30
0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0	0.0-100.0

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0024.edf	SHEET:		YOKOGAWA	PAGE:3-25-10-2
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:52:10 AM	COMMENT:	ANALOG OUTPUT		
SECTION:	DR0024	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:ANALOG OUTPUT

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	SPARE15	MLD	SPARE	0	0	4			
002	SPARE16	MLD	SPARE	0	0	4			
003	SPARE17	MLD	SPARE	0	0	4			
004	SPARE18	MLD	SPARE	0	0	4			
005	SPARE19	MLD	SPARE	0	0	4			
006	SPARE20	MLD	SPARE	0	0	4			
007	WS0101030309	MLD	WIRED SPARE	0	0	4			
008	WS0101030310	MLD	WIRED SPARE	0	0	4			
009	SPARE25	MLD	SPARE	0	0	4			
010	SPARE26	MLD	SPARE	0	0	4			
011	SPARE27	MLD	SPARE	0	0	4			
012	SPARE28	MLD	SPARE	0	0	4			
013	SPARE29	MLD	SPARE	0	0	4			
014	SPARE30	MLD	SPARE	0	0	4			
015	SPARE02	MLD	SPARE	0	0	4			
016	SPARE03	MLD	SPARE	0	0	4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SPARE15.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-10-3
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:52:10 AM	COMMENT:	SPARE		
SECTION:	DR0024	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SPARE15 SPARE)

Basic

Tag Name	SPARE15
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE16 SPARE)

Basic

Tag Name	SPARE16
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE17 SPARE)

Basic

Tag Name	SPARE17
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE18 SPARE)

Basic

Tag Name	SPARE18
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE19 SPARE)

Basic

Tag Name	SPARE19
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE20 SPARE)

Basic

Tag Name	SPARE20
Model Name	MLD

PROJECT:	BLPH-CW1	FILE NAME:	SPARE20.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-10-4
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:52:10 AM	COMMENT:	SPARE		
SECTION:	DR0024	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Comment SPARE
Lvl 4
Scan Period Basic Scan
Open/Close mark No
Output Signal Conversion
Output Signal Conversion No
Output Value for Full-open 106.25
Output Value for Tight-shut -17.19
Fully-open/Tightly-shut Yes

Tag Detail (WS0101030309 WIRED SPARE)

Basic
Tag Name WS0101030309
Model Name MLD
Tag Comment WIRED SPARE
Lvl 4
Scan Period Basic Scan
Open/Close mark No
Output Signal Conversion
Output Signal Conversion No
Output Value for Full-open 106.25
Output Value for Tight-shut -17.19
Fully-open/Tightly-shut Yes

Tag Detail (WS0101030310 WIRED SPARE)

Basic
Tag Name WS0101030310
Model Name MLD
Tag Comment WIRED SPARE
Lvl 4
Scan Period Basic Scan
Open/Close mark No
Output Signal Conversion
Output Signal Conversion No
Output Value for Full-open 106.25
Output Value for Tight-shut -17.19
Fully-open/Tightly-shut Yes

Tag Detail (SPARE25 SPARE)

Basic
Tag Name SPARE25
Model Name MLD
Tag Comment SPARE
Lvl 4
Scan Period Basic Scan
Open/Close mark No
Output Signal Conversion
Output Signal Conversion No
Output Value for Full-open 106.25
Output Value for Tight-shut -17.19
Fully-open/Tightly-shut Yes

Tag Detail (SPARE26 SPARE)

Basic
Tag Name SPARE26
Model Name MLD
Tag Comment SPARE
Lvl 4
Scan Period Basic Scan
Open/Close mark No
Output Signal Conversion
Output Signal Conversion No
Output Value for Full-open 106.25
Output Value for Tight-shut -17.19
Fully-open/Tightly-shut Yes

Tag Detail (SPARE27 SPARE)

Basic
Tag Name SPARE27
Model Name MLD
Tag Comment SPARE
Lvl 4
Scan Period Basic Scan
Open/Close mark No
Output Signal Conversion

PROJECT:	BLPH-CW1	FILE NAME:	SPARE27.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-10-5
STATION:	FCS0101	SAVED DATE:	4/28/2025 8:52:10 AM	COMMENT:	SPARE		
SECTION:	DR0024	PRINTED DATE:	9/15/2025	DRAWER:			

Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE28 SPARE)

Basic

Tag Name	SPARE28
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE29 SPARE)

Basic

Tag Name	SPARE29
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE30 SPARE)

Basic

Tag Name	SPARE30
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (SPARE02 SPARE)

Basic

Tag Name	SPARE02
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

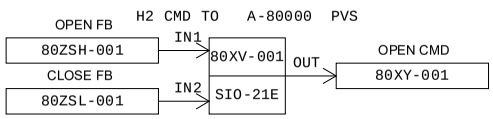
Tag Detail (SPARE03 SPARE)

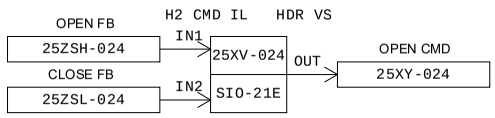
Basic

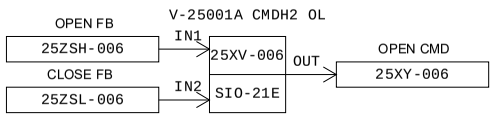
Tag Name	SPARE03
Model Name	MLD
Tag Comment	SPARE
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

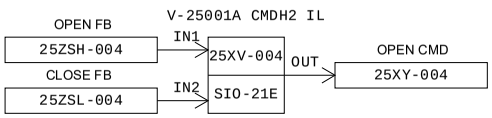
PROJECT:	BLPH-CW1	FILE NAME:	DR0031.edf	SHEET:		YOKOGAWA	PAGE:3-25-11-1
STATION:	FCS0101	SAVED DATE:	7/17/2025 12:15:59 AM	COMMENT:	TYP003- ON/OFF VALVES		
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

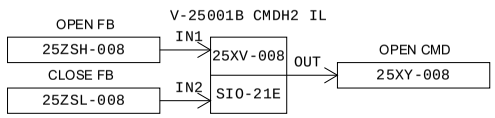
[FCS0101 | DR0031 | BLPH-CW | TYP003 | ON/OFF VALVES]

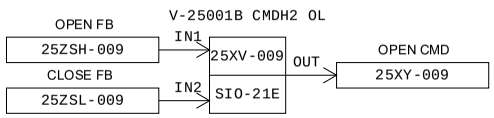


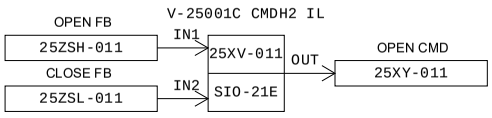


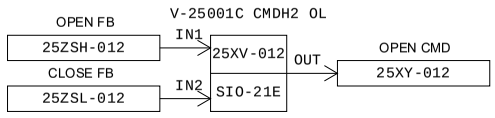


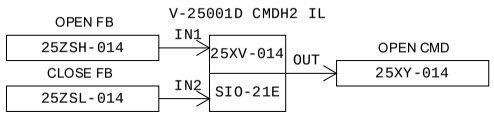


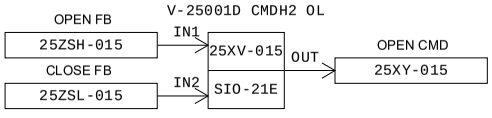


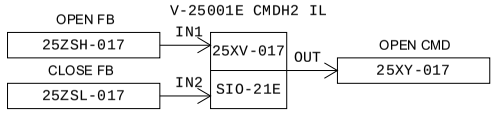


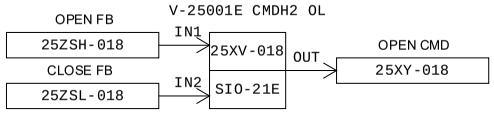


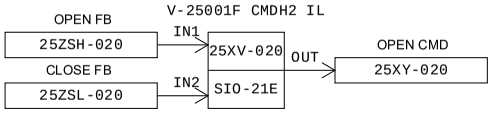


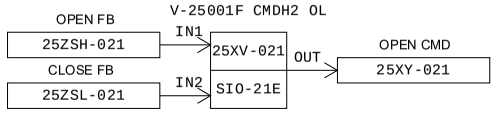
















MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0031.edf	SHEET:		YOKOGAWA	PAGE:3-25-11-2
STATION:	FCS0101	SAVED DATE:	7/17/2025 12:15:59 AM	COMMENT:	TYP003- ON/OFF VALVES		
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP003_001	TYP003	2024/10/17 05:05	XV VALVES
002	TYP003_002	TYP003	2024/10/17 05:05	ON/OFF VALVE
003	TYP003_003	TYP003	2024/10/17 05:05	ON/OFF VALVE
004	TYP003_004	TYP003	2024/10/17 05:05	ON/OFF VALVE
005	TYP003_007	TYP003	2024/10/17 05:05	ON/OFF VALVE
006	TYP003_008	TYP003	2024/10/17 05:05	ON/OFF VALVE
007	TYP003_009	TYP003	2024/10/17 05:05	ON/OFF VALVE
008	TYP003_010	TYP003	2024/10/17 05:05	ON/OFF VALVE
009	TYP003_011	TYP003	2024/10/17 05:05	ON/OFF VALVE
010	TYP003_012	TYP003	2024/10/17 05:05	ON/OFF VALVE
011	TYP003_015	TYP003	2024/10/17 05:05	ON/OFF VALVE
012	TYP003_016	TYP003	2024/10/17 05:05	ON/OFF VALVE
013	TYP003_017	TYP003	2024/10/17 05:05	ON/OFF VALVE
014	TYP003_018	TYP003	2024/10/17 05:05	ON/OFF VALVE

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0031.edf	SHEET:		YOKOGAWA	PAGE:3-25-11-3
STATION:	FCS0101	SAVED DATE:	7/17/2025 12:15:59 AM	COMMENT:	TYP003- ON/OFF VALVES		
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:TYP003- ON/OFF VALVES

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25XV-024	SIO-21E	H2 CMD IL HDR VS	0	0				
		25XY-024				3			
002	25XV-006	SIO-21E	V-25001A CMDH2 OL	0	0				
		25XY-006				3			
003	25XV-004	SIO-21E	V-25001A CMDH2 IL	0	0				
		25XY-004				3			
004	25XV-008	SIO-21E	V-25001B CMDH2 IL	0	0				
		25XY-008				3			
005	25XV-009	SIO-21E	V-25001B CMDH2 OL	0	0				
		25XY-009				3			
006	25XV-011	SIO-21E	V-25001C CMDH2 IL	0	0				
		25XY-011				3			
007	25XV-012	SIO-21E	V-25001C CMDH2 OL	0	0				
		25XY-012				3			
008	25XV-014	SIO-21E	V-25001D CMDH2 IL	0	0				
		25XY-014				3			
009	25XV-015	SIO-21E	V-25001D CMDH2 OL	0	0				
		25XY-015				3			
010	80XV-001	SIO-21E	H2 CMD TO A-80000 PVS	0	0				
		80XY-001				3			
011	25XV-017	SIO-21E	V-25001E CMDH2 IL	0	0				
		25XY-017				3			
012	25XV-018	SIO-21E	V-25001E CMDH2 OL	0	0				
		25XY-018				3			
013	25XV-020	SIO-21E	V-25001F CMDH2 IL	0	0				
		25XY-020				3			
014	25XV-021	SIO-21E	V-25001F CMDH2 OL	0	0				
		25XY-021				3			
015	80REL-XV	RL		0	0				
						4			
016	80LC001	LC64		0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25XV-024.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-11-4
STATION:	FCS0101	SAVED DATE:	7/17/2025 12:15:59 AM	COMMENT:	H2 CMD IL HDR VS		
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25XV-024 H2 CMD IL HDR VS)

Basic

Tag Name	25XV-024
Model Name	SIO-21E
Tag Comment	H2 CMD IL HDR VS
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-006 V-25001A CMDH2 OL)

Basic

Tag Name	25XV-006
Model Name	SIO-21E
Tag Comment	V-25001A CMDH2 OL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-004 V-25001A CMDH2 IL)

Basic

Tag Name	25XV-004
Model Name	SIO-21E
Tag Comment	V-25001A CMDH2 IL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-008 V-25001B CMDH2 IL)

Basic

Tag Name	25XV-008
Model Name	SIO-21E
Tag Comment	V-25001B CMDH2 IL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-009 V-25001B CMDH2 OL)

Basic

Tag Name	25XV-009
Model Name	SIO-21E
Tag Comment	V-25001B CMDH2 OL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-011 V-25001C CMDH2 IL)

Basic

Tag Name	25XV-011
Model Name	SIO-21E
Tag Comment	V-25001C CMDH2 IL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-012 V-25001C CMDH2 OL)

Basic

Tag Name	25XV-012
Model Name	SIO-21E
Tag Comment	V-25001C CMDH2 OL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	25XV-012.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-11-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:34 AM	COMMENT:	V-25001C CMDH2 OL		
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25XV-014 V-25001D CMDH2 IL)

Basic

Tag Name	25XV-014
Model Name	SIO-21E
Tag Comment	V-25001D CMDH2 IL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-015 V-25001D CMDH2 OL)

Basic

Tag Name	25XV-015
Model Name	SIO-21E
Tag Comment	V-25001D CMDH2 OL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (80XV-001 H2 CMD TO A-80000 PVS)

Basic

Tag Name	80XV-001
Model Name	SIO-21E
Tag Comment	H2 CMD TO A-80000 PVS
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-017 V-25001E CMDH2 IL)

Basic

Tag Name	25XV-017
Model Name	SIO-21E
Tag Comment	V-25001E CMDH2 IL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-018 V-25001E CMDH2 OL)

Basic

Tag Name	25XV-018
Model Name	SIO-21E
Tag Comment	V-25001E CMDH2 OL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-020 V-25001F CMDH2 IL)

Basic

Tag Name	25XV-020
Model Name	SIO-21E
Tag Comment	V-25001F CMDH2 IL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (25XV-021 V-25001F CMDH2 OL)

Basic

Tag Name	25XV-021
Model Name	SIO-21E
Tag Comment	V-25001F CMDH2 OL
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	25XV-021.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-11-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:34 AM	COMMENT:	V-25001F CMDH2 OL		
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (80REL-XV)

Basic

Tag Name	80REL-XV
Model Name	RL
Tag Comment	
Lvl	4

Relational Expression

No. X	Operator	Y	Comment
001 25PI-055.PV	Relational Operation	8.00	
002 25PI-055.PV	Relational Operation	5.50	

Tag Detail (80LC001)

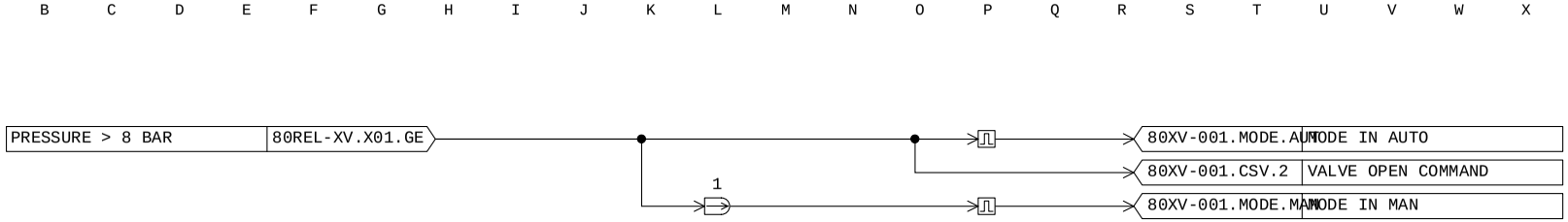
Basic

Tag Name	80LC001
Model Name	LC64
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	80LC001.edf	SHEET:		YOKOGAWA	PAGE:3-25-11-7
STATION:	FCS0101	SAVED DATE:	6/28/2025 2:00:12 AM	COMMENT:			
SECTION:	DR0031	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (80LC001)

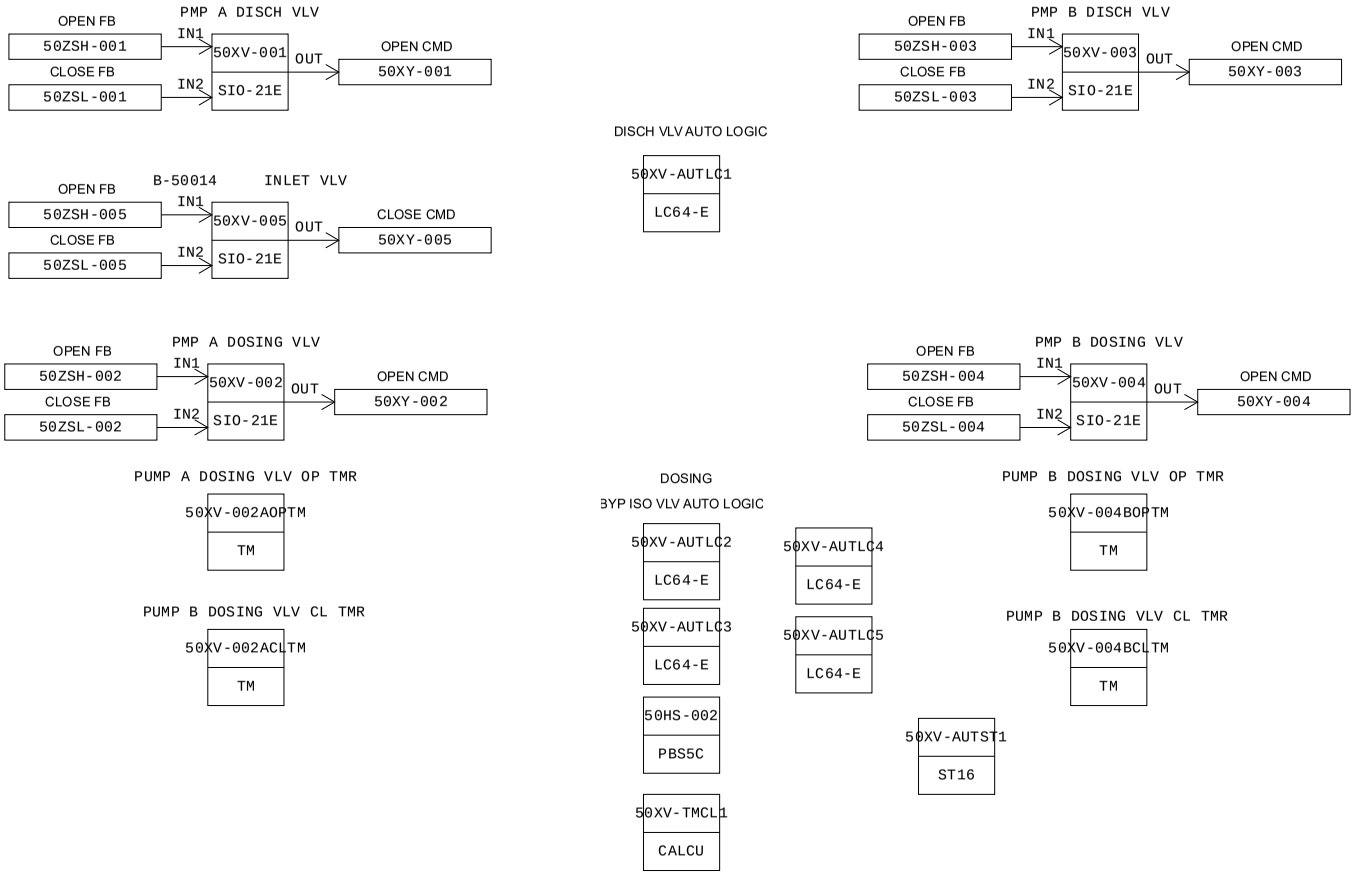
Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0032.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-1
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	TYP003- ON/OFF VALVES		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0032 | BLPH-CW | TYP003 | TYP003- ON/OFF VALVES



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0032.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-2
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	TYP003- ON/OFF VALVES		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP003_013	TYP003	2024/10/17 05:05	ON/OFF VALVE
002	TYP003_006	TYP003	2024/10/17 05:05	ON/OFF VALVE
003	TYP003_005	TYP003	2024/10/17 05:05	ON/OFF VALVE
004	TYP003_014	TYP003	2024/10/17 05:05	ON/OFF VALVE

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0032.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-3
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	TYP003- ON/OFF VALVES		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:TYP003- ON/OFF VALVES

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	50XV-002	SIO-21E	PMP A DOSING VLV	0	0				
		50XY-002				3			
002	50XV-001	SIO-21E	PMP A DISCH VLV	0	0				
		50XY-001				3			
003	50XV-003	SIO-21E	PMP B DISCH VLV	0	0				
		50XY-003				3			
004	50XV-004	SIO-21E	PMP B DOSING VLV	0	0				
		50XY-004				3			
005	50XV-AUTLC1	LC64-E		0	0				
						4			
006	50XV-AUTLC2	LC64-E	PMP A,B BYPASS AUT LOGIC	0	0				
						4			
007	50HS-002	PBS5C	DUTY PUMP SELECTION	0	0				
						3			
008	50XV-002AOPTM	TM	PUMP A DOSING VLV OP TMR	0	0				
						4			
009	50XV-004BOPTM	TM	PUMP B DOSING VLV OP TMR	0	0				
						4			
010	50XV-002ACLTM	TM	PUMP B DOSING VLV CL TMR	0	0				
						4			
011	50XV-004BCLTM	TM	PUMP B DOSING VLV CL TMR	0	0				
						4			
012	50XV-AUTLC3	LC64-E	PMP A,B BYPASS AUT LOGIC	0	0				
						4			
013	50XV-TMCL1	CALCU	DOSING TIME IN HOURS	0.0	100.0	%	No	No	
						4			
014	50XV-AUTLC4	LC64-E	PMP A,B BYPASS AUT LOGIC	0	0				
						4			
015	50XV-AUTST1	ST16		0	0				
						4			
016	50XV-AUTLC5	LC64-E	PMP A,B BYPASS AUT LOGIC	0	0				
						4			
017	50XV-005	SIO-21E	B-50014 INLET VLV	0	0				
		50XY-005				3			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50XV-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:37 AM	COMMENT:	PMP A DOSING VLV		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-002 PMP A DOSING VLV)

Basic

Tag Name	50XV-002
Model Name	SIO-21E
Tag Comment	PMP A DOSING VLV
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-001 PMP A DISCH VLV)

Basic

Tag Name	50XV-001
Model Name	SIO-21E
Tag Comment	PMP A DISCH VLV
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-003 PMP B DISCH VLV)

Basic

Tag Name	50XV-003
Model Name	SIO-21E
Tag Comment	PMP B DISCH VLV
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-004 PMP B DOSING VLV)

Basic

Tag Name	50XV-004
Model Name	SIO-21E
Tag Comment	PMP B DOSING VLV
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-AUTLC1)

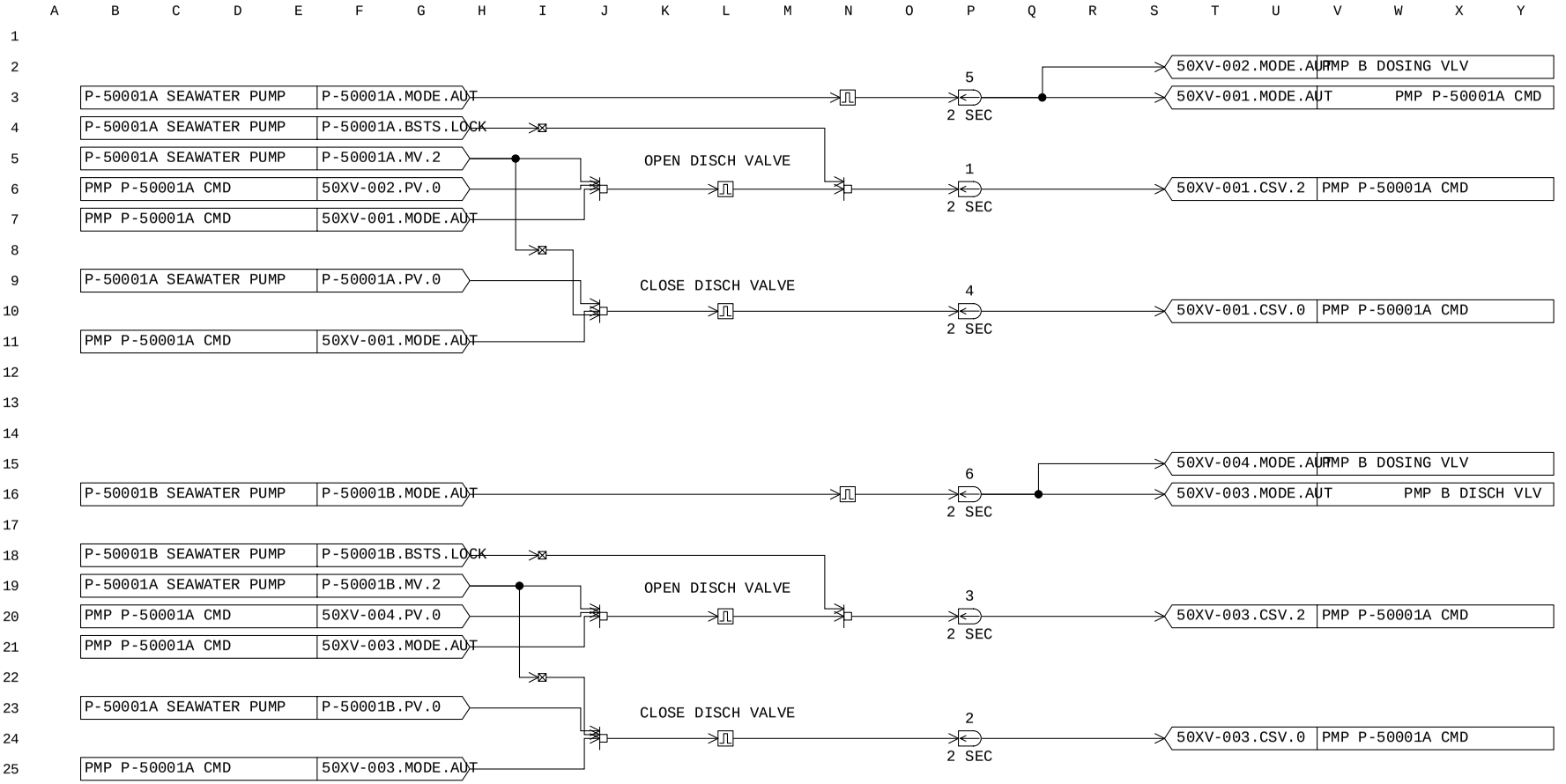
Basic

Tag Name	50XV-AUTLC1
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC1.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-5
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:			
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50XV-AUTLC1)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-6
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-AUTLC2 PMP A,B BYPASS AUT LOGIC)

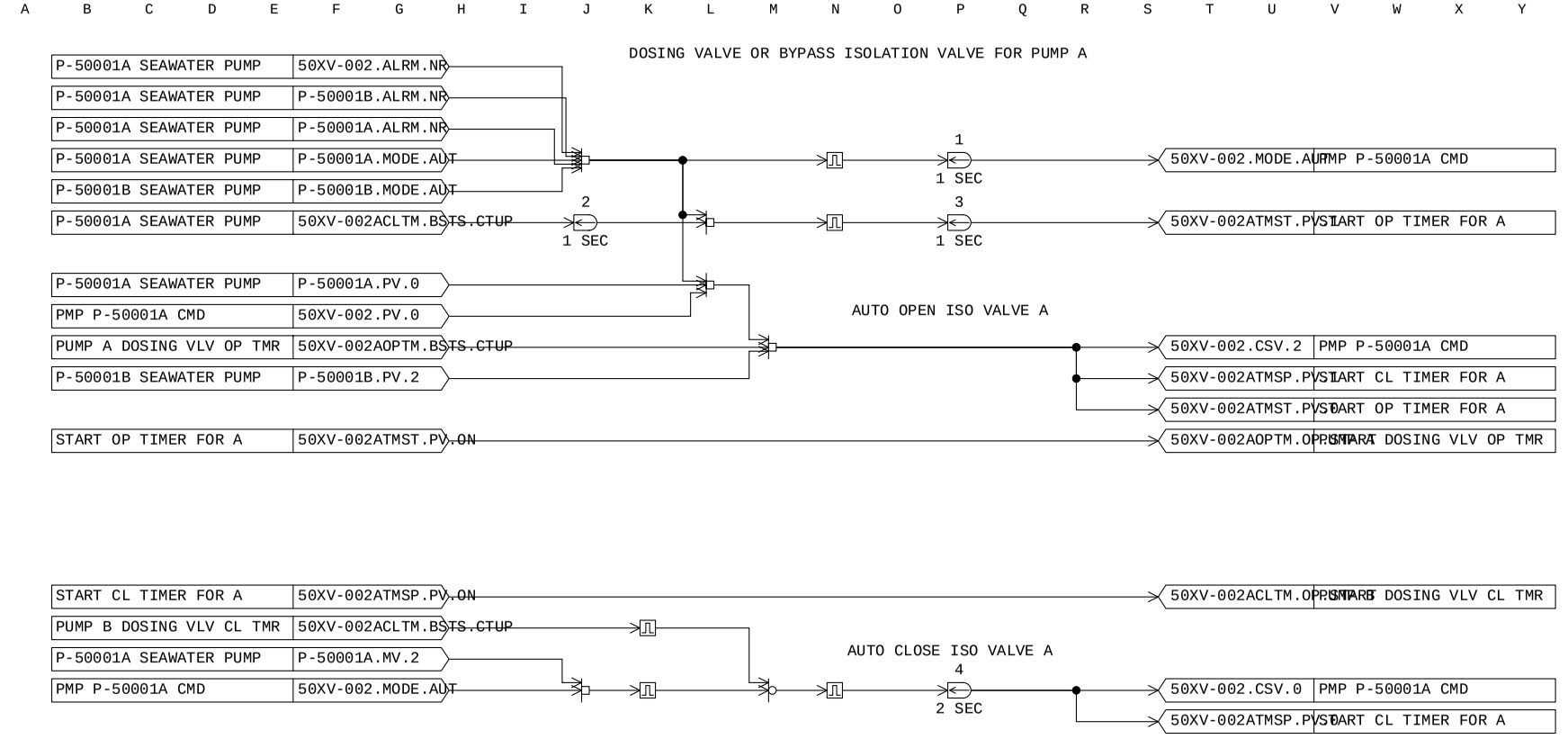
Basic

Tag Name	50XV-AUTLC2
Model Name	LC64-E
Tag Comment	PMP A,B BYPASS AUT LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC2.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-7
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50XV-AUTLC2 PMP A,B BYPASS AUT LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50HS-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:37 AM	COMMENT:	DUTY PUMP SELECTION		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50HS-002 DUTY PUMP SELECTION)

Basic

Tag Name	50HS-002
Model Name	PBS5C
Tag Comment	DUTY PUMP SELECTION
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	50HS-002.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	50HS-002.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	50HS-002.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	50HS-002.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	P50001A	P50001A	Gray	Green
002	Not used	OFF	ON	White	Red
003	Button with Lamp	P50001B	P50001B	Gray	Green
004	Not used	OFF	ON	White	Red
005	Not used	OFF	BYP	Gray	Green

Tag Detail (50XV-002AOPTM PUMP A DOSING VLV OP TMR)

Basic

Tag Name	50XV-002AOPTM
Model Name	TM
Tag Comment	PUMP A DOSING VLV OP TMR
Lvl	4
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (50XV-004BOPTM PUMP B DOSING VLV OP TMR)

Basic

Tag Name	50XV-004BOPTM
Model Name	TM
Tag Comment	PUMP B DOSING VLV OP TMR
Lvl	4
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (50XV-002ACLTM PUMP B DOSING VLV CL TMR)

Basic

Tag Name	50XV-002ACLTM
Model Name	TM
Tag Comment	PUMP B DOSING VLV CL TMR
Lvl	4
Scan Period	Basic Scan
Timer Property	Second Timer

Tag Detail (50XV-004BCLTM PUMP B DOSING VLV CL TMR)

Basic

Tag Name	50XV-004BCLTM
Model Name	TM
Tag Comment	PUMP B DOSING VLV CL TMR
Lvl	4
Scan Period	Basic Scan
Timer Property	Second Timer

Tag Detail (50XV-AUTLC3 PMP A,B BYPASS AUT LOGIC)

Basic

Tag Name	50XV-AUTLC3
Model Name	LC64-E

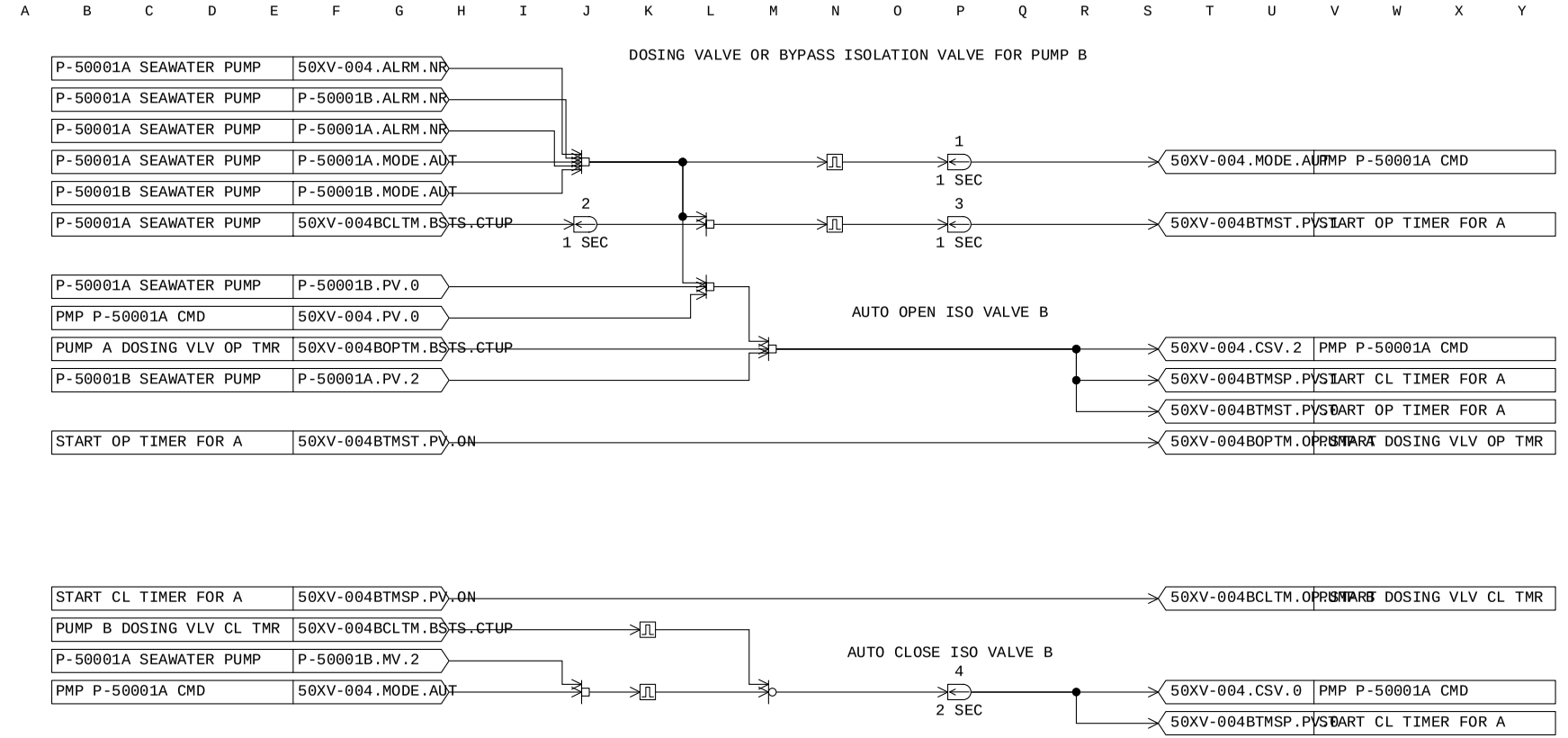
PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-9
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Comment PMP A,B BYPASS AUT LOGIC
Lvl 4

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC3.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-10
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50XV-AUTLC3 PMP A,B BYPASS AUT LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50XV-TMCL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-11
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	DOSING TIME IN HOURS		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-TMCL1 DOSING TIME IN HOURS)

Basic

Tag Name	50XV-TMCL1
Model Name	CALCU
Tag Comment	DOSING TIME IN HOURS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50XV-TMCL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-12
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	DOSING TIME IN HOURS		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50XV-TMCL1 DOSING TIME IN HOURS)

Line Number	General-Purpose Calculation Formula
001	alias A 50XV-002AOPTM.DV
002	alias B 50XV-004BOPTM.DV
003	alias C P-50001A.PV
004	alias D P-50001B.PV
005	alias E 50XV-002AOPTM.PV
006	alias F 50XV-004BOPTM.PV
007	
008	
009	!P01=HRS
010	!P02=HRS
011	
012	
013	P01=(A/60)
014	P02=(B/60)
015	P03=A-(P01*60)
016	P04=B-(P02*60)
017	
018	IF (C==0 AND D==0)THEN
019	E=0
020	F=0
021	END IF
022	

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC4.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-13
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-AUTLC4 PMP A,B BYPASS AUT LOGIC)

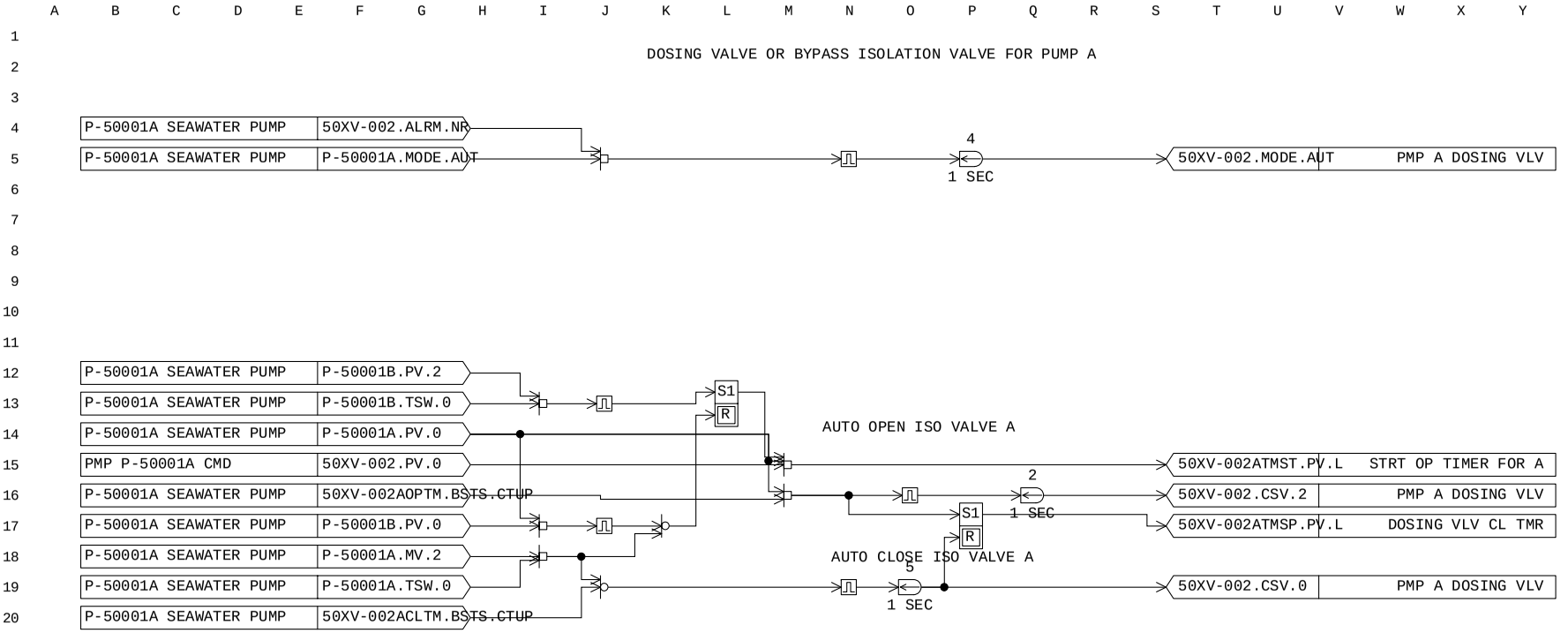
Basic

Tag Name	50XV-AUTLC4
Model Name	LC64-E
Tag Comment	PMP A,B BYPASS AUT LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC4.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-14
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50XV-AUTLC4 PMP A,B BYPASS AUT LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTST1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-15
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:			
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-AUTST1)

Basic

Tag Name	50XV-AUTST1
Model Name	ST16
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTST1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-16
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:			
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (50XV-AUTST1)

Start Timing — Periodic Execution Type(T)
Output Timing — Output Only When Conditions Change(C)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	50XV-002ATMST.PV	1	START OP TIMER FOR A	Y								
C02	50XV-002ATMST.PV	0	START OP TIMER FOR A	.Y								
C03	50XV-002ATMSP.PV	1	START CL TIMER FOR A	..Y								
C04	50XV-004BTMST.PV	1	START OP TIMER FOR B		Y							
C05	50XV-004BTMST.PV	0	START OP TIMER FOR B		.Y							
C06	50XV-004BTMSP.PV	1	START CL TIMER FOR B		..Y							
C07												
C08	P-50001A.PV	0	P-50001A SEAWATER PUMP			Y						
C09	P-50001A.PV	0	P-50001A SEAWATER PUMP			Y						
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	50XV-002AOPTM.OP	START	PUMP A DOSING VLV OP TMR	Y								
A02	50XV-002AOPTM.OP	STOP	PUMP A DOSING VLV OP TMR	.Y		Y						
A03	50XV-002ACLTM.OP	START	PUMP B DOSING VLV CL TMR	..Y								
A04	50XV-004BOPTM.OP	START	PUMP B DOSING VLV OP TMR		Y							
A05	50XV-004BOPTM.OP	STOP	PUMP B DOSING VLV OP TMR		.Y	Y						
A06	50XV-004BCLTM.OP	START	PUMP B DOSING VLV CL TMR		..Y							
A07												
A08												
A09												
A10												
A11												
A12												
A13												
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC5.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-17
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-AUTLC5 PMP A,B BYPASS AUT LOGIC)

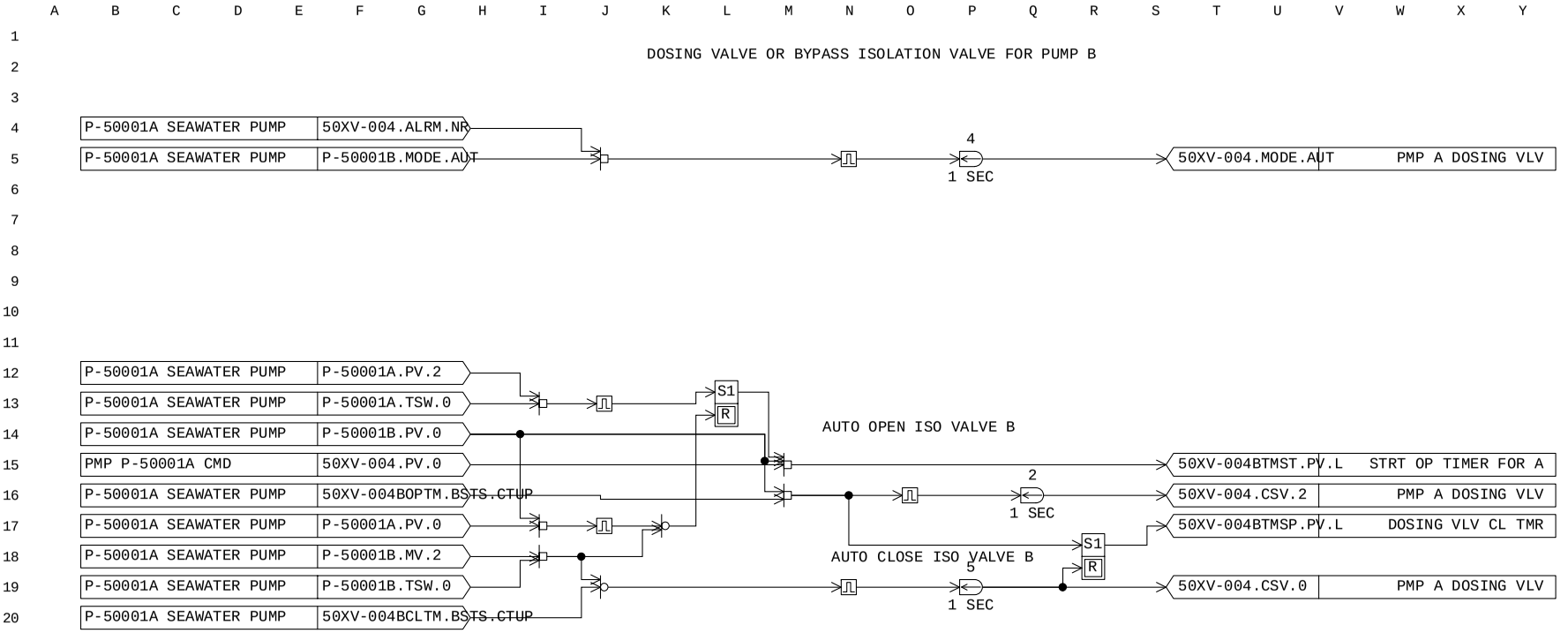
Basic

Tag Name	50XV-AUTLC5
Model Name	LC64-E
Tag Comment	PMP A,B BYPASS AUT LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50XV-AUTLC5.edf	SHEET:		YOKOGAWA	PAGE:3-25-12-18
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:29:27 AM	COMMENT:	PMP A,B BYPASS AUT LOGIC		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50XV-AUTLC5 PMP A,B BYPASS AUT LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

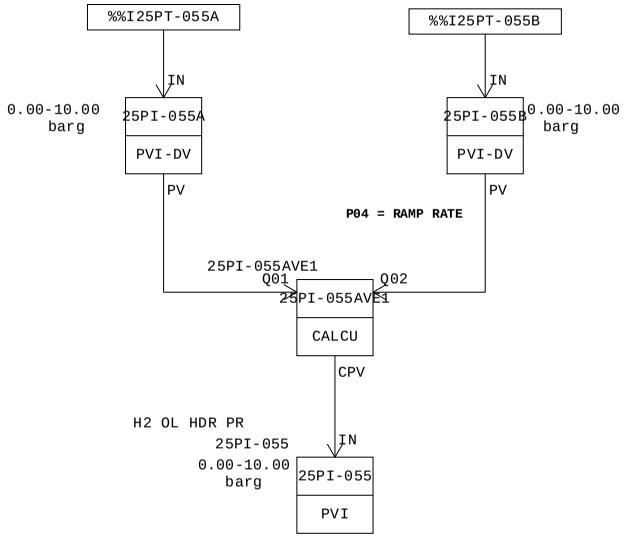
PROJECT:	BLPH-CW1	FILE NAME:	50XV-005.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-12-19
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:37 AM	COMMENT:	B-50014 INLET VLV		
SECTION:	DR0032	PRINTED DATE:	9/15/2025	DRAWER:			

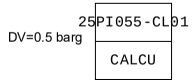
Tag Detail (50XV-005 B-50014 INLET VLV)

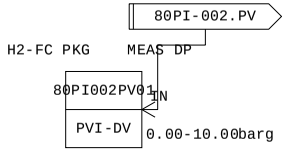
Basic

Tag Name	50XV-005
Model Name	SIO-21E
Tag Comment	B-50014 INLET VLV
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse

PROJECT:	BLPH-CW1	FILE NAME:	DR0035.edf	SHEET:		YOKOGAWA	PAGE:3-25-13-1
STATION:	FCS0101	SAVED DATE:	6/19/2025 8:35:53 AM	COMMENT:	25PT-055A AVERAGE CALCU, DEV ALM		
SECTION:	DR0035	PRINTED DATE:	9/15/2025	DRAWER:			







MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0035.edf	SHEET:		YOKOGAWA	PAGE:3-25-13-2
STATION:	FCS0101	SAVED DATE:	6/19/2025 8:35:53 AM	COMMENT:	25PT-055A AVERAGE CALCU, DEV ALM		
SECTION:	DR0035	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:25PT-055A AVERAGE CALCU, DEV ALM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	25PI-055A	PVI-DV	H2 OL HDR PR	0.00	10.00	barg 4	No	No	%%I25PT-055A
002	25PI-055B	PVI-DV	H2 OL HDR PR	0.00	10.00	barg 4	No	No	%%I25PT-055B
003	25PI-055AVE1	CALCU	H2 OL HDR PR	0.00	100.00	barg 3	No	No	
004	25PI-055	PVI	H2 OL HDR PR	0.00	10.00	barg 3	No	No	25PI-055AVE1.CPV
005	80PI002PV01	PVI-DV	H2-FC PKG MEAS DP	0.00	10.00	barg 4	No	No	>80PI-002.PV
006	25PI055-CL01	CALCU	H2 OL HDR PR DEV	0.0	200.0	(None) 4	No	No	

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI-055A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-13-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:39 AM	COMMENT:	H2 OL HDR PR		
SECTION:	DR0035	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-055A H2 OL HDR PR)

Basic

Tag Name	25PI-055A
Model Name	PVI-DV
Tag Comment	H2 OL HDR PR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI-055B H2 OL HDR PR)

Basic

Tag Name	25PI-055B
Model Name	PVI-DV
Tag Comment	H2 OL HDR PR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI-055AVE1 H2 OL HDR PR)

Basic

Tag Name	25PI-055AVE1
Model Name	CALCU
Tag Comment	H2 OL HDR PR
Lvl	3
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PI-055AVE1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-13-4
STATION:	FCS0101	SAVED DATE:	6/19/2025 8:35:53 AM	COMMENT:	H2 OL HDR PR		
SECTION:	DR0035	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PI-055AVE1 H2 OL HDR PR)

```
Line Number   General-Purpose Calculation Formula
   001        program
   002        * ------------------------------------------------------------------------------------------------------------
   003        *         One-of-two average transmitter selection
   004        *
   005        *       P01     Tx Selection 1=Tx1,2=Tx2 , 4=Both selection for AVE output
   006        *       P02     AUT/MAN Selection 0=AUT/*=MAN
   007        *       P03     IOP from CERR
   008        *       P04     Rate Limit (units/min)
   009        *       P05     BAD Count
   010        *       P06     Delay Time until making CERR
   011        *       P07     SPARE
   012        *       P08     SPARE
   013        *
   014        * The AUT/MAN selection is used as a guard to the Tx selection
   015        * done via the faceplate display. P02 must be selected to MAN
   016        * to enable manual selection i.e. writing to P01 by the HIS.
   017        *
   018        * If AUT mode is used, P01 tracks the calc average Tx to effect
   019        * a bumpless transfer to MAN mode. - the Tx selected in AUT
   020        * remains selected in MAN until changed via the faceplate display.
   021        *
   022        *Alarm of function keep Non IOP
   023        * ------------------------------------------------------------------------------------------------------------
   024            ALIAS   TX1BAD      {25PI-055A.PV=BAD}
   025            ALIAS   TX2BAD      {25PI-055B.PV=BAD}
   026            ALIAS   TX1QST      {25PI-055A.PV=CAL}
   027            ALIAS   TX2QST      {25PI-055B.PV=CAL}
   028            ALIAS   SH          25PI-055.SH
   029            ALIAS   SL          25PI-055.SL
   030            ALIAS   TX1SV       25PI-055A.SV    !For Passing SV to TX1
   031            ALIAS   TX2SV       25PI-055B.SV    !For Passing SV to TX2
   032        * ------------------------------------------------------------------------------------------------------------
   033        * BAD Count Calculation
   034            P05 = TX1BAD*(not TX1QST) + TX2BAD*(not TX2QST)
   035        * ------------------------------------------------------------------------------------------------------------
   036        * Tx Selection
   037            if (P02 == 0) then
   038                switch(P05)
   039                case 0:
   040                    P01 = 4
   041                case 1:
   042                    P01 = 1*(not TX1BAD) + 2*(not TX2BAD)
   043                end switch
   044            end if
   045        * ------------------------------------------------------------------------------------------------------------
   046        * For making IOP from CERR
   047            if(P05 == 2 and P06<=10) then
   048                P06 = P06 + 1           !For Delay time
   049                P03 = not(P06 == 10)
   050            else
   051                P06 = 0
   052                P03 = 1
   053            end if
   054        * ------------------------------------------------------------------------------------------------------------

   055        * Ouput without Ramping
   056            if(P01==4) then
   057                CPV=(RV1*(not TX1BAD) + RV2*(not TX2BAD))/2         ! AVE
   058            else if(P01<3) then
   059                CPV=RV1*(P01==1) + RV2*(P01==2)                 ! TX1,2
   060            end if
   061        * ------------------------------------------------------------------------------------------------------------
   062        * Output with Ramping
   063        *if(0<P04 and P04<(SH-SL) and (CPV1<(CPV-P04/60) or CPV1>(CPV+P04/60)))  then           !CPV1 is Target Value of CPV

   064        *       CPV = CPV+((1-2*(CPV1<CPV))*P04/60)/P03
   065        *   else
   066        *       CPV = CPV1/P03
   067        *   end if
   068        * ------------------------------------------------------------------------------------------------------------
   069        *Passing Final Selected Value to Individual Transmitter for Deviation Alarm
   070        !   TX1SV=CPV
   071        !   TX2SV=CPV
   072        end
   073
```

PROJECT:	BLPH-CW1	FILE NAME:	25PI-055.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-13-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:39 AM	COMMENT:	H2 OL HDR PR		
SECTION:	DR0035	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-055 H2 OL HDR PR)

Basic

Tag Name	25PI-055
Model Name	PVI
Tag Comment	H2 OL HDR PR
Lvl	3
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80PI002PV01 H2-FC PKG MEAS DP)

Basic

Tag Name	80PI002PV01
Model Name	PVI-DV
Tag Comment	H2-FC PKG MEAS DP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PI055-CL01 H2 OL HDR PR DEV)

Basic

Tag Name	25PI055-CL01
Model Name	CALCU
Tag Comment	H2 OL HDR PR DEV
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

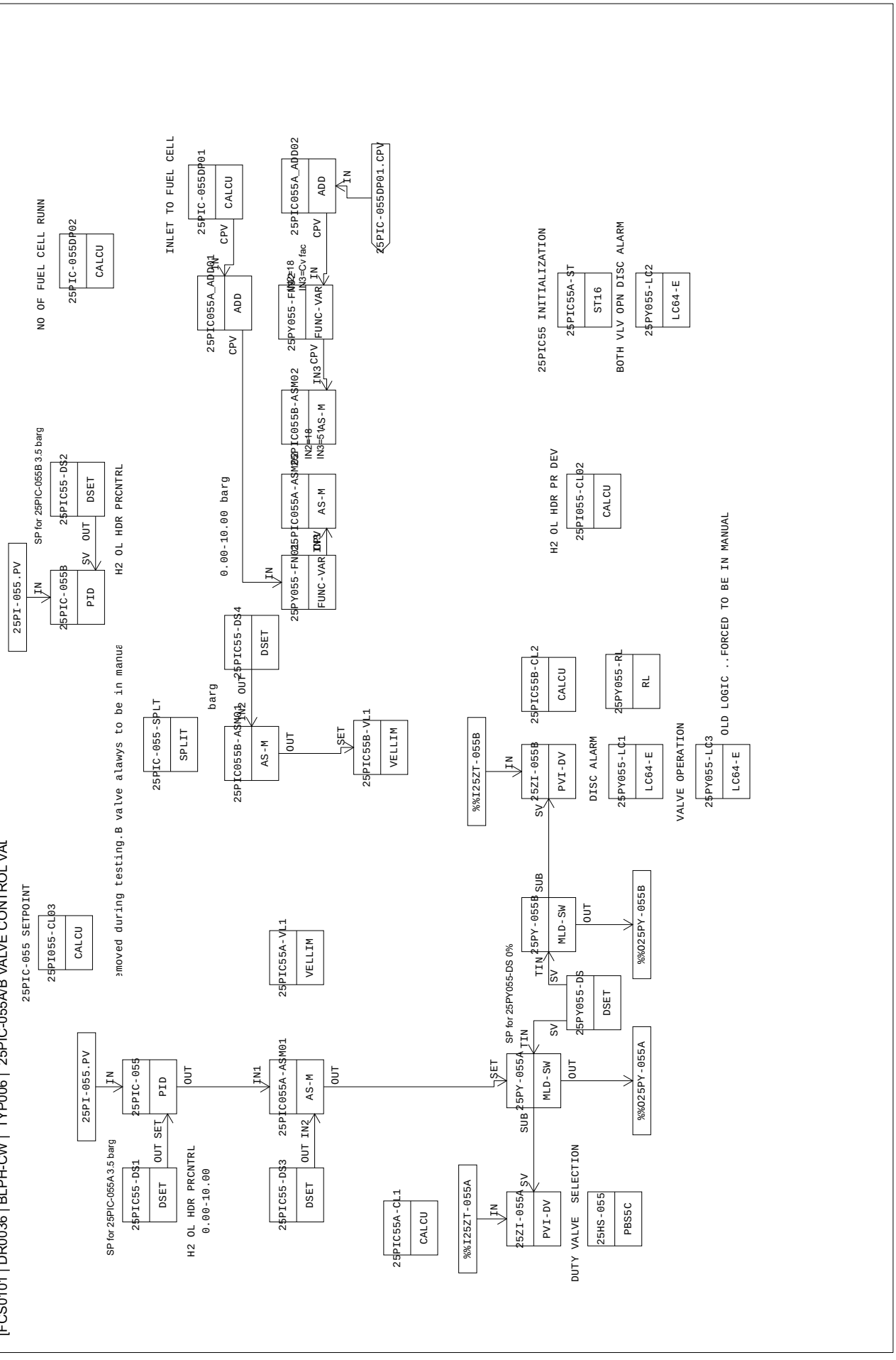
PROJECT:	BLPH-CW1	FILE NAME:	25PI055-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-13-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:39 AM	COMMENT:	H2 OL HDR PR DEV		
SECTION:	DR0035	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PI055-CL01 H2 OL HDR PR DEV)

```
Line Number   General-Purpose Calculation Formula
   001
   002        *APPLICATION :MANUAL SELECTION FOR VALVE 1 & 2
   003        ************************************************************
   004
   005            Alias SEL_A 25PI-055A.PV            !TX A Selected
   006            Alias SEL_B 25PI-055B.PV            !TX B Selected
   007            Alias SEL_C 80PI002PV01.PV      !TX C Selected
   008            Alias DVAN  25PI055-DVAN.PV     !Deviation SW
   009            integer i,j,k,d
   010        d=0.5                                           !5% deviation of Range
   011        i= SEL_A - SEL_B        !Tx1-Tx2
   012        j= SEL_A - SEL_C        !Tx1-Tx3
   013        k= SEL_B - SEL_C        !Tx2-Tx3
   014        P01= DABS(i)
   015        P02= DABS(j)
   016        P03= DABS(k)
   017
   018        !   if(P01>d OR P02>d OR P03>d) then
   019        !       DVAN=1
   020        !   else
   021        !       DVAN=0
   022        !   end if
   023
   024        IF (P01>0.5 OR P02>0.5 OR P03>0.5)THEN
   025            P05 = P05+1                         !CV MTM TIME DELAY
   026        ELSE IF (B>DL1)AND(P05>=P04) THEN
   027            P05 = P04                               !CV MTM TIME DELAY
   028        ELSE
   029            P05 = 0
   030        END IF
   031
   032        IF (P05>=P04) THEN
   033        DVAN=1
   034        ELSE
   035        DVAN=0
   036        END IF
   037
   038
   039
```

PROJECT:	BLPH-CW1	FILE NAME:	DR0036.edf	SHEET:		YOKOGAWA	PAGE:3-25-14-1
STATION:	FCS0101	SAVED DATE:	7/12/2025 5:33:03 AM	COMMENT:	25PIC-055A/B VALVE		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0036 | BLPH-CW | TYP006 | 25PIC-055A/B VALVE CONTROL VAL



PROJECT:	BLPH-CW1	FILE NAME:	DR0036.edf	SHEET:		YOKOGAWA	PAGE:3-25-14-2
STATION:	FCS0101	SAVED DATE:	7/12/2025 5:33:03 AM	COMMENT:	25PIC-055A/B VALVE		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:25PIC-055A/B VALVE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25PIC55-DS1	DSET		0.0	10.0	barg			
		25PIC-055.SET				4			
002	25PIC-055	PID	H2 OL HDR PRCNTRL	0.00	10.00	barg	No	No	25PI-055.PV
		25PIC055A-ASM01.IN1		25PIC55-DS1.OUT		3			
003	25PIC55-DS2	DSET		0.0	10.0	barg			
		25PIC-055B.SV				4			
004	25PIC-055B	PID	H2 OL HDR PRCNTRL	0.00	10.00	barg	No	No	25PI-055.PV
						3			
005	25PIC-055-SPLT	SPLIT		0	0	%			
						4			
006	25PIC55-DS3	DSET		0.0	3.5	barg			
		25PIC055A-ASM01.IN2				4			
007	25PIC55-DS4	DSET		0.0	3.5	barg			
		25PIC055B-ASM01.IN2				4			
008	25PIC-055DP01	CALCU	INLET TO FUEL CELL	0.000	100.000	%	No	No	
						4			
009	25PIC055A-ASM01	AS-M		0.0	100.0	%			
		25PY-055A.SET				4			
010	25PIC055A_ADD01	ADD		0.0	100.0	%	No		25PIC-055DP01.CPV
						4			
011	25PY055-FN01	FUNC-VAR	FI Vs % OUTPUT	0.0	100.0	%	No		25PIC055A_ADD01.CPV
						4			
012	25PIC055A-ASM02	AS-M		0.0	100.0	%			
						4			
013	25PIC055B-ASM01	AS-M		0.0	100.0	%			
		25PIC55B-VL1.SET				4			
014	25PIC055A_ADD02	ADD		0.0	100.0	%	No		25PIC-055DP01.CPV
						4			
015	25PY055-FN02	FUNC-VAR	FI Vs % OUTPUT	0.0	100.0	%	No		25PIC055A_ADD02.CPV
						4			
016	25PIC055B-ASM02	AS-M		0.0	100.0	%			
						4			
017	25PIC55B-VL1	VELLIM		0	0	%			
				25PIC055B-ASM01.OUT		4			
018	25PIC55A-VL1	VELLIM		0	0	%			
						4			
019	25PY055-DS	DSET		0.0	0.0	%			
						4			
020	25PY-055A	MLD-SW	H2 OL HDR PRCNTRL CMD	0	0	%			
		%%O25PY-055A		25PIC055A-ASM01.OUT		3			
021	25PY-055B	MLD-SW	H2 CMD FRM OL HDR PR	0	0	%			
		%%O25PY-055B				3			
022	25HS-055	PBS5C	DUTY VALVE SELECTION	0	0				
						3			
023	25ZI-055A	PVI-DV	H2 OL HDR PRPOS FB	0.0	100.0	%	No	No	%%I25ZT-055A
						4			
024	25ZI-055B	PVI-DV	H2 OL HDR PRPOS FB	0.0	100.0	%	No	No	%%I25ZT-055B
						4			
025	25PIC55A-CL1	CALCU	H2 OL HDR PRCNTRL CMD	0.0	100.0	%	No	No	
						5			
026	25PIC55B-CL2	CALCU	H2 CMD FRM OL HDR PR	0.0	100.0	%	No	No	
						5			
027	25PY055-LC1	LC64-E	DISC ALARM	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0036.edf	SHEET:		YOKOGAWA	PAGE:3-25-14-3
STATION:	FCS0101	SAVED DATE:	7/12/2025 5:33:03 AM	COMMENT:	25PIC-055A/B VALVE		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

028	25PY055-RL	RL	04HY11 POS FB COMP	0	0				4
029	25PIC55A-ST	ST16	25PIC55 INITIALIZATION	0	0				4
030	25PY055-LC2	LC64-E	BOTH VLV OPN DISC ALARM	0	0				4
031	25PI055-CL02	CALCU	H2 OL HDR PR DEV	0.0	200.0	(None)	No	No	4
032	25PIC-055DP02	CALCU	NO OF FUEL CELL RUNN	0.000	100.000	%	No	No	4
033	25PY055-LC3	LC64-E	VALVE OPERATION	0	0				4
034	25PI055-CL03	CALCU	25PIC-055 SETPOINT	0.0	200.0	(None)	No	No	4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PIC55-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-4
STATION:	FCS0101	SAVED DATE:	7/12/2025 5:33:03 AM	COMMENT:			
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC55-DS1)

Basic

Tag Name	25PIC55-DS1
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-055 H2 OL HDR PRCNTRL)

Basic

Tag Name	25PIC-055
Model Name	PID
Tag Comment	H2 OL HDR PRCNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	Yes

Tag Detail (25PIC55-DS2)

Basic

Tag Name	25PIC55-DS2
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-055B H2 OL HDR PRCNTRL)

Basic

Tag Name	25PIC-055B
Model Name	PID
Tag Comment	H2 OL HDR PRCNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	Yes

Tag Detail (25PIC-055-SPLT)

Basic

Tag Name	25PIC-055-SPLT
Model Name	SPLIT
Tag Comment	
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0

PROJECT:	BLPH-CW1	FILE NAME:	25PIC-055-SPLT.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-5
STATION:	FCS0101	SAVED DATE:	6/18/2025 5:08:44 AM	COMMENT:			
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Connection
Set Value Input(SET)
Operation Output 1(OUT1)
Operation Output 2(OUT2)

Tag Detail (25PIC55-DS3)

Basic

Tag Name	25PIC55-DS3
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC55-DS4)

Basic

Tag Name	25PIC55-DS4
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-055DP01 INLET TO FUEL CELL)

Basic

Tag Name	25PIC-055DP01
Model Name	CALCU
Tag Comment	INLET TO FUEL CELL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC-055DP01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	INLET TO FUEL CELL		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC-055DP01 INLET TO FUEL CELL)

```
Line Number   General-Purpose Calculation Formula
   001        program
   002        Alias VSL_A 25XV-006.PV         !VESSEL A Selected
   003        Alias VSL_B 25XV-009.PV         !VESSEL B Selected
   004        Alias VSL_C 25XV-012.PV         !VESSEL C Selected
   005        Alias VSL_D 25XV-015.PV         !VESSEL D Selected
   006        Alias VSL_E 25XV-018.PV         !VESSEL E Selected
   007        Alias VSL_F 25XV-021.PV         !VESSEL F Selected
   008
   009        Alias PT_A  25PI-035.PV         !VESSEL A Press
   010        Alias PT_B  25PI-037.PV         !VESSEL B Press
   011        Alias PT_C  25PI-040.PV         !VESSEL C Press
   012        Alias PT_D  25PI-043.PV         !VESSEL D Press
   013        Alias PT_E  25PI-046.PV         !VESSEL E Press
   014        Alias PT_F  25PI-049.PV         !VESSEL F Press
   015
   016        Alias HDR   25PI-055.PV         !HDR Press
   017
   018        Alias FC1 87US-0001.PV              !1 FUEL CELL RUNNING
   019        Alias VL1P  25PIC55A-VL1.DMVP               !1 FUEL CELL RUNNING
   020        Alias VL2P  25PIC55B-VL1.DMVP               !1 FUEL CELL RUNNING
   021        Alias VL1M  25PIC55A-VL1.DMVM               !1 FUEL CELL RUNNING
   022        Alias VL2M  25PIC55B-VL1.DMVM               !1 FUEL CELL RUNNING
   023
   024
   025
   026        Alias PDWN  25PI-001.PV         !downstream Press
   027        Alias Q 25FI-031.PV                 !
   028
   029        INTEGER HDR_PR,T,M
   030        T=15
   031        M=2                     !M=2 Mole\kg
   032        if(VSL_A==2)P02=PT_A
   033        if(VSL_B==2)P02=PT_B
   034        if(VSL_C==2)P02=PT_C
   035        if(VSL_D==2)P02=PT_D
   036        if(VSL_E==2)P02=PT_E
   037        if(VSL_F==2)P02=PT_D
   038        !P03=DP
   039        P03=P02-HDR
   040        P04=T+273
   041        P05=SQRT(P04)
   042        P06=P01*288/P05
   043        P07=P03*(P02+P01)*(M/29)*(288/P05)
   044        If(P06>0)then
   045                IF (P03<=(0.4*P02)) THEN
   046                    CPV=(0.0545*Q)/(0.9*P06)
   047        ELSE
   048        CPV = (0.0472*Q)/P07
   049        end if
   050        end if
   051
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC055A-ASM01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-7
STATION:	FCS0101	SAVED DATE:	7/12/2025 5:33:03 AM	COMMENT:			
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC055A-ASM01)

Basic

Tag Name	25PIC055A-ASM01
Model Name	AS-M
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25PIC-055.OUT
Signal Input 2(IN2)	25PIC55-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25PY-055A.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC055A_ADD01)

Basic

Tag Name	25PIC055A_ADD01
Model Name	ADD
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	25PIC-055DP01.CPV
Calculation Output(OUT)	
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (25PY055-FN01 FI Vs % OUTPUT)

Basic

Tag Name	25PY055-FN01
Model Name	FUNC-VAR
Tag Comment	FI Vs % OUTPUT
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PIC055A-ASM02)

Basic

Tag Name	25PIC055A-ASM02
Model Name	AS-M
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	
Signal Input 2(IN2)	
Signal Input 3(IN3)	25PY055-FN01.CPV
Operation Output(OUT)	
Interlock Switch Input(INT)	

Tag Detail (25PIC055B-ASM01)

Basic

Tag Name	25PIC055B-ASM01
Model Name	AS-M
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)
Signal Input 2(IN2) 25PIC55-DS4.OUT
Signal Input 3(IN3)
Operation Output(OUT) 25PIC55B-VL1.SET
Interlock Switch Input(INT)

Tag Detail (25PIC055A_ADD02)

Basic
Tag Name 25PIC055A_ADD02
Model Name ADD
Tag Comment
Lvl 4
Scan Period Basic Scan
Start Timing Periodic Execution
Input Signal Conversion
Input Signal Conversion No

Connection
Main Input(IN) 25PIC-055DP01.CPV
Calculation Output(OUT)
Auxiliary Output(SUB)
Sub Input(Q01)

Tag Detail (25PY055-FN02 FI Vs % OUTPUT)

Basic
Tag Name 25PY055-FN02
Model Name FUNC-VAR
Tag Comment FI Vs % OUTPUT
Lvl 4
Scan Period Basic Scan
Input Signal Conversion
Input Signal Conversion No

Tag Detail (25PIC055B-ASM02)

Basic
Tag Name 25PIC055B-ASM02
Model Name AS-M
Tag Comment
Lvl 4
Scan Period Basic Scan
Open/Close mark No

Connection
Signal Input 1(IN1)
Signal Input 2(IN2)
Signal Input 3(IN3) 25PY055-FN02.CPV
Operation Output(OUT)
Interlock Switch Input(INT)

Tag Detail (25PIC55B-VL1)

Basic
Tag Name 25PIC55B-VL1
Model Name VELLIM
Tag Comment
Lvl 4
Scan Period Basic Scan
SV Range
High limit value 100.0
Low limit value 0.0
Open/Close mark No

Tag Detail (25PIC55A-VL1)

Basic
Tag Name 25PIC55A-VL1
Model Name VELLIM
Tag Comment
Lvl 4
Scan Period Basic Scan
SV Range
High limit value 100.0
Low limit value 0.0

Open/Close mark	No

Tag Detail (25PY055-DS)

Basic

Tag Name	25PY055-DS
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PY-055A H2 OL HDR PRCNTRL CMD)

Basic

Tag Name	25PY-055A
Model Name	MLD-SW
Tag Comment	H2 OL HDR PRCNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-055B H2 CMD FRM OL HDR PR)

Basic

Tag Name	25PY-055B
Model Name	MLD-SW
Tag Comment	H2 CMD FRM OL HDR PR
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25HS-055 DUTY VALVE SELECTION)

Basic

Tag Name	25HS-055
Model Name	PBS5C
Tag Comment	DUTY VALVE SELECTION
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	25HS-055.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	25HS-055.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	25HS-055.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	25HS-055.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	25PY055A	25PY055A	Gray	Green
002	Not used	OFF	ON	White	Red
003	Button with Lamp	25PY055B	25PY055B	Gray	Green
004	Not used	OFF	ON	White	Red
005	Not used	BYP	BYP	Gray	Green

PROJECT:	BLPH-CW1	FILE NAME:	25HS-055.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	DUTY VALVE SELECTION		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25ZI-055A H2 OL HDR PRPOS FB)

Basic

Tag Name	25ZI-055A
Model Name	PVI-DV
Tag Comment	H2 OL HDR PRPOS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-055B H2 OL HDR PRPOS FB)

Basic

Tag Name	25ZI-055B
Model Name	PVI-DV
Tag Comment	H2 OL HDR PRPOS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PIC55A-CL1 H2 OL HDR PRCNTRL CMD)

Basic

Tag Name	25PIC55A-CL1
Model Name	CALCU
Tag Comment	H2 OL HDR PRCNTRL CMD
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC55A-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	H2 OL HDR PRCNTRL CMD		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC55A-CL1 H2 OL HDR PRCNTRL CMD)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-055A.PV               !CV FB
   006        alias   O1      25ZI-055A.SV               !CV OUTPUT
   007        alias   DL1     25ZI-055A.DL               !CV DEV VALUE
   008        alias   DVP1    {25ZI-055A.AF.DV+}      !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-055A.AF.DV-}      !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015        !
   016        !IF (B>DL1)AND (P02<P01)THEN
   017        !   P02 = P02+1                         !CV MTM TIME DELAY
   018        !ELSE IF (B>DL1)AND(P02>=P01) THEN
   019        !   P02 = P01                               !CV MTM TIME DELAY
   020        !ELSE
   021        !   P02 = 0
   022        !END IF
   023        !
   024        !IF (P02>=P01) THEN
   025        !   DVP1=0
   026        !   DVM1=0
   027        !ELSE
   028        !   DVP1=1
   029        !   DVM1=1
   030        !END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC55B-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	H2 CMD FRM OL HDR PR		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC55B-CL2 H2 CMD FRM OL HDR PR)

Basic

Tag Name	25PIC55B-CL2
Model Name	CALCU
Tag Comment	H2 CMD FRM OL HDR PR
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC55B-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	H2 CMD FRM OL HDR PR		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC55B-CL2 H2 CMD FRM OL HDR PR)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-055B.PV               !CV FB
   006        alias   O1      25ZI-055B.SV               !CV OUTPUT
   007        alias   DL1     25ZI-055B.DL               !CV DEV VALUE
   008        alias   DVP1    {25ZI-055B.AF.DV+}      !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-055B.AF.DV-}      !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        !IF (B>DL1)AND (P02<P01)THEN
   017        !   P02 = P02+1                         !CV MTM TIME DELAY
   018        !ELSE IF (B>DL1)AND(P02>=P01) THEN
   019        !   P02 = P01                               !CV MTM TIME DELAY
   020        !ELSE
   021        !   P02 = 0
   022        !END IF
   023
   024        !IF (P02>=P01) THEN
   025        !   DVP1=0
   026        !   DVM1=0
   027        !ELSE
   028        !   DVP1=1
   029        !   DVM1=1
   030        !END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PY055-LC1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	DISC ALARM		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY055-LC1 DISC ALARM)

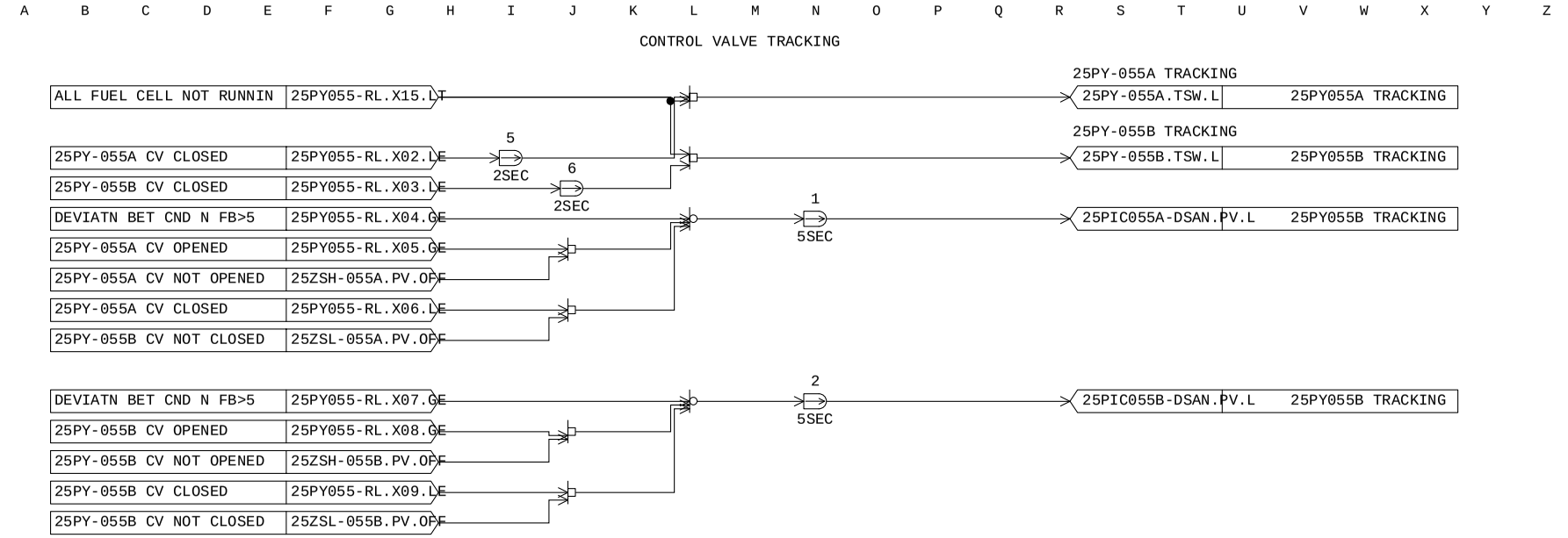
Basic

Tag Name	25PY055-LC1
Model Name	LC64-E
Tag Comment	DISC ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY055-LC1.edf	SHEET:		YOKOGAWA	PAGE:3-25-14-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	DISC ALARM		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY055-LC1 DISC ALARM)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PY055-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-16
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	04HY11 POS FB COMP		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY055-RL 04HY11 POS FB COMP)

Basic

Tag Name	25PY055-RL
Model Name	RL
Tag Comment	04HY11 POS FB COMP
Lvl	4

Relational Expression

No. X	Operator	Y	Comment
001 25PY055-DS.SV	Relational Operation	0	DSET IS 0
002 25ZI-055A.PV	Relational Operation	2	25PY-055A CLOSED
003 25ZI-055B.PV	Relational Operation	2	25PY-055B CLOSED
004 25PIC55A-CL1.P03	Relational Operation	5	DEVIATION>5
005 25PY-055A.MV	Relational Operation	100	FULL OPN CMD
006 25PY-055A.MV	Relational Operation	0	FULL CLOSE CMD
007 25PIC55B-CL2.P03	Relational Operation	5	DEVIATION>5
008 25PY-055B.MV	Relational Operation	100	FULL OPN CMD
009 25PY-055B.MV	Relational Operation	3	FULL CLOSE CMD
010 25PI-055.PV	Relational Operation	4	LOW RANGE
011 25PI-055.PV	Relational Operation	6.5	HI RANGE
012 25PIC-055DP02.CPV	Relational Operation	3	FUEL CELL <=3
013 25PIC-055DP02.CPV	Relational Operation	6	FUEL CELL <=3
014 25PIC-055DP01.CPV	Relational Operation	0.31	
015 25PIC-055DP02.CPV	Relational Operation	1	FUEL CELL >=1

Tag Detail (25PIC55A-ST 25PIC55 INITIALIZATION)

Basic

Tag Name	25PIC55A-ST
Model Name	ST16
Tag Comment	25PIC55 INITIALIZATION
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PIC55A-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-17
STATION:	FCS0101	SAVED DATE:	7/12/2025 5:21:22 AM	COMMENT:	25PIC55 INITIALIZATION		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25PIC55A-ST 25PIC55 INITIALIZATION)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01												
C02	25PIC-055B.XALRM	IOP	H2 OL HDR PRCNTRL	. . N .								
C03	25PY-055A.ALRM	OOP	H2 OL HDR PRCNTRL CMD	. . . Y								
C04	25PY-055B.ALRM	OOP	H2 CMD FRM OL HDR PR	. . . .	Y							
C05												
C06												
C07												
C08												
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01				Y . . .								
A02				Y . . .								
A03												
A04	25PIC-055B.MODE	AUT	H2 OL HDR PRCNTRL	. . Y .								
A05	25PY-055A.MODE	MAN	H2 OL HDR PRCNTRL CMD	. . . Y								
A06	25PY-055B.MODE	MAN	H2 CMD FRM OL HDR PR	. . . .	Y							
A07	25PY-055A.MODE	AUT	H2 OL HDR PRCNTRL CMD	. . . .	. Y							
A08	25PY-055B.MODE	AUT	H2 CMD FRM OL HDR PR	. . . .	. Y							
A09												
A10												
A11												
A12												
A13												
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	25PY055-LC2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-18
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	BOTH VLV OPN DISC ALARM		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY055-LC2 BOTH VLV OPN DISC ALARM)

Basic

Tag Name	25PY055-LC2
Model Name	LC64-E
Tag Comment	BOTH VLV OPN DISC ALARM
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY055-LC2.edf	SHEET:		YOKOGAWA	PAGE:3-25-14-19
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	BOTH VLV OPN DISC ALARM		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY055-LC2 BOTH VLV OPN DISC ALARM)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

CONTROL VALVE F/B CHECKING



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI055-CL02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-20
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	H2 OL HDR PR DEV		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI055-CL02 H2 OL HDR PR DEV)

Basic

Tag Name	25PI055-CL02
Model Name	CALCU
Tag Comment	H2 OL HDR PR DEV
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PI055-CL02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-21
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	H2 OL HDR PR DEV		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PI055-CL02 H2 OL HDR PR DEV)

```
Line Number   General-Purpose Calculation Formula
   001
   002        *APPLICATION :MANUAL SELECTION FOR VALVE 1 & 2
   003        ****************************************************************
   004        program
   005
   006            Alias MD    MODE.PV             !CURRENT MODE
   007            Alias SMD   87MODE-001.PV       !Selected mode
   008            alias A 25PI-035.PV
   009            alias B 25PI-037.PV
   010            alias C 25PI-040.PV
   011            alias D 25PI-043.PV
   012            alias E 25PI-046.PV
   013            alias F 25PI-049.PV
   014            ALIAS RSIL      V2500-RSIL.PV
   015        if(MD==9)then
   016        P01=1
   017            if(P01==1 and SMD==10)then
   018                P02=1
   019            else
   020        !   P01=0
   021            P02=0
   022            end if
   023        else if (P02==0 and MD<>10)then
   024            P01=0
   025        !   P02=0
   026            end if
   027        if((P02==1) and ((A<=2) OR (B<=2) OR (C<=2) OR (D<=2) OR (E<=2) OR (F<=2)))then
   028        RSIL=1
   029        else if(P02==1 and((A>=2) OR (B>=2) OR (C>=2) OR (D>=2) OR (E>=2) OR (F>=2))) then
   030        RSIL=0
   031        P01=0
   032        P02=0
   033        end if
   034        end
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC-055DP02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-22
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	NO OF FUEL CELL RUNN		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC-055DP02 NO OF FUEL CELL RUNN)

Basic

Tag Name	25PIC-055DP02
Model Name	CALCU
Tag Comment	NO OF FUEL CELL RUNN
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC-055DP02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-23
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	NO OF FUEL CELL RUNN		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC-055DP02 NO OF FUEL CELL RUNN)

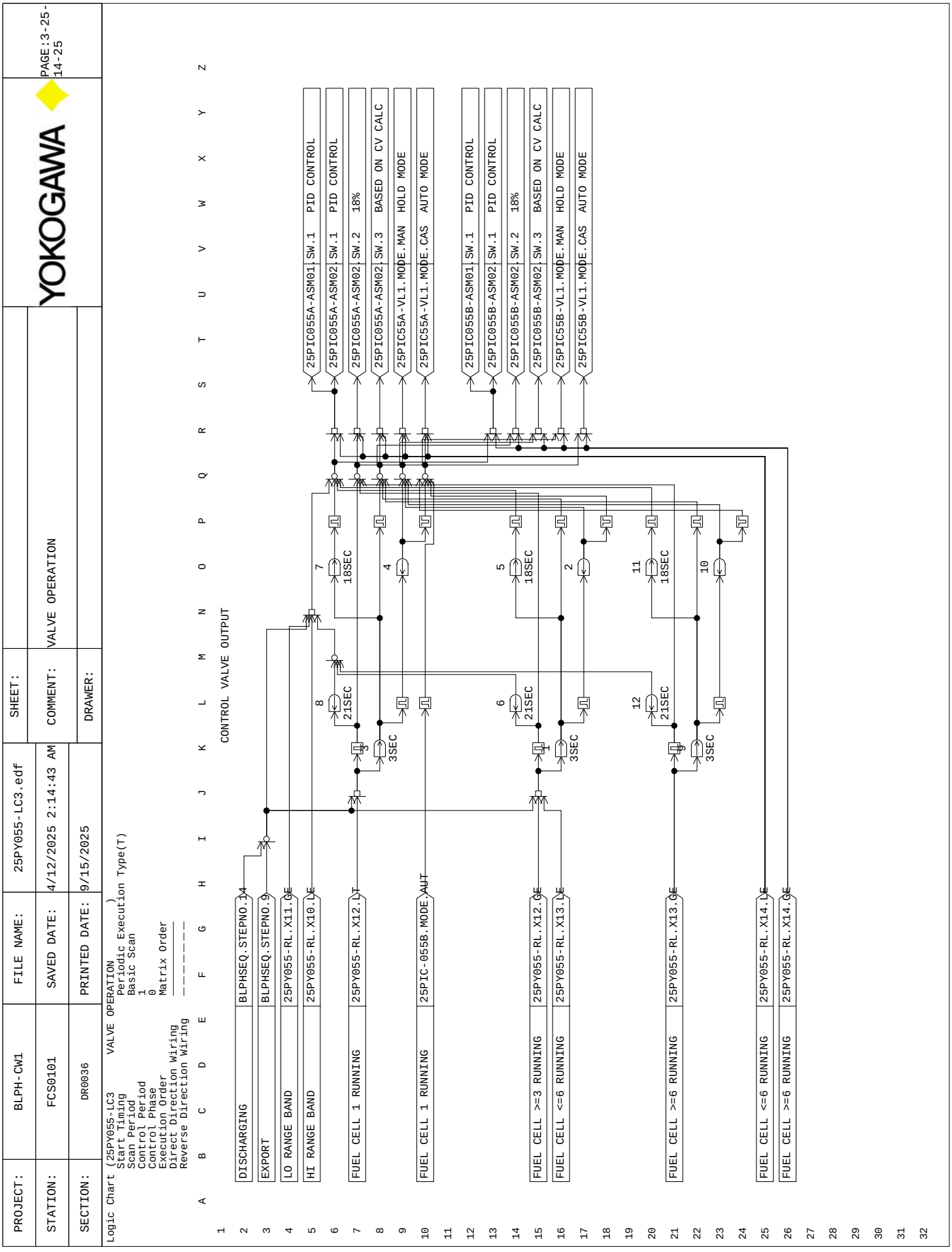
Line Number	General-Purpose Calculation Formula
001	program
002	Alias FC1 87US-0001.PV !1 FUEL CELL RUNNING
003	Alias FC2 87US-0002.PV !1 FUEL CELL RUNNING
004	Alias FC3 87US-0003.PV !1 FUEL CELL RUNNING
005	Alias FC4 87US-0004.PV !1 FUEL CELL RUNNING
006	Alias FC5 87US-0005.PV !1 FUEL CELL RUNNING
007	Alias FC6 87US-0006.PV !1 FUEL CELL RUNNING
008	Alias VL1P 25PIC55A-VL1.DMVP !RISE SPEED
009	Alias VL2P 25PIC55B-VL1.DMVP !RISE SPEED
010	Alias VL1M 25PIC55A-VL1.DMVM !LOWER SPEED
011	Alias VL2M 25PIC55B-VL1.DMVM !LOWER CELL RUNNING
012	
013	
014	P01=FC1+FC2+FC3+FC4+FC5+FC6
015	IF (P01==1)THEN
016	VL1P=6
017	VL2P=6
018	ELSE
019	VL1P=100
020	VL2P=100
021	END IF
022	end
023	CPV=P01
024	

PROJECT:	BLPH-CW1	FILE NAME:	25PY055-LC3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-24
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:43 AM	COMMENT:	VALVE OPERATION		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY055-LC3 VALVE OPERATION)

Basic

Tag Name	25PY055-LC3
Model Name	LC64-E
Tag Comment	VALVE OPERATION
Lvl	4


PROJECT: BLPH-CW1
STATION: FCS0101
SECTION: DR0036
FILE NAME: 25PY055-LC3.edf
SAVED DATE: 4/12/2025 2:14:43 AM
PRINTED DATE: 9/15/2025
SHEET:
COMMENT: VALVE OPERATION
DRAWER:
YOKOGAWA
PAGE:3-25-14-25
Logic Chart (25PY055-LC3 VALVE OPERATION)
Start Timing Periodic Execution Type(T)
Scan Period Basic Scan
Control Period 1
Control Phase 0
Execution Order Matrix Order
Direct Direction Wiring
Reverse Direction Wiring
CONTROL VALVE OUTPUT
DISCHARGING
EXPORT
LO RANGE BAND
HI RANGE BAND
FUEL CELL 1 RUNNING
FUEL CELL 1 RUNNING
FUEL CELL >=3 RUNNING
FUEL CELL <=6 RUNNING
FUEL CELL >=6 RUNNING
FUEL CELL <=6 RUNNING
FUEL CELL >=6 RUNNING
BLPHSEQ.STEPNO.14
BLPHSEQ.STEPNO.9
25PY055-RL.X11.GE
25PY055-RL.X10.LE
25PY055-RL.X12.LT
25PIC-055B.MODE.AUT
25PY055-RL.X12.GE
25PY055-RL.X13.LE
25PY055-RL.X13.GE
25PY055-RL.X14.LE
25PY055-RL.X14.GE
25PIC055A-ASM01 SW.1 PID CONTROL
25PIC055A-ASM02 SW.1 PID CONTROL
25PIC055A-ASM02 SW.2 18%
25PIC055A-ASM02 SW.3 BASED ON CV CALC
25PIC55A-VL1.MODE.MAN HOLD MODE
25PIC55A-VL1.MODE.CAS AUTO MODE
25PIC055B-ASM01 SW.1 PID CONTROL
25PIC055B-ASM02 SW.1 PID CONTROL
25PIC055B-ASM02 SW.2 18%
25PIC055B-ASM02 SW.3 BASED ON CV CALC
25PIC55B-VL1.MODE.MAN HOLD MODE
25PIC55B-VL1.MODE.CAS AUTO MODE
21SEC
3SEC
18SEC

PROJECT:	BLPH-CW1	FILE NAME:	25PI055-CL03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-26
STATION:	FCS0101	SAVED DATE:	7/5/2025 9:00:08 AM	COMMENT:	25PIC-055 SETPOINT		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI055-CL03 25PIC-055 SETPOINT)

Basic

Tag Name	25PI055-CL03
Model Name	CALCU
Tag Comment	25PIC-055 SETPOINT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

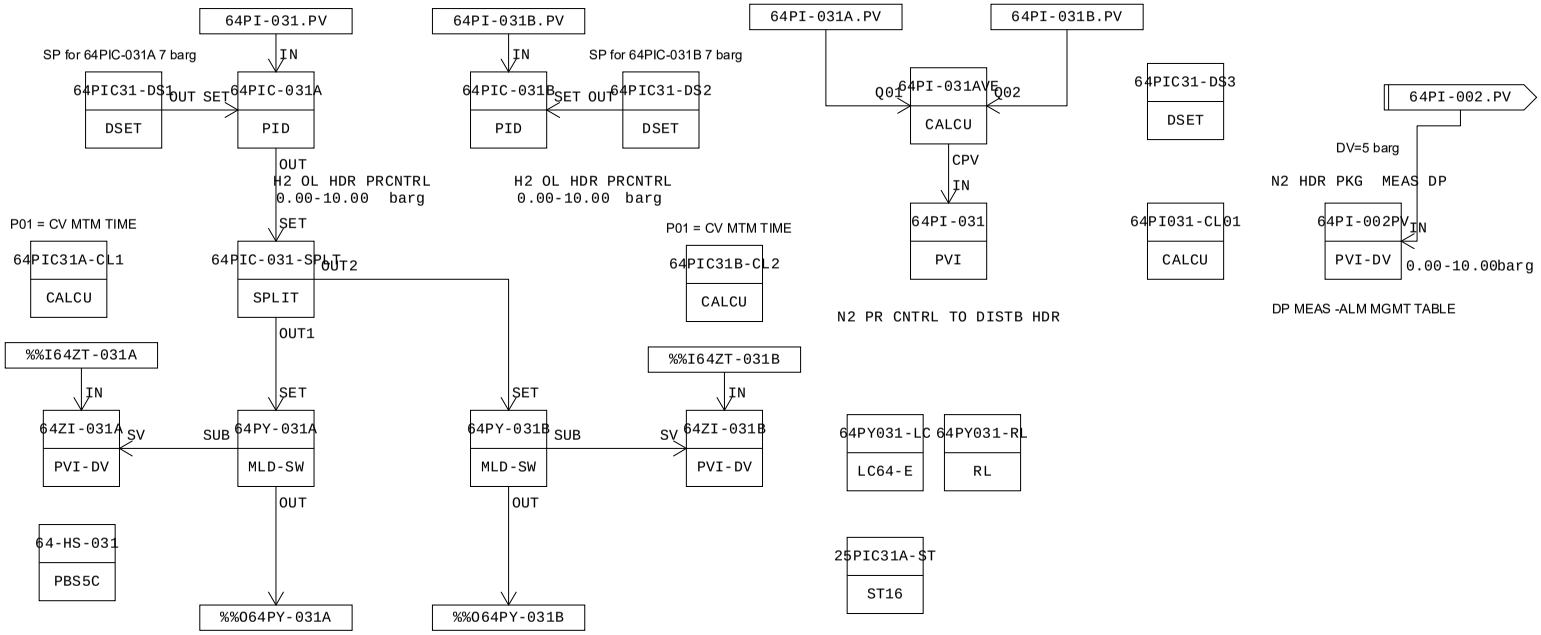
PROJECT:	BLPH-CW1	FILE NAME:	25PI055-CL03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-14-27
STATION:	FCS0101	SAVED DATE:	7/5/2025 9:00:08 AM	COMMENT:	25PIC-055 SETPOINT		
SECTION:	DR0036	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PI055-CL03 25PIC-055 SETPOINT)

```
Line Number   General-Purpose Calculation Formula
   001
   002        *APPLICATION :MANUAL SELECTION FOR VALVE 1 & 2
   003        ****************************************************************
   004
   005        Alias SP    25PIC55-DS1.SV      !SETPOINT
   006        Alias CURPW 87UI-005.PV     !FC CURRENT POWER
   007        Alias TARPW 87UI-006.PV     !FC CURRENT POWER
   008
   009        P01=TARPW-CURPW
   010        If(P01>0 AND SP<=6.5)then
   011         SP=SP + 0.05
   012        End if
   013
   014        If(P01<0 AND SP>=5.0)then
   015         SP=SP - 0.05
   016        End if
   017
   018
```

PROJECT:	BLPH-CW1	FILE NAME:	DR0037.edf	SHEET:		YOKOGAWA	PAGE:3-25-15-1
STATION:	FCS0101	SAVED DATE:	6/28/2025 1:00:19 AM	COMMENT:	64PIC-031A/B VALVE		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0037 | BLPH-CW | TYP006 | 64PIC-031A/B VALVECONTROL VAL'



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0037.edf	SHEET:		YOKOGAWA	PAGE:3-25-15-2
STATION:	FCS0101	SAVED DATE:	6/28/2025 1:00:19 AM	COMMENT:	64PIC-031A/B VALVE		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:64PIC-031A/B VALVE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	64PIC31-DS1	DSET		0.0	10.0	barg			
		64PIC-031A.SET				4			
002	64PIC-031A	PID	H2 OL HDR PRCNTRL	0.00	10.00	barg	No	No	64PI-031.PV
		64PIC-031-SPLT.SET		64PIC31-DS1.OUT		3			
003	64PIC31-DS2	DSET		0.0	10.0	barg			
		64PIC-031B.SET				4			
004	64PIC-031-SPLT	SPLIT		0	0	%			
				64PIC-031A.OUT		4			
005	64PIC-031B	PID	H2 OL HDR PRCNTRL	0.00	10.00	barg	No	No	64PI-031B.PV
				64PIC31-DS2.OUT		3			
006	64PY-031A	MLD-SW	H2 OL HDR PRCNTRL CMD	0	0	%			
		%%O64PY-031A		64PIC-031-SPLT.OUT1		3			
007	64PY-031B	MLD-SW	H2 CMD FRM OL HDR PR	0	0	%			
		%%O64PY-031B		64PIC-031-SPLT.OUT2		3			
008	64-HS-031	PBS5C	DUTY VALVE SELECTION	0	0				
						3			
009	64ZI-031A	PVI-DV	H2 OL HDR PRPOS FB	0.0	100.0	%	No	No	%%I64ZT-031A
						4			
010	64ZI-031B	PVI-DV	H2 OL HDR PRPOS FB	0.0	100.0	%	No	No	%%I64ZT-031B
						4			
011	64PIC31A-CL1	CALCU	H2 OL HDR PRCNTRL CMD	0.0	100.0	%	No	No	
						5			
012	64PIC31B-CL2	CALCU	H2 CMD FRM OL HDR PR	0.0	100.0	%	No	No	
						5			
013	64PY031-RL	RL	04HY11 POS FB COMP	0	0				
						4			
014	64PY031-LC	LC64-E		0	0				
						4			
015	25PIC31A-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
016	64PI-002PV	PVI-DV	N2 HDR PKG MEAS DP	0.00	10.00	barg	No	No	>64PI-002.PV
						4			
017	64PI031-CL01	CALCU	H2 OL HDR PR DEV	0.0	200.0	(None)	No	No	
						4			
018	64PIC31-DS3	DSET	SET 0	0.0	7.0	barg			
						4			
019	64PI-031AVE	CALCU	H2 OL HDR PR	0.00	100.00	barg	No	No	
						3			
020	64PI-031	PVI	N2 PR CNTRL TO DISTB HDR	0.00	10.00	barg	No	No	64PI-031AVE.CPV
						4			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	64PIC31-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-3
STATION:	FCS0101	SAVED DATE:	6/28/2025 1:00:19 AM	COMMENT:			
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64PIC31-DS1)

Basic

Tag Name	64PIC31-DS1
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (64PIC-031A H2 OL HDR PRCNTRL)

Basic

Tag Name	64PIC-031A
Model Name	PID
Tag Comment	H2 OL HDR PRCNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	Yes

Tag Detail (64PIC31-DS2)

Basic

Tag Name	64PIC31-DS2
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (64PIC-031-SPLT)

Basic

Tag Name	64PIC-031-SPLT
Model Name	SPLIT
Tag Comment	
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0

Connection

Set Value Input(SET)	64PIC-031A.OUT
Operation Output 1(OUT1)	64PY-031A.SET
Operation Output 2(OUT2)	64PY-031B.SET

Tag Detail (64PIC-031B H2 OL HDR PRCNTRL)

Basic

Tag Name	64PIC-031B
Model Name	PID
Tag Comment	H2 OL HDR PRCNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	

PROJECT:	BLPH-CW1	FILE NAME:	64PIC-031B.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-4
STATION:	FCS0101	SAVED DATE:	6/28/2025 12:29:46 AM	COMMENT:	H2 OL HDR PRCNTRL		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	Yes

Tag Detail (64PY-031A H2 OL HDR PRCNTRL CMD)

Basic

Tag Name	64PY-031A
Model Name	MLD-SW
Tag Comment	H2 OL HDR PRCNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (64PY-031B H2 CMD FRM OL HDR PR)

Basic

Tag Name	64PY-031B
Model Name	MLD-SW
Tag Comment	H2 CMD FRM OL HDR PR
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (64-HS-031 DUTY VALVE SELECTION)

Basic

Tag Name	64-HS-031
Model Name	PBS5C
Tag Comment	DUTY VALVE SELECTION
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	64-HS-031.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	64-HS-031.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	64-HS-031.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	64-HS-031.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	64PY031A	64PY031A	Gray	Green
002	Not used	OFF	ON	White	Red
003	Button with Lamp	64PY031B	64PY031B	Gray	Green
004	Not used	OFF	ON	White	Red
005	Not used	BYP	BYP	Gray	Green

Tag Detail (64ZI-031A H2 OL HDR PRPOS FB)

Basic

Tag Name	64ZI-031A
Model Name	PVI-DV
Tag Comment	H2 OL HDR PRPOS FB

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64ZI-031B H2 OL HDR PRPOS FB)

Basic

Tag Name	64ZI-031B
Model Name	PVI-DV
Tag Comment	H2 OL HDR PRPOS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PIC31A-CL1 H2 OL HDR PRCNTRL CMD)

Basic

Tag Name	64PIC31A-CL1
Model Name	CALCU
Tag Comment	H2 OL HDR PRCNTRL CMD
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	64PIC31A-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	H2 OL HDR PRCNTRL CMD		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (64PIC31A-CL1 H2 OL HDR PRCNTRL CMD)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      64ZI-031A.PV               !CV FB
   006        alias   O1      64ZI-031A.SV               !CV OUTPUT
   007        alias   DL1     64ZI-031A.DL               !CV DEV VALUE
   008        alias   DVP1    {64ZI-031A.AF.DV+}      !CV DV+ ALARM MASK
   009        alias   DVM1    {64ZI-031A.AF.DV-}      !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	64PIC31B-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	H2 CMD FRM OL HDR PR		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64PIC31B-CL2 H2 CMD FRM OL HDR PR)

Basic

Tag Name	64PIC31B-CL2
Model Name	CALCU
Tag Comment	H2 CMD FRM OL HDR PR
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	64PIC31B-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	H2 CMD FRM OL HDR PR		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (64PIC31B-CL2 H2 CMD FRM OL HDR PR)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      64ZI-031B.PV               !CV FB
   006        alias   O1      64ZI-031B.SV               !CV OUTPUT
   007        alias   DL1     64ZI-031B.DL               !CV DEV VALUE
   008        alias   DVP1    {64ZI-031B.AF.DV+}      !CV DV+ ALARM MASK
   009        alias   DVM1    {64ZI-031B.AF.DV-}      !CV DV- ALARM MASK
   010        ! P01                                     !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                        !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                          !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	64PY031-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	04HY11 POS FB COMP		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64PY031-RL 04HY11 POS FB COMP)

Basic

Tag Name	64PY031-RL
Model Name	RL
Tag Comment	04HY11 POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001		Relational Operation		DSET IS 0
002	64ZI-031A.PV	Relational Operation	2	25PY-055A CLOSED
003	64ZI-031B.PV	Relational Operation	2	25PY-055B CLOSED
004	64PIC31A-CL1.P03	Relational Operation	5	DEVIATION>5
005	64PY-031A.MV	Relational Operation	100	FULL OPN CMD
006	64PY-031A.MV	Relational Operation	0	FULL CLOSE CMD
007	64PIC31B-CL2.P03	Relational Operation	5	DEVIATION>5
008	64PY-031B.MV	Relational Operation	100	FULL OPN CMD
009	64PY-031B.MV	Relational Operation	0	FULL CLOSE CMD

Tag Detail (64PY031-LC)

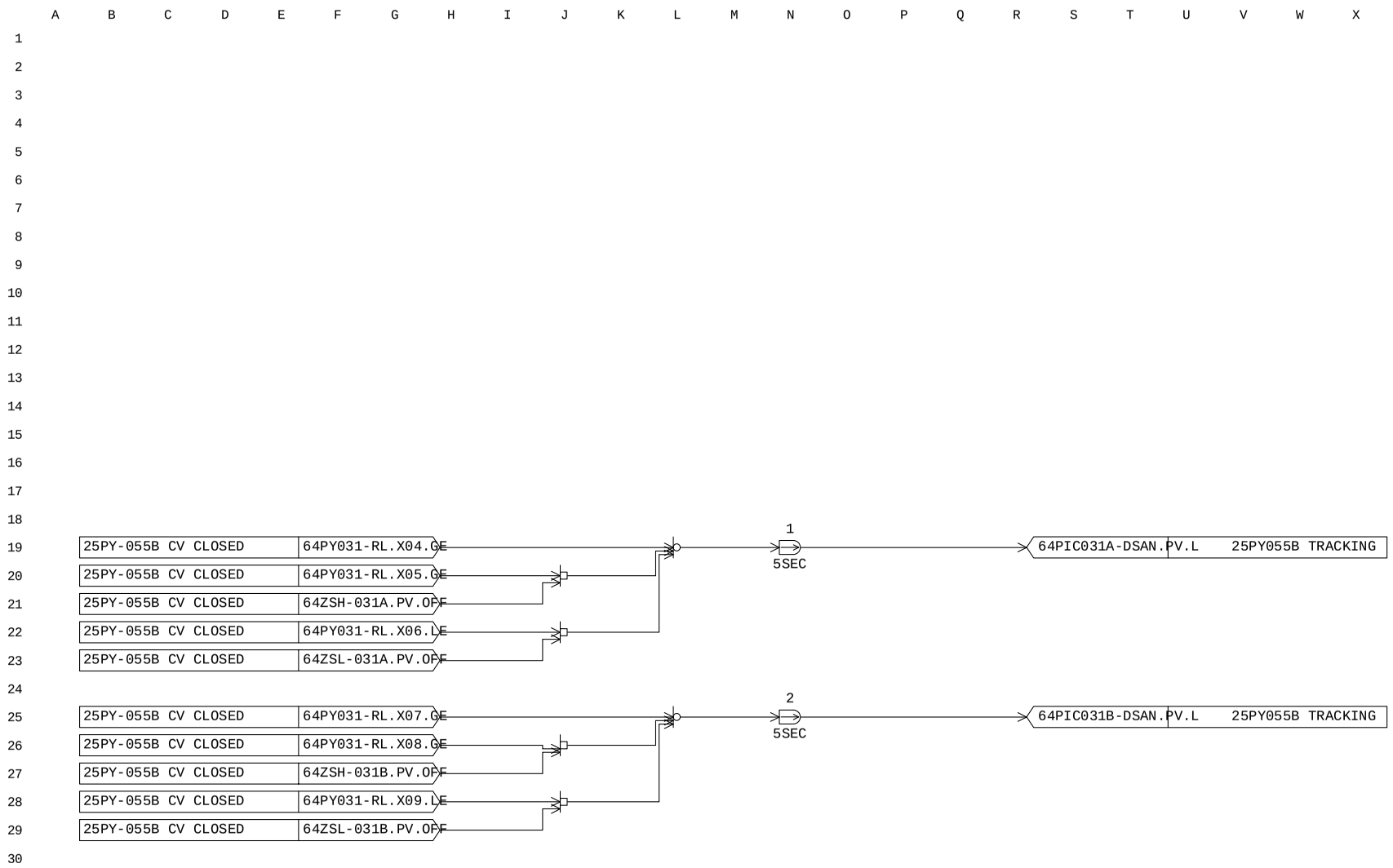
Basic

Tag Name	64PY031-LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	64PY031-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-15-10
STATION:	FCS0101	SAVED DATE:	6/28/2025 12:52:37 AM	COMMENT:			
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (64PY031-LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PIC31A-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-11
STATION:	FCS0101	SAVED DATE:	6/28/2025 1:00:19 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC31A-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25PIC31A-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PIC31A-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-12
STATION:	FCS0101	SAVED DATE:	6/28/2025 1:00:19 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25PIC31A-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01											
C02											
C03	64PY-031A.ALRM	OOP	H2 OL HDR PRCNTRL CMD	N							
C04	64PY-031B.ALRM	OOP	H2 CMD FRM OL HDR PR		N						
C05	64PIC-031A.MODE	AUT	H2 OL HDR PRCNTRL		Y						
C06											
C07											
C08											
C09											
C10											
C11											
C12											
C13											
C14											
C15											
C16											
C17											
C18											
C19											
C20											
C21											
C22											
C23											
C24											
C25											
C26											
C27											
C28											
C29											
C30											
C31											
C32											
A01											
A02											
A03											
A04											
A05	64PY-031A.MODE	AUT	H2 OL HDR PRCNTRL CMD		Y						
A06	64PY-031B.MODE	AUT	H2 CMD FRM OL HDR PR		Y						
A07	64PY-031A.MODE	AUT	H2 OL HDR PRCNTRL CMD		Y						
A08	64PY-031B.MODE	AUT	H2 CMD FRM OL HDR PR		Y						
A09											
A10											
A11											
A12											
A13											
A14											
A15											
A16											
A17											
A18											
A19											
A20											
A21											
A22											
A23											
A24											
A25											
A26											
A27											
A28											
A29											
A30											
A31											
A32											
	PREV		THEN								
	NEXT		ELSE								

PROJECT:	BLPH-CW1	FILE NAME:	64PI-002PV.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	N2 HDR PKG MEAS DP		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64PI-002PV N2 HDR PKG MEAS DP)

Basic

Tag Name	64PI-002PV
Model Name	PVI-DV
Tag Comment	N2 HDR PKG MEAS DP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI031-CL01 H2 OL HDR PR DEV)

Basic

Tag Name	64PI031-CL01
Model Name	CALCU
Tag Comment	H2 OL HDR PR DEV
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	64PI031-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	H2 OL HDR PR DEV		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (64PI031-CL01 H2 OL HDR PR DEV)

```
Line Number   General-Purpose Calculation Formula
   001
   002
   003        ****************************************************************
   004
   005            Alias SEL_A 64PI-031A.PV            !TX A Selected
   006            Alias SEL_B 64PI-031B.PV            !TX B Selected
   007            Alias SEL_C 64PI-002PV.PV       !TX C Selected
   008            Alias DVAN  64PI031-DVAN.PV     !Deviation SW
   009            long i,j,k,d
   010        d=0.5                                           !5% deviation of Range
   011        i= SEL_A - SEL_B        !Tx1-Tx2
   012        j= SEL_A - SEL_C        !Tx1-Tx3
   013        k= SEL_B - SEL_C        !Tx2-Tx3
   014        P01= lABS(i)
   015        P02= lABS(j)
   016        P03= lABS(k)
   017
   018        !   if(P01>d OR P02>d OR P03>d) then
   019        !       DVAN=1
   020        !   else
   021        !       DVAN=0
   022        !   end if
   023
   024        IF (P01>0.5 OR P02>0.5 OR P03>0.5)THEN
   025            P05 = P05+1                         !CV MTM TIME DELAY
   026        ELSE IF (B>DL1)AND(P05>=P04) THEN
   027            P05 = P04                               !CV MTM TIME DELAY
   028        ELSE
   029            P05 = 0
   030        END IF
   031
   032        IF (P05>=P04) THEN
   033        DVAN=1
   034        ELSE
   035        DVAN=0
   036        END IF
   037
   038
   039
```

PROJECT:	BLPH-CW1	FILE NAME:	64PIC31-DS3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:46 AM	COMMENT:	SET 0		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64PIC31-DS3 SET 0)

Basic

Tag Name	64PIC31-DS3
Model Name	DSET
Tag Comment	SET 0
Lvl	4
Scan Period	Basic Scan

Tag Detail (64PI-031AVE H2 OL HDR PR)

Basic

Tag Name	64PI-031AVE
Model Name	CALCU
Tag Comment	H2 OL HDR PR
Lvl	3
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	64PI-031AVE.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-16
STATION:	FCS0101	SAVED DATE:	6/28/2025 12:37:58 AM	COMMENT:	H2 OL HDR PR		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (64PI-031AVE H2 OL HDR PR)

```
Line Number   General-Purpose Calculation Formula
   001        program
   002        * ------------------------------------------------------------------------------------------------------------
   003        *         One-of-two average transmitter selection
   004        *
   005        *       P01     Tx Selection 1=Tx1,2=Tx2 , 4=Both selection for AVE output
   006        *       P02     AUT/MAN Selection 0=AUT/*=MAN
   007        *       P03     IOP from CERR
   008        *       P04     Rate Limit (units/min)
   009        *       P05     BAD Count
   010        *       P06     Delay Time until making CERR
   011        *       P07     SPARE
   012        *       P08     SPARE
   013        *
   014        * The AUT/MAN selection is used as a guard to the Tx selection
   015        * done via the faceplate display. P02 must be selected to MAN
   016        * to enable manual selection i.e. writing to P01 by the HIS.
   017        *
   018        * If AUT mode is used, P01 tracks the calc average Tx to effect
   019        * a bumpless transfer to MAN mode. - the Tx selected in AUT
   020        * remains selected in MAN until changed via the faceplate display.
   021        *
   022        *Alarm of function keep Non IOP
   023        * ------------------------------------------------------------------------------------------------------------
   024            ALIAS   TX1BAD      {64PI-031A.PV=BAD}
   025            ALIAS   TX2BAD      {64PI-031B.PV=BAD}
   026            ALIAS   TX1QST      {64PI-031A.PV=CAL}
   027            ALIAS   TX2QST      {64PI-031B.PV=CAL}
   028            ALIAS   SH          64PI-031.SH
   029            ALIAS   SL          64PI-031.SL
   030        !   ALIAS   TX1SV       64PI-031.SV !For Passing SV to TX1
   031        !   ALIAS   TX2SV       64PI-031.SV !For Passing SV to TX2
   032        * ------------------------------------------------------------------------------------------------------------
   033        * BAD Count Calculation
   034            P05 = TX1BAD*(not TX1QST) + TX2BAD*(not TX2QST)
   035        * ------------------------------------------------------------------------------------------------------------
   036        * Tx Selection
   037            if (P02 == 0) then
   038                switch(P05)
   039                case 0:
   040                    P01 = 4
   041                case 1:
   042                    P01 = 1*(not TX1BAD) + 2*(not TX2BAD)
   043                end switch
   044            end if
   045        * ------------------------------------------------------------------------------------------------------------
   046        * For making IOP from CERR
   047            if(P05 == 2 and P06<=10) then
   048                P06 = P06 + 1           !For Delay time
   049                P03 = not(P06 == 10)
   050            else
   051                P06 = 0
   052                P03 = 1
   053            end if
   054        * ------------------------------------------------------------------------------------------------------------

   055        * Ouput without Ramping
   056            if(P01==4) then
   057                CPV=(RV1*(not TX1BAD) + RV2*(not TX2BAD))/2         ! AVE
   058            else if(P01<3) then
   059                CPV=RV1*(P01==1) + RV2*(P01==2)                 ! TX1,2
   060            end if
   061        * ------------------------------------------------------------------------------------------------------------
   062        * Output with Ramping
   063        *if(0<P04 and P04<(SH-SL) and (CPV1<(CPV-P04/60) or CPV1>(CPV+P04/60)))  then           !CPV1 is Target Value of CPV

   064        *       CPV = CPV+((1-2*(CPV1<CPV))*P04/60)/P03
   065        *   else
   066        *       CPV = CPV1/P03
   067        *   end if
   068        * ------------------------------------------------------------------------------------------------------------
   069        *Passing Final Selected Value to Individual Transmitter for Deviation Alarm
   070        !   TX1SV=CPV
   071        !   TX2SV=CPV
   072        end
   073
```

PROJECT:	BLPH-CW1	FILE NAME:	64PI-031.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-15-17
STATION:	FCS0101	SAVED DATE:	6/28/2025 12:37:58 AM	COMMENT:	N2 PR CNTRL TO DISTB HDR		
SECTION:	DR0037	PRINTED DATE:	9/15/2025	DRAWER:			

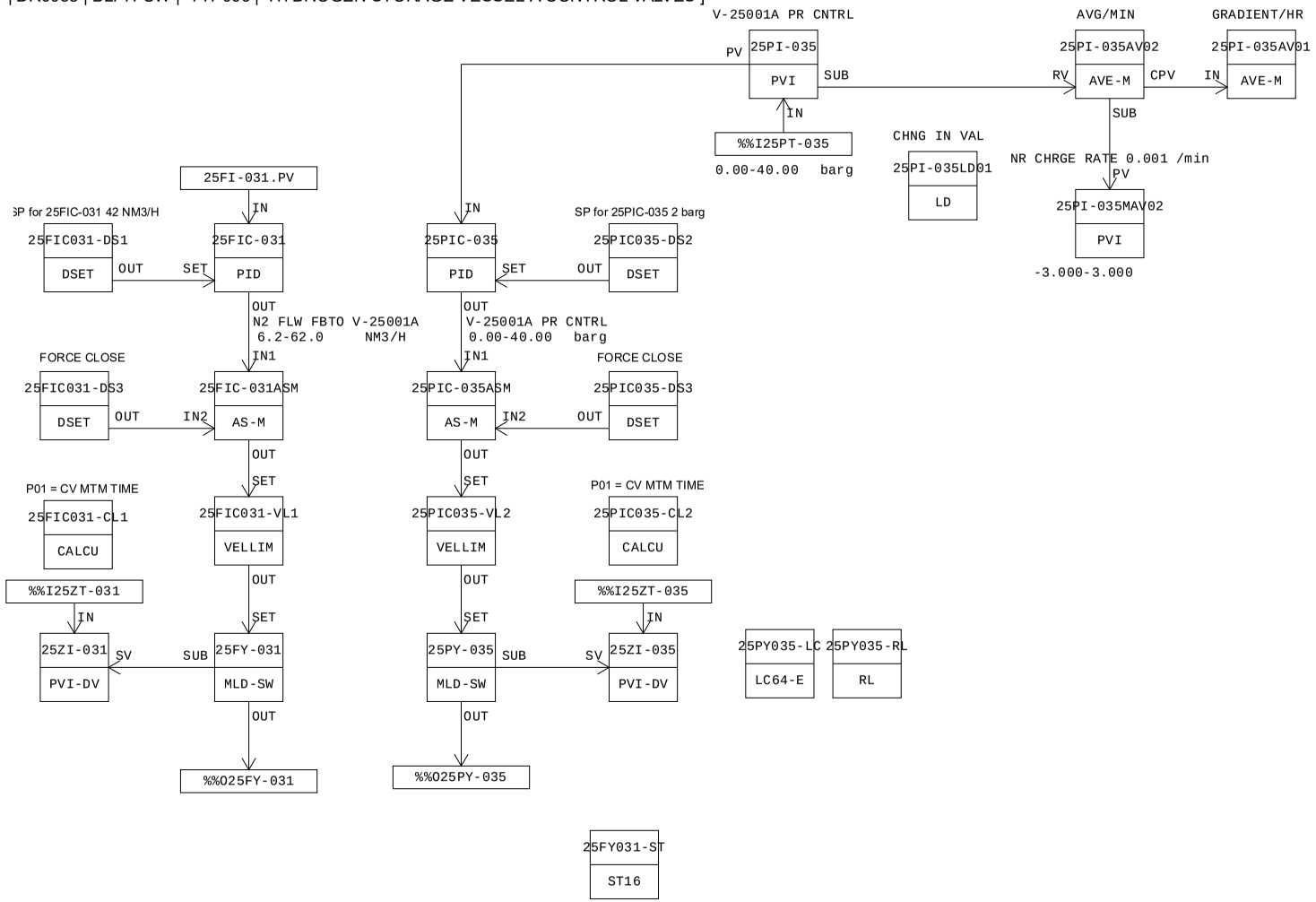
Tag Detail (64PI-031 N2 PR CNTRL TO DISTB HDR)

Basic

Tag Name	64PI-031
Model Name	PVI
Tag Comment	N2 PR CNTRL TO DISTB HDR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0038.edf	SHEET:		YOKOGAWA	PAGE:3-25-16-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:32:29 AM	COMMENT:	HYDROGEN VESSEL-A CONTROL		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0038 | BLPH-CW | TYP006 | HYDROGEN STORAGE VESSEL-A CONTROL VALVES]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0038.edf	SHEET:		YOKOGAWA	PAGE:3-25-16-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:32:29 AM	COMMENT:	HYDROGEN VESSEL-A CONTROL		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HYDROGEN VESSEL-A CONTROL

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FIC031-DS1	DSET	SET POINT 25FIC-031	6.2	62.0	NM3/H			
		25FIC-031.SET				4			
002	25FIC-031	PID	N2 FLW FBTO V-25001A	6.2	62.0	NM3/H	No	No	25FI-031.PV
		25FIC-031ASM.IN1		25FIC031-DS1.OUT		3			
003	25FIC031-DS3	DSET	FOCE CLOSE 25FIC-031	0.0	100.0	(None)			
		25FIC-031ASM.IN2				4			
004	25FIC-031ASM	AS-M	V-25001A SELECTOR	0.0	100.0	%			
		25FIC031-VL1.SET				4			
005	25PIC035-DS3	DSET	FOCE CLOSE 25PIC-035	0.0	100.0	(None)			
		25PIC-035ASM.IN2				4			
006	25PIC035-DS2	DSET	SET POINT 25PIC-035	0.0	40.0	barg			
		25PIC-035.SET				4			
007	25PI-035	PVI	V-25001A PR CNTRL	0.00	40.00	barg	No	No	%%I25PT-035
						4			
008	25PIC-035	PID	V-25001A PR CNTRL	0.00	40.00	barg	No	No	25PI-035.PV
		25PIC-035ASM.IN1		25PIC035-DS2.OUT		3			
009	25PIC-035ASM	AS-M	V-25001A SELECTOR	0.0	100.0	%			
		25PIC035-VL2.SET				4			
010	25FIC031-VL1	VELLIM	N2 FLW FBTO V-25001A	0	0	%			
		25FY-031.SET		25FIC-031ASM.OUT		4			
011	25PIC035-VL2	VELLIM	V-25001A PR CNTRL	0	0	%			
		25PY-035.SET		25PIC-035ASM.OUT		4			
012	25FY-031	MLD-SW	N2 CMD TO V-25001A	0	0	%			
		%%O25FY-031		25FIC031-VL1.OUT		3			
013	25PY-035	MLD-SW	V-25001A PR CNTRL CMD	0	0	%			
		%%O25PY-035		25PIC035-VL2.OUT		3			
014	25ZI-031	PVI-DV	N2 POS FB TOV-25001A	0.0	100.0	%	No	No	%%I25ZT-031
						4			
015	25ZI-035	PVI-DV	V-25001A POS FB	0.0	100.0	%	No	No	%%I25ZT-035
						4			
016	25FIC031-CL1	CALCU	N2 POS FB TOV-25001A	0.0	100.0	%	No	No	
						5			
017	25PIC035-CL2	CALCU	V-25001A POS FB	0.0	100.0	%	No	No	
						5			
018	25FY031-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
019	25PY035-RL	RL	04HY11 POS FB COMP	0	0				
						4			
020	25PY035-LC	LC64-E	V-25001A LOGIC	0	0				
						4			
021	25PI-035LD01	LD	CHNG IN VAL	-40.00	40.00	barg	No		
						4			
022	25PI-035AV02	AVE-M	AVG/MIN	-40.00	40.00	barg	No		
						4			
023	25PI-035AV01	AVE-M	GRADIENT/HR	-3.000	3.000	barg	No		25PI-035AV02.CPV
						4			
024	25PI-035MAV02	PVI	NR CHRGE RATE 0.001 /min	-3.000	3.000		No	No	
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FIC031-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:32:29 AM	COMMENT:	SET POINT 25FIC-031		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FIC031-DS1 SET POINT 25FIC-031)

Basic

Tag Name	25FIC031-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-031
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-031 N2 FLW FBTO V-25001A)

Basic

Tag Name	25FIC-031
Model Name	PID
Tag Comment	N2 FLW FBTO V-25001A
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25FIC031-DS3 FOCE CLOSE 25FIC-031)

Basic

Tag Name	25FIC031-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-031
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-031ASM V-25001A SELECTOR)

Basic

Tag Name	25FIC-031ASM
Model Name	AS-M
Tag Comment	V-25001A SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25FIC-031.OUT
Signal Input 2(IN2)	25FIC031-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25FIC031-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC035-DS3 FOCE CLOSE 25PIC-035)

Basic

Tag Name	25PIC035-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25PIC-035
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC035-DS2 SET POINT 25PIC-035)

Basic

Tag Name	25PIC035-DS2
Model Name	DSET
Tag Comment	SET POINT 25PIC-035
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	25PIC035-DS2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-4
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:32:29 AM	COMMENT:	SET POINT 25PIC-035		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-035 V-25001A PR CNTRL)

Basic

Tag Name	25PI-035
Model Name	PVI
Tag Comment	V-25001A PR CNTRL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PIC-035 V-25001A PR CNTRL)

Basic

Tag Name	25PIC-035
Model Name	PID
Tag Comment	V-25001A PR CNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Direct
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PIC-035ASM V-25001A SELECTOR)

Basic

Tag Name	25PIC-035ASM
Model Name	AS-M
Tag Comment	V-25001A SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25PIC-035.OUT
Signal Input 2(IN2)	25PIC035-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25PIC035-VL2.SET
Interlock Switch Input(INT)	

Tag Detail (25FIC031-VL1 N2 FLW FBTO V-25001A)

Basic

Tag Name	25FIC031-VL1
Model Name	VELLIM
Tag Comment	N2 FLW FBTO V-25001A
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25PIC035-VL2 V-25001A PR CNTRL)

Basic

Tag Name	25PIC035-VL2
Model Name	VELLIM
Tag Comment	V-25001A PR CNTRL
Lvl	4

Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25FY-031 N2 CMD TO V-25001A)

Basic

Tag Name	25FY-031
Model Name	MLD-SW
Tag Comment	N2 CMD TO V-25001A
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-035 V-25001A PR CNTRL CMD)

Basic

Tag Name	25PY-035
Model Name	MLD-SW
Tag Comment	V-25001A PR CNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25ZI-031 N2 POS FB TOV-25001A)

Basic

Tag Name	25ZI-031
Model Name	PVI-DV
Tag Comment	N2 POS FB TOV-25001A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-035 V-25001A POS FB)

Basic

Tag Name	25ZI-035
Model Name	PVI-DV
Tag Comment	V-25001A POS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FIC031-CL1 N2 POS FB TOV-25001A)

Basic

Tag Name	25FIC031-CL1
Model Name	CALCU
Tag Comment	N2 POS FB TOV-25001A

PROJECT:	BLPH-CW1	FILE NAME:	25FIC031-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	N2 POS FB TOV-25001A		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25FIC031-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	N2 POS FB TOV-25001A		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25FIC031-CL1 N2 POS FB TOV-25001A)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-031.PV             !CV FB
   006        alias   O1      25ZI-031.SV             !CV OUTPUT
   007        alias   DL1     25ZI-031.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-031.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-031.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC035-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	V-25001A POS FB		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC035-CL2 V-25001A POS FB)

Basic

Tag Name	25PIC035-CL2
Model Name	CALCU
Tag Comment	V-25001A POS FB
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC035-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	V-25001A POS FB		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC035-CL2 V-25001A POS FB)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-035.PV             !CV FB
   006        alias   O1      25ZI-035.SV             !CV OUTPUT
   007        alias   DL1     25ZI-035.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-035.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-035.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25FY031-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FY031-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25FY031-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25FY031-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25FY031-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	25FY-031.ALRM	OOP	N2 CMD TO V-25001A	.Y..	.N..							
C02	25PY-035.ALRM	OOP	V-25001A PR CNTRL CMD	..Y.	..N.							
C03	25FIC-031.XALRM	IOP	N2 FLW FBTO V-25001A	...N	....							
C04	25PIC-035.XALRM	IOP	V-25001A PR CNTRL	....	N...							
C05	25FIC-031.MODE	AUT	N2 FLW FBTO V-25001A	....	.Y..							
C06	25PIC-035.MODE	AUT	V-25001A PR CNTRL	....	..Y.							
C07	25FIC-031.MODE	AUT	N2 FLW FBTO V-25001A	....	...Y							
C08	25PIC-035.MODE	AUT	V-25001A PR CNTRL	....	....	Y...						
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	25FIC-031ASM.MODE	AUT	V-25001A SELECTOR	Y...								
A02	25PIC-035ASM.MODE	AUT	V-25001A SELECTOR	Y...								
A03	25FIC031-VL1.MODE	CAS	N2 FLW FBTO V-25001A	Y...								
A04	25PIC035-VL2.MODE	CAS	V-25001A PR CNTRL	Y...								
A05	25FY-031.MODE	MAN	N2 CMD TO V-25001A	.Y..								
A06	25PY-035.MODE	MAN	V-25001A PR CNTRL CMD	..Y.								
A07	25FIC-031.MODE	AUT	N2 FLW FBTO V-25001A	...Y								
A08	25PIC-035.MODE	AUT	V-25001A PR CNTRL	....	Y...							
A09	25FY-031.MODE	AUT	N2 CMD TO V-25001A	....	.Y..							
A10	25FIC-031ASM.MODE	AUT	V-25001A SELECTOR	....	.Y..							
A11	25PY-035.MODE	AUT	V-25001A PR CNTRL CMD	....	..Y.							
A12	25PIC-035ASM.MODE	AUT	V-25001A SELECTOR	....	..Y.							
A13	25FY-031.MODE	AUT	N2 CMD TO V-25001A	....	...Y							
A14	25PY-035.MODE	AUT	V-25001A PR CNTRL CMD	....	....	Y...						
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	25PY035-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-12
STATION:	FCS0101	SAVED DATE:	4/18/2025 5:11:32 AM	COMMENT:	04HY11 POS FB COMP		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY035-RL 04HY11 POS FB COMP)

Basic

Tag Name	25PY035-RL
Model Name	RL
Tag Comment	04HY11 POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001	25PI-035.PV	Relational Operation	1.5	
002		Relational Operation		
003		Relational Operation		
004	25FIC031-CL1.P03	Relational Operation	5	DEVIATION>5
005	25FY-031.MV	Relational Operation	100	FULL OPN CMD
006	25FY-031.MV	Relational Operation	0	FULL CLOSE CMD
007	25PIC035-CL2.P03	Relational Operation	5	DEVIATION>5
008	25PY-035.MV	Relational Operation	100	FULL OPN CMD
009	25PY-035.MV	Relational Operation	0	FULL CLOSE CMD
011	25PI-035AV01.CPV	Relational Operation	0.0	-VE GRAD
012		Relational Operation		
013		Relational Operation		
014		Relational Operation		
015		Relational Operation		
016		Relational Operation		

Tag Detail (25PY035-LC V-25001A LOGIC)

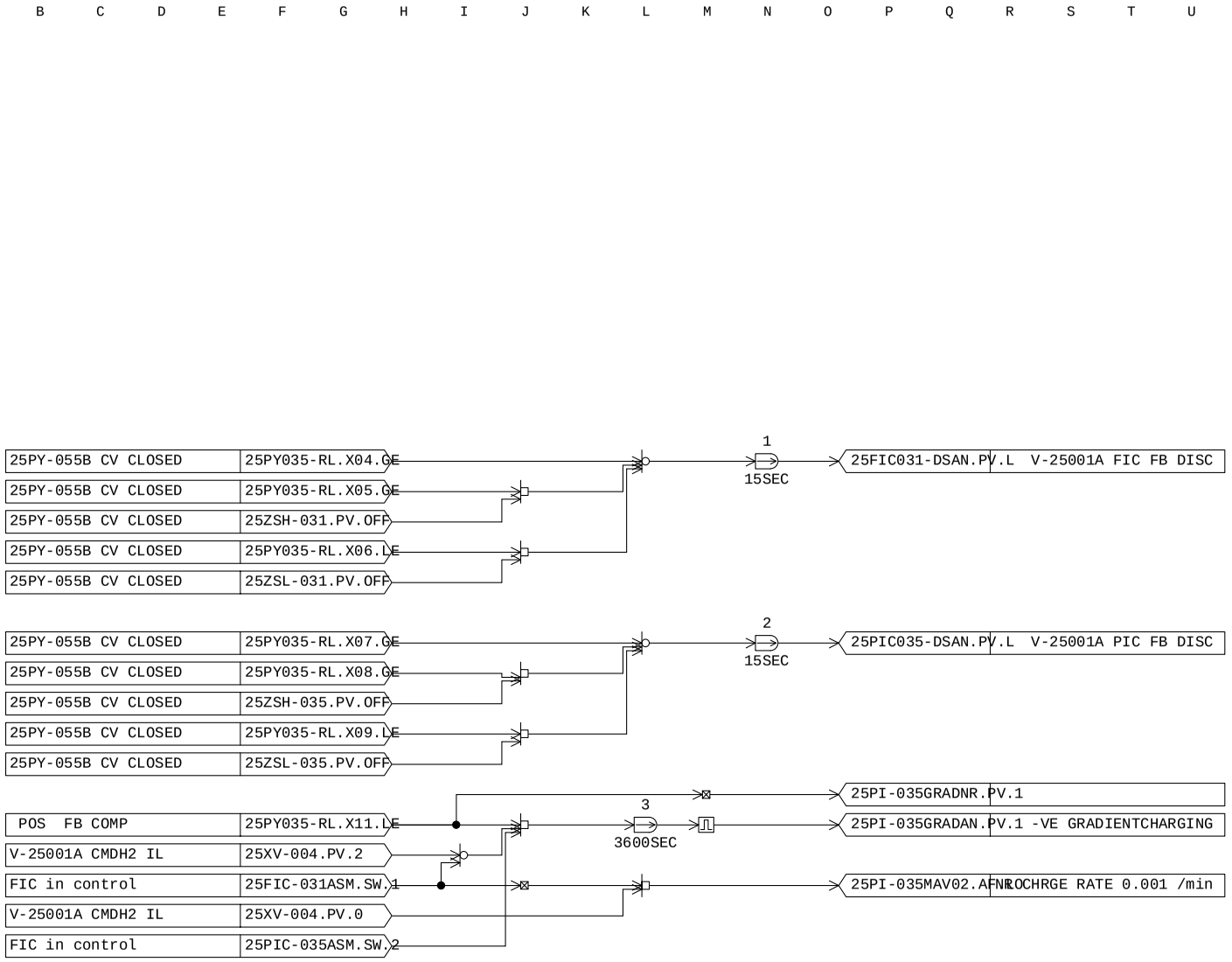
Basic

Tag Name	25PY035-LC
Model Name	LC64-E
Tag Comment	V-25001A LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY035-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-16-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	V-25001A LOGIC		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY035-LC V-25001A LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI-035LD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-16-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:49 AM	COMMENT:	CHNG IN VAL		
SECTION:	DR0038	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-035LD01 CHNG IN VAL)

Basic

Tag Name	25PI-035LD01
Model Name	LD
Tag Comment	CHNG IN VAL
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-035AV02 AVG/MIN)

Basic

Tag Name	25PI-035AV02
Model Name	AVE-M
Tag Comment	AVG/MIN
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-035AV01 GRADIENT/HR)

Basic

Tag Name	25PI-035AV01
Model Name	AVE-M
Tag Comment	GRADIENT/HR
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

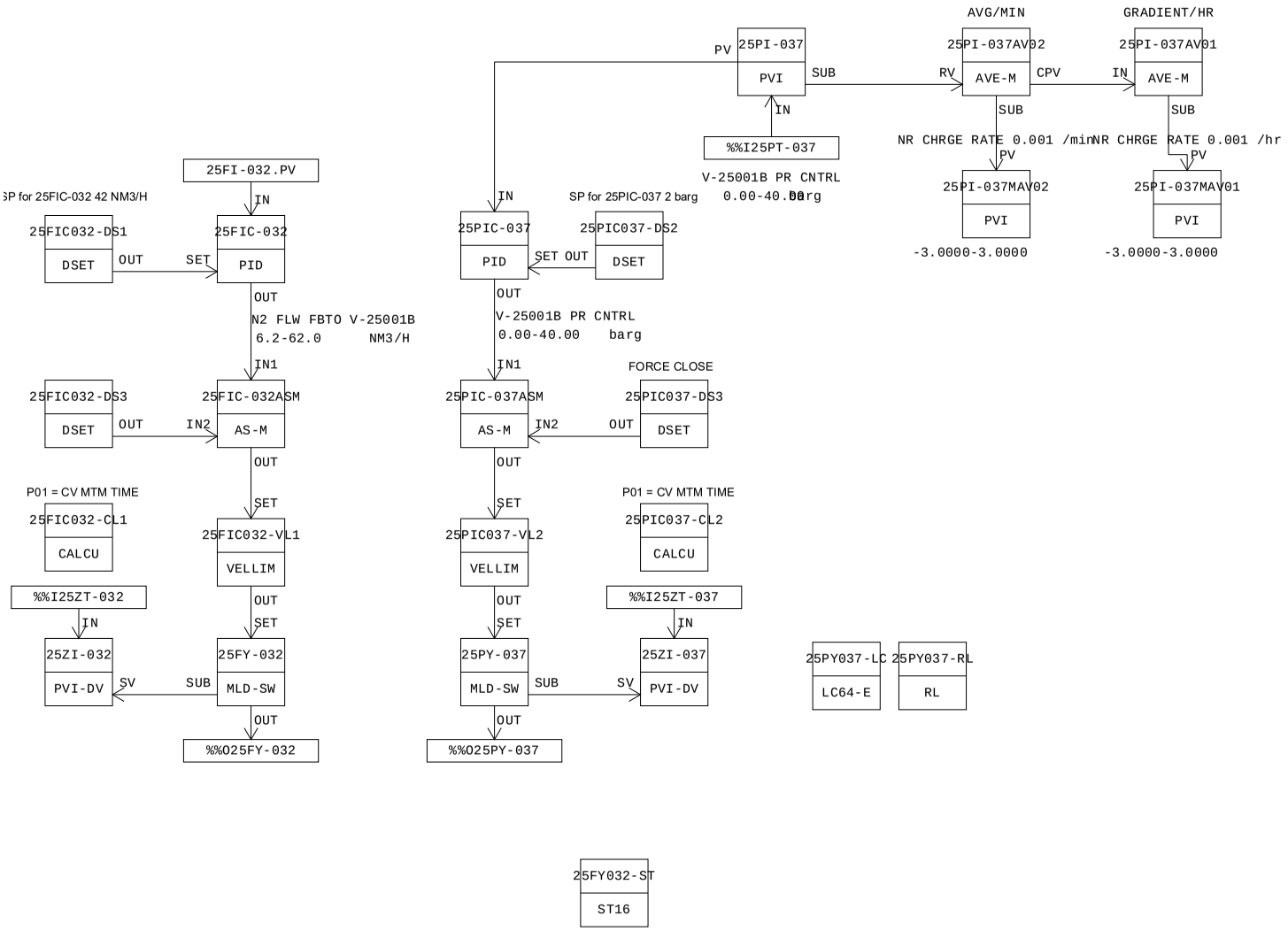
Tag Detail (25PI-035MAV02 NR CHRGE RATE 0.001 /min)

Basic

Tag Name	25PI-035MAV02
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /min
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0039.edf	SHEET:		YOKOGAWA	PAGE:3-25-17-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:33:15 AM	COMMENT:	HYDROGEN VESSEL-B CONTROL		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0039 | BLPH-CW | TYP006 | HYDROGEN STORAGE VESSEL-B CONTROL VALVES]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0039.edf	SHEET:		YOKOGAWA	PAGE:3-25-17-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:33:15 AM	COMMENT:	HYDROGEN VESSEL-B CONTROL		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HYDROGEN VESSEL-B CONTROL

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FIC032-DS1	DSET	SET POINT 25FIC-032	6.2	62.0	NM3/H			
		25FIC-032.SET				4			
002	25FIC-032	PID	N2 FLW FBTO V-25001B	6.2	62.0	NM3/H	No	No	25FI-032.PV
		25FIC-032ASM.IN1		25FIC032-DS1.OUT		3			
003	25FIC032-DS3	DSET	FOCE CLOSE 25FIC-032	0.0	100.0	(None)			
		25FIC-032ASM.IN2				4			
004	25FIC-032ASM	AS-M	V-25001B SELECTOR	0.0	100.0	%			
		25FIC032-VL1.SET				4			
005	25PIC037-DS2	DSET	SET POINT 25PIC-037	0.0	40.0	barg			
		25PIC-037.SET				4			
006	25PI-037	PVI	V-25001B PR CNTRL	0.00	40.00	barg	No	No	%%I25PT-037
						4			
007	25PIC-037	PID	V-25001B PR CNTRL	0.00	40.00	barg	No	No	25PI-037.PV
		25PIC-037ASM.IN1		25PIC037-DS2.OUT		3			
008	25PIC037-DS3	DSET	FOCE CLOSE 25PIC-037	0.0	100.0	(None)			
		25PIC-037ASM.IN2				4			
009	25PIC-037ASM	AS-M	V-25001B SELECTOR	0.0	100.0	%			
		25PIC037-VL2.SET				4			
010	25FIC032-VL1	VELLIM	N2 FLW FBTO V-25001B	0	0	%			
		25FY-032.SET		25FIC-032ASM.OUT		4			
011	25PIC037-VL2	VELLIM	V-25001B PR CNTRL	0	0	%			
		25PY-037.SET		25PIC-037ASM.OUT		4			
012	25FY-032	MLD-SW	N2 CMD TO V-25001B	0	0	%			
		%%O25FY-032		25FIC032-VL1.OUT		3			
013	25PY-037	MLD-SW	V-25001B PR CNTRL CMD	0	0	%			
		%%O25PY-037		25PIC037-VL2.OUT		3			
014	25ZI-032	PVI-DV	N2 POS FB TOV-25001B	0.0	100.0	%	No	No	%%I25ZT-032
						4			
015	25ZI-037	PVI-DV	V-25001B POS FB	0.0	100.0	%	No	No	%%I25ZT-037
						4			
016	25FIC032-CL1	CALCU	N2 POS FB TOV-25001B	0.0	100.0	%	No	No	
						5			
017	25PIC037-CL2	CALCU	V-25001B POS FB	0.0	100.0	%	No	No	
						5			
018	25FY032-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
019	25PY037-RL	RL	04HY11 POS FB COMP	0	0				
						4			
020	25PY037-LC	LC64-E	V-25001B LOGIC	0	0				
						4			
021	25PI-037AV02	AVE-M	AVG/MIN	-3.0000	3.0000	barg	No		
						4			
022	25PI-037AV01	AVE-M	GRADIENT/HR	-3.0000	3.0000	barg	No		25PI-037AV02.CPV
						4			
023	25PI-037MAV02	PVI	NR CHRGE RATE 0.001 /min	-3.0000	3.0000		No	No	
						4			
024	25PI-037MAV01	PVI	NR CHRGE RATE 0.001 /hr	-3.0000	3.0000		No	No	
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FIC032-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:33:15 AM	COMMENT:	SET POINT 25FIC-032		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FIC032-DS1 SET POINT 25FIC-032)

Basic

Tag Name	25FIC032-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-032
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-032 N2 FLW FBTO V-25001B)

Basic

Tag Name	25FIC-032
Model Name	PID
Tag Comment	N2 FLW FBTO V-25001B
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25FIC032-DS3 FOCE CLOSE 25FIC-032)

Basic

Tag Name	25FIC032-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-032
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-032ASM V-25001B SELECTOR)

Basic

Tag Name	25FIC-032ASM
Model Name	AS-M
Tag Comment	V-25001B SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25FIC-032.OUT
Signal Input 2(IN2)	25FIC032-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25FIC032-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC037-DS2 SET POINT 25PIC-037)

Basic

Tag Name	25PIC037-DS2
Model Name	DSET
Tag Comment	SET POINT 25PIC-037
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PI-037 V-25001B PR CNTRL)

Basic

Tag Name	25PI-037
Model Name	PVI
Tag Comment	V-25001B PR CNTRL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1

PROJECT:	BLPH-CW1	FILE NAME:	25PI-037.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	V-25001B PR CNTRL		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PIC-037 V-25001B PR CNTRL)

Basic

Tag Name	25PIC-037
Model Name	PID
Tag Comment	V-25001B PR CNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Direct
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PIC037-DS3 FOCE CLOSE 25PIC-037)

Basic

Tag Name	25PIC037-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25PIC-037
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-037ASM V-25001B SELECTOR)

Basic

Tag Name	25PIC-037ASM
Model Name	AS-M
Tag Comment	V-25001B SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25PIC-037.OUT
Signal Input 2(IN2)	25PIC037-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25PIC037-VL2.SET
Interlock Switch Input(INT)	

Tag Detail (25FIC032-VL1 N2 FLW FBTO V-25001B)

Basic

Tag Name	25FIC032-VL1
Model Name	VELLIM
Tag Comment	N2 FLW FBTO V-25001B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25PIC037-VL2 V-25001B PR CNTRL)

Basic

Tag Name	25PIC037-VL2
Model Name	VELLIM
Tag Comment	V-25001B PR CNTRL
Lvl	4

Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25FY-032 N2 CMD TO V-25001B)

Basic

Tag Name	25FY-032
Model Name	MLD-SW
Tag Comment	N2 CMD TO V-25001B
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-037 V-25001B PR CNTRL CMD)

Basic

Tag Name	25PY-037
Model Name	MLD-SW
Tag Comment	V-25001B PR CNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25ZI-032 N2 POS FB TOV-25001B)

Basic

Tag Name	25ZI-032
Model Name	PVI-DV
Tag Comment	N2 POS FB TOV-25001B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-037 V-25001B POS FB)

Basic

Tag Name	25ZI-037
Model Name	PVI-DV
Tag Comment	V-25001B POS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FIC032-CL1 N2 POS FB TOV-25001B)

Basic

Tag Name	25FIC032-CL1
Model Name	CALCU
Tag Comment	N2 POS FB TOV-25001B

PROJECT:	BLPH-CW1	FILE NAME:	25FIC032-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	N2 POS FB TOV-25001B		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25FIC032-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	N2 POS FB TOV-25001B		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25FIC032-CL1 N2 POS FB TOV-25001B)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-032.PV             !CV FB
   006        alias   O1      25ZI-032.SV             !CV OUTPUT
   007        alias   DL1     25ZI-032.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-032.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-032.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC037-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	V-25001B POS FB		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC037-CL2 V-25001B POS FB)

Basic

Tag Name	25PIC037-CL2
Model Name	CALCU
Tag Comment	V-25001B POS FB
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC037-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	V-25001B POS FB		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC037-CL2 V-25001B POS FB)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-037.PV             !CV FB
   006        alias   O1      25ZI-037.SV             !CV OUTPUT
   007        alias   DL1     25ZI-037.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-037.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-037.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25FY032-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FY032-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25FY032-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25FY032-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25FY032-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	25FY-032.ALRM	OOP	N2 CMD TO V-25001B	.Y..	.N..						
C02	25PY-037.ALRM	OOP	V-25001B PR CNTRL CMD	..Y.	..N.						
C03	25FIC-032.XALRM	IOP	N2 FLW FBTO V-25001B	...N	....						
C04	25PIC-037.XALRM	IOP	V-25001B PR CNTRL	....	N...						
C05	25FIC-031.MODE	AUT	N2 FLW FBTO V-25001A	....	.Y..						
C06	25PIC-035.MODE	AUT	V-25001A PR CNTRL	....	..Y.						
C07	25FIC-032.MODE	AUT	N2 FLW FBTO V-25001B	....	...Y						
C08	25PIC-037.MODE	AUT	V-25001B PR CNTRL	....	....	Y...					
C09				....	....	....	....	....	....	....	
C10				....	....	....	....	....	....	....	
C11				....	....	....	....	....	....	....	
C12				....	....	....	....	....	....	....	
C13				....	....	....	....	....	....	....	
C14				....	....	....	....	....	....	....	
C15				....	....	....	....	....	....	....	
C16				....	....	....	....	....	....	....	
C17				....	....	....	....	....	....	....	
C18				....	....	....	....	....	....	....	
C19				....	....	....	....	....	....	....	
C20				....	....	....	....	....	....	....	
C21				....	....	....	....	....	....	....	
C22				....	....	....	....	....	....	....	
C23				....	....	....	....	....	....	....	
C24				....	....	....	....	....	....	....	
C25				....	....	....	....	....	....	....	
C26				....	....	....	....	....	....	....	
C27				....	....	....	....	....	....	....	
C28				....	....	....	....	....	....	....	
C29				....	....	....	....	....	....	....	
C30				....	....	....	....	....	....	....	
C31				....	....	....	....	....	....	....	
C32				....	....	....	....	....	....	....	
A01	25FIC-032ASM.MODE	AUT	V-25001B SELECTOR	Y...	....	....	....	....	....	....	
A02	25PIC-037ASM.MODE	AUT	V-25001B SELECTOR	Y...	....	....	....	....	....	....	
A03	25FIC032-VL1.MODE	CAS	N2 FLW FBTO V-25001B	Y...	....	....	....	....	....	....	
A04	25PIC037-VL2.MODE	CAS	V-25001B PR CNTRL	Y...	....	....	....	....	....	....	
A05	25FY-032.MODE	MAN	N2 CMD TO V-25001B	.Y..	....	....	....	....	....	....	
A06	25PY-037.MODE	MAN	V-25001B PR CNTRL CMD	..Y.	....	....	....	....	....	....	
A07	25FIC-032.MODE	AUT	N2 FLW FBTO V-25001B	...Y	....	....	....	....	....	....	
A08	25PIC-037.MODE	AUT	V-25001B PR CNTRL	....	Y...	....	....	....	....	....	
A09	25FY-032.MODE	AUT	N2 CMD TO V-25001B	....	.Y..	....	....	....	....	....	
A10	25FIC-032ASM.MODE	AUT	V-25001B SELECTOR	....	.Y..	....	....	....	....	....	
A11	25PY-037.MODE	AUT	V-25001B PR CNTRL CMD	....	..Y.	....	....	....	....	....	
A12	25PIC-037ASM.MODE	AUT	V-25001B SELECTOR	....	..Y.	....	....	....	....	....	
A13	25FY-032.MODE	AUT	N2 CMD TO V-25001B	....	...Y	....	....	....	....	....	
A14	25PY-037.MODE	AUT	V-25001B PR CNTRL CMD	....	....	Y...	....	....	....	....	
A15				....	....	....	....	....	....	....	
A16				....	....	....	....	....	....	....	
A17				....	....	....	....	....	....	....	
A18				....	....	....	....	....	....	....	
A19				....	....	....	....	....	....	....	
A20				....	....	....	....	....	....	....	
A21				....	....	....	....	....	....	....	
A22				....	....	....	....	....	....	....	
A23				....	....	....	....	....	....	....	
A24				....	....	....	....	....	....	....	
A25				....	....	....	....	....	....	....	
A26				....	....	....	....	....	....	....	
A27				....	....	....	....	....	....	....	
A28				....	....	....	....	....	....	....	
A29				....	....	....	....	....	....	....	
A30				....	....	....	....	....	....	....	
A31				....	....	....	....	....	....	....	
A32				....	....	....	....	....	....	....	
PREV			THEN	....	....	....	....	....	....	....	
NEXT			ELSE	....	....	....	....	....	....	....	

PROJECT:	BLPH-CW1	FILE NAME:	25PY037-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-12
STATION:	FCS0101	SAVED DATE:	4/18/2025 5:10:40 AM	COMMENT:	04HY11 POS FB COMP		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY037-RL 04HY11 POS FB COMP)

Basic

Tag Name	25PY037-RL
Model Name	RL
Tag Comment	04HY11 POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001		Relational Operation		
002		Relational Operation		
003		Relational Operation		
004	25FIC032-CL1.P03	Relational Operation	5	DEVIATION>5
005	25FY-032.MV	Relational Operation	100	FULL OPN CMD
006	25FY-032.MV	Relational Operation	0	FULL CLOSE CMD
007	25PIC037-CL2.P03	Relational Operation	5	DEVIATION>5
008	25PY-037.MV	Relational Operation	100	FULL OPN CMD
009	25PY-037.MV	Relational Operation	0	FULL CLOSE CMD
011	25PI-037AV01.CPV	Relational Operation	0.0	-VE GRAD DURING CHARGIN
012		Relational Operation		
013		Relational Operation		
014		Relational Operation		
015		Relational Operation		
016		Relational Operation		

Tag Detail (25PY037-LC V-25001B LOGIC)

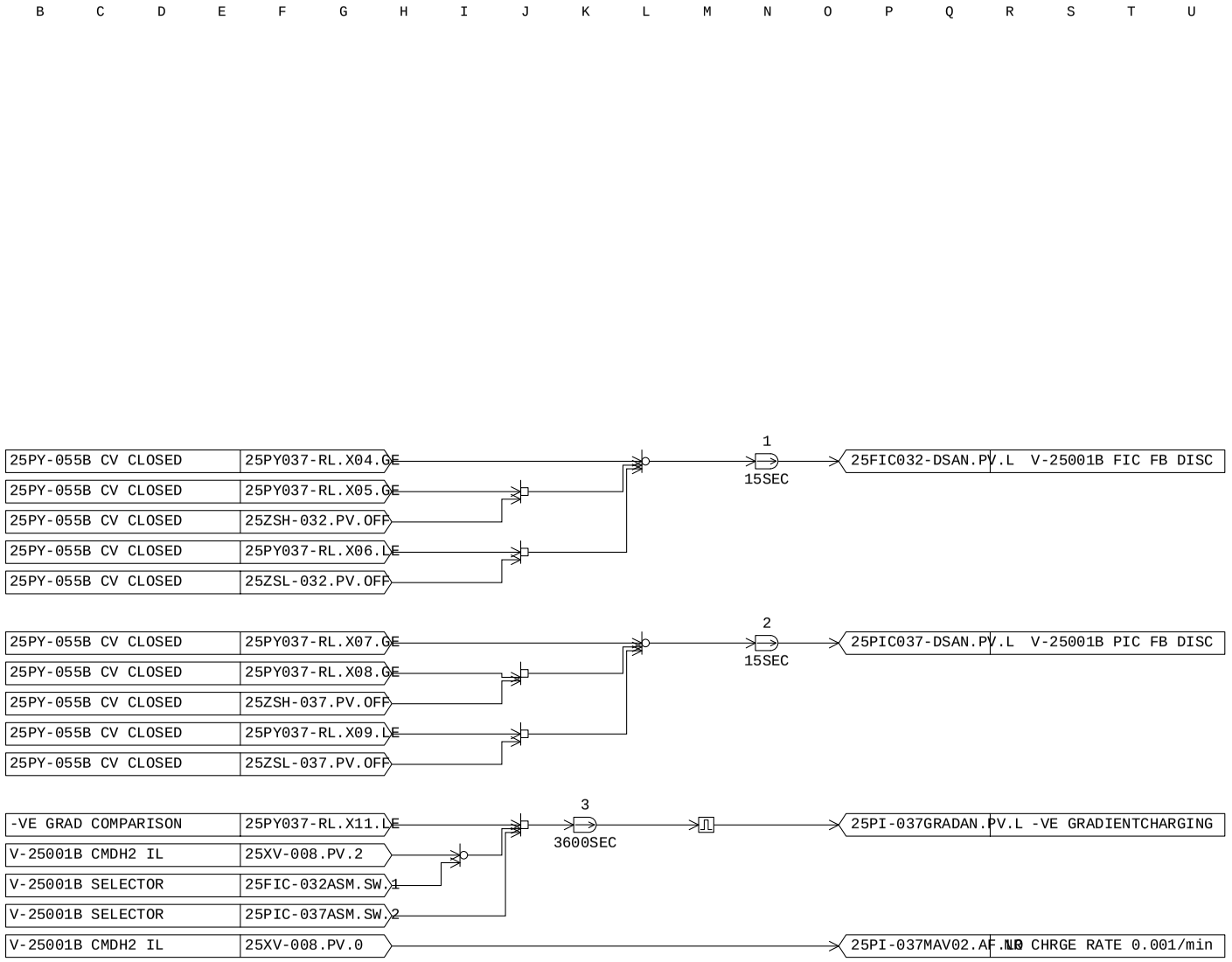
Basic

Tag Name	25PY037-LC
Model Name	LC64-E
Tag Comment	V-25001B LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY037-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-17-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	V-25001B LOGIC		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY037-LC V-25001B LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI-037AV02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-17-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:52 AM	COMMENT:	AVG/MIN		
SECTION:	DR0039	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-037AV02 AVG/MIN)

Basic

Tag Name	25PI-037AV02
Model Name	AVE-M
Tag Comment	AVG/MIN
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-037AV01 GRADIENT/HR)

Basic

Tag Name	25PI-037AV01
Model Name	AVE-M
Tag Comment	GRADIENT/HR
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-037MAV02 NR CHRGE RATE 0.001 /min)

Basic

Tag Name	25PI-037MAV02
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /min
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

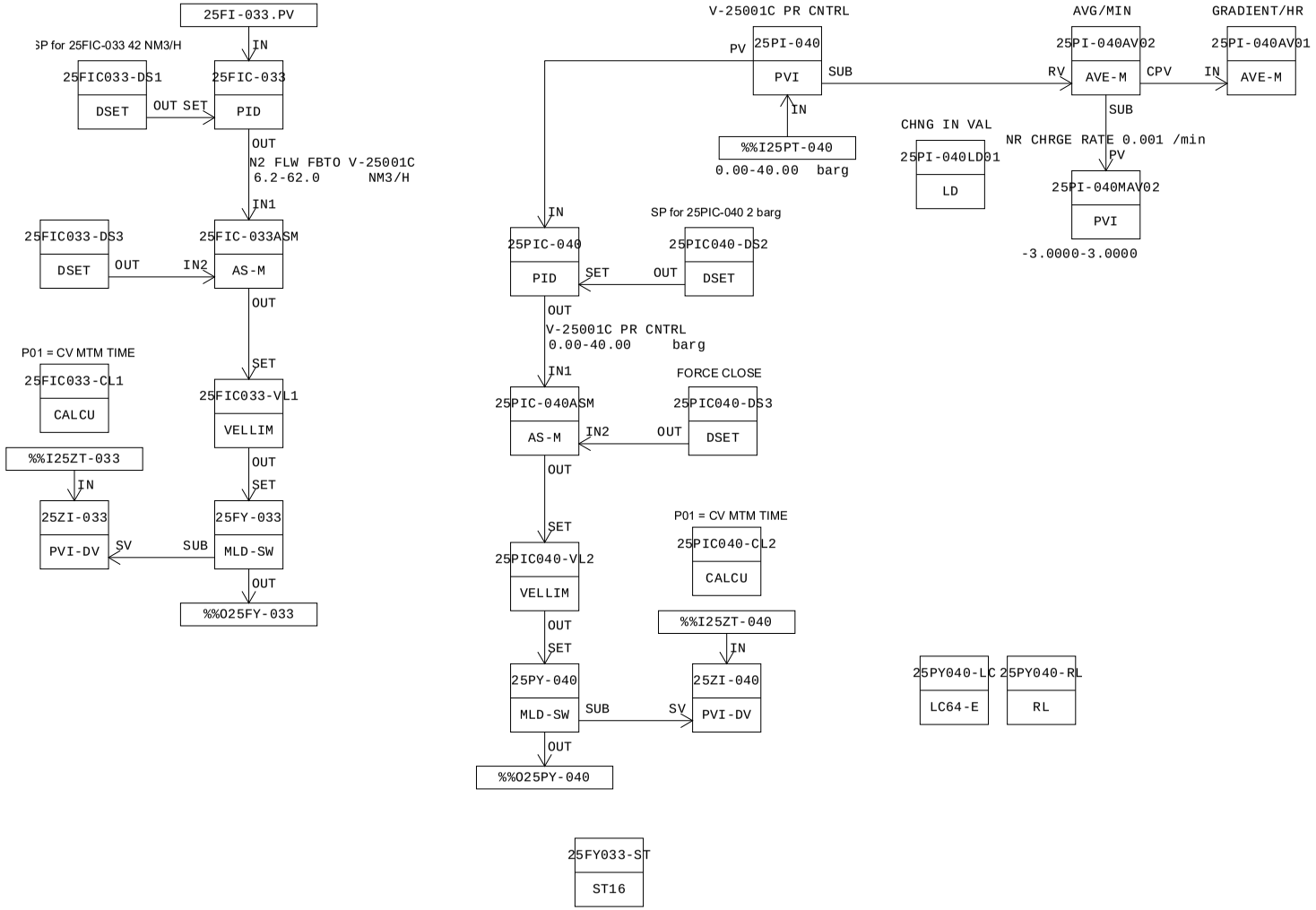
Tag Detail (25PI-037MAV01 NR CHRGE RATE 0.001 /hr)

Basic

Tag Name	25PI-037MAV01
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /hr
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0040.edf	SHEET:		YOKOGAWA	PAGE:3-25-18-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:04 AM	COMMENT:	HYDROGEN VESSEL-C CONTROL		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0040 | BLPH-CW | TYP006 | HYDROGEN STORAGE VESSEL-C CONTROL VALVES]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0040.edf	SHEET:		YOKOGAWA	PAGE:3-25-18-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:04 AM	COMMENT:	HYDROGEN VESSEL-C CONTROL		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HYDROGEN VESSEL-C CONTROL

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FIC033-DS1	DSET	SET POINT 25FIC-033	6.2	62.0	NM3/H			
		25FIC-033.SET				4			
002	25FIC-033	PID	N2 FLW FBTO V-25001C	6.2	62.0	NM3/H	No	No	25FI-033.PV
		25FIC-033ASM.IN1		25FIC033-DS1.OUT		3			
003	25FIC033-DS3	DSET	FOCE CLOSE 25FIC-033	0.0	100.0	(None)			
		25FIC-033ASM.IN2				4			
004	25FIC-033ASM	AS-M	V-25001C SELECTOR	0.0	100.0	%			
		25FIC033-VL1.SET				4			
005	25PIC040-DS2	DSET	SET POINT 25PIC-040	0.0	40.0	barg			
		25PIC-040.SET				4			
006	25PI-040	PVI	V-25001C PR CNTRL	0.00	40.00	barg	No	No	%%I25PT-040
						4			
007	25PIC-040	PID	V-25001C PR CNTRL	0.00	40.00	barg	No	No	25PI-040.PV
		25PIC-040ASM.IN1		25PIC040-DS2.OUT		3			
008	25PIC040-DS3	DSET	FOCE CLOSE 25PIC-040	0.0	100.0	(None)			
		25PIC-040ASM.IN2				4			
009	25PIC-040ASM	AS-M	V-25001A SELECTOR	0.0	100.0	%			
		25PIC040-VL2.SET				4			
010	25FIC033-VL1	VELLIM	N2 FLW FBTO V-25001C	0	0	%			
		25FY-033.SET		25FIC-033ASM.OUT		4			
011	25PIC040-VL2	VELLIM	V-25001C PR CNTRL	0	0	%			
		25PY-040.SET		25PIC-040ASM.OUT		4			
012	25FY-033	MLD-SW	N2 CMD TO V-25001C	0	0	%			
		%%O25FY-033		25FIC033-VL1.OUT		3			
013	25PY-040	MLD-SW	V-25001C PR CNTRL CMD	0	0	%			
		%%O25PY-040		25PIC040-VL2.OUT		3			
014	25ZI-033	PVI-DV	N2 POS FB TOV-25001C	0.0	100.0	%	No	No	%%I25ZT-033
						4			
015	25ZI-040	PVI-DV	V-25001C POS FB	0.0	100.0	%	No	No	%%I25ZT-040
						4			
016	25FIC033-CL1	CALCU	N2 POS FB TOV-25001C	0.0	100.0	%	No	No	
						5			
017	25PIC040-CL2	CALCU	V-25001C POS FB	0.0	100.0	%	No	No	
						5			
018	25FY033-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
019	25PY040-RL	RL	POS FB COMP	0	0				
						4			
020	25PY040-LC	LC64-E	V-25001C LOGIC	0	0				
						4			
021	25PI-040LD01	LD	CHNG IN VAL	-40.00	40.00	barg	No		
						4			
022	25PI-040AV02	AVE-M	AVG/MIN	-3.0000	3.0000	barg	No		
						4			
023	25PI-040AV01	AVE-M	GRADIENT/HR	-3.0000	3.0000	barg	No		25PI-040AV02.CPV
						4			
024	25PI-040MAV02	PVI	NR CHRGE RATE 0.001 /min	-3.0000	3.0000		No	No	
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FIC033-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:04 AM	COMMENT:	SET POINT 25FIC-033		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FIC033-DS1 SET POINT 25FIC-033)

Basic

Tag Name	25FIC033-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-033
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-033 N2 FLW FBTO V-25001C)

Basic

Tag Name	25FIC-033
Model Name	PID
Tag Comment	N2 FLW FBTO V-25001C
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25FIC033-DS3 FOCE CLOSE 25FIC-033)

Basic

Tag Name	25FIC033-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-033
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-033ASM V-25001C SELECTOR)

Basic

Tag Name	25FIC-033ASM
Model Name	AS-M
Tag Comment	V-25001C SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25FIC-033.OUT
Signal Input 2(IN2)	25FIC033-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25FIC033-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC040-DS2 SET POINT 25PIC-040)

Basic

Tag Name	25PIC040-DS2
Model Name	DSET
Tag Comment	SET POINT 25PIC-040
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PI-040 V-25001C PR CNTRL)

Basic

Tag Name	25PI-040
Model Name	PVI
Tag Comment	V-25001C PR CNTRL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1

PROJECT:	BLPH-CW1	FILE NAME:	25PI-040.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	V-25001C PR CNTRL		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PIC-040 V-25001C PR CNTRL)

Basic

Tag Name	25PIC-040
Model Name	PID
Tag Comment	V-25001C PR CNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Direct
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PIC040-DS3 FOCE CLOSE 25PIC-040)

Basic

Tag Name	25PIC040-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25PIC-040
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-040ASM V-25001A SELECTOR)

Basic

Tag Name	25PIC-040ASM
Model Name	AS-M
Tag Comment	V-25001A SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25PIC-040.OUT
Signal Input 2(IN2)	25PIC040-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25PIC040-VL2.SET
Interlock Switch Input(INT)	

Tag Detail (25FIC033-VL1 N2 FLW FBTO V-25001C)

Basic

Tag Name	25FIC033-VL1
Model Name	VELLIM
Tag Comment	N2 FLW FBTO V-25001C
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25PIC040-VL2 V-25001C PR CNTRL)

Basic

Tag Name	25PIC040-VL2
Model Name	VELLIM
Tag Comment	V-25001C PR CNTRL
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PIC040-VL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-5
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:04 AM	COMMENT:	V-25001C PR CNTRL		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25FY-033 N2 CMD TO V-25001C)

Basic

Tag Name	25FY-033
Model Name	MLD-SW
Tag Comment	N2 CMD TO V-25001C
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-040 V-25001C PR CNTRL CMD)

Basic

Tag Name	25PY-040
Model Name	MLD-SW
Tag Comment	V-25001C PR CNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25ZI-033 N2 POS FB TOV-25001C)

Basic

Tag Name	25ZI-033
Model Name	PVI-DV
Tag Comment	N2 POS FB TOV-25001C
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-040 V-25001C POS FB)

Basic

Tag Name	25ZI-040
Model Name	PVI-DV
Tag Comment	V-25001C POS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FIC033-CL1 N2 POS FB TOV-25001C)

Basic

Tag Name	25FIC033-CL1
Model Name	CALCU
Tag Comment	N2 POS FB TOV-25001C

PROJECT:	BLPH-CW1	FILE NAME:	25FIC033-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	N2 POS FB TOV-25001C		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25FIC033-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	N2 POS FB TOV-25001C		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25FIC033-CL1 N2 POS FB TOV-25001C)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-033.PV             !CV FB
   006        alias   O1      25ZI-033.SV             !CV OUTPUT
   007        alias   DL1     25ZI-033.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-033.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-033.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC040-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	V-25001C POS FB		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC040-CL2 V-25001C POS FB)

Basic

Tag Name	25PIC040-CL2
Model Name	CALCU
Tag Comment	V-25001C POS FB
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC040-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	V-25001C POS FB		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC040-CL2 V-25001C POS FB)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-040.PV             !CV FB
   006        alias   O1      25ZI-040.SV             !CV OUTPUT
   007        alias   DL1     25ZI-040.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-040.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-040.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25FY033-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FY033-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25FY033-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25FY033-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25FY033-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111213141516	17181920	21222324	25262728	29303132	Comment
C01	25FY-033.ALRM	OOP	N2 CMD TO V-25001C	.Y..	.N..						
C02	25PY-040.ALRM	OOP	V-25001C PR CNTRL CMD	..Y.	.N..						
C03	25FIC-033.XALRM	IOP	N2 FLW FBTO V-25001C	...N	..N.						
C04	25PIC-040.XALRM	IOP	V-25001C PR CNTRL	....	N...						
C05	25FIC-033.MODE	AUT	N2 FLW FBTO V-25001C	....	.Y..						
C06	25PIC-040.MODE	AUT	V-25001C PR CNTRL	....	..Y.						
C07	25FIC-033.MODE	AUT	N2 FLW FBTO V-25001C	....	...Y						
C08	25PIC-040.MODE	AUT	V-25001C PR CNTRL	....	....	Y...					
C09				....	....	....	....	....	....	....	
C10				....	....	....	....	....	....	....	
C11				....	....	....	....	....	....	....	
C12				....	....	....	....	....	....	....	
C13				....	....	....	....	....	....	....	
C14				....	....	....	....	....	....	....	
C15				....	....	....	....	....	....	....	
C16				....	....	....	....	....	....	....	
C17				....	....	....	....	....	....	....	
C18				....	....	....	....	....	....	....	
C19				....	....	....	....	....	....	....	
C20				....	....	....	....	....	....	....	
C21				....	....	....	....	....	....	....	
C22				....	....	....	....	....	....	....	
C23				....	....	....	....	....	....	....	
C24				....	....	....	....	....	....	....	
C25				....	....	....	....	....	....	....	
C26				....	....	....	....	....	....	....	
C27				....	....	....	....	....	....	....	
C28				....	....	....	....	....	....	....	
C29				....	....	....	....	....	....	....	
C30				....	....	....	....	....	....	....	
C31				....	....	....	....	....	....	....	
C32				....	....	....	....	....	....	....	
A01	25FIC-033ASM.MODE	AUT	V-25001C SELECTOR	Y...	....	....	....	....	....	....	
A02	25PIC-040ASM.MODE	AUT	V-25001A SELECTOR	Y...	....	....	....	....	....	....	
A03	25FIC033-VL1.MODE	CAS	N2 FLW FBTO V-25001C	Y...	....	....	....	....	....	....	
A04	25PIC040-VL2.MODE	CAS	V-25001C PR CNTRL	Y...	....	....	....	....	....	....	
A05	25FY-033.MODE	MAN	N2 CMD TO V-25001C	.Y..	....	....	....	....	....	....	
A06	25PY-040.MODE	MAN	V-25001C PR CNTRL CMD	..Y.	....	....	....	....	....	....	
A07	25FIC-033.MODE	AUT	N2 FLW FBTO V-25001C	...Y	....	....	....	....	....	....	
A08	25PIC-040.MODE	AUT	V-25001C PR CNTRL	....	Y...	....	....	....	....	....	
A09	25FY-033.MODE	AUT	N2 CMD TO V-25001C	....	.Y..	....	....	....	....	....	
A10	25FIC-033ASM.MODE	AUT	V-25001C SELECTOR	....	.Y..	....	....	....	....	....	
A11	25PY-040.MODE	AUT	V-25001C PR CNTRL CMD	....	..Y.	....	....	....	....	....	
A12	25PIC-040ASM.MODE	AUT	V-25001A SELECTOR	....	..Y.	....	....	....	....	....	
A13	25FY-033.MODE	AUT	N2 CMD TO V-25001C	....	...Y	....	....	....	....	....	
A14	25PY-040.MODE	AUT	V-25001C PR CNTRL CMD	....	....	Y...	....	....	....	....	
A15				....	....	....	....	....	....	....	
A16				....	....	....	....	....	....	....	
A17				....	....	....	....	....	....	....	
A18				....	....	....	....	....	....	....	
A19				....	....	....	....	....	....	....	
A20				....	....	....	....	....	....	....	
A21				....	....	....	....	....	....	....	
A22				....	....	....	....	....	....	....	
A23				....	....	....	....	....	....	....	
A24				....	....	....	....	....	....	....	
A25				....	....	....	....	....	....	....	
A26				....	....	....	....	....	....	....	
A27				....	....	....	....	....	....	....	
A28				....	....	....	....	....	....	....	
A29				....	....	....	....	....	....	....	
A30				....	....	....	....	....	....	....	
A31				....	....	....	....	....	....	....	
A32				....	....	....	....	....	....	....	
PREV			THEN	....	....	....	....	....	....	....	
				....	....	....	....	....	....	....	
NEXT			ELSE	....	....	....	....	....	....	....	
				....	....	....	....	....	....	....	

PROJECT:	BLPH-CW1	FILE NAME:	25PY040-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-12
STATION:	FCS0101	SAVED DATE:	4/18/2025 5:12:21 AM	COMMENT:	POS FB COMP		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY040-RL POS FB COMP)

Basic

Tag Name	25PY040-RL
Model Name	RL
Tag Comment	POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001		Relational Operation		
002		Relational Operation		
003		Relational Operation		
004	25FIC033-CL1.P03	Relational Operation	5	DEVIATION>5
005	25FY-033.MV	Relational Operation	100	FULL OPN CMD
006	25FY-033.MV	Relational Operation	0	FULL CLOSE CMD
007	25PIC040-CL2.P03	Relational Operation	5	DEVIATION>5
008	25PY-040.MV	Relational Operation	100	FULL OPN CMD
009	25PY-040.MV	Relational Operation	0	FULL CLOSE CMD
011	25PI-040AV01.CPV	Relational Operation	0.0	-VE GRAD DURING CHARGING
012		Relational Operation		
013		Relational Operation		
014		Relational Operation		
015		Relational Operation		
016		Relational Operation		

Tag Detail (25PY040-LC V-25001C LOGIC)

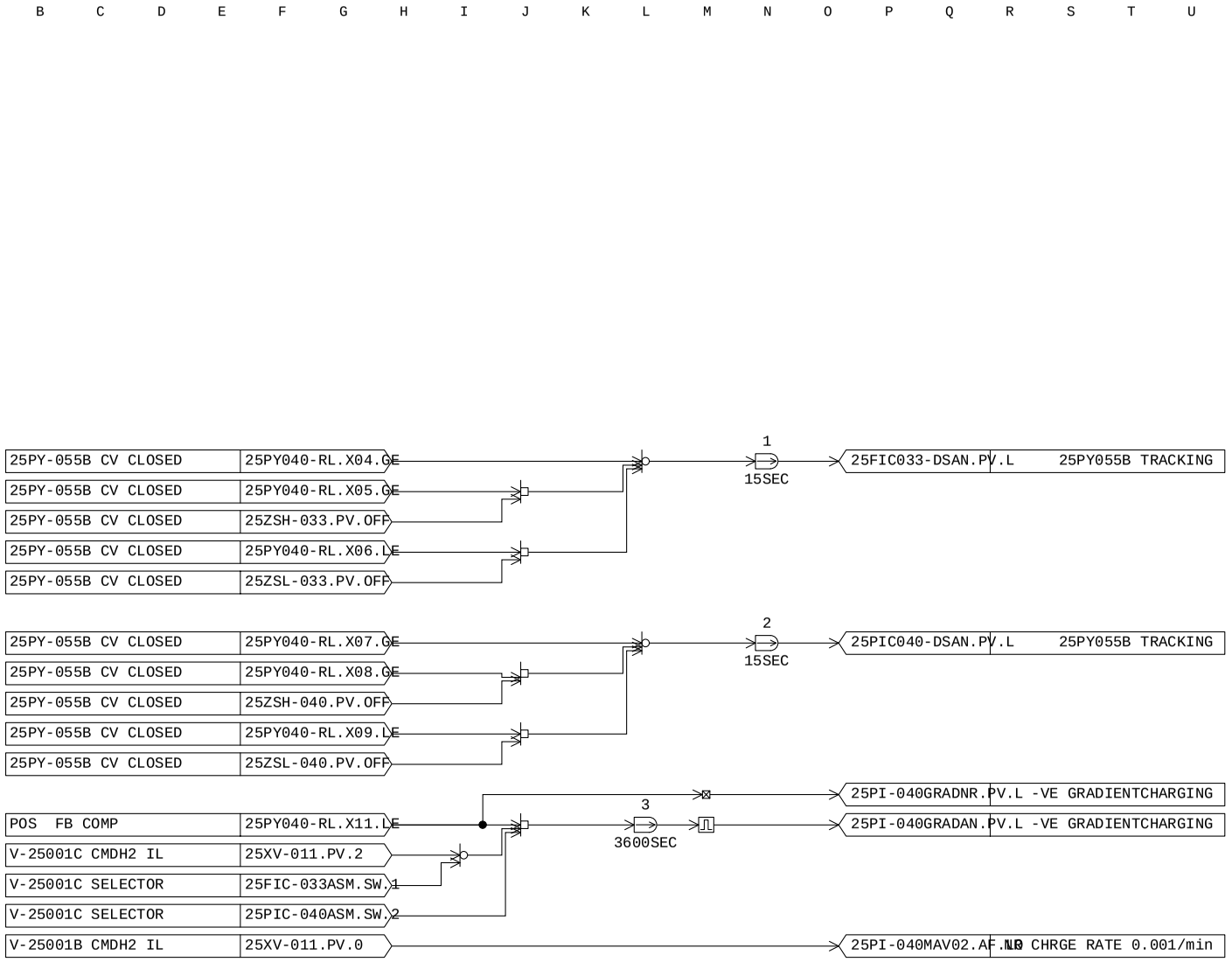
Basic

Tag Name	25PY040-LC
Model Name	LC64-E
Tag Comment	V-25001C LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY040-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-18-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	V-25001C LOGIC		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY040-LC V-25001C LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI-040LD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-18-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:54 AM	COMMENT:	CHNG IN VAL		
SECTION:	DR0040	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-040LD01 CHNG IN VAL)

Basic

Tag Name	25PI-040LD01
Model Name	LD
Tag Comment	CHNG IN VAL
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-040AV02 AVG/MIN)

Basic

Tag Name	25PI-040AV02
Model Name	AVE-M
Tag Comment	AVG/MIN
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-040AV01 GRADIENT/HR)

Basic

Tag Name	25PI-040AV01
Model Name	AVE-M
Tag Comment	GRADIENT/HR
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

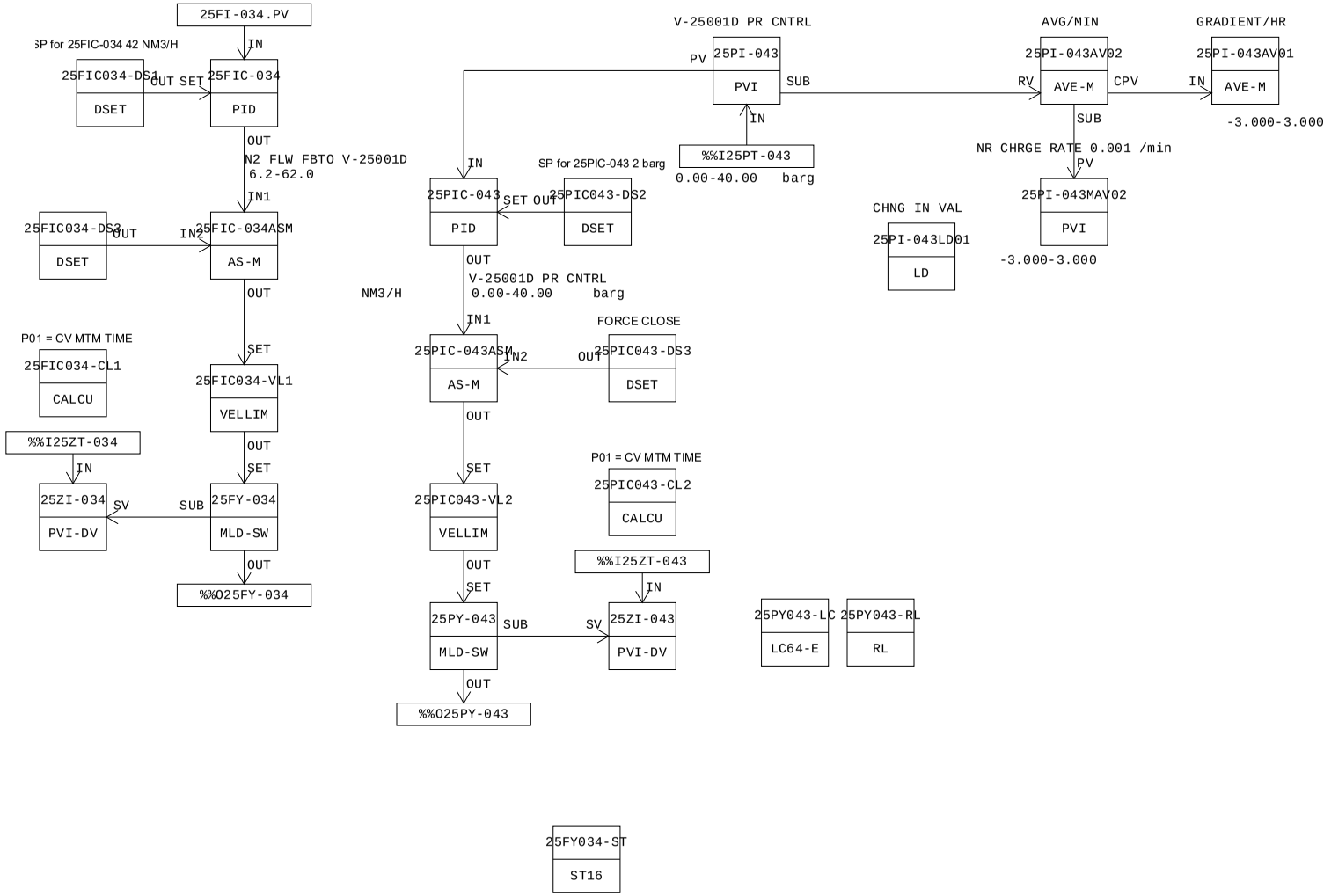
Tag Detail (25PI-040MAV02 NR CHRGE RATE 0.001 /min)

Basic

Tag Name	25PI-040MAV02
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /min
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0041.edf	SHEET:		YOKOGAWA	PAGE:3-25-19-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:50 AM	COMMENT:	HYDROGEN VESSEL-D CONTROL		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0041 | BLPH-CW | TYP006 | HYDROGEN STORAGE VESSEL-D CONTROL VALVES]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0041.edf	SHEET:		YOKOGAWA	PAGE:3-25-19-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:50 AM	COMMENT:	HYDROGEN VESSEL-D CONTROL		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HYDROGEN VESSEL-D CONTROL

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FIC034-DS1	DSET	SET POINT 25FIC-034	6.2	60.2	NM3/H			
		25FIC-034.SET				4			
002	25FIC-034	PID	N2 FLW FBTO V-25001D	6.2	62.0	NM3/H	No	No	25FI-034.PV
		25FIC-034ASM.IN1		25FIC034-DS1.OUT		3			
003	25FIC034-DS3	DSET	FOCE CLOSE 25FIC-034	0.0	100.0	(None)			
		25FIC-034ASM.IN2				4			
004	25FIC-034ASM	AS-M	V-25001D SELECTOR	0.0	100.0	%			
		25FIC034-VL1.SET				4			
005	25PIC043-DS2	DSET	SET POINT 25PIC-043	0.0	40.0	barg			
		25PIC-043.SET				4			
006	25PI-043	PVI	V-25001D PR CNTRL	0.00	40.00	barg	No	No	%%I25PT-043
						4			
007	25PIC-043	PID	V-25001D PR CNTRL	0.00	40.00	barg	No	No	25PI-043.PV
		25PIC-043ASM.IN1		25PIC043-DS2.OUT		3			
008	25PIC043-DS3	DSET	FOCE CLOSE 25PIC-043	0.0	100.0	(None)			
		25PIC-043ASM.IN2				4			
009	25PIC-043ASM	AS-M	V-25001D SELECTOR	0.0	100.0	%			
		25PIC043-VL2.SET				4			
010	25FIC034-VL1	VELLIM	N2 FLW FBTO V-25001D	0	0	%			
		25FY-034.SET		25FIC-034ASM.OUT		4			
011	25PIC043-VL2	VELLIM	V-25001D PR CNTRL	0	0	%			
		25PY-043.SET		25PIC-043ASM.OUT		4			
012	25FY-034	MLD-SW	N2 CMD TO V-25001D	0	0	%			
		%%O25FY-034		25FIC034-VL1.OUT		3			
013	25PY-043	MLD-SW	V-25001D PR CNTRL CMD	0	0	%			
		%%O25PY-043		25PIC043-VL2.OUT		3			
014	25ZI-034	PVI-DV	N2 POS FB TOV-25001D	0.0	100.0	%	No	No	%%I25ZT-034
						4			
015	25ZI-043	PVI-DV	V-25001D POS FB	0.0	100.0	%	No	No	%%I25ZT-043
						4			
016	25FIC034-CL1	CALCU	N2 POS FB TOV-25001D	0.0	100.0	%	No	No	
						5			
017	25PIC043-CL2	CALCU	V-25001D POS FB	0.0	100.0	%	No	No	
						5			
018	25FY034-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
019	25PY043-RL	RL	POS FB COMP	0	0				
						4			
020	25PY043-LC	LC64-E	V-25001D LOGIC	0	0				
						4			
021	25PI-043LD01	LD	CHNG IN VAL	-3.000	3.000	barg	No		
						4			
022	25PI-043AV02	AVE-M	AVG/MIN	-3.000	3.000	barg	No		
						4			
023	25PI-043AV01	AVE-M	GRADIENT/HR	-3.000	3.000	barg	No		25PI-043AV02.CPV
						4			
024	25PI-043MAV02	PVI	NR CHRGE RATE 0.001 /min	-3.000	3.000		No	No	
						4			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FIC034-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:34:50 AM	COMMENT:	SET POINT 25FIC-034		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FIC034-DS1 SET POINT 25FIC-034)

Basic

Tag Name	25FIC034-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-034
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-034 N2 FLW FBTO V-25001D)

Basic

Tag Name	25FIC-034
Model Name	PID
Tag Comment	N2 FLW FBTO V-25001D
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25FIC034-DS3 FOCE CLOSE 25FIC-034)

Basic

Tag Name	25FIC034-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-034
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-034ASM V-25001D SELECTOR)

Basic

Tag Name	25FIC-034ASM
Model Name	AS-M
Tag Comment	V-25001D SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25FIC-034.OUT
Signal Input 2(IN2)	25FIC034-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25FIC034-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC043-DS2 SET POINT 25PIC-043)

Basic

Tag Name	25PIC043-DS2
Model Name	DSET
Tag Comment	SET POINT 25PIC-043
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PI-043 V-25001D PR CNTRL)

Basic

Tag Name	25PI-043
Model Name	PVI
Tag Comment	V-25001D PR CNTRL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1

Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PIC-043 V-25001D PR CNTRL)

Basic

Tag Name	25PIC-043
Model Name	PID
Tag Comment	V-25001D PR CNTRL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Direct
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PIC043-DS3 FOCE CLOSE 25PIC-043)

Basic

Tag Name	25PIC043-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25PIC-043
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-043ASM V-25001D SELECTOR)

Basic

Tag Name	25PIC-043ASM
Model Name	AS-M
Tag Comment	V-25001D SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25PIC-043.OUT
Signal Input 2(IN2)	25PIC043-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25PIC043-VL2.SET
Interlock Switch Input(INT)	

Tag Detail (25FIC034-VL1 N2 FLW FBTO V-25001D)

Basic

Tag Name	25FIC034-VL1
Model Name	VELLIM
Tag Comment	N2 FLW FBTO V-25001D
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25PIC043-VL2 V-25001D PR CNTRL)

Basic

Tag Name	25PIC043-VL2
Model Name	VELLIM
Tag Comment	V-25001D PR CNTRL
Lvl	4

Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25FY-034 N2 CMD TO V-25001D)

Basic

Tag Name	25FY-034
Model Name	MLD-SW
Tag Comment	N2 CMD TO V-25001D
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-043 V-25001D PR CNTRL CMD)

Basic

Tag Name	25PY-043
Model Name	MLD-SW
Tag Comment	V-25001D PR CNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25ZI-034 N2 POS FB TOV-25001D)

Basic

Tag Name	25ZI-034
Model Name	PVI-DV
Tag Comment	N2 POS FB TOV-25001D
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-043 V-25001D POS FB)

Basic

Tag Name	25ZI-043
Model Name	PVI-DV
Tag Comment	V-25001D POS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FIC034-CL1 N2 POS FB TOV-25001D)

Basic

Tag Name	25FIC034-CL1
Model Name	CALCU
Tag Comment	N2 POS FB TOV-25001D

PROJECT:	BLPH-CW1	FILE NAME:	25FIC034-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	N2 POS FB TOV-25001D		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25FIC034-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	N2 POS FB TOV-25001D		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25FIC034-CL1 N2 POS FB TOV-25001D)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-034.PV             !CV FB
   006        alias   O1      25ZI-034.SV             !CV OUTPUT
   007        alias   DL1     25ZI-034.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-034.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-034.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC043-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	V-25001D POS FB		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC043-CL2 V-25001D POS FB)

Basic

Tag Name	25PIC043-CL2
Model Name	CALCU
Tag Comment	V-25001D POS FB
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC043-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	V-25001D POS FB		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC043-CL2 V-25001D POS FB)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-043.PV             !CV FB
   006        alias   O1      25ZI-043.SV             !CV OUTPUT
   007        alias   DL1     25ZI-043.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-043.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-043.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25FY034-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FY034-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25FY034-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25FY034-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25FY034-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	25FY-034.ALRM	OOP	N2 CMD TO V-25001D	.Y..	....	....	....	....	....	....	....	
C02	25PY-043.ALRM	OOP	V-25001D PR CNTRL CMD	..Y.	.N..	....	....	....	....	....	....	
C03	25FIC-034.XALRM	IOP	N2 FLW FBTO V-25001D	...N	..N.	....	....	....	....	....	....	
C04	25PIC-043.XALRM	IOP	V-25001D PR CNTRL	....	N...	....	....	....	....	....	....	
C05	25FIC-034.MODE	AUT	N2 FLW FBTO V-25001D	....	.Y..	....	....	....	....	....	....	
C06	25PIC-043.MODE	AUT	V-25001D PR CNTRL	....	..Y.	....	....	....	....	....	....	
C07	25FIC-034.MODE	AUT	N2 FLW FBTO V-25001D	....	...Y	....	....	....	....	....	....	
C08	25PIC-043.MODE	AUT	V-25001D PR CNTRL	....	....	Y...	....	....	....	....	....	
C09				....	....	....	....	....	....	....	....	
C10				....	....	....	....	....	....	....	....	
C11				....	....	....	....	....	....	....	....	
C12				....	....	....	....	....	....	....	....	
C13				....	....	....	....	....	....	....	....	
C14				....	....	....	....	....	....	....	....	
C15				....	....	....	....	....	....	....	....	
C16				....	....	....	....	....	....	....	....	
C17				....	....	....	....	....	....	....	....	
C18				....	....	....	....	....	....	....	....	
C19				....	....	....	....	....	....	....	....	
C20				....	....	....	....	....	....	....	....	
C21				....	....	....	....	....	....	....	....	
C22				....	....	....	....	....	....	....	....	
C23				....	....	....	....	....	....	....	....	
C24				....	....	....	....	....	....	....	....	
C25				....	....	....	....	....	....	....	....	
C26				....	....	....	....	....	....	....	....	
C27				....	....	....	....	....	....	....	....	
C28				....	....	....	....	....	....	....	....	
C29				....	....	....	....	....	....	....	....	
C30				....	....	....	....	....	....	....	....	
C31				....	....	....	....	....	....	....	....	
C32				....	....	....	....	....	....	....	....	
A01	25FIC-034ASM.MODE	AUT	V-25001D SELECTOR	Y...	....	....	....	....	....	....	....	
A02	25PIC-043ASM.MODE	AUT	V-25001D SELECTOR	Y...	....	....	....	....	....	....	....	
A03	25FIC034-VL1.MODE	CAS	N2 FLW FBTO V-25001D	Y...	....	....	....	....	....	....	....	
A04	25PIC043-VL2.MODE	CAS	V-25001D PR CNTRL	Y...	....	....	....	....	....	....	....	
A05	25FY-034.MODE	MAN	N2 CMD TO V-25001D	.Y..	....	....	....	....	....	....	....	
A06	25PY-043.MODE	MAN	V-25001D PR CNTRL CMD	..Y.	....	....	....	....	....	....	....	
A07	25FIC-034.MODE	AUT	N2 FLW FBTO V-25001D	...Y	....	....	....	....	....	....	....	
A08	25PIC-043.MODE	AUT	V-25001D PR CNTRL	....	Y...	....	....	....	....	....	....	
A09	25FY-034.MODE	AUT	N2 CMD TO V-25001D	....	.Y..	....	....	....	....	....	....	
A10	25FIC-034ASM.MODE	AUT	V-25001D SELECTOR	....	.Y..	....	....	....	....	....	....	
A11	25PY-043.MODE	AUT	V-25001D PR CNTRL CMD	....	..Y.	....	....	....	....	....	....	
A12	25PIC-043ASM.MODE	AUT	V-25001D SELECTOR	....	..Y.	....	....	....	....	....	....	
A13	25FY-034.MODE	AUT	N2 CMD TO V-25001D	....	...Y	....	....	....	....	....	....	
A14	25PY-043.MODE	AUT	V-25001D PR CNTRL CMD	....	....	Y...	....	....	....	....	....	
A15				....	....	....	....	....	....	....	....	
A16				....	....	....	....	....	....	....	....	
A17				....	....	....	....	....	....	....	....	
A18				....	....	....	....	....	....	....	....	
A19				....	....	....	....	....	....	....	....	
A20				....	....	....	....	....	....	....	....	
A21				....	....	....	....	....	....	....	....	
A22				....	....	....	....	....	....	....	....	
A23				....	....	....	....	....	....	....	....	
A24				....	....	....	....	....	....	....	....	
A25				....	....	....	....	....	....	....	....	
A26				....	....	....	....	....	....	....	....	
A27				....	....	....	....	....	....	....	....	
A28				....	....	....	....	....	....	....	....	
A29				....	....	....	....	....	....	....	....	
A30				....	....	....	....	....	....	....	....	
A31				....	....	....	....	....	....	....	....	
A32				....	....	....	....	....	....	....	....	
PREV			THEN	....	....	....	....	....	....	....	....	
				....	....	....	....	....	....	....	....	
NEXT			ELSE	....	....	....	....	....	....	....	....	
				....	....	....	....	....	....	....	....	

PROJECT:	BLPH-CW1	FILE NAME:	25PY043-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-12
STATION:	FCS0101	SAVED DATE:	4/18/2025 5:13:13 AM	COMMENT:	POS FB COMP		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY043-RL POS FB COMP)

Basic

Tag Name	25PY043-RL
Model Name	RL
Tag Comment	POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001		Relational Operation		
002		Relational Operation		
003		Relational Operation		
004	25FIC034-CL1.P03	Relational Operation	5	DEVIATION>5
005	25FY-034.MV	Relational Operation	100	FULL OPN CMD
006	25FY-034.MV	Relational Operation	0	FULL CLOSE CMD
007	25PIC043-CL2.P03	Relational Operation	5	DEVIATION>5
008	25PY-043.MV	Relational Operation	100	FULL OPN CMD
009	25PY-043.MV	Relational Operation	0	FULL CLOSE CMD
011	25PI-043AV01.CPV	Relational Operation	0.0	-VE GRAD DURING CHARG
012		Relational Operation		
013		Relational Operation		
014		Relational Operation		
015		Relational Operation		
016		Relational Operation		

Tag Detail (25PY043-LC V-25001D LOGIC)

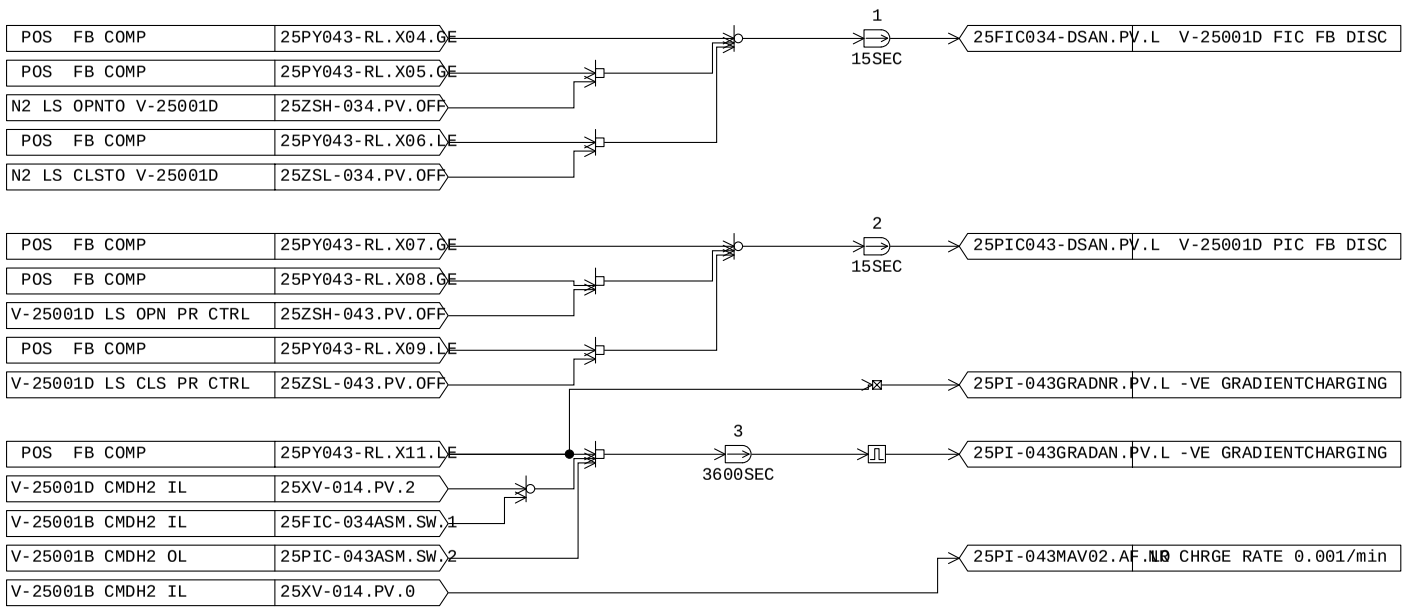
Basic

Tag Name	25PY043-LC
Model Name	LC64-E
Tag Comment	V-25001D LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY043-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-19-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	V-25001D LOGIC		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY043-LC V-25001D LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



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PROJECT:	BLPH-CW1	FILE NAME:	25PI-043LD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-19-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:14:57 AM	COMMENT:	CHNG IN VAL		
SECTION:	DR0041	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-043LD01 CHNG IN VAL)

Basic

Tag Name	25PI-043LD01
Model Name	LD
Tag Comment	CHNG IN VAL
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-043AV02 AVG/MIN)

Basic

Tag Name	25PI-043AV02
Model Name	AVE-M
Tag Comment	AVG/MIN
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-043AV01 GRADIENT/HR)

Basic

Tag Name	25PI-043AV01
Model Name	AVE-M
Tag Comment	GRADIENT/HR
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

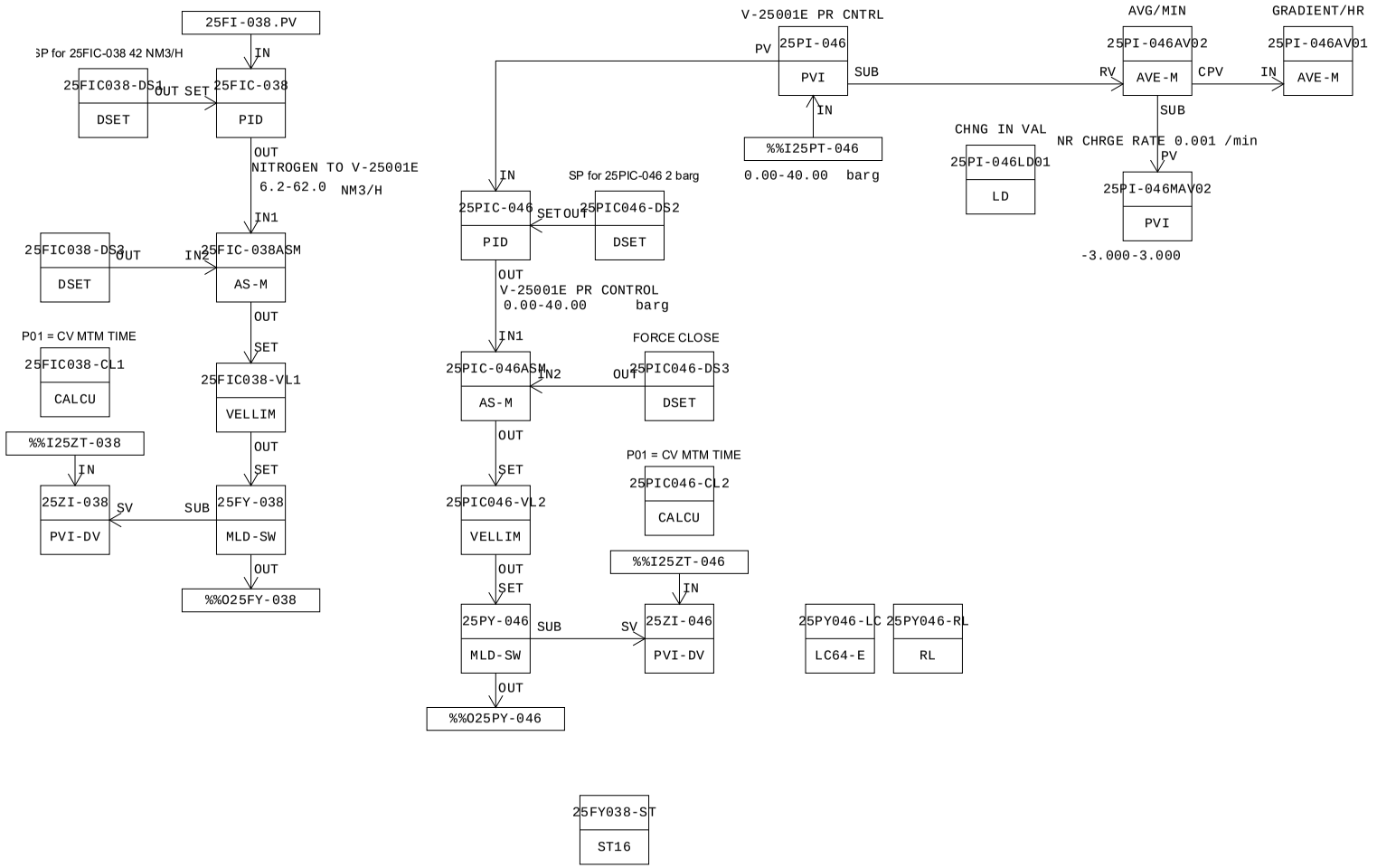
Tag Detail (25PI-043MAV02 NR CHRGE RATE 0.001 /min)

Basic

Tag Name	25PI-043MAV02
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /min
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0042.edf	SHEET:		YOKOGAWA	PAGE:3-25-20-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:35:16 AM	COMMENT:	HYDROGEN VESSEL-E CONTROL		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0042 | BLPH-CW | TYP006 | HYDROGEN STORAGE VESSEL-E CONTROL VALVES]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0042.edf	SHEET:		YOKOGAWA	PAGE:3-25-20-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:35:16 AM	COMMENT:	HYDROGEN VESSEL-E CONTROL		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HYDROGEN VESSEL-E CONTROL

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FIC038-DS1	DSET	SET POINT 25FIC-038	6.2	62.0	NM3/H			
		25FIC-038.SET				4			
002	25FIC-038	PID	NITROGEN TO V-25001E	6.2	62.0	NM3/H	No	No	25FI-038.PV
		25FIC-038ASM.IN1		25FIC038-DS1.OUT		3			
003	25FIC038-DS3	DSET	FOCE CLOSE 25FIC-038	0.0	100.0	(None)			
		25FIC-038ASM.IN2				4			
004	25FIC-038ASM	AS-M	V-25001E SELECTOR	0.0	100.0	%			
		25FIC038-VL1.SET				4			
005	25PIC046-DS2	DSET	SET POINT 25PIC-046	0.0	40.0	barg			
		25PIC-046.SET				4			
006	25PI-046	PVI	V-25001E PR CNTRL	0.00	40.00	barg	No	No	%%I25PT-046
						4			
007	25PIC-046	PID	V-25001E PR CONTROL	0.00	40.00	barg	No	No	25PI-046.PV
		25PIC-046ASM.IN1		25PIC046-DS2.OUT		3			
008	25PIC046-DS3	DSET	FOCE CLOSE 25PIC-046	0.0	100.0	(None)			
		25PIC-046ASM.IN2				4			
009	25PIC-046ASM	AS-M	V-25001E SELECTOR	0.0	100.0	%			
		25PIC046-VL2.SET				4			
010	25FIC038-VL1	VELLIM	NITROGEN TO V-25001E	0	0	%			
		25FY-038.SET		25FIC-038ASM.OUT		4			
011	25PIC046-VL2	VELLIM	V-25001E PR CONTROL	0	0	%			
		25PY-046.SET		25PIC-046ASM.OUT		4			
012	25FY-038	MLD-SW	N2 CMD TO V-25001E	0	0	%			
		%%O25FY-038		25FIC038-VL1.OUT		3			
013	25PY-046	MLD-SW	V-25001E PR CNTRL CMD	0	0	%			
		%%O25PY-046		25PIC046-VL2.OUT		3			
014	25ZI-038	PVI-DV	N2 POS FB TOV-25001E	0.0	100.0	%	No	No	%%I25ZT-038
						4			
015	25ZI-046	PVI-DV	V-25001E POS FB	0.0	100.0	%	No	No	%%I25ZT-046
						4			
016	25FIC038-CL1	CALCU	N2 POS FB TOV-25001E	0.0	100.0	%	No	No	
						5			
017	25PIC046-CL2	CALCU	V-25001E POS FB	0.0	100.0	%	No	No	
						5			
018	25FY038-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
019	25PY046-RL	RL	POS FB COMP	0	0				
						4			
020	25PY046-LC	LC64-E	V-25001E LOGIC	0	0				
						4			
021	25PI-046LD01	LD	CHNG IN VAL	-3.000	3.000	barg	No		
						4			
022	25PI-046AV02	AVE-M	AVG/MIN	-3.0000	3.0000	barg	No		
						4			
023	25PI-046AV01	AVE-M	GRADIENT/HR	-3.0000	3.0000	barg	No		25PI-046AV02.CPV
						4			
024	25PI-046MAV02	PVI	NR CHRGE RATE 0.001 /min	-3.000	3.000		No	No	
						4			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FIC038-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:35:16 AM	COMMENT:	SET POINT 25FIC-038		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FIC038-DS1 SET POINT 25FIC-038)

Basic

Tag Name	25FIC038-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-038
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-038 NITROGEN TO V-25001E)

Basic

Tag Name	25FIC-038
Model Name	PID
Tag Comment	NITROGEN TO V-25001E
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25FIC038-DS3 FOCE CLOSE 25FIC-038)

Basic

Tag Name	25FIC038-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-038
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-038ASM V-25001E SELECTOR)

Basic

Tag Name	25FIC-038ASM
Model Name	AS-M
Tag Comment	V-25001E SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25FIC-038.OUT
Signal Input 2(IN2)	25FIC038-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25FIC038-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC046-DS2 SET POINT 25PIC-046)

Basic

Tag Name	25PIC046-DS2
Model Name	DSET
Tag Comment	SET POINT 25PIC-046
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PI-046 V-25001E PR CNTRL)

Basic

Tag Name	25PI-046
Model Name	PVI
Tag Comment	V-25001E PR CNTRL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1

PROJECT:	BLPH-CW1	FILE NAME:	25PI-046.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	V-25001E PR CNTRL		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Scan phase 0
Input Signal Conversion
Input Signal Conversion No
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (25PIC-046 V-25001E PR CONTROL)

Basic
Tag Name 25PIC-046
Model Name PID
Tag Comment V-25001E PR CONTROL
Lvl 3
Scan Period Basic Scan
Open/Close mark No
Input Signal Conversion
Input Signal Conversion No
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed
Control Action Direct
Measurement Tracking
MAN mode Yes
AUT and CND mode No
CAS and CND mode No
Output Signal Conversion
Output Signal Conversion No
Output Value for Full-open 101.00
Output Value for Tight-shut -1.00
Fully-open/Tightly-shut No

Tag Detail (25PIC046-DS3 FOCE CLOSE 25PIC-046)

Basic
Tag Name 25PIC046-DS3
Model Name DSET
Tag Comment FOCE CLOSE 25PIC-046
Lvl 4
Scan Period Basic Scan

Tag Detail (25PIC-046ASM V-25001E SELECTOR)

Basic
Tag Name 25PIC-046ASM
Model Name AS-M
Tag Comment V-25001E SELECTOR
Lvl 4
Scan Period Basic Scan
Open/Close mark No

Connection
Signal Input 1(IN1) 25PIC-046.OUT
Signal Input 2(IN2) 25PIC046-DS3.OUT
Signal Input 3(IN3)
Operation Output(OUT) 25PIC046-VL2.SET
Interlock Switch Input(INT)

Tag Detail (25FIC038-VL1 NITROGEN TO V-25001E)

Basic
Tag Name 25FIC038-VL1
Model Name VELLIM
Tag Comment NITROGEN TO V-25001E
Lvl 4
Scan Period Basic Scan
SV Range
High limit value 100.0
Low limit value 0.0
Open/Close mark No

Tag Detail (25PIC046-VL2 V-25001E PR CONTROL)

Basic
Tag Name 25PIC046-VL2
Model Name VELLIM
Tag Comment V-25001E PR CONTROL
Lvl 4

Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25FY-038 N2 CMD TO V-25001E)

Basic

Tag Name	25FY-038
Model Name	MLD-SW
Tag Comment	N2 CMD TO V-25001E
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-046 V-25001E PR CNTRL CMD)

Basic

Tag Name	25PY-046
Model Name	MLD-SW
Tag Comment	V-25001E PR CNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25ZI-038 N2 POS FB TOV-25001E)

Basic

Tag Name	25ZI-038
Model Name	PVI-DV
Tag Comment	N2 POS FB TOV-25001E
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-046 V-25001E POS FB)

Basic

Tag Name	25ZI-046
Model Name	PVI-DV
Tag Comment	V-25001E POS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FIC038-CL1 N2 POS FB TOV-25001E)

Basic

Tag Name	25FIC038-CL1
Model Name	CALCU
Tag Comment	N2 POS FB TOV-25001E

PROJECT:	BLPH-CW1	FILE NAME:	25FIC038-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	N2 POS FB TOV-25001E		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25FIC038-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	N2 POS FB TOV-25001E		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25FIC038-CL1 N2 POS FB TOV-25001E)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-038.PV             !CV FB
   006        alias   O1      25ZI-038.SV             !CV OUTPUT
   007        alias   DL1     25ZI-038.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-038.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-038.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC046-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	V-25001E POS FB		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC046-CL2 V-25001E POS FB)

Basic

Tag Name	25PIC046-CL2
Model Name	CALCU
Tag Comment	V-25001E POS FB
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC046-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	V-25001E POS FB		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC046-CL2 V-25001E POS FB)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-046.PV             !CV FB
   006        alias   O1      25ZI-046.SV             !CV OUTPUT
   007        alias   DL1     25ZI-046.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-046.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-046.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25FY038-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FY038-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25FY038-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25FY038-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25FY038-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	25FY-038.ALRM	OOP	N2 CMD TO V-25001E	.Y..	.N..							
C02	25PY-046.ALRM	OOP	V-25001E PR CNTRL CMD	..Y.	..N.							
C03	25FIC-038.XALRM	IOP	NITROGEN TO V-25001E	...N	....							
C04	25PIC-046.XALRM	IOP	V-25001E PR CONTROL	....	N...							
C05	25FIC-038.MODE	AUT	NITROGEN TO V-25001E	....	.Y..							
C06	25PIC-046.MODE	AUT	V-25001E PR CONTROL	....	..Y.							
C07	25FIC-038.MODE	AUT	NITROGEN TO V-25001E	....	...Y							
C08	25PIC-046.MODE	AUT	V-25001E PR CONTROL	....	....	Y...						
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	25FIC-038ASM.MODE	AUT	V-25001E SELECTOR	Y...								
A02	25PIC-046ASM.MODE	AUT	V-25001E SELECTOR	Y...								
A03	25FIC038-VL1.MODE	CAS	NITROGEN TO V-25001E	Y...								
A04	25PIC046-VL2.MODE	CAS	V-25001E PR CONTROL	Y...								
A05	25FY-038.MODE	MAN	N2 CMD TO V-25001E	.Y..								
A06	25PY-046.MODE	MAN	V-25001E PR CNTRL CMD	..Y.								
A07	25FIC-038.MODE	AUT	NITROGEN TO V-25001E	...Y								
A08	25PIC-046.MODE	AUT	V-25001E PR CONTROL	....	Y...							
A09	25FY-038.MODE	AUT	N2 CMD TO V-25001E	....	.Y..							
A10	25FIC-038ASM.MODE	AUT	V-25001E SELECTOR	....	.Y..							
A11	25PY-046.MODE	AUT	V-25001E PR CNTRL CMD	....	..Y.							
A12	25PIC-046ASM.MODE	AUT	V-25001E SELECTOR	....	..Y.							
A13	25FY-038.MODE	AUT	N2 CMD TO V-25001E	....	...Y							
A14	25PY-046.MODE	AUT	V-25001E PR CNTRL CMD	....	....	Y...						
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	25PY046-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-12
STATION:	FCS0101	SAVED DATE:	4/18/2025 5:15:14 AM	COMMENT:	POS FB COMP		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY046-RL POS FB COMP)

Basic

Tag Name	25PY046-RL
Model Name	RL
Tag Comment	POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001		Relational Operation		
002		Relational Operation		
003		Relational Operation		
004	25FIC038-CL1.P03	Relational Operation	5	DEVIATION>5
005	25FY-038.MV	Relational Operation	100	FULL OPN CMD
006	25FY-038.MV	Relational Operation	0	FULL CLOSE CMD
007	25PIC046-CL2.P03	Relational Operation	5	DEVIATION>5
008	25PY-046.MV	Relational Operation	100	FULL OPN CMD
009	25PY-046.MV	Relational Operation	0	FULL CLOSE CMD
011	25PI-046AV01.CPV	Relational Operation	0.0	-VE GRAD DURING CHARGING
012		Relational Operation		
013		Relational Operation		
014		Relational Operation		
015		Relational Operation		
016		Relational Operation		

Tag Detail (25PY046-LC V-25001E LOGIC)

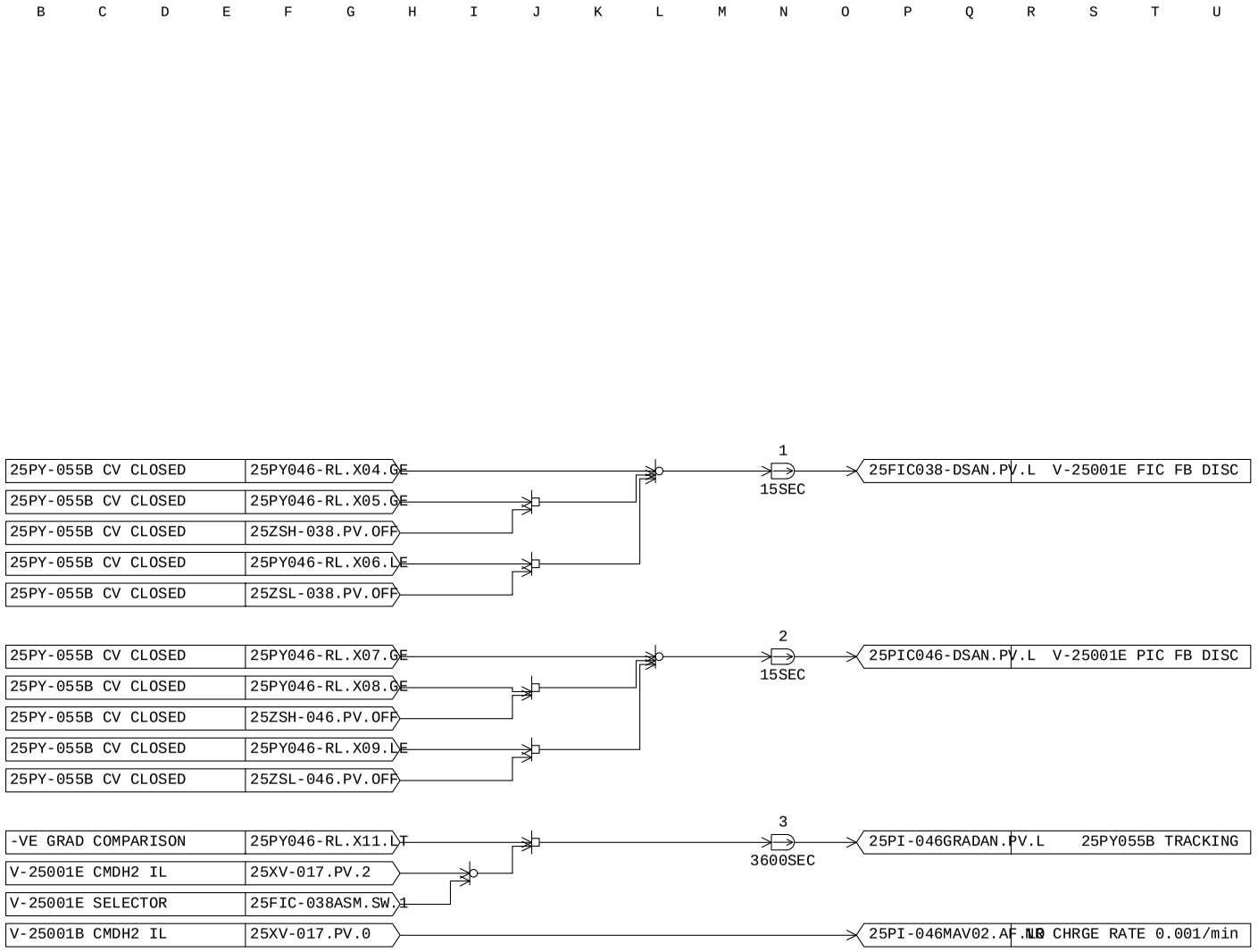
Basic

Tag Name	25PY046-LC
Model Name	LC64-E
Tag Comment	V-25001E LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY046-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-20-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	V-25001E LOGIC		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY046-LC V-25001E LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI-046LD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-20-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:00 AM	COMMENT:	CHNG IN VAL		
SECTION:	DR0042	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-046LD01 CHNG IN VAL)

Basic

Tag Name	25PI-046LD01
Model Name	LD
Tag Comment	CHNG IN VAL
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-046AV02 AVG/MIN)

Basic

Tag Name	25PI-046AV02
Model Name	AVE-M
Tag Comment	AVG/MIN
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-046AV01 GRADIENT/HR)

Basic

Tag Name	25PI-046AV01
Model Name	AVE-M
Tag Comment	GRADIENT/HR
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

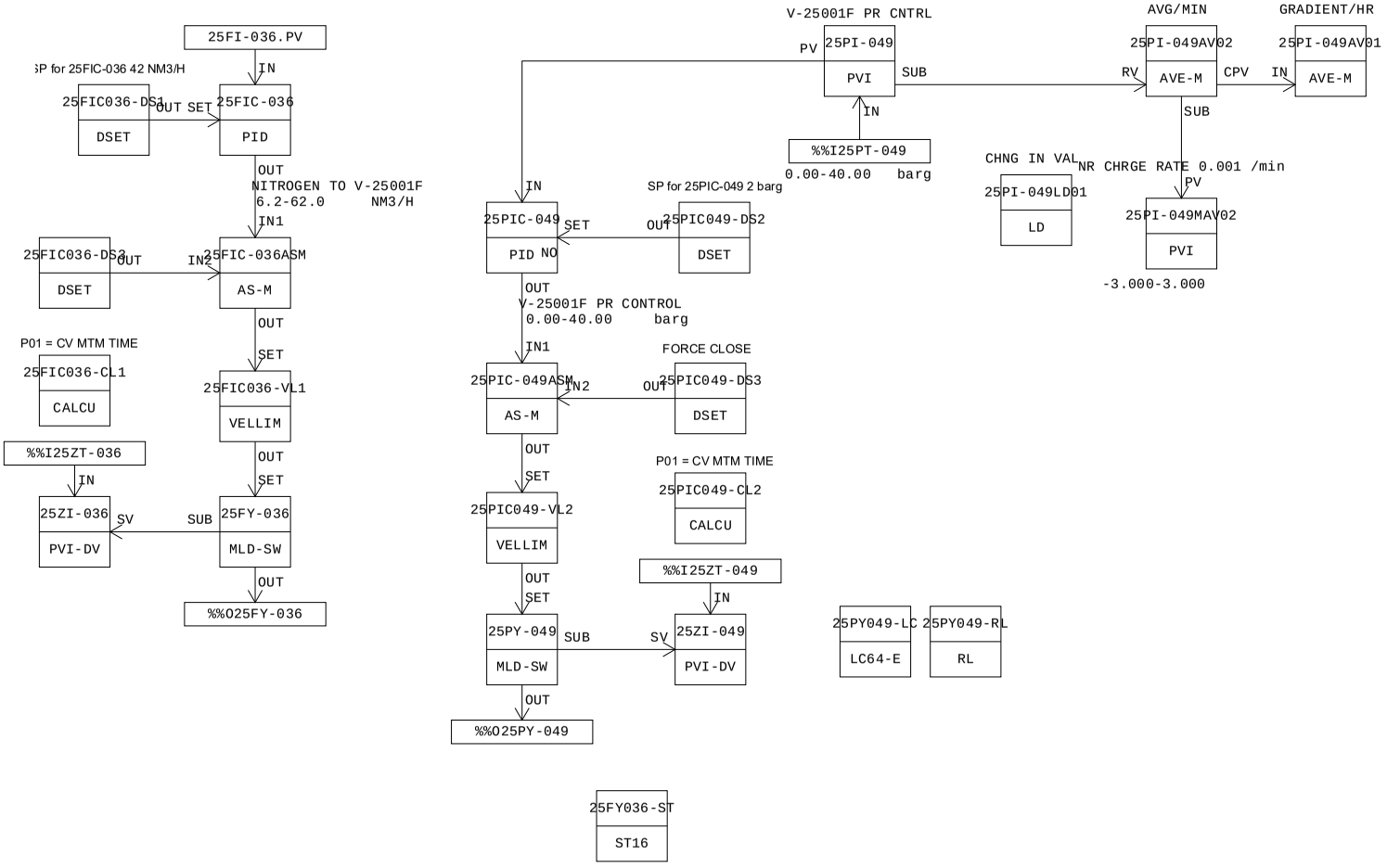
Tag Detail (25PI-046MAV02 NR CHRGE RATE 0.001 /min)

Basic

Tag Name	25PI-046MAV02
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /min
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0043.edf	SHEET:		YOKOGAWA	PAGE:3-25-21-1
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:35:46 AM	COMMENT:	HYDROGEN VESSEL-F CONTROL		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0043 | BLPH-CW | TYP006 | HYDROGEN STORAGE VESSEL-F CONTROL VALVES]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0043.edf	SHEET:		YOKOGAWA	PAGE:3-25-21-2
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:35:46 AM	COMMENT:	HYDROGEN VESSEL-F CONTROL		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HYDROGEN VESSEL-F CONTROL

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	25FIC036-DS1	DSET	SET POINT 25FIC-036	0.0	50.0	NM3/H			
		25FIC-036.SET				4			
002	25FIC-036	PID	NITROGEN TO V-25001F	6.2	62.0	NM3/H	No	No	25FI-036.PV
		25FIC-036ASM.IN1		25FIC036-DS1.OUT		3			
003	25FIC036-DS3	DSET	FOCE CLOSE 25FIC-036	0.0	100.0	barg			
		25FIC-036ASM.IN2				4			
004	25FIC-036ASM	AS-M	V-25001F SELECTOR	0.0	100.0	%			
		25FIC036-VL1.SET				4			
005	25PIC049-DS2	DSET	SET POINT 25PIC-049	0.0	40.0	barg			
		25PIC-049.SET				4			
006	25PI-049	PVI	V-25001F PR CNTRL	0.00	40.00	barg	No	No	%%I25PT-049
						4			
007	25PIC-049	PID	V-25001F PR CONTROL	0.00	40.00	barg	No	No	25PI-049.PV
		25PIC-049ASM.IN1		25PIC049-DS2.OUT		3			
008	25PIC049-DS3	DSET	FOCE CLOSE 25PIC-049	0.0	100.0	barg			
		25PIC-049ASM.IN2				4			
009	25PIC-049ASM	AS-M	V-25001F SELECTOR	0.0	100.0	%			
		25PIC049-VL2.SET				4			
010	25FIC036-VL1	VELLIM	NITROGEN TO V-25001E	0	0	%			
		25FY-036.SET		25FIC-036ASM.OUT		4			
011	25PIC049-VL2	VELLIM	V-25001F PR CONTROL	0	0	%			
		25PY-049.SET		25PIC-049ASM.OUT		4			
012	25FY-036	MLD-SW	N2 CMD TO V-25001F	0	0	%			
		%%O25FY-036		25FIC036-VL1.OUT		3			
013	25PY-049	MLD-SW	V-25001F PR CNTRL CMD	0	0	%			
		%%O25PY-049		25PIC049-VL2.OUT		3			
014	25ZI-036	PVI-DV	N2 POS FB TOV-25001F	0.0	100.0	%	No	No	%%I25ZT-036
						4			
015	25ZI-049	PVI-DV	V-25001F POS FB	0.0	100.0	%	No	No	%%I25ZT-049
						4			
016	25FIC036-CL1	CALCU	N2 POS FB TOV-25001E	0.0	100.0	%	No	No	
						5			
017	25PIC049-CL2	CALCU	V-25001F POS FB	0.0	100.0	%	No	No	
						5			
018	25FY036-ST	ST16	PUMP CMN FLT ALARMS	0	0				
						4			
019	25PY049-RL	RL	POS FB COMP	0	0				
						4			
020	25PY049-LC	LC64-E	V-25001F LOGIC	0	0				
						4			
021	25PI-049LD01	LD	CHNG IN VAL	-3.000	3.000	barg	No		
						4			
022	25PI-049AV02	AVE-M	AVG/MIN	-3.000	3.000	barg	No		
						4			
023	25PI-049AV01	AVE-M	GRADIENT/HR	-3.000	3.000	barg	No		25PI-049AV02.CPV
						4			
024	25PI-049MAV02	PVI	NR CHRGE RATE 0.001 /min	-3.000	3.000		No	No	
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25FIC036-DS1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-3
STATION:	FCS0101	SAVED DATE:	6/30/2025 12:35:46 AM	COMMENT:	SET POINT 25FIC-036		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FIC036-DS1 SET POINT 25FIC-036)

Basic

Tag Name	25FIC036-DS1
Model Name	DSET
Tag Comment	SET POINT 25FIC-036
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-036 NITROGEN TO V-25001F)

Basic

Tag Name	25FIC-036
Model Name	PID
Tag Comment	NITROGEN TO V-25001F
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Reverse
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25FIC036-DS3 FOCE CLOSE 25FIC-036)

Basic

Tag Name	25FIC036-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25FIC-036
Lvl	4
Scan Period	Basic Scan

Tag Detail (25FIC-036ASM V-25001F SELECTOR)

Basic

Tag Name	25FIC-036ASM
Model Name	AS-M
Tag Comment	V-25001F SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25FIC-036.OUT
Signal Input 2(IN2)	25FIC036-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25FIC036-VL1.SET
Interlock Switch Input(INT)	

Tag Detail (25PIC049-DS2 SET POINT 25PIC-049)

Basic

Tag Name	25PIC049-DS2
Model Name	DSET
Tag Comment	SET POINT 25PIC-049
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PI-049 V-25001F PR CNTRL)

Basic

Tag Name	25PI-049
Model Name	PVI
Tag Comment	V-25001F PR CNTRL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1

PROJECT:	BLPH-CW1	FILE NAME:	25PI-049.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	V-25001F PR CNTRL		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25PIC-049 V-25001F PR CONTROL)

Basic

Tag Name	25PIC-049
Model Name	PID
Tag Comment	V-25001F PR CONTROL
Lvl	3
Scan Period	Basic Scan
Open/Close mark	No
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Control Action	Direct
Measurement Tracking	
MAN mode	Yes
AUT and CND mode	No
CAS and CND mode	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PIC049-DS3 FOCE CLOSE 25PIC-049)

Basic

Tag Name	25PIC049-DS3
Model Name	DSET
Tag Comment	FOCE CLOSE 25PIC-049
Lvl	4
Scan Period	Basic Scan

Tag Detail (25PIC-049ASM V-25001F SELECTOR)

Basic

Tag Name	25PIC-049ASM
Model Name	AS-M
Tag Comment	V-25001F SELECTOR
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No

Connection

Signal Input 1(IN1)	25PIC-049.OUT
Signal Input 2(IN2)	25PIC049-DS3.OUT
Signal Input 3(IN3)	
Operation Output(OUT)	25PIC049-VL2.SET
Interlock Switch Input(INT)	

Tag Detail (25FIC036-VL1 NITROGEN TO V-25001E)

Basic

Tag Name	25FIC036-VL1
Model Name	VELLIM
Tag Comment	NITROGEN TO V-25001E
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25PIC049-VL2 V-25001F PR CONTROL)

Basic

Tag Name	25PIC049-VL2
Model Name	VELLIM
Tag Comment	V-25001F PR CONTROL
Lvl	4

Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No

Tag Detail (25FY-036 N2 CMD TO V-25001F)

Basic

Tag Name	25FY-036
Model Name	MLD-SW
Tag Comment	N2 CMD TO V-25001F
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25PY-049 V-25001F PR CNTRL CMD)

Basic

Tag Name	25PY-049
Model Name	MLD-SW
Tag Comment	V-25001F PR CNTRL CMD
Lvl	3
Scan Period	Basic Scan
SV Range	
High limit value	100.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	101.00
Output Value for Tight-shut	-1.00
Fully-open/Tightly-shut	No

Tag Detail (25ZI-036 N2 POS FB TOV-25001F)

Basic

Tag Name	25ZI-036
Model Name	PVI-DV
Tag Comment	N2 POS FB TOV-25001F
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25ZI-049 V-25001F POS FB)

Basic

Tag Name	25ZI-049
Model Name	PVI-DV
Tag Comment	V-25001F POS FB
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (25FIC036-CL1 N2 POS FB TOV-25001E)

Basic

Tag Name	25FIC036-CL1
Model Name	CALCU
Tag Comment	N2 POS FB TOV-25001E

PROJECT:	BLPH-CW1	FILE NAME:	25FIC036-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	N2 POS FB TOV-25001E		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25FIC036-CL1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	N2 POS FB TOV-25001E		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25FIC036-CL1 N2 POS FB TOV-25001E)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-036.PV             !CV FB
   006        alias   O1      25ZI-036.SV             !CV OUTPUT
   007        alias   DL1     25ZI-036.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-036.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-036.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                          !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25PIC049-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	V-25001F POS FB		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PIC049-CL2 V-25001F POS FB)

Basic

Tag Name	25PIC049-CL2
Model Name	CALCU
Tag Comment	V-25001F POS FB
Lvl	5
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	25PIC049-CL2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	V-25001F POS FB		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (25PIC049-CL2 V-25001F POS FB)

```
Line Number   General-Purpose Calculation Formula
   001        ********************************************************************
   002        *PID WITH POSITION FEEDBACK DEVIATION LOGIC
   003        ********************************************************************
   004
   005        alias   F1      25ZI-049.PV             !CV FB
   006        alias   O1      25ZI-049.SV             !CV OUTPUT
   007        alias   DL1     25ZI-049.DL             !CV DEV VALUE
   008        alias   DVP1    {25ZI-049.AF.DV+}       !CV DV+ ALARM MASK
   009        alias   DVM1    {25ZI-049.AF.DV-}       !CV DV- ALARM MASK
   010        ! P01                                       !CV MTM TIME DELAY ENTRY FOR ENG ACCESS
   011
   012        A = (F1-O1)
   013        B = DABS(A)
   014        P03 = B                                 !CV DEV DIFFERENCE VALUE
   015
   016        IF (B>DL1)AND (P02<P01)THEN
   017            P02 = P02+1                         !CV MTM TIME DELAY
   018        ELSE IF (B>DL1)AND(P02>=P01) THEN
   019            P02 = P01                               !CV MTM TIME DELAY
   020        ELSE
   021            P02 = 0
   022        END IF
   023
   024        IF (P02>=P01) THEN
   025            DVP1=0
   026            DVM1=0
   027        ELSE
   028            DVP1=1
   029            DVM1=1
   030        END IF
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	25FY036-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25FY036-ST PUMP CMN FLT ALARMS)

Basic

Tag Name	25FY036-ST
Model Name	ST16
Tag Comment	PUMP CMN FLT ALARMS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25FY036-ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	PUMP CMN FLT ALARMS		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (25FY036-ST PUMP CMN FLT ALARMS)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	25FY-036.ALRM	OOP	N2 CMD TO V-25001F	.Y..	.N..							
C02	25PY-049.ALRM	OOP	V-25001F PR CNTRL CMD	..Y.	..N.							
C03	25FIC-036.XALRM	IOP	NITROGEN TO V-25001F	...N	....							
C04	25PIC-049.XALRM	IOP	V-25001F PR CONTROL	....	N...							
C05	25FIC-036.MODE	AUT	NITROGEN TO V-25001F	....	.Y..							
C06	25PIC-049.MODE	AUT	V-25001F PR CONTROL	....	..Y.							
C07				....	....							
C08				....	....							
C09				....	....							
C10				....	....							
C11				....	....							
C12				....	....							
C13				....	....							
C14				....	....							
C15				....	....							
C16				....	....							
C17				....	....							
C18				....	....							
C19				....	....							
C20				....	....							
C21				....	....							
C22				....	....							
C23				....	....							
C24				....	....							
C25				....	....							
C26				....	....							
C27				....	....							
C28				....	....							
C29				....	....							
C30				....	....							
C31				....	....							
C32				....	....							
A01	25FIC-036ASM.MODE	AUT	V-25001F SELECTOR	Y...	....							
A02	25PIC-049ASM.MODE	AUT	V-25001F SELECTOR	Y...	....							
A03	25FIC036-VL1.MODE	CAS	NITROGEN TO V-25001E	Y...	....							
A04	25PIC049-VL2.MODE	CAS	V-25001F PR CONTROL	Y...	....							
A05	25FY-036.MODE	MAN	N2 CMD TO V-25001F	.Y..	....							
A06	25PY-049.MODE	MAN	V-25001F PR CNTRL CMD	..Y.	....							
A07	25FIC-036.MODE	AUT	NITROGEN TO V-25001F	...Y	....							
A08	25PIC-049.MODE	AUT	V-25001F PR CONTROL	....	Y...							
A09	25FY-036.MODE	AUT	N2 CMD TO V-25001F	....	.Y..							
A10	25FIC-036ASM.MODE	AUT	V-25001F SELECTOR	....	.Y..							
A11	25PY-049.MODE	AUT	V-25001F PR CNTRL CMD	....	..Y.							
A12	25PIC-049ASM.MODE	AUT	V-25001F SELECTOR	....	..Y.							
A13				....	....							
A14				....	....							
A15				....	....							
A16				....	....							
A17				....	....							
A18				....	....							
A19				....	....							
A20				....	....							
A21				....	....							
A22				....	....							
A23				....	....							
A24				....	....							
A25				....	....							
A26				....	....							
A27				....	....							
A28				....	....							
A29				....	....							
A30				....	....							
A31				....	....							
A32				....	....							
PREV			THEN	....	....							
				....	....							
NEXT			ELSE	....	....							
				....	....							

PROJECT:	BLPH-CW1	FILE NAME:	25PY049-RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-12
STATION:	FCS0101	SAVED DATE:	4/18/2025 5:16:27 AM	COMMENT:	POS FB COMP		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PY049-RL POS FB COMP)

Basic

Tag Name	25PY049-RL
Model Name	RL
Tag Comment	POS FB COMP
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001		Relational Operation		
002		Relational Operation		
003		Relational Operation		
004	25FIC036-CL1.P03	Relational Operation	5	DEVIATION>5
005	25FY-036.MV	Relational Operation	100	FULL OPN CMD
006	25FY-036.MV	Relational Operation	0	FULL CLOSE CMD
007	25PIC049-CL2.P03	Relational Operation	5	DEVIATION>5
008	25PY-049.MV	Relational Operation	100	FULL OPN CMD
009	25PY-049.MV	Relational Operation	0	FULL CLOSE CMD
011	25PI-049AV01.CPV	Relational Operation	0.0	CHECK -VE GRADIENT
012		Relational Operation		
013		Relational Operation		
014		Relational Operation		
015		Relational Operation		
016		Relational Operation		

Tag Detail (25PY049-LC V-25001F LOGIC)

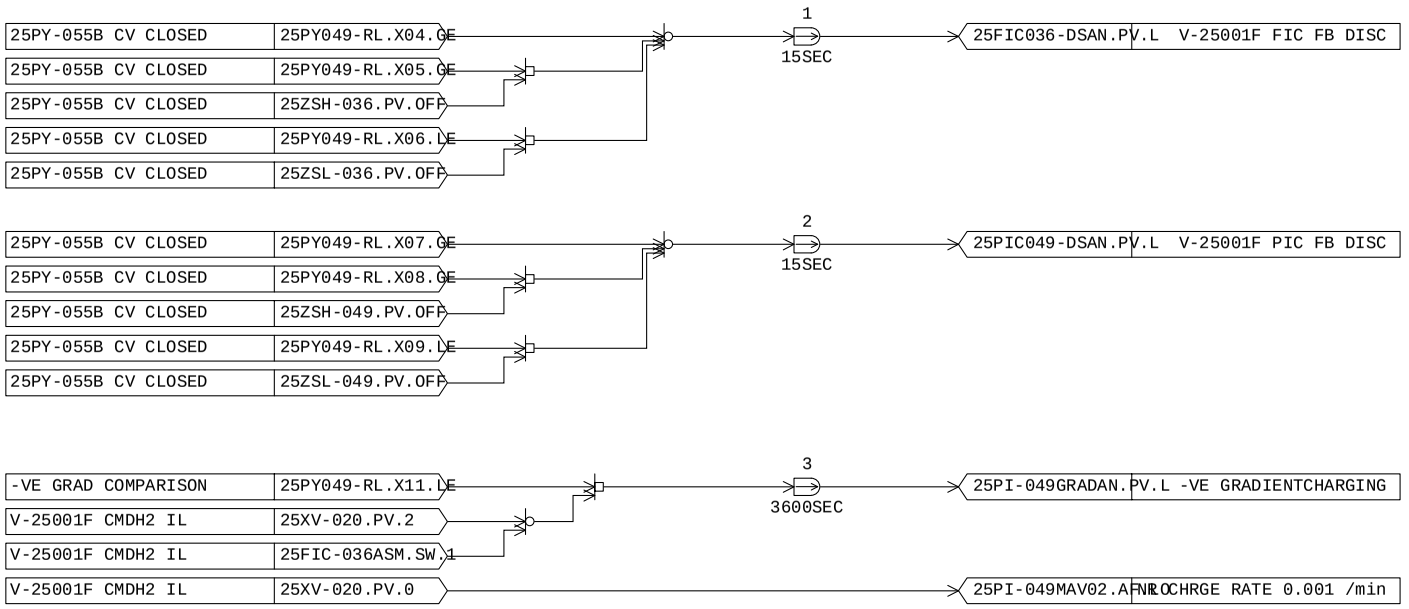
Basic

Tag Name	25PY049-LC
Model Name	LC64-E
Tag Comment	V-25001F LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PY049-LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-21-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	V-25001F LOGIC		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PY049-LC V-25001F LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	25PI-049LD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-21-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:03 AM	COMMENT:	CHNG IN VAL		
SECTION:	DR0043	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (25PI-049LD01 CHNG IN VAL)

Basic

Tag Name	25PI-049LD01
Model Name	LD
Tag Comment	CHNG IN VAL
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-049AV02 AVG/MIN)

Basic

Tag Name	25PI-049AV02
Model Name	AVE-M
Tag Comment	AVG/MIN
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-049AV01 GRADIENT/HR)

Basic

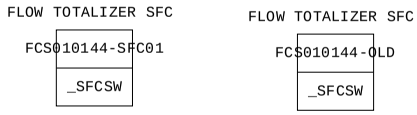
Tag Name	25PI-049AV01
Model Name	AVE-M
Tag Comment	GRADIENT/HR
Lvl	4
Scan Period	Basic Scan
Input Signal Conversion	
Input Signal Conversion	No

Tag Detail (25PI-049MAV02 NR CHRGE RATE 0.001 /min)

Basic

Tag Name	25PI-049MAV02
Model Name	PVI
Tag Comment	NR CHRGE RATE 0.001 /min
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0044.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-1
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			



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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0044.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-2
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:FLOW TOTALIZER

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	FCS010144-SFC01	_SFCSW	FLOW TOTALIZER SFC	0	0				
						4			
002	FCS010144-OLD	_SFCSW	FLOW TOTALIZER SFC	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-3
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS010144-SFC01 FLOW TOTALIZER SFC)

Basic

Tag Name	FCS010144-SFC01
Model Name	_SFCSW
Tag Comment	FLOW TOTALIZER SFC
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-4
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (FCS010144-SFC01 FLOW TOTALIZER SFC)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	THTHR	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
002	BFR1	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
003	CURHR	F64	20	0		(None)	3	12.2	Direct Input
		Automatic Determination		0	always				
004	BFR2	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
005	CURDY	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
006	HRBFR	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
007	PRVDY	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
008	AUTO	I16	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
009	TAG	CHR16	20	0		(None)	3	12	Direct Input
		Automatic Determination		0	always				
010	TIME	CHR16	20	0		(None)	3	16	Direct Input
		Automatic Determination		0	always				
011	RST	I16	20	0		(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
012	PURSHDT	CHR16	2	0	PUR SHDWN DT&TM	(None)	4	16	Direct Input
		Automatic Determination		0	always				
013	PURMTDT	CHR16	2	0	PUR MNTNC DT&TM	(None)	4	16	Direct Input
		Automatic Determination		0	always				
014	PURSHFQ	F64	6	0	PUR SHDWN FQI	NM3	4	7.1	Direct Input
		Automatic Determination		0	always				
015	PURMTFQ	F64	6	0	PUR MNTNC FQI	NM3	4	7.1	Direct Input
		Automatic Determination		0	always				
016	INTSW	I16	6	0	INTERNAL SWITCH	(None)	4	7.1	Direct Input
		Automatic Determination		0	always				
017	SHFQEND	F64	6	0	SHDWN FQI END	NM3	4	7.1	Direct Input
		Automatic Determination		0	always				
018	MTFQEND	F64	6	0	MNTC FQI END	NM3	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-5
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (FCS010144-SFC01 FLOW TOTALIZER SFC)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-6
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail (FCS010144-SFC01 FLOW TOTALIZER SFC)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	2	4	INITIALIZATION			INITIAL	SEBOL			
2	2	6	PROGRAM			PROG	SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
2	5		

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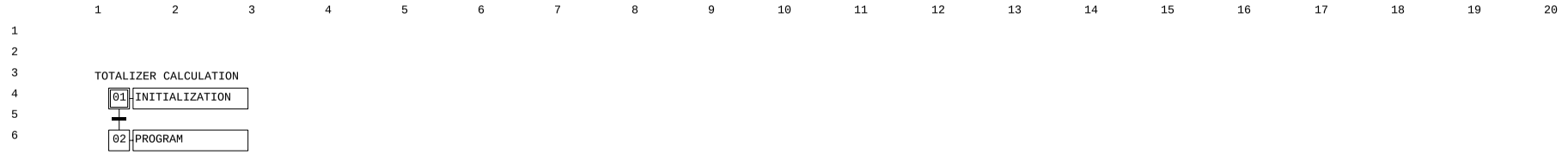
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-7
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

SFC (FCS010144-SFC01 FLOW TOTALIZER SFC)

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-8
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement (FCS010144-SFC01 FLOW TOTALIZER SFC)

Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:INITIALIZATION X: 2 Y: 4

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name          :  CROSSWIND BLPH
   003        * Project Number            :
   004        * Original Author       :   YOKOGAWA
   005        * Original Date         :   19-11-24
   006        * Function Name         :   FLOW TOTALISER
   007        *
   008        * Revision History      :
   009        *
   010        * Rev#      Date        Author      Description
   011        * ----      --------    ---------   --------------------------------------------------
   012        * 0.0       19-11-24    SK          First Release
   013        ********************************************************************************
   014        * Include Files
   015        #include <std.h>
   016        *<-------------------------------------------------------------------------->
   017        #define TOTTAG      6
   018        *<-------------------------------------------------------------------------->
   019        Global genname  FUNCBLK     TAGN[6]
   020        global             genname        _SFCSW          SEQPM,EXPRTPM,RCRGPM,BLPH,PURG       ! SEQUENCE PERMISSIVE
   021        global          block         %SW                SDNFQISW,MTCFQISW
   022        global          genname        %SW             SHFQANN[6]
   023        global  char*10     timing,date
   024        Global char*16  DTTM
   025        global integer i,SS,NN,HH,DD,MM,YY
   026        *<-------------------------------------------------------------------------->
   027
   028        Assign  "25FI-031"      to  TAGN[1]
   029        Assign  "25FI-032"      to  TAGN[2]
   030        Assign  "25FI-033"      to  TAGN[3]
   031        Assign  "25FI-034"      to  TAGN[4]
   032        Assign  "25FI-038"      to  TAGN[5]
   033        Assign  "25FI-036"      to  TAGN[6]
   034        assign  "25FQI-031AN01"   to  SHFQANN[1]
   035        assign  "25FQI-032AN01"   to  SHFQANN[2]
   036        assign  "25FQI-033AN01"   to  SHFQANN[3]
   037        assign  "25FQI-034AN01"   to  SHFQANN[4]
   038        assign  "25FQI-038AN01"   to  SHFQANN[5]
   039        assign  "25FQI-036AN01"   to  SHFQANN[6]
   040
   041        assign  "SEQPERM16"    to PURG
   042        assign  "BLPHSEQ"      to BLPH
   043
   044
   045
   046
   047        ****************************************************************
   048        for i = 1 to TOTTAG
   049
   050            %.TAG[i] = getname(TAGN[i])
   051
   052        next@
   053        ****************************************************************
   054        quit
```

Step Number: 2 Comment:PROGRAM X: 2 Y: 6

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name          :  CROSSWIND BLPH
   003        * Project Number            :
   004        * Original Author       :   YOKOGAWA
   005        * Original Date         :   19-11-24
   006        * Function Name         :   FLOW TOTALISER
   007        *
   008        * Revision History      :
   009        *
   010        * Rev#      Date        Author      Description
   011        * ----      --------    ---------   --------------------------------------------------
   012        * 0.0       19-11-24    SK          First Release
   013        ********************************************************************************
   014        while(1)
   015
   016        !   getdate(YY,MM,DD)
   017        !   gettime(HH,NN,SS)
   018
   019        !   format "%02d-%02d-%02d",DD,MM,YY;date
   020        !   format "%02d:%02d:%02d",HH,NN,SS;timing
   021
   022
   023        If(SDNFQISW.PV == 1 AND %.INTSW[1] == 0 )  then
```

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-SFC01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-9
STATION:	FCS0101	SAVED DATE:	6/13/2025 5:20:57 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

```
024         for i = 1 to TOTTAG
025           TAGN[i].SUM = 0.0                              !Resetting totalizer values
026           SHFQANN[i].PV = 0                            !Resetting insufficent flow alarms
027           getdate(YY,MM,DD)
028           gettime(HH,NN,SS)
029           format "%02d-%02d-%02d  %02d:%02d",DD,MM,YY,HH,NN;DTTM
030           %.PURSHDT[i] = DTTM
031         next@
032         %.INTSW[1] = 1
033       Else if (SDNFQISW.PV == 1 AND %.INTSW[1] == 1 ) then
034         for i = 1 to TOTTAG
035           %.PURSHFQ[i] = TAGN[i].SUM
036           next@
037       End if
038
039       If (BLPH.STATE == "PURGING" AND BLPH.STATUS[336] == 1 ) then
040           for i = 1 to TOTTAG
041             %.SHFQEND[i] = %.PURSHFQ[i]
042            If (%.SHFQEND[i] <= 4074) then
043              SHFQANN[i].PV = 1
044            End if
045           Next@
046       Else if (BLPH.STATE == "PURGING" AND  BLPH.STATUS[359] == 1) then
047           for i = 1 to TOTTAG
048             %.MTFQEND[i] = %.PURMTFQ[i]
049           next@
050       End if
051
052       If (SDNFQISW.PV == 0) %.INTSW[1] = 0
053
054       ********************************************************************************
055       wend
```

Tag Detail (FCS010144-OLD FLOW TOTALIZER SFC)

Basic

Tag Name	FCS010144-OLD
Model Name	_SFCSW
Tag Comment	FLOW TOTALIZER SFC
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-OLD.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-10
STATION:	FCS0101	SAVED DATE:	6/10/2025 1:34:22 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (FCS010144-OLD FLOW TOTALIZER SFC)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	THTHR	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
002	BFR1	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
003	CURHR	F64	20	0		(None)	3	12.2	Direct Input
		Automatic Determination		0	always				
004	BFR2	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
005	CURDY	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
006	HRBFR	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
007	PRVDY	F32	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
008	AUTO	I16	20	0		(None)	3	9.2	Direct Input
		Automatic Determination		0	always				
009	TAG	CHR16	20	0		(None)	3	12	Direct Input
		Automatic Determination		0	always				
010	TIME	CHR16	20	0		(None)	3	16	Direct Input
		Automatic Determination		0	always				
011	RST	I16	20	0		(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-OLD.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-11
STATION:	FCS0101	SAVED DATE:	6/10/2025 1:34:22 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (FCS010144-OLD FLOW TOTALIZER SFC)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-OLD.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-12
STATION:	FCS0101	SAVED DATE:	6/10/2025 1:34:22 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail (FCS010144-OLD FLOW TOTALIZER SFC)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	2	4	INITIALIZATION			INITIAL	SEBOL			
2	2	6	PROGRAM			PROG	SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
2	5		

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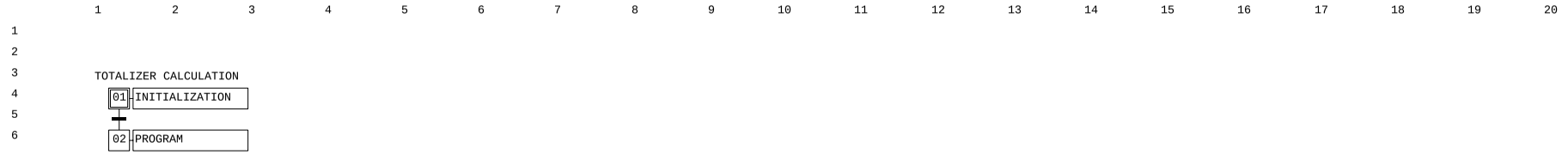
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-OLD.edf	SHEET:		YOKOGAWA	PAGE:3-25-22-13
STATION:	FCS0101	SAVED DATE:	6/10/2025 1:34:22 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

SFC (FCS010144-OLD FLOW TOTALIZER SFC)

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-OLD.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-14
STATION:	FCS0101	SAVED DATE:	6/10/2025 1:34:22 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement (FCS010144-OLD FLOW TOTALIZER SFC)
Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:INITIALIZATION X: 2 Y: 4

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name          :  CROSSWIND BLPH
   003        * Project Number            :
   004        * Original Author       :   YOKOGAWA
   005        * Original Date         :   19-11-24
   006        * Function Name         :   FLOW TOTALISER
   007        *
   008        * Revision History      :
   009        *
   010        * Rev#      Date        Author      Description
   011        * ----      --------    ---------   --------------------------------------------------
   012        * 0.0       19-11-24    SK          First Release
   013        ********************************************************************************
   014        * Include Files
   015        #include <std.h>
   016        *<-------------------------------------------------------------------------->
   017        #define TOTTAG      6
   018        *<-------------------------------------------------------------------------->
   019        Global genname  FUNCBLK     TAGN[6]
   020        global             genname        _SFCSW          SEQPM,EXPRTPM,RCRGPM,BLPH,PURG       ! SEQUENCE PERMISSIVE
   021
   022        global  char*10     timing,date
   023        Global char*16  DTTM
   024        global integer i,SS,NN,HH,DD,MM,YY
   025        *<-------------------------------------------------------------------------->
   026
   027        Assign  "25FI-031"      to  TAGN[1]
   028        Assign  "25FI-032"      to  TAGN[2]
   029        Assign  "25FI-033"      to  TAGN[3]
   030        Assign  "25FI-034"      to  TAGN[4]
   031        Assign  "25FI-038"      to  TAGN[5]
   032        Assign  "25FI-036"      to  TAGN[6]
   033        assign  "SEQPERM16"    to PURG
   034        assign  "BLPHSEQ"      to BLPH
   035
   036
   037
   038
   039        ****************************************************************
   040        for i = 1 to TOTTAG
   041
   042            %.TAG[i] = getname(TAGN[i])
   043
   044        next@
   045        ****************************************************************
   046        quit
```

Step Number: 2 Comment:PROGRAM X: 2 Y: 6

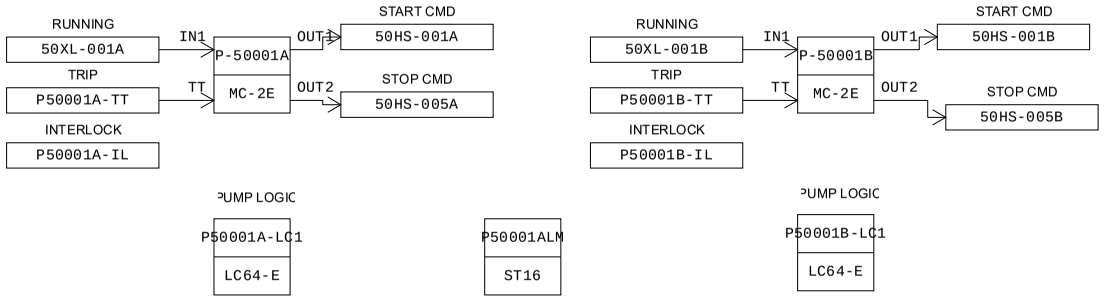
```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name          :  CROSSWIND BLPH
   003        * Project Number            :
   004        * Original Author       :   YOKOGAWA
   005        * Original Date         :   19-11-24
   006        * Function Name         :   FLOW TOTALISER
   007        *
   008        * Revision History      :
   009        *
   010        * Rev#      Date        Author      Description
   011        * ----      --------    ---------   --------------------------------------------------
   012        * 0.0       19-11-24    SK          First Release
   013        ********************************************************************************
   014        while(1)
   015
   016            getdate(YY,MM,DD)
   017            gettime(HH,NN,SS)
   018
   019            format "%02d-%02d-%02d",DD,MM,YY;date
   020            format "%02d:%02d:%02d",HH,NN,SS;timing
   021        !if(HH == 23 and NN == 59 and (SS > 55 and SS <= 60)) then
   022
   023
   024        !if((PURG.STEPNO==3) OR (PURG.STEPNO==4)) then
   025        !for i = 1 to TOTTAG
   026        !       %.CURHR[i]= TAGN[i].SUM
   027        !   if(%.Auto[i] == 1) then
   028        !       %.BFR1[i] = %.THTHR[i]
   029        !       %.THTHR[i] = TAGN[i].SUM
   030        !       %.PRVDY[i] = %.PRVDY[i]+%.BFR1[i]
   031        !       TAGN[i].SUM = 0.0
```

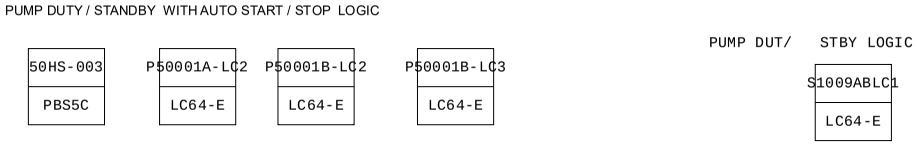
PROJECT:	BLPH-CW1	FILE NAME:	FCS010144-OLD.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-22-15
STATION:	FCS0101	SAVED DATE:	6/10/2025 1:34:22 AM	COMMENT:	FLOW TOTALIZER SFC		
SECTION:	DR0044	PRINTED DATE:	9/15/2025	DRAWER:			

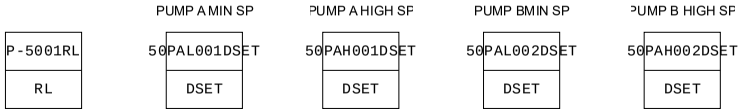
```
032         !       %.CURHR[i]= 0.0
033         !       format "%02d-%02d-%02d  %02d:%02d",DD,MM,YY,HH,NN;DTTM
034         !       %.TIME[i] = DTTM
035         !       end if
036         !next@
037         !delay 9000
038         !end if
039         for i = 1 to TOTTAG
040                 if(BLPH.STATUS[i+420]==1)then !Flow totalizer OFF
041                     %.RST[i]=0
042                 else
043                     %.RST[i]=1
044                 end if
045                 %.CURHR[i]= TAGN[i].SUM
046                 if(%.Auto[i] == 0 and %.RST[i] == 1) then
047                 getdate(YY,MM,DD)
048                 gettime(HH,NN,SS)
049                 format "%02d-%02d-%02d  %02d:%02d",DD,MM,YY,HH,NN;DTTM
050                 %.TIME[i] = DTTM
051                 %.RST[i] = 0
052                 %.PRVDY[i] = %.PRVDY[i]+%.THTHR[i]
053                 %.THTHR[i] = TAGN[i].SUM
054                 TAGN[i].SUM = 0.0
055                 end if
056             next@
057         ********************************************************************************
058         wend
```

PROJECT:	BLPH-CW1	FILE NAME:	DR0046.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:24:19 AM	COMMENT:	P-50001A DUTY/STANDBY PUMP		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0046 | BLPH-CW | TYP004 | DUTY/STANDBY PUMP]







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PROJECT:	BLPH-CW1	FILE NAME:	DR0046.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:24:19 AM	COMMENT:	P-50001A DUTY/STANDBY PUMP		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:P-50001A DUTY/STANDBY PUMP

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	P-50001A	MC-2E	P-50001A SEAWATER PUMP	0.0	100.0	(None)	2-position Status Input		
						3			
002	P-50001B	MC-2E	P-50001B SEAWATER PUMP	0.0	100.0	(None)	2-position Status Input		
						3			
003	50HS-003	PBS5C	DUTY PUMP SELECTION	0	0				
						3			
004	P50001A-LC1	LC64-E	PUMP LOGIC	0	0				
						4			
005	P50001B-LC1	LC64-E	PUMP LOGIC	0	0				
						4			
006	P50001B-LC3	LC64-E	PUMP B D/S LOGIC	0	0				
						4			
007	P50001A-LC2	LC64-E	PUMP A D/S LOGIC	0	0				
						4			
008	P50001B-LC2	LC64-E	PUMP B D/S LOGIC	0	0				
						4			
009	P-5001RL	RL		0	0				
						4			
010	50PAL001DSET	DSET		0.0	100.0	%			
						4			
011	50PAH001DSET	DSET		0.0	100.0	%			
						4			
012	50PAL002DSET	DSET		0.0	100.0	%			
						4			
013	50PAH002DSET	DSET		0.0	100.0	%			
						4			
014	S1009ABLC1	LC64-E	PUMP DUT/ STBY LOGIC	0	0				
						4			
015	P50001ALM	ST16		0	0				
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	P-50001A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-3
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:34:13 AM	COMMENT:	P-50001A SEAWATER PUMP		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P-50001A P-50001A SEAWATER PUMP)

Basic

Tag Name	P-50001A
Model Name	MC-2E
Tag Comment	P-50001A SEAWATER PUMP
Lvl	3
Scan Period	Basic Scan
Switch Position Label	START,,STOP,START
Label	Direct
Input Signal Conversion	
Input Signal Conversion	2-position Status Input
Direction of Answerback	Direct

Tag Detail (P-50001B P-50001B SEAWATER PUMP)

Basic

Tag Name	P-50001B
Model Name	MC-2E
Tag Comment	P-50001B SEAWATER PUMP
Lvl	3
Scan Period	Basic Scan
Switch Position Label	START,,STOP,START
Label	Direct
Input Signal Conversion	
Input Signal Conversion	2-position Status Input
Direction of Answerback	Direct

Tag Detail (50HS-003 DUTY PUMP SELECTION)

Basic

Tag Name	50HS-003
Model Name	PBS5C
Tag Comment	DUTY PUMP SELECTION
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	50HS-003.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	50HS-003.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	50HS-003.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	50HS-003.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	P50001A	P50001A	Gray	Green
002	Not used	OFF	ON	White	Red
003	Button with Lamp	P50001B	P50001B	Gray	Green
004	Not used	OFF	ON	White	Red
005	Not used	OFF	BYP	Gray	Green

Tag Detail (P50001A-LC1 PUMP LOGIC)

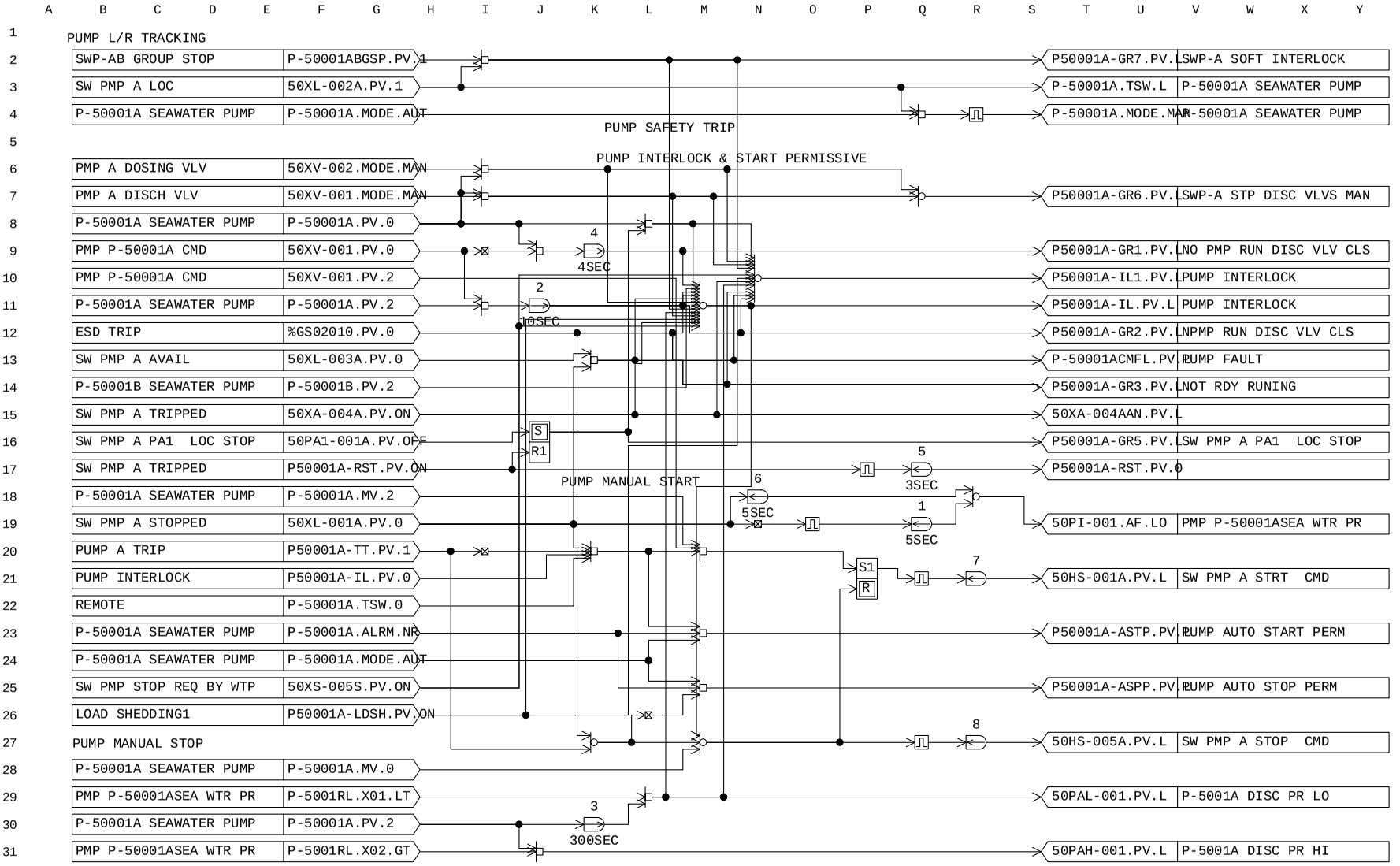
Basic

Tag Name	P50001A-LC1
Model Name	LC64-E
Tag Comment	PUMP LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	P50001A-LC1.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-4
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:17:52 AM	COMMENT:	PUMP LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (P50001A-LC1 PUMP LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



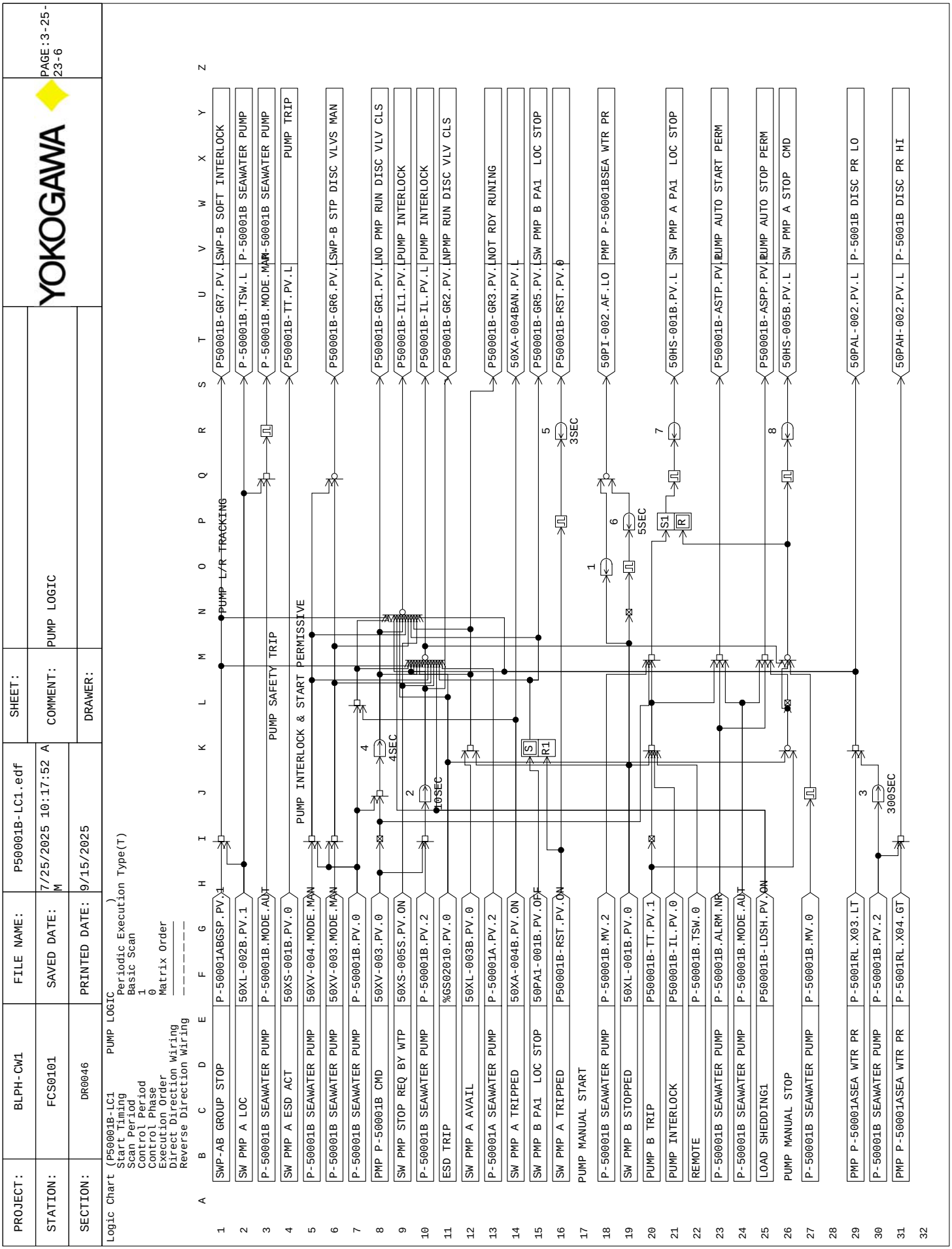
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	P50001B-LC1.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-5
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:17:52 AM	COMMENT:	PUMP LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P50001B-LC1 PUMP LOGIC)

Basic

Tag Name	P50001B-LC1
Model Name	LC64-E
Tag Comment	PUMP LOGIC
Lvl	4


PROJECT: BLPH-CW1
FILE NAME: P50001B-LC1.edf
SHEET:
STATION: FCS0101
SAVED DATE: 7/25/2025 10:17:52 AM
COMMENT: PUMP LOGIC
SECTION: DR0046
PRINTED DATE: 9/15/2025
DRAWER:
YOKOGAWA
PAGE:3-25-23-6
Logic Chart (P50001B-LC1 PUMP LOGIC)
Start Timing Periodic Execution Type(T)
Scan Period Basic Scan
Control Period 1
Control Phase 0
Execution Order Matrix Order
Direct Direction Wiring
Reverse Direction Wiring
PUMP L/R TRACKING
PUMP INTERLOCK & START PERMISSIVE
PUMP SAFETY TRIP
PUMP MANUAL START
PUMP MANUAL STOP
SWP-AB GROUP STOP
SW PMP A LOC
P-50001B SEAWATER PUMP
SW PMP A ESD ACT
P-50001B SEAWATER PUMP
P-50001B SEAWATER PUMP
PMP P-50001B CMD
SW PMP STOP REQ BY WTP
P-50001B SEAWATER PUMP
ESD TRIP
SW PMP A AVAIL
P-50001A SEAWATER PUMP
SW PMP A TRIPPED
SW PMP B PA1 LOC STOP
SW PMP A TRIPPED
P-50001B SEAWATER PUMP
SW PMP B STOPPED
PUMP B TRIP
PUMP INTERLOCK
REMOTE
P-50001B SEAWATER PUMP
P-50001B SEAWATER PUMP
LOAD SHEDDING1
P-50001B SEAWATER PUMP
PMP P-50001ASEA WTR PR
P-50001B SEAWATER PUMP
PMP P-50001ASEA WTR PR
P-50001ABGSP.PV.1
50XL-002B.PV.1
P-50001B.MODE.AUT
50XS-001B.PV.0
50XV-004.MODE.MAN
50XV-003.MODE.MAN
P-50001B.PV.0
50XV-003.PV.0
50XS-005S.PV.ON
P-50001B.PV.2
%GS02010.PV.0
50XL-003B.PV.0
P-50001A.PV.2
50XA-004B.PV.ON
50PA1-001B.PV.OFF
P50001B-RST.PV.ON
P-50001B.MV.2
50XL-001B.PV.0
P50001B-TT.PV.1
P50001B-IL.PV.0
P-50001B.TSW.0
P-50001B.ALRM.NR
P-50001B.MODE.AUT
P50001B-LDSH.PV.ON
P-50001B.MV.0
P-5001RL.X03.LT
P-50001B.PV.2
P-5001RL.X04.GT
P50001B-GR7.PV.L
P-50001B.TSW.L
P-50001B.MODE.MAN
P50001B-TT.PV.L
P50001B-GR6.PV.L
P50001B-GR1.PV.L
P50001B-IL1.PV.L
P50001B-IL.PV.L
P50001B-GR2.PV.L
P50001B-GR3.PV.L
50XA-004BAN.PV.L
P50001B-GR5.PV.L
P50001B-RST.PV.0
50PI-002.AF.LO
50HS-001B.PV.L
P50001B-ASTP.PV.L
50HS-005B.PV.L
P50001B-ASPP.PV.L
50PAL-002.PV.L
50PAH-002.PV.L
SWP-B SOFT INTERLOCK
P-50001B SEAWATER PUMP
P-50001B SEAWATER PUMP
PUMP TRIP
SWP-B STP DISC VLVS MAN
NO PMP RUN DISC VLV CLS
PUMP INTERLOCK
PUMP INTERLOCK
NPMP RUN DISC VLV CLS
NOT RDY RUNING
SW PMP B PA1 LOC STOP
SW PMP A STOP CMD
PMP P-50001BSEA WTR PR
SW PMP A PA1 LOC STOP
PUMP AUTO START PERM
PUMP AUTO STOP PERM
P-5001B DISC PR LO
P-5001B DISC PR HI
4SEC
10SEC
5SEC
3SEC
300SEC

PROJECT:	BLPH-CW1	FILE NAME:	P50001B-LC3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-7
STATION:	FCS0101	SAVED DATE:	5/22/2025 1:26:44 AM	COMMENT:	PUMP B D/S LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P50001B-LC3 PUMP B D/S LOGIC)

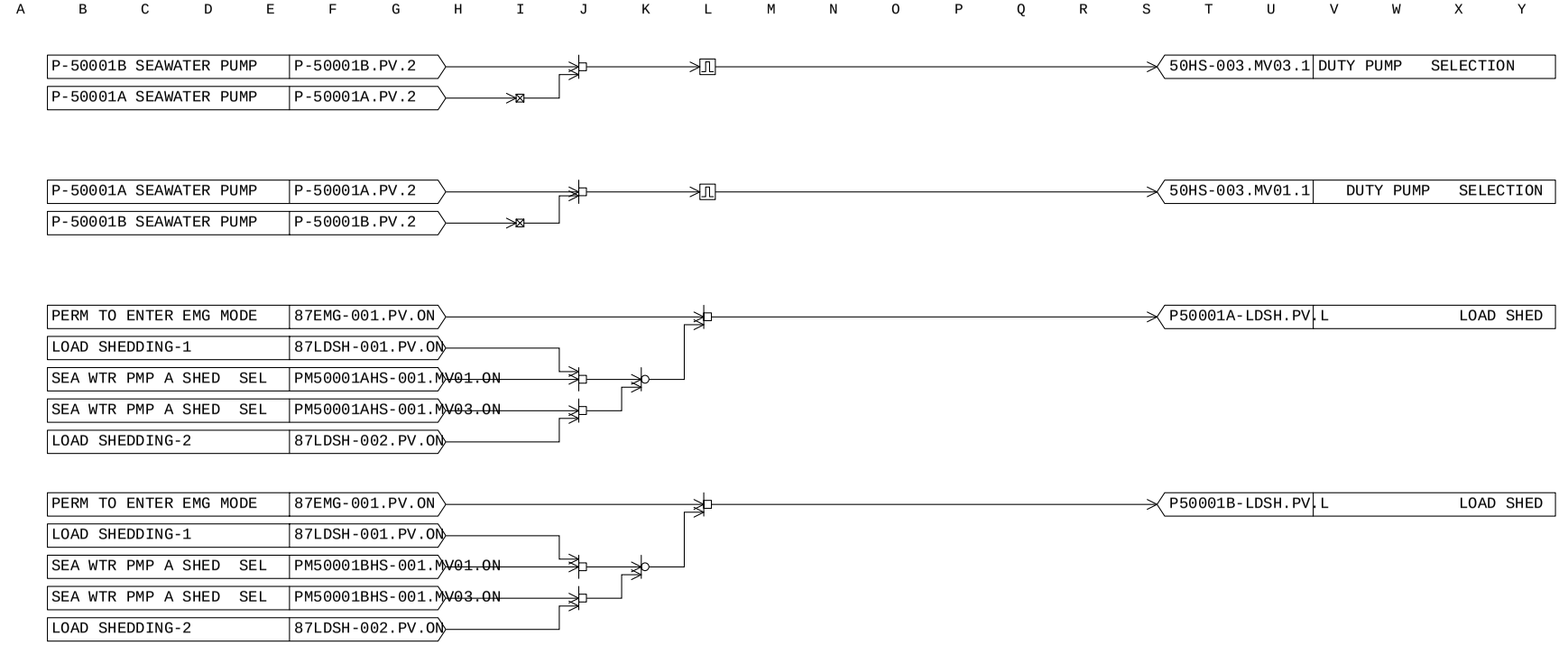
Basic

Tag Name	P50001B-LC3
Model Name	LC64-E
Tag Comment	PUMP B D/S LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	P50001B-LC3.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-8
STATION:	FCS0101	SAVED DATE:	5/22/2025 1:26:44 AM	COMMENT:	PUMP B D/S LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (P50001B-LC3 PUMP B D/S LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	P50001A-LC2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-9
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:49:46 AM	COMMENT:	PUMP A D/S LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P50001A-LC2 PUMP A D/S LOGIC)

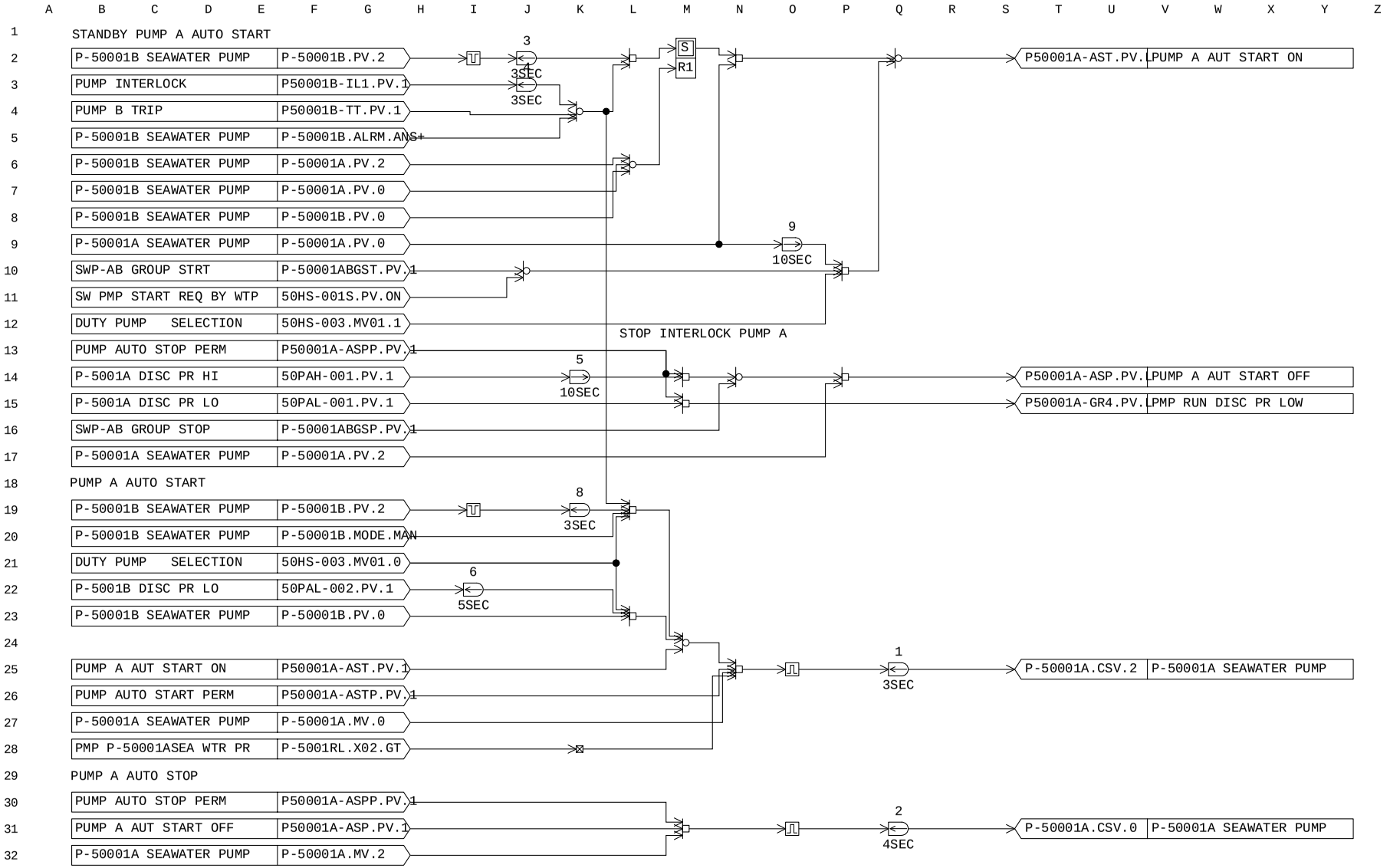
Basic

Tag Name	P50001A-LC2
Model Name	LC64-E
Tag Comment	PUMP A D/S LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	P50001A-LC2.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-10
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:49:46 AM	COMMENT:	PUMP A D/S LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (P50001A-LC2 PUMP A D/S LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	P50001B-LC2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-11
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:13:04 AM	COMMENT:	PUMP B D/S LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P50001B-LC2 PUMP B D/S LOGIC)

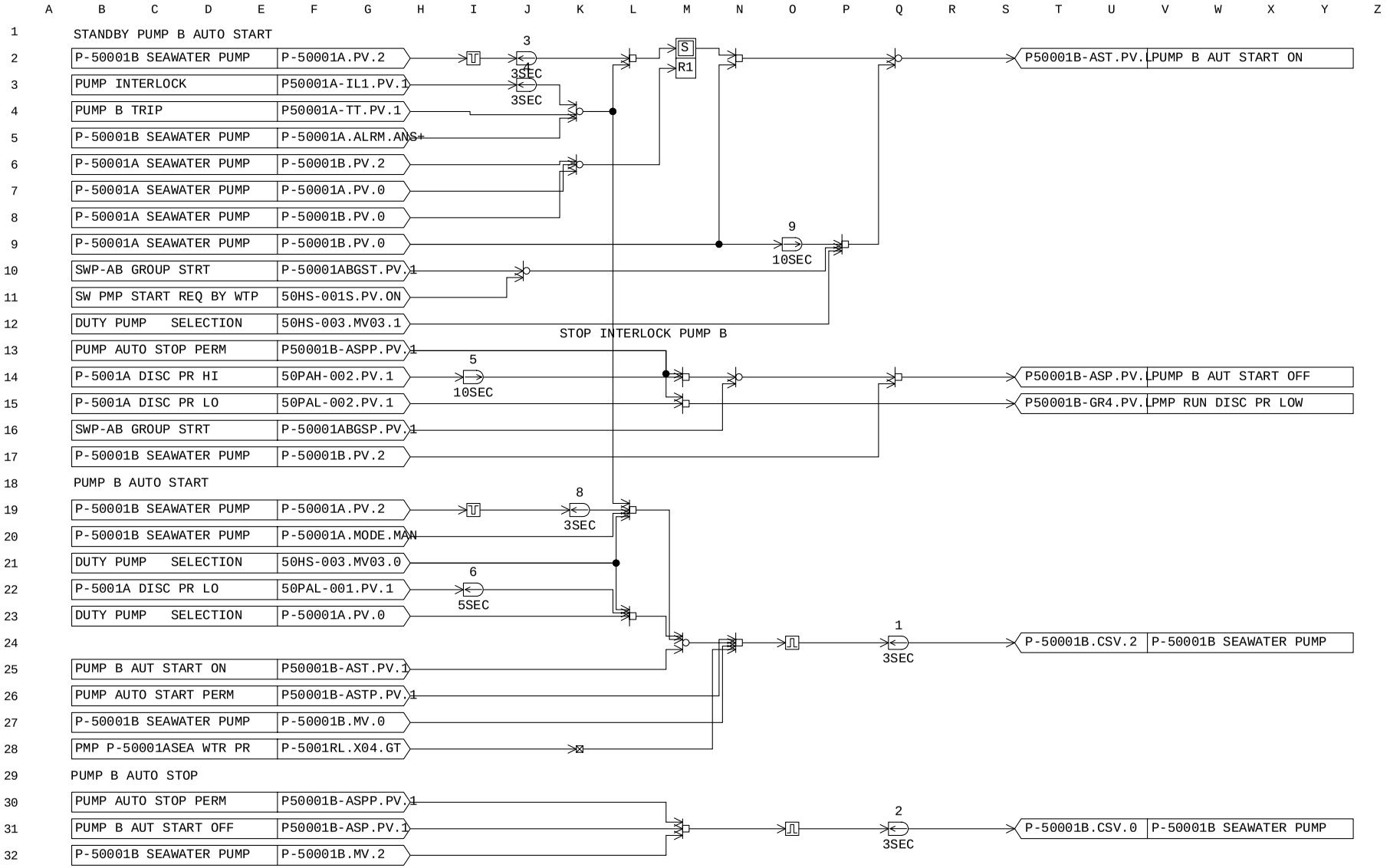
Basic

Tag Name	P50001B-LC2
Model Name	LC64-E
Tag Comment	PUMP B D/S LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	P50001B-LC2.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-12
STATION:	FCS0101	SAVED DATE:	7/25/2025 8:13:04 AM	COMMENT:	PUMP B D/S LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (P50001B-LC2 PUMP B D/S LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	P-5001RL.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-13
STATION:	FCS0101	SAVED DATE:	5/22/2025 1:26:44 AM	COMMENT:			
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P-5001RL)

Basic

Tag Name	P-5001RL
Model Name	RL
Tag Comment	
Lvl	4

Relational Expression

No. X	Operator	Y	Comment
001 50PI-001.PV	Relational Operation	50PAL001DSET.sv	
002 50PI-001.PV	Relational Operation	50PAH001DSET.sv	
003 50PI-002.PV	Relational Operation	50PAL002DSET.sv	
004 50PI-002.PV	Relational Operation	50PAH002DSET.sv	

Tag Detail (50PAL001DSET)

Basic

Tag Name	50PAL001DSET
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (50PAH001DSET)

Basic

Tag Name	50PAH001DSET
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (50PAL002DSET)

Basic

Tag Name	50PAL002DSET
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (50PAH002DSET)

Basic

Tag Name	50PAH002DSET
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (S1009ABLC1 PUMP DUT/ STBY LOGIC)

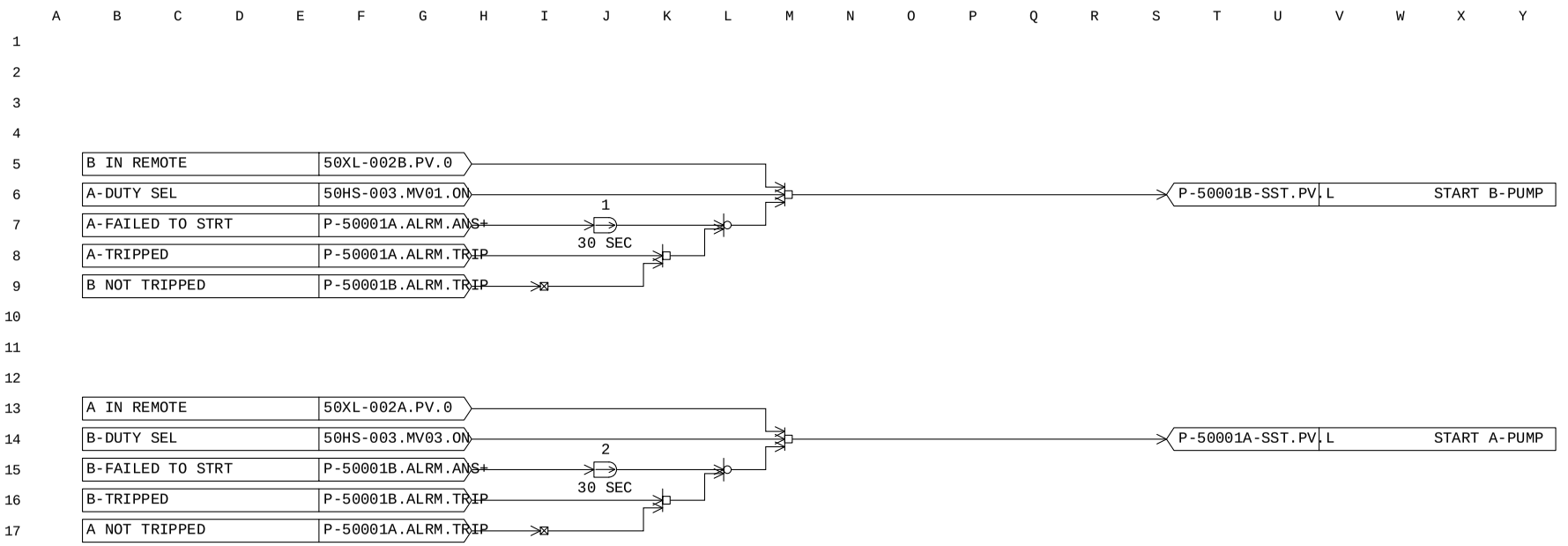
Basic

Tag Name	S1009ABLC1
Model Name	LC64-E
Tag Comment	PUMP DUT/ STBY LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	S1009ABLC1.edf	SHEET:		YOKOGAWA	PAGE:3-25-23-14
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:17:52 AM	COMMENT:	PUMP DUT/ STBY LOGIC		
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (S1009ABLC1 PUMP DUT/ STBY LOGIC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	P50001ALM.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-15
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:17:52 AM	COMMENT:			
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (P50001ALM)

Basic

Tag Name	P50001ALM
Model Name	ST16
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	P50001ALM.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-23-16
STATION:	FCS0101	SAVED DATE:	7/25/2025 10:17:52 AM	COMMENT:			
SECTION:	DR0046	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (P50001ALM)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	P50001A-TT.PV	1	SW PUMP A TRIP	Y								
C02	P50001B-TT.PV	1	SW PMP B T.TRIP	.Y								
C03												
C04												
C05												
C06												
C07												
C08												
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	P50001A-TTAN.PV	L	SW PMP A T.TRIP	Y								
A02	P50001B-TTAN.PV	L	SW PMP B T.TRIP	.Y								
A03												
A04												
A05												
A06												
A07												
A08												
A09												
A10												
A11												
A12												
A13												
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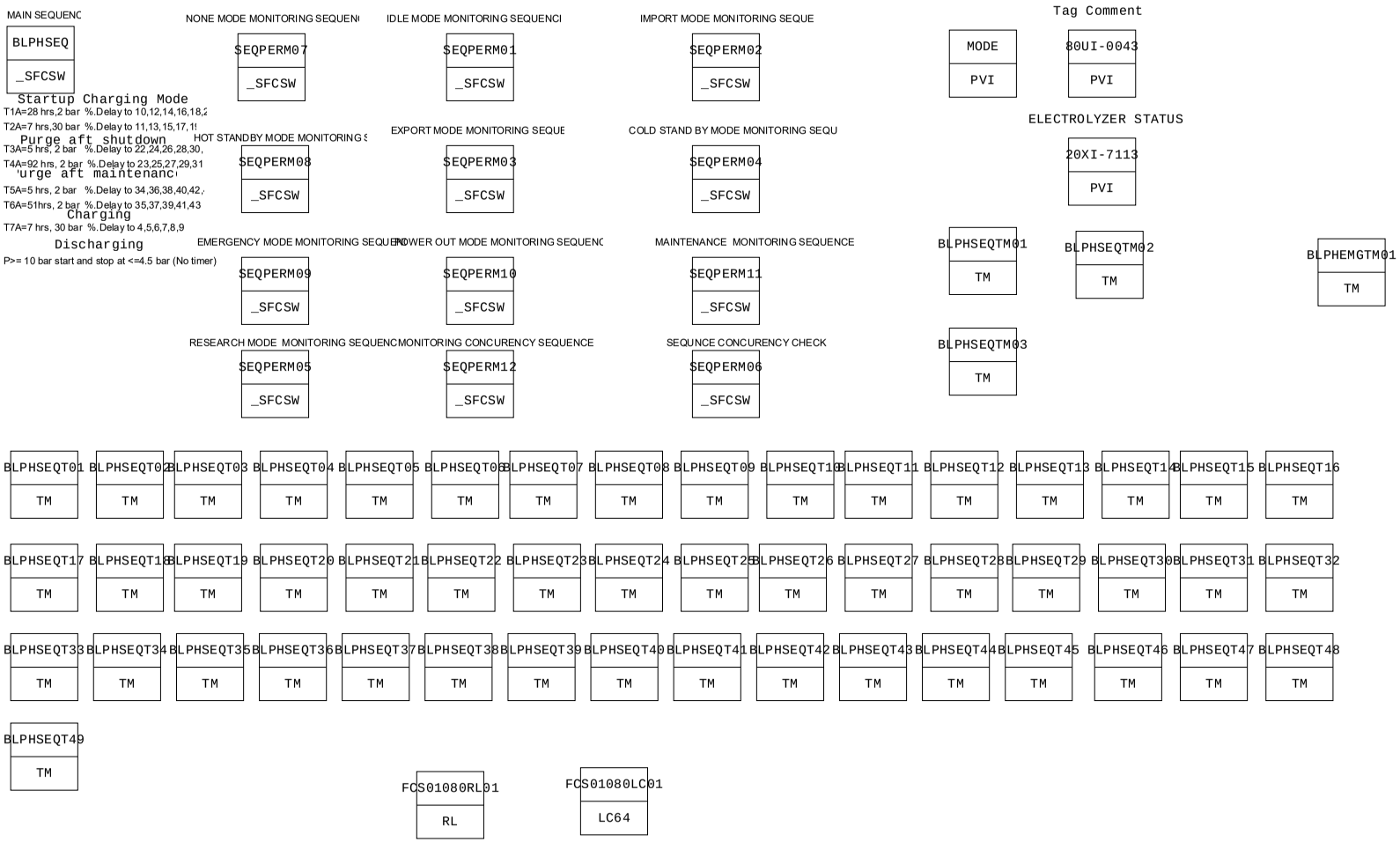
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	DR0080.edf	SHEET:		YOKOGAWA	PAGE:3-25-24-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 4:59:37 AM	COMMENT:	SEQUENCE LOGIC		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0080 | BLPH-CW | SEQUENCE]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0080.edf	SHEET:		YOKOGAWA	PAGE:3-25-24-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 4:59:37 AM	COMMENT:	SEQUENCE LOGIC		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:SEQUENCE LOGIC

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	BLPHSEQ	_SFCSW	MAIN SEQUENCE	0	0				
						4			
002	SEQPERM01	_SFCSW	IDLE MONITORING SEQ	0	0				
						4			
003	SEQPERM03	_SFCSW	EXPORT MONITORING SEQ	0	0				
						4			
004	SEQPERM04	_SFCSW	COLD STDBYMONITORING SEQ	0	0				
						4			
005	SEQPERM05	_SFCSW	RESEARCH MONITORING SEQ	0	0				
						4			
006	MODE	PVI	EMCS CURRENT MODE	0	10	(None)	No	No	
						4			
007	20XI-7113	PVI	ELECTROLYZER STATUS	0.0	100.0	%	No	No	
						4			
008	80UI-0043	PVI		0.0	100.0	%	No	No	
						4			
009	BLPHSEQTM01	TM	SEQUENCE TIMER	0	0				
						4			
010	BLPHSEQT01	TM	SEQUENCE TIMER	0	0				
						3			
011	BLPHSEQT02	TM	SEQUENCE TIMER	0	0				
						3			
012	BLPHSEQT03	TM	SEQUENCE TIMER	0	0				
						3			
013	BLPHSEQT04	TM	T7A	0	0				
						3			
014	BLPHSEQT05	TM	T7B	0	0				
						3			
015	BLPHSEQT06	TM	T7C	0	0				
						3			
016	BLPHSEQT07	TM	T7D	0	0				
						3			
017	BLPHSEQT08	TM	T7E	0	0				
						3			
018	BLPHSEQT09	TM	T7F	0	0				
						3			
019	BLPHSEQT10	TM	T1A	0	0				
						3			
020	BLPHSEQT11	TM	T2A	0	0				
						3			
021	BLPHSEQT12	TM	T1B	0	0				
						3			
022	BLPHSEQT13	TM	T2B	0	0				
						3			
023	BLPHSEQT14	TM	T1C	0	0				
						3			
024	BLPHSEQT15	TM	T2C	0	0				
						3			
025	BLPHSEQT16	TM	T1D	0	0				
						3			
026	BLPHSEQT17	TM	T2D	0	0				
						3			
027	BLPHSEQT18	TM	T1E	0	0				
						3			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0080.edf	SHEET:		YOKOGAWA	PAGE:3-25-24-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 4:59:37 AM	COMMENT:	SEQUENCE LOGIC		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

028	BLPHSEQT19	TM	T2E	0	0	3
029	BLPHSEQT20	TM	T1F	0	0	3
030	BLPHSEQT21	TM	T2F	0	0	3
031	BLPHSEQT22	TM	T3A	0	0	3
032	BLPHSEQT23	TM	T4A	0	0	3
033	BLPHSEQT24	TM	T3B	0	0	3
034	BLPHSEQT25	TM	T4B	0	0	3
035	BLPHSEQT26	TM	T3C	0	0	3
036	BLPHSEQT27	TM	T4C	0	0	3
037	BLPHSEQT28	TM	T3D	0	0	3
038	BLPHSEQT29	TM	T4D	0	0	3
039	BLPHSEQT30	TM	T3E	0	0	3
040	BLPHSEQT31	TM	T4E	0	0	3
041	BLPHSEQT32	TM	T3F	0	0	3
042	BLPHSEQT33	TM	T4F	0	0	3
043	SEQPERM02	_SFCSW	IMPORT MONITORING SEQ	0	0	4
044	SEQPERM06	_SFCSW	CONCRRENCYMONITORING SEQ	0	0	4
045	SEQPERM07	_SFCSW	MONITORING SEQ	0	0	4
046	SEQPERM08	_SFCSW	HOT STDBY MONITORING SEQ	0	0	4
047	SEQPERM09	_SFCSW	EMERGENCY MONITORING	0	0	4
048	SEQPERM10	_SFCSW	POWERCUT MONITORING SEQ	0	0	4
049	SEQPERM11	_SFCSW	MAINTENANCMONITORING SEQ	0	0	4
050	BLPHSEQTM02	TM	SEQUENCE TIMER	0	0	4
051	BLPHSEQT34	TM	SEQUENCE TIMER	0	0	3
052	BLPHSEQT35	TM	SEQUENCE TIMER	0	0	3
053	BLPHSEQT36	TM	SEQUENCE TIMER	0	0	3
054	BLPHSEQT37	TM	SEQUENCE TIMER	0	0	3
055	BLPHSEQT38	TM	SEQUENCE TIMER	0	0	3
056	BLPHSEQT39	TM	SEQUENCE TIMER	0	0	3
057	BLPHSEQT40	TM	SEQUENCE TIMER	0	0	

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PROJECT:	BLPH-CW1	FILE NAME:	DR0080.edf	SHEET:		YOKOGAWA	PAGE:3-25-24-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 4:59:37 AM	COMMENT:	SEQUENCE LOGIC		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

058	BLPHSEQT41	TM	SEQUENCE TIMER	0	0	3
059	BLPHSEQT42	TM	SEQUENCE TIMER	0	0	3
060	BLPHSEQT43	TM	SEQUENCE TIMER	0	0	3
061	BLPHSEQT44	TM	SEQUENCE TIMER	0	0	3
062	BLPHSEQT45	TM	SEQUENCE TIMER	0	0	3
063	BLPHEMGTM01	TM	SEQUENCE TIMER	0	0	3
064	FCS01080RL01	RL		0	0	4
065	FCS01080LC01	LC64		0	0	4
066	SEQPERM12	_SFCSW	MONITORING CONCURENCY	0	0	4
067	BLPHSEQTM03	TM	SEQUENCE TIMER	0	0	4
068	BLPHSEQT46	TM	SEQUENCE TIMER	0	0	4
069	BLPHSEQT47	TM	SEQUENCE TIMER	0	0	3
070	BLPHSEQT48	TM	SEQUENCE TIMER	0	0	3
071	BLPHSEQT49	TM	SEQUENCE TIMER	0	0	3
						3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQ.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MAIN SEQUENCE		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (BLPHSEQ MAIN SEQUENCE)

Basic

Tag Name	BLPHSEQ
Model Name	_SFCSW
Tag Comment	MAIN SEQUENCE
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	BLPH
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Periodic Execution
After step transition	Continue

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQ.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MAIN SEQUENCE		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (BLPHSEQ MAIN SEQUENCE)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	SWPBEN	I16	5	0	ENBALING SOFT PB	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	DLY	I16	50	0	DELAY TIME	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
003	OPMSG	CHR16	4	0	OPRN MASSAGE	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
004	STEP	I16	50	0	STEP INDICATION	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
005	STATE	CHR16	0	0	MODE INDICATION	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
006	STATUS	I16	450	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
007	TRANSIT	I16	0	0	STEP TRANSITION	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
008	APSIND	I16	100	0	OVERVIEW IND	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
009	DISCHRG	I16	0	0	DISCHARGE ENTER	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
010	CHRG	F32	0	0	ENTERED CHARGE	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
011	SHTPUR	F32	0	0	SHUTDOWN PURGE	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
012	MNTPUR	F32	0	0	MNT PURGE	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
013	STUPCHR	F32	0	0	STARUP CHARGE	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	IDLE MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM01 IDLE MONITORING SEQ)

Basic

Tag Name	SEQPERM01
Model Name	_SFCSW
Tag Comment	IDLE MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	MONITOR
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	IDLE MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM01 IDLE MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	EXPORT MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM03 EXPORT MONITORING SEQ)

Basic

Tag Name	SEQPERM03
Model Name	_SFCSW
Tag Comment	EXPORT MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	EXPRTMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	EXPORT MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM03 EXPORT MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	COLD STDBYMONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM04 COLD STDBYMONITORING SEQ)

Basic

Tag Name	SEQPERM04
Model Name	_SFCSW
Tag Comment	COLD STDBYMONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	CLDSBMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	COLD STDBYMONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM04 COLD STDBYMONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	RESEARCH MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM05 RESEARCH MONITORING SEQ)

Basic

Tag Name	SEQPERM05
Model Name	_SFCSW
Tag Comment	RESEARCH MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	RSRGMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	RESEARCH MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM05 RESEARCH MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	H2ILK	I16	0	0		(None)	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	MODE.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	EMCS CURRENT MODE		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (MODE EMCS CURRENT MODE)

Basic

Tag Name	MODE
Model Name	PVI
Tag Comment	EMCS CURRENT MODE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20XI-7113 ELECTROLYZER STATUS)

Basic

Tag Name	20XI-7113
Model Name	PVI
Tag Comment	ELECTROLYZER STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80UI-0043)

Basic

Tag Name	80UI-0043
Model Name	PVI
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (BLPHSEQTM01 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQTM01
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	4
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT01 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT01
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Second Timer

Tag Detail (BLPHSEQT02 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT02
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQT02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-16
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	SEQUENCE TIMER		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (BLPHSEQT03 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT03
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT04 T7A)

Basic

Tag Name	BLPHSEQT04
Model Name	TM
Tag Comment	T7A
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT05 T7B)

Basic

Tag Name	BLPHSEQT05
Model Name	TM
Tag Comment	T7B
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT06 T7C)

Basic

Tag Name	BLPHSEQT06
Model Name	TM
Tag Comment	T7C
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT07 T7D)

Basic

Tag Name	BLPHSEQT07
Model Name	TM
Tag Comment	T7D
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT08 T7E)

Basic

Tag Name	BLPHSEQT08
Model Name	TM
Tag Comment	T7E
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT09 T7F)

Basic

Tag Name	BLPHSEQT09
Model Name	TM
Tag Comment	T7F
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT10 T1A)

Basic

Tag Name	BLPHSEQT10
Model Name	TM
Tag Comment	T1A

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQT10.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-17
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	T1A		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT11 T2A)

Basic

	Tag Name	BLPHSEQT11
	Model Name	TM
	Tag Comment	T2A
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT12 T1B)

Basic

	Tag Name	BLPHSEQT12
	Model Name	TM
	Tag Comment	T1B
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT13 T2B)

Basic

	Tag Name	BLPHSEQT13
	Model Name	TM
	Tag Comment	T2B
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT14 T1C)

Basic

	Tag Name	BLPHSEQT14
	Model Name	TM
	Tag Comment	T1C
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT15 T2C)

Basic

	Tag Name	BLPHSEQT15
	Model Name	TM
	Tag Comment	T2C
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT16 T1D)

Basic

	Tag Name	BLPHSEQT16
	Model Name	TM
	Tag Comment	T1D
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT17 T2D)

Basic

	Tag Name	BLPHSEQT17
	Model Name	TM
	Tag Comment	T2D
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQT17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-18
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	T2D		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (BLPHSEQT18 T1E)

Basic

Tag Name	BLPHSEQT18
Model Name	TM
Tag Comment	T1E
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT19 T2E)

Basic

Tag Name	BLPHSEQT19
Model Name	TM
Tag Comment	T2E
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT20 T1F)

Basic

Tag Name	BLPHSEQT20
Model Name	TM
Tag Comment	T1F
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT21 T2F)

Basic

Tag Name	BLPHSEQT21
Model Name	TM
Tag Comment	T2F
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT22 T3A)

Basic

Tag Name	BLPHSEQT22
Model Name	TM
Tag Comment	T3A
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT23 T4A)

Basic

Tag Name	BLPHSEQT23
Model Name	TM
Tag Comment	T4A
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT24 T3B)

Basic

Tag Name	BLPHSEQT24
Model Name	TM
Tag Comment	T3B
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT25 T4B)

Basic

Tag Name	BLPHSEQT25
Model Name	TM
Tag Comment	T4B

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQT25.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-19
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	T4B		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT26 T3C)

Basic

	Tag Name	BLPHSEQT26
	Model Name	TM
	Tag Comment	T3C
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT27 T4C)

Basic

	Tag Name	BLPHSEQT27
	Model Name	TM
	Tag Comment	T4C
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT28 T3D)

Basic

	Tag Name	BLPHSEQT28
	Model Name	TM
	Tag Comment	T3D
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT29 T4D)

Basic

	Tag Name	BLPHSEQT29
	Model Name	TM
	Tag Comment	T4D
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT30 T3E)

Basic

	Tag Name	BLPHSEQT30
	Model Name	TM
	Tag Comment	T3E
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT31 T4E)

Basic

	Tag Name	BLPHSEQT31
	Model Name	TM
	Tag Comment	T4E
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

Tag Detail (BLPHSEQT32 T3F)

Basic

	Tag Name	BLPHSEQT32
	Model Name	TM
	Tag Comment	T3F
	Lvl	3
	Scan Period	Basic Scan
	Timer Property	Minute Timer

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQT32.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-20
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	T3F		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (BLPHSEQT33 T4F)

Basic

Tag Name	BLPHSEQT33
Model Name	TM
Tag Comment	T4F
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (SEQPERM02 IMPORT MONITORING SEQ)

Basic

Tag Name	SEQPERM02
Model Name	_SFCSW
Tag Comment	IMPORT MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	IMPRTMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-21
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	IMPORT MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM02 IMPORT MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-22
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	CONCRRENCYMONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM06 CONCRRENCYMONITORING SEQ)

Basic

Tag Name	SEQPERM06
Model Name	_SFCSW
Tag Comment	CONCRRENCYMONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	SEQCN
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-23
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	CONCRRENCYMONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM06 CONCRRENCYMONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	H2ILK	I16	0	0		(None)	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM07.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-24
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM07 MONITORING SEQ)

Basic

Tag Name	SEQPERM07
Model Name	_SFCSW
Tag Comment	MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	NONEMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM07.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-25
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM07 MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	H2ILK	I16	0	0		(None)	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM08.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-26
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	HOT STDBY MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM08 HOT STDBY MONITORING SEQ)

Basic

Tag Name	SEQPERM08
Model Name	_SFCSW
Tag Comment	HOT STDBY MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	HOTSBMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM08.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-27
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	HOT STDBY MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM08 HOT STDBY MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM09.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-28
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	EMERGENCY MONITORING		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM09 EMERGENCY MONITORING)

Basic

Tag Name	SEQPERM09
Model Name	_SFCSW
Tag Comment	EMERGENCY MONITORING
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	EMERGMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM09.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-29
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	EMERGENCY MONITORING		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM09 EMERGENCY MONITORING)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination	0		always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM10.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-30
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	POWERCUT MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM10 POWERCUT MONITORING SEQ)

Basic

Tag Name	SEQPERM10
Model Name	_SFCSW
Tag Comment	POWERCUT MONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	PWROTMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM10.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-31
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	POWERCUT MONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM10 POWERCUT MONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM11.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-32
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MAINTENANCMONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM11 MAINTENANCMONITORING SEQ)

Basic

Tag Name	SEQPERM11
Model Name	_SFCSW
Tag Comment	MAINTENANCMONITORING SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	MNTNCMON
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM11.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-33
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MAINTENANCMONITORING SEQ		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM11 MAINTENANCMONITORING SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQTM02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-34
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	SEQUENCE TIMER		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (BLPHSEQTM02 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQTM02
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	4
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT34 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT34
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT35 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT35
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT36 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT36
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT37 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT37
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT38 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT38
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT39 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT39
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT40 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT40
Model Name	TM
Tag Comment	SEQUENCE TIMER

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQT40.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-35
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	SEQUENCE TIMER		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT41 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT41
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT42 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT42
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT43 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT43
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT44 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT44
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT45 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT45
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHEMGTM01 SEQUENCE TIMER)

Basic

Tag Name	BLPHEMGTM01
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	4
Scan Period	Basic Scan
Timer Property	Second Timer

Tag Detail (FCS01080RL01)

Basic

Tag Name	FCS01080RL01
Model Name	RL
Tag Comment	
Lvl	4

Relational Expression

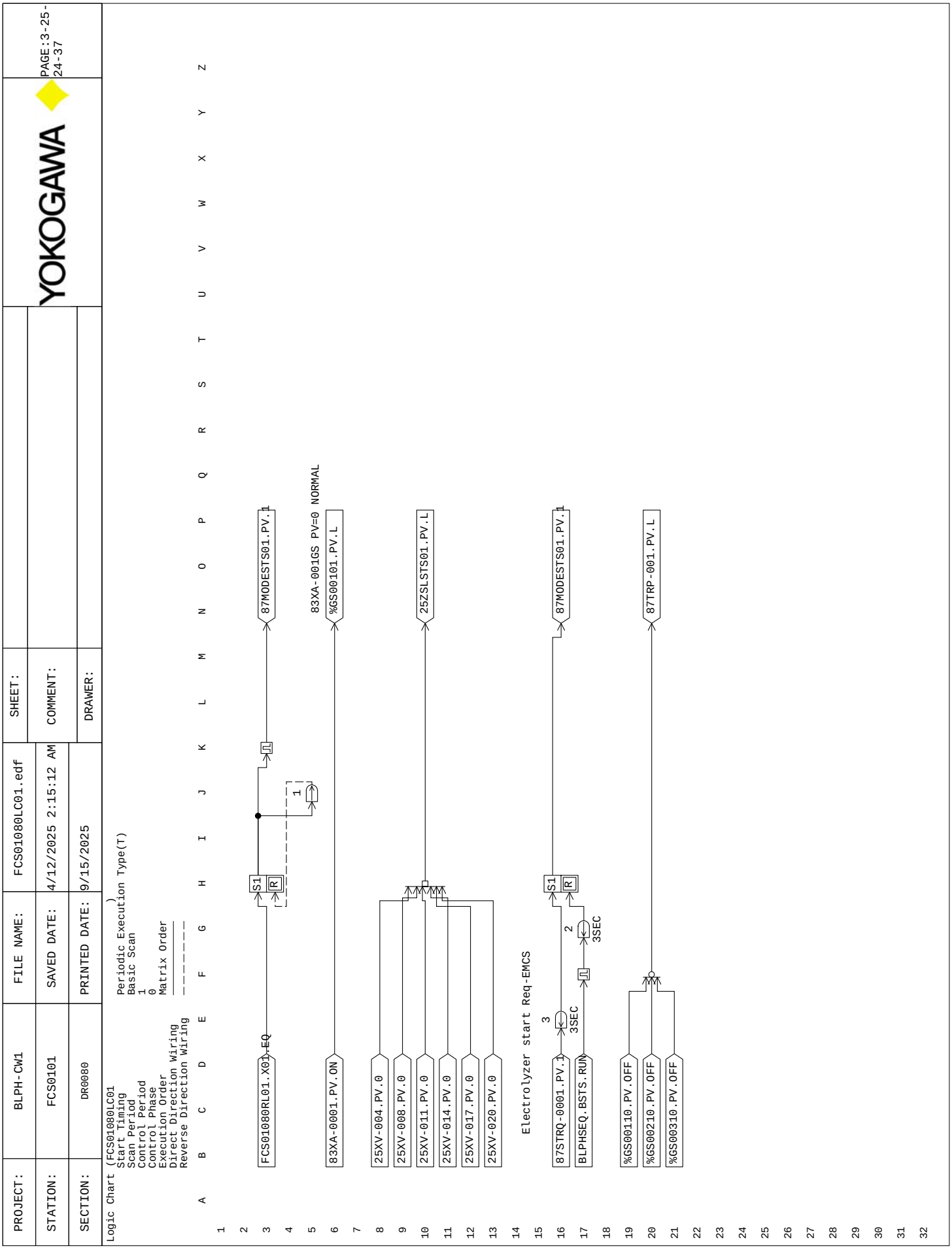
PROJECT:	BLPH-CW1	FILE NAME:	FCS01080RL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-36
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:			
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

No.	X	Operator	Y	Comment
001	87MODE-001.PV	Relational Operation	1	IDLE
002	87MODE-001.PV	Relational Operation	2	IMPORT
003	87MODE-001.PV	Relational Operation	3	IMPORT
004	87MODE-001.PV	Relational Operation	4	
005	87MODE-001.PV	Relational Operation	5	
006	87MODE-001.PV	Relational Operation	6	
007	87MODE-001.PV	Relational Operation	7	
008	87MODE-001.PV	Relational Operation	8	
009	87MODE-001.PV	Relational Operation	9	
010	87MODE-001.PV	Relational Operation	10	
011	87MODE-001.PV	Relational Operation	11	
012	87MODE-001.PV	Relational Operation	12	
013	87MODE-001.PV	Relational Operation	13	

Tag Detail (FCS01080LC01)

Basic

Tag Name	FCS01080LC01
Model Name	LC64
Tag Comment	
Lvl	4


PROJECT: BLPH-CW1
STATION: FCS0101
SECTION: DR0080
FILE NAME: FCS01080LC01.edf
SAVED DATE: 4/12/2025 2:15:12 AM
PRINTED DATE: 9/15/2025
SHEET:
COMMENT:
DRAWER:
YOKOGAWA
PAGE:3-25-24-37
Logic Chart (FCS01080LC01
Start Timing
Scan Period
Control Period
Control Phase
Execution Order
Direct Direction Wiring
Reverse Direction Wiring
Periodic Execution Type(T)
Basic Scan
1
0
Matrix Order
FCS01080RL01.X01.EQ
83XA-0001.PV.ON
25XV-004.PV.0
25XV-008.PV.0
25XV-011.PV.0
25XV-014.PV.0
25XV-017.PV.0
25XV-020.PV.0
87STRQ-0001.PV.1
BLPHSEQ.BSTS.RUN
%GS00110.PV.OFF
%GS00210.PV.OFF
%GS00310.PV.OFF
87MODESTS01.PV.1
83XA-001GS PV=0 NORMAL
%GS00101.PV.L
25ZSLSTS01.PV.L
87TRP-001.PV.L
Electrolyzer start Req-EMCS
3SEC
S1
R

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM12.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-38
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MONITORING CONCURENCY		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM12 MONITORING CONCURENCY)

Basic

Tag Name	SEQPERM12
Model Name	_SFCSW
Tag Comment	MONITORING CONCURENCY
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	CONCMNTR
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM12.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-39
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	MONITORING CONCURENCY		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM12 MONITORING CONCURENCY)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	STATUS	I16	50	0	STATUS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	H2ILK	I16	0	0		(None)	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	BLPHSEQTM03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-24-40
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:12 AM	COMMENT:	SEQUENCE TIMER		
SECTION:	DR0080	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (BLPHSEQTM03 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQTM03
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	4
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT46 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT46
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT47 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT47
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT48 SEQUENCE TIMER)

Basic

Tag Name	BLPHSEQT48
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

Tag Detail (BLPHSEQT49 SEQUENCE TIMER)

Basic

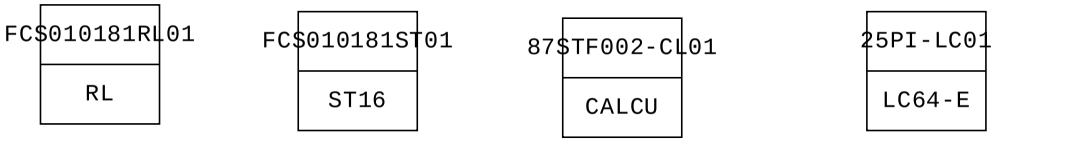
Tag Name	BLPHSEQT49
Model Name	TM
Tag Comment	SEQUENCE TIMER
Lvl	3
Scan Period	Basic Scan
Timer Property	Minute Timer

TIMER SEC TO HR_MIN CONV ALARM SEQ ALARM SUP LOGIC BLPHSEQ RESEARCH MODE BLPHSEQ EMERGENCY MODE



ESD-1D,ESD,ASD Trip

FUEL CELL RN STS 25 PI ALRM SUPPRESS



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0081.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-2
STATION:	FCS0101	SAVED DATE:	7/12/2025 8:31:47 AM	COMMENT:	SEQUENCE LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:SEQUENCE LOGIC

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	SEQPERM13	_SFCSW	TIMER SEC TO HR_MIN CONV	0	0				
						4			
002	SEQPERM14	_SFCSW	ALARM SEQ	0	0				
						4			
003	SEQPERM15	_SFCSW	ALARM SUP LOGIC	0	0				
						4			
004	SEQPERM16	_SFCSW	BLPHSEQ RESEARCH MODE	0	0				
						4			
005	FCS010181RL01	RL	TIMER CTUP ALARMS	0	0				
						4			
006	FCS010181ST01	ST16		0	0				
						4			
007	87STF002-CL01	CALCU	FUEL CELL RN STS	0.0	100.0	%	No	No	
						4			
008	SEQPERM17	_SFCSW	BLPHSEQ EMERGENCY MODE	0	0				
						4			
009	25PI-LC01	LC64-E	25 PI ALRM SUPPRESS	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-3
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM13 TIMER SEC TO HR_MIN CONV)

Basic

Tag Name	SEQPERM13
Model Name	_SFCSW
Tag Comment	TIMER SEC TO HR_MIN CONV
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-4
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM13 TIMER SEC TO HR_MIN CONV)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	HR	I16	53	0	HOURS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	MIN	I16	53	0	MINS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-5
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (SEQPERM13 TIMER SEC TO HR_MIN CONV)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-6
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail (SEQPERM13 TIMER SEC TO HR_MIN CONV)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	4	4	TIMER LOGIC				SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-7
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SFC (SEQPERM13 TIMER SEC TO HR_MIN CONV)

Plane Number: 0 Comment:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2																				
3																				
4				01	-TIMER LOGIC															

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-8
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement (SEQPERM13 TIMER SEC TO HR_MIN CONV)
Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:TIMER LOGIC X: 4 Y: 4

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :   1724000594
   004        * Original Author   : Yokogawa
   005        * Original Date     : 19 August 2024
   006        * State No             : 1
   007        * State Name           : TIMER LOGIC
   008        * Description      : This phase is for calculating time in HRS and ESD-1D,ESD/ASD Trip
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                    Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024
   025        global             genname     TM               TMR[53]
   026        global             genname     _SFCSW             BLPH
   027        global             genname     %SW              ESDTRP
   028
   029        global integer i,j                   !HR[53],MIN[53]
   030        ********************************************************************************
   031        *   ASSIGNING VARIABLES
   032        ********************************************************************************
   033        assign           "BLPHSEQTM01"       to       TMR[1]
   034        assign           "BLPHSEQTM02"       to       TMR[2]
   035        assign           "BLPHSEQTM03"       to       TMR[3]
   036        assign           "BLPHEMGTM01"       to       TMR[4]
   037        assign           "BLPHSEQT01"        to       TMR[5]
   038        assign           "BLPHSEQT02"        to       TMR[6]
   039        assign           "BLPHSEQT03"        to       TMR[7]
   040        assign           "BLPHSEQT04"        to       TMR[8]
   041        assign           "BLPHSEQT05"        to       TMR[9]
   042        assign           "BLPHSEQT06"        to       TMR[10]
   043        assign           "BLPHSEQT07"        to       TMR[11]
   044        assign           "BLPHSEQT08"        to       TMR[12]
   045        assign           "BLPHSEQT09"        to       TMR[13]
   046        assign           "BLPHSEQT10"        to       TMR[14]
   047        assign           "BLPHSEQT11"        to       TMR[15]
   048        assign           "BLPHSEQT12"        to       TMR[16]
   049        assign           "BLPHSEQT13"        to       TMR[17]
   050        assign           "BLPHSEQT14"        to       TMR[18]
   051        assign           "BLPHSEQT15"        to       TMR[19]
   052        assign           "BLPHSEQT16"        to       TMR[20]
   053        assign           "BLPHSEQT17"        to       TMR[21]
   054        assign           "BLPHSEQT18"        to       TMR[22]
   055        assign           "BLPHSEQT19"        to       TMR[23]
   056        assign           "BLPHSEQT20"        to       TMR[24]
   057        assign           "BLPHSEQT21"        to       TMR[25]
   058        assign           "BLPHSEQT22"        to       TMR[26]
   059        assign           "BLPHSEQT23"        to       TMR[27]
   060        assign           "BLPHSEQT24"        to       TMR[28]
   061        assign           "BLPHSEQT25"        to       TMR[29]
   062        assign           "BLPHSEQT26"        to       TMR[30]
   063        assign           "BLPHSEQT27"        to       TMR[31]
   064        assign           "BLPHSEQT28"        to       TMR[32]
   065        assign           "BLPHSEQT29"        to       TMR[33]
   066        assign           "BLPHSEQT30"        to       TMR[34]
   067        assign           "BLPHSEQT31"        to       TMR[35]
   068        assign           "BLPHSEQT32"        to       TMR[36]
   069        assign           "BLPHSEQT33"        to       TMR[37]
   070        assign           "BLPHSEQT34"        to       TMR[38]
   071        assign           "BLPHSEQT35"        to       TMR[39]
   072        assign           "BLPHSEQT36"        to       TMR[40]
   073        assign           "BLPHSEQT37"        to       TMR[41]
   074        assign           "BLPHSEQT38"        to       TMR[42]
   075        assign           "BLPHSEQT39"        to       TMR[43]
   076        assign           "BLPHSEQT40"        to       TMR[44]
   077        assign           "BLPHSEQT41"        to       TMR[45]
   078        assign           "BLPHSEQT42"        to       TMR[46]
   079        assign           "BLPHSEQT43"        to       TMR[47]
   080        assign           "BLPHSEQT44"        to       TMR[48]
   081        assign           "BLPHSEQT45"        to       TMR[49]
   082        assign           "BLPHSEQT46"        to       TMR[50]
   083        assign           "BLPHSEQT47"        to       TMR[51]
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM13.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-9
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	TIMER SEC TO HR_MIN CONV		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
084       assign          "BLPHSEQT48"       to       TMR[52]
085       assign          "BLPHSEQT49"       to       TMR[53]
086
087       assign          "87TRP-001"        to       ESDTRP
088       assign          "BLPHSEQ"       to       BLPH
089
090       while(1)
091
092       for i=1 to 53
093
094       %.HR[i]= TMR[i].DV/60                                  ! Finding remaining HRS,  actual timer in sec
095       if (%.HR[i]>=1)  then
096        %.MIN[i]= (TMR[i].DV - (%.HR[i]*60))                 ! Finding remaining MINS, actual timer in sec
097       else
098         %.MIN[i]= (TMR[i].DV)
099       end if
100
101       next@
102
103       if(ESDTRP.PV==1 and j==0)then
104       BLPH.BSTS="PAUS"
105       DELAY 3000
106       BLPH.STEPNO=26
107       BLPH.BSTS="RUN"
108       j=1
109       else if(ESDTRP.PV==0 and j==1)then
110       j=0
111       end if
112       wend
113
114
115       !_____________________________________________________________________________
116       !%.HR[i]= TMR[i].DV/3600                                ! Finding remaining HRS,  actual timer in sec
117       !if (%.HR[i]>1)  then
118       ! %.MIN[i]= (TMR[i].DV - (%.HR[i]*3600))/60             ! Finding remaining MINS, actual timer in sec
119       !else
120       !  %.MIN[i]= (TMR[i].DV)/60
121       !end if
122       !_____________________________________________________________________________
```

Tag Detail (SEQPERM14 ALARM SEQ)

Basic

Tag Name	SEQPERM14
Model Name	_SFCSW
Tag Comment	ALARM SEQ
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM14.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-10
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SEQ		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM14 ALARM SEQ)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	HR	I16	50	0	HOURS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	MIN	I16	50	0	MINS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM14.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-11
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SEQ		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (SEQPERM14 ALARM SEQ)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM14.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-12
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SEQ		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail (SEQPERM14 ALARM SEQ)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	4	4	ALARM LOGIC				SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM14.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-13
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SEQ		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SFC (SEQPERM14 ALARM SEQ)

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM14.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-14
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SEQ		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement (SEQPERM14 ALARM SEQ)
Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:ALARM LOGIC X: 4 Y: 4

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        : 1724000594
   004        * Original Author   : Yokogawa
   005        * Original Date     : 19 August 2024
   006        * State No          : 1
   007        * State Name           : ANNUNCIATOR LOGIC
   008        * Description      : This phase is for triggering annunciator alarm
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024
   025
   026        global             genname    _SFCSW        BLPH                              ! SEQUENCE
   027        global             genname    AN            SVSLA,SVSLB,SVSLC,SVSLD,SVSLE,SVSLF,CVSLA,CVSLB,CVSLC,CVSLD,CVSLE,CVSLF,PI35LO,PI37LO,
              PI40LO, PI43LO,PI46LO, PI49LO       ! ANNUNCIATOR
   028
   029
   030        !global integer i                   !HR[50],MIN[50]
   031        ********************************************************************************
   032        *   ASSIGNING VARIABLES
   033        ********************************************************************************
   034        assign           "BLPHSEQ"        to       BLPH
   035
   036        assign           "25STVSLAAN"       to       SVSLA
   037        assign           "25STVSLBAN"       to       SVSLB
   038        assign           "25STVSLCAN"       to       SVSLC
   039        assign           "25STVSLDAN"       to       SVSLD
   040        assign           "25STVSLEAN"       to       SVSLE
   041        assign           "25STVSLFAN"       to       SVSLF
   042        assign              "25PI-035LOAN"      to          PI35LO
   043        assign              "25PI-037LOAN"      to          PI37LO
   044        assign              "25PI-040LOAN"      to          PI40LO
   045        assign              "25PI-043LOAN"      to          PI43LO
   046        assign              "25PI-046LOAN"      to          PI46LO
   047        assign              "25PI-049LOAN"      to          PI49LO
   048
   049        assign           "25CHRVSLAAN"       to      CVSLA
   050        assign           "25CHRVSLBAN"       to      CVSLB
   051        assign           "25CHRVSLCAN"       to      CVSLC
   052        assign           "25CHRVSLDAN"       to      CVSLD
   053        assign           "25CHRVSLEAN"       to      CVSLE
   054        assign           "25CHRVSLFAN"       to      CVSLF
   055
   056
   057        while(1)
   058
   059        !CHARGING
   060
   061        if (BLPH.STATUS[147]==1 ) then
   062         CVSLA.PV=1
   063        else
   064         CVSLA.PV=0
   065        end if
   066
   067        if (BLPH.STATUS[153]==1 ) then
   068         CVSLB.PV=1
   069        else
   070         CVSLB.PV=0
   071        end if
   072
   073        if (BLPH.STATUS[159]==1 ) then
   074         CVSLC.PV=1
   075        else
   076         CVSLC.PV=0
   077        end if
   078
   079        if (BLPH.STATUS[165]==1 ) then
   080         CVSLD.PV=1
   081        else
   082         CVSLD.PV=0
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM14.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-15
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SEQ		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
083        end if
084
085        if (BLPH.STATUS[171]==1 ) then
086         CVSLE.PV=1
087        else
088         CVSLE.PV=0
089        end if
090
091        if (BLPH.STATUS[177]==1 ) then
092         CVSLF.PV=1
093        else
094         CVSLF.PV=0
095        end if
096
097        !START UP CHARGING
098
099        if ( BLPH.STATUS[220]==1) then
100         SVSLA.PV=1
101        else
102         SVSLA.PV=0
103        end if
104
105        if ( BLPH.STATUS[227]==1) then
106         SVSLB.PV=1
107        else
108         SVSLB.PV=0
109        end if
110
111        if ( BLPH.STATUS[234]==1) then
112         SVSLC.PV=1
113        else
114         SVSLC.PV=0
115        end if
116
117        if ( BLPH.STATUS[241]==1) then
118         SVSLD.PV=1
119        else
120         SVSLD.PV=0
121        end if
122
123        if ( BLPH.STATUS[248]==1) then
124         SVSLE.PV=1
125        else
126         SVSLE.PV=0
127        end if
128
129        if ( BLPH.STATUS[365]==1) then
130         SVSLF.PV=1
131        else
132         SVSLF.PV=0
133        end if
134
135        if (BLPH.STATUS[403]==1 ) then
136         PI35LO.PV=1
137        else
138         PI35LO.PV=0
139        end if
140
141        if (BLPH.STATUS[404]==1 ) then
142         PI37LO.PV=1
143        else
144         PI37LO.PV=0
145        end if
146        if (BLPH.STATUS[405]==1 ) then
147         PI40LO.PV=1
148        else
149         PI40LO.PV=0
150        end if
151        if (BLPH.STATUS[406]==1 ) then
152         PI43LO.PV=1
153        else
154         PI43LO.PV=0
155        end if
156        if (BLPH.STATUS[407]==1 ) then
157         PI46LO.PV=1
158        else
159         PI46LO.PV=0
160        end if
161        if (BLPH.STATUS[408]==1 ) then
162         PI49LO.PV=1
163        else
164         PI49LO.PV=0
165        end if
166        wend
```

Tag Detail (SEQPERM15 ALARM SUP LOGIC)

Basic

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-16
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Name	SEQPERM15
Model Name	_SFCSW
Tag Comment	ALARM SUP LOGIC
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-17
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM15 ALARM SUP LOGIC)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	HR	I16	50	0	HOURS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	MIN	I16	50	0	MINS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-18
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (SEQPERM15 ALARM SUP LOGIC)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-19
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail (SEQPERM15 ALARM SUP LOGIC)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	4	4	ALARM SUPRESSION				SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-20
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SFC (SEQPERM15 ALARM SUP LOGIC)

Plane Number: 0 Comment:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

1

2

3

4 01-ALARM SUPRESSION

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-21
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement (SEQPERM15 ALARM SUP LOGIC)
Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:ALARM SUPRESSION X: 4 Y: 4

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :1724000594
   004        * Original Author   : Yokogawa
   005        * Original Date     : 19 August 2024
   006        * State No          : 1
   007        * State Name           : ALARM SUPRESSION LOGIC
   008        * Description      : This phase is for alarm supression logic
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024
   025
   026        global             genname    _SFCSW        BLPH                              ! SEQUENCE
   027        global             genname    PVI           PI35,PI37,PI40,PI43,PI46,PI49     ! ANNUNCIATOR
   028        global             genname    %SW               PIRST, PI35SW,PI37SW,PI40SW,PI43SW,PI46SW,PI49SW
   029
   030
   031        !global integer i                   !HR[50],MIN[50]
   032        ********************************************************************************
   033        *   ASSIGNING VARIABLES
   034        ********************************************************************************
   035
   036        #include "salarm.h"
   037
   038        assign           "BLPHSEQ"        to       BLPH
   039
   040        assign           "25PI-035"       to       PI35
   041        assign           "25PI-037"       to       PI37
   042        assign           "25PI-040"       to       PI40
   043        assign           "25PI-043"       to       PI43
   044        assign           "25PI-046"       to       PI46
   045        assign           "25PI-049"       to       PI49
   046
   047        assign           "25PI049-SW01"       to       PI49SW
   048        assign           "25PI046-SW01"       to       PI46SW
   049        assign           "25PI043-SW01"       to       PI43SW
   050        assign           "25PI040-SW01"       to       PI40SW
   051        assign           "25PI037-SW01"       to       PI37SW
   052        assign           "25PI035-SW01"       to       PI35SW
   053        assign           "25PIALM-RST01"       to       PIRST
   054
   055
   056        TOP:
   057
   058
   059
   060        wait until (BLPH.TRANSIT==18 OR BLPH.TRANSIT==14)
   061
   062        ! if (PI35.PV < 2 & BLPH.STATUS[259]==0 & BLPH.STATUS[309]==0) PI35SW.PV = 1
   063        ! if (PI37.PV < 2 & BLPH.STATUS[268]==0 & BLPH.STATUS[318]==0) PI37SW.PV = 1
   064        ! if (PI40.PV < 2 & BLPH.STATUS[277]==0 & BLPH.STATUS[327]==0) PI40SW.PV = 1
   065        ! if (PI43.PV < 2 & BLPH.STATUS[286]==0 & BLPH.STATUS[336]==0) PI43SW.PV = 1
   066        ! if (PI46.PV < 2 & BLPH.STATUS[295]==0 & BLPH.STATUS[345]==0) PI46SW.PV = 1
   067        ! if (PI49.PV < 2 & BLPH.STATUS[374]==0 & BLPH.STATUS[384]==0) PI49SW.PV = 1
   068
   069        if (PI35.PV < 2 & BLPH.STATUS[259]==0 & BLPH.STATUS[309]==0) PI35SW.PV = 1
   070        if (PI37.PV < 2 & BLPH.STATUS[268]==0 & BLPH.STATUS[318]==0) PI37SW.PV = 1
   071        if (PI40.PV < 2 & BLPH.STATUS[277]==0 & BLPH.STATUS[327]==0) PI40SW.PV = 1
   072        if (PI43.PV < 2 & BLPH.STATUS[286]==0 & BLPH.STATUS[336]==0) PI43SW.PV = 1
   073        if (PI46.PV < 2 & BLPH.STATUS[295]==0 & BLPH.STATUS[345]==0) PI46SW.PV = 1
   074        if (PI49.PV < 2 & BLPH.STATUS[374]==0 & BLPH.STATUS[384]==0) PI49SW.PV = 1
   075
   076
   077
   078
   079        !ALARM SUPRESSION
   080
   081
   082        while(BLPH.SHTPUR==1)
   083
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM15.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-22
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	ALARM SUP LOGIC		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
084        if ((PI35SW.PV <> 0) and BLPH.STATUS[259]==1)  PI35SW.PV = 0
085        if ((PI37SW.PV <> 0) and BLPH.STATUS[268]==1)  PI37SW.PV = 0
086        if ((PI40SW.PV <> 0) and BLPH.STATUS[277]==1)  PI40SW.PV = 0
087        if ((PI43SW.PV <> 0) and BLPH.STATUS[286]==1)  PI43SW.PV = 0
088        if ((PI46SW.PV <> 0) and BLPH.STATUS[295]==1)  PI46SW.PV = 0
089        if ((PI49SW.PV <> 0) and BLPH.STATUS[374]==1)  PI49SW.PV = 0
090
091        wend
092
093        while(BLPH.MNTPUR==1)
094
095        if ((PI35SW.PV <> 0) and BLPH.STATUS[309]==1)  PI35SW.PV = 0
096        if ((PI37SW.PV <> 0) and BLPH.STATUS[318]==1)  PI37SW.PV = 0
097        if ((PI40SW.PV <> 0) and BLPH.STATUS[327]==1)  PI40SW.PV = 0
098        if ((PI43SW.PV <> 0) and BLPH.STATUS[336]==1)  PI43SW.PV = 0
099        if ((PI46SW.PV <> 0) and BLPH.STATUS[345]==1)  PI46SW.PV = 0
100        if ((PI49SW.PV <> 0) and BLPH.STATUS[384]==1)  PI49SW.PV = 0
101
102        wend
103
104
105
106
107        if (BLPH.SHTPUR==0 or BLPH.MNTPUR==0) then
108
109        PIRST.PV=1
110        PI35SW.PV = 0
111        PI37SW.PV = 0
112        PI40SW.PV = 0
113        PI43SW.PV = 0
114        PI46SW.PV = 0
115        PI49SW.PV = 0
116        ELSE
117        PIRST.PV=0
118        end if
119
120        goto TOP
```

Tag Detail (SEQPERM16 BLPHSEQ RESEARCH MODE)

Basic

Tag Name	SEQPERM16
Model Name	_SFCSW
Tag Comment	BLPHSEQ RESEARCH MODE
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-23
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Data Item Definition (SEQPERM16 BLPHSEQ RESEARCH MODE)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	HR	I16	50	0	HOURS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	MIN	I16	50	0	MINS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
003	TEST	I16	50	0		(None)	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-24
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (SEQPERM16 BLPHSEQ RESEARCH MODE)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

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PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-25
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane Detail (SEQPERM16 BLPHSEQ RESEARCH MODE)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	4	9	Initialization				SEBOL			
2	4	12	RESEARCH				SEBOL			
3	4	17	PURGING-SHUTDOWN				SEBOL			
4	6	17	PURGING-MNTNCE				SEBOL			
5	8	17	PROCESS START UP				SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
4	10		
4	15		BLPH.TRANSIT==18
6	15		BLPH.TRANSIT==14
8	15		BLPH.TRANSIT==16
4	18		
6	18		
8	18		

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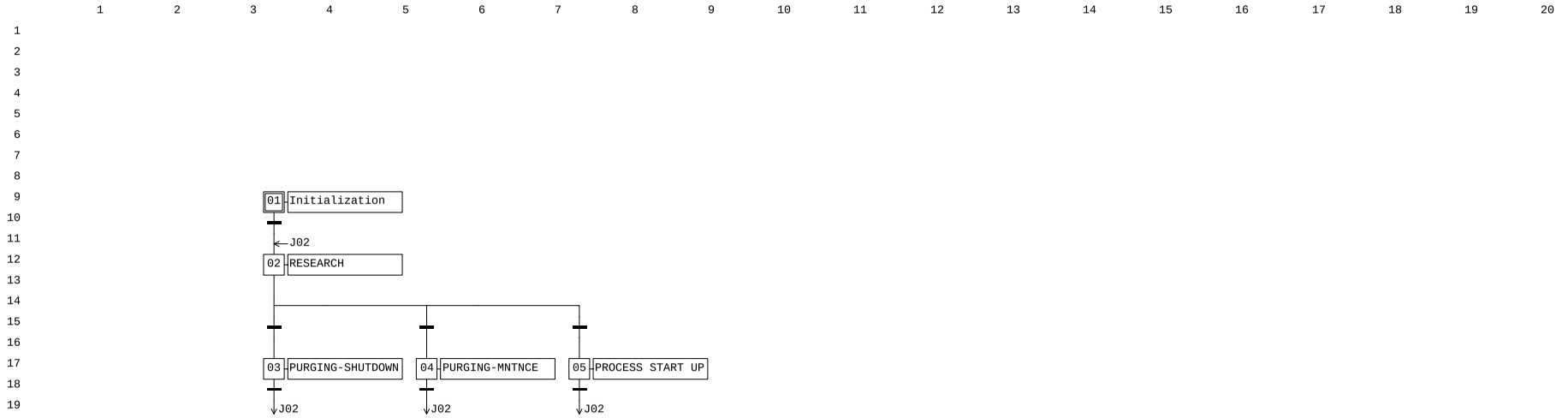
PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-26
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SFC (SEQPERM16 BLPHSEQ RESEARCH MODE)

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-27
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

SEBOL Statement (SEQPERM16 BLPHSEQ RESEARCH MODE)
Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:Initialization X: 4 Y: 9

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :1724000594
   004        * Original Author   :Yokogawa
   005        * Original Date     : 20 August 2024
   006        * State No          : 1
   007        * State Name           : INITIALIZATION
   008        * Description       : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   023
   024        global             genname        PVI             MODE,ENMODE                ! ELECTROLISER MODE
   025        global             genname        MLD             PMMODE
   026        global             genname        _SFCSW          SEQPM,EXPRTPM,RCRGPM,BLPH       ! SEQUENCE PERMISSIVE
   027        global             genname        %SW             INTSW[21],HOLD             ! INTERNAL BIT
   028        global             genname        %SW             OPRMSG[4]                 ! OPERATOR MESSAGE BIT
   029        global             genname        MC-2E           SWP[2],AUXFC               ! SEA WATER INTAKE PUMP
   030        global             genname        SIO-21E         XV[23]                     ! ON/OFF VALVES
   031        global             genname        SIO-21E         O64SDV,BDV[7],SDV[2]       ! ON/OFF VALVES
   032        global             genname        PVI             SS[4],PT003,PT031A,PT031B  ! SUBSYSTEM SIGNALS
   033        global             genname        TM              TM01                       ! TIMER
   034        global             genname        PVI             PT[8]                      ! PRESSURE TRANSMITTER
   035        global             genname        PID             PIC[8]                     ! PRESSURE CONTROLLER
   036        global             genname        PID             FIC[6]                     ! FLOW CONTROLLER
   037        global             genname        AS-M            PICT[8]                    ! PRESSURE CONTROLLER FORCE CLOSE TRANSFER SWITCH
   038        global             genname        AS-M            FICT[8]                    ! FLOW CONTROLLER FORCE CLOSE TRANSFER SWITCH
   039        global             genname        %SW             PVZSL[8]                   !CLOSED LIMIT SWITCHES
   040        global             genname        %SW             FVZSL[6]                   !CLOSED LIMIT SWITCHES
   041        global             genname        %SW             FLT[3],O70XA,O80XA         !ALARMS
   042        global             genname        TM              t[49],EMGTM01              !TIMERS
   043        global            genname        %AN             TXAAH[6],T1XAAH[6],BSSFLT,GRAD[6] !ALARM
   044        global            genname        DSET            PRSP[2]                   !ALARM
   045        global            genname        PBS5C           STCGHS,CGHS,PSDHS,PMTHS,DCHS,NPHS   !STOP
   046        global             block          %SW             MTCFQISW,SDNFQISW
   047        !global            block          DSET            25PIC035-DS2,25PIC037-DS2,25PIC040-DS2,25PIC043-DS2,25PIC046-DS2,25PIC049-DS2
              ! 25PIC-035/037/040/043/046/049
   048        global             genname         DSET            PICSP[6]
   049        global integer i,k,SEQFL
   050
   051        ********************************************************************************
   052        *   Assign Variables
   053        ********************************************************************************
   054        assign           "MODE"              to              MODE
   055        assign           "87MODE-003"        to              PMMODE
   056        assign           "87MODE-001"        to              ENMODE
   057
   058        assign           "87STCGHS-001"      to              STCGHS
   059        assign           "87CGHS-001"        to              CGHS
   060        assign           "87PSDHS-001"       to              PSDHS
   061        assign           "87PMTHS-001"       to              PMTHS
   062        assign           "87DCHS-001"        to              DCHS
   063        assign           "64-HS-031"            to              NPHS
   064
   065        assign           "SEQPERM01"         to              SEQPM
   066        assign           "SEQPERM02"         to              EXPRTPM
   067        assign           "SEQPERM05"         to              RCRGPM
   068        assign           "BLPHSEQ"          to              BLPH
   069
   070        assign           "P-50001ABGST"      to              INTSW[1]
   071        assign           "P-50001ABGSP"      to              INTSW[4]
   072        assign           "WTPAST"            to              INTSW[2]
   073        assign           "87PERMST-001"      to              INTSW[3]
   074
   075        assign           "P-50001A"          to              SWP[1]
   076        assign           "P-50001B"          to              SWP[2]
   077
   078        assign           "20XI-7113"         to              SS[1]
   079        assign           "80UI-0043"         to              SS[2]
   080        assign           "87LDSH-001"        to             INTSW[18]
   081        assign           "87LDSH-002"        to             INTSW[19]
   082        assign           "87STF-002"         to             INTSW[20]
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-28
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
083
084       assign          "BLPHSEQTM01"       to              TM01
085
086       assign          "50XV-031"          to              XV[3]
087       assign          "25XV-004"          to              XV[4]
088       assign          "25XV-008"          to              XV[8]
089       assign          "25XV-011"          to              XV[11]
090       assign          "25XV-014"          to              XV[14]
091       assign          "25XV-017"          to              XV[17]
092       assign          "25XV-020"          to              XV[20]
093
094       assign          "25XV-006"          to              XV[6]
095       assign          "25XV-009"          to              XV[9]
096       assign          "25XV-012"          to              XV[12]
097       assign          "25XV-015"          to              XV[15]
098       assign          "25XV-018"          to              XV[18]
099       assign          "25XV-021"          to              XV[21]
100       assign          "25XV-024"          to              XV[22]
101       assign          "80XV-001"          to              XV[23]
102
103       assign          "64SDV-001"         to              O64SDV
104
105       assign          "25PI-035"          to              PT[1]
106       assign          "25PI-037"          to              PT[2]
107       assign          "25PI-040"          to              PT[3]
108       assign          "25PI-043"          to              PT[4]
109       assign          "25PI-046"          to              PT[5]
110       assign          "25PI-049"          to              PT[6]
111       assign          "64PI-031A"         to              PT[7]
112       assign          "64PI-031B"         to              PT[8]
113
114       assign          "25PIC-035"         to              PIC[1]
115       assign          "25PIC-037"         to              PIC[2]
116       assign          "25PIC-040"         to              PIC[3]
117       assign          "25PIC-043"         to              PIC[4]
118       assign          "25PIC-046"         to              PIC[5]
119       assign          "25PIC-049"         to              PIC[6]
120       assign          "25PIC-055A"        to              PIC[7]
121       assign          "25PIC-055B"        to              PIC[8]
122
123       assign          "25FIC-031"         to              FIC[1]
124       assign          "25FIC-032"         to              FIC[2]
125       assign          "25FIC-033"         to              FIC[3]
126
127       assign          "HOLD"              to              HOLD     !DUMMY FOR TESTING
128       assign          "25FIC-034"         to              FIC[4]
129       assign          "25FIC-038"         to              FIC[5]
130       assign          "25FIC-036"         to              FIC[6]
131
132       assign          "25PIC-035ASM"      to              PICT[1]
133       assign          "25PIC-037ASM"      to              PICT[2]
134       assign          "25PIC-040ASM"      to              PICT[3]
135       assign          "25PIC-043ASM"      to              PICT[4]
136       assign          "25PIC-046ASM"      to              PICT[5]
137       assign          "25PIC-049ASM"      to              PICT[6]
138       assign          "25PIC-055AASM"     to              PICT[7]
139       assign          "25PIC-055BASM"     to              PICT[8]
140
141       assign          "25FIC-031ASM"      to              FICT[1]
142       assign          "25FIC-032ASM"      to              FICT[2]
143       assign          "25FIC-033ASM"      to              FICT[3]
144       assign          "25FIC-034ASM"      to              FICT[4]
145       assign          "25FIC-038ASM"      to              FICT[5]
146       assign          "25FIC-036ASM"      to              FICT[6]
147
148       assign          "25ZSL-035"         to              PVZSL[1]
149       assign          "25ZSL-037"         to              PVZSL[2]
150       assign          "25ZSL-040"         to              PVZSL[3]
151       assign          "25ZSL-043"         to              PVZSL[4]
152       assign          "25ZSL-046"         to              PVZSL[5]
153       assign          "25ZSL-049"         to              PVZSL[6]
154       assign          "25ZSL-055A"        to              PVZSL[7]
155       assign          "25ZSL-055B"        to              PVZSL[8]
156
157
158       assign          "25ZSL-031"         to              FVZSL[1]
159       assign          "25ZSL-032"         to              FVZSL[2]
160       assign          "25ZSL-033"         to              FVZSL[3]
161       assign          "25ZSL-034"         to              FVZSL[4]
162       assign          "25ZSL-038"         to              FVZSL[5]
163       assign          "25ZSL-036"         to              FVZSL[6]
164
165       assign          "25PIC55-DS1"       to              PRSP[1]
166       assign          "25PIC55-DS2"       to              PRSP[2]
167
168       assign          "85XA-003"          to              FLT[1]
169       assign          "70XA-003"          to              O70XA
170       assign          "80XA-003"          to              O80XA
171       assign          "63XA003TAN"        to              FLT[2]
172       assign          "64XA003TAN"        to              FLT[3]
```

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```
173     assign      "85XA003TAN"      to          BSSFLT
174     assign      "25PI-035GRADAN"  to          GRAD[1]
175     assign      "25PI-037GRADAN"  to          GRAD[2]
176     assign      "25PI-040GRADAN"  to          GRAD[3]
177     assign      "25PI-043GRADAN"  to          GRAD[4]
178     assign      "25PI-046GRADAN"  to          GRAD[5]
179     assign      "25PI-049GRADAN"  to          GRAD[6]
180
181
182     assign      "ELECSBPM"        to          INTSW[7]
183     assign      "ELECSBPM"        to          INTSW[8]
184     assign      "EXPRTSEQFL"      to          INTSW[9]
185     assign      "FUELCLSTP"       to          INTSW[10]
186     assign      "87EMG-001"       to          INTSW[11]
187     assign      "WTPASP"          to          INTSW[13]
188     assign      "AUXELASP"        to          INTSW[14]
189     assign      "87PERMST-001"      to        INTSW[16]
190     assign      "87EXP-001"       to          INTSW[17]
191     assign      "87PERMST-001"     to         INTSW[21]
192
193     assign      "BLPHSEQT01"      to          t[1]
194     assign      "BLPHSEQT02"      to          t[2]
195     assign      "BLPHSEQT03"      to          t[3]
196     assign      "BLPHSEQT04"      to          t[4]
197     assign      "BLPHSEQT05"      to          t[5]
198     assign      "BLPHSEQT06"      to          t[6]
199     assign      "BLPHSEQT07"      to          t[7]
200     assign      "BLPHSEQT08"      to          t[8]
201     assign      "BLPHSEQT09"      to          t[9]
202     assign      "BLPHSEQT10"      to          t[10]
203     assign      "BLPHSEQT11"      to          t[11]
204     assign      "BLPHSEQT12"      to          t[12]
205     assign      "BLPHSEQT13"      to          t[13]
206     assign      "BLPHSEQT14"      to          t[14]
207     assign      "BLPHSEQT15"      to          t[15]
208     assign      "BLPHSEQT16"      to          t[16]
209     assign      "BLPHSEQT17"      to          t[17]
210     assign      "BLPHSEQT18"      to          t[18]
211     assign      "BLPHSEQT19"      to          t[19]
212     assign      "BLPHSEQT20"      to          t[20]
213     assign      "BLPHSEQT21"      to          t[21]
214     assign      "BLPHSEQT22"      to          t[22]
215     assign      "BLPHSEQT23"      to          t[23]
216     assign      "BLPHSEQT24"      to          t[24]
217     assign      "BLPHSEQT25"      to          t[25]
218     assign      "BLPHSEQT26"      to          t[26]
219     assign      "BLPHSEQT27"      to          t[27]
220     assign      "BLPHSEQT28"      to          t[28]
221     assign      "BLPHSEQT29"      to          t[29]
222     assign      "BLPHSEQT30"      to          t[30]
223     assign      "BLPHSEQT31"      to          t[31]
224     assign      "BLPHSEQT32"      to          t[32]
225     assign      "BLPHSEQT33"      to          t[33]
226     assign      "BLPHSEQT34"      to          t[34]
227     assign      "BLPHSEQT35"      to          t[35]
228     assign      "BLPHSEQT36"      to          t[36]
229     assign      "BLPHSEQT37"      to          t[37]
230     assign      "BLPHSEQT38"      to          t[38]
231     assign      "BLPHSEQT39"      to          t[39]
232     assign      "BLPHSEQT40"      to          t[40]
233     assign      "BLPHSEQT41"      to          t[41]
234     assign      "BLPHSEQT42"      to          t[42]
235     assign      "BLPHSEQT43"      to          t[43]
236     assign      "BLPHSEQT44"      to          t[44]
237     assign      "BLPHSEQT45"      to          t[45]
238     assign      "BLPHSEQT46"      to          t[46]
239     assign      "BLPHSEQT47"      to          t[47]
240     assign      "BLPHSEQT48"      to          t[48]
241     assign      "BLPHSEQT49"      to          t[49]
242     assign      "BLPHEMGTM01"     to          EMGTM01
243
244
245     assign      "T3AAH"           to          TXAAH[1]
246     assign      "T3BAH"           to          TXAAH[2]
247     assign      "T3CAH"           to          TXAAH[3]
248     assign      "T3DAH"           to          TXAAH[4]
249     assign      "T3EAH"           to          TXAAH[5]
250     assign      "T3FAH"           to          TXAAH[6]
251
252     assign      "T5AAH"           to          T1XAAH[1]
253     assign      "T5BAH"           to          T1XAAH[2]
254     assign      "T5CAH"           to          T1XAAH[3]
255     assign      "T5DAH"           to          T1XAAH[4]
256     assign      "T5EAH"           to          T1XAAH[5]
257     assign      "T5FAH"           to          T1XAAH[6]
258
259     assign      "25BDV-005"       to          BDV[1]
260     assign      "25BDV-007"       to          BDV[2]
261     assign      "25BDV-010"       to          BDV[3]
262     assign      "25BDV-013"       to          BDV[4]
```

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```
263       assign          "25BDV-016"         to              BDV[5]
264       assign          "25BDV-019"         to              BDV[6]
265       assign          "25BDV-022"         to              BDV[7]
266       assign          "25SDV-001"         to              SDV[1]
267       assign          "25SDV-023"         to              SDV[2]
268
269       assign          "63PI-003"          to              PT003
270       assign          "64PI-031A"         to              PT031A
271       assign          "64PI-031B"         to              PT031B
272
273       !-------------------------------------------------------------
274       assign          "OPMSG-1"           to               OPRMSG[1]
275       assign          "OPMSG-2"           to               OPRMSG[2]
276       assign          "OPMSG-3"           to               OPRMSG[3]
277       assign          "OPMSG-4"           to               OPRMSG[4]
278
279       !-------------------------------------------------------------
280       assign          "25PIC035-DS2"      to              PICSP[1]
281       assign          "25PIC037-DS2"      to              PICSP[2]
282       assign          "25PIC040-DS2"      to              PICSP[3]
283       assign          "25PIC043-DS2"      to              PICSP[4]
284       assign          "25PIC046-DS2"      to              PICSP[5]
285       assign          "25PIC049-DS2"      to              PICSP[6]
286
287
288       !-------------------------------------------------------------
289       *for i=1 to 400
290       *%.STATUS[i]=0
291       *next@


Step Number: 2     Comment:RESEARCH                                          X:  4  Y: 12

Line Number   SEBOL Program
   001
   002       !3.10 MODE 7 = RESEARCH
   003       !For electrical details about this mode reference shall be made to doc. EMCS Software Functional Design Specification (FDS-SW)
   004       !All commands will be in manual mode by operators from HMI and all Software Interlocks inside PCS shall be by-passed.
   005       !The following push buttons will be active only in electrical "Research mode"
   006       !Software push button = Purging mode after Shutdown (for H2 displacement) (see par. 4.4.7)
   007       !Software push button = Purging mode after Maintenance (for air displacement) (see par. 4.4.8)
   008       !Software push button = Process Start-up charging mode (see par. 4.4.4)
   009       !Software push button = Process Charging mode (see par. 4.4.2)
   010       !Software push button = Process Discharging mode (see par. 4.4.5)
   011
   012
   013
   014       !BLPH.STATE="RESEARCH"
   015       !BLPH.TRANSIT=0
   016
   017
   018
   019
   020       for i=1 to 450
   021       BLPH.STATUS[i]=0
   022       next@
   023
   024       for i=1 to 6
   025       if (T1XAAH[i].PV==1)        T1XAAH[i].PV=0
   026       if (TXAAH[i].PV==1)         TXAAH[i].PV=0
   027       if (GRAD[i].PV==1)          GRAD[1].PV=0
   028       next@
   029
   030       ![BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="","","",""]
   031
   032
   033       for i=22 to 33
   034            t[i].PV=t[i].PH
   035           t[i].OP=TMSTOP
   036       next@
   037
   038       BLPH.SHTPUR=0                     !USED IN RESEACH MODE RESRTRICTION
   039
   040
   041       for i=34 to 45
   042           t[i].PV=0
   043           t[i].OP=TMSTOP
   044       next@
   045
   046       BLPH.MNTPUR=0                    !USED IN RESEACH MODE RESRTRICTION
   047
   048
   049
   050       for i=10 to 21
   051            t[i].PV=0
   052           t[i].OP=TMSTOP
   053       next@
   054
   055       BLPH.STUPCHR=0                   !USED IN RESEACH MODE RESRTRICTION
```

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```
056
057
058
059         !repeat
060
061         ![BLPH.SWPBEN[1],BLPH.SWPBEN[2],BLPH.SWPBEN[5]=1,1,1]         ! To enable soft push button on HMI
062         !if (RCRGPM.H2ILK==1) then
063         !     if ((dscheck(PT[1].#PV,"BAD")==0 & PT[1].PV>=2.0) | (dscheck(PT[2].#PV,"BAD")==0 & PT[2].PV>=2.0)\
064         !        | (dscheck(PT[3].#PV,"BAD")==0 & PT[3].PV>=2.0) | (dscheck(PT[4].#PV,"BAD")==0 & PT[4].PV>=2.0)\
065         !        | (dscheck(PT[5].#PV,"BAD")==0 & PT[5].PV>=2.0) | (dscheck(PT[6].#PV,"BAD")==0 & PT[6].PV>=2.0))   then
066         !        [BLPH.SWPBEN[3],BLPH.SWPBEN[4]=1,1]
067         !     end if
068         !else
069         ![BLPH.SWPBEN[3],BLPH.SWPBEN[4]=0,0]
070         !end if
071
072         !if (MODE.PV<>10)   then
073         !    for i= 1 to 5
074         !    BLPH.SWPBEN[i]=0
075         !    next@
076         !end if
077
078
079         wait until (BLPH.TRANSIT==18 | BLPH.TRANSIT==14 | BLPH.TRANSIT==16 )
080
081         if (MODE.PV<>10)   then
082             for i= 1 to 5
083             BLPH.SWPBEN[i]=0
084             next@
085         end if



Step Number: 3     Comment:PURGING-SHUTDOWN                                        X:  4  Y: 17

Line Number   SEBOL Program
   001         float x[3]
   002         !The operator through a software push button on HMI wil activate the “Purging mode after Shutdown (for H2 displacement)”.
   003         !This push button will be active only in electrical “Research mode”.
   004
   005
   006         BLPH.STATE="PURGING"
   007         BLPH.SHTPUR=1                    !USED IN RESEACH MODE RESRTRICTION
   008         for i=22 to 33
   009             t[i].PV=t[i].PH
   010             t[i].OP=TMSTOP
   011         !       t[i].PV=0
   012         next@
   013
   014         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PURGING MODE AFT","ER SHUTDOWN (FOR"," H2) IS ACTIVE",""]
   015
   016         SDNFQISW.PV = 1         ! Flow totalizer on
   017
   018         *1) Close all XV valves that are installed on the inlet line of each H2 Storage Vessel:
   019         !25-XV-004/008/011/014/017/020
   020
   021         [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   022         delaycycle 5
   023         [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
   024
   025
   026         !Time to close the valves is 3 sec
   027         !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
   028
   029         wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0);time 10, error TRMNT
   030         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="ALL H2 VESSEL I","NLET ON-OFF     ","VALVES ARE CLOSE","D"]
   031         BLPH.STATUS[251]=1
   032
   033         !Close all XV valves that are installed on the outlet line of each H2 Storage Vessel:
   034         !25-XV-006/009/012/015/018/021
   035
   036         [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   037         delaycycle 3
   038         [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
   039
   040         !delaycycle 3
   041
   042         !Time to close the valves is 3 sec
   043         !The feedback statuses are 25-ZSL-006/009/012/015/018/021. When all feedback statuses are active proceed with below point.
   044
   045         wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0) ;time 10, error TRMNT
   046         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="ALL H2 STORAGE O","UTET ON-OFF     ","VALVES ARE CLOSE","D"]
   047         BLPH.STATUS[252]=1
   048         !Put the controllers 25-FIC-031/032/033/034/038/036 in Auto mode and force the output to 0BLPH.
   049         !Close all FV valves that are installed on the inlet lines of each H2 Storage Vessel: 25-FV-031/032/033/034/038/036
   050         !• Time to close the valves is 20 sec
   051         !• The feedback statuses are 25-ZSL-031/032/033/034/038/036. When all feedback statuses are active proceed with below point.
   052
   053         !for i=1 to 6
   054             ![FIC[i].MODE,FICT[i].MODE,FICT[i].SW="AUT","AUT",2]
```

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```
055       !next@
056
057       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
058
059        for i=1 to 6
060          FIC[i].PSW = 1
061        next@
062
063       !delaycycle 5
064       wait until (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1);time 30, error TR
          MNT
065
066       BLPH.STATUS[253]=1
067
068       !4) Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
069       !Close all PV valves that are installed on the outlet lines of each H2 Storage Vessel:
070       !25-PV-035/037/040/043/046/049
071       !• Time to close the valves is 20 sec
072       !The feedback statuses are 25-ZSL-035/037/040/043/046/049. When all feedback statuses are active proceed with below point.
073
074       !for i=1 to 6
075       !    [PIC[i].MODE,PICT[i].MODE,PICT[i].SW="AUT","AUT",2]
076       !next@
077
078       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
079
080        for i=1 to 6
081          PIC[i].PSW = 1
082        next@
083
084       !delaycycle 5
085       wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1);time 30, error TR
          MNT
086       BLPH.STATUS[254]=1
087
088       wait until (O64SDV.PV==2 OR PSDHS.MV01==1)
089       if (PSDHS.MV01==1) goto TRMNT
090       BLPH.STATUS[255]=1
091
092       !---------------------------------PURGING-VESSEL-A-------------------------------------------------------------------------
093
094       !If 64-PT-031A/B (depends on the control valve 64-PV-031A/B that is working) > 25-PT-035 proceed with below point,
095       !if 64-PT-031A/B (depends on the control valve that is working) . 25-PT-035 go to point 13
096
097       x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
098       x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
099       !x[3]=dmax(x[1],x[2])
100
101       if (NPHS.MV01==1) x[3]= x[1]
102       if (NPHS.MV03==1) x[3]= x[2]
103       %.TEST[1]=X[3]
104
105       if  (dscheck(PT[1].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-A INLET P","RESSURE TX      "
          ,"25-PT-35 IS IN F","AULT CONDITION  "]
106       wait until (dscheck(PT[1].#PV,"BAD")==0);time 1, error TRMNT
107
108       if (x[3]<=PT[1].PV)   then
109       BLPH.STATUS[257]=1
110       goto POINT13
111       else
112       BLPH.STATUS[256]=1
113       end if
114
115
116       !Remove the forced output 0% of the controller 25-FIC-031 (installed on Nitrogen inlet line
117       !to V-25001A) and fix the set point to 42 Nm3/hr
118       !FICT[1].SW=1          !Select PID loop
119
120       !Revised logic - instead of AUT
121
122         FIC[1].MODE = "CAS"
123
124       BLPH.STATUS[258]=1
125
126       !Start a timer T3A= 5 Hrs, check during the time the following:
127       !if the 25-PI-035. 2 barg proceed with below point.
128       !if the 25-PI-035< 2 barg when timer is expired a time alarm T3AAH will alert
129       !the operator that the vessel has not reach the pressure within the desired time, force output 0%
130       !of the controllers 25-FIC-031 and proceed with below point 13.
131
132       t[22].PH=BLPH.DLY[22]                                                                    ! Timer T3A
133       t[22].OP=TMSTAT
134       BLPH.STATUS[421]=1 !Flow totalizer ON
135
136       while(t[22].BSTS<>"CTUP")
137              if (PT[1].PV>=2.0 or PSDHS.MV01==1) then
138                   if (PSDHS.MV01==1) goto TRMNT
139                 BLPH.STATUS[259]=1
140                   goto POINT9
141               end if
```

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```
142             if (GRAD[1].PV==1) then
143         !       FICT[1].SW=2
144                 FIC[1].PSW=1
145                  BLPH.STATUS[260]=1
146                  BLPH.STATUS[421]=0 !Flow totalizer ON
147                  t[22].OP=TMSTOP
148                  goto POINT13
149             else
150                 BLPH.STATUS[260]=0
151             end if
152         wend
153
154         while(t[22].BSTS=="CTUP")
155         if (PT[1].PV<2.0 or GRAD[1].PV==1)  then
156         TXAAH[1].PV=1
157         !FICT[1].SW=2
158         FIC[1].PSW=1
159         BLPH.STATUS[260]=1
160         BLPH.STATUS[421]=0 !Flow totalizer ON
161         goto POINT13
162         else
163         BLPH.STATUS[260]=0
164         goto POINT9
165         end if
166         wend@
167
168         !Remove the forced output 0% of the controller 25-PIC-035 and fix the set point to 2 barg;
169         !Wait a timer T4A= 92 HRS= min, when the time is expired proceed with below point.
170         !Force output to 0% for both the controllers 25-FIC-031 and 25-PIC-035.
171         !Time to close 25-PV-035 and 25-FV-031 are 20 sec.
172         POINT9:
173         t[22].PV=t[22].PH
174         !PICT[1].SW=1
175         !Revised logic - instead of AUT
176         PICSP[1].SV = 2.0
177         PIC[1].MODE = "CAS"
178         BLPH.STATUS[261]=1
179         t[23].PH=BLPH.DLY[23]                                                                   !Timer T4A
180         t[23].OP=TMSTAT
181
182         while(t[23].BSTS<>"CTUP" and PSDHS.MV01==0 )
183         if(PT[1].PV<1.5)then
184         ![PICT[1].SW,FICT[1].SW=2,2]
185
186         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
187         [PIC[1].PSW,FIC[1].PSW=1,1]
188
189         wait until (PVZSL[1].PV==1 & FVZSL[1].PV==1);time 30, error TRMNT
190         BLPH.STATUS[262]=1
191         BLPH.STATUS[421]=0          !Flow totalizer OFF
192         t[23].OP=TMSTOP
193         goto POINT13
194         end if
195         wend
196
197         wait until (t[23].BSTS=="CTUP" or PSDHS.MV01==1)
198         if (PSDHS.MV01==1) goto TRMNT
199
200         ![PICT[1].SW,FICT[1].SW=2,2]
201
202         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
203
204         [PIC[1].PSW,FIC[1].PSW = 1,1]
205
206         BLPH.STATUS[262]=1
207         wait until (PVZSL[1].PV==1 & FVZSL[1].PV==1);time 30, error TRMNT
208         if (PVZSL[1].PV==1)         BLPH.STATUS[263]=1
209         if (FVZSL[1].PV==1)         BLPH.STATUS[264]=1
210         BLPH.STATUS[421]=0          !Flow totalizer OFF
211         t[23].OP=TMSTOP
212         if ((PVZSL[1].PV==1) and (FVZSL[1].PV==1)) then
213         BLPH.STATUS[331]=1
214         else
215         BLPH.STATUS[331]=0
216         goto TRMNT
217         end if
218
219
220         !--------------------------------PURGING-VESSEL-B-------------------------------------------------------------------------
221         POINT13:
222         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
223         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
224         !x[3]=dmax(x[1],x[2])
225
226         if (NPHS.MV01==1) x[3]= x[1]
227         if (NPHS.MV03==1) x[3]= x[2]
228         %.TEST[1]=X[3]
229         if  (dscheck(PT[2].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-B INLET P","RESSURE TX      "
            ,"25-PT-37 IS IN F","AULT CONDITION  "]
230
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-34
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
231       wait until (dscheck(PT[2].#PV,"BAD")==0);time 1, error TRMNT
232       if (x[3]<=PT[2].PV)   then
233       BLPH.STATUS[266]=1
234       goto POINT20
235       else
236       BLPH.STATUS[265]=1
237       end if
238
239
240
241
242       !FICT[2].SW=1          !Select PID loop
243       !Revised logic - instead of AUT
244
245       FIC[2].MODE = "CAS"
246
247       BLPH.STATUS[267]=1
248
249
250       t[24].PH=BLPH.DLY[24]   ! Timer T3A
251       t[24].OP=TMSTAT
252       BLPH.STATUS[422]=1 !Flow totalizer ON
253
254       while(t[24].BSTS<>"CTUP")
255              if (PT[2].PV>=2.0 or PSDHS.MV01==1) then
256                   if (PSDHS.MV01==1) goto TRMNT
257                 BLPH.STATUS[268]=1
258                   goto POINT16
259               end if
260           if (GRAD[2].PV==1) then
261       !       FICT[2].SW=2
262              FIC[2].PSW = 1
263               BLPH.STATUS[269]=1
264               BLPH.STATUS[422]=0 !Flow totalizer ON
265               t[24].OP=TMSTOP
266               goto POINT20
267           else
268               BLPH.STATUS[269]=0
269           end if
270       wend
271
272
273       while(t[24].BSTS=="CTUP")
274       if (PT[2].PV<2.0 or GRAD[2].PV==1)  then
275       TXAAH[2].PV=1
276       !FICT[2].SW=2
277       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
278       FIC[2].PSW = 1
279       BLPH.STATUS[269]=1
280       BLPH.STATUS[422]=0 !Flow totalizer ON
281       goto POINT20
282       else
283       BLPH.STATUS[269]=0
284       goto POINT16
285       end if
286       wend@
287
288
289
290
291       POINT16:
292       t[24].PV=t[24].PH
293       !PICT[2].SW=1
294       !Revised logic - instead of AUT
295       PICSP[2].SV = 2.0
296       PIC[2].MODE = "CAS"
297       BLPH.STATUS[270]=1
298       t[25].PH=BLPH.DLY[25]      !Timer T4A
299       t[25].OP=TMSTAT
300
301       while(t[25].BSTS<>"CTUP" and PSDHS.MV01==0 )
302       if(PT[2].PV<1.5)then
303       ![PICT[2].SW,FICT[2].SW=2,2]
304
305       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
306       [PIC[2].PSW,FIC[2].PSW = 1,1]
307
308       wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1) ;time 30, error TRMNT
309       BLPH.STATUS[271]=1
310       BLPH.STATUS[422]=0          !Flow totalizer OFF
311       t[25].OP=TMSTOP
312       goto POINT20
313       end if
314       wend
315
316
317
318
319       wait until (t[25].BSTS=="CTUP" or PSDHS.MV01==1)
320       if (PSDHS.MV01==1) goto TRMNT
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-35
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
321
322       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
323
324       [PIC[2].PSW,FIC[2].PSW = 1,1]
325
326       BLPH.STATUS[271]=1
327       wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1);time 30, error TRMNT
328       if (PVZSL[2].PV==1)         BLPH.STATUS[272]=1
329       if (FVZSL[2].PV==1)         BLPH.STATUS[273]=1
330       BLPH.STATUS[422]=0          !Flow totalizer OFF
331       t[25].OP=TMSTOP
332       if ((PVZSL[2].PV==1) and (FVZSL[2].PV==1)) then
333       BLPH.STATUS[332]=1
334       else
335       BLPH.STATUS[332]=0
336       goto TRMNT
337       end if
338       !wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1)
339
340       !---------------------------------PURGING-VESSEL-C-------------------------------------------------------------------------
341       POINT20:
342       x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
343       x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
344       !x[3]=dmax(x[1],x[2])
345
346       if (NPHS.MV01==1) x[3]= x[1]
347       if (NPHS.MV03==1) x[3]= x[2]
348       %.TEST[1]=X[3]
349       if  (dscheck(PT[3].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-C INLET P","RESSURE TX      "
          ,"25-PT-40 IS IN F","AULT CONDITION  "]
350
351       wait until (dscheck(PT[3].#PV,"BAD")==0);time 1, error TRMNT
352       if (x[3]<=PT[3].PV)   then
353       BLPH.STATUS[275]=1
354       goto POINT27
355       else
356       BLPH.STATUS[274]=1
357       end if
358
359
360
361       !FICT[3].SW=1          !Select PID loop
362
363       !Revised logic - instead of AUT
364       FIC[3].MODE = "CAS"
365
366       BLPH.STATUS[276]=1
367
368
369       t[26].PH=BLPH.DLY[26]   ! Timer T3A
370       t[26].OP=TMSTAT
371       BLPH.STATUS[423]=1 !Flow totalizer ON
372
373       while(t[26].BSTS<>"CTUP")
374          if (PT[3].PV>=2.0 or PSDHS.MV01==1) then
375                   if (PSDHS.MV01==1) goto TRMNT
376                 BLPH.STATUS[277]=1
377                   goto POINT23
378              end if
379           if (GRAD[3].PV==1) then
380       !       FICT[3].SW=2
381              FIC[3].PSW = 1
382               BLPH.STATUS[278]=1
383               BLPH.STATUS[423]=0 !Flow totalizer ON
384               t[26].OP=TMSTOP
385               goto POINT27
386           else
387               BLPH.STATUS[278]=0
388           end if
389       wend
390
391
392
393
394       while(t[26].BSTS=="CTUP")
395       if (PT[3].PV<2.0 or GRAD[3].PV==1)  then
396       TXAAH[3].PV=1
397       !FICT[3].SW=2
398       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
399       FIC[3].PSW = 1
400       BLPH.STATUS[278]=1
401       BLPH.STATUS[423]=0 !Flow totalizer ON
402       goto POINT27
403       else
404       BLPH.STATUS[278]=0
405       goto POINT23
406       end if
407       wend@
408
409
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-36
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```
410         POINT23:
411
412         t[26].PV=t[26].PH
413         !PICT[3].SW=1
414
415         !Revised logic - instead of AUT
416         PICSP[3].SV = 2.0
417         PIC[3].MODE = "CAS"
418
419         BLPH.STATUS[279]=1
420         t[27].PH=BLPH.DLY[27]      !Timer T4A
421         t[27].OP=TMSTAT
422
423         while(t[27].BSTS<>"CTUP" and PSDHS.MV01==0 )
424         if(PT[3].PV<1.5)then
425         ![PICT[3].SW,FICT[3].SW=2,2]
426
427         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
428         [PIC[3].PSW,FIC[3].PSW = 1,1]
429
430         wait until (PVZSL[3].PV==1 & FVZSL[3].PV==1);time 30, error TRMNT
431         BLPH.STATUS[280]=1
432         BLPH.STATUS[423]=0          !Flow totalizer OFF
433         t[27].OP=TMSTOP
434         goto POINT27
435         end if
436         wend
437
438
439
440
441         wait until (t[27].BSTS=="CTUP" or PSDHS.MV01==1)
442         if (PSDHS.MV01==1) goto TRMNT
443
444         ![PICT[3].SW,FICT[3].SW=2,2]
445         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
446         [PIC[3].PSW,FIC[3].PSW = 1,1]
447         BLPH.STATUS[280]=1
448         wait until (PVZSL[3].PV==1 & FVZSL[3].PV==1);time 30, error TRMNT
449         if (PVZSL[3].PV==1)         BLPH.STATUS[281]=1
450         if (FVZSL[3].PV==1)         BLPH.STATUS[282]=1
451         BLPH.STATUS[423]=0          !Flow totalizer OFF
452         t[27].OP=TMSTOP
453         if ((PVZSL[3].PV==1) and (FVZSL[3].PV==1)) then
454         BLPH.STATUS[333]=1
455         else
456         BLPH.STATUS[333]=0
457         goto TRMNT
458         end if
459         !wait until (PVZSL[3].PV==1 & FVZSL[3].PV==1)
460
461         !--------------------------------PURGING-VESSEL-D-------------------------------------------------------------------
462         POINT27:
463         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
464         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
465
466
467         if (NPHS.MV01==1) x[3]= x[1]
468         if (NPHS.MV03==1) x[3]= x[2]
469         %.TEST[1]=X[3]
470         if  (dscheck(PT[4].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-D INLET P","RESSURE TX      "
            ,"25-PT-43 IS IN F","AULT CONDITION  "]
471
472         wait until (dscheck(PT[4].#PV,"BAD")==0);time 1, error TRMNT
473         if (x[3]<=PT[4].PV)   then
474         BLPH.STATUS[284]=1
475         goto POINT34
476         else
477         BLPH.STATUS[283]=1
478         end if
479
480
481         !FICT[4].SW=1          !Select PID loop
482         !Revised logic - instead of AUT
483         FIC[4].MODE = "CAS"
484
485         BLPH.STATUS[285]=1
486
487
488         t[28].PH=BLPH.DLY[28]   ! Timer T3A
489         t[28].OP=TMSTAT
490         BLPH.STATUS[424]=1 !Flow totalizer ON
491
492         while(t[28].BSTS<>"CTUP")
493               if (PT[4].PV>=2.0 or PSDHS.MV01==1) then
494                    if (PSDHS.MV01==1) goto TRMNT
495                  BLPH.STATUS[286]=1
496                    goto POINT30
497                end if
498             if (GRAD[4].PV==1) then
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-37
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```
499         !       FICT[4].SW=2
500                 FIC[4].PSW=1
501                  BLPH.STATUS[287]=1
502                  BLPH.STATUS[424]=0 !Flow totalizer ON
503                  t[28].OP=TMSTOP
504                  goto POINT34
505             else
506                 BLPH.STATUS[287]=0
507             end if
508         wend
509
510
511         while(t[28].BSTS=="CTUP")
512         if (PT[4].PV<2.0 or GRAD[4].PV==1)  then
513         TXAAH[4].PV=1
514         !FICT[4].SW=2
515         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
516         FIC[4].PSW=1
517         BLPH.STATUS[287]=1
518         BLPH.STATUS[424]=0 !Flow totalizer ON
519         goto POINT34
520         else
521         BLPH.STATUS[287]=0
522         goto POINT30
523         end if
524         wend@
525
526         POINT30:
527
528
529
530         t[28].PV=t[28].PH
531
532         !PICT[4].SW=1
533         !Revised logic - instead of AUT
534         PICSP[4].SV = 2.0
535         PIC[4].MODE = "CAS"
536
537         BLPH.STATUS[288]=1
538         t[29].PH=BLPH.DLY[29]      !Timer T4A
539         t[29].OP=TMSTAT
540
541         while(t[29].BSTS<>"CTUP" and PSDHS.MV01==0 )
542         if(PT[4].PV<1.5)then
543         !PICT[4].SW,FICT[4].SW=2,2]
544         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
545         [PIC[4].PSW,FIC[4].PSW=1,1]
546
547         wait until (PVZSL[4].PV==1 & FVZSL[4].PV==1);time 30, error TRMNT
548         BLPH.STATUS[289]=1
549         BLPH.STATUS[424]=0          !Flow totalizer OFF
550         t[29].OP=TMSTOP
551         goto POINT34
552         end if
553         wend
554
555         wait until (t[29].BSTS=="CTUP" or PSDHS.MV01==1)
556         if (PSDHS.MV01==1) goto TRMNT
557
558         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
559         [PIC[4].PSW,FIC[4].PSW=1,1]
560         BLPH.STATUS[289]=1
561         wait until (PVZSL[4].PV==1 & FVZSL[4].PV==1);time 30, error TRMNT
562         if (PVZSL[4].PV==1)         BLPH.STATUS[290]=1
563         if (FVZSL[4].PV==1)         BLPH.STATUS[291]=1
564         BLPH.STATUS[424]=0          !Flow totalizer OFF
565         t[29].OP=TMSTOP
566         if ((PVZSL[4].PV==1) and (FVZSL[4].PV==1))then
567          BLPH.STATUS[334]=1
568         else
569         BLPH.STATUS[334]=0
570         goto TRMNT
571         end if
572         wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1);time 30, error TRMNT
573
574
575         !---------------------------------PURGING-VESSEL-E-------------------------------------------------------------------------------
576         POINT34:
577         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
578         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
579
580
581         if (NPHS.MV01==1) x[3]= x[1]
582         if (NPHS.MV03==1) x[3]= x[2]
583         %.TEST[1]=X[3]
584         if  (dscheck(PT[5].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-E INLET P","RESSURE TX      "
            ,"25-PT-46 IS IN F","AULT CONDITION  "]
585
586         wait until (dscheck(PT[5].#PV,"BAD")==0);time 1, error TRMNT
587         if (x[3]<=PT[5].PV)   then
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-38
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```
588         BLPH.STATUS[293]=1
589         goto POINT41
590         else
591         BLPH.STATUS[292]=1
592         end if
593
594
595         !FICT[5].SW=1          !Select PID loop
596
597         !Revised logic - instead of AUT
598         FIC[5].MODE = "CAS"
599
600         BLPH.STATUS[294]=1
601
602         t[30].PH=BLPH.DLY[30]   ! Timer T3A
603         t[30].OP=TMSTAT
604         BLPH.STATUS[425]=1 !Flow totalizer ON
605
606         while(t[30].BSTS<>"CTUP")
607                if (PT[5].PV>=2.0 or PSDHS.MV01==1) then
608                    if (PSDHS.MV01==1) goto TRMNT
609                  BLPH.STATUS[295]=1
610                    goto POINT37
611                end if
612             if (GRAD[5].PV==1) then
613         !       FICT[5].SW=2
614                FIC[5].PSW=1
615                 BLPH.STATUS[296]=1
616                 BLPH.STATUS[425]=0 !Flow totalizer ON
617                 t[22].OP=TMSTOP
618                 goto POINT41
619             else
620                 BLPH.STATUS[296]=0
621             end if
622         wend
623
624         while(t[30].BSTS=="CTUP")
625         if (PT[5].PV<2.0 or GRAD[5].PV==1)  then
626         TXAAH[5].PV=1
627         !FICT[5].SW=2
628
629         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
630         FIC[5].PSW=1
631
632         BLPH.STATUS[296]=1
633         BLPH.STATUS[425]=0 !Flow totalizer ON
634         goto POINT41
635         else
636         BLPH.STATUS[296]=0
637         goto POINT37
638         end if
639         wend@
640
641
642
643
644         POINT37:
645
646
647
648         t[30].PV=t[30].PH
649         !PICT[5].SW=1
650         !Revised logic - instead of AUT
651         PICSP[5].SV = 2.0
652         PIC[5].MODE = "CAS"
653
654         BLPH.STATUS[297]=1
655         t[31].PH=BLPH.DLY[31]      !Timer T4A
656         t[31].OP=TMSTAT
657
658         while(t[31].BSTS<>"CTUP" and PSDHS.MV01==0 )
659         if(PT[5].PV<1.5)then
660         ![PICT[5].SW,FICT[5].SW=2,2]
661         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
662         [PIC[5].PSW,FIC[5].PSW=1,1]
663
664         wait until (PVZSL[5].PV==1 & FVZSL[5].PV==1);time 30, error TRMNT
665         BLPH.STATUS[298]=1
666         BLPH.STATUS[425]=0          !Flow totalizer OFF
667         t[31].OP=TMSTOP
668         goto POINT41
669         end if
670         wend
671
672
673
674
675         wait until (t[31].BSTS=="CTUP" or PSDHS.MV01==1)
676         if (PSDHS.MV01==1) goto TRMNT
677
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-39
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```
678         ![PICT[5].SW,FICT[5].SW=2,2]
679         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
680         [PIC[5].PSW,FIC[5].PSW=1,1]
681         BLPH.STATUS[298]=1
682         wait until (PVZSL[5].PV==1 & FVZSL[5].PV==1);time 30, error TRMNT
683         if (PVZSL[5].PV==1)         BLPH.STATUS[299]=1
684         if (FVZSL[5].PV==1)         BLPH.STATUS[300]=1
685         BLPH.STATUS[425]=0          !Flow totalizer OFF
686         t[31].OP=TMSTOP
687         if ((PVZSL[5].PV==1) and (FVZSL[2].PV==1)) then
688         BLPH.STATUS[335]=1
689         else
690         BLPH.STATUS[335]=0
691         goto TRMNT
692         end if
693         !wait until (PVZSL[5].PV==1 & FVZSL[5].PV==1)
694
695
696         !---------------------------------PURGING-VESSEL-F-------------------------------------------------------------------------
697         POINT41:
698         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
699         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
700
701         if (NPHS.MV01==1) x[3]= x[1]
702         if (NPHS.MV03==1) x[3]= x[2]
703         %.TEST[1]=X[3]
704         if  (dscheck(PT[6].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-F INLET P","RESSURE TX      "
            ,"25-PT-49 IS IN F","AULT CONDITION  "]
705
706         wait until (dscheck(PT[6].#PV,"BAD")==0);time 1, error TRMNT
707         if (x[3]<=PT[6].PV)   then
708         BLPH.STATUS[372]=1
709         goto POINT48
710         else
711         BLPH.STATUS[371]=1
712         end if
713
714
715         !FICT[6].SW=1          !Select PID loop
716
717         !Revised logic - instead of AUT
718         FIC[6].MODE = "CAS"
719
720         BLPH.STATUS[373]=1
721
722         t[32].PH=BLPH.DLY[32]   ! Timer T3A
723         t[32].OP=TMSTAT
724         BLPH.STATUS[426]=1 !Flow totalizer ON
725
726         while(t[32].BSTS<>"CTUP")
727                if (PT[6].PV>=2.0 or PSDHS.MV01==1) then
728                     if (PSDHS.MV01==1) goto TRMNT
729                   BLPH.STATUS[374]=1
730                     goto POINT44
731                end if
732             if (GRAD[6].PV==1) then
733         !       FICT[6].SW=2
734                FIC[6].PSW = 1
735                BLPH.STATUS[375]=1
736                BLPH.STATUS[426]=0 !Flow totalizer ON
737                t[32].OP=TMSTOP
738                goto TRMNT
739             else
740                BLPH.STATUS[375]=0
741             end if
742         wend
743
744         while(t[32].BSTS=="CTUP")
745         if (PT[6].PV<2.0 or GRAD[6].PV==1)  then
746         TXAAH[6].PV=1
747         !FICT[6].SW=2
748         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
749          FIC[6].PSW = 1
750         BLPH.STATUS[375]=1
751         BLPH.STATUS[426]=0 !Flow totalizer ON
752         goto TRMNT
753         else
754         BLPH.STATUS[375]=0
755         goto POINT44
756         end if
757         wend@
758
759
760
761
762
763         POINT44:
764
765         t[32].PV=t[32].PH
766         !PICT[6].SW=1
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-40
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
767       !Revised logic - instead of AUT
768       PICSP[6].SV = 2.0
769       PIC[6].MODE = "CAS"
770
771       BLPH.STATUS[376]=1
772       t[33].PH=BLPH.DLY[33]      !Timer T4A
773       t[33].OP=TMSTAT
774
775       while(t[33].BSTS<>"CTUP" and PSDHS.MV01==0 )
776       if(PT[6].PV<1.5)then
777       ![PICT[6].SW,FICT[6].SW=2,2]
778       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
779       [PIC[6].PSW,FIC[6].PSW=1,1]
780
781       wait until (PVZSL[6].PV==1 & FVZSL[6].PV==1);time 30, error TRMNT
782       BLPH.STATUS[377]=1
783       BLPH.STATUS[426]=0          !Flow totalizer OFF
784       t[33].OP=TMSTOP
785       goto TRMNT
786       end if
787       wend
788
789       wait until (t[33].BSTS=="CTUP" or PSDHS.MV01==1)
790       if (PSDHS.MV01==1) goto TRMNT
791
792       ![PICT[6].SW,FICT[6].SW=2,2]
793
794       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
795       [PIC[6].PSW,FIC[6].PSW=1,1]
796
797       BLPH.STATUS[377]=1
798       wait until (PVZSL[6].PV==1 & FVZSL[6].PV==1);time 30, error TRMNT
799       if (PVZSL[6].PV==1)         BLPH.STATUS[378]=1
800       if (FVZSL[6].PV==1)         BLPH.STATUS[379]=1
801       BLPH.STATUS[426]=0          !Flow totalizer OFF
802       t[33].OP=TMSTOP
803       if ((PVZSL[6].PV==1) and (FVZSL[6].PV==1))then
804        BLPH.STATUS[336]=1
805       else
806       BLPH.STATUS[336]=0
807       goto TRMNT
808       end if
809       !wait until (PVZSL[6].PV==1 & FVZSL[6].PV==1)
810
811
812
813       goto POINT48
814
815
816       TRMNT:
817
818       !Put the controllers 25-FIC-031/032/033/034/038/036 in Auto mode and force the output to 0BLPH.
819       !Close all FV valves that are installed on the inlet lines of each H2 Storage Vessel: 25-FV-031/032/033/034/038/036
820       !• Time to close the valves is 20 sec
821       !• The feedback statuses are 25-ZSL-031/032/033/034/038/036. When all feedback statuses are active proceed with below point.
822
823       SDNFQISW.PV = 0                          !Flow Totalizer off
824
825       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PURGING AFT SHUT","DOWN SEQ FAILED ","DUE TO VLV OR TR","ANSMITTER FAULT
           "]
826       !for i=1 to 6
827       !    [FIC[i].MODE,FICT[i].MODE,FICT[i].SW="AUT","AUT",2]
828       !next@
829
830       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
831
832        for i=1 to 6
833          FIC[i].PSW = 1
834        next@
835
836       !4) Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
837       !Close all PV valves that are installed on the outlet lines of each H2 Storage Vessel:
838       !25-PV-035/037/040/043/046/049
839       !• Time to close the valves is 20 sec
840       !The feedback statuses are 25-ZSL-035/037/040/043/046/049. When all feedback statuses are active proceed with below point.
841
842       !for i=1 to 6
843       !    [PIC[i].MODE,PICT[i].MODE,PICT[i].SW="AUT","AUT",2]
844       !next@
845
846       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
847
848        for i=1 to 6
849          PIC[i].PSW = 1
850        next@
851
852       DELAY 30000
853       wait until (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1)
854       BLPH.STATUS[253]=0
855
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-41
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
856
857         wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1)
858         BLPH.STATUS[254]=0
859         BLPH.TRANSIT=13
860         !wait until (ENMODE.PV<>10 | BLPH.TRANSIT<>13)
861
862
863         POINT48:
864
865         for i=22 to 33
866                 t[i].PV=t[i].PH
867                t[i].OP=TMSTOP
868         next@
869
870         BLPH.SHTPUR=0       !USED IN RESEACH MODE RESRTRICTION
871         BLPH.TRANSIT=13
872         !wait until (ENMODE.PV<>10 | BLPH.TRANSIT<>18)
873
874         SDNFQISW.PV = 0                             !Flow Totalizer off
875
876         for i= 1 to 450
877         BLPH.STATUS[i]=0
878         next@
879
880
```

Step Number: 4 Comment:PURGING-MNTNCE X: 6 Y: 17

```
Line Number   SEBOL Program
   001        float x[3]
   002        !The operator through a software push button on HMI wil activate the “Purging mode after Shutdown (for H2 displacement)”.
   003        !This push button will be active only in electrical “Research mode”.
   004
   005
   006        BLPH.STATE="PURGING"
   007        BLPH.MNTPUR=1                     !USED IN RESEACH MODE RESRTRICTION
   008        for i=34 to 45
   009             t[i].PV=t[i].PH
   010            t[i].OP=TMSTOP
   011        next@
   012
   013        [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PURGING MODE AFT","ER SHUTDOWN (FOR"," H2) IS ACTIVE",""]
   014
   015        *1) Close all XV valves that are installed on the inlet line of each H2 Storage Vessel:
   016        !25-XV-004/008/011/014/017/020
   017
   018        [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   019        delaycycle 3
   020        [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
   021
   022
   023        !Time to close the valves is 3 sec
   024        !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
   025
   026        wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0);time 10, error TRMNT
   027        BLPH.STATUS[301]=1
   028
   029        !Close all XV valves that are installed on the outlet line of each H2 Storage Vessel:
   030        !25-XV-006/009/012/015/018/021
   031
   032        [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   033        delaycycle 3
   034        [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
   035
   036
   037        !Time to close the valves is 3 sec
   038        !The feedback statuses are 25-ZSL-006/009/012/015/018/021. When all feedback statuses are active proceed with below point.
   039
   040        wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0);time 10, error TRMNT
   041        BLPH.STATUS[302]=1
   042        !Put the controllers 25-FIC-031/032/033/034/038/036 in Auto mode and force the output to 0BLPH.
   043        !Close all FV valves that are installed on the inlet lines of each H2 Storage Vessel: 25-FV-031/032/033/034/038/036
   044        !• Time to close the valves is 20 sec
   045        !• The feedback statuses are 25-ZSL-031/032/033/034/038/036. When all feedback statuses are active proceed with below point.
   046
   047        !for i=1 to 6
   048        !    [FIC[i].MODE,FICT[i].MODE,FICT[i].SW="AUT","AUT",2]
   049        !next@
   050
   051
   052        !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
   053
   054        for i=1 to 6
   055            FIC[i].PSW = 1
   056        next@
   057
   058
   059        wait until (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1);time 30, error TR
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-42
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
          MNT
060       BLPH.STATUS[303]=1
061
062       !4) Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
063       !Close all PV valves that are installed on the outlet lines of each H2 Storage Vessel:
064       !25-PV-035/037/040/043/046/049
065       !• Time to close the valves is 20 sec
066       !The feedback statuses are 25-ZSL-035/037/040/043/046/049. When all feedback statuses are active proceed with below point.
067
068       !for i=1 to 6
069       !    [PIC[i].MODE,PICT[i].MODE,PICT[i].SW="AUT","AUT",2]
070       !next@
071
072       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
073
074       for i=1 to 6
075           PIC[i].PSW = 1
076       next@
077
078       wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1);time 30, error TR
          MNT
079       BLPH.STATUS[304]=1
080       !Open the valve 64-SDV-001
081       wait until (O64SDV.PV==2 OR PMTHS.MV01==1)
082        if (PMTHS.MV01==1) goto TRMNT
083       BLPH.STATUS[305]=1
084
085       !---------------------------------PURGING-VESSEL-A-------------------------------------------------------------------------
086
087       !If 64-PT-031A/B (depends on the control valve 64-PV-031A/B that is working) > 25-PT-035 proceed with below point,
088       !if 64-PT-031A/B (depends on the control valve that is working) . 25-PT-035 go to point 13
089
090       x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
091       x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
092       !x[3]=dmax(x[1],x[2])
093
094       if (NPHS.MV01==1) x[3]= x[1]
095       if (NPHS.MV03==1) x[3]= x[2]
096       %.TEST[1]=X[3]
097       if  (dscheck(PT[1].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-A INLET P","RESSURE TX      "
          ,"25-PT-35 IS IN F","AULT CONDITION  "]
098       wait until (dscheck(PT[1].#PV,"BAD")==0);time 1, error TRMNT
099
100       if (x[3]<=PT[1].PV)   then
101       BLPH.STATUS[307]=1
102       goto POINT13
103       else
104       BLPH.STATUS[306]=1
105       end if
106
107
108       !Remove the forced output 0% of the controller 25-FIC-031 (installed on Nitrogen inlet line
109       !to V-25001A) and fix the set point to 42 Nm3/hr
110       !FICT[1].SW=1          !Select PID loop
111
112       !Revised logic - instead of AUT
113
114       FIC[1].MODE = "CAS"
115
116       BLPH.STATUS[308]=1
117
118       !Start a timer T5A= 5 Hrs, check during the time the following:
119       !if the 25-PI-035. 2 barg proceed with below point.
120       !if the 25-PI-035< 2 barg when timer is expired a time alarm T5AAH will alert
121       !the operator that the vessel has not reach the pressure within the desired time, force output 0%
122       !of the controllers 25-FIC-031 and proceed with below point 13.
123
124       t[34].PH=BLPH.DLY[34]                                                                                                    ! Timer T5
          A=5HES
125       t[34].OP=TMSTAT
126       BLPH.STATUS[421]=1 !Flow totalizer ON
127
128       while(t[34].BSTS<>"CTUP")
129             if (PT[1].PV>=2.0 or PMTHS.MV01==1) then
130       if (PMTHS.MV01==1) goto TRMNT
131                BLPH.STATUS[309]=1
132                  goto POINT9
133              end if
134           if (GRAD[1].PV==1) then
135       !       FICT[1].SW=2
136              FIC[1].PSW=1
137              BLPH.STATUS[310]=1
138              BLPH.STATUS[421]=0 !Flow totalizer ON
139              t[34].OP=TMSTOP
140              goto POINT13
141           else
142              BLPH.STATUS[310]=0
143           end if
144       wend
145
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-43
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
146         while(t[34].BSTS=="CTUP")
147         if (PT[1].PV<2.0 or GRAD[1].PV==1)  then
148         T1XAAH[1].PV=1
149         !FICT[1].SW=2
150         FIC[1].PSW=1
151         BLPH.STATUS[310]=1
152         BLPH.STATUS[421]=0 !Flow totalizer ON
153         goto POINT13
154         else
155         BLPH.STATUS[310]=0
156         goto POINT9
157         end if
158         wend@
159
160         !Remove the forced output 0% of the controller 25-PIC-035 and fix the set point to 2 barg;
161         !Wait a timer T6A= 51 HRS= min, when the time is expired proceed with below point.
162         !Force output to 0% for both the controllers 25-FIC-031 and 25-PIC-035.
163         !Time to close 25-PV-035 and 25-FV-031 are 20 sec.
164         POINT9:
165         t[34].PV=t[34].PH
166
167         !PICT[1].SW=1
168
169         !Revised logic - instead of AUTO
170         PICSP[1].SV = 2.0
171         PIC[1].MODE = "CAS"
172
173         BLPH.STATUS[311]=1
174         t[35].PH=BLPH.DLY[35]                                                                    !Timer T6A*51 hrs
175         t[35].OP=TMSTAT
176
177         while(t[35].BSTS<>"CTUP" and PMTHS.MV01==0 )
178         if(PT[1].PV<1.5)then
179         ![PICT[1].SW,FICT[1].SW=2,2]
180
181         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
182         [PIC[1].PSW,FIC[1].PSW=1,1]
183
184         wait until (PVZSL[1].PV==1 & FVZSL[1].PV==1);time 30, error TRMNT
185         BLPH.STATUS[312]=1
186         BLPH.STATUS[421]=0          !Flow totalizer OFF
187         t[35].OP=TMSTOP
188         goto POINT13
189         end if
190         wend
191
192         wait until (t[35].BSTS=="CTUP" or PMTHS.MV01==1)
193         if (PMTHS.MV01==1) goto TRMNT
194
195         ![PICT[1].SW,FICT[1].SW=2,2]
196
197         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
198         [PIC[1].PSW,FIC[1].PSW=1,1]
199
200         BLPH.STATUS[312]=1
201         wait until (PVZSL[1].PV==1 & FVZSL[1].PV==1);time 30, error TRMNT
202         if (PVZSL[1].PV==1)         BLPH.STATUS[313]=1
203         if (FVZSL[1].PV==1)         BLPH.STATUS[314]=1
204         BLPH.STATUS[421]=0          !Flow totalizer OFF
205         t[47].OP=TMSTOP
206         if ((PVZSL[1].PV==1) and (FVZSL[1].PV==1)) then
207         BLPH.STATUS[354]=1
208         else
209         BLPH.STATUS[354]=0
210          goto TRMNT
211         end if
212
213
214         !--------------------------------PURGING-VESSEL-B-------------------------------------------------------------------------
215         POINT13:
216         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
217         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
218         !x[3]=dmax(x[1],x[2])
219
220         if (NPHS.MV01==1) x[3]= x[1]
221         if (NPHS.MV03==1) x[3]= x[2]
222         %.TEST[1]=X[3]
223         if  (dscheck(PT[2].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-B INLET P","RESSURE TX      "
            ,"25-PT-37 IS IN F","AULT CONDITION  "]
224
225         wait until (dscheck(PT[2].#PV,"BAD")==0);time 1, error TRMNT
226         if (x[3]<=PT[2].PV)   then
227         BLPH.STATUS[316]=1
228         goto POINT20
229         else
230         BLPH.STATUS[315]=1
231         end if
232
233         !FICT[2].SW=1          !Select PID loop
234
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-44
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
235       !Revised logic - instead of AUT
236
237       FIC[2].MODE = "CAS"
238
239       BLPH.STATUS[317]=1
240
241
242       t[36].PH=BLPH.DLY[36]   ! Timer T5A
243       t[36].OP=TMSTAT
244       BLPH.STATUS[422]=1 !Flow totalizer ON
245
246       while(t[36].BSTS<>"CTUP")
247             if (PT[2].PV>=2.0 or PMTHS.MV01==1) then
248       if (PMTHS.MV01==1) goto TRMNT
249                BLPH.STATUS[318]=1
250                  goto POINT16
251              end if
252           if (GRAD[2].PV==1) then
253       !       FICT[2].SW=2
254              FIC[2].PSW = 1
255              BLPH.STATUS[319]=1
256              BLPH.STATUS[422]=0 !Flow totalizer ON
257              t[36].OP=TMSTOP
258              goto POINT20
259           else
260               BLPH.STATUS[319]=0
261           end if
262       wend
263
264
265       while(t[36].BSTS=="CTUP")
266       if (PT[2].PV<2.0 or GRAD[2].PV==1)  then
267       T1XAAH[2].PV=1
268       !FICT[2].SW=2
269
270       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
271       FIC[2].PSW=1
272
273       BLPH.STATUS[319]=1
274       BLPH.STATUS[422]=0 !Flow totalizer ON
275       goto POINT20
276       else
277       BLPH.STATUS[319]=0
278       goto POINT16
279       end if
280       wend@
281
282
283
284
285       POINT16:
286       t[36].PV=t[36].PH
287       !PICT[2].SW=1
288
289       !Revised logic - instead of AUT
290       PICSP[2].SV = 2.0
291       PIC[2].MODE = "CAS"
292
293       BLPH.STATUS[320]=1
294       t[37].PH=BLPH.DLY[37]      !Timer T4A
295       t[37].OP=TMSTAT
296
297       while(t[37].BSTS<>"CTUP" and PMTHS.MV01==0 )
298       if(PT[2].PV<1.5)then
299       ![PICT[2].SW,FICT[2].SW=2,2]
300
301       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
302       [PIC[2].PSW,FIC[2].PSW=1,1]
303
304       wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1);time 30, error TRMNT
305       BLPH.STATUS[321]=1
306       BLPH.STATUS[422]=0          !Flow totalizer OFF
307       t[37].OP=TMSTOP
308       goto POINT20
309       end if
310       wend
311
312
313
314
315       wait until (t[37].BSTS=="CTUP" or PMTHS.MV01==1)
316       if (PMTHS.MV01==1) goto TRMNT
317
318       ![PICT[2].SW,FICT[2].SW=2,2]
319
320       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
321       [PIC[2].PSW,FIC[2].PSW=1,1]
322
323       BLPH.STATUS[321]=1
324       wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1);time 30, error TRMNT
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-45
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
325       if (PVZSL[2].PV==1)         BLPH.STATUS[322]=1
326       if (FVZSL[2].PV==1)         BLPH.STATUS[323]=1
327       BLPH.STATUS[422]=0          !Flow totalizer OFF
328       t[37].OP=TMSTOP
329       if ((PVZSL[2].PV==1) and (FVZSL[2].PV==1)) then
330       BLPH.STATUS[355]=1
331       else
332       BLPH.STATUS[355]=0
333       end if
334
335
336       !---------------------------------PURGING-VESSEL-C-------------------------------------------------------------------------
337       POINT20:
338       x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
339       x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
340       !x[3]=dmax(x[1],x[2])
341
342       if (NPHS.MV01==1) x[3]= x[1]
343       if (NPHS.MV03==1) x[3]= x[2]
344       %.TEST[1]=X[3]
345       if  (dscheck(PT[3].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-C INLET P","RESSURE TX      "
          ,"25-PT-40 IS IN F","AULT CONDITION  "]
346
347       wait until (dscheck(PT[3].#PV,"BAD")==0);time 1, error TRMNT
348       if (x[3]<=PT[3].PV)   then
349       BLPH.STATUS[325]=1
350       goto POINT27
351       else
352       BLPH.STATUS[324]=1
353       end if
354
355
356
357       !FICT[3].SW=1          !Select PID loop
358       !Revised logic - instead of AUT
359       FIC[3].MODE = "CAS"
360
361       BLPH.STATUS[326]=1
362
363
364       t[38].PH=BLPH.DLY[38]   ! Timer T5A
365       t[38].OP=TMSTAT
366       BLPH.STATUS[423]=1 !Flow totalizer ON
367
368       while(t[38].BSTS<>"CTUP")
369          if (PT[3].PV>=2.0 or PMTHS.MV01==1) then
370       if (PMTHS.MV01==1) goto TRMNT
371                 BLPH.STATUS[327]=1
372                   goto POINT23
373              end if
374           if (GRAD[3].PV==1) then
375       !       FICT[3].SW=2
376              FIC[3].PSW = 1
377               BLPH.STATUS[328]=1
378               BLPH.STATUS[423]=0 !Flow totalizer ON
379               t[38].OP=TMSTOP
380               goto POINT27
381           else
382               BLPH.STATUS[328]=0
383           end if
384       wend
385
386
387       while(t[38].BSTS=="CTUP")
388       if (PT[3].PV<2.0 or GRAD[3].PV==1)  then
389       T1XAAH[3].PV=1
390       !FICT[3].SW=2
391       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
392       FIC[3].PSW = 1
393       BLPH.STATUS[328]=1
394       BLPH.STATUS[423]=0 !Flow totalizer ON
395       goto POINT27
396       else
397       BLPH.STATUS[328]=0
398       goto POINT23
399       end if
400       wend@
401
402
403
404
405
406
407
408       POINT23:
409       t[38].PV=t[38].PH
410       !PICT[3].SW=1
411       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
412       PICSP[3].SV = 2.0
413       PIC[3].MODE = "CAS"
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-46
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
414
415         BLPH.STATUS[329]=1
416         t[39].PH=BLPH.DLY[39]      !Timer T4A
417         t[39].OP=TMSTAT
418
419         while(t[39].BSTS<>"CTUP" and PMTHS.MV01==0 )
420         if(PT[3].PV<1.5)then
421         ![PICT[3].SW,FICT[3].SW=2,2]
422         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
423         [PIC[3].PSW,FIC[3].PSW=1,1]
424         wait until (PVZSL[3].PV==1 & FVZSL[3].PV==1);time 30, error TRMNT
425         BLPH.STATUS[330]=1
426         BLPH.STATUS[423]=0          !Flow totalizer OFF
427         t[39].OP=TMSTOP
428         goto POINT27
429         end if
430         wend
431
432
433
434
435         wait until (t[39].BSTS=="CTUP" or PMTHS.MV01==1)
436         if (PMTHS.MV01==1) goto TRMNT
437
438         ![PICT[3].SW,FICT[3].SW=2,2]
439         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
440         [PIC[3].PSW,FIC[3].PSW=1,1]
441
442         BLPH.STATUS[330]=1
443         wait until (PVZSL[3].PV==1 & FVZSL[3].PV==1);time 30, error TRMNT
444         if (PVZSL[3].PV==1)         BLPH.STATUS[331]=1
445         if (FVZSL[3].PV==1)         BLPH.STATUS[332]=1
446         BLPH.STATUS[423]=0          !Flow totalizer OFF
447         t[39].OP=TMSTOP
448
449         if ((PVZSL[3].PV==1) and (FVZSL[3].PV==1))then
450          BLPH.STATUS[356]=1
451         else
452          BLPH.STATUS[356]=0
453          goto TRMNT
454         end if
455         !wait until (PVZSL[3].PV==1 & FVZSL[3].PV==1)
456
457         !---------------------------------PURGING-VESSEL-D-------------------------------------------------------------------
458         POINT27:
459         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
460         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
461         !x[3]=dmax(x[1],x[2])
462
463         if (NPHS.MV01==1) x[3]= x[1]
464         if (NPHS.MV03==1) x[3]= x[2]
465         %.TEST[1]=X[3]
466         if  (dscheck(PT[4].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-D INLET P","RESSURE TX      "
            ,"25-PT-43 IS IN F","AULT CONDITION  "]
467
468         wait until (dscheck(PT[4].#PV,"BAD")==0);time 1, error TRMNT
469         if (x[3]<=PT[4].PV)   then
470         BLPH.STATUS[334]=1
471         goto POINT34
472         else
473         BLPH.STATUS[333]=1
474         end if
475
476
477         !FICT[4].SW=1          !Select PID loop
478         !Revised logic - instead of AUT
479         FIC[4].MODE = "CAS"
480
481         BLPH.STATUS[335]=1
482
483
484         t[40].PH=BLPH.DLY[40]   ! Timer T5A
485         t[40].OP=TMSTAT
486         BLPH.STATUS[424]=1 !Flow totalizer ON
487
488         while(t[40].BSTS<>"CTUP")
489                if (PT[4].PV>=2.0 or PMTHS.MV01==1) then
490         if (PMTHS.MV01==1) goto TRMNT
491                   BLPH.STATUS[336]=1
492                     goto POINT30
493                end if
494             if (GRAD[4].PV==1) then
495         !       FICT[4].SW=2
496                FIC[4].PSW = 1
497                 BLPH.STATUS[337]=1
498                 BLPH.STATUS[424]=0 !Flow totalizer ON
499                 t[40].OP=TMSTOP
500                 goto POINT34
501             else
502                 BLPH.STATUS[337]=0
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-47
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```
503             end if
504         wend
505
506
507         while(t[40].BSTS=="CTUP")
508         if (PT[4].PV<2.0 or GRAD[4].PV==1)  then
509         T1XAAH[4].PV=1
510         !FICT[4].SW=2
511         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
512         FIC[4].PSW = 1
513
514         BLPH.STATUS[337]=1
515         BLPH.STATUS[424]=0 !Flow totalizer ON
516         goto POINT34
517         else
518         BLPH.STATUS[337]=0
519         goto POINT30
520         end if
521         wend@
522
523
524
525         POINT30:
526         t[40].PV=t[40].PH
527         !PICT[4].SW=1
528         !Revised logic - instead of AUT
529         PICSP[4].SV = 2.0
530         PIC[4].MODE = "CAS"
531
532         BLPH.STATUS[338]=1
533         t[41].PH=BLPH.DLY[41]      !Timer T4A
534         t[41].OP=TMSTAT
535
536         while(t[41].BSTS<>"CTUP" and PMTHS.MV01==0 )
537         if(PT[4].PV<1.5)then
538         ![PICT[4].SW,FICT[4].SW=2,2]
539         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
540         [PIC[4].PSW,FIC[4].PSW=1,1]
541
542         wait until (PVZSL[4].PV==1 & FVZSL[4].PV==1);time 30, error TRMNT
543         BLPH.STATUS[339]=1
544         BLPH.STATUS[424]=0          !Flow totalizer OFF
545         t[41].OP=TMSTOP
546         goto POINT34
547         end if
548         wend
549
550         wait until (t[41].BSTS=="CTUP" or PMTHS.MV01==1)
551         if (PMTHS.MV01==1) goto TRMNT
552
553         ![PICT[4].SW,FICT[4].SW=2,2]
554         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
555         [PIC[4].PSW,FIC[4].PSW=1,1]
556
557         BLPH.STATUS[339]=1
558         wait until (PVZSL[4].PV==1 & FVZSL[4].PV==1);time 30, error TRMNT
559         if (PVZSL[4].PV==1)         BLPH.STATUS[340]=1
560         if (FVZSL[4].PV==1)         BLPH.STATUS[341]=1
561         BLPH.STATUS[424]=0          !Flow totalizer OFF
562         t[41].OP=TMSTOP
563         if ((PVZSL[4].PV==1) and (FVZSL[4].PV==1))then
564          BLPH.STATUS[357]=1
565         else
566         BLPH.STATUS[357]=0
567         goto TRMNT
568         end if
569         !wait until (PVZSL[2].PV==1 & FVZSL[2].PV==1)
570
571
572         !---------------------------------PURGING-VESSEL-E-------------------------------------------------------------------------
573         POINT34:
574         x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
575         x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
576         !x[3]=dmax(x[1],x[2])
577
578         if (NPHS.MV01==1) x[3]= x[1]
579         if (NPHS.MV03==1) x[3]= x[2]
580         %.TEST[1]=X[3]
581         if  (dscheck(PT[5].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-E INLET P","RESSURE TX      "
            ,"25-PT-43 IS IN F","AULT CONDITION  "]
582
583         wait until (dscheck(PT[5].#PV,"BAD")==0);time 1, error TRMNT
584         if (x[3]<=PT[5].PV)   then
585         BLPH.STATUS[343]=1
586         goto POINT41
587         else
588         BLPH.STATUS[342]=1
589         end if
590
591
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-48
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
592       !FICT[5].SW=1          !Select PID loop
593
594       !Revised logic - instead of AUT
595       FIC[5].MODE = "CAS"
596
597       BLPH.STATUS[344]=1
598
599       t[42].PH=BLPH.DLY[42]   ! Timer T5A
600       t[42].OP=TMSTAT
601       BLPH.STATUS[425]=1 !Flow totalizer ON
602
603       while(t[42].BSTS<>"CTUP")
604             if (PT[5].PV>=2.0 or PMTHS.MV01==1) then
605       if (PMTHS.MV01==1) goto TRMNT
606                BLPH.STATUS[345]=1
607                  goto POINT37
608              end if
609           if (GRAD[5].PV==1) then
610       !       FICT[5].SW=2
611              FIC[5].PSW=1
612              BLPH.STATUS[346]=1
613              BLPH.STATUS[425]=0 !Flow totalizer ON
614              t[46].OP=TMSTOP
615              goto POINT41
616           else
617              BLPH.STATUS[346]=0
618           end if
619       wend
620
621       while(t[42].BSTS=="CTUP")
622       if (PT[5].PV<2.0 or GRAD[5].PV==1)  then
623       T1XAAH[5].PV=1
624       !FICT[5].SW=2
625       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
626       FIC[5].PSW=1
627       BLPH.STATUS[346]=1
628       BLPH.STATUS[425]=0 !Flow totalizer ON
629       goto POINT41
630       else
631       BLPH.STATUS[346]=0
632       goto POINT37
633       end if
634       wend@
635
636
637
638
639       POINT37:
640
641       t[42].PV=t[42].PH
642       !PICT[5].SW=1
643       !Revised logic - instead of AUT
644       PICSP[5].SV = 2.0
645       PIC[5].MODE = "CAS"
646
647       BLPH.STATUS[347]=1
648       t[43].PH=BLPH.DLY[43]      !Timer T4A
649       t[43].OP=TMSTAT
650
651       while(t[43].BSTS<>"CTUP" and PMTHS.MV01==0 )
652       if(PT[5].PV<1.5)then
653       ![PICT[5].SW,FICT[5].SW=2,2]
654
655       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
656       [PIC[5].PSW,FIC[5].PSW=1,1]
657
658       wait until (PVZSL[5].PV==1 & FVZSL[5].PV==1);time 30, error TRMNT
659       BLPH.STATUS[348]=1
660       BLPH.STATUS[425]=0          !Flow totalizer OFF
661       t[43].OP=TMSTOP
662       goto POINT41
663       end if
664       wend
665
666
667
668
669       wait until (t[43].BSTS=="CTUP" or PMTHS.MV01==1)
670       if (PMTHS.MV01==1) goto TRMNT
671
672       ![PICT[5].SW,FICT[5].SW=2,2]
673       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
674       [PIC[5].PSW,FIC[5].PSW=1,1]
675
676       BLPH.STATUS[298]=1
677       wait until (PVZSL[5].PV==1 & FVZSL[5].PV==1);time 30, error TRMNT
678       if (PVZSL[5].PV==1)         BLPH.STATUS[299]=1
679       if (FVZSL[5].PV==1)         BLPH.STATUS[300]=1
680       BLPH.STATUS[425]=0          !Flow totalizer OFF
681       t[43].OP=TMSTOP
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-49
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
682       if ((PVZSL[5].PV==1) and (FVZSL[2].PV==1)) then
683       BLPH.STATUS[359]=1
684       else
685       BLPH.STATUS[359]=0
686       goto TRMNT
687       end if
688       !wait until (PVZSL[5].PV==1 & FVZSL[5].PV==1)
689
690
691       !--------------------------------PURGING-VESSEL-F-------------------------------------------------------------------------
692       POINT41:
693       x[1]=(dscheck(PT[7].#PV,"BAD")==0)*(PT[7].PV)
694       x[2]=(dscheck(PT[8].#PV,"BAD")==0)*(PT[8].PV)
695
696       if (NPHS.MV01==1) x[3]= x[1]
697       if (NPHS.MV03==1) x[3]= x[2]
698       %.TEST[1]=X[3]
699       if  (dscheck(PT[6].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-F INLET P","RESSURE TX      "
          ,"25-PT-49 IS IN F","AULT CONDITION  "]
700
701       wait until (dscheck(PT[6].#PV,"BAD")==0);time 1, error TRMNT
702       if (x[3]<=PT[6].PV)   then
703       BLPH.STATUS[382]=1
704       goto POINT48
705       else
706       BLPH.STATUS[381]=1
707       end if
708
709
710       !FICT[6].SW=1          !Select PID loop
711
712       !Revised logic - instead of AUT
713       FIC[6].MODE = "CAS"
714
715       BLPH.STATUS[383]=1
716
717       t[44].PH=BLPH.DLY[44]   ! Timer T5A
718       t[44].OP=TMSTAT
719       BLPH.STATUS[426]=1 !Flow totalizer ON
720
721       while(t[44].BSTS<>"CTUP")
722             if (PT[6].PV>=2.0 or PMTHS.MV01==1) then
723       if (PMTHS.MV01==1) goto TRMNT
724                 BLPH.STATUS[384]=1
725                   goto POINT44
726              end if
727           if (GRAD[6].PV==1) then
728       !       FICT[6].SW=2
729              FIC[6].PSW=1
730               BLPH.STATUS[385]=1
731               BLPH.STATUS[426]=0 !Flow totalizer ON
732               t[44].OP=TMSTOP
733               goto TRMNT
734           else
735               BLPH.STATUS[385]=0
736           end if
737       wend
738
739       while(t[44].BSTS=="CTUP")
740       if (PT[6].PV<2.0 or GRAD[6].PV==1)  then
741       T1XAAH[6].PV=1
742       !FICT[6].SW=2
743       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
744       FIC[6].PSW=1
745       BLPH.STATUS[385]=1
746       BLPH.STATUS[426]=0 !Flow totalizer ON
747       goto TRMNT
748       else
749       BLPH.STATUS[385]=0
750       goto POINT44
751       end if
752       wend@
753
754
755
756
757       POINT44:
758
759       t[44].PV=t[44].PH
760       !PICT[6].SW=1
761
762       !Revised logic - instead of AUT
763       PICSP[6].SV = 2.0
764       PIC[6].MODE = "CAS"
765
766
767       BLPH.STATUS[386]=1
768       t[45].PH=BLPH.DLY[45]      !Timer T4A
769       t[45].OP=TMSTAT
770
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-50
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```
771         while(t[45].BSTS<>"CTUP" and PMTHS.MV01==0 )
772         if(PT[6].PV<1.5)then
773         ![PICT[6].SW,FICT[6].SW=2,2]
774
775         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
776         [PIC[6].PSW,FIC[6].PSW=1,1]
777
778         wait until (PVZSL[6].PV==1 & FVZSL[6].PV==1);time 30, error TRMNT
779         BLPH.STATUS[387]=1
780         BLPH.STATUS[426]=0          !Flow totalizer OFF
781         t[45].OP=TMSTOP
782         goto TRMNT
783         end if
784         wend
785
786         wait until (t[45].BSTS=="CTUP" or PMTHS.MV01==1)
787         if (PMTHS.MV01==1) goto TRMNT
788
789         ![PICT[6].SW,FICT[6].SW=2,2]
790         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
791         [PIC[6].PSW,FIC[6].PSW=1,1]
792
793         BLPH.STATUS[377]=1
794         wait until (PVZSL[6].PV==1 & FVZSL[6].PV==1);time 30, error TRMNT
795         if (PVZSL[6].PV==1)         BLPH.STATUS[388]=1
796         if (FVZSL[6].PV==1)         BLPH.STATUS[389]=1
797         BLPH.STATUS[426]=0          !Flow totalizer OFF
798         t[45].OP=TMSTOP
799         if ((PVZSL[6].PV==1) and (FVZSL[6].PV==1))then
800          BLPH.STATUS[359]=1
801         else
802         BLPH.STATUS[359]=0
803         goto TRMNT
804         end if
805         !wait until (PVZSL[6].PV==1 & FVZSL[6].PV==1)
806
807
808
809         goto POINT48
810
811
812
813         TRMNT:
814
815         !Put the controllers 25-FIC-031/032/033/034/038/036 in Auto mode and force the output to 0BLPH.
816         !Close all FV valves that are installed on the inlet lines of each H2 Storage Vessel: 25-FV-031/032/033/034/038/036
817         !• Time to close the valves is 20 sec
818         !• The feedback statuses are 25-ZSL-031/032/033/034/038/036. When all feedback statuses are active proceed with below point.
819         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PURG AFT MAINTEN","ANCE SEQ FAILED ","DUE TO VLV OR TR","ANSMITTER FAULT
             "]
820         !for i=1 to 6
821         !    [FIC[i].MODE,FICT[i].MODE,FICT[i].SW="AUT","AUT",2]
822         !next@
823
824         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
825
826         for i=1 to 6
827             FIC[i].PSW = 1
828         next@
829
830
831         !4) Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
832         !Close all PV valves that are installed on the outlet lines of each H2 Storage Vessel:
833         !25-PV-035/037/040/043/046/049
834         !• Time to close the valves is 20 sec
835         !The feedback statuses are 25-ZSL-035/037/040/043/046/049. When all feedback statuses are active proceed with below point.
836
837         !for i=1 to 6
838         !    [PIC[i].MODE,PICT[i].MODE,PICT[i].SW="AUT","AUT",2]
839         !next@
840
841         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
842
843         for i=1 to 6
844             PIC[i].PSW = 1
845         next@
846
847
848         DELAY 30000
849         wait until  (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1)
850         BLPH.STATUS[253]=0
851
852
853         wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1)
854         BLPH.STATUS[254]=0
855
856         BLPH.TRANSIT=13
857
858         POINT48:
859
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-51
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```
860        for i=34 to 45
861             t[i].PV=t[i].PH
862            t[i].OP=TMSTOP
863        next@
864
865        BLPH.MNTPUR=0                    !USED IN RESEACH MODE RESRTRICTION
866        BLPH.TRANSIT=13
867        !wait until (ENMODE.PV<>10 | BLPH.TRANSIT<>14)
868
869
870        for i= 1 to 450
871        BLPH.STATUS[i]=0
872        next@
873



Step Number: 5     Comment:PROCESS START UP                                    X:  8  Y: 17

Line Number   SEBOL Program
   001        BLPH.STATE="STARTUP CHARGING"
   002
   003        BLPH.STUPCHR=1               !USED IN RESEACH MODE RESRTRICTION
   004
   005        !The gProcess Start-up Charging modeh can be activated only if pressure in the H2 vessels is>=2 barg
   006        !(this to ensure there is not air inside the vessels): 25-PT-035/037/040/043/046/049>=2 barg
   007        !(this value depends on the chosen set point of pressure control valves during purging operation).
   008        !Let assume the sequence of the vessel to be filled is the following:
   009        !a. V-25001A
   010        !b. V-25001B
   011        !c. V-25001C
   012        !d. V-25001D
   013        !e. V-25001E
   014        !f. V-25001F
   015
   016        for i=10 to 21
   017             t[i].PV=   t[i].PH
   018            t[i].OP=TMSTOP
   019
   020        next@
   021        for i=401 to 408
   022        BLPH.STATUS[i]=0
   023        next@
   024        TOP:
   025
   026        !0)Close all FV valves that are installed on the inlet lines of each H2 Storage Vessel: 25-FV-031/032/033/034/038/036
   027        !• Time to close the valves is 20 sec
   028        !• The feedback statuses are 25-ZSL-031/032/033/034/038/036. When all feedback statuses are active proceed with below point.
   029
   030        !for i=1 to 6
   031        !    [FIC[i].MODE,FICT[i].MODE,FICT[i].SW="AUT","AUT",2]
   032        !next@
   033
   034        !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
   035
   036        for i=1 to 6
   037            FIC[i].PSW = 1
   038        next@
   039
   040        [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL     ","FLOW     CONTRO ","L VALVES
               "]
   041
   042        wait until (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1);time 30, error TR
              MNT
   043        [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="ALL FLOW     CON","TROL VALVES ARE","IN CLOSED POSITI","ON
              "]
   044        if (FVZSL[1].PV==1 & FVZSL[2].PV==1 & FVZSL[3].PV==1 & FVZSL[4].PV==1 & FVZSL[5].PV==1 & FVZSL[6].PV==1) then
   045        BLPH.STATUS[401]=1
   046        else
   047        BLPH.STATUS[401]=0
   048        end if
   049
   050
   051        !Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
   052
   053        ![PIC[1].MODE,PIC[2].MODE,PIC[3].MODE,PIC[4].MODE,PIC[5].MODE,PIC[6].MODE="CAS","CAS","CAS","CAS","CAS","CAS"]
   054        ![PICT[1].MODE,PICT[2].MODE,PICT[3].MODE,PICT[4].MODE,PICT[5].MODE,PICT[6].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
   055        ![PICT[1].SW,PICT[2].SW,PICT[3].SW,PICT[4].SW,PICT[5].SW,PICT[6].SW=2,2,2,2,2,2]
   056
   057        !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
   058
   059        for i=1 to 6
   060            PIC[i].PSW = 1
   061        next@
   062
   063        [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL     ","PRESSURE CONTRO ","L VALVES
               "]
   064        !Time to close the valves is 20 sec
   065        !The feedback statuses are 25-ZSL-035/037/040/043/046/049. When all feedback statuses are active proceed with below point.
   066
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-52
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
067
068
069       wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1);time 30, error TR
          MNT
070       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="ALL PRESSURE CON","TROL VALVES ARE","IN CLOSED POSITI","ON
          "]
071       BLPH.STATUS[402]=1
072
073       !1) Close all XV valves that are installed on the inlet lines of each H2 Storage Vessel:
074       !25-XV-004/008/011/014/017/020
075       !• Time to close the valves is 3 sec
076       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START U ","P CHARGING      ","OPERATION IS STA","RTED
           "]
077
078       [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
079       delaycycle 3
080       [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
081       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL H2  ","STORAGE INLET ON-OFF VALVES",""]
082
083
084       !Time to close the valves is 3 sec
085       !The feedback statuses are 25-ZSL-004/008/011/014/017/020. When all feedback statuses are active proceed with below point.
086
087       wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0);time 10, error TRMNT
088       BLPH.STATUS[211]=1
089       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="ALL H2 STORAGE I","NLET ON-OFF     ","VALVES ARE CLOSE","D"]
090
091       !Close all XV valves that are installed on the outlet line of each H2 Storage Vessel:
092       !25-XV-006/009/012/015/018/021
093
094       [XV[6].MODE,XV[9].MODE,XV[12].MODE,XV[15].MODE,XV[18].MODE,XV[21].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
095       delaycycle 3
096       [XV[6].CSV,XV[9].CSV,XV[12].CSV,XV[15].CSV,XV[18].CSV,XV[21].CSV=0,0,0,0,0,0]
097       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="CLOSE COMMAND IS","SUED TO ALL H2  ","STORAGE OUTLET O","N-OFF VALVES
           "]
098
099
100       !Time to close the valves is 3 sec
101       !The feedback statuses are 25-ZSL-006/009/012/015/018/021. When all feedback statuses are active proceed with below point.
102
103       wait until  (XV[6].PV==0 & XV[9].PV==0 & XV[12].PV==0 & XV[15].PV==0 & XV[18].PV==0 & XV[21].PV==0);time 10, error TRMNT
104       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="ALL H2 STORAGE O","UTET ON-OFF     ","VALVES ARE CLOSE","D"]
105       BLPH.STATUS[212]=1
106
107
108       !If 25-PT-035 < 2 barg go to point 10, If 25-PT-035>=2.0 proceed with below point
109       !Open the valve 25-XV-004, installed on the inlet line of the V-25001A;
110       !Time to open 25-XV-004 is 8 sec.
111       !The feedback status is 25-ZSH-004. When feedback status is active proceed with below point.
112       !Remove the forced output 0% of the controller 25-PIC-035 and fix the set point to 2 barg;
113       !Start a timer T2A= TBD min (to pressurize up to 30 barg), check during the time the following:
114       !if the 25-PI-035>=30 barg then close the valve 25-XV-004 (time to close 25-XV-004 is 3 sec.
115       !and the feedback status is 25-ZSL-004) and proceed with below point
116       !if the 25-PI-035 < 30 barg when timer is expired, close the valve 25-XV-004 (time to close 25-XV-004 is 3 sec.
117       !and the feedback status is 25-ZSL-004) and alert operator with alarm ¡§Process Start-up Charging Sequence
118       !Vessel A not completed¡¨ and proceed with below point
119       !INIT:
120       ******************************Vessel-A charging sequence*******************************
121       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-A PROCES ","S START UP      ","CHARGING IS IN P","ROGRESS
           "]
122
123       if  (dscheck(PT[1].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-A INLET P","RESSURE TX      "
          ,"25-PT-35 IS IN F","AULT CONDITION  "]
124
125       wait until (dscheck(PT[1].#PV,"BAD")==0);time 1, error TRMNT
126       if (  (dscheck(PT[1].#PV,"BAD")==0) & PT[1].PV<2.0) then
127       BLPH.STATUS[215]=1
128       goto POINT10
129       else
130       BLPH.STATUS[214]=1
131       XV[4].MODE="AUT"
132       XV[4].CSV=2
133       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-A ","INLET ON-OFF VAL","VE 25-XV-004
           "]
134       wait until (XV[4].PV==2);time 10, error TRMNT
135       if (XV[4].PV==2)    [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-A INLET O","N-OFF VALVE     ","25-XV-004 IS O
          PE","NED             "]
136       BLPH.STATUS[216]=1
137
138
139       PICSP[1].SV = 2.0
140
141       ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="CAS","AUT",1]
142
143       !Revised logic - instead of AUT
144
145       PIC[1].MODE = "CAS"
146
147
148       BLPH.STATUS[217]=1
```

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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
149       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-A PRESSUR","E CONTROL VALVE ","IN UNDER PID OPE","RATION
           "]
150       t[10].PH=BLPH.DLY[10]
151       t[10].OP=TMSTAT
152       !_____________________________________________________R01__________
153       while(t[10].BSTS=="NR" and STCGHS.MV01==0 )
154       If (PT[1].PV<1.5) then
155
156       ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="CAS","AUT",2]
157       !PIC[1].MODE = "CAS"
158
159       !Revised logic - instead of AUT
160
161       PIC[1].PSW = 1
162
163
164       XV[4].MODE="AUT"
165       XV[4].CSV=0
166       BLPH.STATUS[403]=1      ! alarm to operator
167       t[10].OP=TMSTOP
168       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-A IS","NOT COMPLETED"]
169       goto POINT10
170       Else
171       BLPH.STATUS[403]=0
172       End if
173       Wend
174       !_____________________________________________________________________
175
176       wait until   (t[10].BSTS=="CTUP" or STCGHS.MV01==1)                  !T1A= 28Hrs
177       if (STCGHS.MV01==1) goto TRMNT
178
179       ![PIC[1].MODE,PICT[1].MODE,PICT[1].SW="CAS","AUT",2]
180
181       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
182
183       PIC[1].PSW = 1
184
185       wait until (PVZSL[1].PV==1);time 30, error TRMNT
186       if    (PVZSL[1].PV==1)    BLPH.STATUS[218]=1
187
188
189       t[11].PH=BLPH.DLY[11]
190       t[11].OP=TMSTAT
191
192
193       wait until   (t[11].BSTS=="CTUP" or PT[1].PV>=30.0 or STCGHS.MV01==1 or GRAD[1].PV==1 )                  !T2A= 7Hrs, 30.0
194       if (STCGHS.MV01==1) goto TRMNT
195
196            if (PT[1].PV>=30.0 OR  GRAD[1].PV==1 ) then
197               t[11].OP=TMSTOP
198               XV[4].MODE="AUT"
199               XV[4].CSV=0
200               wait until (XV[4].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
201               if (STCGHS.MV01==1) goto TRMNT
202               BLPH.STATUS[219]=1
203            else
204              [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-A IS","NOT COMP
          LETED"]
205               BLPH.STATUS[220]=1
206               XV[4].MODE="AUT"
207               XV[4].CSV=0
208               wait until (XV[4].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
209               if (STCGHS.MV01==1) goto TRMNT
210            end if
211       end if
212
213
214
215       ******************************Vessel-B charging sequence*******************************
216       POINT10:
217       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-B PROCES ","S START UP      ","CHARGING IS IN P","ROGRESS
           "]
218
219       if  (dscheck(PT[2].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-B INLET P","RESSURE TX      "
          ,"25-PT-37 IS IN F","AULT CONDITION  "]
220
221       wait until (dscheck(PT[2].#PV,"BAD")==0);time 1, error TRMNT
222       if (  (dscheck(PT[2].#PV,"BAD")==0) & PT[2].PV<2.0) then
223       BLPH.STATUS[222]=1
224       goto POINT16
225       else
226       BLPH.STATUS[221]=1
227       XV[8].MODE="AUT"
228       XV[8].CSV=2
229       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-B ","INLET ON-OFF VAL","VE 25-XV-004
           "]
230       wait until (XV[8].PV==2);time 10, error TRMNT
231       if (XV[8].PV==2)    [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-B INLET O","N-OFF VALVE     ","25-XV-004 IS O
          PE","NED            "]
232       BLPH.STATUS[223]=1
```

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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
233
234         ![PIC[2].MODE,PICT[2].MODE,PICT[2].SW="CAS","AUT",1]
235
236         PICSP[2].SV = 2.0
237
238         !Revised logic - instead of AUT
239
240         PIC[2].MODE = "CAS"
241
242         BLPH.STATUS[224]=1
243         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-B PRESSUR","E CONTROL VALVE ","IN UNDER PID OPE","RATION
             "]
244         t[12].PH=BLPH.DLY[12]
245         t[12].OP=TMSTAT
246         !_____________________________________________________________R01___________
247         while(t[12].BSTS=="NR" and STCGHS.MV01==0 )
248         If (PT[2].PV<1.5) then
249         ![PIC[2].MODE,PICT[2].MODE,PICT[2].SW="CAS","AUT",2]
250
251         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
252
253         PIC[2].PSW = 1
254
255
256         XV[8].MODE="AUT"
257         XV[8].CSV=0
258         BLPH.STATUS[404]=1      ! alarm to operator
259         t[12].OP=TMSTOP
260         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-B IS","NOT COMPLETED"]
261         goto POINT16
262         Else
263         BLPH.STATUS[404]=0
264         End if
265         Wend
266         !_____________________________________________________________________________
267
268
269         wait until   (t[12].BSTS=="CTUP" or STCGHS.MV01==1)                   !T1B= 28Hrs.
270         if (STCGHS.MV01==1) goto TRMNT
271
272         ![PIC[2].MODE,PICT[2].MODE,PICT[2].SW="CAS","AUT",2]
273
274         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
275
276         PIC[2].PSW = 1
277
278         wait until (PVZSL[2].PV==1);time 30, error TRMNT
279         if    (PVZSL[2].PV==1)    BLPH.STATUS[225]=1
280         t[13].PH=BLPH.DLY[13]
281         t[13].OP=TMSTAT
282         wait until   (t[13].BSTS=="CTUP" or PT[2].PV>=30.0 or STCGHS.MV01==1 OR GRAD[2].PV==1)                   !T2B= TBD min
283         if (STCGHS.MV01==1) goto TRMNT
284
285              if (PT[2].PV>=30.0 or GRAD[2].PV==1) then
286                 t[13].OP=TMSTOP
287                 XV[8].MODE="AUT"
288                 XV[8].CSV=0
289                 wait until (XV[8].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
290                 if (STCGHS.MV01==1) goto TRMNT
291                BLPH.STATUS[226]=1
292              else
293                [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-B IS","NOT COMP
         LETED"]
294                 BLPH.STATUS[227]=1
295                 XV[8].MODE="AUT"
296                 XV[8].CSV=0
297                 if (STCGHS.MV01==1) goto TRMNT
298                wait until (XV[8].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
299              end if
300         end if
301
302         ********************************VESSEL-C charging sequence*******************************
303         POINT16:
304         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-C PROCES ","S START UP      ","CHARGING IS IN P","ROGRESS
             "]
305
306         if  (dscheck(PT[3].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-C INLET P","RESSURE TX      "
         ,"25-PT-40 IS IN F","AULT CONDITION  "]
307
308         wait until (dscheck(PT[3].#PV,"BAD")==0);time 1, error TRMNT
309         if (  (dscheck(PT[3].#PV,"BAD")==0) & PT[3].PV<2.0) then
310         BLPH.STATUS[229]=1
311         goto POINT22
312         else
313         BLPH.STATUS[228]=1
314         XV[11].MODE="AUT"
315         XV[11].CSV=2
316         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-C ","INLET ON-OFF VAL","VE 25-XV-004
             "]
317         wait until (XV[11].PV==2);time 10, error TRMNT
```

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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
318       if (XV[11].PV==2)    [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-C INLET O","N-OFF VALVE     ","25-XV-004 IS
          OPE","NED             "]
319       BLPH.STATUS[230]=1
320
321       [PIC[3].MODE,PICT[3].MODE,PICT[3].SW="CAS","AUT",1]
322       BLPH.STATUS[231]=1
323       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-C PRESSUR","E CONTROL VALVE ","IN UNDER PID OPE","RATION
           "]
324       t[14].PH=BLPH.DLY[14]
325       t[14].OP=TMSTAT
326       !_____________________________________________________________R01___________
327       while(t[14].BSTS=="NR" and STCGHS.MV01==0 )
328       If (PT[3].PV<1.5) then
329       ![PIC[3].MODE,PICT[3].MODE,PICT[3].SW="CAS","AUT",2]
330
331       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
332
333       PIC[3].PSW = 1
334
335       XV[11].MODE="AUT"
336       XV[11].CSV=0
337       BLPH.STATUS[405]=1      ! alarm to operator
338       t[14].OP=TMSTOP
339       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-C IS","NOT COMPLETED"]
340       goto POINT22
341       Else
342       BLPH.STATUS[405]=0
343       End if
344       Wend
345       !_____________________________________________________________________________
346
347
348       wait until   (t[14].BSTS=="CTUP" or STCGHS.MV01==1)                  !T1C= 28Hrs
349       if (STCGHS.MV01==1) goto TRMNT
350
351       ![PIC[3].MODE,PICT[3].MODE,PICT[3].SW="CAS","AUT",2]
352
353       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
354
355       PIC[3].PSW = 1
356
357       wait until (PVZSL[3].PV==1);time 30, error TRMNT
358       if    (PVZSL[3].PV==1)    BLPH.STATUS[232]=1
359       t[15].PH=BLPH.DLY[15]
360       t[15].OP=TMSTAT
361       wait until   (t[15].BSTS=="CTUP" or PT[3].PV>=30.0 or STCGHS.MV01==1 OR GRAD[3].PV==1)                  !T2C= 7Hrs
362       if (STCGHS.MV01==1) goto TRMNT
363
364            if (PT[3].PV>=30.0 or GRAD[3].PV==1) then
365               t[15].OP=TMSTOP
366               XV[11].MODE="AUT"
367               XV[11].CSV=0
368               wait until (XV[11].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
369               if (STCGHS.MV01==1) goto TRMNT
370              BLPH.STATUS[233]=1
371            else
372              [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-C IS","NOT COMP
          LETED"]
373               BLPH.STATUS[234]=1
374               XV[11].MODE="AUT"
375               XV[11].CSV=0
376               wait until (XV[11].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
377               if (STCGHS.MV01==1) goto TRMNT
378            end if
379       end if
380
381
382       ********************************VESSEL-D charging sequence*******************************
383       POINT22:
384       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-D PROCES ","S START UP      ","CHARGING IS IN P","ROGRESS
           "]
385
386       if  (dscheck(PT[4].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-D INLET P","RESSURE TX      "
          ,"25-PT-43 IS IN F","AULT CONDITION  "]
387
388       wait until (dscheck(PT[4].#PV,"BAD")==0);time 1, error TRMNT
389       if (  (dscheck(PT[4].#PV,"BAD")==0) & PT[4].PV<2.0) then
390       BLPH.STATUS[236]=1
391       goto POINT28
392       else
393       BLPH.STATUS[235]=1
394       XV[14].MODE="AUT"
395       XV[14].CSV=2
396       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-D ","INLET ON-OFF VAL","VE 25-XV-004
           "]
397       wait until (XV[14].PV==2);time 10, error TRMNT
398       if (XV[14].PV==2)    [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-D INLET O","N-OFF VALVE     ","25-XV-004 IS
          OPE","NED             "]
399       BLPH.STATUS[237]=1
400
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-56
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
401         ![PIC[4].MODE,PICT[4].MODE,PICT[4].SW="CAS","AUT",1]
402
403         PICSP[4].SV = 2.0
404
405         !Revised logic - instead of AUT
406
407         PIC[4].MODE = "CAS"
408
409
410         BLPH.STATUS[238]=1
411         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-D PRESSUR","E CONTROL VALVE ","IN UNDER PID OPE","RATION
             "]
412         t[16].PH=BLPH.DLY[16]
413         t[16].OP=TMSTAT
414         !_____________________________________________________________R01___________
415         while(t[16].BSTS=="NR" and STCGHS.MV01==0 )
416         If (PT[4].PV<1.5) then
417         ![PIC[4].MODE,PICT[4].MODE,PICT[4].SW="CAS","AUT",2]
418
419         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
420
421         PIC[4].PSW = 1
422
423         XV[14].MODE="AUT"
424         XV[14].CSV=0
425         BLPH.STATUS[406]=1      ! alarm to operator
426         t[16].OP=TMSTOP
427         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-D IS","NOT COMPLETED"]
428         goto POINT28
429         Else
430         BLPH.STATUS[406]=0
431         End if
432         Wend
433         !_____________________________________________________________________
434
435
436         wait until   (t[16].BSTS=="CTUP" or STCGHS.MV01==1)                  !T1D= 28Hrs
437         if (STCGHS.MV01==1) goto TRMNT
438
439         ![PIC[4].MODE,PICT[4].MODE,PICT[4].SW="CAS","AUT",2]
440
441         !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
442
443         PIC[4].PSW = 1
444
445         wait until (PVZSL[4].PV==1);time 30, error TRMNT
446         if    (PVZSL[4].PV==1)    BLPH.STATUS[239]=1
447         t[17].PH=BLPH.DLY[17]
448         t[17].OP=TMSTAT
449         wait until   (t[17].BSTS=="CTUP" or PT[4].PV>=30.0 or STCGHS.MV01==1 OR GRAD[4].PV==1)                  !T2D= 7Hrs
450         if (STCGHS.MV01==1) goto TRMNT
451
452              if (PT[4].PV>=30.0 OR GRAD[4].PV==1) then
453                 t[17].OP=TMSTOP
454                 XV[14].MODE="AUT"
455                 XV[14].CSV=0
456                 wait until (XV[14].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
457                 if (STCGHS.MV01==1) goto TRMNT
458                 BLPH.STATUS[240]=1
459              else
460                [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-D IS","NOT COMP
            LETED"]
461                BLPH.STATUS[241]=1
462                 XV[14].MODE="AUT"
463                 XV[14].CSV=0
464                 wait until (XV[14].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
465                 if (STCGHS.MV01==1) goto TRMNT
466             end if
467         end if
468
469
470         *******************************VESSEL-E charging sequence*******************************
471         POINT28:
472         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-E PROCES ","S START UP      ","CHARGING IS IN P","ROGRESS
             "]
473
474         if  (dscheck(PT[5].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-E INLET P","RESSURE TX      "
            ,"25-PT-46 IS IN F","AULT CONDITION  "]
475
476         wait until (dscheck(PT[5].#PV,"BAD")==0);time 1, error TRMNT
477         if (  (dscheck(PT[5].#PV,"BAD")==0) & PT[5].PV<2.0) then
478         BLPH.STATUS[243]=1
479         goto POINT34
480         else
481         BLPH.STATUS[242]=1
482         XV[17].MODE="AUT"
483         XV[17].CSV=2
484         [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-E ","INLET ON-OFF VAL","VE 25-XV-004
             "]
485         wait until (XV[17].PV==2);time 10, error TRMNT
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-57
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
486       if (XV[17].PV==2)    [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-E INLET O","N-OFF VALVE     ","25-XV-004 IS
          OPE","NED             "]
487       BLPH.STATUS[244]=1
488
489       ![PIC[5].MODE,PICT[5].MODE,PICT[5].SW="CAS","AUT",1]
490
491       PICSP[5].SV = 2.0
492
493       !Revised logic - instead of AUT
494
495       PIC[5].MODE = "CAS"
496
497       BLPH.STATUS[245]=1
498       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-E PRESSUR","E CONTROL VALVE ","IN UNDER PID OPE","RATION
           "]
499       t[18].PH=BLPH.DLY[18]
500       t[18].OP=TMSTAT
501       !_____________________________________________________________R01__________
502       while(t[18].BSTS=="NR" and STCGHS.MV01==0 )
503       If (PT[5].PV<1.5) then
504       ![PIC[5].MODE,PICT[5].MODE,PICT[5].SW="CAS","AUT",2]
505
506       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
507
508       PIC[5].PSW = 1
509
510       XV[17].MODE="AUT"
511       XV[17].CSV=0
512       BLPH.STATUS[407]=1      ! alarm to operator
513       t[18].OP=TMSTOP
514       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-E IS","NOT COMPLETED"]
515       goto POINT16
516       Else
517       BLPH.STATUS[407]=0
518       End if
519       Wend
520       !_____________________________________________________________________________
521
522
523       wait until   (t[18].BSTS=="CTUP" or STCGHS.MV01==1)                  !T1E= TBD min.
524       if (STCGHS.MV01==1) goto TRMNT
525
526       ![PIC[5].MODE,PICT[5].MODE,PICT[5].SW="CAS","AUT",2]
527
528       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
529
530       PIC[5].PSW = 1
531
532
533       wait until (PVZSL[1].PV==1);time 30, error TRMNT
534       if    (PVZSL[1].PV==1)    BLPH.STATUS[246]=1
535       t[19].PH=BLPH.DLY[19]
536       t[19].OP=TMSTAT
537
538       wait until   (t[19].BSTS=="CTUP" or PT[5].PV>=30.0 or STCGHS.MV01==1 OR GRAD[5].PV==1)                  !T2E= TBD min
539       if (STCGHS.MV01==1 ) goto TRMNT
540
541            if (PT[5].PV>=30.0 OR  GRAD[5].PV==1) then
542               t[19].OP=TMSTOP
543               XV[17].MODE="AUT"
544               XV[17].CSV=0
545               wait until (XV[17].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
546               if (STCGHS.MV01==1) goto TRMNT
547              BLPH.STATUS[247]=1
548            else
549              [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-E IS","NOT COMP
          LETED"]
550              BLPH.STATUS[248]=1
551               XV[17].MODE="AUT"
552               XV[17].CSV=0
553               wait until (XV[17].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
554               if (STCGHS.MV01==1) goto TRMNT
555            end if
556       end if
557
558       ********************************VESSEL-F charging sequence*******************************
559       POINT34:
560       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-F PROCES ","S START UP      ","CHARGING IS IN P","ROGRESS
           "]
561
562       if  (dscheck(PT[6].#PV,"BAD")==1)   [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-F INLET P","RESSURE TX      "
          ,"25-PT-49 IS IN F","AULT CONDITION  "]
563
564       wait until (dscheck(PT[6].#PV,"BAD")==0);time 1, error TRMNT
565       if (  (dscheck(PT[6].#PV,"BAD")==0) & PT[6].PV<2.0) then
566       BLPH.STATUS[250]=1
567       goto POINT40
568       else
569       BLPH.STATUS[249]=1
570       XV[20].MODE="AUT"
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-58
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
571       XV[20].CSV=2
572       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="OPEN COMMAND ISS","UED TO VESSEL-F ","INLET ON-OFF VAL","VE 25-XV-004
           "]
573       wait until (XV[20].PV==2);time 10, error TRMNT
574       if (XV[20].PV==2)    [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-F INLET O","N-OFF VALVE     ","25-XV-004 IS
          OPE","NED             "]
575       BLPH.STATUS[361]=1
576
577       ![PIC[6].MODE,PICT[6].MODE,PICT[6].SW="CAS","AUT",1]
578
579       PICSP[6].SV = 2.0
580       !Revised logic - instead of AUT
581       PIC[6].MODE = "CAS"
582
583       BLPH.STATUS[362]=1
584       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="VESSEL-F PRESSUR","E CONTROL VALVE ","IN UNDER PID OPE","RATION
           "]
585       t[20].PH=BLPH.DLY[20]
586       t[20].OP=TMSTAT
587       !_____________________________________________________________R01__________
588       while(t[20].BSTS=="NR" and STCGHS.MV01==0 )
589       If (PT[6].PV<1.5) then
590       ![PIC[6].MODE,PICT[6].MODE,PICT[6].SW="CAS","AUT",2]
591
592       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
593
594       PIC[6].PSW = 1
595
596       XV[20].MODE="AUT"
597       XV[20].CSV=0
598       BLPH.STATUS[408]=1      ! alarm to operator
599       t[20].OP=TMSTOP
600       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-F IS","NOT COMPLETED"]
601       goto POINT40
602       Else
603       BLPH.STATUS[408]=0
604       End if
605       Wend
606       !_____________________________________________________________________________
607
608
609       wait until   (t[20].BSTS=="CTUP" or STCGHS.MV01==1)                   !T1F= 28Hrs
610       if (STCGHS.MV01==1) goto TRMNT
611
612       ![PIC[6].MODE,PICT[6].MODE,PICT[6].SW="CAS","AUT",2]
613
614       !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
615
616       PIC[6].PSW = 1
617
618       wait until (PVZSL[1].PV==1);time 30, error TRMNT
619       if    (PVZSL[1].PV==1)    BLPH.STATUS[363]=1
620       t[21].PH=BLPH.DLY[21]
621       t[21].OP=TMSTAT
622       wait until   (t[21].BSTS=="CTUP" or PT[6].PV>=30.0 or STCGHS.MV01==1 OR GRAD[6].PV==1)                   !T2F= 7Hrs
623       if (STCGHS.MV01==1) goto TRMNT
624
625            if (PT[6].PV>=30.0 OR GRAD[6].PV==1) then
626               t[21].OP=TMSTOP
627               XV[20].MODE="AUT"
628               XV[20].CSV=0
629               wait until (XV[20].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
630               if (STCGHS.MV01==1) goto TRMNT
631               BLPH.STATUS[364]=1
632            else
633              [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="PROCESS START","UP CHARGING SEQUENCE","FOR VESSEL-F IS","NOT COMP
          LETED"]
634              BLPH.STATUS[365]=1
635               XV[20].MODE="AUT"
636               XV[20].CSV=0
637               wait until (XV[20].PV==0 or STCGHS.MV01==1);time 10, error TRMNT
638              if (STCGHS.MV01==1) goto TRMNT
639            end if
640       end if
641
642       goto POINT40
643
644
645       !if ((PT[1].PV>=30.0) & (PT[2].PV>=30.0) & (PT[3].PV>=30.0) & (PT[4].PV>=30.0) & (PT[5].PV>=30.0) & (PT[6].PV>=30.0))   then
646       !goto POINT40
647       !else
648       !goto INIT
649       !end if
650
651       TRMNT:
652
653       ! Close all XV valves that are installed on the inlet lines of each H2 Storage Vessel:
654       [BLPH.OPMSG[1],BLPH.OPMSG[2],BLPH.OPMSG[3],BLPH.OPMSG[4]="STARTUP CHARGING"," SEQUENCE FAILED ","DUE TO VLV OR TR","ANSMITTER FAUL
          T "]
655       [XV[4].MODE,XV[8].MODE,XV[11].MODE,XV[14].MODE,XV[17].MODE,XV[20].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-59
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	BLPHSEQ RESEARCH MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
656        delaycycle 3
657        [XV[4].CSV,XV[8].CSV,XV[11].CSV,XV[14].CSV,XV[17].CSV,XV[20].CSV=0,0,0,0,0,0]
658
659
660        wait until  (XV[4].PV==0 & XV[8].PV==0 & XV[11].PV==0 & XV[14].PV==0 & XV[17].PV==0 & XV[20].PV==0)
661
662
663        !Put the controllers 25-PIC-035/037/040/043/046/049 in Auto mode and force the output to 0BLPH.
664
665        ![PIC[1].MODE,PIC[2].MODE,PIC[3].MODE,PIC[4].MODE,PIC[5].MODE,PIC[6].MODE="CAS","CAS","CAS","CAS","CAS","CAS"]
666        ![PICT[1].MODE,PICT[2].MODE,PICT[3].MODE,PICT[4].MODE,PICT[5].MODE,PICT[6].MODE="AUT","AUT","AUT","AUT","AUT","AUT"]
667        ![PICT[1].SW,PICT[2].SW,PICT[3].SW,PICT[4].SW,PICT[5].SW,PICT[6].SW=2,2,2,2,2,2]
668
669        !Revised logic - instead of AUT & forcing output 0% to MAN & pulse to 0%
670        for i= 1 to 6
671          PIC[i].PSW = 1
672        next@
673
674        wait until (PVZSL[1].PV==1 & PVZSL[2].PV==1 & PVZSL[3].PV==1 & PVZSL[4].PV==1 & PVZSL[5].PV==1 & PVZSL[6].PV==1)
675        BLPH.TRANSIT=13
676
677        POINT40:
678
679        for i=10 to 21
680             t[i].PV=   t[i].PH
681            t[i].OP=TMSTOP
682
683        next@
684
685        BLPH.STUPCHR=0               !USED IN RESEACH MODE RESRTRICTION
686        BLPH.TRANSIT=13
687        !wait until (ENMODE.PV<>10 | BLPH.TRANSIT<>16)
688
689        for i= 1 to 408
690        BLPH.STATUS[i]=0
691        next@
```

Tag Detail (FCS010181RL01   TIMER CTUP ALARMS   )

Basic

Tag Name	FCS010181RL01
Model Name	RL
Tag Comment	TIMER CTUP ALARMS
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001	BLPHSEQ.STATUS[218]	Relational Operation	1	T1AAH
002	BLPHSEQ.STATUS[225]	Relational Operation	1	T1BAH
003	BLPHSEQ.STATUS[232]	Relational Operation	1	T1CAH
004	BLPHSEQ.STATUS[239]	Relational Operation	1	T1DAH
005	BLPHSEQ.STATUS[246]	Relational Operation	1	T1EAH
006	BLPHSEQ.STATUS[253]	Relational Operation	1	T1FAH
007	BLPHSEQ.STATUS[219]	Relational Operation	1	T2AAH
008	BLPHSEQ.STATUS[226]	Relational Operation	1	T2BAH
009	BLPHSEQ.STATUS[233]	Relational Operation	1	T2CAH
010	BLPHSEQ.STATUS[240]	Relational Operation	1	T2DAH
011	BLPHSEQ.STATUS[247]	Relational Operation	1	T2EAH
012	BLPHSEQ.STATUS[254]	Relational Operation	1	T2FAH

Tag Detail (FCS010181ST01   )

Basic

Tag Name	FCS010181ST01
Model Name	ST16
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS010181ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-60
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS010181ST01)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	FCS010181RL01.X01	GE	TIMER CTUP ALARMS	Y								
C02	FCS010181RL01.X02	GE	TIMER CTUP ALARMS	.Y								
C03	FCS010181RL01.X03	GE	TIMER CTUP ALARMS	..Y								
C04	FCS010181RL01.X04	GE	TIMER CTUP ALARMS	...Y								
C05	FCS010181RL01.X05	GE	TIMER CTUP ALARMS		Y							
C06	FCS010181RL01.X06	GE	TIMER CTUP ALARMS		.Y							
C07	FCS010181RL01.X07	GE	TIMER CTUP ALARMS		..Y							
C08	FCS010181RL01.X08	GE	TIMER CTUP ALARMS		...Y							
C09	FCS010181RL01.X09	GE	TIMER CTUP ALARMS			Y						
C10	FCS010181RL01.X10	GE	TIMER CTUP ALARMS			.Y						
C11	FCS010181RL01.X11	GE	TIMER CTUP ALARMS			..Y						
C12	FCS010181RL01.X12	GE	TIMER CTUP ALARMS			...Y						
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	T1AAH.PV	L	VSL-A STARTUP PURG CMPLT	Y								
A02	T1BAH.PV	L	VSL-B STARTUP PURG CMPLT	.Y								
A03	T1CAH.PV	L	VSL-C STARTUP PURG CMPLT	..Y								
A04	T1DAH.PV	L	VSL-D STARTUP PURG CMPLT	...Y								
A05	T1EAH.PV	L	VSL-E STARTUP PURG CMPLT		Y							
A06	T1FAH.PV	L	VSL-F STARTUP PURG CMPLT		.Y							
A07	T2AAH.PV	L	PROCESS STUP CHRG FAIL-A		..Y							
A08	T2BAH.PV	L	PROCESS STUP CHRG FAIL-B		...Y							
A09	T2CAH.PV	L	PROCESS STUP CHRG FAIL-C			Y						
A10	T2DAH.PV	L	PROCESS STUP CHRG FAIL-D			.Y						
A11	T2EAH.PV	L	PROCESS STUP CHRG FAIL-E			..Y						
A12	T2FAH.PV	L	PROCESS STUP CHRG FAIL-F			...Y						
A13												
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	87STF002-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-61
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	FUEL CELL RN STS		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87STF002-CL01 FUEL CELL RN STS)

Basic

Tag Name	87STF002-CL01
Model Name	CALCU
Tag Comment	FUEL CELL RN STS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87STF002-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-62
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	FUEL CELL RN STS		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87STF002-CL01 FUEL CELL RN STS)

Line Number	General-Purpose Calculation Formula
001	alias FCRN 87UI-003.PV
002	alias FCRNST 87STF-002.PV
003	
004	if(FCRN==14 OR FCRN==17 OR FCRN==19)then
005	FCRNST=1
006	else
007	FCRNST=0
008	end if

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-63
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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (SEQPERM17 BLPHSEQ EMERGENCY MODE)

Basic

Tag Name	SEQPERM17
Model Name	_SFCSW
Tag Comment	BLPHSEQ EMERGENCY MODE
Lvl	4
Switch Position Label	RUN,PAUSE,STOP,RUN2
Label	Direct
SFC Sequence	
Alarm Status	USER10
Periodic SEBOL	
SEBOL Execution Type	Timeshare Execution

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-64
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Data Item Definition (SEQPERM17 BLPHSEQ EMERGENCY MODE)

User Definition

No.	Data item	Data type	Array1	Array2	Comment	Engineering Unit Symbol	Lvl	Display Format	Entry Method
		Display position		Line	Check		High limit value	Low limit value	
001	HR	I16	50	0	HOURS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
002	MIN	I16	50	0	MINS	(None)	3	7.1	Direct Input
		Automatic Determination		0	always				
003	TEST	I16	50	0		(None)	4	7.1	Direct Input
		Automatic Determination		0	always				

System Definition

No.	Data item	Comment	Display position	Line
001	OMOD	OMOD	Default	0
002	CMOD	CMOD	Default	0
003	PREBSTS	PREBSTS	Default	0
004	AFLS	AFLS	Default	0
005	AF	AF	Default	0
006	AOFS	AOFS	Default	0
007	ERRC	ERRC	Default	0
008	ERRE	ERRE	Default	0
009	ERRL	ERRL	Default	0
010	ERRF	ERRF	Default	0
011	STEPNO	STEPNO	Default	0
012	IPHASE	IPHASE	Default	0
013	OPMK	OPMK	Default	0
014	SAID	SAID	Default	0
015	UAID	UAID	Default	0
016	SEMA	SEMA	Default	0
017	ERRS	ERRS	Default	0
018	ERRP	ERRP	Default	0

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SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Plane List (SEQPERM17 BLPHSEQ EMERGENCY MODE)

No.	Comment	Hierarchy	Parent Number	Operation Type	Parameter
0000		1	0		
0001					
0002					
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					
0011					
0012					
0013					
0014					
0015					
0016					
0017					
0018					
0019					
0020					
0021					
0022					
0023					
0024					
0025					
0026					
0027					
0028					
0029					
0030					
0031					

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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Plane Detail (SEQPERM17 BLPHSEQ EMERGENCY MODE)

Step List

Plane Number: 0 Comment:

Step Number	X	Y	Comment1	Comment2	Comment3	Process Name	Description Method	Generic Name / Tag Name Variable Name	Execution Step	Step Name
1	4	9	Initialization				SEBOL			
2	4	12	EMERGENCY				SEBOL			

Interrupt Step

Plane Number: 0 Comment:

X	Y	Comment	Operation Type	Parameter

Transition List

Plane Number: 0 Comment:

X	Y	Comment	Transition Condition
4	10		BLPH.TRANSIT==10
4	14		

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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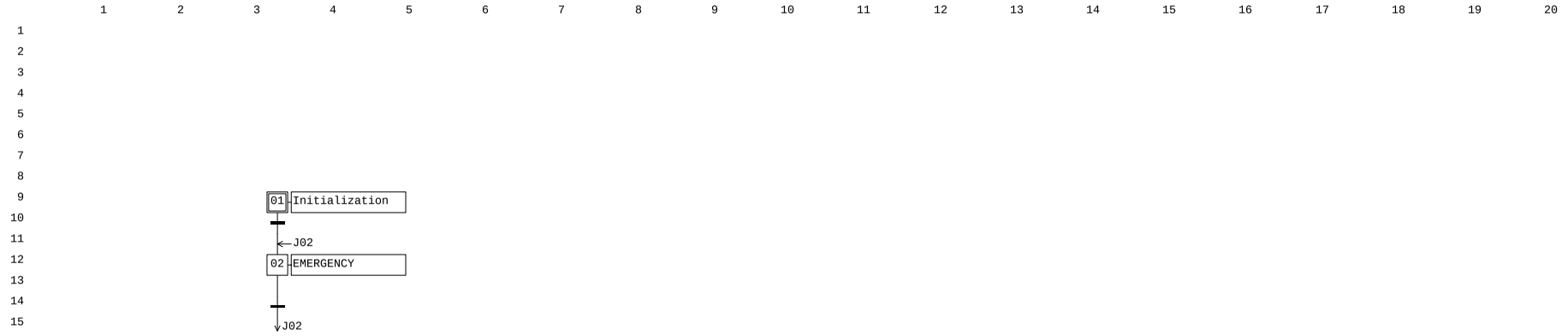
SFC (SEQPERM17 BLPHSEQ EMERGENCY MODE)

Plane Number: 0 Comment:



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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SEBOL Statement (SEQPERM17 BLPHSEQ EMERGENCY MODE)
Plane Number: 0 Comment:Main Plane

Step Number: 1 Comment:Initialization X: 4 Y: 9

```
Line Number   SEBOL Program
   001        ********************************************************************************
   002        * Project Name      :HOLLANDSE KUST NOORD WIND PARK Project
   003        * Project Number        :1724000594
   004        * Original Author   :Yokogawa
   005        * Original Date     : 20 August 2024
   006        * State No          : 1
   007        * State Name            : INITIALIZATION
   008        * Description       : This phase is for system initialization
   009        *
   010        ********************************************************************************
   011        * Revision History:
   012        *
   013        * Rev#      Date              Author                          Description
   014        * ----     -----           -------               --------------------------
   015        * 0.0                                                  Initial Release
   016        *
   017
   018        ********************************************************************************
   019        *   Global Declarations
   020        ********************************************************************************
   021        #include <std.h>
   022
   023        *Global         genname      BLOCKNAME      EXAMPLE             ! Comment
   024
   025        global             genname        PVI            MODE,ENMODE                ! ELECTROLISER MODE
   026        global             genname        MLD-SW         PMMODE,PICMLD[2]
   027        global             genname        _SFCSW         SEQPM,EXPRTPM,RCRGPM,BLPH       ! SEQUENCE PERMISSIVE
   028        global             genname        %SW            INTSW[21],HOLD             ! INTERNAL BIT
   029        global             genname        %SW            OPRMSG[50]                 ! OPERATOR MESSAGE BIT
   030        global             genname        MC-2E          SWP[2],AUXFC               ! SEA WATER INTAKE PUMP
   031        global             genname        SIO-21E        XV[23]                     ! ON/OFF VALVES
   032        global             genname        SIO-21E        O64SDV,BDV[7],SDV[2]       ! ON/OFF VALVES
   033        global             genname        SI-1E              FWP[2]                   ! fRESH WATER PUMP
   034        global             genname        PVI            SS[4],PT003,PT031A,PT031B  ! SUBSYSTEM SIGNALS
   035        global             genname        TM             TM01                       ! TIMER
   036        global             genname        PVI            PT[8]                      ! PRESSURE TRANSMITTER
   037        global             genname        PID            PIC[8]                     ! PRESSURE CONTROLLER
   038        global             genname        PID            FIC[6]                     ! FLOW CONTROLLER
   039        global             genname        AS-M           PICT[8]                    ! PRESSURE CONTROLLER FORCE CLOSE TRANSFER SWITCH
   040        global             genname        AS-M           FICT[8]                    ! FLOW CONTROLLER FORCE CLOSE TRANSFER SWITCH
   041        global             genname        %SW            PVZSL[8]                   !CLOSED LIMIT SWITCHES
   042        global             genname        %SW            FVZSL[6]                   !CLOSED LIMIT SWITCHES
   043        global             genname        %SW            FLT[3],O70XA,O80XA         !ALARMS
   044        global             genname        TM             t[49],EMGTM01              !TIMERS
   045        global            genname        %AN            TXAAH[6],T1XAAH[6],BSSFLT,GRAD[6] !ALARM
   046        global            genname        DSET           PRSP[2]                    !ALARM
   047        global            genname        PBS5C          STCGHS,CGHS,PSDHS,PMTHS,DCHS,NPHS   !STOP
   048
   049        global integer i,k,SEQFL
   050
   051        ********************************************************************************
   052        *   Assign Variables
   053        ********************************************************************************
   054        assign           "87MODE-002"         to               MODE
   055        assign           "87MODE-003"         to               PMMODE
   056        assign           "87MODE-001"         to               ENMODE
   057
   058        !assign           "87STCGHS-001"       to               STCGHS
   059        !assign           "87CGHS-001"         to               CGHS
   060        !assign           "87PSDHS-001"        to               PSDHS
   061        !assign           "87PMTHS-001"        to               PMTHS
   062        !assign           "87DCHS-001"         to               DCHS
   063        !assign           "64-HS-031"            to               NPHS
   064
   065        assign           "SEQPERM01"          to               SEQPM
   066        assign           "SEQPERM02"          to               EXPRTPM
   067        assign           "SEQPERM05"          to               RCRGPM
   068        assign           "BLPHSEQ"            to                 BLPH
   069
   070        !assign           "P-50001ABGST"       to               INTSW[1]
   071        !assign           "P-50001ABGSP"       to               INTSW[4]
   072        !assign           "WTPAST"             to               INTSW[2]
   073        !assign           "87PERM-0001"         to              INTSW[3] !DO FROM PCS FOR FC
   074        !assign           "ELECSBPM"           to               INTSW[7]
   075        !assign           "ELECSBPM"           to               INTSW[8]
   076        !assign           "EXPRTSEQFL"         to               INTSW[9]
   077        !assign           "FUELCLSTP"          to               INTSW[10]
   078        assign           "87EMG-001"          to              INTSW[11]!  87PERM-0001
   079        !assign           "WTPASP"             to               INTSW[13]
   080        !assign           "AUXELASP"           to               INTSW[14]
   081        assign           "87PERM-0001"        to              INTSW[16]!DO FROM PCS FOR FC
   082        !assign           "87EXP-001"          to               INTSW[17]
   083        assign           "87LDSH-001B"        to               INTSW[18]
```

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```
084       assign          "87LDSH-002B"        to             INTSW[19]
085       assign          "87STF-002"          to             INTSW[20]   ! Start fuel cell req from EMCS
086
087       assign          "P-50001A"           to             SWP[1]
088       assign          "P-50001B"           to             SWP[2]
089       assign          "50P-50009A"      to                FWP[1]
090       assign          "50P-50009B"      to                FWP[2]
091       assign         "80A80000"         to                   AUXFC
092
093       assign          "25PY-055A"          to             PICMLD[1]
094       assign          "25PY-055B"          to             PICMLD[2]
095
096       assign         "80A80000"           to                  AUXFC
097
098       !assign          "20XI-7113"         to              SS[1]
099       !assign          "80UI-0043"         to              SS[2]
100
101
102       assign          "BLPHSEQTM01"       to             TM01
103
104       !assign          "50XV-031"          to              XV[3]
105       !assign          "25XV-004"          to              XV[4]
106       !assign          "25XV-008"          to              XV[8]
107       !assign          "25XV-011"          to              XV[11]
108       !assign          "25XV-014"          to              XV[14]
109       !assign          "25XV-017"          to              XV[17]
110       !assign          "25XV-020"          to              XV[20]
111
112       !assign          "25XV-006"          to              XV[6]
113       !assign          "25XV-009"          to              XV[9]
114       !assign          "25XV-012"          to              XV[12]
115       !assign          "25XV-015"          to              XV[15]
116       !assign          "25XV-018"          to              XV[18]
117       !assign          "25XV-021"          to              XV[21]
118       assign           "25XV-024"          to               XV[22]
119        assign          "80XV-001"          to              XV[23]
120
121       assign          "64SDV-001"          to             O64SDV
122
123       assign          "25PI-035"           to             PT[1]
124       assign          "25PI-037"           to             PT[2]
125       assign          "25PI-040"           to             PT[3]
126       assign          "25PI-043"           to             PT[4]
127       assign          "25PI-046"           to             PT[5]
128       assign          "25PI-049"           to             PT[6]
129       assign          "64PI-031A"          to             PT[7]
130       assign          "64PI-031B"          to             PT[8]
131
132       assign          "25PIC-035"          to             PIC[1]
133       assign          "25PIC-037"          to             PIC[2]
134       assign          "25PIC-040"          to             PIC[3]
135       assign          "25PIC-043"          to             PIC[4]
136       assign          "25PIC-046"          to             PIC[5]
137       assign          "25PIC-049"          to             PIC[6]
138       assign          "25PIC-055"         to             PIC[7]
139       assign          "25PIC-055B"         to             PIC[8]
140
141       !assign          "25FIC-031"         to              FIC[1]
142       !assign          "25FIC-032"         to              FIC[2]
143       !assign          "25FIC-033"         to              FIC[3]
144
145
146       !assign          "25FIC-034"         to              FIC[4]
147       !assign          "25FIC-038"         to              FIC[5]
148       !assign          "25FIC-036"         to              FIC[6]
149
150       assign          "25PIC-035ASM"       to             PICT[1]
151       assign          "25PIC-037ASM"       to             PICT[2]
152       assign          "25PIC-040ASM"       to             PICT[3]
153       assign          "25PIC-043ASM"       to             PICT[4]
154       assign          "25PIC-046ASM"       to             PICT[5]
155       assign          "25PIC-049ASM"       to             PICT[6]
156       assign          "25PIC-055AASM"      to             PICT[7]
157       assign          "25PIC-055BASM"      to             PICT[8]
158
159       !assign          "25FIC-031ASM"      to              FICT[1]
160       !assign          "25FIC-032ASM"      to              FICT[2]
161       !assign          "25FIC-033ASM"      to              FICT[3]
162       !assign          "25FIC-034ASM"      to              FICT[4]
163       !assign          "25FIC-038ASM"      to              FICT[5]
164       !assign          "25FIC-036ASM"      to              FICT[6]
165
166       assign          "25ZSL-035"          to             PVZSL[1]
167       assign          "25ZSL-037"          to             PVZSL[2]
168       assign          "25ZSL-040"          to             PVZSL[3]
169       assign          "25ZSL-043"          to             PVZSL[4]
170       assign          "25ZSL-046"          to             PVZSL[5]
171       assign          "25ZSL-049"          to             PVZSL[6]
172       assign          "25ZSL-055A"         to             PVZSL[7]
173       assign          "25ZSL-055B"         to             PVZSL[8]
```

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```
174
175
176       !assign          "25ZSL-031"         to              FVZSL[1]
177       !assign          "25ZSL-032"         to              FVZSL[2]
178       !assign          "25ZSL-033"         to              FVZSL[3]
179       !assign          "25ZSL-034"         to              FVZSL[4]
180       !assign          "25ZSL-038"         to              FVZSL[5]
181       !assign          "25ZSL-036"         to              FVZSL[6]
182
183       assign          "25PIC55-DS1"       to              PRSP[1]
184       assign          "25PIC55-DS2"       to              PRSP[2]
185
186       assign          "85XA-003"          to              FLT[1]
187       assign          "70XA-003"          to              O70XA
188       assign          "80XA-003"          to              O80XA
189       assign          "63XA003TAN"        to              FLT[2]  !inst air fault
190       assign          "64XA003TAN"        to              FLT[3]  !Nitrogen gen sys fault
191       assign          "85XA003TAN"        to              BSSFLT  ! BSS fault
192       !assign          "25PI-035GRADAN"    to              GRAD[1]
193       !assign          "25PI-037GRADAN"    to              GRAD[2]
194       !assign          "25PI-040GRADAN"    to              GRAD[3]
195       !assign          "25PI-043GRADAN"    to              GRAD[4]
196       !assign          "25PI-046GRADAN"    to              GRAD[5]
197       !assign          "25PI-049GRADAN"    to              GRAD[6]
198
199
200
201       assign          "87PERMST-001"      to              INTSW[21]
202
203       !assign          "BLPHSEQT01"        to              t[1]
204       !assign          "BLPHSEQT02"        to              t[2]
205       !assign          "BLPHSEQT03"        to              t[3]
206       !assign          "BLPHSEQT04"        to              t[4]
207       !assign          "BLPHSEQT05"        to              t[5]
208       !assign          "BLPHSEQT06"        to              t[6]
209       !assign          "BLPHSEQT07"        to              t[7]
210       !assign          "BLPHSEQT08"        to              t[8]
211       !assign          "BLPHSEQT09"        to              t[9]
212       !assign          "BLPHSEQT10"        to              t[10]
213       !assign          "BLPHSEQT11"        to              t[11]
214       !assign          "BLPHSEQT12"        to              t[12]
215       !assign          "BLPHSEQT13"        to              t[13]
216       !assign          "BLPHSEQT14"        to              t[14]
217       !assign          "BLPHSEQT15"        to              t[15]
218       !assign          "BLPHSEQT16"        to              t[16]
219       !assign          "BLPHSEQT17"        to              t[17]
220       !assign          "BLPHSEQT18"        to              t[18]
221       !assign          "BLPHSEQT19"        to              t[19]
222       !assign          "BLPHSEQT20"        to              t[20]
223       !assign          "BLPHSEQT21"        to              t[21]
224       !assign          "BLPHSEQT22"        to              t[22]
225       !assign          "BLPHSEQT23"        to              t[23]
226       !assign          "BLPHSEQT24"        to              t[24]
227       !assign          "BLPHSEQT25"        to              t[25]
228       !assign          "BLPHSEQT26"        to              t[26]
229       !assign          "BLPHSEQT27"        to              t[27]
230       !assign          "BLPHSEQT28"        to              t[28]
231       !assign          "BLPHSEQT29"        to              t[29]
232       !assign          "BLPHSEQT30"        to              t[30]
233       !assign          "BLPHSEQT31"        to              t[31]
234       !assign          "BLPHSEQT32"        to              t[32]
235       !assign          "BLPHSEQT33"        to              t[33]
236       !assign          "BLPHSEQT34"        to              t[34]
237       !assign          "BLPHSEQT35"        to              t[35]
238       !assign          "BLPHSEQT36"        to              t[36]
239       !assign          "BLPHSEQT37"        to              t[37]
240       !assign          "BLPHSEQT38"        to              t[38]
241       !assign          "BLPHSEQT39"        to              t[39]
242       !assign          "BLPHSEQT40"        to              t[40]
243       !assign          "BLPHSEQT41"        to              t[41]
244       !assign          "BLPHSEQT42"        to              t[42]
245       !assign          "BLPHSEQT43"        to              t[43]
246       !assign          "BLPHSEQT44"        to              t[44]
247       !assign          "BLPHSEQT45"        to              t[45]
248       !assign          "BLPHSEQT46"        to              t[46]
249       !assign          "BLPHSEQT47"        to              t[47]
250       !assign          "BLPHSEQT48"        to              t[48]
251       assign          "BLPHSEQT49"        to              t[49]
252       assign          "BLPHSEQTM01"       to              EMGTM01
253
254
255       !assign          "T3AAH"             to              TXAAH[1]
256       !assign          "T3BAH"             to              TXAAH[2]
257       !assign          "T3CAH"             to              TXAAH[3]
258       !assign          "T3DAH"             to              TXAAH[4]
259       !assign          "T3EAH"             to              TXAAH[5]
260       !assign          "T3FAH"             to              TXAAH[6]
261
262       !assign          "T5AAH"             to              T1XAAH[1]
263       !assign          "T5BAH"             to              T1XAAH[2]
```

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```
264       !assign          "T5CAH"            to            T1XAAH[3]
265       !assign          "T5DAH"            to            T1XAAH[4]
266       !assign          "T5EAH"            to            T1XAAH[5]
267       !assign          "T5FAH"            to            T1XAAH[6]
268
269       assign          "25BDV-005"         to            BDV[1]
270       assign          "25BDV-007"         to            BDV[2]
271       assign          "25BDV-010"         to            BDV[3]
272       assign          "25BDV-013"         to            BDV[4]
273       assign          "25BDV-016"         to            BDV[5]
274       assign          "25BDV-019"         to            BDV[6]
275       assign          "25BDV-022"         to            BDV[7]
276       assign          "25SDV-001"         to            SDV[1]
277       assign          "25SDV-023"         to            SDV[2]
278
279       assign          "63PI-003"          to            PT003
280       assign          "64PI-031A"         to            PT031A
281       assign          "64PI-031B"         to            PT031B
282
283
284       !-------------------------------------------------------------
285       assign          "OPMSG-1"      to              OPRMSG[1]
286       assign          "OPMSG-2"      to              OPRMSG[2]
287       assign          "OPMSG-3"      to              OPRMSG[3]
288       assign          "OPMSG-4"      to              OPRMSG[4]
289       assign          "OPMSG-5"      to              OPRMSG[5]
290       assign          "OPMSG-6"      to              OPRMSG[6]
291       assign          "OPMSG-7"      to              OPRMSG[7]
292       assign          "OPMSG-8"      to              OPRMSG[8]
293       assign          "OPMSG-9"      to              OPRMSG[9]
294       assign          "OPMSG-10"     to              OPRMSG[10]
295
296       !-------------------------------------------------------------
297       *for i=1 to 400
298       *%.STATUS[i]=0
299       *next@


Step Number: 2     Comment:EMERGENCY                                          X:  4  Y: 12

Line Number   SEBOL Program
   001        float PRS[20]
   002        !From process point of view in the "Emergency Mode (Island)" the Fuel cells package is required
   003        !to run and the logic will do the following:
   004        !1) EMCS requires to PCS enter in "Emergency Mode (Island)".
   005        !2) BESS NO FAULT
   006        !3) PCS sends to EMCS the "Permissive to start" for "Emergency mode"
   007        !4) EMCS sends to PCS the "Command to Load shedding 1" that consists of:
   008        !PCS Stop Sea water Pumps
   009        !PCS Stop Water Treatment system
   010        !PCS Stop Auxiliary Electrolyser
   011        !EMCS sends to PCS the "Start request" for Fuel Cell package.
   012
   013        !If ( ESDTRP.PV==1 ) then
   014        !goto BOTTOM
   015        !End if
   016
   017
   018
   019        WAIT UNTIL (MODE.PV == 7) !WAIT FOR EMERGENCY
   020
   021        BLPH.STATE="EMERGENCY ISLAND"
   022
   023        !INTSW[16].PV=0 !WE DON'T HAVE TO RESET PERMISSION TO FUEL CELL
   024        !INTSW[11].PV=0 !IF WE PUT PERMISSION TO ZERO, LOAD SHEDDING WILL NOT RUN
   025        delay 5000
   026
   027        If( INTSW[18].PV==1)then        !Load shed 1
   028                BLPH.STATUS[93]=1
   029        Else
   030                BLPH.STATUS[93]=0
   031        End if
   032
   033        If( INTSW[19].PV==1)then    !   Load Shed 2
   034                BLPH.STATUS[110]=1
   035        Else
   036                BLPH.STATUS[110]=0
   037        End if
   038        wait until (INTSW[18].PV==1 or INTSW[19].PV==1)
   039
   040        !--------------------EMCS sends to PCS the "Command to Load shedding 1 and 2"---------------------------
   041
   042
   043        * If (SWP[1].PV==2 AND SWP[2].PV==2) then
   044        *   BLPH.STATUS[94]=1                !SEA WATER INTAKE PUMP  Input signal SS[3] need to receive from EMCS
   045        * Else
   046        *   BLPH.STATUS[94]=0
   047        * End if
   048
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-72
STATION:	FCS0101	SAVED DATE:	7/12/2025 8:31:47 AM	COMMENT:	BLPHSEQ EMERGENCY MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
049       * If (FWP[1].PV==2 AND FWP[2].PV==2) then  !WTP AUTO STOP FROM PCS
050       *   BLPH.STATUS[95]=1
051       * Else
052       *   BLPH.STATUS[95]=1
053       * End if
054
055       * If( AUXFC.PV==1)then
056       *   BLPH.STATUS[96]=1
057       * Else
058       *   BLPH.STATUS[96]=0
059       * End if
060
061       *wait until (INTSW[20].PV==1)
062       *------EMCS sends to PCS the "Start request" for Fuel Cell package------------
063       *        If (INTSW[20].PV==1) then       !Start request received from EMCS
064       *           BLPH.STATUS[97]=1
065       *       Else
066       *       BLPH.STATUS[97]=0
067       *       End if
068
069       !EMGTM01.OP=TMSTAT
070       repeat
071       !Point 6 to Point 14 in monitoring Sequence
072
073       !10) Since both valves 25PV055A/B shall be in closed position (mandatory) following actions shall be taken (see par. 4.4.10):
074       !Put both controllers 25-PIC-055A/B in Auto mode and force the output to 0%.
075       !Time to close the valves is 15 sec
076       !The feedback statuses are 25-ZSL-055A and 25-ZSL-055B. When the feedback statuses are active then proceed with below point.
077
078       !---All BDV valves in closed position, the feedback statuses are 25-ZSL-005/007/010/013/016/019/022.--------------------
079
080       If   (BDV[1].PV==2 & BDV[2].PV==2 & BDV[3].PV==2 &  BDV[4].PV==2 & BDV[5].PV==2 & BDV[6].PV==2 & BDV[7].PV==2) then
081       BLPH.STATUS[98]=1
082       Else
083       BLPH.STATUS[98]=0
084       End if
085
086       !---Shutdown valves 25-SDV-001 and 25-SDV-023 in open position, the feedback statuses are 25-ZSH-001 and 25-ZSH-023.-----
087
088       If   (SDV[1].PV==2 & SDV[2].PV==2) then
089       BLPH.STATUS[99]=1
090       Else
091       BLPH.STATUS[99]=0
092       End if
093
094       !------------------Shutdown valve 64-SDV-001 in closed position, the feedback status is 64-ZSL-001.----------------------
095
096       If (O64SDV.PV==0) then
097       BLPH.STATUS[100]=1
098       Else
099       BLPH.STATUS[100]=0
100       End if
101
102       !----On-Off valves 25-XV-024 and 80-XV-001 in closed position, the feedback statuses are 25-ZSL-024 and 80-ZSL-001.---------
103
104       If (XV[22].PV==0 & XV[23].PV==0) then
105       BLPH.STATUS[101]=1
106       Else
107       BLPH.STATUS[101]=0
108       End if
109
110       !-------------------------Air system Healthy State:-------------------------------------------------------------------------
111       *1)Instrument Air packages NOT FAULT
112       *2)Pressure transmitter outlet from IA package 63-PT-003>=7 barg
113
114       If (FLT[2].PV==0) then
115       BLPH.STATUS[102]=1
116       Else
117       BLPH.STATUS[102]=0
118       End if
119
120       PRS[1]=(PT003.PV*(dscheck(PT003.#PV,"BAD")==0))
121
122       If (PRS[1]>=4.5) then
123       BLPH.STATUS[103]=1
124       Else
125       BLPH.STATUS[103]=0
126       End if
127
128
129       !-------------------------N2 system Healthy State:--------------------------------------------------------------------------
130       *1) Nitrogen packages NOT FAULT
131       *2) Pressure transmitters outlet from Nitrogen package 64-PT-031A>=7 barg or 64-PT-031B>=7 barg.
132
133       If (FLT[3].PV==0) then
134       BLPH.STATUS[104]=1
135       Else
136       BLPH.STATUS[104]=0
137       End if
138
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-73
STATION:	FCS0101	SAVED DATE:	7/12/2025 8:31:47 AM	COMMENT:	BLPHSEQ EMERGENCY MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
139        PRS[2]=(PT031A.PV*(dscheck(PT031A.#PV,"BAD")==0))
140        PRS[3]=(PT031B.PV*(dscheck(PT031B.#PV,"BAD")==0))
141
142        If (PRS[2]>=4.0 | PRS[3]>=4.0) then
143         BLPH.STATUS[105]=1
144        Else
145         BLPH.STATUS[105]=0
146        End if
147
148        !---------------H2 storage not full (check at least one pressure transmitter on H2 storage vessels is > 20 barg):--------------
149        *1) 25-PT-035
150        *2) 25-PT-037
151        *3) 25-PT-040
152        *4) 25-PT-043
153        *5) 25-PT-046
154        *6) 25-PT-049
155
156
157        If ((dscheck(PT[1].#PV,"BAD")==0) & (PT[1].PV>=10.0) | (dscheck(PT[2].#PV,"BAD")==0) & (PT[2].PV>=10.0)\
158                       | (dscheck(PT[3].#PV,"BAD")==0) & (PT[3].PV>=10.0) | (dscheck(PT[4].#PV,"BAD")==0) & (PT[4].PV>=10.0)\
159                       | (dscheck(PT[5].#PV,"BAD")==0) & (PT[5].PV>=10.0) | (dscheck(PT[6].#PV,"BAD")==0) & (PT[6].PV>=10.0))   then
160         BLPH.STATUS[106]=1
161        Else
162         BLPH.STATUS[106]=0
163        End if
164
165
166        !---------------Put Both Controllers 25-PIC-055A&B in Auto mode and Force the Output 0%--------------
167
168
169        !Revised logic given by RM-24/06/25
170
171        PICMLD[1].MODE = "AUT"
172
173        PIC[7].PSW = 1                                                    ! 25PIC-055 Controller in Manual And Output to 0%
174
175        PICMLD[2].PSW = 1                                                 ! 25PY-055B Manually closed to 0 %
176
177        Wait until  (PVZSL[7].PV==1 & PVZSL[8].PV==1)
178
179        If (PVZSL[7].PV==1 & PVZSL[8].PV==1) then
180         BLPH.STATUS[107]=1
181        Else
182         BLPH.STATUS[107]=0
183        End if
184
185
186
187        !-----No fault on fuel cell-------------------------
188        If (O80XA.PV==1) then
189        BLPH.STATUS[108]=1
190        Else
191        BLPH.STATUS[108]=0
192        End if
193
194
195        !-----BESS No fault-------------------------
196
197        If (BSSFLT.PV==0) then
198        BLPH.STATUS[91]=1
199        Else
200        BLPH.STATUS[91]=0
201        End if
202
203        !-----------------------------------------------------
204        !Remove the forced output 0% of the controllers 25-PIC-055A/B and fix the set point to 6 barg .(for this logic see par.4.4.10)
205
206        ![PIC[7].MODE,PICT[7].MODE,PICT[7].SW="AUT","AUT",1]
207        ![PIC[8].MODE,PICT[8].MODE,PICT[8].SW="AUT","AUT",1]
208        ![PIC[7].MODE,PICT[7].MODE,PICT[7].SW="AUT","AUT",1]
209        !PRSP[1].SV=6.0
210        !PRSP[2].SV =6.0
211        !PIC[8].MODE = "AUT"
212        ![PICT[8].MODE,PICT[8].SW="AUT",1]
213        !Revised logic given by RM-24/06/25
214
215        !Remove the forced output 0% of the controllers 25-PIC-055A/B and fix the set point to 6 barg .(for this logic see par.4.4.10)
216
217        PICMLD[2].PMV = 15.0
218        PICMLD[2].PSW = 3
219
220        Wait Until (PIC[7].PV >= 6.9)
221
222        PICMLD[2].PSW = 1
223        PIC[7].MODE = "CAS"
224
225        BLPH.STATUS[109]=1
226
227
228        !-----BESS No fault-------------------------
```

PROJECT:	BLPH-CW1	FILE NAME:	SEQPERM17.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-25-74
STATION:	FCS0101	SAVED DATE:	7/12/2025 8:31:47 AM	COMMENT:	BLPHSEQ EMERGENCY MODE		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

```
229
230         If (BSSFLT.PV==0) then
231          BLPH.STATUS[91]=1
232         Else
233          BLPH.STATUS[91]=0
234         End if
235
236
237         !-------------------------------Permissive to start "Process Discharge Mode"-----------------------------------------
238
239         If (BLPH.STATUS[91]==1 & BLPH.STATUS[98]==1 & BLPH.STATUS[99]==1 & BLPH.STATUS[100]==1 & BLPH.STATUS[101]==1 & BLPH.STATUS[102]==1
            \
240          & BLPH.STATUS[103]==1 & BLPH.STATUS[104]==1 & BLPH.STATUS[105]==1 & BLPH.STATUS[106]==1 & BLPH.STATUS[107]==1 & BLPH.STATUS[108]=
            =1 & BLPH.STATUS[109]==1) then
241         INTSW[16].PV=1
242         BLPH.STATUS[111]=1
243         Else
244         INTSW[16].PV=0
245         BLPH.STATUS[111]=0
246
247         End if
248
249         until@ ((EMGTM01.BSTS=="CTUP" | INTSW[16].PV==1) AND MODE.PV==7 )
250
251         If (t[49].BSTS<>"NR") then
252         t[49].PH=BLPH.DLY[49]
253         t[49].OP=TMSTAT
254
255
256         End if
257         !_____________________________________________________________________________________________________________
258
259         While(MODE.PV==7 | t[49].BSTS=="NR")
260         If (BLPH.STATUS[91]==0 | BLPH.STATUS[98]==0 | BLPH.STATUS[99]==0 | BLPH.STATUS[100]==0 | BLPH.STATUS[101]==0 | BLPH.STATUS[102]==1
            \
261          & BLPH.STATUS[103]==0 | BLPH.STATUS[104]==0 | BLPH.STATUS[105]==0 | BLPH.STATUS[106]==0 | BLPH.STATUS[107]==0 | BLPH.STATUS[108]=
            =0 | BLPH.STATUS[109]==0)then
262         !---------------------------Stop Aux's FC---------------------
263                         AUXFC.MODE="AUT"
264                         AUXFC.CSV=0
265         wait until (AUXFC.PV==0); Time 3
266         !---------------------------Close the PIC-055A/B----------------------
267         ![PIC[7].MODE,PICT[7].MODE,PICT[7].SW="AUT","AUT",2]
268         ![PIC[8].MODE,PICT[8].MODE,PICT[8].SW="AUT","AUT",2]
269
270         ![PIC[7].MODE,PICT[7].MODE,PICT[7].SW="AUT","AUT",2]
271         !PIC[8].MODE = "AUT"
272         ![PICT[8].MODE,PICT[8].SW="AUT",2]
273
274         !Revised logic given by RM-24/06/25
275
276         PIC[1].PSW = 1                                                          ! 25PIC-055 Controller in Manual And Output to 0%
277
278         !wait until (PVZSL[7].PV==1 & PVZSL[8].PV==1); Time 20
279
280         wait until (PVZSL[7].PV==1)                                     !25PY-055B valve controlled by Manual
281
282
283                 If (PVZSL[7].PV==1 ) then
284                     BLPH.STATUS[107]=1
285                 Else
286                     BLPH.STATUS[107]=0
287                 End if
288
289         End if
290         wend
291
292         wait until (MODE.PV<>7 |t[49].BSTS=="CTUP" | EMGTM01.BSTS=="CTUP")
293         t[49].PH=t[49].PV
294         EMGTM01.OP=TMSTOP
295
296         !BOTTOM:
```

Tag Detail (25PI-LC01 25 PI ALRM SUPPRESS)

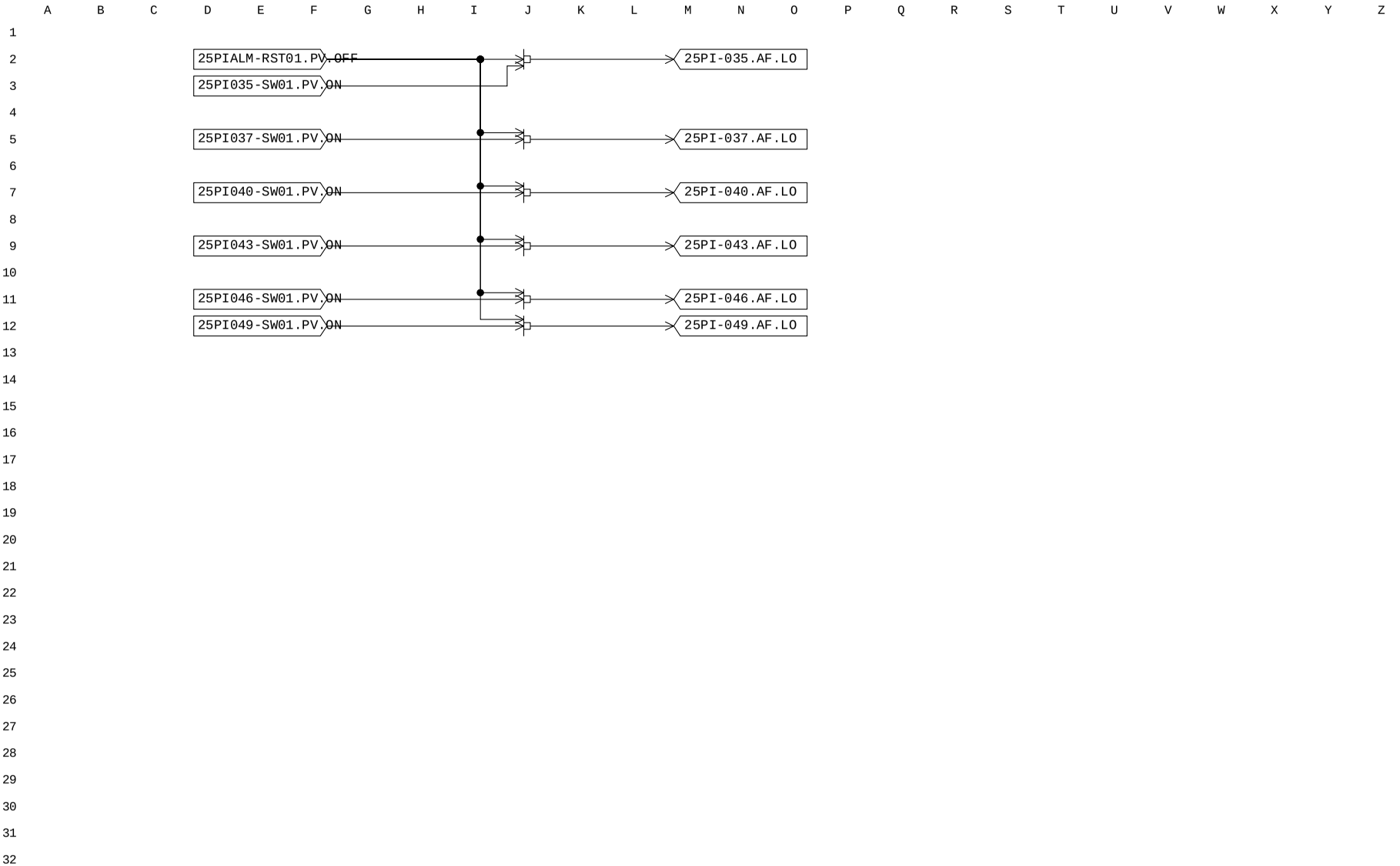
Basic

Tag Name	25PI-LC01
Model Name	LC64-E
Tag Comment	25 PI ALRM SUPPRESS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	25PI-LC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-25-75
STATION:	FCS0101	SAVED DATE:	7/11/2025 11:15:46 AM	COMMENT:	25 PI ALRM SUPPRESS		
SECTION:	DR0081	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (25PI-LC01 25 PI ALRM SUPPRESS)

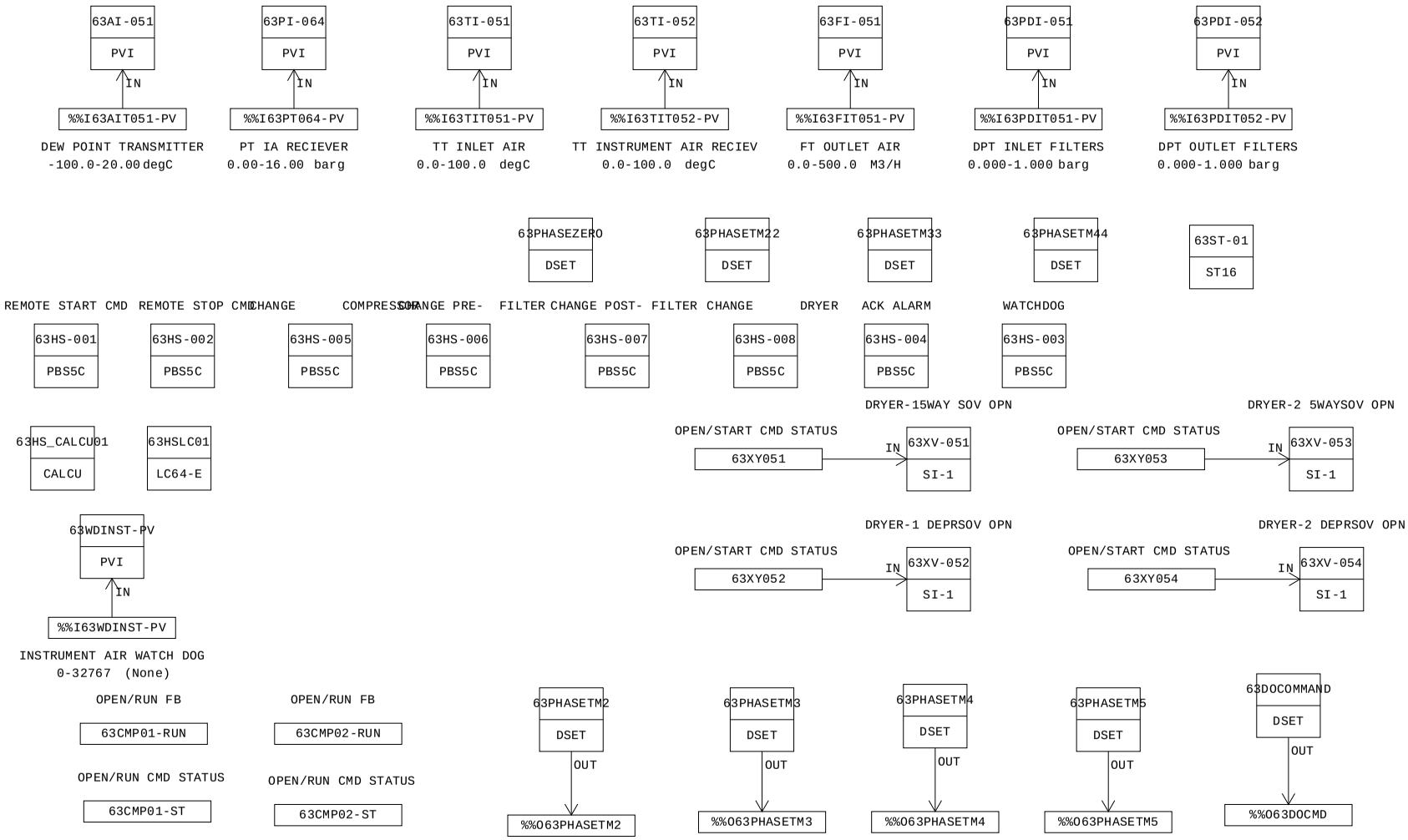
Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0101.edf	SHEET:		YOKOGAWA	PAGE:3-25-26-1
STATION:	FCS0101	SAVED DATE:	5/7/2025 2:47:05 AM	COMMENT:	IA SUBSYSTEM		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0101| BLPH-CW | IA SUB SYSTEM]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0101.edf	SHEET:		YOKOGAWA	PAGE:3-25-26-2
STATION:	FCS0101	SAVED DATE:	5/7/2025 2:47:05 AM	COMMENT:	IA SUBSYSTEM		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP008_001	TYP008	2024/11/15 22:31	CMD FROM PCS
002	TYP008_002	TYP008	2024/11/15 22:31	CMD FROM PCS
003	TYP008_003	TYP008	2024/11/15 22:31	CMD FROM PCS
004	TYP008_004	TYP008	2024/11/15 22:31	CMD FROM PCS

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0101.edf	SHEET:		YOKOGAWA	PAGE:3-25-26-3
STATION:	FCS0101	SAVED DATE:	5/7/2025 2:47:05 AM	COMMENT:	IA SUBSYSTEM		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:IA SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	63PI-064	PVI	PT IA RECIEVER	0.00	16.00	barg	Communication Input	No	%%I63PT064-PV
						4			
002	63TI-051	PVI	TT INLET AIR	0.0	100.0	degC	Communication Input	No	%%I63TIT051-PV
						4			
003	63TI-052	PVI	TT INSTRUMENT AIR RECIEV	0.0	100.0	degC	Communication Input	No	%%I63TIT052-PV
						4			
004	63FI-051	PVI	FT OUTLET AIR	0.0	500.0	M3/H	Communication Input	No	%%I63FIT051-PV
						4			
005	63PDI-052	PVI	DPT OUTLET FILTERS	0.000	1.000	barg	Communication Input	No	%%I63PDIT052-PV
						4			
006	63PDI-051	PVI	DPT INLET FILTERS	0.000	1.000	barg	Communication Input	No	%%I63PDIT051-PV
						4			
007	63XV-051	SI-1	DRYER-15WAY SOV OPN	0	0				63XY051
						4			
008	63XV-052	SI-1	DRYER-1 DEPRSOV OPN	0	0				63XY052
						4			
009	63AI-051	PVI	DEW POINT TRANSMITTER	-100.0	20.00	degC	Communication Input	No	%%I63AIT051-PV
						4			
010	63XV-054	SI-1	DRYER-2 DEPRSOV OPN	0	0				63XY054
						4			
011	63XV-053	SI-1	DRYER-2 5WAYSOV OPN	0	0				63XY053
						4			
012	63PHASETM2	DSET		0	240000	%			
		%%O63PHASETM2				4			
013	63PHASETM3	DSET		0	65535	%			
		%%O63PHASETM3				4			
014	63PHASETM4	DSET		0	65535	%			
		%%O63PHASETM4				4			
015	63PHASETM5	DSET		0	65535	%			
		%%O63PHASETM5				4			
016	63PHASEZERO	DSET		0	50000	%			
						4			
017	63PHASETM22	DSET		0	50000	%			
						4			
018	63PHASETM33	DSET		0	50000	%			
						4			
019	63PHASETM44	DSET		0	50000	%			
						4			
020	63DOCOMMAND	DSET		0	65535	%			
		%%O63DOCMD				4			
021	63HS-001	PBS5C	REMOTE START CMD	0	0				
						3			
022	63HS-002	PBS5C	REMOTE STOP CMD	0	0				
						3			
023	63HS-005	PBS5C	CHANGE COMPRESSOR	0	0				
						3			
024	63HS-006	PBS5C	CHANGE PRE- FILTER	0	0				
						3			
025	63HS-007	PBS5C	CHANGE POST- FILTER	0	0				
						3			
026	63HS-008	PBS5C	CHANGE DRYER	0	0				
						3			
027	63HSLC01	LC64-E		0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

028	63HS_CALCU01	CALCU		0.0	100.0	%	No	No		
						4				
029	63HS-004	PBS5C	ACK ALARM	0	0					
						3				
030	63ST-01	ST16		0	0					
						4				
031	63HS-003	PBS5C	WATCHDOG	0	0					
						3				
032	63WDINST-PV	PVI	INSTRUMENT AIR WATCH DOG	0	32767	(None)	Communication Input	No	%%I63WDINST-PV	
						4				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	63PI-064.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	PT IA RECIEVER		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63PI-064 PT IA RECIEVER)

Basic

Tag Name	63PI-064
Model Name	PVI
Tag Comment	PT IA RECIEVER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63TI-051 TT INLET AIR)

Basic

Tag Name	63TI-051
Model Name	PVI
Tag Comment	TT INLET AIR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63TI-052 TT INSTRUMENT AIR RECIEV)

Basic

Tag Name	63TI-052
Model Name	PVI
Tag Comment	TT INSTRUMENT AIR RECIEV
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63FI-051 FT OUTLET AIR)

Basic

Tag Name	63FI-051
Model Name	PVI
Tag Comment	FT OUTLET AIR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63PDI-052 DPT OUTLET FILTERS)

PROJECT:	BLPH-CW1	FILE NAME:	63PDI-052.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	DPT OUTLET FILTERS		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	63PDI-052
Model Name	PVI
Tag Comment	DPT OUTLET FILTERS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63PDI-051 DPT INLET FILTERS)

Basic

Tag Name	63PDI-051
Model Name	PVI
Tag Comment	DPT INLET FILTERS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63XV-051 DRYER-15WAY SOV OPN)

Basic

Tag Name	63XV-051
Model Name	SI-1
Tag Comment	DRYER-15WAY SOV OPN
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63XV-052 DRYER-1 DEPRSOV OPN)

Basic

Tag Name	63XV-052
Model Name	SI-1
Tag Comment	DRYER-1 DEPRSOV OPN
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63AI-051 DEW POINT TRANSMITTER)

Basic

Tag Name	63AI-051
Model Name	PVI
Tag Comment	DEW POINT TRANSMITTER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	63AI-051.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	DEW POINT TRANSMITTER		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63XV-054 DRYER-2 DEPRSOV OPN)

Basic

Tag Name	63XV-054
Model Name	SI-1
Tag Comment	DRYER-2 DEPRSOV OPN
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63XV-053 DRYER-2 5WAYSOV OPN)

Basic

Tag Name	63XV-053
Model Name	SI-1
Tag Comment	DRYER-2 5WAYSOV OPN
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63PHASETM2)

Basic

Tag Name	63PHASETM2
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63PHASETM3)

Basic

Tag Name	63PHASETM3
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63PHASETM4)

Basic

Tag Name	63PHASETM4
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63PHASETM5)

Basic

Tag Name	63PHASETM5
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63PHASEZERO)

Basic

Tag Name	63PHASEZERO
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63PHASETM22)

Basic

Tag Name	63PHASETM22
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	63PHASETM22.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:			
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63PHASETM33)

Basic

Tag Name	63PHASETM33
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63PHASETM44)

Basic

Tag Name	63PHASETM44
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63DOCOMMAND)

Basic

Tag Name	63DOCOMMAND
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (63HS-001 REMOTE START CMD)

Basic

Tag Name	63HS-001
Model Name	PBS5C
Tag Comment	REMOTE START CMD
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	START	START	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (63HS-002 REMOTE STOP CMD)

Basic

Tag Name	63HS-002
Model Name	PBS5C
Tag Comment	REMOTE STOP CMD
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-002.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-002.MV01

PROJECT:	BLPH-CW1	FILE NAME:	63HS-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	REMOTE STOP CMD		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	Red	Gray
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (63HS-005 CHANGE COMPRESSOR)

Basic

Tag Name	63HS-005
Model Name	PBS5C
Tag Comment	CHANGE COMPRESSOR
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-005.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-005.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	CHG-COMP	CHG-COMP	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (63HS-006 CHANGE PRE- FILTER)

Basic

Tag Name	63HS-006
Model Name	PBS5C
Tag Comment	CHANGE PRE- FILTER
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-006.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-006.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	PRE-FLTR	PRE-FLTR	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

PROJECT:	BLPH-CW1	FILE NAME:	63HS-006.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	CHANGE PRE- FILTER		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63HS-007 CHANGE POST- FILTER)

Basic

Tag Name	63HS-007
Model Name	PBS5C
Tag Comment	CHANGE POST- FILTER
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-007.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-007.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No. Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001 Button with Lamp	POSTFLTR	POSTFLTR	Gray	Red
002 Not used	OFF	ON	White	Red
003 Not used	OFF	ON	White	Red
004 Not used	OFF	ON	White	Red
005 Not used	OFF	ON	White	Red

Tag Detail (63HS-008 CHANGE DRYER)

Basic

Tag Name	63HS-008
Model Name	PBS5C
Tag Comment	CHANGE DRYER
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-008.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-008.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No. Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001 Button with Lamp	CHG-COMP	CHG-COMP	Gray	Red
002 Not used	OFF	ON	White	Red
003 Not used	OFF	ON	White	Red
004 Not used	OFF	ON	White	Red
005 Not used	OFF	ON	White	Red

Tag Detail (63HSLC01)

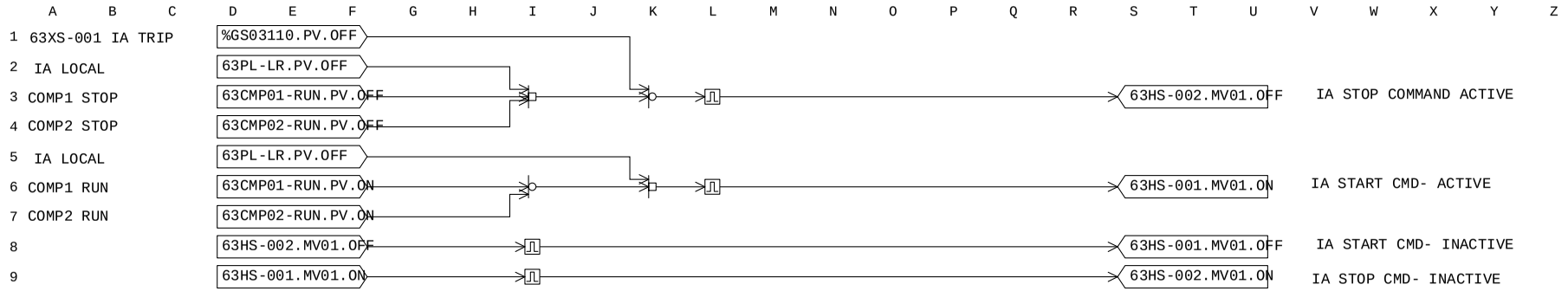
Basic

Tag Name	63HSLC01
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	63HSLC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-26-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:			
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (63HSLC01)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	63HS_CALCU01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:			
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63HS_CALCU01)

Basic

Tag Name	63HS_CALCU01
Model Name	CALCU
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	63HS_CALCU01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:			
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (63HS_CALCU01)

```
Line Number   General-Purpose Calculation Formula
   001        alias RMST 63HS-001.MV01
   002        alias RMSP 63HS-002.MV01
   003        alias WTD 63HS-003.MV01
   004        alias ACKN 63HS-004.MV01
   005        alias CCMP 63HS-005.MV01
   006        alias PRFT 63HS-006.MV01
   007        alias POFT 63HS-007.MV01
   008        alias CDRY 63HS-008.MV01
   009        alias CMD1 63DOCOMMAND.SV
   010        integer i,j,k
   011
   012        !IF(CDRY==1)then
   013        !CMD1=32768
   014        !else if(POFT==1)then
   015        !CMD1=16384
   016        !else if(PRFT==1)then
   017        !CMD1=8192
   018        !else if(ACKN==1)then
   019        !CMD1=2048
   020        !else if(RMSP==1)then
   021        !CMD1=512
   022        !else if(RMST==1)then
   023        !CMD1=256
   024        !else
   025        !CMD1=0
   026        !end if
   027
   028
   029
   030        CPV1= (RMST*256+RMSP*512+WTD*1024+ACKN*2048+CCMP*4096+PRFT*8192+POFT*16384+CDRY*32786)
   031        CMD1=CPV1
   032
   033
   034
   035
```

PROJECT:	BLPH-CW1	FILE NAME:	63HS-004.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	ACK ALARM		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63HS-004 ACK ALARM)

Basic

Tag Name	63HS-004
Model Name	PBS5C
Tag Comment	ACK ALARM
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-004.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-004.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	ACKN	ACKN	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (63ST-01)

Basic

Tag Name	63ST-01
Model Name	ST16
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	63ST-01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:			
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (63ST-01)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01												
C02												
C03												
C04												
C05												
C06												
C07												
C08												
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01												
A02												
A03												
A04												
A05												
A06												
A07												
A08												
A09												
A10												
A11												
A12												
A13												
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	63HS-003.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-26-16
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:18 AM	COMMENT:	WATCHDOG		
SECTION:	DR0101	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63HS-003 WATCHDOG)

Basic

Tag Name	63HS-003
Model Name	PBS5C
Tag Comment	WATCHDOG
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	63HS-003.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	63HS-003.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	OFF	ON	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

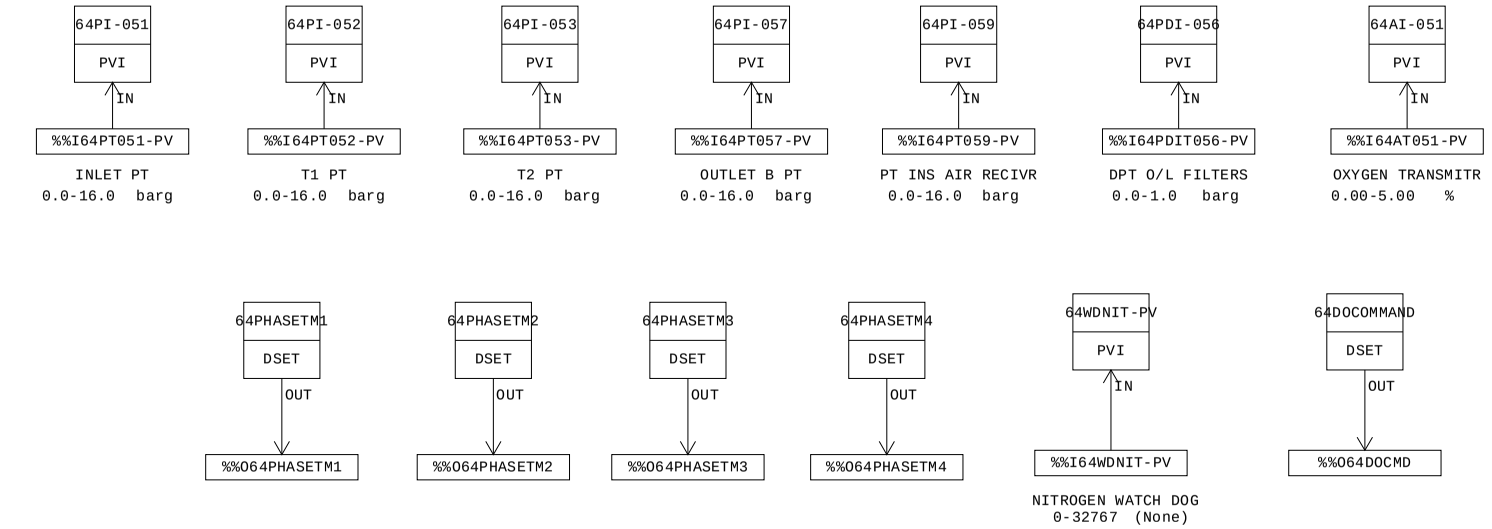
Tag Detail (63WDINST-PV INSTRUMENT AIR WATCH DOG)

Basic

Tag Name	63WDINST-PV
Model Name	PVI
Tag Comment	INSTRUMENT AIR WATCH DOG
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0102.edf	SHEET:		YOKOGAWA	PAGE:3-25-27-1
STATION:	FCS0101	SAVED DATE:	5/26/2025 6:00:06 AM	COMMENT:	N2 SUBSYSTEM		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0102 | BLPH-CW | N2 SUB SYSTEM]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0102.edf	SHEET:		YOKOGAWA	PAGE:3-25-27-2
STATION:	FCS0101	SAVED DATE:	5/26/2025 6:00:06 AM	COMMENT:	N2 SUBSYSTEM		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:N2 SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	64PI-051	PVI	INLET PT	0.0	16.0	barg	Communication Input	No	%%I64PT051-PV
						4			
002	64PI-052	PVI	T1 PT	0.0	16.0	barg	Communication Input	No	%%I64PT052-PV
						4			
003	64PI-053	PVI	T2 PT	0.0	16.0	barg	Communication Input	No	%%I64PT053-PV
						4			
004	64PI-057	PVI	OUTLET B PT	0.0	16.0	barg	Communication Input	No	%%I64PT057-PV
						4			
005	64PI-059	PVI	PT INS AIR RECIVR	0.0	16.0	barg	Communication Input	No	%%I64PT059-PV
						4			
006	64PDI-056	PVI	DPT O/L FILTERS	0.0	1.0	barg	Communication Input	No	%%I64PDIT056-PV
						4			
007	64AI-051	PVI	OXYGEN TRANSMITR	0.00	5.00	%	Communication Input	No	%%I64AT051-PV
						4			
008	64PHASETM1	DSET		0	50000	%			
		%%O64PHASETM1				4			
009	64PHASETM2	DSET		0	50000	%			
		%%O64PHASETM2				4			
010	64PHASETM3	DSET		0	50000	%			
		%%O64PHASETM3				4			
011	64PHASETM4	DSET		0	50000	%			
		%%O64PHASETM4				4			
012	64HS-001	PBS5C	REMOTE START CMD	0	0				
						3			
013	64HS-002	PBS5C	REMOTE STOP CMD	0	0				
						3			
014	64HS-005	PBS5C	CHANGE FILTER	0	0				
						3			
015	64HS-004	PBS5C	ACK ALARM	0	0				
						3			
016	64HS-003	PBS5C	WATCHDOG	0	0				
						3			
017	64HS-LC01	LC64-E	STRT/STP, ALM SUPPRESS	0	0				
						4			
018	64HS_CALCU01	CALCU		0.0	100.0	%	No	No	
						4			
019	64DOCOMMAND	DSET		0	65535	%			
		%%O64DOCMD				4			
020	64WDNIT-PV	PVI	NITROGEN WATCH DOG	0	32767	(None)	Communication Input	No	%%I64WDNIT-PV
						4			
021	64WDNITINST	LC64-E	IA NITROGEN ALARM CHECK	0	0				
						4			
022	64CURPHS-PV	CI		0	0				%WB222401
						4			
023	64CURPHS-ST16	ST16		0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	64PI-051.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:	INLET PT		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64PI-051 INLET PT)

Basic

Tag Name	64PI-051
Model Name	PVI
Tag Comment	INLET PT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI-052 T1 PT)

Basic

Tag Name	64PI-052
Model Name	PVI
Tag Comment	T1 PT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI-053 T2 PT)

Basic

Tag Name	64PI-053
Model Name	PVI
Tag Comment	T2 PT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI-057 OUTLET B PT)

Basic

Tag Name	64PI-057
Model Name	PVI
Tag Comment	OUTLET B PT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PI-059 PT INS AIR RECIVR)

PROJECT:	BLPH-CW1	FILE NAME:	64PI-059.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:	PT INS AIR RECIVR		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	64PI-059
Model Name	PVI
Tag Comment	PT INS AIR RECIVR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PDI-056 DPT O/L FILTERS)

Basic

Tag Name	64PDI-056
Model Name	PVI
Tag Comment	DPT O/L FILTERS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64AI-051 OXYGEN TRANSMITR)

Basic

Tag Name	64AI-051
Model Name	PVI
Tag Comment	OXYGEN TRANSMITR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64PHASETM1)

Basic

Tag Name	64PHASETM1
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (64PHASETM2)

Basic

Tag Name	64PHASETM2
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (64PHASETM3)

Basic

Tag Name	64PHASETM3

Model Name DSET
Tag Comment
Lvl 4
Scan Period Basic Scan

Tag Detail (64PHASETM4)

Basic
Tag Name 64PHASETM4
Model Name DSET
Tag Comment
Lvl 4
Scan Period Basic Scan

Tag Detail (64HS-001 REMOTE START CMD)

Basic
Tag Name 64HS-001
Model Name PBS5C
Tag Comment REMOTE START CMD
Lvl 3
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 64HS-001.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5
Operation Command 1 Connection Destination 64HS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	START	START	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (64HS-002 REMOTE STOP CMD)

Basic
Tag Name 64HS-002
Model Name PBS5C
Tag Comment REMOTE STOP CMD
Lvl 3
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 64HS-002.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5
Operation Command 1 Connection Destination 64HS-002.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	Red	Gray
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

PROJECT:	BLPH-CW1	FILE NAME:	64HS-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:	REMOTE STOP CMD		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64HS-005 CHANGE FILTER)

Basic

Tag Name	64HS-005
Model Name	PBS5C
Tag Comment	CHANGE FILTER
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	64HS-005.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	64HS-005.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No. Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001 Button with Lamp	CHG-COMP	CHG-COMP	Gray	Red
002 Not used	OFF	ON	White	Red
003 Not used	OFF	ON	White	Red
004 Not used	OFF	ON	White	Red
005 Not used	OFF	ON	White	Red

Tag Detail (64HS-004 ACK ALARM)

Basic

Tag Name	64HS-004
Model Name	PBS5C
Tag Comment	ACK ALARM
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	64HS-004.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	64HS-004.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No. Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001 Button with Lamp	ACKN	ACKN	Gray	Red
002 Not used	OFF	ON	White	Red
003 Not used	OFF	ON	White	Red
004 Not used	OFF	ON	White	Red
005 Not used	OFF	ON	White	Red

Tag Detail (64HS-003 WATCHDOG)

Basic

Tag Name	64HS-003
Model Name	PBS5C
Tag Comment	WATCHDOG
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	64HS-003.MV01
Connection Destination of Switch Status 2	

PROJECT:	BLPH-CW1	FILE NAME:	64HS-003.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:	WATCHDOG		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Connection Destination of Switch Status 3
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5
Operation Command 1 Connection Destination 64HS-003.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	OFF	ON	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (64HS-LC01 STRT/STP, ALM SUPPRESS)

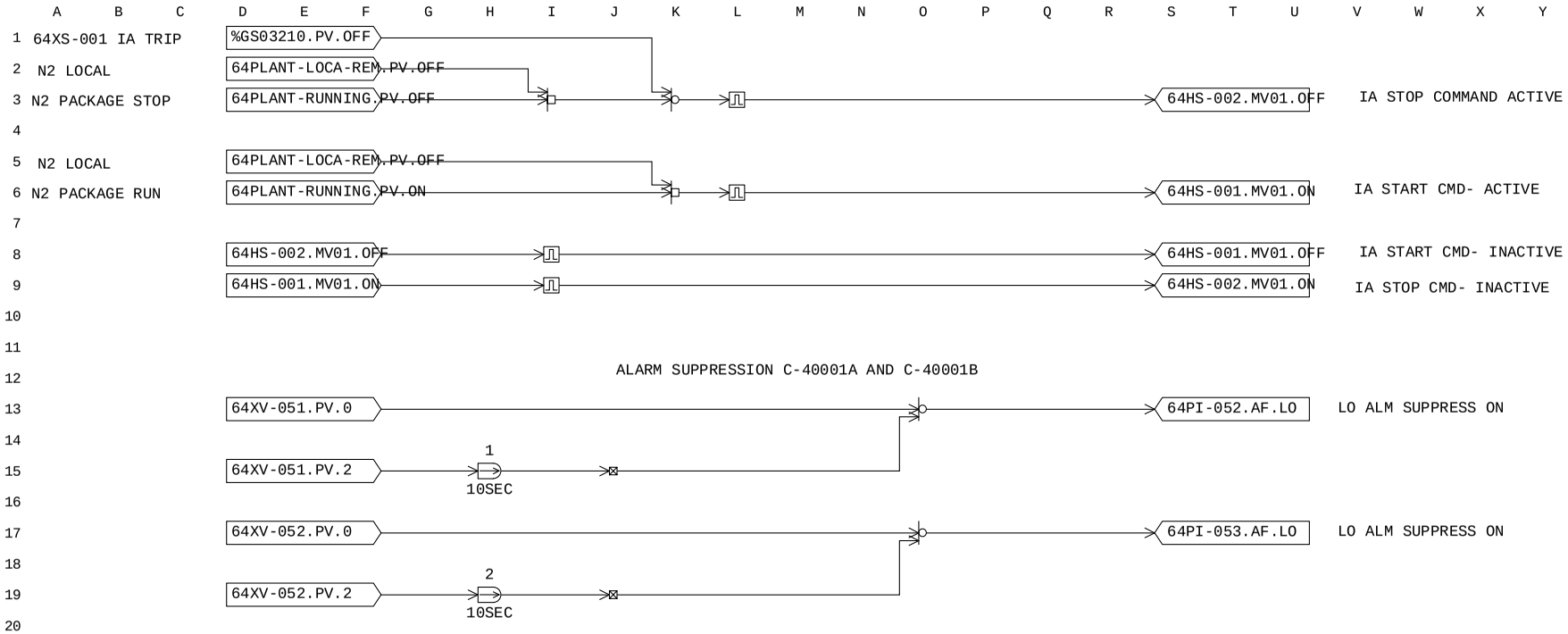
Basic

Tag Name	64HS-LC01
Model Name	LC64-E
Tag Comment	STRT/STP, ALM SUPPRESS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	64HS-LC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-27-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:	STRT/STP, ALM SUPPRESS		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (64HS-LC01 STRT/STP, ALM SUPPRESS)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	64HS_CALCU01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:			
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64HS_CALCU01)

Basic

Tag Name	64HS_CALCU01
Model Name	CALCU
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	64HS_CALCU01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:			
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (64HS_CALCU01)

Line Number	General-Purpose Calculation Formula
001	alias RMST 64HS-001.MV01
002	alias RMSP 64HS-002.MV01
003	alias WTD 64HS-003.MV01
004	alias ACKN 64HS-004.MV01
005	alias CWFLT 64HS-005.MV01
006	alias CMD1 64DOCOMMAND.SV
007	
008	
009	
010	CMD1=(RMST*256+RMSP*512+ACKN*2048+CWFLT*4096+WTD*8192)
011	CPV=CMD1
012	
013	
014	
015	

PROJECT:	BLPH-CW1	FILE NAME:	64DOCOMMAND.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:21 AM	COMMENT:			
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64DOCOMMAND)

Basic

Tag Name	64DOCOMMAND
Model Name	DSET
Tag Comment	
Lvl	4
Scan Period	Basic Scan

Tag Detail (64WDNIT-PV NITROGEN WATCH DOG)

Basic

Tag Name	64WDNIT-PV
Model Name	PVI
Tag Comment	NITROGEN WATCH DOG
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (64WDNITINST IA NITROGEN ALARM CHECK)

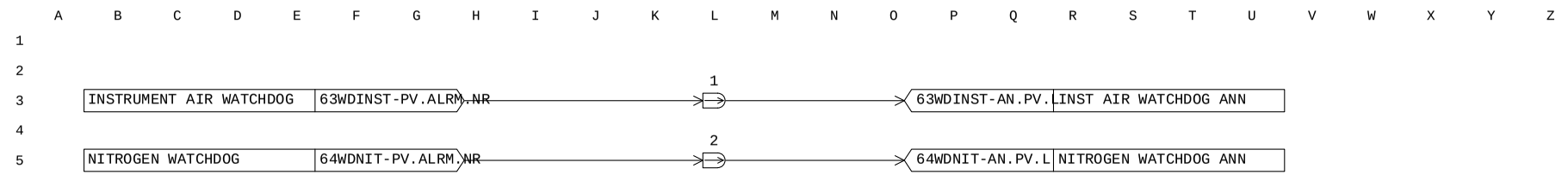
Basic

Tag Name	64WDNITINST
Model Name	LC64-E
Tag Comment	IA NITROGEN ALARM CHECK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	64WDNITINST.edf	SHEET:		YOKOGAWA	PAGE:3-25-27-12
STATION:	FCS0101	SAVED DATE:	5/9/2025 10:07:37 AM	COMMENT:	IA NITROGEN ALARM CHECK		
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (64WDNITINST IA NITROGEN ALARM CHECK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————



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PROJECT:	BLPH-CW1	FILE NAME:	64CURPHS-PV.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-13
STATION:	FCS0101	SAVED DATE:	5/26/2025 6:00:06 AM	COMMENT:			
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64CURPHS-PV)

Basic

Tag Name	64CURPHS-PV
Model Name	CI
Tag Comment	
Lvl	4
Number of Bits Input	16
Code Conversion	No
Bit Inversion	No Invert

Tag Detail (64CURPHS-ST16)

Basic

Tag Name	64CURPHS-ST16
Model Name	ST16
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	64CURPHS-ST16.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-27-14
STATION:	FCS0101	SAVED DATE:	5/26/2025 5:51:33 AM	COMMENT:			
SECTION:	DR0102	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (64CURPHS-ST16)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01												
C02												
C03												
C04												
C05												
C06												
C07												
C08												
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	64CURPHS-PV.ACT	ON		Y								
A02												
A03												
A04												
A05												
A06												
A07												
A08												
A09												
A10												
A11												
A12												
A13												
A14												
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A16												
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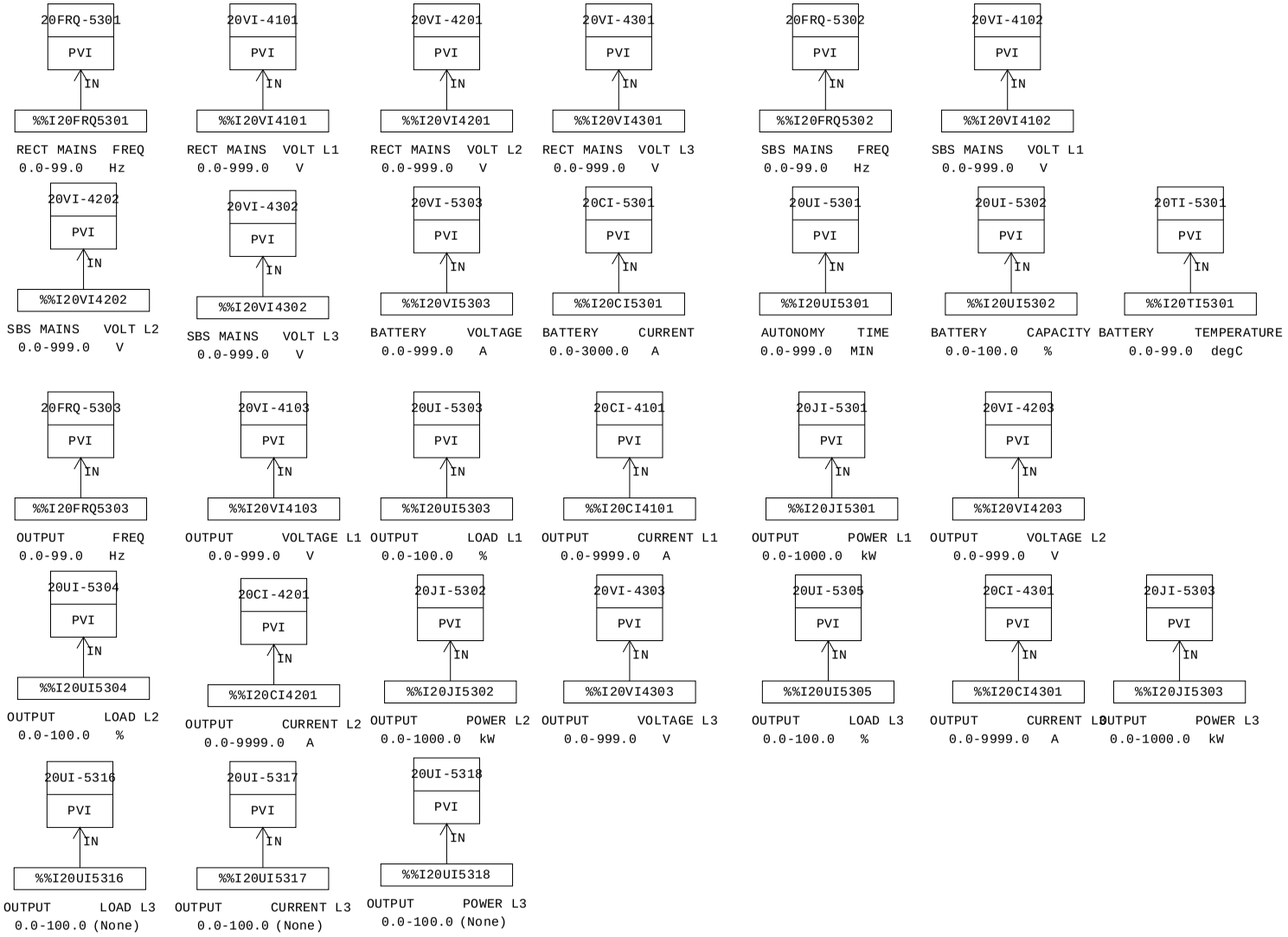
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	DR0103.edf	SHEET:		YOKOGAWA	PAGE:3-25-28-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	200 F3 PAS UPS-A		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0103 | BLPH-CW | PVI SUBSYSTEM - BLPH UPS]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0103.edf	SHEET:		YOKOGAWA	PAGE:3-25-28-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	200 F3 PAS UPS-A		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200 F3 PAS UPS-A

No.	Tag Name	Model Name	Tag Comment		Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection			Set Value Input Connection Information		Lvl			
001	20FRQ-5301	PVI	RECT MAINS	FREQ	0.0	99.0	Hz 4	Communication Input	Hour	%%I20FRQ5301
002	20VI-4101	PVI	RECT MAINS	VOLT L1	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4101
003	20VI-4201	PVI	RECT MAINS	VOLT L2	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4201
004	20VI-4301	PVI	RECT MAINS	VOLT L3	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4301
005	20FRQ-5302	PVI	SBS MAINS	FREQ	0.0	99.0	Hz 4	Communication Input	Hour	%%I20FRQ5302
006	20VI-4102	PVI	SBS MAINS	VOLT L1	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4102
007	20VI-4202	PVI	SBS MAINS	VOLT L2	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4202
008	20VI-4302	PVI	SBS MAINS	VOLT L3	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4302
009	20CI-5301	PVI	BATTERY	CURRENT	0.0	3000.0	A 4	Communication Input	Hour	%%I20CI5301
010	20VI-5303	PVI	BATTERY	VOLTAGE	0.0	999.0	A 4	Communication Input	Hour	%%I20VI5303
011	20UI-5302	PVI	BATTERY	CAPACITY	0.0	100.0	% 4	Communication Input	Hour	%%I20UI5302
012	20UI-5301	PVI	AUTONOMY	TIME	0.0	999.0	MIN 4	Communication Input	Hour	%%I20UI5301
013	20TI-5301	PVI	BATTERY	TEMPERATURE	0.0	99.0	degC 4	Communication Input	Hour	%%I20TI5301
014	20FRQ-5303	PVI	OUTPUT	FREQ	0.0	99.0	Hz 4	Communication Input	Hour	%%I20FRQ5303
015	20VI-4103	PVI	OUTPUT	VOLTAGE L1	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4103
016	20UI-5303	PVI	OUTPUT	LOAD L1	0.0	100.0	% 4	Communication Input	Hour	%%I20UI5303
017	20CI-4101	PVI	OUTPUT	CURRENT L1	0.0	9999.0	A 4	Communication Input	Hour	%%I20CI4101
018	20JI-5301	PVI	OUTPUT	POWER L1	0.0	1000.0	kW 4	Communication Input	Hour	%%I20JI5301
019	20VI-4203	PVI	OUTPUT	VOLTAGE L2	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4203
020	20UI-5304	PVI	OUTPUT	LOAD L2	0.0	100.0	% 4	Communication Input	Hour	%%I20UI5304
021	20CI-4201	PVI	OUTPUT	CURRENT L2	0.0	9999.0	A 4	Communication Input	Hour	%%I20CI4201
022	20VI-4303	PVI	OUTPUT	VOLTAGE L3	0.0	999.0	V 4	Communication Input	Hour	%%I20VI4303
023	20JI-5302	PVI	OUTPUT	POWER L2	0.0	1000.0	kW 4	Communication Input	Hour	%%I20JI5302
024	20CI-4301	PVI	OUTPUT	CURRENT L3	0.0	9999.0	A 4	Communication Input	Hour	%%I20CI4301
025	20UI-5305	PVI	OUTPUT	LOAD L3	0.0	100.0	% 4	Communication Input	Hour	%%I20UI5305
026	20JI-5303	PVI	OUTPUT	POWER L3	0.0	1000.0	kW 4	Communication Input	Hour	%%I20JI5303
027	20UI-5317	PVI	OUTPUT	CURRENT L3	0.0	100.0	(None) 4	Communication Input	Hour	%%I20UI5317

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028	20UI-5316	PVI	OUTPUT	LOAD L3	0.0	100.0	(None) 4	Communication Input	Hour	%%I20UI5316
029	20UI-5318	PVI	OUTPUT	POWER L3	0.0	100.0	(None) 4	Communication Input	Hour	%%I20UI5318

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5301.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	RECT MAINS FREQ		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20FRQ-5301 RECT MAINS FREQ)

Basic

Tag Name	20FRQ-5301
Model Name	PVI
Tag Comment	RECT MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4101 RECT MAINS VOLT L1)

Basic

Tag Name	20VI-4101
Model Name	PVI
Tag Comment	RECT MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4201 RECT MAINS VOLT L2)

Basic

Tag Name	20VI-4201
Model Name	PVI
Tag Comment	RECT MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4301 RECT MAINS VOLT L3)

Basic

Tag Name	20VI-4301
Model Name	PVI
Tag Comment	RECT MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5302 SBS MAINS FREQ)

PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5302.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	SBS MAINS FREQ		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20FRQ-5302
Model Name	PVI
Tag Comment	SBS MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4102 SBS MAINS VOLT L1)

Basic

Tag Name	20VI-4102
Model Name	PVI
Tag Comment	SBS MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4202 SBS MAINS VOLT L2)

Basic

Tag Name	20VI-4202
Model Name	PVI
Tag Comment	SBS MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4302 SBS MAINS VOLT L3)

Basic

Tag Name	20VI-4302
Model Name	PVI
Tag Comment	SBS MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-5301 BATTERY CURRENT)

Basic

Tag Name	20CI-5301

PROJECT:	BLPH-CW1	FILE NAME:	20CI-5301.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	BATTERY CURRENT		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	BATTERY CURRENT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-5303 BATTERY VOLTAGE)

Basic

Tag Name	20VI-5303
Model Name	PVI
Tag Comment	BATTERY VOLTAGE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5302 BATTERY CAPACITY)

Basic

Tag Name	20UI-5302
Model Name	PVI
Tag Comment	BATTERY CAPACITY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5301 AUTONOMY TIME)

Basic

Tag Name	20UI-5301
Model Name	PVI
Tag Comment	AUTONOMY TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-5301 BATTERY TEMPERATURE)

Basic

Tag Name	20TI-5301
Model Name	PVI
Tag Comment	BATTERY TEMPERATURE

PROJECT:	BLPH-CW1	FILE NAME:	20TI-5301.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	BATTERY TEMPERATURE		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5303 OUTPUT FREQ)

Basic

Tag Name	20FRQ-5303
Model Name	PVI
Tag Comment	OUTPUT FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4103 OUTPUT VOLTAGE L1)

Basic

Tag Name	20VI-4103
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5303 OUTPUT LOAD L1)

Basic

Tag Name	20UI-5303
Model Name	PVI
Tag Comment	OUTPUT LOAD L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4101 OUTPUT CURRENT L1)

Basic

Tag Name	20CI-4101
Model Name	PVI
Tag Comment	OUTPUT CURRENT L1
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	20CI-4101.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	OUTPUT CURRENT L1		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5301 OUTPUT POWER L1)

Basic

Tag Name	20JI-5301
Model Name	PVI
Tag Comment	OUTPUT POWER L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4203 OUTPUT VOLTAGE L2)

Basic

Tag Name	20VI-4203
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5304 OUTPUT LOAD L2)

Basic

Tag Name	20UI-5304
Model Name	PVI
Tag Comment	OUTPUT LOAD L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4201 OUTPUT CURRENT L2)

Basic

Tag Name	20CI-4201
Model Name	PVI
Tag Comment	OUTPUT CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	20CI-4201.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	OUTPUT CURRENT L2		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20VI-4303 OUTPUT VOLTAGE L3)

Basic
Tag Name — 20VI-4303
Model Name — PVI
Tag Comment — OUTPUT VOLTAGE L3
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20JI-5302 OUTPUT POWER L2)

Basic
Tag Name — 20JI-5302
Model Name — PVI
Tag Comment — OUTPUT POWER L2
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 0.1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20CI-4301 OUTPUT CURRENT L3)

Basic
Tag Name — 20CI-4301
Model Name — PVI
Tag Comment — OUTPUT CURRENT L3
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20UI-5305 OUTPUT LOAD L3)

Basic
Tag Name — 20UI-5305
Model Name — PVI
Tag Comment — OUTPUT LOAD L3
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5305.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	OUTPUT LOAD L3		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5303 OUTPUT POWER L3)

Basic

Tag Name	20JI-5303
Model Name	PVI
Tag Comment	OUTPUT POWER L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5317 OUTPUT CURRENT L3)

Basic

Tag Name	20UI-5317
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5316 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5316
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5318 OUTPUT POWER L3)

Basic

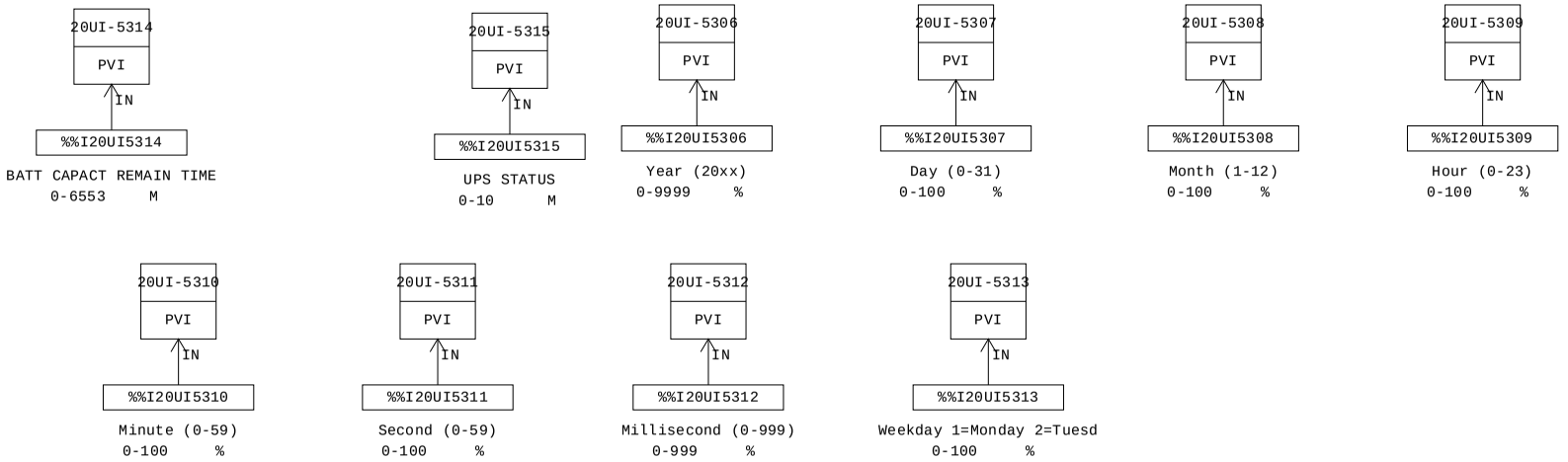
Tag Name	20UI-5318
Model Name	PVI
Tag Comment	OUTPUT POWER L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5318.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-28-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:24 AM	COMMENT:	OUTPUT POWER L3		
SECTION:	DR0103	PRINTED DATE:	9/15/2025	DRAWER:			

Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0104.edf	SHEET:		YOKOGAWA	PAGE:3-25-29-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:26 AM	COMMENT:	200F3 PAS UPS-A		
SECTION:	DR0104	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0104| BLPH-CW | PVI SUBSYSTEM - BLPH UPS]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0104.edf	SHEET:		YOKOGAWA	PAGE:3-25-29-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:26 AM	COMMENT:	200F3 PAS UPS-A		
SECTION:	DR0104	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F3 PAS UPS-A

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20UI-5306	PVI	Year (20xx)	0	9999	%	Communication Input	Hour	%%I20UI5306
						4			
002	20UI-5307	PVI	Day (0-31)	0	100	%	Communication Input	Hour	%%I20UI5307
						4			
003	20UI-5308	PVI	Month (1-12)	0	100	%	Communication Input	Hour	%%I20UI5308
						4			
004	20UI-5309	PVI	Hour (0-23)	0	100	%	Communication Input	Hour	%%I20UI5309
						4			
005	20UI-5310	PVI	Minute (0-59)	0	100	%	Communication Input	Hour	%%I20UI5310
						4			
006	20UI-5311	PVI	Second (0-59)	0	100	%	Communication Input	Hour	%%I20UI5311
						4			
007	20UI-5312	PVI	Millisecond (0-999)	0	999	%	Communication Input	Hour	%%I20UI5312
						4			
008	20UI-5313	PVI	Weekday 1=Monday 2=Tuesd	0	100	%	Communication Input	Hour	%%I20UI5313
						4			
009	20UI-5314	PVI	BATT CAPACT REMAIN TIME	0	6553	M	Communication Input	Hour	%%I20UI5314
						4			
010	20UI-5315	PVI	UPS STATUS	0	10	M	Communication Input	Hour	%%I20UI5315
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	20UI-5306.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-29-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:26 AM	COMMENT:	Year (20xx)		
SECTION:	DR0104	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20UI-5306 Year (20xx))

Basic

Tag Name	20UI-5306
Model Name	PVI
Tag Comment	Year (20xx)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5307 Day (0-31))

Basic

Tag Name	20UI-5307
Model Name	PVI
Tag Comment	Day (0-31)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5308 Month (1-12))

Basic

Tag Name	20UI-5308
Model Name	PVI
Tag Comment	Month (1-12)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5309 Hour (0-23))

Basic

Tag Name	20UI-5309
Model Name	PVI
Tag Comment	Hour (0-23)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5310 Minute (0-59))

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5310.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-29-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:26 AM	COMMENT:	Minute (0-59)		
SECTION:	DR0104	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20UI-5310
Model Name	PVI
Tag Comment	Minute (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5311 Second (0-59))

Basic

Tag Name	20UI-5311
Model Name	PVI
Tag Comment	Second (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5312 Millisecond (0-999))

Basic

Tag Name	20UI-5312
Model Name	PVI
Tag Comment	Millisecond (0-999)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5313 Weekday 1=Monday 2=Tuesd)

Basic

Tag Name	20UI-5313
Model Name	PVI
Tag Comment	Weekday 1=Monday 2=Tuesd
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5314 BATT CAPACT REMAIN TIME)

Basic

Tag Name	20UI-5314

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5314.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-29-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:26 AM	COMMENT:	BATT CAPACT REMAIN TIME		
SECTION:	DR0104	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	BATT CAPACT REMAIN TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

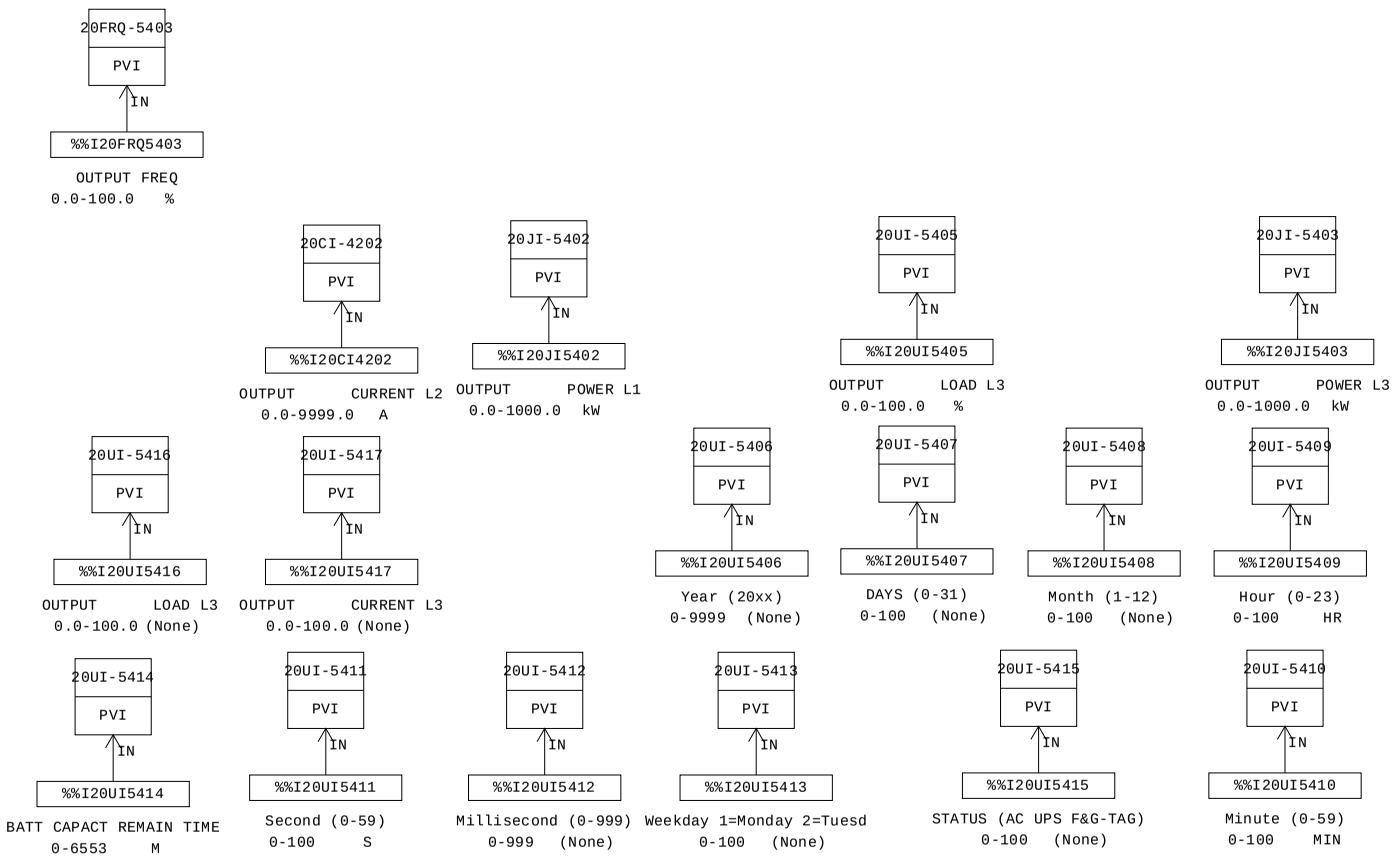
Tag Detail (20UI-5315 UPS STATUS)

Basic

Tag Name	20UI-5315
Model Name	PVI
Tag Comment	UPS STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0105.edf	SHEET:		YOKOGAWA	PAGE:3-25-30-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	200F4 FGS UPA-A		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0105 | BLPH-CW | PVI SUBSYSTEM - BLPH UPS]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0105.edf	SHEET:		YOKOGAWA	PAGE:3-25-30-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	200F4 FGS UPA-A		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F4 FGS UPA-A

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20UI-5414	PVI	BATT CAPACT REMAIN TIME	0	6553	M	Communication Input	Hour	%%I20UI5414
						4			
002	20CI-4202	PVI	OUTPUT CURRENT L2	0.0	9999.0	A	Communication Input	Hour	%%I20CI4202
						4			
003	20JI-5402	PVI	OUTPUT POWER L1	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5402
						4			
004	20UI-5405	PVI	OUTPUT LOAD L3	0.0	100.0	%	Communication Input	Hour	%%I20UI5405
						4			
005	20JI-5403	PVI	OUTPUT POWER L3	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5403
						4			
006	20UI-5417	PVI	OUTPUT CURRENT L3	0.0	100.0	(None)	Communication Input	Hour	%%I20UI5417
						4			
007	20UI-5416	PVI	OUTPUT LOAD L3	0.0	100.0	(None)	Communication Input	Hour	%%I20UI5416
						4			
008	20UI-5406	PVI	Year (20xx)	0	9999	(None)	Communication Input	Hour	%%I20UI5406
						4			
009	20UI-5408	PVI	Month (1-12)	0	100	(None)	Communication Input	Hour	%%I20UI5408
						4			
010	20UI-5409	PVI	Hour (0-23)	0	100	HR	Communication Input	Hour	%%I20UI5409
						4			
011	20UI-5411	PVI	Second (0-59)	0	100	S	Communication Input	Hour	%%I20UI5411
						4			
012	20UI-5412	PVI	Millisecond (0-999)	0	999	(None)	Communication Input	Hour	%%I20UI5412
						4			
013	20FRQ-5403	PVI	OUTPUT FREQ	0.0	100.0	%	Communication Input	No	%%I20FRQ5403
						4			
014	20UI-5413	PVI	Weekday 1=Monday 2=Tuesd	0	100	(None)	Communication Input	Hour	%%I20UI5413
						4			
015	20UI-5407	PVI	DAYS (0-31)	0	100	(None)	Communication Input	Hour	%%I20UI5407
						4			
016	20UI-5410	PVI	Minute (0-59)	0	100	MIN	Communication Input	Hour	%%I20UI5410
						4			
017	20UI-5415	PVI	STATUS (AC UPS F&G-TAG)	0	100	(None)	Communication Input	Hour	%%I20UI5415
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5414.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-30-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	BATT CAPACT REMAIN TIME		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20UI-5414 BATT CAPACT REMAIN TIME)

Basic

Tag Name	20UI-5414
Model Name	PVI
Tag Comment	BATT CAPACT REMAIN TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4202 OUTPUT CURRENT L2)

Basic

Tag Name	20CI-4202
Model Name	PVI
Tag Comment	OUTPUT CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5402 OUTPUT POWER L1)

Basic

Tag Name	20JI-5402
Model Name	PVI
Tag Comment	OUTPUT POWER L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5405 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5405
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5403 OUTPUT POWER L3)

PROJECT:	BLPH-CW1	FILE NAME:	20JI-5403.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-30-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	OUTPUT POWER L3		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20JI-5403
Model Name	PVI
Tag Comment	OUTPUT POWER L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5417 OUTPUT CURRENT L3)

Basic

Tag Name	20UI-5417
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5416 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5416
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5406 Year (20xx))

Basic

Tag Name	20UI-5406
Model Name	PVI
Tag Comment	Year (20xx)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5408 Month (1-12))

Basic

Tag Name	20UI-5408

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5408.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-30-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	Month (1-12)		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	Month (1-12)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5409 Hour (0-23))

Basic

Tag Name	20UI-5409
Model Name	PVI
Tag Comment	Hour (0-23)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5411 Second (0-59))

Basic

Tag Name	20UI-5411
Model Name	PVI
Tag Comment	Second (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5412 Millisecond (0-999))

Basic

Tag Name	20UI-5412
Model Name	PVI
Tag Comment	Millisecond (0-999)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5403 OUTPUT FREQ)

Basic

Tag Name	20FRQ-5403
Model Name	PVI
Tag Comment	OUTPUT FREQ

PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5403.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-30-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	OUTPUT FREQ		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-5413 Weekday 1=Monday 2=Tuesd)

Basic

Tag Name	20UI-5413
Model Name	PVI
Tag Comment	Weekday 1=Monday 2=Tuesd
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5407 DAYS (0-31))

Basic

Tag Name	20UI-5407
Model Name	PVI
Tag Comment	DAYS (0-31)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5410 Minute (0-59))

Basic

Tag Name	20UI-5410
Model Name	PVI
Tag Comment	Minute (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5415 STATUS (AC UPS F&G-TAG))

Basic

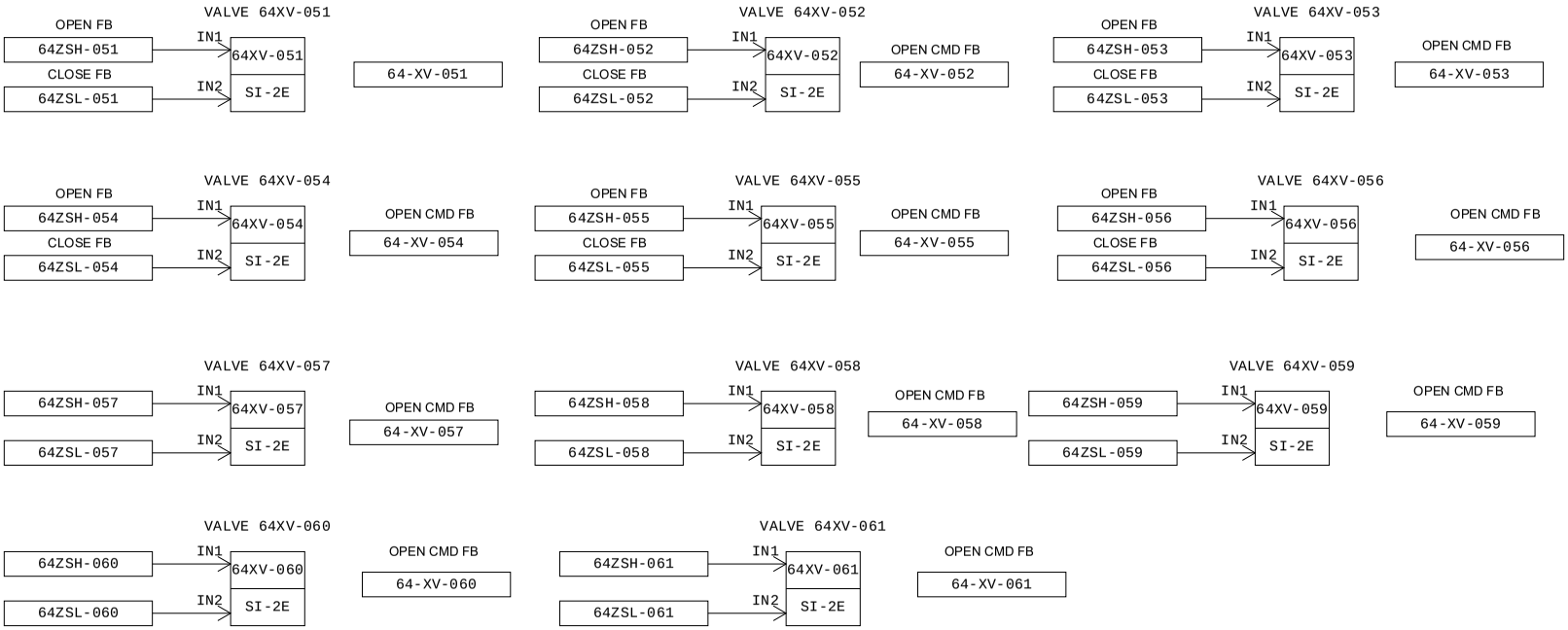
Tag Name	20UI-5415
Model Name	PVI
Tag Comment	STATUS (AC UPS F&G-TAG)
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5415.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-30-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:29 AM	COMMENT:	STATUS (AC UPS FG-TAG)		
SECTION:	DR0105	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0106.edf	SHEET:		YOKOGAWA	PAGE:3-25-31-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:32 AM	COMMENT:	VALVES - NITROGEN		
SECTION:	DR0106	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0106 | BLPH | NGP | U-64000



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP005_001	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
002	TYP005_003	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
003	TYP005_004	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
004	TYP005_009	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
005	TYP005_008	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
006	TYP005_007	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
007	TYP005_005	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
008	TYP005_006	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
009	TYP005_002	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
010	TYP005_010	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
011	TYP005_011	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0106.edf	SHEET:		YOKOGAWA	PAGE:3-25-31-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:32 AM	COMMENT:	VALVES - NITROGEN		
SECTION:	DR0106	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:VALVES - NITROGEN

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	64XV-051	SI-2E	VALVE 64XV-051	0	0	4			
002	64XV-052	SI-2E	VALVE 64XV-052	0	0	4			
003	64XV-053	SI-2E	VALVE 64XV-053	0	0	4			
004	64XV-054	SI-2E	VALVE 64XV-054	0	0	4			
005	64XV-055	SI-2E	VALVE 64XV-055	0	0	4			
006	64XV-056	SI-2E	VALVE 64XV-056	0	0	4			
007	64XV-057	SI-2E	VALVE 64XV-057	0	0	4			
008	64XV-058	SI-2E	VALVE 64XV-058	0	0	4			
009	64XV-059	SI-2E	VALVE 64XV-059	0	0	4			
010	64XV-060	SI-2E	VALVE 64XV-060	0	0	4			
011	64XV-061	SI-2E	VALVE 64XV-061	0	0	4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	64XV-051.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-31-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:32 AM	COMMENT:	VALVE 64XV-051		
SECTION:	DR0106	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64XV-051 VALVE 64XV-051)

Basic

Tag Name	64XV-051
Model Name	SI-2E
Tag Comment	VALVE 64XV-051
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-052 VALVE 64XV-052)

Basic

Tag Name	64XV-052
Model Name	SI-2E
Tag Comment	VALVE 64XV-052
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-053 VALVE 64XV-053)

Basic

Tag Name	64XV-053
Model Name	SI-2E
Tag Comment	VALVE 64XV-053
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-054 VALVE 64XV-054)

Basic

Tag Name	64XV-054
Model Name	SI-2E
Tag Comment	VALVE 64XV-054
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-055 VALVE 64XV-055)

Basic

Tag Name	64XV-055
Model Name	SI-2E
Tag Comment	VALVE 64XV-055
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-056 VALVE 64XV-056)

Basic

Tag Name	64XV-056
Model Name	SI-2E
Tag Comment	VALVE 64XV-056
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-057 VALVE 64XV-057)

Basic

Tag Name	64XV-057
Model Name	SI-2E
Tag Comment	VALVE 64XV-057
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	64XV-057.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-31-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:32 AM	COMMENT:	VALVE 64XV-057		
SECTION:	DR0106	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (64XV-058 VALVE 64XV-058)

Basic

Tag Name	64XV-058
Model Name	SI-2E
Tag Comment	VALVE 64XV-058
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-059 VALVE 64XV-059)

Basic

Tag Name	64XV-059
Model Name	SI-2E
Tag Comment	VALVE 64XV-059
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (64XV-060 VALVE 64XV-060)

Basic

Tag Name	64XV-060
Model Name	SI-2E
Tag Comment	VALVE 64XV-060
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

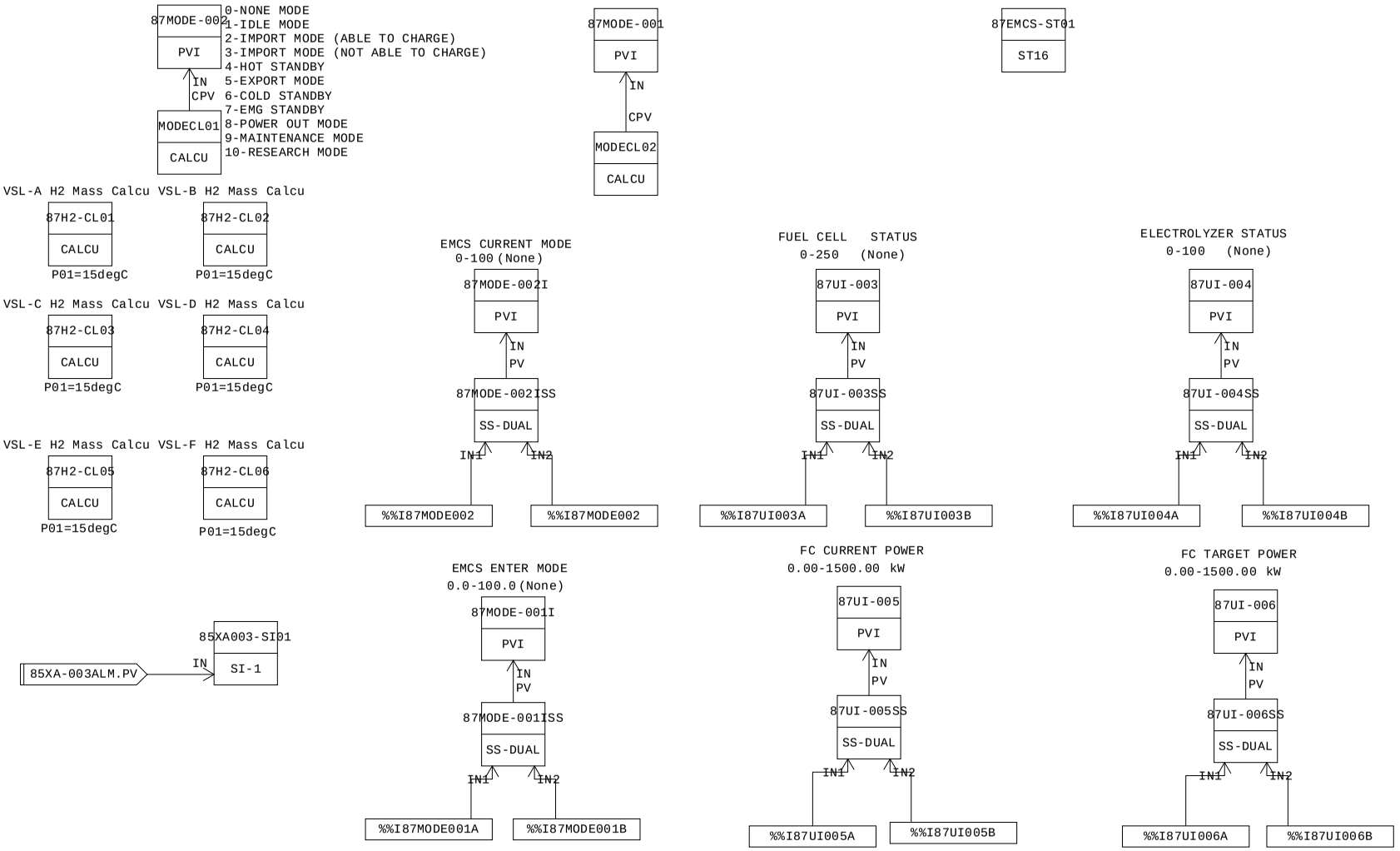
Tag Detail (64XV-061 VALVE 64XV-061)

Basic

Tag Name	64XV-061
Model Name	SI-2E
Tag Comment	VALVE 64XV-061
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	DR0107.edf	SHEET:		YOKOGAWA	PAGE:3-25-32-1
STATION:	FCS0101	SAVED DATE:	7/11/2025 6:53:29 AM	COMMENT:	EMCS SUBSYSTEM		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0105 | BLPH-CW | EMCS SUB SYSTEM]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0107.edf	SHEET:		YOKOGAWA	PAGE:3-25-32-2
STATION:	FCS0101	SAVED DATE:	7/11/2025 6:53:29 AM	COMMENT:	EMCS SUBSYSTEM		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:EMCS SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	87EMCS-ST01	ST16	EMCS SEQ ANN	0	0				
						4			
002	85XA003-SI01	SI-1	BESS FAULT	0	0				>85XA-003ALM.PV
						4			
003	87H2-CL01	CALCU	VSL-A H2 Mass Calcu	0.00	1000.00	kG	No	No	
						4			
004	87H2-CL02	CALCU	VSL-B H2 Mass Calcu	0.00	1000.00	kG	No	No	
						4			
005	87H2-CL03	CALCU	VSL-C H2 Mass Calcu	0.00	1000.00	kG	No	No	
						4			
006	87H2-CL04	CALCU	VSL-D H2 Mass Calcu	0.00	1000.00	kG	No	No	
						4			
007	87H2-CL05	CALCU	VSL-E H2 Mass Calcu	0.00	1000.00	kG	No	No	
						4			
008	87H2-CL06	CALCU	VSL-F H2 Mass Calcu	0.00	1000.00	kG	No	No	
						4			
009	MODECL01	CALCU		0.0	100.0	%	No	No	
						4			
010	87MODE-002	PVI	EMCS CURRENT MODE	0	100	(None)	Communication Input	No	MODECL01.CPV
						4			
011	MODECL02	CALCU		0.0	100.0	%	No	No	
						4			
012	87MODE-001	PVI	EMCS ENTER MODE	0	100	(None)	Communication Input	No	MODECL02.CPV
						4			
013	87MODE-002ISS	SS-DUAL	EMCS CURRENT MODE	0.0	100.0	(None)		No	
						4			
014	87MODE-002I	PVI	EMCS CURRENT MODE	0	100	(None)	Communication Input	No	87MODE-002ISS.PV
						4			
015	87UI-003SS	SS-DUAL	FUEL CELL STATUS	0	100	(None)		No	
						4			
016	87UI-003	PVI	FUEL CELL STATUS	0	250	(None)	Communication Input	No	87UI-003SS.PV
						4			
017	87UI-004SS	SS-DUAL	ELECTROLYSER STATUS	0	100	(None)		No	
						4			
018	87UI-004	PVI	ELECTROLYZER STATUS	0	100	(None)	Communication Input	No	87UI-004SS.PV
						4			
019	87MODE-001ISS	SS-DUAL	EMCS ENTER MODE SS	0.0	100.0	(None)		No	
						4			
020	87MODE-001I	PVI	EMCS ENTER MODE	0.0	100.0	(None)	Communication Input	No	87MODE-001ISS.PV
						4			
021	87UI-005SS	SS-DUAL	ELECTROLYSER STATUS	0	100	(None)		No	
						4			
022	87UI-005	PVI	FC CURRENT POWER	0.00	1500.00	kW	Communication Input	No	87UI-005SS.PV
						4			
023	87UI-006SS	SS-DUAL	ELECTROLYSER STATUS	0	100	(None)		No	
						4			
024	87UI-006	PVI	FC TARGET POWER	0.00	1500.00	kW	Communication Input	No	87UI-006SS.PV
						4			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	87EMCS-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-3
STATION:	FCS0101	SAVED DATE:	7/11/2025 6:53:29 AM	COMMENT:	EMCS SEQ ANN		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87EMCS-ST01 EMCS SEQ ANN)

Basic

Tag Name	87EMCS-ST01
Model Name	ST16
Tag Comment	EMCS SEQ ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	87EMCS-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-4
STATION:	FCS0101	SAVED DATE:	7/11/2025 6:53:29 AM	COMMENT:	EMCS SEQ ANN		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (87EMCS-ST01 EMCS SEQ ANN)

Start Timing — Periodic Execution Type(T)
Output Timing — Output Each Time Conditions are Satisfied(E)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	85XA003-SI01.PV	OFF	BESS FAULT	Y								
C02	%GS00210.PV	OFF		.Y								
C03	87LDSH-001B.PV	ON	LOAD SHEDDING-1					Y				
C04	87LDSH-002B.PV	ON	LOAD SHEDDING-2					Y				
C05												
C06												
C07												
C08												
C09												
C10												
C11												
C12												
C13												
C14												
C15												
C16												
C17												
C18	87LDSH-001A.PV	ON	LOAD SHEDDING-1					Y				
C19	87LDSH-001B.PV	ON	LOAD SHEDDING-1					.Y				
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01												
A02	87XA-0001.PV	L	BESS FLT	Y								
A03	87PWRC-001.PV	L	POWER OUT MODE ESD-1D	.Y								
A04	50AI-0027A.MODE	AUT	FRESH WTR OL PH	..Y								
A05	50AI-0027B.MODE	AUT	FRESH WTR OL PH	...Y								
A06	50TI-0024A.MODE	AUT	FRE WTR TEMP A50007A/B		Y							
A07	50TI-0024B.MODE	AUT	FRE WTR TEMP A50007A/B		.Y							
A08	50AI-0024A.MODE	AUT	FRE WTR COND A50007A/B		..Y							
A09	50AI-0024B.MODE	AUT	FRE WTR COND A50007A/B		...Y							
A10	50AI-0026A.MODE	AUT	FRESH WTR OL PH			Y						
A11	50AI-0026B.MODE	AUT	FRESH WTR OL PH			.Y						
A12	87MODE003A.MODE	AUT	MODE PERMIT TO EMCS			..Y						
A13	87MODE003B.MODE	AUT	MODE PERMIT TO EMCS			...Y						
A14	87H2LI-0001A.MODE	AUT	TOTAL H2 MASS VALUE				Y					
A15	87H2LI-0001B.MODE	AUT	TOTAL H2 MASS VALUE				.Y					
A16	87PMTO-0001A.MODE	AUT	FRE WTR COND A50007A/B				..Y					
A17	87PMTO-0001B.MODE	AUT	FRE WTR COND A50007A/B				...Y					
A18	87LDSH-001AAN.PV	L	87LDSH-001A ANN					Y				
A19	87LDSH-001BAN.PV	L	87LDSH-001B ANN					.Y				
A20	87LDSH-001.PV	L	LOAD SHEDDING-1					..Y				
A21	87LDSH-002.PV	L	LOAD SHEDDING-2					..Y				
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	85XA003-SI01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:35 AM	COMMENT:	BESS FAULT		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85XA003-SI01 BESS FAULT)

Basic

Tag Name	85XA003-SI01
Model Name	SI-1
Tag Comment	BESS FAULT
Lvl	4
Scan Period	Basic Scan
Switch Position Label	FAULT,,NORMAL,FAULT
Label	Reverse

Tag Detail (87H2-CL01 VSL-A H2 Mass Calcu)

Basic

Tag Name	87H2-CL01
Model Name	CALCU
Tag Comment	VSL-A H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-6
STATION:	FCS0101	SAVED DATE:	6/25/2025 12:06:40 AM	COMMENT:	VSL-A H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2-CL01 VSL-A H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (P01=Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	! Min Press Value P02
007	Alias PI 25PI-035.PV
008	
009	Alias TI 63TI-051.PV
010	
011	float M1,M2,M,T,P
012	If(TI<=0)then
013	T=P01
014	ELSE
015	T=TI
016	End if
017	M1=(PI+1.013)*2/(0.08314*(273.15+T))
018	M2=(2+1.013)*2/(0.08314*(273.15+T))
019	M=M1-M2
020	If(M < 0) then
021	CPV = 0
022	Else
023	CPV= M * 101.2
024	End if

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-7
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-B H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87H2-CL02 VSL-B H2 Mass Calcu)

Basic

Tag Name	87H2-CL02
Model Name	CALCU
Tag Comment	VSL-B H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-8
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-B H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2-CL02 VSL-B H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (P01=Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	! Min Press Value P02
007	Alias PI 25PI-037.PV
008	
009	Alias TI 63TI-051.PV
010	
011	float M1,M2,M,T,P
012	If(TI<=0)then
013	T=P01
014	ELSE
015	T=TI
016	End if
017	M1=(PI+1.013)*2/(0.08314*(273.15+T))
018	M2=(2+1.013)*2/(0.08314*(273.15+T))
019	M=M1-M2
020	If(M < 0) then
021	CPV = 0
022	Else
023	CPV= M * 101.2
024	End if

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-9
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-C H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87H2-CL03 VSL-C H2 Mass Calcu)

Basic

Tag Name	87H2-CL03
Model Name	CALCU
Tag Comment	VSL-C H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-10
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-C H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2-CL03 VSL-C H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (P01=Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	! Min Press Value P02
007	Alias PI 25PI-040.PV
008	
009	Alias TI 63TI-051.PV
010	
011	float M1,M2,M,T,P
012	If(TI<=0)then
013	T=P01
014	ELSE
015	T=TI
016	End if
017	M1=(PI+1.013)*2/(0.08314*(273.15+T))
018	M2=(2+1.013)*2/(0.08314*(273.15+T))
019	M=M1-M2
020	If(M < 0) then
021	CPV = 0
022	Else
023	CPV= M * 101.2
024	End if
025	

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-11
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-D H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87H2-CL04 VSL-D H2 Mass Calcu)

Basic

Tag Name	87H2-CL04
Model Name	CALCU
Tag Comment	VSL-D H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-12
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-D H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2-CL04 VSL-D H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (P01=Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	! Min Press Value P02
007	Alias PI 25PI-043.PV
008	
009	Alias TI 63TI-051.PV
010	
011	float M1,M2,M,T,P
012	If(TI<=0)then
013	T=P01
014	ELSE
015	T=TI
016	End if
017	M1=(PI+1.013)*2/(0.08314*(273.15+T))
018	M2=(2+1.013)*2/(0.08314*(273.15+T))
019	M=M1-M2
020	If(M < 0) then
021	CPV = 0
022	Else
023	CPV= M * 101.2
024	End if

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-13
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-E H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87H2-CL05 VSL-E H2 Mass Calcu)

Basic

Tag Name	87H2-CL05
Model Name	CALCU
Tag Comment	VSL-E H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-14
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-E H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2-CL05 VSL-E H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (P01=Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	! Min Press Value P02
007	Alias PI 25PI-046.PV
008	
009	Alias TI 63TI-051.PV
010	
011	float M1,M2,M,T,P
012	If(TI<=0)then
013	T=P01
014	ELSE
015	T=TI
016	End if
017	M1=(PI+1.013)*2/(0.08314*(273.15+T))
018	M2=(2+1.013)*2/(0.08314*(273.15+T))
019	M=M1-M2
020	If(M < 0) then
021	CPV = 0
022	Else
023	CPV= M * 101.2
024	End if
025	

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-15
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-F H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87H2-CL06 VSL-F H2 Mass Calcu)

Basic

Tag Name	87H2-CL06
Model Name	CALCU
Tag Comment	VSL-F H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2-CL06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-16
STATION:	FCS0101	SAVED DATE:	6/25/2025 2:54:29 AM	COMMENT:	VSL-F H2 Mass Calcu		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2-CL06 VSL-F H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (P01=Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	! Min Press Value P02
007	Alias PI 25PI-049.PV
008	
009	Alias TI 63TI-051.PV
010	
011	float M1,M2,M,T,P
012	If(TI<=0)then
013	T=P01
014	ELSE
015	T=TI
016	End if
017	M1=(PI+1.013)*2/(0.08314*(273.15+T))
018	M2=(2+1.013)*2/(0.08314*(273.15+T))
019	M=M1-M2
020	If(M < 0) then
021	CPV = 0
022	Else
023	CPV= M * 101.2
024	End if
025	

PROJECT:	BLPH-CW1	FILE NAME:	MODECL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-17
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:35 AM	COMMENT:			
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (MODECL01)

Basic

Tag Name	MODECL01
Model Name	CALCU
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	MODECL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-18
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:35 AM	COMMENT:			
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (MODECL01)

Line Number	General-Purpose Calculation Formula
001	ALIAS A 87MODE-002I.PV ! MODE STATUS FROM MODBUS
002	ALIAS B MODE.PV
003	!ALIAS C 87MODE-002.PV
004	If(A==3 or A==4 or A==5 or A==6 or A==7 or A==8 or A==9 or A==9 OR A==10 OR A==11)then
005	B=A-1
006	CPV=A-1
007	Else if(A==0 or A==1)then
008	B=A
009	CPV=A
010	End if

PROJECT:	BLPH-CW1	FILE NAME:	87MODE-002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-19
STATION:	FCS0101	SAVED DATE:	7/2/2025 8:05:18 AM	COMMENT:	EMCS CURRENT MODE		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87MODE-002 EMCS CURRENT MODE)

Basic

Tag Name	87MODE-002
Model Name	PVI
Tag Comment	EMCS CURRENT MODE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (MODECL02)

Basic

Tag Name	MODECL02
Model Name	CALCU
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	MODECL02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-20
STATION:	FCS0101	SAVED DATE:	5/17/2025 5:28:58 AM	COMMENT:			
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (MODECL02)

Line Number	General-Purpose Calculation Formula
001	ALIAS A 87MODE-001I.PV ! MODE STATUS FROM MODBUS
002	
003	!ALIAS C 87MODE-001.PV
004	If(A==3 or A==4 or A==5 or A==6 or A==7 or A==8 or A==9 or A==9 OR A==10 OR A==11)then
005	
006	CPV=A-1
007	Else if(A==0 or A==1)then
008	
009	CPV=A
010	End if

PROJECT:	BLPH-CW1	FILE NAME:	87MODE-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-21
STATION:	FCS0101	SAVED DATE:	7/2/2025 8:05:18 AM	COMMENT:	EMCS ENTER MODE		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87MODE-001 EMCS ENTER MODE)

Basic

Tag Name	87MODE-001
Model Name	PVI
Tag Comment	EMCS ENTER MODE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87MODE-002ISS EMCS CURRENT MODE)

Basic

Tag Name	87MODE-002ISS
Model Name	SS-DUAL
Tag Comment	EMCS CURRENT MODE
Lvl	4
Scan Period	Basic Scan
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Connection

Signal Input 1(IN1)	%%I87MODE002
Signal Input 2(IN2)	%%I87MODE002
Operation Output(OUT)	

Tag Detail (87MODE-002I EMCS CURRENT MODE)

Basic

Tag Name	87MODE-002I
Model Name	PVI
Tag Comment	EMCS CURRENT MODE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-003SS FUEL CELL STATUS)

Basic

Tag Name	87UI-003SS
Model Name	SS-DUAL
Tag Comment	FUEL CELL STATUS
Lvl	4
Scan Period	Basic Scan
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Connection

Signal Input 1(IN1)	%%I87UI003A
Signal Input 2(IN2)	%%I87UI003B
Operation Output(OUT)	

Tag Detail (87UI-003 FUEL CELL STATUS)

Basic

Tag Name	87UI-003

PROJECT:	BLPH-CW1	FILE NAME:	87UI-003.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-22
STATION:	FCS0101	SAVED DATE:	7/4/2025 11:16:05 PM	COMMENT:	FUEL CELL STATUS		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name PVI
Tag Comment FUEL CELL STATUS
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (87UI-004SS ELECTROLYSER STATUS)

Basic
Tag Name 87UI-004SS
Model Name SS-DUAL
Tag Comment ELECTROLYSER STATUS
Lvl 4
Scan Period Basic Scan
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Connection
Signal Input 1(IN1) %%I87UI004A
Signal Input 2(IN2) %%I87UI004B
Operation Output(OUT)

Tag Detail (87UI-004 ELECTROLYZER STATUS)

Basic
Tag Name 87UI-004
Model Name PVI
Tag Comment ELECTROLYZER STATUS
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (87MODE-001ISS EMCS ENTER MODE SS)

Basic
Tag Name 87MODE-001ISS
Model Name SS-DUAL
Tag Comment EMCS ENTER MODE SS
Lvl 4
Scan Period Basic Scan
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Connection
Signal Input 1(IN1) %%I87MODE001A
Signal Input 2(IN2) %%I87MODE001B
Operation Output(OUT)

Tag Detail (87MODE-001I EMCS ENTER MODE)

Basic
Tag Name 87MODE-001I
Model Name PVI
Tag Comment EMCS ENTER MODE
Lvl 4
Scan Period Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	87MODE-001I.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-23
STATION:	FCS0101	SAVED DATE:	7/4/2025 11:15:06 PM	COMMENT:	EMCS ENTER MODE		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-005SS ELECTROLYSER STATUS)

Basic

Tag Name	87UI-005SS
Model Name	SS-DUAL
Tag Comment	ELECTROLYSER STATUS
Lvl	4
Scan Period	Basic Scan
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Connection

Signal Input 1(IN1)	%%I87UI005A
Signal Input 2(IN2)	%%I87UI005B
Operation Output(OUT)	

Tag Detail (87UI-005 FC CURRENT POWER)

Basic

Tag Name	87UI-005
Model Name	PVI
Tag Comment	FC CURRENT POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-006SS ELECTROLYSER STATUS)

Basic

Tag Name	87UI-006SS
Model Name	SS-DUAL
Tag Comment	ELECTROLYSER STATUS
Lvl	4
Scan Period	Basic Scan
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Connection

Signal Input 1(IN1)	%%I87UI006A
Signal Input 2(IN2)	%%I87UI006B
Operation Output(OUT)	

Tag Detail (87UI-006 FC TARGET POWER)

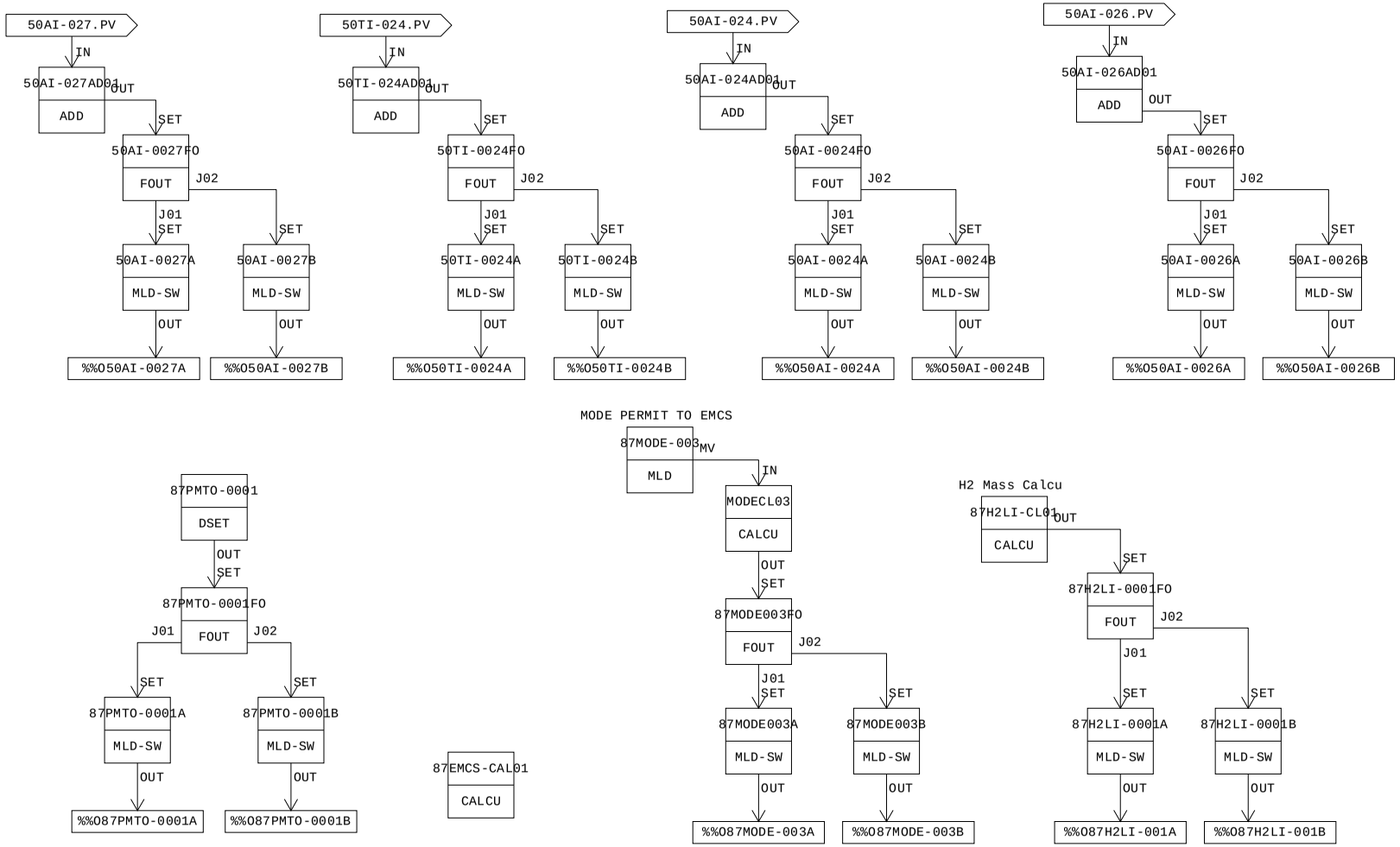
Basic

Tag Name	87UI-006
Model Name	PVI
Tag Comment	FC TARGET POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input

PROJECT:	BLPH-CW1	FILE NAME:	87UI-006.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-32-24
STATION:	FCS0101	SAVED DATE:	7/5/2025 12:58:07 AM	COMMENT:	FC TARGET POWER		
SECTION:	DR0107	PRINTED DATE:	9/15/2025	DRAWER:			

Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

[FCS0101 | DR0108 | BLPH-CW | EMCS MODBUS REDUNDANCY]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0108.edf	SHEET:		YOKOGAWA	PAGE:3-25-33-2
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	EMCS MODBUS REDUNDANCY		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:EMCS MODBUS REDUNDANCY

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	50AI-027AD01	ADD	pH	0.0	14.0	pH	No		50AI-027.PV
		50AI-0027FO.SET				4			
002	50AI-0027FO	FOUT	FRESH WTR OL PH FOUT	0	0	pH			
				50AI-027AD01.OUT		4			
003	50AI-0027B	MLD-SW	FRESH WTR OL PH	0	0	pH			
		%%O50AI-0027B		50AI-0027FO.J02		4			
004	50AI-0027A	MLD-SW	FRESH WTR OL PH	0	0	pH			
		%%O50AI-0027A		50AI-0027FO.J01		4			
005	50TI-024AD01	ADD	TEMPERATURE	0.00	50.00	(None)	No		50TI-024.PV
		50TI-0024FO.SET				4			
006	50TI-0024FO	FOUT	FRE WTR TEMP A50007A/B F	0	0	degC			
				50TI-024AD01.OUT		4			
007	50TI-0024A	MLD-SW	FRE WTR TEMP A50007A/B	0	0	degC			
		%%O50TI-0024A		50TI-0024FO.J01		4			
008	50TI-0024B	MLD-SW	FRE WTR TEMP A50007A/B	0	0	degC			
		%%O50TI-0024B		50TI-0024FO.J02		4			
009	50AI-024AD01	ADD	CONDUCTIVITY	0	1000	(None)	No		50AI-024.PV
		50AI-0024FO.SET				4			
010	50AI-0024FO	FOUT	FRE WTR COND A50007A/B F	0	0	degC			
				50AI-024AD01.OUT		4			
011	50AI-0024A	MLD-SW	FRE WTR COND A50007A/B	0	0	uS/cm			
		%%O50AI-0024A		50AI-0024FO.J01		4			
012	50AI-0024B	MLD-SW	FRE WTR COND A50007A/B	0	0	uS/cm			
		%%O50AI-0024B		50AI-0024FO.J02		4			
013	50AI-026AD01	ADD	pH	0.00	25.00	PPM	No		50AI-026.PV
		50AI-0026FO.SET				4			
014	50AI-0026FO	FOUT	FRESH WTR OL PH FO	0	0	PPM			
				50AI-026AD01.OUT		4			
015	50AI-0026A	MLD-SW	FRESH WTR OL PH	0	0	PPM			
		%%O50AI-0026A		50AI-0026FO.J01		4			
016	50AI-0026B	MLD-SW	FRESH WTR OL PH	0	0	PPM			
		%%O50AI-0026B		50AI-0026FO.J02		4			
017	87MODE-003	MLD	MODE PERMIT TO EMCS	0	0				
						4			
018	MODECL03	CALCU	NUMBER CONVERSION	0.0	100.0	%	No	No	87MODE-003.MV
		87MODE003FO.SET				4			
019	87MODE003FO	FOUT	MODE PERMIT TO EMCS FO	0	0	(None)			
				MODECL03.OUT		4			
020	87MODE003A	MLD-SW	MODE PERMIT TO EMCS	0	0	(None)			
		%%O87MODE-003A		87MODE003FO.J01		4			
021	87MODE003B	MLD-SW	MODE PERMIT TO EMCS	0	0	(None)			
		%%O87MODE-003B		87MODE003FO.J02		4			
022	87H2LI-CL01	CALCU	H2 Mass Calcu	0.0	10000.0	kG	No	No	
		87H2LI-0001FO.SET				4			
023	87H2LI-0001FO	FOUT	TOTAL H2 MASS VALUE	0	0	kG			
				87H2LI-CL01.OUT		4			
024	87H2LI-0001A	MLD-SW	TOTAL H2 MASS VALUE	0	0	kG			
		%%O87H2LI-001A		87H2LI-0001FO.J01		4			
025	87H2LI-0001B	MLD-SW	TOTAL H2 MASS VALUE	0	0	kG			
		%%O87H2LI-001B		87H2LI-0001FO.J02		4			
026	87PMTO-0001	DSET	FRE WTR COND A50007A/B	0.0	1000.0	kG			
		87PMTO-0001FO.SET				4			
027	87PMTO-0001FO	FOUT	FRE WTR COND A50007A/B	0	0	G			
				87PMTO-0001.OUT		4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0108.edf	SHEET:		YOKOGAWA	PAGE:3-25-33-3
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SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

```
028 87PMTO-0001A      MLD-SW      FRE WTR COND A50007A/B    0              0              (None)
                      %%O87PMTO-0001A                    87PMTO-0001FO.J01                4
029 87PMTO-0001B      MLD-SW      FRE WTR COND A50007A/B    0              0              (None)
                      %%O87PMTO-0001B                    87PMTO-0001FO.J02                4
030 87EMCS-CAL01      CALCU                                 0.0            100.0          %                    No                                  No
                                                                                          4
```


MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50AI-027AD01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-4
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	pH		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI-027AD01 pH)

Basic

Tag Name	50AI-027AD01
Model Name	ADD
Tag Comment	pH
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	50AI-027.PV
Calculation Output(OUT)	50AI-0027FO.SET
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (50AI-0027FO FRESH WTR OL PH FOUT)

Basic

Tag Name	50AI-0027FO
Model Name	FOUT
Tag Comment	FRESH WTR OL PH FOUT
Lvl	4
SV Range	
High limit value	14.0
Low limit value	0.0

Tag Detail (50AI-0027B FRESH WTR OL PH)

Basic

Tag Name	50AI-0027B
Model Name	MLD-SW
Tag Comment	FRESH WTR OL PH
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	14.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (50AI-0027A FRESH WTR OL PH)

Basic

Tag Name	50AI-0027A
Model Name	MLD-SW
Tag Comment	FRESH WTR OL PH
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	14.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (50TI-024AD01 TEMPERATURE)

Basic

Tag Name	50TI-024AD01
Model Name	ADD
Tag Comment	TEMPERATURE
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	50TI-024.PV
Calculation Output(OUT)	50TI-0024FO.SET

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STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	TEMPERATURE		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Auxiliary Output(SUB)
Sub Input(Q01)

Tag Detail (50TI-0024FO FRE WTR TEMP A50007A/B F)

Basic

Tag Name	50TI-0024FO
Model Name	FOUT
Tag Comment	FRE WTR TEMP A50007A/B F
Lvl	4
SV Range	
High limit value	50.0
Low limit value	0.0

Tag Detail (50TI-0024A FRE WTR TEMP A50007A/B)

Basic

Tag Name	50TI-0024A
Model Name	MLD-SW
Tag Comment	FRE WTR TEMP A50007A/B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	50.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (50TI-0024B FRE WTR TEMP A50007A/B)

Basic

Tag Name	50TI-0024B
Model Name	MLD-SW
Tag Comment	FRE WTR TEMP A50007A/B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	50.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (50AI-024AD01 CONDUCTIVITY)

Basic

Tag Name	50AI-024AD01
Model Name	ADD
Tag Comment	CONDUCTIVITY
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	50AI-024.PV
Calculation Output(OUT)	50AI-0024FO.SET
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (50AI-0024FO FRE WTR COND A50007A/B F)

Basic

Tag Name	50AI-0024FO
Model Name	FOUT
Tag Comment	FRE WTR COND A50007A/B F
Lvl	4
SV Range	
High limit value	1000.0
Low limit value	0.0

PROJECT:	BLPH-CW1	FILE NAME:	50AI-0024FO.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-6
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	FRE WTR COND A50007A/B F		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI-0024A FRE WTR COND A50007A/B)

Basic

Tag Name	50AI-0024A
Model Name	MLD-SW
Tag Comment	FRE WTR COND A50007A/B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (50AI-0024B FRE WTR COND A50007A/B)

Basic

Tag Name	50AI-0024B
Model Name	MLD-SW
Tag Comment	FRE WTR COND A50007A/B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (50AI-026AD01 pH)

Basic

Tag Name	50AI-026AD01
Model Name	ADD
Tag Comment	pH
Lvl	4
Scan Period	Basic Scan
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No

Connection

Main Input(IN)	50AI-026.PV
Calculation Output(OUT)	50AI-0026FO.SET
Auxiliary Output(SUB)	
Sub Input(Q01)	

Tag Detail (50AI-0026FO FRESH WTR OL PH FO)

Basic

Tag Name	50AI-0026FO
Model Name	FOUT
Tag Comment	FRESH WTR OL PH FO
Lvl	4
SV Range	
High limit value	25.00
Low limit value	0.00

Tag Detail (50AI-0026A FRESH WTR OL PH)

Basic

Tag Name	50AI-0026A
Model Name	MLD-SW
Tag Comment	FRESH WTR OL PH
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	25.00
Low limit value	0.00
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

PROJECT:	BLPH-CW1	FILE NAME:	50AI-0026A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-7
STATION:	FCS0101	SAVED DATE:	5/17/2025 4:39:23 AM	COMMENT:	FRESH WTR OL PH		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI-0026B FRESH WTR OL PH)

Basic

Tag Name	50AI-0026B
Model Name	MLD-SW
Tag Comment	FRESH WTR OL PH
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	25.00
Low limit value	0.00
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (87MODE-003 MODE PERMIT TO EMCS)

Basic

Tag Name	87MODE-003
Model Name	MLD
Tag Comment	MODE PERMIT TO EMCS
Lvl	4
Scan Period	Basic Scan
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	No
Output Value for Full-open	106.25
Output Value for Tight-shut	-17.19
Fully-open/Tightly-shut	Yes

Tag Detail (MODECL03 NUMBER CONVERSION)

Basic

Tag Name	MODECL03
Model Name	CALCU
Tag Comment	NUMBER CONVERSION
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	MODECL03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-8
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	NUMBER CONVERSION		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (MODECL03 NUMBER CONVERSION)

Line Number	General-Purpose Calculation Formula
001	ALIAS A 87MODE003FO.SV ! MODE STATUS To MODBUS
002	ALIAS B 87MODE-003.MV
003	!ALIAS C 87MODE-002.PV
004	If(B==3 or B==4 or B==5 or B==6 or B==7 or B==8 or B==9 or B==2 OR B==10 OR B==11)then
005	A=B+1
006	CPV=B+1
007	Else if(B==0 or B==1)then
008	A=B
009	CPV=B
010	End if
011	

PROJECT:	BLPH-CW1	FILE NAME:	87MODE003FO.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-9
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SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87MODE003FO MODE PERMIT TO EMCS FO)

Basic

Tag Name	87MODE003FO
Model Name	FOUT
Tag Comment	MODE PERMIT TO EMCS FO
Lvl	4
SV Range	
High limit value	100
Low limit value	0

Tag Detail (87MODE003A MODE PERMIT TO EMCS)

Basic

Tag Name	87MODE003A
Model Name	MLD-SW
Tag Comment	MODE PERMIT TO EMCS
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100
Low limit value	0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (87MODE003B MODE PERMIT TO EMCS)

Basic

Tag Name	87MODE003B
Model Name	MLD-SW
Tag Comment	MODE PERMIT TO EMCS
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	100
Low limit value	0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (87H2LI-CL01 H2 Mass Calcu)

Basic

Tag Name	87H2LI-CL01
Model Name	CALCU
Tag Comment	H2 Mass Calcu
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87H2LI-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-10
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	H2 Mass Calcu		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87H2LI-CL01 H2 Mass Calcu)

Line Number	General-Purpose Calculation Formula
001	!Actul H2 Press P1
002	!Temp inside Vessel T (Ambient Temperature=15)
003	!Hydrogen Density R01kg/m3=(P1+1.013)*2/(0.08314*(273.15+T))
004	!Vessel Volume V=101.2 m3
005	!Actual H2 vessel Mass M1 kg= R01*V
006	Alias VSL_A 87H2-CL01.CPV
007	Alias VSL_B 87H2-CL02.CPV
008	Alias VSL_C 87H2-CL03.CPV
009	Alias VSL_D 87H2-CL04.CPV
010	Alias VSL_E 87H2-CL05.CPV
011	Alias VSL_F 87H2-CL06.CPV
012	
013	CPV= VSL_A+VSL_B+ VSL_C+ VSL_D+ VSL_E+ VSL_F

PROJECT:	BLPH-CW1	FILE NAME:	87H2LI-0001FO.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-11
STATION:	FCS0101	SAVED DATE:	7/10/2025 12:49:16 AM	COMMENT:	TOTAL H2 MASS VALUE		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87H2LI-0001FO TOTAL H2 MASS VALUE)

Basic

Tag Name	87H2LI-0001FO
Model Name	FOUT
Tag Comment	TOTAL H2 MASS VALUE
Lvl	4
SV Range	
High limit value	1000.0
Low limit value	0.0

Tag Detail (87H2LI-0001A TOTAL H2 MASS VALUE)

Basic

Tag Name	87H2LI-0001A
Model Name	MLD-SW
Tag Comment	TOTAL H2 MASS VALUE
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (87H2LI-0001B TOTAL H2 MASS VALUE)

Basic

Tag Name	87H2LI-0001B
Model Name	MLD-SW
Tag Comment	TOTAL H2 MASS VALUE
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (87PMTO-0001 FRE WTR COND A50007A/B)

Basic

Tag Name	87PMTO-0001
Model Name	DSET
Tag Comment	FRE WTR COND A50007A/B
Lvl	4
Scan Period	Basic Scan

Tag Detail (87PMTO-0001FO FRE WTR COND A50007A/B)

Basic

Tag Name	87PMTO-0001FO
Model Name	FOUT
Tag Comment	FRE WTR COND A50007A/B
Lvl	4
SV Range	
High limit value	1000.0
Low limit value	0.0

Tag Detail (87PMTO-0001A FRE WTR COND A50007A/B)

Basic

Tag Name	87PMTO-0001A
Model Name	MLD-SW
Tag Comment	FRE WTR COND A50007A/B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000

PROJECT:	BLPH-CW1	FILE NAME:	87PMTO-0001A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-12
STATION:	FCS0101	SAVED DATE:	5/17/2025 4:56:28 AM	COMMENT:	FRE WTR COND A50007A/B		
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

Data Conversion Bias	0.000

Tag Detail (87PMTO-0001B FRE WTR COND A50007A/B)

Basic	
Tag Name	87PMTO-0001B
Model Name	MLD-SW
Tag Comment	FRE WTR COND A50007A/B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	0.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (87EMCS-CAL01)

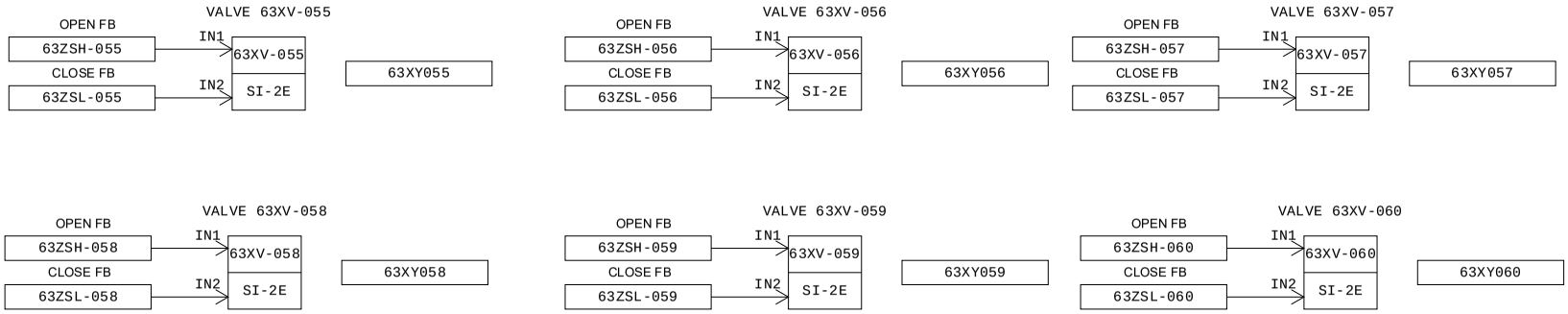
Basic	
Tag Name	87EMCS-CAL01
Model Name	CALCU
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	87EMCS-CAL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-33-13
STATION:	FCS0101	SAVED DATE:	5/19/2025 6:36:45 AM	COMMENT:			
SECTION:	DR0108	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (87EMCS-CAL01)

Line Number	General-Purpose Calculation Formula
001	ALIAS LDSH1 87LDSH-001AAN.ALRM
002	
003	!if (LDSH1 == IOP+ or LDSH1 == IOP-) then
004	! P01=LDSH1
005	!else
006	! P02=LDSH1
007	!end if
008	

PROJECT:	BLPH-CW1	FILE NAME:	DR0109.edf	SHEET:		YOKOGAWA	PAGE:3-25-34-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:38 AM	COMMENT:	IA VALVES		
SECTION:	DR0109	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0109.edf	SHEET:		YOKOGAWA	PAGE:3-25-34-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:38 AM	COMMENT:	IA VALVES		
SECTION:	DR0109	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP005_001	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
002	TYP005_002	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
003	TYP005_003	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
004	TYP005_004	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
005	TYP005_005	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
006	TYP005_006	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0109.edf	SHEET:		YOKOGAWA	PAGE:3-25-34-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:38 AM	COMMENT:	IA VALVES		
SECTION:	DR0109	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:IA VALVES

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	63XV-055	SI-2E	VALVE 63XV-055	0	0				
						4			
002	63XV-056	SI-2E	VALVE 63XV-056	0	0				
						4			
003	63XV-057	SI-2E	VALVE 63XV-057	0	0				
						4			
004	63XV-058	SI-2E	VALVE 63XV-058	0	0				
						4			
005	63XV-059	SI-2E	VALVE 63XV-059	0	0				
						4			
006	63XV-060	SI-2E	VALVE 63XV-060	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	63XV-055.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-34-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:38 AM	COMMENT:	VALVE 63XV-055		
SECTION:	DR0109	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63XV-055 VALVE 63XV-055)

Basic

Tag Name	63XV-055
Model Name	SI-2E
Tag Comment	VALVE 63XV-055
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63XV-056 VALVE 63XV-056)

Basic

Tag Name	63XV-056
Model Name	SI-2E
Tag Comment	VALVE 63XV-056
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63XV-057 VALVE 63XV-057)

Basic

Tag Name	63XV-057
Model Name	SI-2E
Tag Comment	VALVE 63XV-057
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63XV-058 VALVE 63XV-058)

Basic

Tag Name	63XV-058
Model Name	SI-2E
Tag Comment	VALVE 63XV-058
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (63XV-059 VALVE 63XV-059)

Basic

Tag Name	63XV-059
Model Name	SI-2E
Tag Comment	VALVE 63XV-059
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

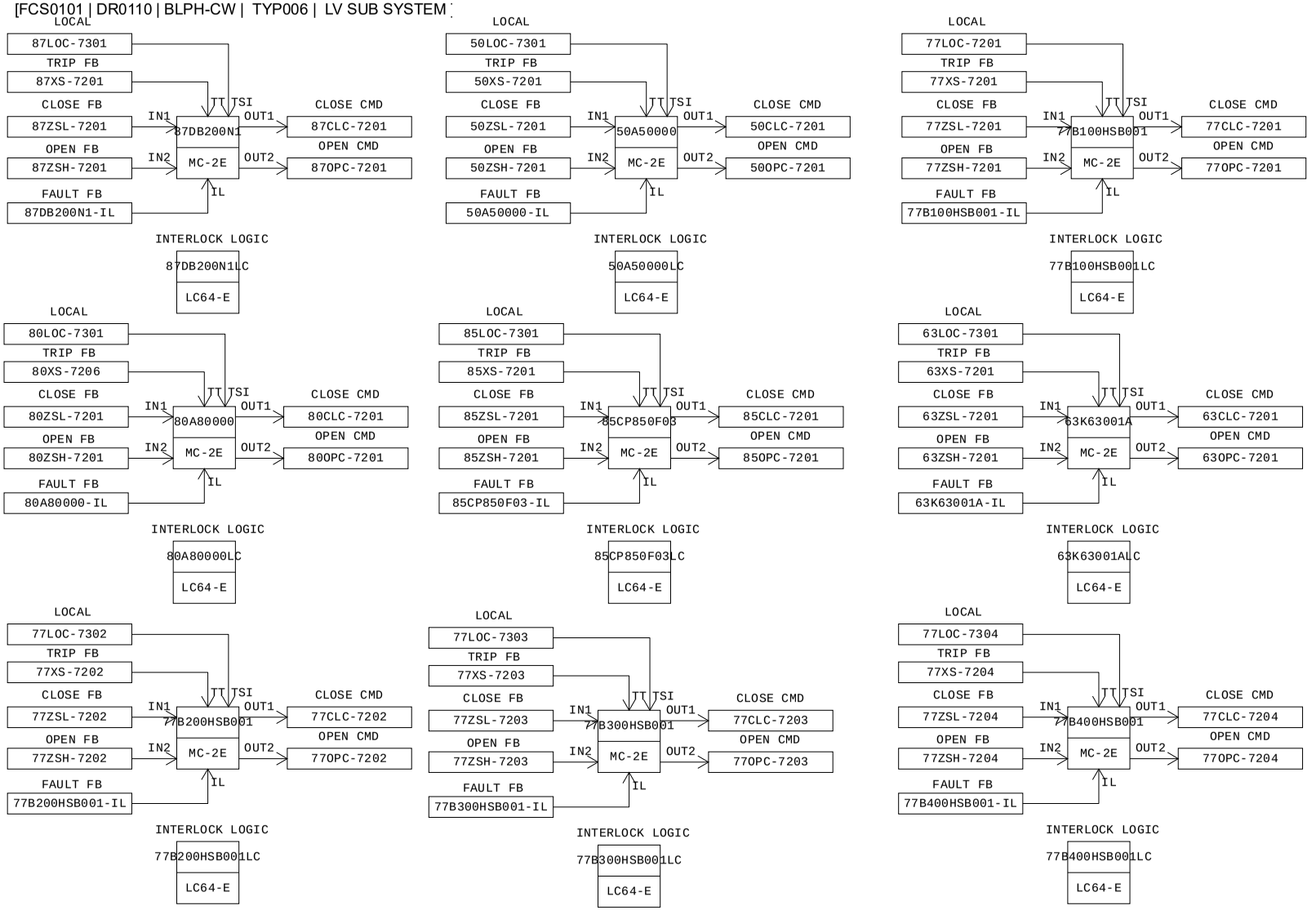
Tag Detail (63XV-060 VALVE 63XV-060)

Basic

Tag Name	63XV-060
Model Name	SI-2E
Tag Comment	VALVE 63XV-060
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	DR0110.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-1
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:47:13 PM	COMMENT:	LV SUBSYTEM CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0110 | BLPH-CW | TYP006 | LV SUB SYSTEM]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0110.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-2
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:47:13 PM	COMMENT:	LV SUBSYTEM CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYTEM CB

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	87DB200N1	MC-2E	DB BOP CB	0.0	100.0	%	3-position Status Input		
						3			
002	87DB200N1LC	LC64-E	INTERLOCK	0	0				
						4			
003	50A50000	MC-2E	WTP CB	0.0	100.0	%	3-position Status Input		
						3			
004	50A50000LC	LC64-E	INTERLOCK	0	0				
						4			
005	77B100HSB001	MC-2E	HVAC PNL HV CB	0.0	100.0	%	3-position Status Input		
						3			
006	77B100HSB001LC	LC64-E	INTERLOCK	0	0				
						4			
007	80A80000	MC-2E	FC AUX LDCB CB	0.0	100.0	%	3-position Status Input		
						3			
008	80A80000LC	LC64-E	INTERLOCK	0	0				
						4			
009	85CP850F03	MC-2E	BESS PCS CAB CB	0.0	100.0	%	3-position Status Input		
						3			
010	85CP850F03LC	LC64-E	INTERLOCK	0	0				
						4			
011	63K63001A	MC-2E	IA 01A CB	0.0	100.0	%	3-position Status Input		
						3			
012	63K63001ALC	LC64-E	INTERLOCK	0	0				
						4			
013	77B200HSB001	MC-2E	HVAC LV RM CB	0.0	100.0	%	3-position Status Input		
						3			
014	77B200HSB001LC	LC64-E	INTERLOCK	0	0				
						4			
015	77B300HSB001	MC-2E	HVAC UPS RM CB	0.0	100.0	%	3-position Status Input		
						3			
016	77B300HSB001LC	LC64-E	INTERLOCK	0	0				
						4			
017	77B400HSB001	MC-2E	HVAC ITER CB	0.0	100.0	%	3-position Status Input		
						3			
018	77B400HSB001LC	LC64-E	INTERLOCK	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	87DB200N1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-3
STATION:	FCS0101	SAVED DATE:	4/17/2025 11:42:51 PM	COMMENT:	DB BOP CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87DB200N1 DB BOP CB)

Basic

Tag Name	87DB200N1
Model Name	MC-2E
Tag Comment	DB BOP CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (87DB200N1LC INTERLOCK)

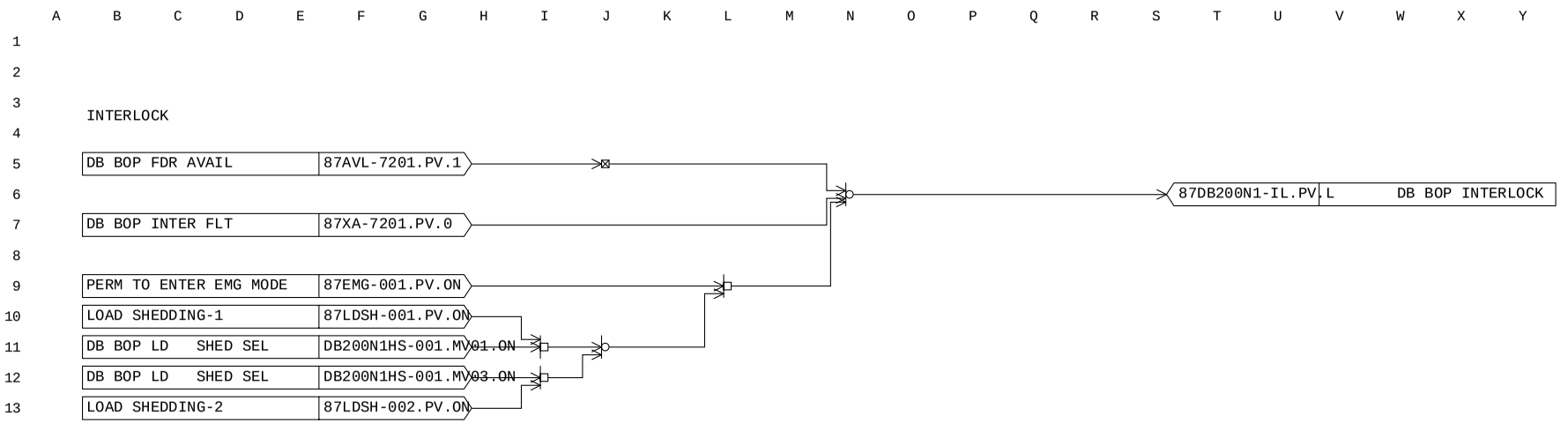
Basic

Tag Name	87DB200N1LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	87DB200N1LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-4
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (87DB200N1LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50A50000.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-5
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:43:00 AM	COMMENT:	WTP CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50A50000 WTP CB)

Basic

Tag Name	50A50000
Model Name	MC-2E
Tag Comment	WTP CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (50A50000LC INTERLOCK)

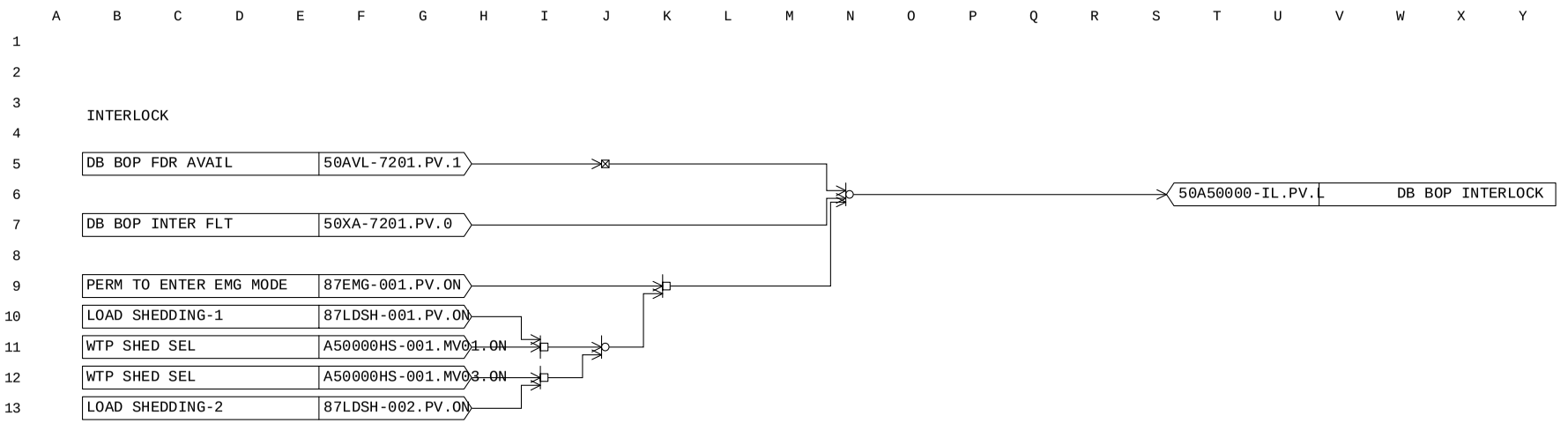
Basic

Tag Name	50A50000LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50A50000LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-6
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50A50000LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77B100HSB001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-7
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:43:00 AM	COMMENT:	HVAC PNL HV CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B100HSB001 HVAC PNL HV CB)

Basic

Tag Name	77B100HSB001
Model Name	MC-2E
Tag Comment	HVAC PNL HV CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (77B100HSB001LC INTERLOCK)

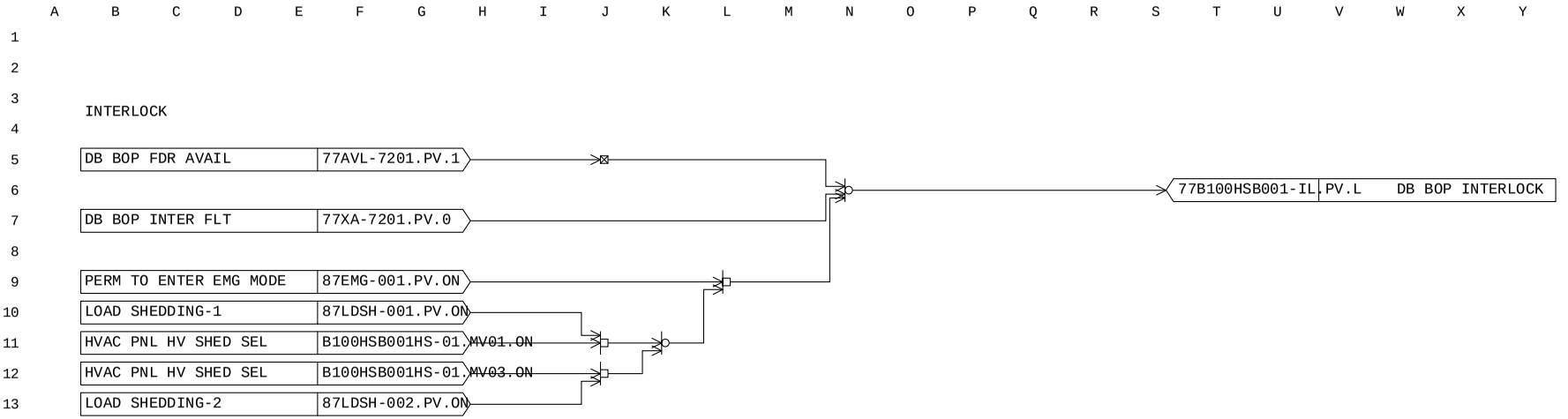
Basic

Tag Name	77B100HSB001LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B100HSB001LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-8
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (77B100HSB001LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	80A80000.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-9
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:43:00 AM	COMMENT:	FC AUX LDCB CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (80A80000 FC AUX LDCB CB)

Basic

Tag Name	80A80000
Model Name	MC-2E
Tag Comment	FC AUX LDCB CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (80A80000LC INTERLOCK)

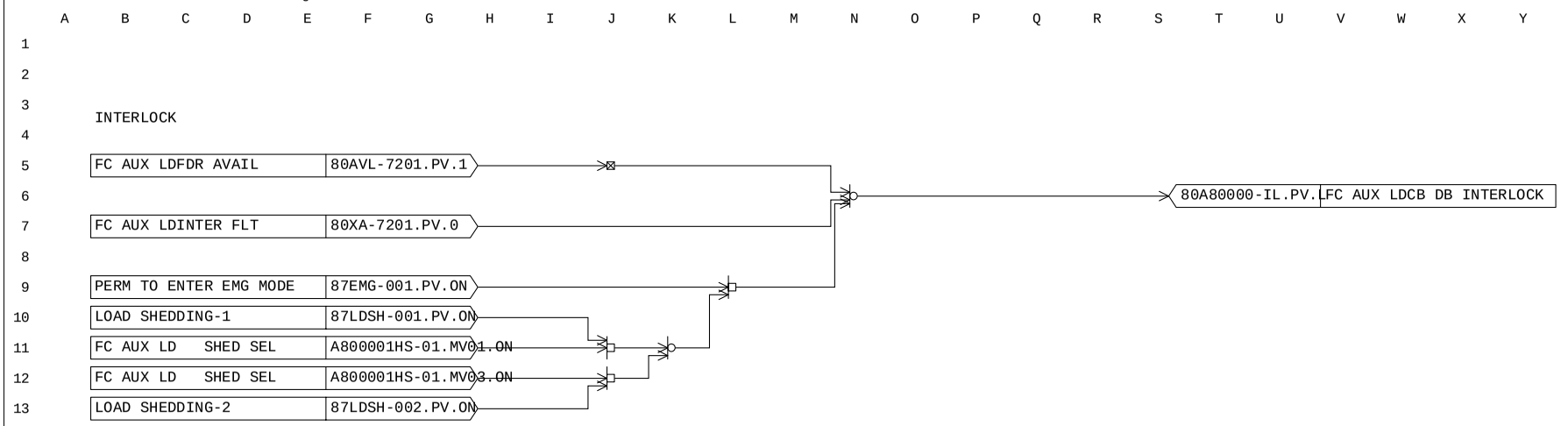
Basic

Tag Name	80A80000LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	80A80000LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-10
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (80A80000LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	85CP850F03.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-11
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:43:00 AM	COMMENT:	BESS PCS CAB CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85CP850F03 BESS PCS CAB CB)

Basic

Tag Name	85CP850F03
Model Name	MC-2E
Tag Comment	BESS PCS CAB CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (85CP850F03LC INTERLOCK)

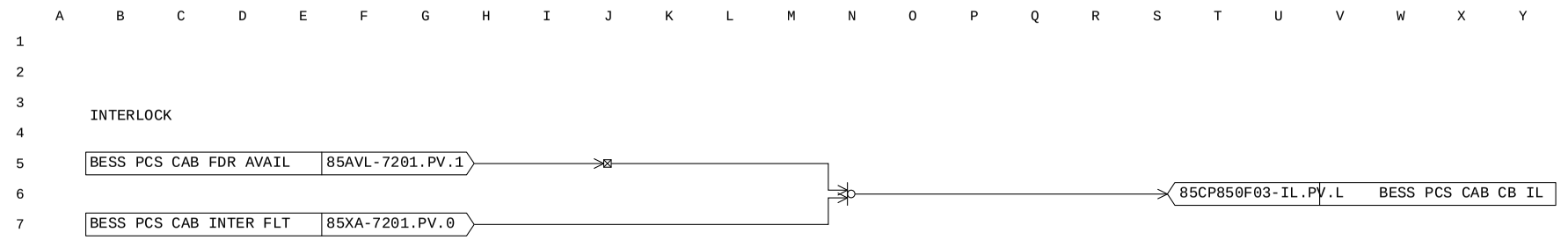
Basic

Tag Name	85CP850F03LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	85CP850F03LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-12
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:47:13 PM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (85CP850F03LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	63K63001A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-13
STATION:	FCS0101	SAVED DATE:	4/18/2025 1:02:53 AM	COMMENT:	IA 01A CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63K63001A IA 01A CB)

Basic

Tag Name	63K63001A
Model Name	MC-2E
Tag Comment	IA 01A CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (63K63001ALC INTERLOCK)

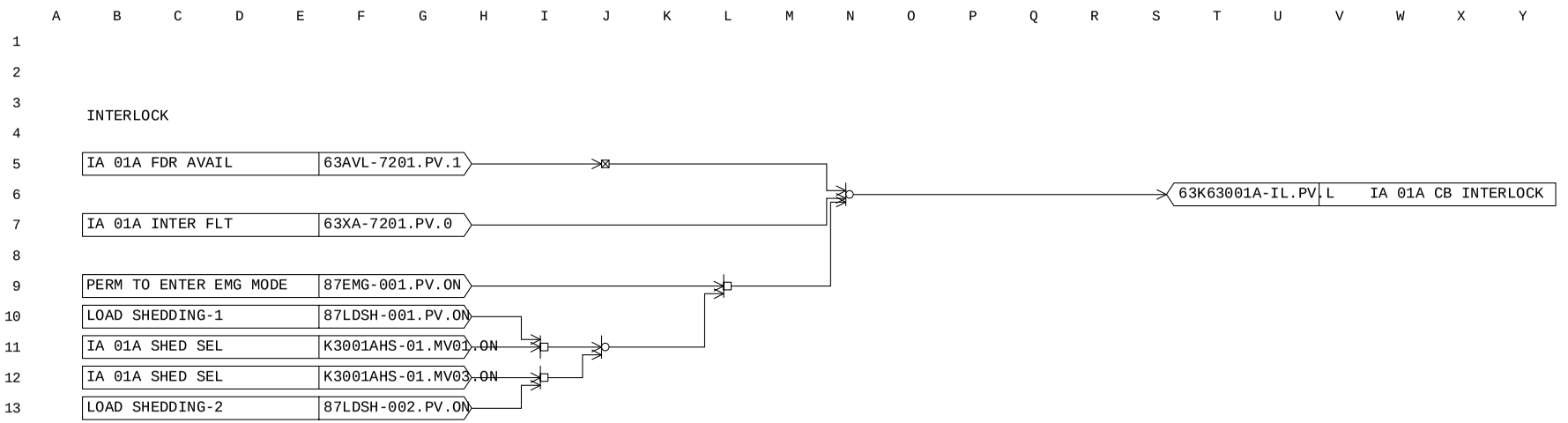
Basic

Tag Name	63K63001ALC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	63K63001ALC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-14
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (63K63001ALC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77B200HSB001.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-15
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:43:00 AM	COMMENT:	HVAC LV RM CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B200HSB001 HVAC LV RM CB)

Basic

Tag Name	77B200HSB001
Model Name	MC-2E
Tag Comment	HVAC LV RM CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (77B200HSB001LC INTERLOCK)

Basic

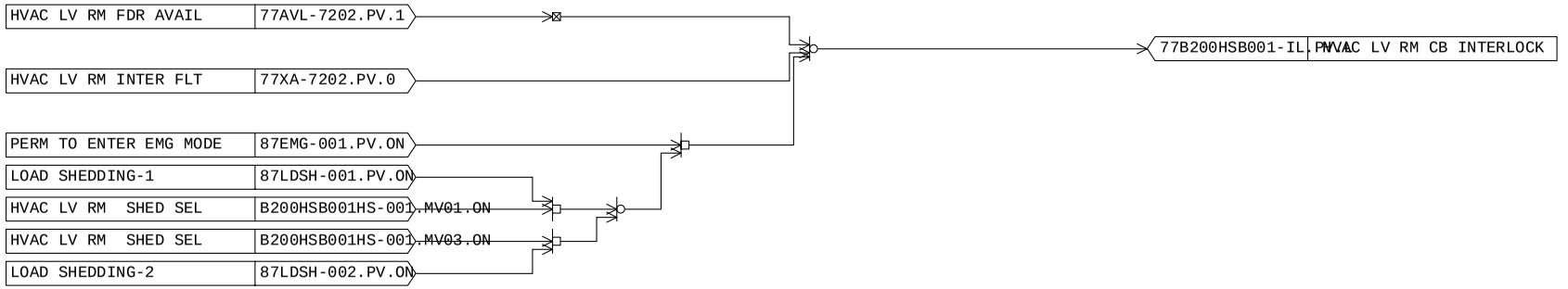
Tag Name	77B200HSB001LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B200HSB001LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-16
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (77B200HSB001LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————

INTERLOCK



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77B300HSB001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-17
STATION:	FCS0101	SAVED DATE:	4/25/2025 2:33:12 AM	COMMENT:	HVAC UPS RM CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B300HSB001 HVAC UPS RM CB)

Basic

Tag Name	77B300HSB001
Model Name	MC-2E
Tag Comment	HVAC UPS RM CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (77B300HSB001LC INTERLOCK)

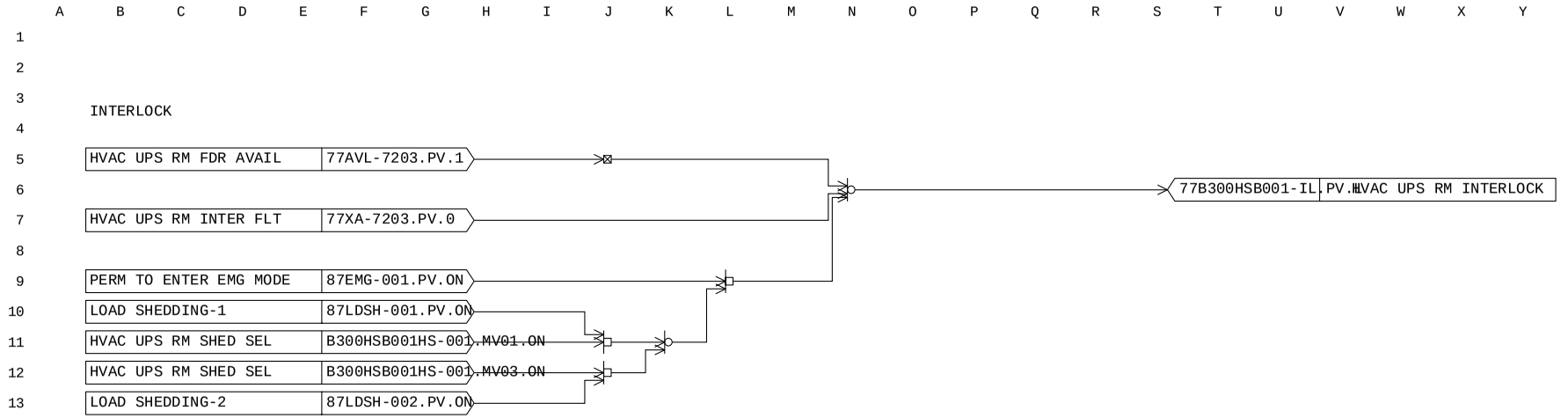
Basic

Tag Name	77B300HSB001LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B300HSB001LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-18
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (77B300HSB001LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77B400HSB001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-35-19
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:43:00 AM	COMMENT:	HVAC ITER CB		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B400HSB001 HVAC ITER CB)

Basic

Tag Name	77B400HSB001
Model Name	MC-2E
Tag Comment	HVAC ITER CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (77B400HSB001LC INTERLOCK)

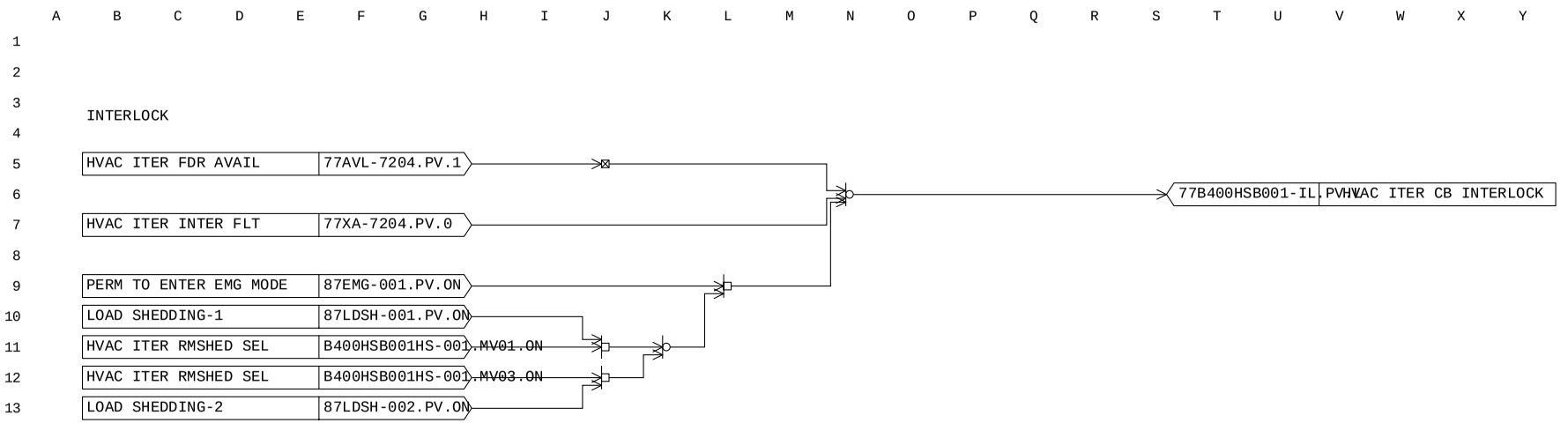
Basic

Tag Name	77B400HSB001LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B400HSB001LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-35-20
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:24:28 AM	COMMENT:	INTERLOCK		
SECTION:	DR0110	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (77B400HSB001LC INTERLOCK)

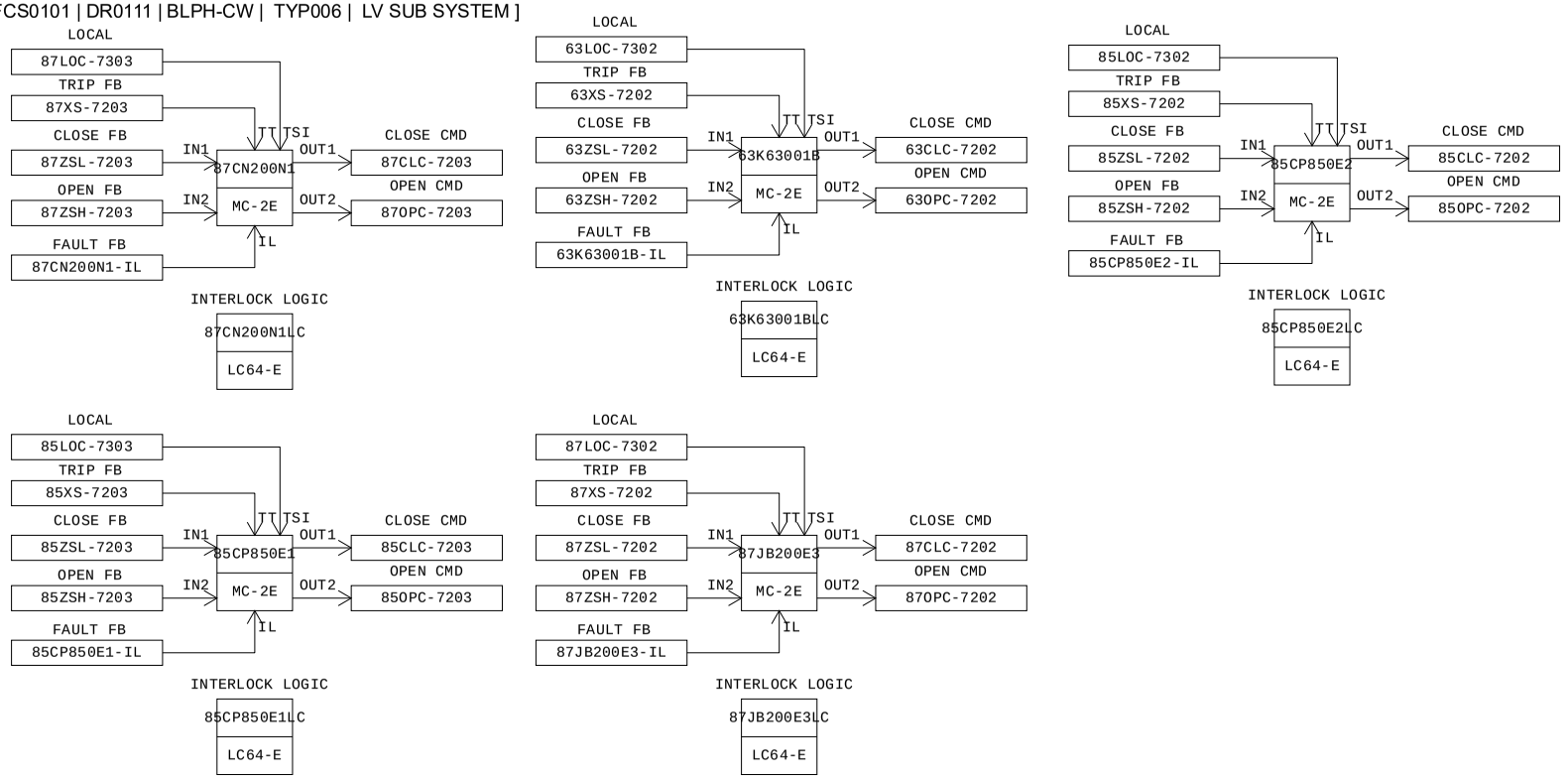
Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0111.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-1
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:46:17 PM	COMMENT:	LV SUBSYTEM CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0111 | BLPH-CW | TYP006 | LV SUB SYSTEM]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0111.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-2
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:46:17 PM	COMMENT:	LV SUBSYTEM CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYTEM CB

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	87CN200N1	MC-2E	ICCP CB	0.0	100.0	%	3-position Status Input		
						3			
002	87CN200N1LC	LC64-E	INTERLOCK	0	0				
						4			
003	63K63001B	MC-2E	IA 01B CB	0.0	100.0	%	3-position Status Input		
						3			
004	63K63001BLC	LC64-E	INTERLOCK	0	0				
						4			
005	85CP850E2	MC-2E	BESS LV1 CB	0.0	100.0	%	3-position Status Input		
						3			
006	85CP850E2LC	LC64-E	INTERLOCK	0	0				
						4			
007	85CP850E1	MC-2E	BESS LV1 CB	0.0	100.0	%	3-position Status Input		
						3			
008	85CP850E1LC	LC64-E	INTERLOCK	0	0				
						4			
009	87JB200E3	MC-2E	CRANE CB	0.0	100.0	%	3-position Status Input		
						3			
010	87JB200E3LC	LC64-E	INTERLOCK	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	87CN200N1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-36-3
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:36:27 AM	COMMENT:	ICCP CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87CN200N1 ICCP CB)

Basic

Tag Name	87CN200N1
Model Name	MC-2E
Tag Comment	ICCP CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (87CN200N1LC INTERLOCK)

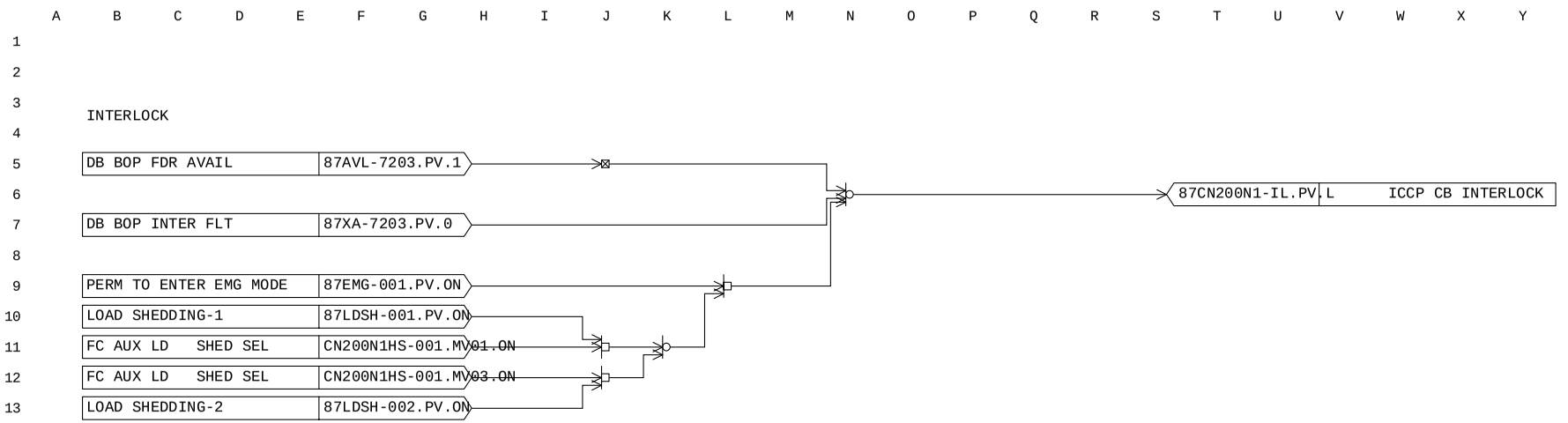
Basic

Tag Name	87CN200N1LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	87CN200N1LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-4
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:17:52 AM	COMMENT:	INTERLOCK		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (87CN200N1LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	63K63001B.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-36-5
STATION:	FCS0101	SAVED DATE:	4/16/2025 10:55:24 AM	COMMENT:	IA 01B CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (63K63001B IA 01B CB)

Basic

Tag Name	63K63001B
Model Name	MC-2E
Tag Comment	IA 01B CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (63K63001BLC INTERLOCK)

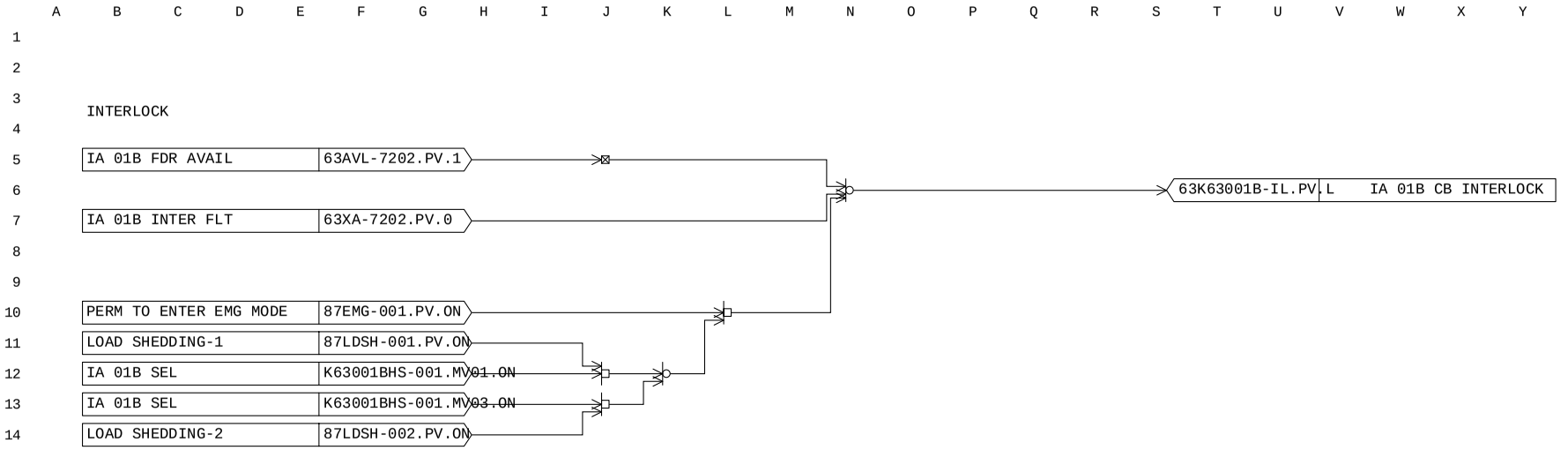
Basic

Tag Name	63K63001BLC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	63K63001BLC.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-6
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:17:52 AM	COMMENT:	INTERLOCK		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (63K63001BLC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	85CP850E2.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-36-7
STATION:	FCS0101	SAVED DATE:	4/16/2025 11:11:01 AM	COMMENT:	BESS LV1 CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85CP850E2 BESS LV1 CB)

Basic

Tag Name	85CP850E2
Model Name	MC-2E
Tag Comment	BESS LV1 CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (85CP850E2LC INTERLOCK)

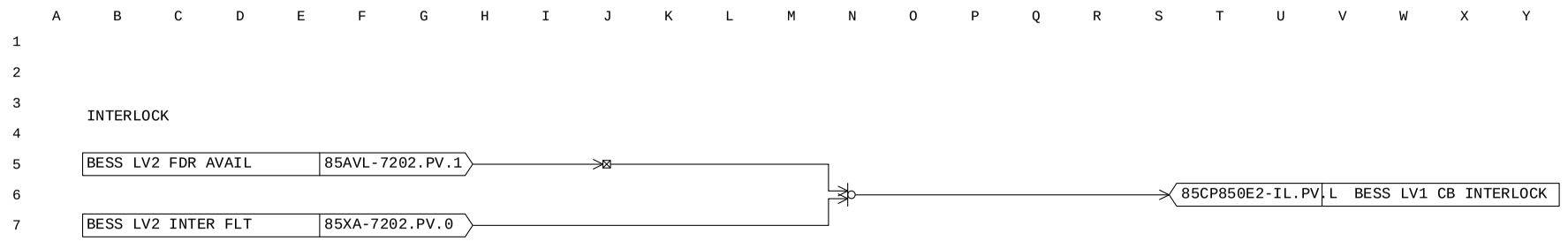
Basic

Tag Name	85CP850E2LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	85CP850E2LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-8
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:46:17 PM	COMMENT:	INTERLOCK		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (85CP850E2LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	85CP850E1.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-36-9
STATION:	FCS0101	SAVED DATE:	4/16/2025 11:11:01 AM	COMMENT:	BESS LV1 CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85CP850E1 BESS LV1 CB)

Basic

Tag Name	85CP850E1
Model Name	MC-2E
Tag Comment	BESS LV1 CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (85CP850E1LC INTERLOCK)

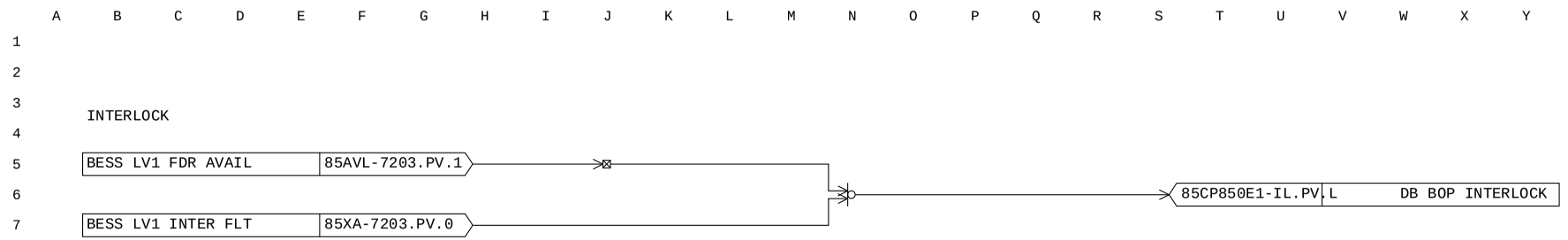
Basic

Tag Name	85CP850E1LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	85CP850E1LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-10
STATION:	FCS0101	SAVED DATE:	7/9/2025 11:46:17 PM	COMMENT:	INTERLOCK		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (85CP850E1LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	87JB200E3.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-36-11
STATION:	FCS0101	SAVED DATE:	4/16/2025 7:39:01 AM	COMMENT:	CRANE CB		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87JB200E3 CRANE CB)

Basic

Tag Name	87JB200E3
Model Name	MC-2E
Tag Comment	CRANE CB
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (87JB200E3LC INTERLOCK)

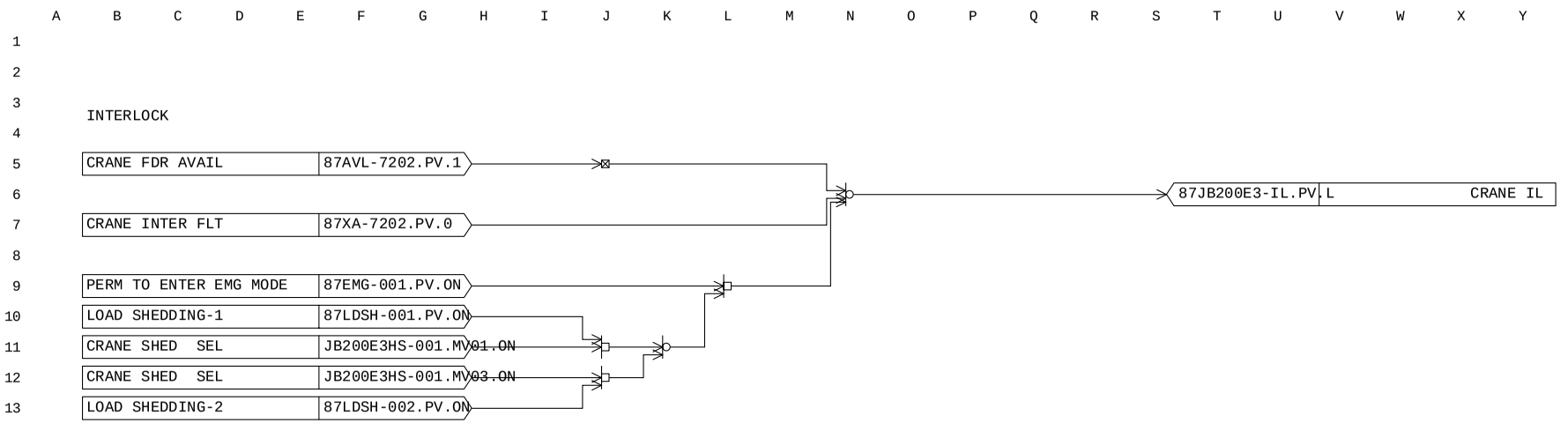
Basic

Tag Name	87JB200E3LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	87JB200E3LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-36-12
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:17:52 AM	COMMENT:	INTERLOCK		
SECTION:	DR0111	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (87JB200E3LC INTERLOCK)

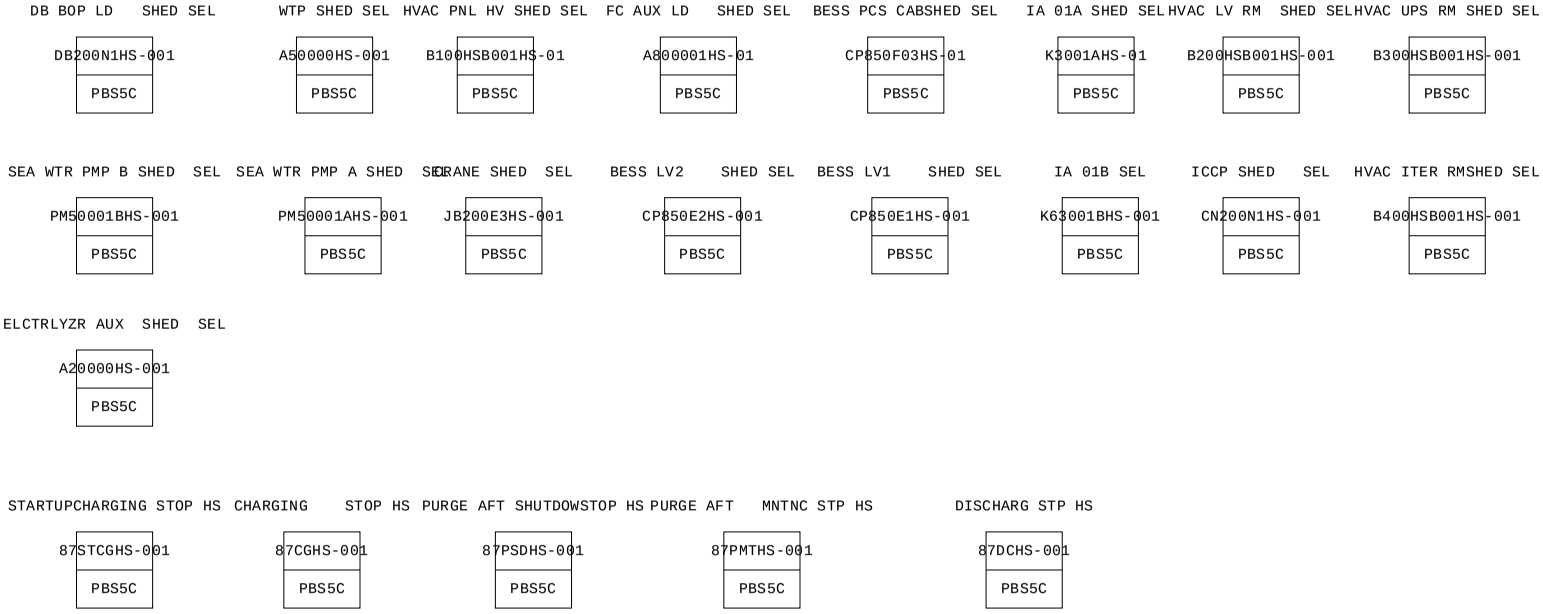
Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0112.edf	SHEET:		YOKOGAWA	PAGE:3-25-37-1
STATION:	FCS0101	SAVED DATE:	4/16/2025 11:07:27 AM	COMMENT:	LOAD SHED SELECTION PB		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0112 | BLPH-CW | UPS SUB-SYSTEM



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0112.edf	SHEET:		YOKOGAWA	PAGE:3-25-37-2
STATION:	FCS0101	SAVED DATE:	4/16/2025 11:07:27 AM	COMMENT:	LOAD SHED SELECTION PB		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LOAD SHED SELECTION PB

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	DB200N1HS-001	PBS5C	DB BOP LD SHED SEL	0	0	4			
002	A50000HS-001	PBS5C	WTP SHED SEL	0	0	4			
003	B100HSB001HS-01	PBS5C	HVAC PNL HV SHED SEL	0	0	4			
004	A800001HS-01	PBS5C	FC AUX LD SHED SEL	0	0	4			
005	CP850F03HS-01	PBS5C	BESS PCS CABSHED SEL	0	0	4			
006	K3001AHS-01	PBS5C	IA 01A SHED SEL	0	0	4			
007	B200HSB001HS-001	PBS5C	HVAC LV RM SHED SEL	0	0	4			
008	B300HSB001HS-001	PBS5C	HVAC UPS RM SHED SEL	0	0	4			
009	B400HSB001HS-001	PBS5C	HVAC ITER RMSHED SEL	0	0	4			
010	CN200N1HS-001	PBS5C	ICCP SHED SEL	0	0	4			
011	K63001BHS-001	PBS5C	IA 01B SEL	0	0	4			
012	CP850E1HS-001	PBS5C	BESS LV1 SHED SEL	0	0	4			
013	CP850E2HS-001	PBS5C	BESS LV2 SHED SEL	0	0	4			
014	JB200E3HS-001	PBS5C	CRANE SHED SEL	0	0	4			
015	PM50001AHS-001	PBS5C	SEA WTR PMP A SHED SEL	0	0	4			
016	PM50001BHS-001	PBS5C	SEA WTR PMP B SHED SEL	0	0	4			
017	A20000HS-001	PBS5C	ELCTRLYZR AUX SHED SEL	0	0	4			
018	87STCGHS-001	PBS5C	STARTUPCHARGING STOP HS	0	0	4			
019	87CGHS-001	PBS5C	CHARGING STOP HS	0	0	4			
020	87PSDHS-001	PBS5C	PURGE AFT SHUTDOWSTOP HS	0	0	4			
021	87PMTHS-001	PBS5C	PURGE AFT MNTNC STP HS	0	0	4			
022	87DCHS-001	PBS5C	DISCHARG STP HS	0	0	4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DB200N1HS-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-37-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:46 AM	COMMENT:	DB BOP LD SHED SEL		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (DB200N1HS-001 DB BOP LD SHED SEL)

Basic

Tag Name	DB200N1HS-001
Model Name	PBS5C
Tag Comment	DB BOP LD SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	DB200N1HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	DB200N1HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	DB200N1HS-001.MV05
Operation Command 1 Connection Destination	DB200N1HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	DB200N1HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	DB200N1HS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (A50000HS-001 WTP SHED SEL)

Basic

Tag Name	A50000HS-001
Model Name	PBS5C
Tag Comment	WTP SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	A50000HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	A50000HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	A50000HS-001.MV05
Operation Command 1 Connection Destination	A50000HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	A50000HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	A50000HS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (B100HSB001HS-01 HVAC PNL HV SHED SEL)

Basic

Tag Name	B100HSB001HS-01
Model Name	PBS5C
Tag Comment	HVAC PNL HV SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	B100HSB001HS-01.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	B100HSB001HS-01.MV03
Connection Destination of Switch Status 4	

Connection Destination of Switch Status 5 B100HSB001HS-01.MV05
Operation Command 1 Connection Destination B100HSB001HS-01.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination B100HSB001HS-01.MV03
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination B100HSB001HS-01.MV05
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (A800001HS-01 FC AUX LD SHED SEL)

Basic
Tag Name A800001HS-01
Model Name PBS5C
Tag Comment FC AUX LD SHED SEL
Lvl 4
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 A800001HS-01.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3 A800001HS-01.MV03
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5 A800001HS-01.MV05
Operation Command 1 Connection Destination A800001HS-01.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination A800001HS-01.MV03
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination A800001HS-01.MV05
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (CP850F03HS-01 BESS PCS CABSHED SEL)

Basic
Tag Name CP850F03HS-01
Model Name PBS5C
Tag Comment BESS PCS CABSHED SEL
Lvl 4
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 CP850F03HS-01.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3 CP850F03HS-01.MV03
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5 CP850F03HS-01.MV05
Operation Command 1 Connection Destination CP850F03HS-01.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination CP850F03HS-01.MV03
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination CP850F03HS-01.MV05
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red

PROJECT:	BLPH-CW1	FILE NAME:	CP850F03HS-01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-37-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:46 AM	COMMENT:	BESS PCS CABSHED SEL		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

004 Not used	OFF	ON	White	Red	
005 Button with Lamp	NONE	NONE	White	Red	

Tag Detail (K3001AHS-01 IA 01A SHED SEL)

Basic

Tag Name	K3001AHS-01
Model Name	PBS5C
Tag Comment	IA 01A SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	K3001AHS-01.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	K3001AHS-01.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	K3001AHS-01.MV05
Operation Command 1 Connection Destination	K3001AHS-01.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	K3001AHS-01.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	K3001AHS-01.MV05
Interlock Switch Input	

Switch Attributes

No. Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001 Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002 Not used	OFF	ON	White	Red
003 Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004 Not used	OFF	ON	White	Red
005 Button with Lamp	NONE	NONE	White	Red

Tag Detail (B200HSB001HS-001 HVAC LV RM SHED SEL)

Basic

Tag Name	B200HSB001HS-001
Model Name	PBS5C
Tag Comment	HVAC LV RM SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	B200HSB001HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	B200HSB001HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	B200HSB001HS-001.MV05
Operation Command 1 Connection Destination	B200HSB001HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	B200HSB001HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	B200HSB001HS-001.MV05
Interlock Switch Input	

Switch Attributes

No. Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001 Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002 Not used	OFF	ON	White	Red
003 Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004 Not used	OFF	ON	White	Red
005 Button with Lamp	NONE	NONE	White	Red

Tag Detail (B300HSB001HS-001 HVAC UPS RM SHED SEL)

Basic

Tag Name	B300HSB001HS-001
Model Name	PBS5C
Tag Comment	HVAC UPS RM SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	

PROJECT:	BLPH-CW1	FILE NAME:	B300HSB001HS-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-37-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:46 AM	COMMENT:	HVAC UPS RM SHED SEL		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

Alarm Status Connection Target
Connection Destination of Switch Status 1 B300HSB001HS-001.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3 B300HSB001HS-001.MV03
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5 B300HSB001HS-001.MV05
Operation Command 1 Connection Destination B300HSB001HS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination B300HSB001HS-001.MV03
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination B300HSB001HS-001.MV05
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (B400HSB001HS-001 HVAC ITER RMSHED SEL)

Basic
Tag Name B400HSB001HS-001
Model Name PBS5C
Tag Comment HVAC ITER RMSHED SEL
Lvl 4
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 B400HSB001HS-001.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3 B400HSB001HS-001.MV03
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5 B400HSB001HS-001.MV05
Operation Command 1 Connection Destination B400HSB001HS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination B400HSB001HS-001.MV03
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination B400HSB001HS-001.MV05
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (CN200N1HS-001 ICCP SHED SEL)

Basic
Tag Name CN200N1HS-001
Model Name PBS5C
Tag Comment ICCP SHED SEL
Lvl 4
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 CN200N1HS-001.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3 CN200N1HS-001.MV03
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5 CN200N1HS-001.MV05
Operation Command 1 Connection Destination CN200N1HS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination CN200N1HS-001.MV03
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination CN200N1HS-001.MV05
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (K63001BHS-001 IA 01B SEL)

Basic

Tag Name	K63001BHS-001
Model Name	PBS5C
Tag Comment	IA 01B SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	K63001BHS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	K63001BHS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	K63001BHS-001.MV05
Operation Command 1 Connection Destination	K63001BHS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	K63001BHS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	K63001BHS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (CP850E1HS-001 BESS LV1 SHED SEL)

Basic

Tag Name	CP850E1HS-001
Model Name	PBS5C
Tag Comment	BESS LV1 SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	CP850E1HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	CP850E1HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	CP850E1HS-001.MV05
Operation Command 1 Connection Destination	CP850E1HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	CP850E1HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	CP850E1HS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (CP850E2HS-001 BESS LV2 SHED SEL)

Basic

Tag Name	CP850E2HS-001
Model Name	PBS5C
Tag Comment	BESS LV2 SHED SEL

PROJECT:	BLPH-CW1	FILE NAME:	CP850E2HS-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-37-8
STATION:	FCS0101	SAVED DATE:	4/16/2025 11:07:27 AM	COMMENT:	BESS LV2 SHED SEL		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	CP850E2HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	CP850E2HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	CP850E2HS-001.MV05
Operation Command 1 Connection Destination	CP850E2HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	CP850E2HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	CP850E2HS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (JB200E3HS-001 CRANE SHED SEL)

Basic

Tag Name	JB200E3HS-001
Model Name	PBS5C
Tag Comment	CRANE SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	JB200E3HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	JB200E3HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	JB200E3HS-001.MV05
Operation Command 1 Connection Destination	JB200E3HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	JB200E3HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	JB200E3HS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (PM50001AHS-001 SEA WTR PMP A SHED SEL)

Basic

Tag Name	PM50001AHS-001
Model Name	PBS5C
Tag Comment	SEA WTR PMP A SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	PM50001AHS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	PM50001AHS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	PM50001AHS-001.MV05
Operation Command 1 Connection Destination	PM50001AHS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	PM50001AHS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	PM50001AHS-001.MV05

Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (PM50001BHS-001 SEA WTR PMP B SHED SEL)

Basic

Tag Name	PM50001BHS-001
Model Name	PBS5C
Tag Comment	SEA WTR PMP B SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	PM50001BHS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	PM50001BHS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	PM50001BHS-001.MV05
Operation Command 1 Connection Destination	PM50001BHS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	PM50001BHS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	PM50001BHS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (A20000HS-001 ELCTRLYZR AUX SHED SEL)

Basic

Tag Name	A20000HS-001
Model Name	PBS5C
Tag Comment	ELCTRLYZR AUX SHED SEL
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	A20000HS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	A20000HS-001.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	A20000HS-001.MV05
Operation Command 1 Connection Destination	A20000HS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	A20000HS-001.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	A20000HS-001.MV05
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	LDSHED-1	LDSHED-1	White	Red
002	Not used	OFF	ON	White	Red
003	Button with Lamp	LDSHED-2	LDSHED-2	White	Red
004	Not used	OFF	ON	White	Red
005	Button with Lamp	NONE	NONE	White	Red

Tag Detail (87STCGHS-001 STARTUPCHARGING STOP HS)

PROJECT:	BLPH-CW1	FILE NAME:	87STCGHS-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-37-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:46 AM	COMMENT:	STARTUPCHARGING STOP HS		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	87STCGHS-001
Model Name	PBS5C
Tag Comment	STARTUPCHARGING STOP HS
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	87STCGHS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	87STCGHS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	White	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (87CGHS-001 CHARGING STOP HS)

Basic

Tag Name	87CGHS-001
Model Name	PBS5C
Tag Comment	CHARGING STOP HS
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	87CGHS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	87CGHS-001.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	White	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (87PSDHS-001 PURGE AFT SHUTDOWSTOP HS)

Basic

Tag Name	87PSDHS-001
Model Name	PBS5C
Tag Comment	PURGE AFT SHUTDOWSTOP HS
Lvl	4
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	87PSDHS-001.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	

Operation Command 1 Connection Destination 87PSDHS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	White	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (87PMTHS-001 PURGE AFT MNTNC STP HS)

Basic

Tag Name 87PMTHS-001
Model Name PBS5C
Tag Comment PURGE AFT MNTNC STP HS
Lvl 4
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 87PMTHS-001.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5
Operation Command 1 Connection Destination 87PMTHS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	White	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (87DCHS-001 DISCHARG STP HS)

Basic

Tag Name 87DCHS-001
Model Name PBS5C
Tag Comment DISCHARG STP HS
Lvl 4
Scan Period Basic Scan
Connection Information
Block Mode Connection Target
Block Status Connection Target
Alarm Status Connection Target
Connection Destination of Switch Status 1 87DCHS-001.MV01
Connection Destination of Switch Status 2
Connection Destination of Switch Status 3
Connection Destination of Switch Status 4
Connection Destination of Switch Status 5
Operation Command 1 Connection Destination 87DCHS-001.MV01
Operation Command 2 Connection Destination
Operation Command 3 Connection Destination
Operation Command 4 Connection Destination
Operation Command 5 Connection Destination
Interlock Switch Input

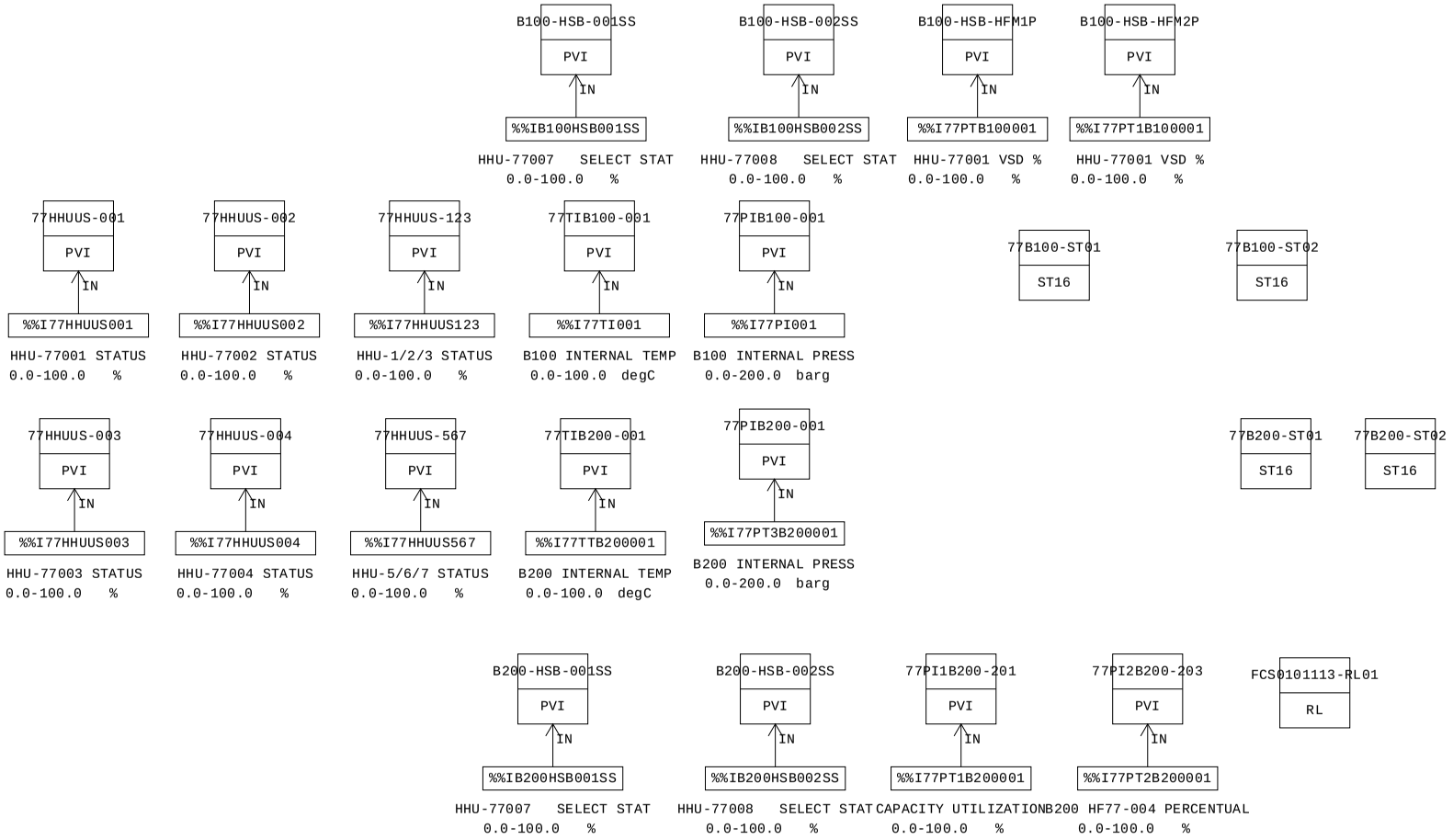
Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	STOP	STOP	White	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red

PROJECT:	BLPH-CW1	FILE NAME:	87DCHS-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-37-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:46 AM	COMMENT:	DISCHARG STP HS		
SECTION:	DR0112	PRINTED DATE:	9/15/2025	DRAWER:			

005 Not used OFF ON White Red

PROJECT:	BLPH-CW1	FILE NAME:	DR0113.edf	SHEET:		YOKOGAWA	PAGE:3-25-38-1
STATION:	FCS0101	SAVED DATE:	5/14/2025 4:45:14 AM	COMMENT:	HVAC B100, B200		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0113.edf	SHEET:		YOKOGAWA	PAGE:3-25-38-2
STATION:	FCS0101	SAVED DATE:	5/14/2025 4:45:14 AM	COMMENT:	HVAC B100, B200		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_026	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0113.edf	SHEET:		YOKOGAWA	PAGE:3-25-38-3
STATION:	FCS0101	SAVED DATE:	5/14/2025 4:45:14 AM	COMMENT:	HVAC B100, B200		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HVAC B100, B200

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	77HHUUS-001	PVI	HHU-77001 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS001
						4			
002	77HHUUS-002	PVI	HHU-77002 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS002
						4			
003	77HHUUS-123	PVI	HHU-1/2/3 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS123
						4			
004	77TIB100-001	PVI	B100 INTERNAL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TI001
						4			
005	77PIB100-001	PVI	B100 INTERNAL PRESS	0.0	200.0	barg	Communication Input	No	%%I77PI001
						4			
006	77HHUUS-003	PVI	HHU-77003 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS003
						4			
007	77HHUUS-004	PVI	HHU-77004 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS004
						4			
008	77HHUUS-567	PVI	HHU-5/6/7 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS567
						4			
009	77TIB200-001	PVI	B200 INTERNAL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TTB200001
						4			
010	77PI2B200-203	PVI	B200 HF77-004 PERCENTUAL	0.0	100.0	%	Communication Input	No	%%I77PT2B200001
						4			
011	77B200-ST01	ST16	B-200 HVAC ANN	0	0				
						4			
012	77B200-ST02	ST16	B-200 HVAC ANN	0	0				
						4			
013	B100-HSB-HFM1P	PVI	HHU-77001 VSD %	0.0	100.0	%	Communication Input	No	%%I77PTB100001
						4			
014	B100-HSB-001SS	PVI	HHU-77007 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB100HSB001SS
						4			
015	B100-HSB-002SS	PVI	HHU-77008 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB100HSB002SS
						4			
016	77PI1B200-201	PVI	CAPACITY UTILIZATION	0.0	100.0	%	Communication Input	No	%%I77PT1B200001
						4			
017	B200-HSB-001SS	PVI	HHU-77007 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB200HSB001SS
						4			
018	B200-HSB-002SS	PVI	HHU-77008 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB200HSB002SS
						4			
019	B100-HSB-HFM2P	PVI	HHU-77001 VSD %	0.0	100.0	%	Communication Input	No	%%I77PT1B100001
						4			
020	77B100-ST01	ST16	B-100 HVAC ANN	0	0				
						4			
021	77B100-ST02	ST16	B-100 HVAC ANN	0	0				
						4			
022	FCS0101113-RL01	RL		0	0				
						4			
023	77PIB200-001	PVI	B200 INTERNAL PRESS	0.0	200.0	barg	Communication Input	No	%%I77PT3B200001
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77HHUUS-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:49 AM	COMMENT:	HHU-77001 STATUS		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77HHUUS-001 HHU-77001 STATUS)

Basic

Tag Name	77HHUUS-001
Model Name	PVI
Tag Comment	HHU-77001 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-002 HHU-77002 STATUS)

Basic

Tag Name	77HHUUS-002
Model Name	PVI
Tag Comment	HHU-77002 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-123 HHU-1/2/3 STATUS)

Basic

Tag Name	77HHUUS-123
Model Name	PVI
Tag Comment	HHU-1/2/3 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TIB100-001 B100 INTERNAL TEMP)

Basic

Tag Name	77TIB100-001
Model Name	PVI
Tag Comment	B100 INTERNAL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PIB100-001 B100 INTERNAL PRESS)

PROJECT:	BLPH-CW1	FILE NAME:	77PIB100-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-5
STATION:	FCS0101	SAVED DATE:	5/7/2025 8:18:40 AM	COMMENT:	B100 INTERNAL PRESS		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	77PIB100-001
Model Name	PVI
Tag Comment	B100 INTERNAL PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-003 HHU-77003 STATUS)

Basic

Tag Name	77HHUUS-003
Model Name	PVI
Tag Comment	HHU-77003 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-004 HHU-77004 STATUS)

Basic

Tag Name	77HHUUS-004
Model Name	PVI
Tag Comment	HHU-77004 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-567 HHU-5/6/7 STATUS)

Basic

Tag Name	77HHUUS-567
Model Name	PVI
Tag Comment	HHU-5/6/7 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TIB200-001 B200 INTERNAL TEMP)

Basic

Tag Name	77TIB200-001

PROJECT:	BLPH-CW1	FILE NAME:	77TIB200-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-6
STATION:	FCS0101	SAVED DATE:	5/6/2025 2:14:36 AM	COMMENT:	B200 INTERNAL TEMP		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	B200 INTERNAL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PI2B200-203 B200 HF77-004 PERCENTUAL)

Basic

Tag Name	77PI2B200-203
Model Name	PVI
Tag Comment	B200 HF77-004 PERCENTUAL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77B200-ST01 B-200 HVAC ANN)

Basic

Tag Name	77B200-ST01
Model Name	ST16
Tag Comment	B-200 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B200-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:49 AM	COMMENT:	B-200 HVAC ANN		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B200-ST01 B-200 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77HFDZSH-004.PV	ON	HFD-77004 NOT OPN	Y								
C02	77HFDZSL-004.PV	ON	HFD-77004 NOT CLS	.Y								
C03	77HFDZSH-005.PV	ON	HFD-77005 NOT OPN	..Y								
C04	77HFDZSL-005.PV	ON	HFD-77005 NOT CLS	...Y								
C05	77HFDZSH-006.PV	ON	HFD-77006 NOT OPN		Y							
C06	77HFDZSL-006.PV	ON	HFD-77006 NOT CLS		.Y							
C07	77HFZZSH-201.PV	ON	HDZ-77-201 NOT OPN		..Y							
C08	77HDZZSL-201.PV	ON	HDZ-77-201 NOT CLS		...Y							
C09	77HFZZSH-202.PV	ON	HDZ-77-202 NOT OPN			Y						
C10	77HDZZSL-202.PV	ON	HDZ-77-202 NOT CLS			.Y						
C11	77HFMPXS-201.PV	ON	HFM-77-201 PTC PROT			..Y						
C12	77HFM-TSH-201.PV	ON	TSH/HH-77-201 HTR PROT			...Y						
C13	77HFMXS-201.PV	ON	HFM-77-201 TRIP				Y					
C14	77HFMXA-201.PV	ON	HFM-77-201 VSD MALFCTN				.Y					
C15	77HSSXS-201.PV	ON	HSS-77-201 TRIP				..Y					
C16	77HSSXA-201.PV	ON	HSS-77-201 MODULATN FLT				...Y					
C17	77HHUAXS-003.PV	ON	HHU-77001 AUX TRIP					Y				
C18	77HHUXS-003.PV	ON	HHU-77001 MN BRK TRIP					.Y				
C19	77HHUXA-201.PV	ON	HHU-77003 NO FLOW					..Y				
C20	77HFMPXS-202.PV	ON	HFM-77-102 PTC PROT					...Y				
C21	77-TSH-202.PV	ON	TSH/HH-77-102						Y			
C22	77HFMXS-202.PV	ON	HFM-77-102 TRIP						.Y			
C23	77HFMXA-202.PV	ON	HFM-77-102 VSD MALFCTN						..Y			
C24	77HSSXS-202.PV	ON	HSS-77-102 TRIP						...Y			
C25	77HSSXA-202.PV	ON	HSS-77-102 MODULATN FLT							Y		
C26	77HHUAXS-004.PV	ON	HHU-77002 AUX TRIP							.Y		
C27	77HHUXS-004.PV	ON	HHU-77002 MN BRK TRIP							..Y		
C28	77HSBXS-002.PV	ON	B200-HSB-001 MN BRK TRIP							...Y		
C29	77HSBXS-022.PV	ON	B200HSB001 MOD LITE TRIP								Y	
C30	77HSBXS-222.PV	ON	B200HSB001 MOD SOKT TRIP								.Y	
C31	77B2HSBAXS-001.PV	ON	B200-HSB-001 AUX TRIP								..Y	
C32	77B2HSSXS-456.PV	ON	HSS77004/5/6 SPCHTR TRIP								...Y	
A01	77HFDZSH-004AN.PV	L	HFD-77004 NOT OPN	Y								
A02	77HFDZSL-004AN.PV	L	HFD-77004 NOT CLS	.Y								
A03	77HFDZSH-005AN.PV	L	HFD-77005 NOT OPN	..Y								
A04	77HFDZSL-005AN.PV	L	HFD-77005 NOT CLS	...Y								
A05	77HFDZSH-006AN.PV	L	HFD-77006 NOT OPN		Y							
A06	77HFDZSL-006AN.PV	L	HFD-77006 NOT CLS		.Y							
A07	77HFZZSH-201AN.PV	L	HDZ-77-201 NOT OPN		..Y							
A08	77HDZZSL-201AN.PV	L	HDZ-77-201 NOT CLS		...Y							
A09	77HFZZSH-202AN.PV	L	HDZ-77-202 NOT OPN			Y						
A10	77HDZZSL-202AN.PV	L	HDZ-77-202 NOT CLS			.Y						
A11	77HFMPXS-201AN.PV	L	HFM-77-201 PTC PROT			..Y						
A12	77HFM-TSH-201AN.PV	L	TSH/HH-77-201 HTR PROT			...Y						
A13	77HFMXS-201AN.PV	L	HFM-77-201 TRIP				Y					
A14	77HFMXA-201AN.PV	L	HFM-77-201 VSD MALFCTN				.Y					
A15	77HSSXS-201AN.PV	L	HSS-77-201 TRIP				..Y					
A16	77HSSXA-201AN.PV	L	HSS-77-201 MODULATN FLT				...Y					
A17	77HHUAXS-003AN.PV	L	HHU-77003 AUX TRIP					Y				
A18	77HHUXS-003AN.PV	L	HHU-77003 MN BRK TRIP					.Y				
A19	77HHUXA-201AN.PV	L	HHU-77003 NO FLOW					..Y				
A20	77HFMPXS-202AN.PV	L	HFM-77-202 PTC PROT					...Y				
A21	77-TSH-202AN.PV	L	TSH/HH-77-202 HTR PROT						Y			
A22	77HFMXS-202AN.PV	L	HFM-77-202 TRIP						.Y			
A23	77HFMXA-202AN.PV	L	HFM-77-202 VSD MALFCTN						..Y			
A24	77HSSXS-202AN.PV	L	HSS-77-202 TRIP						...Y			
A25	77HSSXA-202AN.PV	L	HSS-77-202 MODULATN FLT							Y		
A26	77HHUAXS-004AN.PV	L	HHU-77004 AUX TRIP							.Y		
A27	77HHUXS-004AN.PV	L	HHU-77004 MN BRK TRIP							..Y		
A28	77HSBXS-002AN.PV	L	B200-HSB-001 MN BRK TRIP							...Y		
A29	77HSBXS-022AN.PV	L	B200HSB001 MOD LITE TRIP								Y	
A30	77HSBXS-222AN.PV	L	B200HSB001 MOD SOKT TRIP								.Y	
A31	77B2HSBAXS-001AN.PV	L	B200-HSB-001 AUX TRIP								..Y	
A32	77B2HSSXS-456AN.PV	L	HSS77004/5/6 SPCHTR TRIP								...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	77B200-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:49 AM	COMMENT:	B-200 HVAC ANN		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B200-ST02 B-200 HVAC ANN)

Basic

Tag Name	77B200-ST02
Model Name	ST16
Tag Comment	B-200 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B200-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:49 AM	COMMENT:	B-200 HVAC ANN		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B200-ST02 B-200 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77HSSXA-456.PV	ON	HSS-77-004/5/6 FLT	Y								
C02	77TTXA-201.PV	ON	77-TT-101 FLT	.Y								
C03	77TTXA-202.PV	ON	77-TT-102 FLT	..Y								
C04	77TTXA-203.PV	ON	77-TT-103 FLT	...Y								
C05	77TTXA-204.PV	ON	77-TT-104 FLT		Y							
C06	77PTXA-201.PV	ON	77-PT-101 FLT		.Y							
C07	77B2HSBXA-001.PV	ON	MAJOR FLT		..Y							
C08	77HSB-LP-002.PV	ON	MODULE LOW PRESS		...Y							
C09	77HSBXA-022.PV	ON	MODBUS FLT			Y						
C10	77HSBXA-222.PV	ON	MODBUS SERVER ERROR			.Y						
C11						..Y						
C12	77HHUXA-204.PV	ON	77HHUXA-004 NO FLOW			...Y						
C13	FCS0101113-RL01.X01	GE					Y					
C14	FCS0101113-RL01.X02	GE					.Y					
C15	FCS0101113-RL01.X03	GE					..Y					
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	77HSSXA-456AN.PV	L	HSS-77-004/5/6 FLT	Y								
A02	77TTXA-201AN.PV	L	77-TT-201 FLT	.Y								
A03	77TTXA-202AN.PV	L	77-TT-202 FLT	..Y								
A04	77TTXA-203AN.PV	L	77-TT-203 FLT	...Y								
A05	77TTXA-204AN.PV	L	77-TT-204 FLT		Y							
A06	77PTXA-201AN.PV	L	77-PT-201 FLT		.Y							
A07	77B2HSBXA-001AN.PV	L	HVAC SYSTEM MAJOR FLT		..Y							
A08	77HSB-LP-002AN.PV	L	MODULE LOW PRESS		...Y							
A09	77HSBXA-022AN.PV	L	MODBUS FLT			Y						
A10	77HSBXA-222AN.PV	L	MODBUS SERVER ERROR			.Y						
A11						..Y						
A12	77HHUXA-204AN.PV	L	77HHUXA-004 NO FLOW			...Y						
A13	77HHUUS-003AN.PV	L	HHU-77003 FAULT				Y					
A14	77HHUUS-004AN.PV	L	HHU-77004 FAULT				.Y					
A15	77HHUUS-567AN.PV	L	HHU-77567 FAULT				..Y					
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	B100-HSB-HFM1P.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-10
STATION:	FCS0101	SAVED DATE:	5/5/2025 11:22:32 PM	COMMENT:	HHU-77001 VSD %		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (B100-HSB-HFM1P HHU-77001 VSD %)

Basic

Tag Name	B100-HSB-HFM1P
Model Name	PVI
Tag Comment	HHU-77001 VSD %
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.0
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B100-HSB-001SS HHU-77007 SELECT STAT)

Basic

Tag Name	B100-HSB-001SS
Model Name	PVI
Tag Comment	HHU-77007 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B100-HSB-002SS HHU-77008 SELECT STAT)

Basic

Tag Name	B100-HSB-002SS
Model Name	PVI
Tag Comment	HHU-77008 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PI1B200-201 CAPACITY UTILIZATION)

Basic

Tag Name	77PI1B200-201
Model Name	PVI
Tag Comment	CAPACITY UTILIZATION
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B200-HSB-001SS HHU-77007 SELECT STAT)

PROJECT:	BLPH-CW1	FILE NAME:	B200-HSB-001SS.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:49 AM	COMMENT:	HHU-77007 SELECT STAT		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	B200-HSB-001SS
Model Name	PVI
Tag Comment	HHU-77007 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B200-HSB-002SS HHU-77008 SELECT STAT)

Basic

Tag Name	B200-HSB-002SS
Model Name	PVI
Tag Comment	HHU-77008 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B100-HSB-HFM2P HHU-77001 VSD %)

Basic

Tag Name	B100-HSB-HFM2P
Model Name	PVI
Tag Comment	HHU-77001 VSD %
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.0
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77B100-ST01 B-100 HVAC ANN)

Basic

Tag Name	77B100-ST01
Model Name	ST16
Tag Comment	B-100 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B100-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-12
STATION:	FCS0101	SAVED DATE:	5/14/2025 4:45:14 AM	COMMENT:	B-100 HVAC ANN		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B100-ST01 B-100 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77HFMPXS-101.PV	ON	HFM-77-101 PTC PROT	Y								
C02	77HFM-TSH-101.PV	ON	TSH/HH-77-101 HTR PROT	.Y								
C03	77HFMXS-101.PV	ON	HFM-77-101 TRIP	..Y								
C04	77HFMXA-101.PV	ON	HFM-77-101 VSD MALFCTN	...Y								
C05	77HSSXS-101.PV	ON	HSS-77-101 TRIP		Y							
C06	77HSSXA-101.PV	ON	HSS-77-101 MODULATN FLT		.Y							
C07	77HHUAXS-001.PV	ON	HHU-77001 AUX TRIP		..Y							
C08	77HHUXS-001.PV	ON	HHU-77001 MN BRK TRIP		...Y							
C09	77HHUXA-001.PV	ON	HHU-77001 NO FLOW			Y						
C10	77HFMPXS-102.PV	ON	HFM-77-102 PTC PROT			.Y						
C11	77-TSH-102.PV	ON	TSH/HH-77-102			..Y						
C12	77HFMXS-102.PV	ON	HFM-77-102 TRIP			...Y						
C13	77HFMXA-102.PV	ON	HFM-77-102 VSD MALFCTN				Y					
C14	77HSSXS-102.PV	ON	HSS-77-102 TRIP				.Y					
C15	77HSSXA-102.PV	ON	HSS-77-102 MODULATN FLT				..Y					
C16	77HHUAXS-002.PV	ON	HHU-77002 AUX TRIP				...Y					
C17	77HHUXS-002.PV	ON	HHU-77002 MN BRK TRIP					Y				
C18	77HSBXS-001.PV	ON	B100-HSB-001 MN BRK TRIP					.Y				
C19	77HSBXS-011.PV	ON	B100HSB001 MOD LITE TRIP					..Y				
C20	77HSBXS-111.PV	ON	B100HSB001 MOD SOKT TRIP					...Y				
C21	77HSBAXS-001.PV	ON	B100-HSB-001 AUX TRIP						Y			
C22	77HSSXS-123.PV	ON	HSS77001/2/3 SPCHTR TRIP						.Y			
C23	77HSSXA-123.PV	ON	HSS-77-001/2/3 FLT						..Y			
C24	77TTXA-101.PV	ON	77-TT-101 FLT						...Y			
C25	77TTXA-102.PV	ON	77-TT-102 FLT							Y		
C26	77TTXA-103.PV	ON	77-TT-103 FLT							.Y		
C27	77TTXA-104.PV	ON	77-TT-104 FLT							..Y		
C28	77PTXA-101.PV	ON	77-PT-101 FLT							...Y		
C29	77HSBXA-001.PV	ON	HVAC MAJOR FLT								Y	
C30	77HSB-LP-001.PV	ON	MODULE LOW PRESS								.Y	
C31	77HSBXA-011.PV	ON	MODBUS FLT								..Y	
C32	77HHUXA-002.PV	ON	HHU-77002 NO FLOW								...Y	
A01	77HFMPXS-101AN.PV	L	HFM-77-101 PTC PROT	Y								
A02	77HFMTSH-101AN.PV	L	TSH/HH-77-101 HTR PROT	.Y								
A03	77HFMXS-101AN.PV	L	HFM-77-101 TRIP	..Y								
A04	77HFMXA-101AN.PV	L	HFM-77-101 VSD MALFCTN	...Y								
A05	77HSSXS-101AN.PV	L	HSS-77-101 TRIP		Y							
A06	77HSSXA-101AN.PV	L	HSS-77-101 MODULATN FLT		.Y							
A07	77HHUAXS-001AN.PV	L	HHU-77001 AUX TRIP		..Y							
A08	77HHUXS-001AN.PV	L	HHU-77001 MN BRK TRIP		...Y							
A09	77HHUXA-001AN.PV	L	HHU-77001 NO FLOW			Y						
A10	77HFMPXS-102AN.PV	L	HFM-77-102 PTC PROT			.Y						
A11	77TSH-102AN.PV	L	TSH/HH-77-102			..Y						
A12	77HFMXS-102AN.PV	L	HFM-77-102 TRIP			...Y						
A13	77HFMXA-102AN.PV	L	HFM-77-102 VSD MALFCTN				Y					
A14	77HSSXS-102AN.PV	L	HSS-77-102 TRIP				.Y					
A15	77HSSXA-102AN.PV	L	HSS-77-102 MODULATN FLT				..Y					
A16	77HHUAXS-002AN.PV	L	HHU-77002 AUX TRIP				...Y					
A17	77HHUXS-002AN.PV	L	HHU-77002 MN BRK TRIP					Y				
A18	77HSBXS-001AN.PV	L	B100-HSB-001 MN BRK TRIP					.Y				
A19	77HSBXS-011AN.PV	L	B100HSB001 MOD LITE TRIP					..Y				
A20	77HSBXS-111AN.PV	L	B100HSB001 MOD SOKT TRIP					...Y				
A21	77HSBAXS-001AN.PV	L	B100-HSB-001 AUX TRIP						Y			
A22	77HSSXS-123AN.PV	L	HSS77001/2/3 SPCHTR TRIP						.Y			
A23	77HSSXA-123AN.PV	L	HSS-77-001/2/3 FLT						..Y			
A24	77TTXA-101AN.PV	L	77-TT-101 FLT						...Y			
A25	77TTXA-102AN.PV	L	77-TT-102 FLT							Y		
A26	77TTXA-103AN.PV	L	77-TT-103 FLT							.Y		
A27	77TTXA-104AN.PV	L	77-TT-104 FLT							..Y		
A28	77PTXA-101AN.PV	L	77-PT-101 FLT							...Y		
A29	77HSBXA-001AN.PV	L	MAJOR FLT								Y	
A30	77HSB-LP-001AN.PV	L	MODULE LOW PRESS								.Y	
A31	77HSBXA-011AN.PV	L	MODBUS FLT								..Y	
A32	77HHUXA-002AN.PV	L	HHU-77002 NO FLOW								...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	77B100-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-13
STATION:	FCS0101	SAVED DATE:	5/14/2025 4:45:14 AM	COMMENT:	B-100 HVAC ANN		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B100-ST02 B-100 HVAC ANN)

Basic

Tag Name	77B100-ST02
Model Name	ST16
Tag Comment	B-100 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B100-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-14
STATION:	FCS0101	SAVED DATE:	5/14/2025 4:45:14 AM	COMMENT:	B-100 HVAC ANN		
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B100-ST02 B-100 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77HSBXA-111.PV	ON	MODBUS SERVER ERROR	Y								
C02				.Y								
C03	FCS0101113-RL01.X04	GE		..Y								
C04	FCS0101113-RL01.X05	GE		...Y								
C05	FCS0101113-RL01.X06	GE			Y							
C06	77HFDZSH-001.PV	ON	HFD-77001 NOT OPN		.Y							
C07	77HFDZSL-001.PV	ON	HFD-77001 NOT CLS		..Y							
C08	77HFDZSH-002.PV	ON	HFD-77002 NOT OPN		...Y							
C09	77HFDZSL-002.PV	ON	HFD-77002 NOT CLS			Y						
C10	77HFDZSH-003.PV	ON	HFD-77003 NOT OPN			.Y						
C11	77HFDZSL-002.PV	ON	HFD-77002 NOT CLS			..Y						
C12	77HFZZSH-101.PV	ON	HDZ-77-101 NOT OPN			...Y						
C13	77HDZZSL-101.PV	ON	HDZ-77-101 NOT CLS				Y					
C14	77HFZZSH-102.PV	ON	HDZ-77-102 NOT OPN				.Y					
C15	77HDZZSL-102.PV	ON	HDZ-77-102 NOT CLS				..Y					
C16							...Y					
C17								Y				
C18								.Y				
C19								..Y				
C20								...Y				
C21									Y			
C22									.Y			
C23									..Y			
C24									...Y			
C25										Y		
C26										.Y		
C27										..Y		
C28										...Y		
C29											Y	
C30											.Y	
C31											..Y	
C32											...Y	
A01	77HSBXA-111AN.PV	L	MODBUS SERVER ERROR	Y								
A02				.Y								
A03	77HHUUS-001AN.PV	L	HHU-77001 FAULT	..Y								
A04	77HHUUS-002AN.PV	L	HHU-77002 FAULT	...Y								
A05	77HHUUS-123AN.PV	L	HHU-77123 FAULT		Y							
A06	77HFDZSH-001AN.PV	L	HFD-77001 NOT OPN		.Y							
A07	77HFDZSL-001AN.PV	L	HFD-77001 NOT CLS		..Y							
A08	77HFDZSH-002AN.PV	L	HFD-77002 NOT OPN		...Y							
A09	77HFDZSL-002AN.PV	L	HFD-77002 NOT CLS			Y						
A10	77HFDZSH-003AN.PV	L	HFD-77003 NOT OPN			.Y						
A11	77HFDZSL-002AN.PV	L	HFD-77002 NOT CLS			..Y						
A12	77HFZZSH-101AN.PV	L	HDZ-77-101 NOT OPN			...Y						
A13	77HDZZSL-101AN.PV	L	HDZ-77-101 NOT CLS				Y					
A14	77HFZZSH-102AN.PV	L	HDZ-77-102 NOT OPN				.Y					
A15	77HDZZSL-102AN.PV	L	HDZ-77-102 NOT CLS				..Y					
A16							...Y					
A17								Y				
A18								.Y				
A19								..Y				
A20								...Y				
A21									Y			
A22									.Y			
A23									..Y			
A24									...Y			
A25										Y		
A26										.Y		
A27										..Y		
A28										...Y		
A29											Y	
A30											.Y	
A31											..Y	
A32											...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101113-RL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-38-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:49 AM	COMMENT:			
SECTION:	DR0113	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101113-RL01)

Basic

Tag Name	FCS0101113-RL01
Model Name	RL
Tag Comment	
Lvl	4

Relational Expression

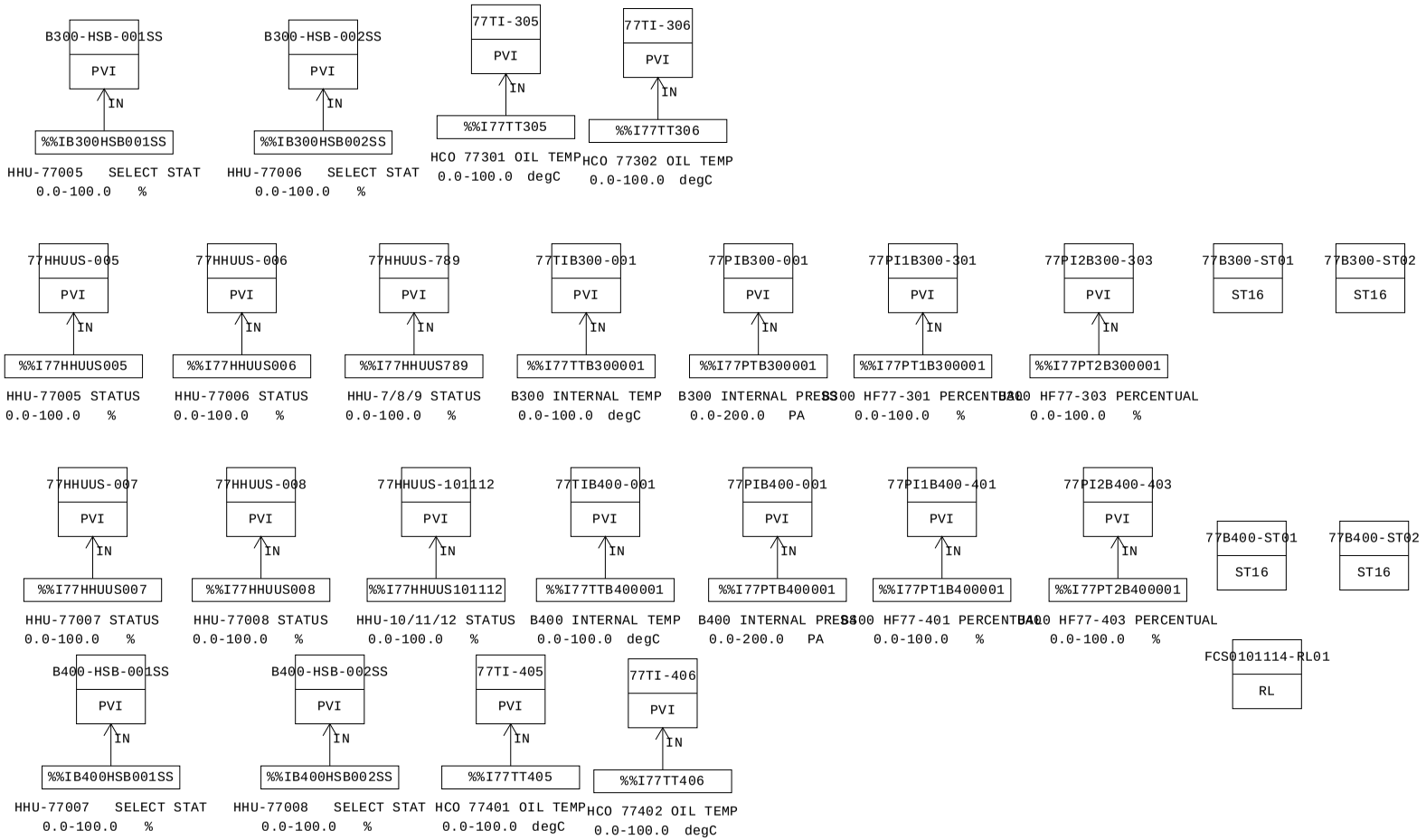
No. X	Operator	Y	Comment
001 77HHUUS-003.PV	Relational Operation	3	B200
002 77HHUUS-004.PV	Relational Operation	3	B200
003 77HHUUS-567.PV	Relational Operation	3	B200
004 77HHUUS-001.PV	Relational Operation	3	B100
005 77HHUUS-002.PV	Relational Operation	3	B100
006 77HHUUS-123.PV	Relational Operation	3	B100

Tag Detail (77PIB200-001 B200 INTERNAL PRESS)

Basic

Tag Name	77PIB200-001
Model Name	PVI
Tag Comment	B200 INTERNAL PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0114.edf	SHEET:		YOKOGAWA	PAGE:3-25-39-1
STATION:	FCS0101	SAVED DATE:	5/7/2025 8:05:01 AM	COMMENT:	HVAC-51,52,53,54		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			



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PROJECT:	BLPH-CW1	FILE NAME:	DR0114.edf	SHEET:		YOKOGAWA	PAGE:3-25-39-2
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SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_024	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_023	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

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PROJECT:	BLPH-CW1	FILE NAME:	DR0114.edf	SHEET:		YOKOGAWA	PAGE:3-25-39-3
STATION:	FCS0101	SAVED DATE:	5/7/2025 8:05:01 AM	COMMENT:	HVAC-51,52,53,54		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:HVAC-51,52,53,54

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	77HHUUS-007	PVI	HHU-77007 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS007
						4			
002	77HHUUS-008	PVI	HHU-77008 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS008
						4			
003	77HHUUS-101112	PVI	HHU-10/11/12 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS101112
						4			
004	77TIB400-001	PVI	B400 INTERNAL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TTB400001
						4			
005	77PIB400-001	PVI	B400 INTERNAL PRESS	0.0	200.0	PA	Communication Input	No	%%I77PTB400001
						4			
006	77PI1B400-401	PVI	B400 HF77-401 PERCENTUAL	0.0	100.0	%	Communication Input	No	%%I77PT1B400001
						4			
007	77PI2B400-403	PVI	B400 HF77-403 PERCENTUAL	0.0	100.0	%	Communication Input	No	%%I77PT2B400001
						4			
008	77B400-ST01	ST16	B-400 HVAC ANN	0	0				
						4			
009	77B400-ST02	ST16	B-400 HVAC ANN	0	0				
						4			
010	77HHUUS-005	PVI	HHU-77005 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS005
						4			
011	77HHUUS-006	PVI	HHU-77006 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS006
						4			
012	77HHUUS-789	PVI	HHU-7/8/9 STATUS	0.0	100.0	%	Communication Input	No	%%I77HHUUS789
						4			
013	77TIB300-001	PVI	B300 INTERNAL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TTB300001
						4			
014	77PIB300-001	PVI	B300 INTERNAL PRESS	0.0	200.0	PA	Communication Input	No	%%I77PTB300001
						4			
015	77PI1B300-301	PVI	B300 HF77-301 PERCENTUAL	0.0	100.0	%	Communication Input	No	%%I77PT1B300001
						4			
016	77PI2B300-303	PVI	B300 HF77-303 PERCENTUAL	0.0	100.0	%	Communication Input	No	%%I77PT2B300001
						4			
017	77B300-ST01	ST16	B-300 HVAC ANN	0	0				
						4			
018	77B300-ST02	ST16	B-300 HVAC ANN	0	0				
						4			
019	FCS0101114-RL01	RL		0	0				
						4			
020	B400-HSB-001SS	PVI	HHU-77007 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB400HSB001SS
						4			
021	B400-HSB-002SS	PVI	HHU-77008 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB400HSB002SS
						4			
022	77TI-405	PVI	HCO 77401 OIL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TT405
						4			
023	77TI-406	PVI	HCO 77402 OIL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TT406
						4			
024	B300-HSB-001SS	PVI	HHU-77005 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB300HSB001SS
						4			
025	B300-HSB-002SS	PVI	HHU-77006 SELECT STAT	0.0	100.0	%	Communication Input	No	%%IB300HSB002SS
						4			
026	77TI-305	PVI	HCO 77301 OIL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TT305
						4			
027	77TI-306	PVI	HCO 77302 OIL TEMP	0.0	100.0	degC	Communication Input	No	%%I77TT306
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	77HHUUS-007.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	HHU-77007 STATUS		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77HHUUS-007 HHU-77007 STATUS)

Basic

Tag Name	77HHUUS-007
Model Name	PVI
Tag Comment	HHU-77007 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-008 HHU-77008 STATUS)

Basic

Tag Name	77HHUUS-008
Model Name	PVI
Tag Comment	HHU-77008 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-101112 HHU-10/11/12 STATUS)

Basic

Tag Name	77HHUUS-101112
Model Name	PVI
Tag Comment	HHU-10/11/12 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TIB400-001 B400 INTERNAL TEMP)

Basic

Tag Name	77TIB400-001
Model Name	PVI
Tag Comment	B400 INTERNAL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PIB400-001 B400 INTERNAL PRESS)

PROJECT:	BLPH-CW1	FILE NAME:	77PIB400-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-5
STATION:	FCS0101	SAVED DATE:	5/7/2025 8:02:16 AM	COMMENT:	B400 INTERNAL PRESS		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	77PIB400-001
Model Name	PVI
Tag Comment	B400 INTERNAL PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PI1B400-401 B400 HF77-401 PERCENTUAL)

Basic

Tag Name	77PI1B400-401
Model Name	PVI
Tag Comment	B400 HF77-401 PERCENTUAL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PI2B400-403 B400 HF77-403 PERCENTUAL)

Basic

Tag Name	77PI2B400-403
Model Name	PVI
Tag Comment	B400 HF77-403 PERCENTUAL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77B400-ST01 B-400 HVAC ANN)

Basic

Tag Name	77B400-ST01
Model Name	ST16
Tag Comment	B-400 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B400-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	B-400 HVAC ANN		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B400-ST01 B-400 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. StepNo. Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111	12131415	16171819	20212223	24252627	28293031	32	Comment
C01	77B4HSBXS-001.PV	ON	B400-HSB-001 MN BKR TRP	Y									
C02	77B4PEB-001.PV	ON	B400-HSB-001 PL EM BTN	.Y									
C03	77HSBXS-044.PV	ON	B400-HSB-001 MOD LTE TRP	..Y									
C04	77HSBXS-444.PV	ON	B400-HSB-001 MOD SKT TRP	...Y									
C05	77HSSXS-101112.PV	ON	HSS77-0010/11/12 HTR TRP		Y								
C06	77B4HSBAXS-001.PV	ON	B400-HSB-001 AUX SEC TRP		.Y								
C07	77B3UXA-101112.PV	ON	HSS77-0010/11/12 HTR FLT		..Y								
C08	77PFFC-007.PV	ON	HHU-77007 PR FAN LOW PR		...Y								
C09	77MDF-007.PV	ON	HHU-77007 MOT DMP FLT			Y							
C10	77PTCP-401.PV	ON	HFM-77-401 PTC PRTN			.Y							
C11	77VSDF-401.PV	ON	HFM-77-401 VSD FLT			..Y							
C12	77PFTRP-401.PV	ON	HFM-77-401 PRS FN TRP			...Y							
C13	77BBA-402.PV	ON	HFM-77-402 BRK BELT ALM				Y						
C14	77SFTRP-402.PV	ON	HFM-77-402 FN TRP				.Y						
C15	77CTRP-401.PV	ON	HCO-77-401 CMP TRP				..Y						
C16	77HPA-401.PV	ON	HCO-77-401 HP ALM				...Y						
C17	77LPA-401.PV	ON	HCO-77-401 LP ALM					Y					
C18	77CFTRP-405406.PV	ON	HFM77-405/406 CND FN TRP					.Y					
C19	77VSDF-405406.PV	ON	HFM77-405/406 FN VSD FLT					..Y					
C20	77TSPH-401.PV	ON	HSS-77-401 THR PTR					...Y					
C21	77EHTRP-401.PV	ON	HSS-77-401 HTR TRP						Y				
C22	77EHMF-401.PV	ON	HSS77-401 HTR MODLTN FLT						.Y				
C23	77MBTRP-007.PV	ON	HHU-77007 MN BKR TRP						..Y				
C24	77FC-007.PV	ON	HHU-77007 FLTR CLOGGED						...Y				
C25	77MDF-008.PV	ON	HHU-77008 MOT DMP FLT							Y			
C26	77PTCP-403.PV	ON	HFM-77-403 PTC PRTN							.Y			
C27	77VSDF-403.PV	ON	HFM-77-403 VSD FLT							..Y			
C28	77PFTRP-403.PV	ON	HFM-77-403 PRS FN TRP							...Y			
C29	77BBA-404.PV	ON	HFM-77-404 BRK BELT ALM								Y		
C30	77SFTRP-404.PV	ON	HFM-77-404 FN TRP								.Y		
C31	77CTRP-402.PV	ON	HCO-77-402 CMP TRP								..Y		
C32	77HPA-402.PV	ON	HCO-77-402 HP ALM								...Y		
A01	77B4HSBXS-001AN.PV	L	B400-HSB-001 MN BKR TRP	Y									
A02	77B4PEB-001AN.PV	L	B400-HSB-001 PL EM BTN	.Y									
A03	77HSBXS-044AN.PV	L	B400-HSB-001 MOD LTE TRP	..Y									
A04	77HSBXS-444AN.PV	L	B400-HSB-001 MOD SKT TRP	...Y									
A05	77HSSXS-101112AN.PV	L	HSS77-0010/11/12 HTR TRP		Y								
A06	77B4HSBAXS-001AN.PV	L	B400-HSB-001 AUX SEC TRP		.Y								
A07	77B3UXA-101112AN.PV	L	HSS77-0010/11/12 HTR FLT		..Y								
A08	77PFFC-007AN.PV	L	HHU-77007 PR FAN LOW PR		...Y								
A09	77MDF-007AN.PV	L	HHU-77007 MOT DMP FLT			Y							
A10	77PTCP-401AN.PV	L	HFM-77-401 PTC PRTN			.Y							
A11	77VSDF-401AN.PV	L	HFM-77-401 VSD FLT			..Y							
A12	77PFTRP-401AN.PV	L	HFM-77-401 PRS FN TRP			...Y							
A13	77BBA-402AN.PV	L	HFM-77-402 BRK BELT ALM				Y						
A14	77SFTRP-402AN.PV	L	HFM-77-402 FN TRP				.Y						
A15	77CTRP-401AN.PV	L	HCO-77-401 CMP TRP				..Y						
A16	77HPA-401AN.PV	L	HCO-77-401 HP ALM				...Y						
A17	77LPA-401AN.PV	L	HCO-77-401 LP ALM					Y					
A18	77CFTRP-405406AN.PV	L	HFM77-405/406 CND FN TRP					.Y					
A19	77VSDF-405406AN.PV	L	HFM77-405/406 FN VSD FLT					..Y					
A20	77TSPH-401AN.PV	L	HSS-77-401 THTR START					...Y					
A21	77EHTRP-401AN.PV	L	HSS-77-401 HTR TRP						Y				
A22	77EHMF-401AN.PV	L	HSS77-401 HTR MODLTN FLT						.Y				
A23	77MBTRP-007AN.PV	L	HHU-77007 MN BKR TRP						..Y				
A24	77FC-007AN.PV	L	HHU-77007 FLTR CLOGGED						...Y				
A25	77MDF-008AN.PV	L	HHU-77008 MOT DMP FLT							Y			
A26	77PTCP-403AN.PV	L	HFM-77-403 PTC PRTN							.Y			
A27	77VSDF-403AN.PV	L	HFM-77-403 VSD FLT							..Y			
A28	77PFTRP-403AN.PV	L	HFM-77-403 PRS FN TRP							...Y			
A29	77BBA-404AN.PV	L	HFM-77-404 BRK BELT ALM								Y		
A30	77SFTRP-404AN.PV	L	HFM-77-404 FN TRP								.Y		
A31	77CTRP-402AN.PV	L	HCO-77-402 CMP TRP								..Y		
A32	77HPA-402AN.PV	L	HCO-77-402 HP ALM								...Y		
	PREV		THEN										
	NEXT		ELSE										

PROJECT:	BLPH-CW1	FILE NAME:	77B400-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-25-39-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	B-400 HVAC ANN		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B400-ST02 B-400 HVAC ANN)

Basic

Tag Name	77B400-ST02
Model Name	ST16
Tag Comment	B-400 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B400-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	B-400 HVAC ANN		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B400-ST02 B-400 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10111	12131415	16171819	20212223	24252627	28293031	32	Comment
C01	77LPA-402.PV	ON	HCO-77-402 LP ALM	Y									
C02	77B4CFTRP-405406.PV	ON	HFM77-405/406 CND FN TRP	.Y									
C03	77B4VSDF-405406.PV	ON	HFM77-405/406 FN VSD FLT	..Y									
C04	77FC-008.PV	ON	HHU-77008 FLTR CLOGGED	...Y									
C05	77TSPH-405.PV	ON	HSS-77-405 THR PTR		Y								
C06	77EHTRP-405.PV	ON	HSS-77-405 HTR TRP		.Y								
C07	77EHMF-405.PV	ON	HSS77-405 HTR MODLTN FLT		..Y								
C08	77MBTRP-008.PV	ON	HHU-77008 MN BRK TRP		...Y								
C09	77HFDZSL-012.PV	ON	HFD-77012 NOT CLS			Y							
C10	77HFDZSH-012.PV	ON	HFD-77012 NOT OPN			.Y							
C11	77HFDZSL-013.PV	ON	HFD-77013 NOT CLS			..Y							
C12	77HFDZSH-013.PV	ON	HFD-77013 NOT OPN			...Y							
C13	77HFDZSL-014.PV	ON	HFD-77014 NOT CLS				Y						
C14	77HFDZSH-014.PV	ON	HFD-77014 NOT OPN				.Y						
C15	77HSBXA-444.PV	ON	B400-MOD SERVER ERROR				..Y						
C16	77HSBXA-044.PV	ON	B400 - MOD FLT				...Y						
C17	77PFFC-008.PV	ON	HHU-77008 PR FAN LO PR					Y					
C18	77HFDZSL-015.PV	ON	HFD-77015 NOT CLS					.Y					
C19	77HFDZSH-015.PV	ON	HFD-77015 NOT OPN					..Y					
C20	77HFDZSL-016.PV	ON	HFD-77016 NOT CLS					...Y					
C21	77HFDZSH-016.PV	ON	HFD-77016 NOT OPN						Y				
C22	77TTXA-401.PV	ON	77-TT-401 FLT						.Y				
C23	77TTXA-402.PV	ON	77-TT-402 FLT						..Y				
C24	77TTXA-403.PV	ON	77-TT-403 FLT						...Y				
C25	77TTXA-404.PV	ON	77-TT-404 FLT							Y			
C26	77PTXA-401.PV	ON	77-PT-401 FLT							.Y			
C27	B400SMF-001.PV	ON	HVAC SYSTEM MAJOR FLT							..Y			
C28	FCS0101114-RL01.X02	GE								...Y			
C29	FCS0101114-RL01.X03	GE									Y		
C30													
C31													
C32	FCS0101114-RL01.X01	GE										Y	
A01	77LPA-402AN.PV	L	HCO-77-402 LP ALM	Y									
A02	77CFTRP-407408AN.PV	L	HFM77-407/408 CND FN TRP	.Y									
A03	77VSDF-407408AN.PV	L	HFM77-407/408 FN VSD FLT	..Y									
A04	77FC-008AN.PV	L	HHU-77008 FLTR CLOGGED	...Y									
A05	77TSPH-405AN.PV	L	HSS-77-405 THTR START		Y								
A06	77EHTRP-405AN.PV	L	HSS-77-405 HTR TRP		.Y								
A07	77EHMF-405AN.PV	L	HSS77-405 HTR MODLTN FLT		..Y								
A08	77MBTRP-008AN.PV	L	HHU-77008 MN BRK TRP		...Y								
A09	77HFDZSL-012AN.PV	L	HFD-77012 NOT CLS			Y							
A10	77HFDZSH-012AN.PV	L	HFD-77012 NOT OPN			.Y							
A11	77HFDZSL-013AN.PV	L	HFD-77013 NOT CLS			..Y							
A12	77HFDZSH-013AN.PV	L	HFD-77013 NOT OPN			...Y							
A13	77HFDZSL-014AN.PV	L	HFD-77014 NOT CLS				Y						
A14	77HFDZSH-014AN.PV	L	HFD-77014 NOT OPN				.Y						
A15	77HSBXA-444AN.PV	L	B400-MOD SERVER ERROR				..Y						
A16	77HSBXA-044AN.PV	L	B400 - MOD FLT				...Y						
A17	77PFFC-008AN.PV	L	HHU-77008 PR FAN LO PR					Y					
A18	77HFDZSL-015AN.PV	L	HFD-77015 NOT CLS					.Y					
A19	77HFDZSH-015AN.PV	L	HFD-77015 NOT OPN					..Y					
A20	77HFDZSL-016AN.PV	L	HFD-77016 NOT CLS					...Y					
A21	77HFDZSH-016AN.PV	L	HFD-77016 NOT OPN						Y				
A22	77TTXA-401AN.PV	L	77-TT-401 FLT						.Y				
A23	77TTXA-402AN.PV	L	77-TT-402 FLT						..Y				
A24	77TTXA-403AN.PV	L	77-TT-403 FLT						...Y				
A25	77TTXA-404AN.PV	L	77-TT-404 FLT							Y			
A26	77PTXA-401AN.PV	L	77-PT-401 FLT							.Y			
A27	B400SMF-001AN.PV	L	HVAC SYSTEM MAJOR FLT							..Y			
A28	77HHUUS-007AN.PV	L	77HHUUS-007 FAULT							...Y			
A29	77HHUUS-008AN.PV	L	77HHUUS-007 FAULT								Y		
A30													
A31													
A32	77HHUUS-101112AN.PV	L	77HHUUS-101112 FAULT									Y	
	PREV		THEN										
	NEXT		ELSE										

PROJECT:	BLPH-CW1	FILE NAME:	77HHUUS-005.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	HHU-77005 STATUS		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77HHUUS-005 HHU-77005 STATUS)

Basic

Tag Name	77HHUUS-005
Model Name	PVI
Tag Comment	HHU-77005 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-006 HHU-77006 STATUS)

Basic

Tag Name	77HHUUS-006
Model Name	PVI
Tag Comment	HHU-77006 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77HHUUS-789 HHU-7/8/9 STATUS)

Basic

Tag Name	77HHUUS-789
Model Name	PVI
Tag Comment	HHU-7/8/9 STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TIB300-001 B300 INTERNAL TEMP)

Basic

Tag Name	77TIB300-001
Model Name	PVI
Tag Comment	B300 INTERNAL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PIB300-001 B300 INTERNAL PRESS)

PROJECT:	BLPH-CW1	FILE NAME:	77PIB300-001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-10
STATION:	FCS0101	SAVED DATE:	5/7/2025 8:05:01 AM	COMMENT:	B300 INTERNAL PRESS		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	77PIB300-001
Model Name	PVI
Tag Comment	B300 INTERNAL PRESS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PI1B300-301 B300 HF77-301 PERCENTUAL)

Basic

Tag Name	77PI1B300-301
Model Name	PVI
Tag Comment	B300 HF77-301 PERCENTUAL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77PI2B300-303 B300 HF77-303 PERCENTUAL)

Basic

Tag Name	77PI2B300-303
Model Name	PVI
Tag Comment	B300 HF77-303 PERCENTUAL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77B300-ST01 B-300 HVAC ANN)

Basic

Tag Name	77B300-ST01
Model Name	ST16
Tag Comment	B-300 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B300-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	B-300 HVAC ANN		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B300-ST01 B-300 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77B3HSBXS-001.PV	ON	B300-HSB-001 MN BKR TRP	Y								
C02	77B3PEB-001.PV	ON	B300-HSB-001 PL EM BTN	.Y								
C03	77HSBXS-033.PV	ON	B300-HSB-001 MOD LTE TRP	..Y								
C04	77HSBXS-333.PV	ON	B300-HSB-001 MOD SKT TRP	...Y								
C05	77HSSXS-789.PV	ON	HSS-77-007/8/9 HTR TRP		Y							
C06	77B3HSBAXS-001.PV	ON	B300-HSB-001 AUX SEC TRP		.Y							
C07	77B3UXA-789.PV	ON	HSS-77-007/8/9 HTR FLT		..Y							
C08	77PFFC-005.PV	ON	HHU-77005 FLTR CLOGGED		...Y							
C09	77MDF-005.PV	ON	HHU-77005 MOT DMP FLT			Y						
C10	77PTCP-301.PV	ON	HFM-77-301 PTC PRTN			.Y						
C11	77VSDF-301.PV	ON	HFM-77-301 VSD FLT			..Y						
C12	77PFTRP-301.PV	ON	HFM-77-301 PRS FN TRP			...Y						
C13	77BBA-302.PV	ON	HFM-77-302 BRK BELT ALM				Y					
C14	77SFTRP-302.PV	ON	HFM-77-302 FN TRP				.Y					
C15	77CTRP-301.PV	ON	HCO-77-301 CMP TRP				..Y					
C16	77HPA-301.PV	ON	HCO-77-301 HP ALM				...Y					
C17	77LPA-301.PV	ON	HCO-77-301 LP ALM					Y				
C18	77CFTRP-305306.PV	ON	HFM77-305/306 CND FN TRP					.Y				
C19	77VSDF-305306.PV	ON	HFM77-305/306 FN VSD FLT					..Y				
C20	77TSPH-301.PV	ON	HSS-77-301 THR PTR					...Y				
C21	77EHTRP-301.PV	ON	HSS-77-301 HTR TRP						Y			
C22	77EHMF-301.PV	ON	HSS-77-301 HTR MDLTN FLT						.Y			
C23	77MBTRP-005.PV	ON	HHU-77005 MN BKR TRP						..Y			
C24	77FC-005.PV	ON	HHU-77005 FLTR CLOGGED						...Y			
C25	77MDF-006.PV	ON	HHU-77006 MOT DMP FLT							Y		
C26	77PTCP-303.PV	ON	HFM-77-303 PTC PRTN							.Y		
C27	77VSDF-303.PV	ON	HFM-77-303 VSD FLT							..Y		
C28	77PFTRP-303.PV	ON	HFM-77-303 PRS FN TRP							...Y		
C29	77BBA-304.PV	ON	HFM-77-304 BRK BELT ALM								Y	
C30	77SFTRP-304.PV	ON	HFM-77-304 FN TRP								.Y	
C31	77CTRP-302.PV	ON	HCO-77-302 CMP TRP								..Y	
C32	77HPA-302.PV	ON	HCO-77-302 HP ALM								...Y	
A01	77B3HSBXS-001AN.PV	L	B300-HSB-001 MN BKR TRP	Y								
A02	77B3PEB-001AN.PV	L	B300-HSB-001 PL EM BTN	.Y								
A03	77HSBXS-033AN.PV	L	B300-HSB-001 MOD LTE TRP	..Y								
A04	77HSBXS-333AN.PV	L	B300-HSB-001 MOD SKT TRP	...Y								
A05	77HSSXS-789AN.PV	L	HSS-77-007/8/9 HTR TRP		Y							
A06	77B3HSBAXS-001AN.PV	L	B300-HSB-001 AUX SEC TRP		.Y							
A07	77B3UXA-789AN.PV	L	HSS-77-007/8/9 HTR FLT		..Y							
A08	77PFFC-005AN.PV	L	HHU-77005 FLTR CLOGGED		...Y							
A09	77MDF-005AN.PV	L	HHU-77005 MOT DMP FLT			Y						
A10	77PTCP-301AN.PV	L	HFM-77-301 PTC PRTN			.Y						
A11	77VSDF-301AN.PV	L	HFM-77-301 VSD FLT			..Y						
A12	77PFTRP-301AN.PV	L	HFM-77-301 PRS FN TRP			...Y						
A13	77BBA-302AN.PV	L	HFM-77-302 BRK BELT ALM				Y					
A14	77SFTRP-302AN.PV	L	HFM-77-302 FN TRP				.Y					
A15	77CTRP-301AN.PV	L	HCO-77-301 CMP TRP				..Y					
A16	77HPA-301AN.PV	L	HCO-77-301 HP ALM				...Y					
A17	77LPA-301AN.PV	L	HCO-77-301 LP ALM					Y				
A18	77CFTRP-305306AN.PV	L	HFM77-305/306 CND FN TRP					.Y				
A19	77VSDF-305306AN.PV	L	HFM77-305/306 FN VSD FLT					..Y				
A20	77TSPH-301AN.PV	L	HSS-77-301 THR PTR					...Y				
A21	77EHTRP-301AN.PV	L	HSS-77-301 HTR TRP						Y			
A22	77EHMF-301AN.PV	L	HSS-77-301 HTR MDLTN FLT						.Y			
A23	77MBTRP-005AN.PV	L	HHU-77005 MN BKR TRP						..Y			
A24	77FC-005AN.PV	L	HHU-77005 FLTR CLOGGED						...Y			
A25	77MDF-006AN.PV	L	HHU-77006 MOT DMP FLT							Y		
A26	77PTCP-303AN.PV	L	HFM-77-303 PTC PRTN							.Y		
A27	77VSDF-303AN.PV	L	HFM-77-303 VSD FLT							..Y		
A28	77PFTRP-303AN.PV	L	HFM-77-303 PRS FN TRP							...Y		
A29	77BBA-304AN.PV	L	HFM-77-304 BRK BELT ALM								Y	
A30	77SFTRP-304AN.PV	L	HFM-77-304 FN TRP								.Y	
A31	77CTRP-302AN.PV	L	HCO-77-302 CMP TRP								..Y	
A32	77HPA-302AN.PV	L	HCO-77-302 HP ALM								...Y	
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	77B300-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	B-300 HVAC ANN		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77B300-ST02 B-300 HVAC ANN)

Basic

Tag Name	77B300-ST02
Model Name	ST16
Tag Comment	B-300 HVAC ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	77B300-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	B-300 HVAC ANN		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (77B300-ST02 B-300 HVAC ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	77LPA-302.PV	ON	HCO-77-302 LP ALM	Y								
C02	77CFTRP-307308.PV	ON	HFM77-307/308 CND FN TRP	.Y								
C03	77VSDF-307308.PV	ON	HFM77-307/308 FN VSD FLT	..Y								
C04	77FC-006.PV	ON	HHU-77006 FLTR CLOGGED	...Y								
C05	77TSPH-305.PV	ON	HSS-77-305 THR PTR		Y							
C06	77EHTRP-305.PV	ON	HSS-77-305 HTR TRP		.Y							
C07	77EHMF-305.PV	ON	HSS77-305 HTR MODLTN FLT		..Y							
C08	77MBTRP-006.PV	ON	HHU-77006 MN BRK TRP		...Y							
C09	77HFDZSL-007.PV	ON	HFD-77007 NOT CLS			Y						
C10	77HFDZSH-007.PV	ON	HFD-77007 NOT OPN			.Y						
C11	77HFDZSL-008.PV	ON	HFD-77008 NOT CLS			..Y						
C12	77HFDZSH-008.PV	ON	HFD-77008 NOT OPN			...Y						
C13	77HFDZSL-009.PV	ON	HFD-77009 NOT CLS				Y					
C14	77HFDZSH-009.PV	ON	HFD-77009 NOT OPN				.Y					
C15	77HSBXA-333.PV	ON	B300 - MOD SERVER ERROR				..Y					
C16	77HSBXA-033.PV	ON	B300-MODBUS FLT				...Y					
C17	77PFFC-006.PV	ON	HHU-77006 FN FTR CLOGGED					Y				
C18	77HFDZSL-010.PV	ON	HFD-77010 NOT CLS					.Y				
C19	77HFDZSH-010.PV	ON	HFD-77010 NOT OPN					..Y				
C20	77HFDZSL-011.PV	ON	HFD-77011 NOT CLS					...Y				
C21	77HFDZSH-011.PV	ON	HFD-77011 NOT OPN						Y			
C22	77TTXA-301.PV	ON	77-TT-301 FLT						.Y			
C23	77TTXA-302.PV	ON	77-TT-302 FLT						..Y			
C24	77TTXA-303.PV	ON	77-TT-303 FLT						...Y			
C25	77TTXA-304.PV	ON	77-TT-304 FLT							Y		
C26	77PTXA-301.PV	ON	77-PT-301 FLT							.Y		
C27	B300SMF-001.PV	ON	MODBUS MAJOR FAULT							..Y		
C28	FCS0101114-RL01.X05	GE								...Y		
C29	FCS0101114-RL01.X06	GE									Y	
C30												
C31												
C32	FCS0101114-RL01.X04	GE										Y
A01	77LPA-302AN.PV	L	HCO-77-302 LP ALM	Y								
A02	77CFTRP-307308AN.PV	L	HFM77-307/308 CND FN TRP	.Y								
A03	77VSDF-307308AN.PV	L	HFM77-307/308 FN VSD FLT	..Y								
A04	77FC-006AN.PV	L	HHU-77006 FLTR CLOGGED	...Y								
A05	77TSPH-305AN.PV	L	HSS-77-305 THR PTR		Y							
A06	77EHTRP-305AN.PV	L	HSS-77-305 HTR TRP		.Y							
A07	77EHMF-305AN.PV	L	HSS77-305 HTR MODLTN FLT		..Y							
A08	77MBTRP-006AN.PV	L	HHU-77006 MN BRK TRP		...Y							
A09	77HFDZSL-007AN.PV	L	HFD-77007 NOT CLS			Y						
A10	77HFDZSH-007AN.PV	L	HFD-77007 NOT OPN			.Y						
A11	77HFDZSL-008AN.PV	L	HFD-77008 NOT CLS			..Y						
A12	77HFDZSH-008AN.PV	L	HFD-77008 NOT OPN			...Y						
A13	77HFDZSL-009AN.PV	L	HFD-77009 NOT CLS				Y					
A14	77HFDZSH-009AN.PV	L	HFD-77009 NOT OPN				.Y					
A15	77HSBXA-333AN.PV	L	B300 - MOD SERVER ERROR				..Y					
A16	77HSBXA-033AN.PV	L	B300-MODBUS FLT				...Y					
A17	77PFFC-006AN.PV	L	HHU-77006 FN FTR CLOGGED					Y				
A18	77HFDZSL-010AN.PV	L	HFD-77010 NOT CLS					.Y				
A19	77HFDZSH-010AN.PV	L	HFD-77010 NOT OPN					..Y				
A20	77HFDZSL-011AN.PV	L	HFD-77011 NOT CLS					...Y				
A21	77HFDZSH-011AN.PV	L	HFD-77011 NOT OPN						Y			
A22	77TTXA-301AN.PV	L	77-TT-301 FLT						.Y			
A23	77TTXA-302AN.PV	L	77-TT-302 FLT						..Y			
A24	77TTXA-303AN.PV	L	77-TT-303 FLT						...Y			
A25	77TTXA-304AN.PV	L	77-TT-304 FLT							Y		
A26	77PTXA-301AN.PV	L	77-PT-301 FLT							.Y		
A27	B300SMF-001AN.PV	L	HVAC SYSTEM MAJOR FAULT							..Y		
A28	77HHUUS-005AN.PV	L	77HHUUS-005 FAULT							...Y		
A29	77HHUUS-006AN.PV	L	77HHUUS-006 FAULT								Y	
A30												
A31												
A32	77HHUUS-789AN.PV	L	77HHUUS-789 FAULT									Y
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101114-RL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:			
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101114-RL01)

Basic

Tag Name	FCS0101114-RL01
Model Name	RL
Tag Comment	
Lvl	4

Relational Expression

No.	X	Operator	Y	Comment
001	77HHUUS-101112.PV	Relational Operation	3	
002	77HHUUS-007.PV	Relational Operation	3	
003	77HHUUS-008.PV	Relational Operation	3	
004	77HHUUS-789.PV	Relational Operation	3	
005	77HHUUS-005.PV	Relational Operation	3	
006	77HHUUS-006.PV	Relational Operation	3	

Tag Detail (B400-HSB-001SS HHU-77007 SELECT STAT)

Basic

Tag Name	B400-HSB-001SS
Model Name	PVI
Tag Comment	HHU-77007 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B400-HSB-002SS HHU-77008 SELECT STAT)

Basic

Tag Name	B400-HSB-002SS
Model Name	PVI
Tag Comment	HHU-77008 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TI-405 HCO 77401 OIL TEMP)

Basic

Tag Name	77TI-405
Model Name	PVI
Tag Comment	HCO 77401 OIL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TI-406 HCO 77402 OIL TEMP)

PROJECT:	BLPH-CW1	FILE NAME:	77TI-406.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	HCO 77402 OIL TEMP		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	77TI-406
Model Name	PVI
Tag Comment	HCO 77402 OIL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B300-HSB-001SS HHU-77005 SELECT STAT)

Basic

Tag Name	B300-HSB-001SS
Model Name	PVI
Tag Comment	HHU-77005 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (B300-HSB-002SS HHU-77006 SELECT STAT)

Basic

Tag Name	B300-HSB-002SS
Model Name	PVI
Tag Comment	HHU-77006 SELECT STAT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TI-305 HCO 77301 OIL TEMP)

Basic

Tag Name	77TI-305
Model Name	PVI
Tag Comment	HCO 77301 OIL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77TI-306 HCO 77302 OIL TEMP)

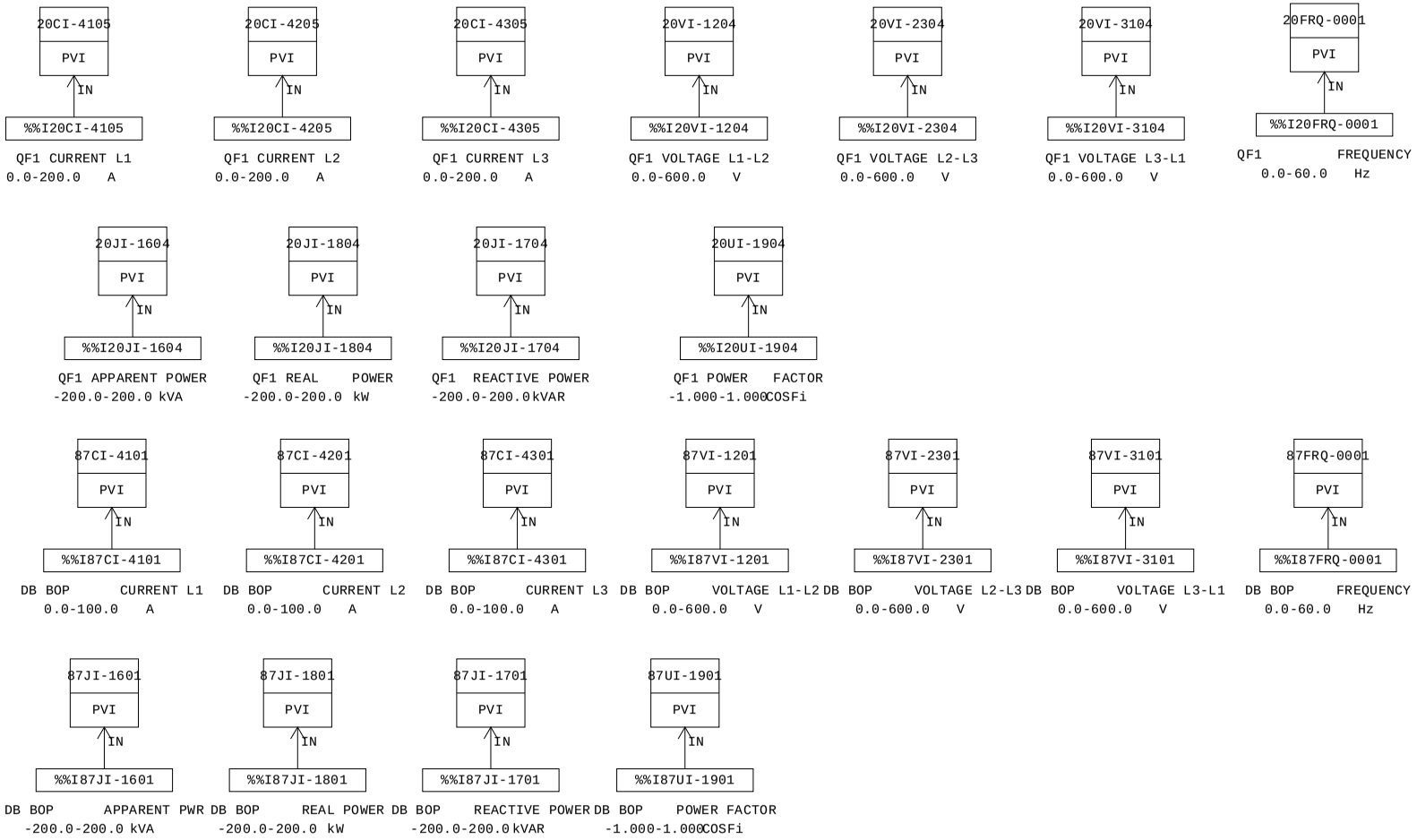
Basic

Tag Name	77TI-306

PROJECT:	BLPH-CW1	FILE NAME:	77TI-306.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-39-16
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:15:52 AM	COMMENT:	HCO 77302 OIL TEMP		
SECTION:	DR0114	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	HCO 77302 OIL TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0115.edf	SHEET:		YOKOGAWA	PAGE:3-25-40-1
STATION:	FCS0101	SAVED DATE:	5/2/2025 11:42:57 PM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0115	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0115.edf	SHEET:		YOKOGAWA	PAGE:3-25-40-2
STATION:	FCS0101	SAVED DATE:	5/2/2025 11:42:57 PM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0115	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0115.edf	SHEET:		YOKOGAWA	PAGE:3-25-40-3
STATION:	FCS0101	SAVED DATE:	5/2/2025 11:42:57 PM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0115	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20CI-4105	PVI	QF1 CURRENT L1	0.0	200.0	A	Communication Input	No	%%I20CI-4105
						4			
002	20CI-4205	PVI	QF1 CURRENT L2	0.0	200.0	A	Communication Input	No	%%I20CI-4205
						4			
003	20CI-4305	PVI	QF1 CURRENT L3	0.0	200.0	A	Communication Input	No	%%I20CI-4305
						4			
004	20VI-1204	PVI	QF1 VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I20VI-1204
						4			
005	20VI-2304	PVI	QF1 VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I20VI-2304
						4			
006	20VI-3104	PVI	QF1 VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I20VI-3104
						4			
007	20FRQ-0001	PVI	QF1 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I20FRQ-0001
						4			
008	20JI-1604	PVI	QF1 APPARENT POWER	-200.0	200.0	kVA	Communication Input	No	%%I20JI-1604
						4			
009	20JI-1804	PVI	QF1 REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I20JI-1804
						4			
010	20JI-1704	PVI	QF1 REACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I20JI-1704
						4			
011	20UI-1904	PVI	QF1 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I20UI-1904
						4			
012	87CI-4101	PVI	DB BOP CURRENT L1	0.0	100.0	A	Communication Input	No	%%I87CI-4101
						4			
013	87CI-4201	PVI	DB BOP CURRENT L2	0.0	100.0	A	Communication Input	No	%%I87CI-4201
						4			
014	87CI-4301	PVI	DB BOP CURRENT L3	0.0	100.0	A	Communication Input	No	%%I87CI-4301
						4			
015	87VI-1201	PVI	DB BOP VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I87VI-1201
						4			
016	87VI-2301	PVI	DB BOP VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I87VI-2301
						4			
017	87VI-3101	PVI	DB BOP VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I87VI-3101
						4			
018	87FRQ-0001	PVI	DB BOP FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I87FRQ-0001
						4			
019	87JI-1601	PVI	DB BOP APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I87JI-1601
						4			
020	87JI-1801	PVI	DB BOP REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I87JI-1801
						4			
021	87JI-1701	PVI	DB BOP REACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I87JI-1701
						4			
022	87UI-1901	PVI	DB BOP POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I87UI-1901
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20CI-4105.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-40-4
STATION:	FCS0101	SAVED DATE:	5/2/2025 8:42:34 AM	COMMENT:	QF1 CURRENT L1		
SECTION:	DR0115	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20CI-4105 QF1 CURRENT L1)

Basic

Tag Name	20CI-4105
Model Name	PVI
Tag Comment	QF1 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20CI-4205 QF1 CURRENT L2)

Basic

Tag Name	20CI-4205
Model Name	PVI
Tag Comment	QF1 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20CI-4305 QF1 CURRENT L3)

Basic

Tag Name	20CI-4305
Model Name	PVI
Tag Comment	QF1 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20VI-1204 QF1 VOLTAGE L1-L2)

Basic

Tag Name	20VI-1204
Model Name	PVI
Tag Comment	QF1 VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20VI-2304 QF1 VOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	20VI-2304.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-40-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 2:38:38 AM	COMMENT:	QF1 VOLTAGE L2-L3		
SECTION:	DR0115	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20VI-2304
Model Name	PVI
Tag Comment	QF1 VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20VI-3104 QF1 VOLTAGE L3-L1)

Basic

Tag Name	20VI-3104
Model Name	PVI
Tag Comment	QF1 VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20FRQ-0001 QF1 FREQUENCY)

Basic

Tag Name	20FRQ-0001
Model Name	PVI
Tag Comment	QF1 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20JI-1604 QF1 APPARENT POWER)

Basic

Tag Name	20JI-1604
Model Name	PVI
Tag Comment	QF1 APPARENT POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20JI-1804 QF1 REAL POWER)

Basic

Tag Name	20JI-1804

Model Name	PVI
Tag Comment	QF1 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20JI-1704 QF1 REACTIVE POWER)

Basic

Tag Name	20JI-1704
Model Name	PVI
Tag Comment	QF1 REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-1904 QF1 POWER FACTOR)

Basic

Tag Name	20UI-1904
Model Name	PVI
Tag Comment	QF1 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4101 DB BOP CURRENT L1)

Basic

Tag Name	87CI-4101
Model Name	PVI
Tag Comment	DB BOP CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4201 DB BOP CURRENT L2)

Basic

Tag Name	87CI-4201
Model Name	PVI
Tag Comment	DB BOP CURRENT L2

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4301 DB BOP CURRENT L3)

Basic

Tag Name	87CI-4301
Model Name	PVI
Tag Comment	DB BOP CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-1201 DB BOP VOLTAGE L1-L2)

Basic

Tag Name	87VI-1201
Model Name	PVI
Tag Comment	DB BOP VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-2301 DB BOP VOLTAGE L2-L3)

Basic

Tag Name	87VI-2301
Model Name	PVI
Tag Comment	DB BOP VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-3101 DB BOP VOLTAGE L3-L1)

Basic

Tag Name	87VI-3101
Model Name	PVI
Tag Comment	DB BOP VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87FRQ-0001 DB BOP FREQUENCY)

Basic

Tag Name	87FRQ-0001
Model Name	PVI
Tag Comment	DB BOP FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1601 DB BOP APPARENT PWR)

Basic

Tag Name	87JI-1601
Model Name	PVI
Tag Comment	DB BOP APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1801 DB BOP REAL POWER)

Basic

Tag Name	87JI-1801
Model Name	PVI
Tag Comment	DB BOP REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1701 DB BOP REACTIVE POWER)

Basic

Tag Name	87JI-1701
Model Name	PVI
Tag Comment	DB BOP REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

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SECTION:	DR0115	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-1901 DB BOP POWER FACTOR)

Basic

Tag Name	87UI-1901
Model Name	PVI
Tag Comment	DB BOP POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

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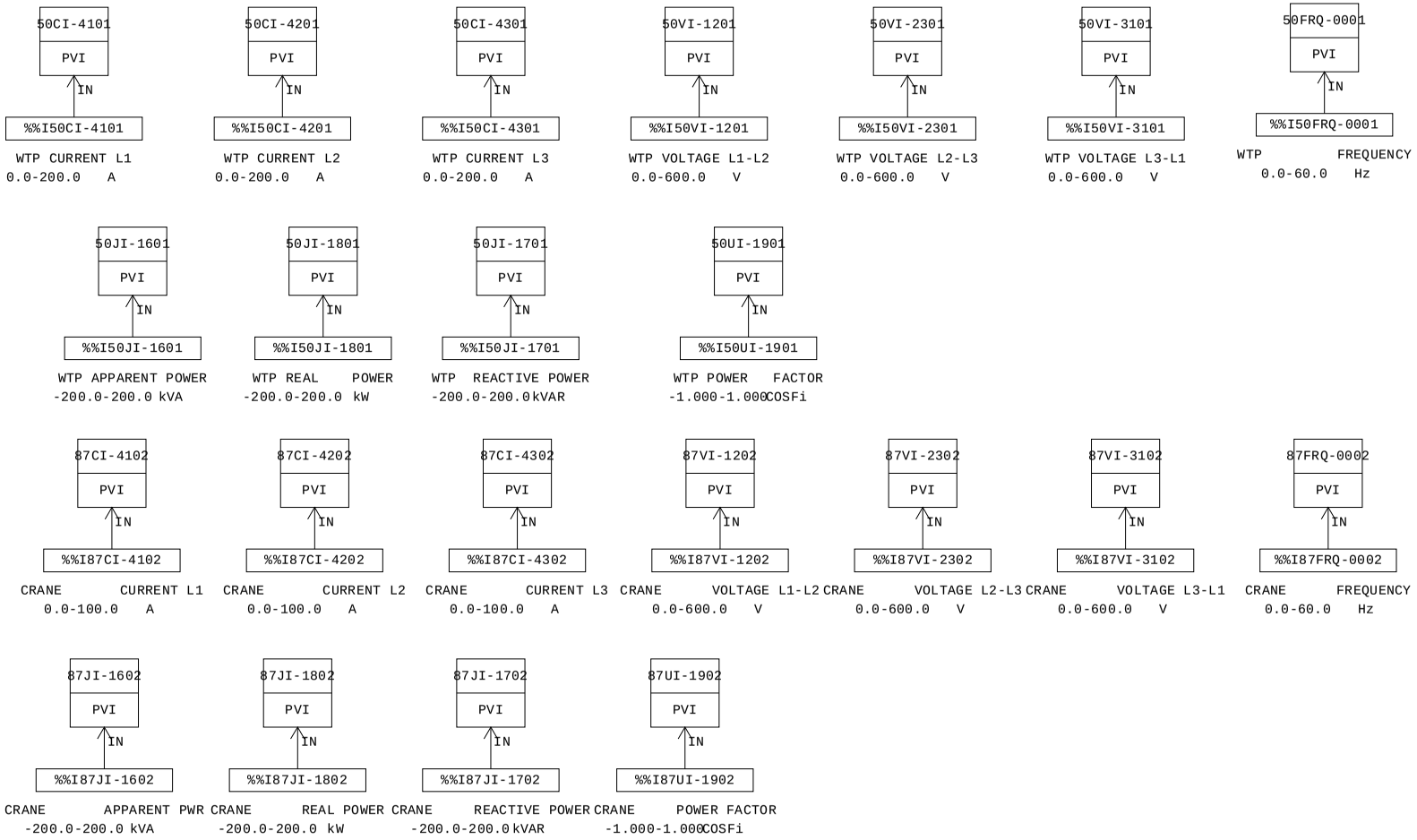
SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0116.edf	SHEET:		YOKOGAWA	PAGE:3-25-41-2
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Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	50CI-4101	PVI	WTP CURRENT L1	0.0	200.0	A	Communication Input	No	%%I50CI-4101
						4			
002	50CI-4201	PVI	WTP CURRENT L2	0.0	200.0	A	Communication Input	No	%%I50CI-4201
						4			
003	50CI-4301	PVI	WTP CURRENT L3	0.0	200.0	A	Communication Input	No	%%I50CI-4301
						4			
004	50VI-1201	PVI	WTP VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I50VI-1201
						4			
005	50VI-2301	PVI	WTP VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I50VI-2301
						4			
006	50VI-3101	PVI	WTP VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I50VI-3101
						4			
007	50FRQ-0001	PVI	WTP FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I50FRQ-0001
						4			
008	50JI-1601	PVI	WTP APPARENT POWER	-200.0	200.0	kVA	Communication Input	No	%%I50JI-1601
						4			
009	50JI-1801	PVI	WTP REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I50JI-1801
						4			
010	50JI-1701	PVI	WTP REACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I50JI-1701
						4			
011	50UI-1901	PVI	WTP POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I50UI-1901
						4			
012	87CI-4102	PVI	CRANE CURRENT L1	0.0	100.0	A	Communication Input	No	%%I87CI-4102
						4			
013	87CI-4202	PVI	CRANE CURRENT L2	0.0	100.0	A	Communication Input	No	%%I87CI-4202
						4			
014	87CI-4302	PVI	CRANE CURRENT L3	0.0	100.0	A	Communication Input	No	%%I87CI-4302
						4			
015	87VI-1202	PVI	CRANE VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I87VI-1202
						4			
016	87VI-2302	PVI	CRANE VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I87VI-2302
						4			
017	87VI-3102	PVI	CRANE VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I87VI-3102
						4			
018	87FRQ-0002	PVI	CRANE FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I87FRQ-0002
						4			
019	87JI-1602	PVI	CRANE APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I87JI-1602
						4			
020	87JI-1802	PVI	CRANE REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I87JI-1802
						4			
021	87JI-1702	PVI	CRANE REACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I87JI-1702
						4			
022	87UI-1902	PVI	CRANE POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I87UI-1902
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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STATION:	FCS0101	SAVED DATE:	5/2/2025 8:43:50 AM	COMMENT:	WTP CURRENT L1		
SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50CI-4101 WTP CURRENT L1)

Basic

Tag Name	50CI-4101
Model Name	PVI
Tag Comment	WTP CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50CI-4201 WTP CURRENT L2)

Basic

Tag Name	50CI-4201
Model Name	PVI
Tag Comment	WTP CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50CI-4301 WTP CURRENT L3)

Basic

Tag Name	50CI-4301
Model Name	PVI
Tag Comment	WTP CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50VI-1201 WTP VOLTAGE L1-L2)

Basic

Tag Name	50VI-1201
Model Name	PVI
Tag Comment	WTP VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50VI-2301 WTP VOLTAGE L2-L3)

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STATION:	FCS0101	SAVED DATE:	4/15/2025 2:59:03 AM	COMMENT:	WTP VOLTAGE L2-L3		
SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	50VI-2301
Model Name	PVI
Tag Comment	WTP VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50VI-3101 WTP VOLTAGE L3-L1)

Basic

Tag Name	50VI-3101
Model Name	PVI
Tag Comment	WTP VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50FRQ-0001 WTP FREQUENCY)

Basic

Tag Name	50FRQ-0001
Model Name	PVI
Tag Comment	WTP FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50JI-1601 WTP APPARENT POWER)

Basic

Tag Name	50JI-1601
Model Name	PVI
Tag Comment	WTP APPARENT POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50JI-1801 WTP REAL POWER)

Basic

Tag Name	50JI-1801

Model Name	PVI
Tag Comment	WTP REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50JI-1701 WTP REACTIVE POWER)

Basic

Tag Name	50JI-1701
Model Name	PVI
Tag Comment	WTP REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50UI-1901 WTP POWER FACTOR)

Basic

Tag Name	50UI-1901
Model Name	PVI
Tag Comment	WTP POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4102 CRANE CURRENT L1)

Basic

Tag Name	87CI-4102
Model Name	PVI
Tag Comment	CRANE CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4202 CRANE CURRENT L2)

Basic

Tag Name	87CI-4202
Model Name	PVI
Tag Comment	CRANE CURRENT L2

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SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4302 CRANE CURRENT L3)

Basic

Tag Name	87CI-4302
Model Name	PVI
Tag Comment	CRANE CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-1202 CRANE VOLTAGE L1-L2)

Basic

Tag Name	87VI-1202
Model Name	PVI
Tag Comment	CRANE VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-2302 CRANE VOLTAGE L2-L3)

Basic

Tag Name	87VI-2302
Model Name	PVI
Tag Comment	CRANE VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-3102 CRANE VOLTAGE L3-L1)

Basic

Tag Name	87VI-3102
Model Name	PVI
Tag Comment	CRANE VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

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SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87FRQ-0002 CRANE FREQUENCY)

Basic

Tag Name	87FRQ-0002
Model Name	PVI
Tag Comment	CRANE FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1602 CRANE APPARENT PWR)

Basic

Tag Name	87JI-1602
Model Name	PVI
Tag Comment	CRANE APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1802 CRANE REAL POWER)

Basic

Tag Name	87JI-1802
Model Name	PVI
Tag Comment	CRANE REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1702 CRANE REACTIVE POWER)

Basic

Tag Name	87JI-1702
Model Name	PVI
Tag Comment	CRANE REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

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STATION:	FCS0101	SAVED DATE:	5/2/2025 11:53:34 PM	COMMENT:	CRANE REACTIVE POWER		
SECTION:	DR0116	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-1902 CRANE POWER FACTOR)

Basic

Tag Name	87UI-1902
Model Name	PVI
Tag Comment	CRANE POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

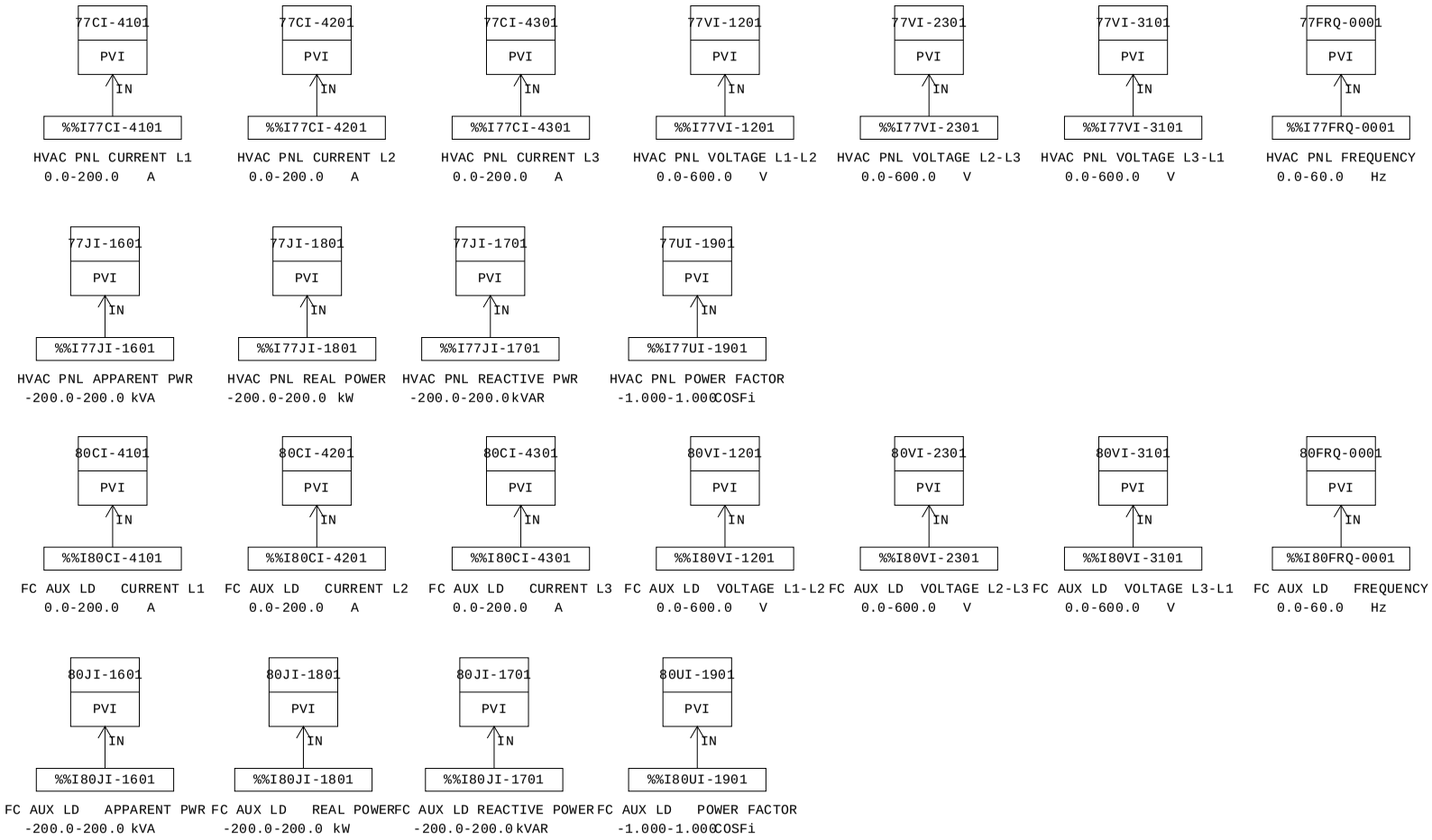
Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0117.edf	SHEET:		YOKOGAWA	PAGE:3-25-42-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:00:45 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0117.edf	SHEET:		YOKOGAWA	PAGE:3-25-42-2
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:00:45 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0117.edf	SHEET:		YOKOGAWA	PAGE:3-25-42-3
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:00:45 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	80CI-4101	PVI	FC AUX LD CURRENT L1	0.0	200.0	A	Communication Input	No	%%I80CI-4101
						4			
002	80CI-4201	PVI	FC AUX LD CURRENT L2	0.0	200.0	A	Communication Input	No	%%I80CI-4201
						4			
003	80CI-4301	PVI	FC AUX LD CURRENT L3	0.0	200.0	A	Communication Input	No	%%I80CI-4301
						4			
004	80VI-1201	PVI	FC AUX LD VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I80VI-1201
						4			
005	80VI-2301	PVI	FC AUX LD VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I80VI-2301
						4			
006	80VI-3101	PVI	FC AUX LD VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I80VI-3101
						4			
007	80FRQ-0001	PVI	FC AUX LD FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I80FRQ-0001
						4			
008	80JI-1601	PVI	FC AUX LD APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I80JI-1601
						4			
009	80JI-1801	PVI	FC AUX LD REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I80JI-1801
						4			
010	80JI-1701	PVI	FC AUX LD REACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I80JI-1701
						4			
011	80UI-1901	PVI	FC AUX LD POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I80UI-1901
						4			
012	77CI-4101	PVI	HVAC PNL CURRENT L1	0.0	200.0	A	Communication Input	No	%%I77CI-4101
						4			
013	77CI-4201	PVI	HVAC PNL CURRENT L2	0.0	200.0	A	Communication Input	No	%%I77CI-4201
						4			
014	77CI-4301	PVI	HVAC PNL CURRENT L3	0.0	200.0	A	Communication Input	No	%%I77CI-4301
						4			
015	77VI-1201	PVI	HVAC PNL VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I77VI-1201
						4			
016	77VI-2301	PVI	HVAC PNL VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I77VI-2301
						4			
017	77VI-3101	PVI	HVAC PNL VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I77VI-3101
						4			
018	77FRQ-0001	PVI	HVAC PNL FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I77FRQ-0001
						4			
019	77JI-1601	PVI	HVAC PNL APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I77JI-1601
						4			
020	77JI-1801	PVI	HVAC PNL REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I77JI-1801
						4			
021	77JI-1701	PVI	HVAC PNL REACTIVE PWR	-200.0	200.0	kVAR	Communication Input	No	%%I77JI-1701
						4			
022	77UI-1901	PVI	HVAC PNL POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I77UI-1901
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	80CI-4101.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-42-4
STATION:	FCS0101	SAVED DATE:	5/2/2025 8:48:37 AM	COMMENT:	FC AUX LD CURRENT L1		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (80CI-4101 FC AUX LD CURRENT L1)

Basic

Tag Name	80CI-4101
Model Name	PVI
Tag Comment	FC AUX LD CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80CI-4201 FC AUX LD CURRENT L2)

Basic

Tag Name	80CI-4201
Model Name	PVI
Tag Comment	FC AUX LD CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80CI-4301 FC AUX LD CURRENT L3)

Basic

Tag Name	80CI-4301
Model Name	PVI
Tag Comment	FC AUX LD CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80VI-1201 FC AUX LD VOLTAGE L1-L2)

Basic

Tag Name	80VI-1201
Model Name	PVI
Tag Comment	FC AUX LD VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80VI-2301 FC AUX LD VOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	80VI-2301.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-42-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:42:07 AM	COMMENT:	FC AUX LD VOLTAGE L2-L3		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	80VI-2301
Model Name	PVI
Tag Comment	FC AUX LD VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80VI-3101 FC AUX LD VOLTAGE L3-L1)

Basic

Tag Name	80VI-3101
Model Name	PVI
Tag Comment	FC AUX LD VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80FRQ-0001 FC AUX LD FREQUENCY)

Basic

Tag Name	80FRQ-0001
Model Name	PVI
Tag Comment	FC AUX LD FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80JI-1601 FC AUX LD APPARENT PWR)

Basic

Tag Name	80JI-1601
Model Name	PVI
Tag Comment	FC AUX LD APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80JI-1801 FC AUX LD REAL POWER)

Basic

Tag Name	80JI-1801

PROJECT:	BLPH-CW1	FILE NAME:	80JI-1801.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-42-6
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:00:45 AM	COMMENT:	FC AUX LD REAL POWER		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	FC AUX LD REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80JI-1701 FC AUX LD REACTIVE POWER)

Basic

Tag Name	80JI-1701
Model Name	PVI
Tag Comment	FC AUX LD REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (80UI-1901 FC AUX LD POWER FACTOR)

Basic

Tag Name	80UI-1901
Model Name	PVI
Tag Comment	FC AUX LD POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4101 HVAC PNL CURRENT L1)

Basic

Tag Name	77CI-4101
Model Name	PVI
Tag Comment	HVAC PNL CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4201 HVAC PNL CURRENT L2)

Basic

Tag Name	77CI-4201
Model Name	PVI
Tag Comment	HVAC PNL CURRENT L2

PROJECT:	BLPH-CW1	FILE NAME:	77CI-4201.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-42-7
STATION:	FCS0101	SAVED DATE:	5/2/2025 8:47:43 AM	COMMENT:	HVAC PNL CURRENT L2		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4301 HVAC PNL CURRENT L3)

Basic

Tag Name	77CI-4301
Model Name	PVI
Tag Comment	HVAC PNL CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-1201 HVAC PNL VOLTAGE L1-L2)

Basic

Tag Name	77VI-1201
Model Name	PVI
Tag Comment	HVAC PNL VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-2301 HVAC PNL VOLTAGE L2-L3)

Basic

Tag Name	77VI-2301
Model Name	PVI
Tag Comment	HVAC PNL VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-3101 HVAC PNL VOLTAGE L3-L1)

Basic

Tag Name	77VI-3101
Model Name	PVI
Tag Comment	HVAC PNL VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	77VI-3101.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-42-8
STATION:	FCS0101	SAVED DATE:	4/29/2025 1:45:02 AM	COMMENT:	HVAC PNL VOLTAGE L3-L1		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77FRQ-0001 HVAC PNL FREQUENCY)

Basic

Tag Name	77FRQ-0001
Model Name	PVI
Tag Comment	HVAC PNL FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1601 HVAC PNL APPARENT PWR)

Basic

Tag Name	77JI-1601
Model Name	PVI
Tag Comment	HVAC PNL APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1801 HVAC PNL REAL POWER)

Basic

Tag Name	77JI-1801
Model Name	PVI
Tag Comment	HVAC PNL REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1701 HVAC PNL REACTIVE PWR)

Basic

Tag Name	77JI-1701
Model Name	PVI
Tag Comment	HVAC PNL REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	77JI-1701.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-42-9
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:00:45 AM	COMMENT:	HVAC PNL REACTIVE PWR		
SECTION:	DR0117	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77UI-1901 HVAC PNL POWER FACTOR)

Basic

Tag Name	77UI-1901
Model Name	PVI
Tag Comment	HVAC PNL POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

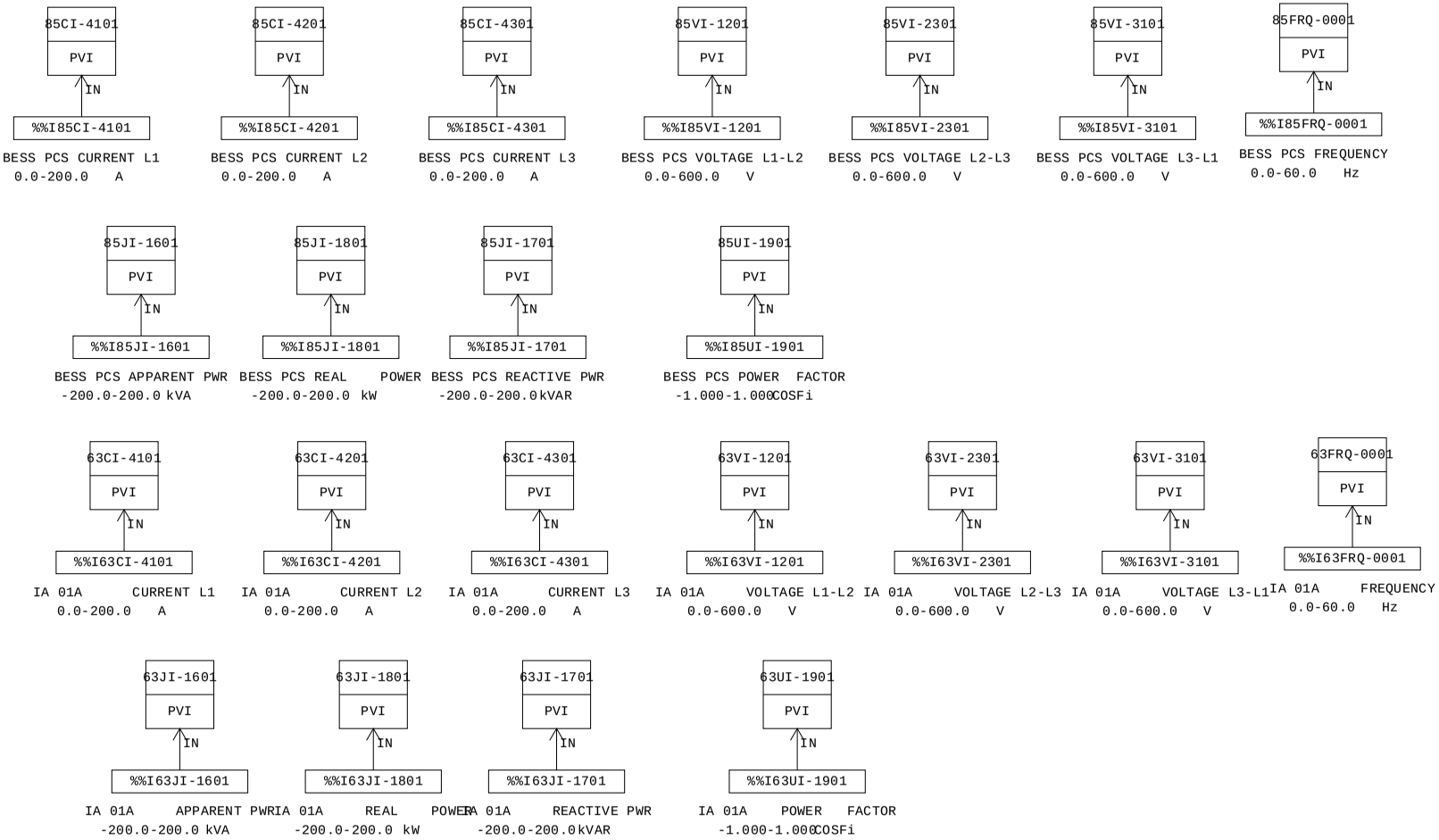
Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0118.edf	SHEET:		YOKOGAWA	PAGE:3-25-43-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:06:10 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0118.edf	SHEET:		YOKOGAWA	PAGE:3-25-43-3
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:06:10 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	85CI-4101	PVI	BESS PCS CURRENT L1	0.0	200.0	A	Communication Input	No	%%I85CI-4101
						4			
002	85CI-4201	PVI	BESS PCS CURRENT L2	0.0	200.0	A	Communication Input	No	%%I85CI-4201
						4			
003	85CI-4301	PVI	BESS PCS CURRENT L3	0.0	200.0	A	Communication Input	No	%%I85CI-4301
						4			
004	85VI-1201	PVI	BESS PCS VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I85VI-1201
						4			
005	85VI-2301	PVI	BESS PCS VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I85VI-2301
						4			
006	85VI-3101	PVI	BESS PCS VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I85VI-3101
						4			
007	85FRQ-0001	PVI	BESS PCS FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I85FRQ-0001
						4			
008	85JI-1601	PVI	BESS PCS APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I85JI-1601
						4			
009	85JI-1801	PVI	BESS PCS REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I85JI-1801
						4			
010	85JI-1701	PVI	BESS PCS REACTIVE PWR	-200.0	200.0	kVAR	Communication Input	No	%%I85JI-1701
						4			
011	85UI-1901	PVI	BESS PCS POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I85UI-1901
						4			
012	63CI-4101	PVI	IA 01A CURRENT L1	0.0	200.0	A	Communication Input	No	%%I63CI-4101
						4			
013	63CI-4201	PVI	IA 01A CURRENT L2	0.0	200.0	A	Communication Input	No	%%I63CI-4201
						4			
014	63CI-4301	PVI	IA 01A CURRENT L3	0.0	200.0	A	Communication Input	No	%%I63CI-4301
						4			
015	63VI-1201	PVI	IA 01A VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I63VI-1201
						4			
016	63VI-2301	PVI	IA 01A VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I63VI-2301
						4			
017	63VI-3101	PVI	IA 01A VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I63VI-3101
						4			
018	63FRQ-0001	PVI	IA 01A FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I63FRQ-0001
						4			
019	63JI-1601	PVI	IA 01A APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I63JI-1601
						4			
020	63JI-1801	PVI	IA 01A REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I63JI-1801
						4			
021	63JI-1701	PVI	IA 01A REACTIVE PWR	-200.0	200.0	kVAR	Communication Input	No	%%I63JI-1701
						4			
022	63UI-1901	PVI	IA 01A POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I63UI-1901
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	85CI-4101.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-43-4
STATION:	FCS0101	SAVED DATE:	4/29/2025 1:44:00 AM	COMMENT:	BESS PCS CURRENT L1		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85CI-4101 BESS PCS CURRENT L1)

Basic

Tag Name	85CI-4101
Model Name	PVI
Tag Comment	BESS PCS CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85CI-4201 BESS PCS CURRENT L2)

Basic

Tag Name	85CI-4201
Model Name	PVI
Tag Comment	BESS PCS CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85CI-4301 BESS PCS CURRENT L3)

Basic

Tag Name	85CI-4301
Model Name	PVI
Tag Comment	BESS PCS CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-1201 BESS PCS VOLTAGE L1-L2)

Basic

Tag Name	85VI-1201
Model Name	PVI
Tag Comment	BESS PCS VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-2301 BESS PCS VOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	85VI-2301.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-43-5
STATION:	FCS0101	SAVED DATE:	4/29/2025 1:44:00 AM	COMMENT:	BESS PCS VOLTAGE L2-L3		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	85VI-2301
Model Name	PVI
Tag Comment	BESS PCS VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-3101 BESS PCS VOLTAGE L3-L1)

Basic

Tag Name	85VI-3101
Model Name	PVI
Tag Comment	BESS PCS VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85FRQ-0001 BESS PCS FREQUENCY)

Basic

Tag Name	85FRQ-0001
Model Name	PVI
Tag Comment	BESS PCS FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1601 BESS PCS APPARENT PWR)

Basic

Tag Name	85JI-1601
Model Name	PVI
Tag Comment	BESS PCS APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1801 BESS PCS REAL POWER)

Basic

Tag Name	85JI-1801

PROJECT:	BLPH-CW1	FILE NAME:	85JI-1801.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-43-6
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:06:10 AM	COMMENT:	BESS PCS REAL POWER		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	BESS PCS REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1701 BESS PCS REACTIVE PWR)

Basic

Tag Name	85JI-1701
Model Name	PVI
Tag Comment	BESS PCS REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85UI-1901 BESS PCS POWER FACTOR)

Basic

Tag Name	85UI-1901
Model Name	PVI
Tag Comment	BESS PCS POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63CI-4101 IA 01A CURRENT L1)

Basic

Tag Name	63CI-4101
Model Name	PVI
Tag Comment	IA 01A CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63CI-4201 IA 01A CURRENT L2)

Basic

Tag Name	63CI-4201
Model Name	PVI
Tag Comment	IA 01A CURRENT L2

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63CI-4301 IA 01A CURRENT L3)

Basic

Tag Name	63CI-4301
Model Name	PVI
Tag Comment	IA 01A CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63VI-1201 IA 01A VOLTAGE L1-L2)

Basic

Tag Name	63VI-1201
Model Name	PVI
Tag Comment	IA 01A VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63VI-2301 IA 01A VOLTAGE L2-L3)

Basic

Tag Name	63VI-2301
Model Name	PVI
Tag Comment	IA 01A VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63VI-3101 IA 01A VOLTAGE L3-L1)

Basic

Tag Name	63VI-3101
Model Name	PVI
Tag Comment	IA 01A VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	63VI-3101.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-43-8
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:52:21 AM	COMMENT:	IA 01A VOLTAGE L3-L1		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63FRQ-0001 IA 01A FREQUENCY)

Basic

Tag Name	63FRQ-0001
Model Name	PVI
Tag Comment	IA 01A FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63JI-1601 IA 01A APPARENT PWR)

Basic

Tag Name	63JI-1601
Model Name	PVI
Tag Comment	IA 01A APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63JI-1801 IA 01A REAL POWER)

Basic

Tag Name	63JI-1801
Model Name	PVI
Tag Comment	IA 01A REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63JI-1701 IA 01A REACTIVE PWR)

Basic

Tag Name	63JI-1701
Model Name	PVI
Tag Comment	IA 01A REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	63JI-1701.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-43-9
STATION:	FCS0101	SAVED DATE:	5/3/2025 12:06:10 AM	COMMENT:	IA 01A REACTIVE PWR		
SECTION:	DR0118	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

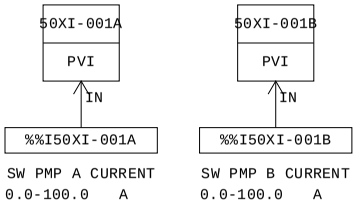
Tag Detail (63UI-1901 IA 01A POWER FACTOR)

Basic

Tag Name	63UI-1901
Model Name	PVI
Tag Comment	IA 01A POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0119.edf	SHEET:		YOKOGAWA	PAGE:3-25-44-1
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:45:47 AM	COMMENT:	LV SUB SYSTEM PVI		
SECTION:	DR0119	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0119 | BLPH-CW | LV SUB SYSTEM PVI]



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PROJECT:	BLPH-CW1	FILE NAME:	DR0119.edf	SHEET:		YOKOGAWA	PAGE:3-25-44-2
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:45:47 AM	COMMENT:	LV SUB SYSTEM PVI		
SECTION:	DR0119	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUB SYSTEM PVI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	50XI-001A	PVI	SW PMP A CURRENT	0.0	100.0	A 4	Communication Input	No	%%I50XI-001A
002	50XI-001B	PVI	SW PMP B CURRENT	0.0	100.0	A 4	Communication Input	No	%%I50XI-001B

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PROJECT:	BLPH-CW1	FILE NAME:	50XI-001A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-44-3
STATION:	FCS0101	SAVED DATE:	7/25/2025 9:45:47 AM	COMMENT:	SW PMP A CURRENT		
SECTION:	DR0119	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XI-001A SW PMP A CURRENT)

Basic

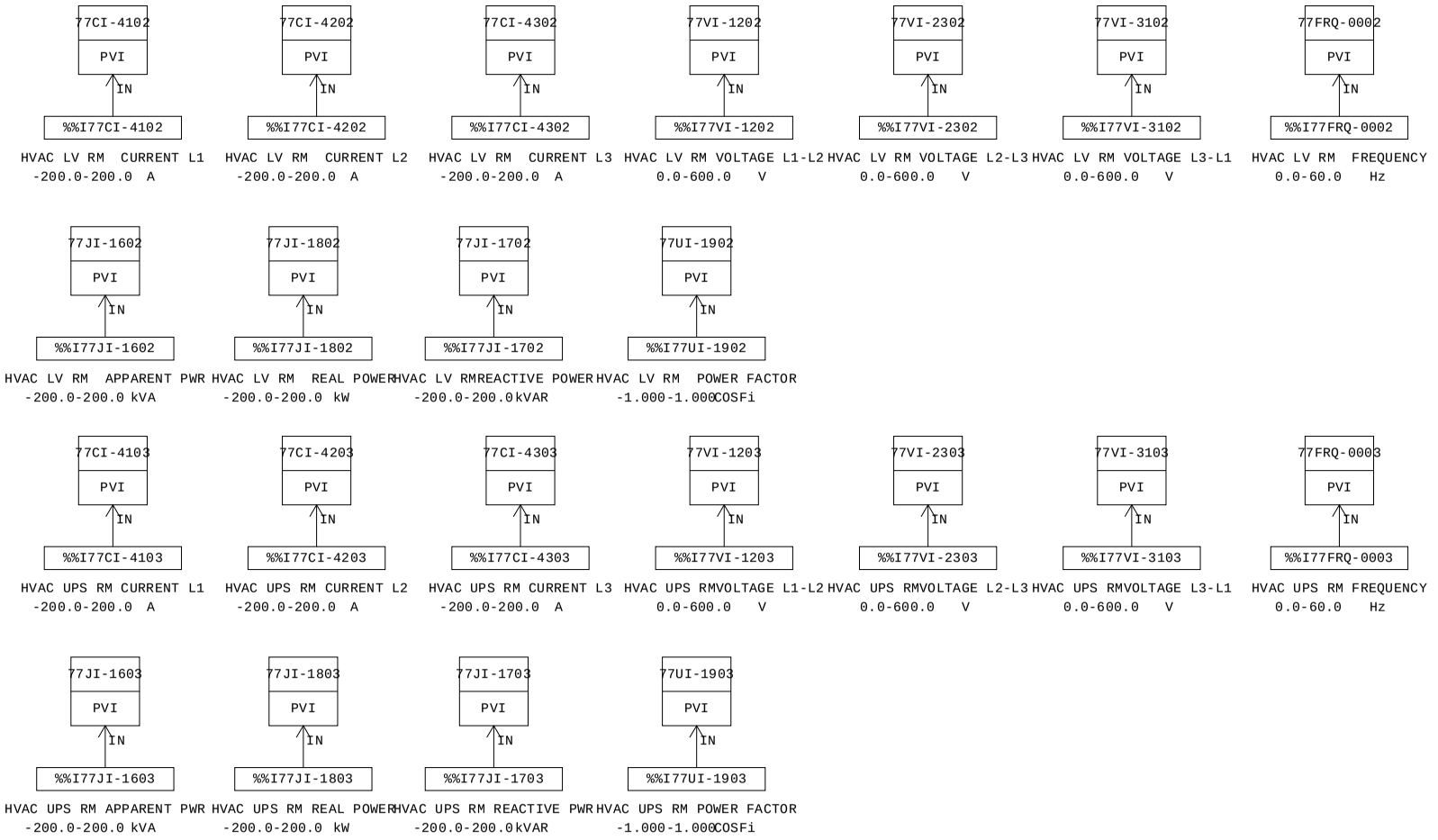
Tag Name	50XI-001A
Model Name	PVI
Tag Comment	SW PMP A CURRENT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50XI-001B SW PMP B CURRENT)

Basic

Tag Name	50XI-001B
Model Name	PVI
Tag Comment	SW PMP B CURRENT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0120.edf	SHEET:		YOKOGAWA	PAGE:3-25-45-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:28:52 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0120.edf	SHEET:		YOKOGAWA	PAGE:3-25-45-2
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:28:52 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

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PROJECT:	BLPH-CW1	FILE NAME:	DR0120.edf	SHEET:		YOKOGAWA	PAGE:3-25-45-3
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:28:52 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	77CI-4102	PVI	HVAC LV RM CURRENT L1	-200.0	200.0	A	Communication Input	No	%%I77CI-4102
						4			
002	77CI-4202	PVI	HVAC LV RM CURRENT L2	-200.0	200.0	A	Communication Input	No	%%I77CI-4202
						4			
003	77CI-4302	PVI	HVAC LV RM CURRENT L3	-200.0	200.0	A	Communication Input	No	%%I77CI-4302
						4			
004	77VI-1202	PVI	HVAC LV RM VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I77VI-1202
						4			
005	77VI-2302	PVI	HVAC LV RM VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I77VI-2302
						4			
006	77VI-3102	PVI	HVAC LV RM VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I77VI-3102
						4			
007	77FRQ-0002	PVI	HVAC LV RM FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I77FRQ-0002
						4			
008	77JI-1602	PVI	HVAC LV RM APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I77JI-1602
						4			
009	77JI-1802	PVI	HVAC LV RM REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I77JI-1802
						4			
010	77JI-1702	PVI	HVAC LV RMREACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I77JI-1702
						4			
011	77UI-1902	PVI	HVAC LV RM POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I77UI-1902
						4			
012	77CI-4103	PVI	HVAC UPS RM CURRENT L1	-200.0	200.0	A	Communication Input	No	%%I77CI-4103
						4			
013	77CI-4203	PVI	HVAC UPS RM CURRENT L2	-200.0	200.0	A	Communication Input	No	%%I77CI-4203
						4			
014	77CI-4303	PVI	HVAC UPS RM CURRENT L3	-200.0	200.0	A	Communication Input	No	%%I77CI-4303
						4			
015	77VI-1203	PVI	HVAC UPS RMVOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I77VI-1203
						4			
016	77VI-2303	PVI	HVAC UPS RMVOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I77VI-2303
						4			
017	77VI-3103	PVI	HVAC UPS RMVOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I77VI-3103
						4			
018	77FRQ-0003	PVI	HVAC UPS RM FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I77FRQ-0003
						4			
019	77JI-1603	PVI	HVAC UPS RM APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I77JI-1603
						4			
020	77JI-1803	PVI	HVAC UPS RM REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I77JI-1803
						4			
021	77JI-1703	PVI	HVAC UPS RM REACTIVE PWR	-200.0	200.0	kVAR	Communication Input	No	%%I77JI-1703
						4			
022	77UI-1903	PVI	HVAC UPS RM POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I77UI-1903
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	77CI-4102.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-45-4
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:22:31 AM	COMMENT:	HVAC LV RM CURRENT L1		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77CI-4102 HVAC LV RM CURRENT L1)

Basic

Tag Name	77CI-4102
Model Name	PVI
Tag Comment	HVAC LV RM CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4202 HVAC LV RM CURRENT L2)

Basic

Tag Name	77CI-4202
Model Name	PVI
Tag Comment	HVAC LV RM CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4302 HVAC LV RM CURRENT L3)

Basic

Tag Name	77CI-4302
Model Name	PVI
Tag Comment	HVAC LV RM CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-1202 HVAC LV RM VOLTAGE L1-L2)

Basic

Tag Name	77VI-1202
Model Name	PVI
Tag Comment	HVAC LV RM VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-2302 HVAC LV RM VOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	77VI-2302.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-45-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 8:03:35 AM	COMMENT:	HVAC LV RM VOLTAGE L2-L3		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	77VI-2302
Model Name	PVI
Tag Comment	HVAC LV RM VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-3102 HVAC LV RM VOLTAGE L3-L1)

Basic

Tag Name	77VI-3102
Model Name	PVI
Tag Comment	HVAC LV RM VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77FRQ-0002 HVAC LV RM FREQUENCY)

Basic

Tag Name	77FRQ-0002
Model Name	PVI
Tag Comment	HVAC LV RM FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1602 HVAC LV RM APPARENT PWR)

Basic

Tag Name	77JI-1602
Model Name	PVI
Tag Comment	HVAC LV RM APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1802 HVAC LV RM REAL POWER)

Basic

Tag Name	77JI-1802

Model Name	PVI
Tag Comment	HVAC LV RM REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1702 HVAC LV RMREACTIVE POWER)

Basic

Tag Name	77JI-1702
Model Name	PVI
Tag Comment	HVAC LV RMREACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77UI-1902 HVAC LV RM POWER FACTOR)

Basic

Tag Name	77UI-1902
Model Name	PVI
Tag Comment	HVAC LV RM POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4103 HVAC UPS RM CURRENT L1)

Basic

Tag Name	77CI-4103
Model Name	PVI
Tag Comment	HVAC UPS RM CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4203 HVAC UPS RM CURRENT L2)

Basic

Tag Name	77CI-4203
Model Name	PVI
Tag Comment	HVAC UPS RM CURRENT L2

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4303 HVAC UPS RM CURRENT L3)

Basic

Tag Name	77CI-4303
Model Name	PVI
Tag Comment	HVAC UPS RM CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-1203 HVAC UPS RMVOLTAGE L1-L2)

Basic

Tag Name	77VI-1203
Model Name	PVI
Tag Comment	HVAC UPS RMVOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-2303 HVAC UPS RMVOLTAGE L2-L3)

Basic

Tag Name	77VI-2303
Model Name	PVI
Tag Comment	HVAC UPS RMVOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-3103 HVAC UPS RMVOLTAGE L3-L1)

Basic

Tag Name	77VI-3103
Model Name	PVI
Tag Comment	HVAC UPS RMVOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	77VI-3103.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-45-8
STATION:	FCS0101	SAVED DATE:	4/15/2025 8:03:35 AM	COMMENT:	HVAC UPS RMVOLTAGE L3-L1		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77FRQ-0003 HVAC UPS RM FREQUENCY)

Basic

Tag Name	77FRQ-0003
Model Name	PVI
Tag Comment	HVAC UPS RM FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1603 HVAC UPS RM APPARENT PWR)

Basic

Tag Name	77JI-1603
Model Name	PVI
Tag Comment	HVAC UPS RM APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1803 HVAC UPS RM REAL POWER)

Basic

Tag Name	77JI-1803
Model Name	PVI
Tag Comment	HVAC UPS RM REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1703 HVAC UPS RM REACTIVE PWR)

Basic

Tag Name	77JI-1703
Model Name	PVI
Tag Comment	HVAC UPS RM REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	77JI-1703.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-45-9
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:28:52 AM	COMMENT:	HVAC UPS RM REACTIVE PWR		
SECTION:	DR0120	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77UI-1903 HVAC UPS RM POWER FACTOR)

Basic

Tag Name	77UI-1903
Model Name	PVI
Tag Comment	HVAC UPS RM POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

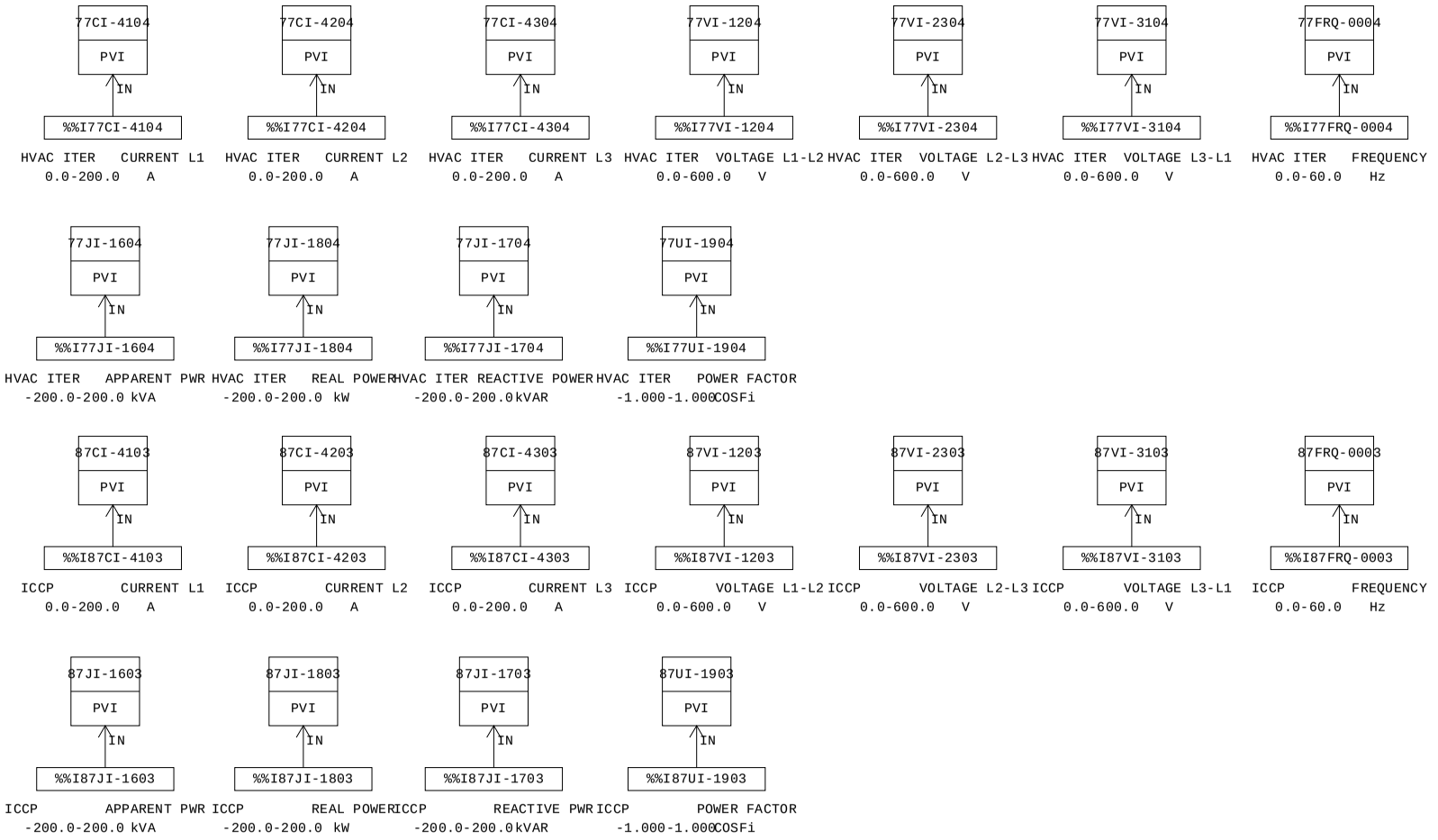
Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0121.edf	SHEET:		YOKOGAWA	PAGE:3-25-46-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:34:53 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0121	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0121.edf	SHEET:		YOKOGAWA	PAGE:3-25-46-3
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:34:53 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0121	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment		Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection			Set Value Input Connection Information		Lvl			
001	77CI-4104	PVI	HVAC ITER	CURRENT L1	0.0	200.0	A 4	Communication Input	No	%%I77CI-4104
002	77CI-4204	PVI	HVAC ITER	CURRENT L2	0.0	200.0	A 4	Communication Input	No	%%I77CI-4204
003	77CI-4304	PVI	HVAC ITER	CURRENT L3	0.0	200.0	A 4	Communication Input	No	%%I77CI-4304
004	77VI-1204	PVI	HVAC ITER	VOLTAGE L1-L2	0.0	600.0	V 4	Communication Input	No	%%I77VI-1204
005	77VI-2304	PVI	HVAC ITER	VOLTAGE L2-L3	0.0	600.0	V 4	Communication Input	No	%%I77VI-2304
006	77VI-3104	PVI	HVAC ITER	VOLTAGE L3-L1	0.0	600.0	V 4	Communication Input	No	%%I77VI-3104
007	77FRQ-0004	PVI	HVAC ITER	FREQUENCY	0.0	60.0	Hz 4	Communication Input	No	%%I77FRQ-0004
008	77JI-1604	PVI	HVAC ITER	APPARENT PWR	-200.0	200.0	kVA 4	Communication Input	No	%%I77JI-1604
009	77JI-1804	PVI	HVAC ITER	REAL POWER	-200.0	200.0	kW 4	Communication Input	No	%%I77JI-1804
010	77JI-1704	PVI	HVAC ITER	REACTIVE POWER	-200.0	200.0	kVAR 4	Communication Input	No	%%I77JI-1704
011	77UI-1904	PVI	HVAC ITER	POWER FACTOR	-1.000	1.000	COSFi 4	Communication Input	No	%%I77UI-1904
012	87CI-4103	PVI	ICCP	CURRENT L1	0.0	200.0	A 4	Communication Input	No	%%I87CI-4103
013	87CI-4203	PVI	ICCP	CURRENT L2	0.0	200.0	A 4	Communication Input	No	%%I87CI-4203
014	87CI-4303	PVI	ICCP	CURRENT L3	0.0	200.0	A 4	Communication Input	No	%%I87CI-4303
015	87VI-1203	PVI	ICCP	VOLTAGE L1-L2	0.0	600.0	V 4	Communication Input	No	%%I87VI-1203
016	87VI-2303	PVI	ICCP	VOLTAGE L2-L3	0.0	600.0	V 4	Communication Input	No	%%I87VI-2303
017	87VI-3103	PVI	ICCP	VOLTAGE L3-L1	0.0	600.0	V 4	Communication Input	No	%%I87VI-3103
018	87FRQ-0003	PVI	ICCP	FREQUENCY	0.0	60.0	Hz 4	Communication Input	No	%%I87FRQ-0003
019	87JI-1603	PVI	ICCP	APPARENT PWR	-200.0	200.0	kVA 4	Communication Input	No	%%I87JI-1603
020	87JI-1803	PVI	ICCP	REAL POWER	-200.0	200.0	kW 4	Communication Input	No	%%I87JI-1803
021	87JI-1703	PVI	ICCP	REACTIVE PWR	-200.0	200.0	kVAR 4	Communication Input	No	%%I87JI-1703
022	87UI-1903	PVI	ICCP	POWER FACTOR	-1.000	1.000	COSFi 4	Communication Input	No	%%I87UI-1903

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PROJECT:	BLPH-CW1	FILE NAME:	77CI-4104.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-46-4
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:07:53 AM	COMMENT:	HVAC ITER CURRENT L1		
SECTION:	DR0121	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (77CI-4104 HVAC ITER CURRENT L1)

Basic

Tag Name	77CI-4104
Model Name	PVI
Tag Comment	HVAC ITER CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4204 HVAC ITER CURRENT L2)

Basic

Tag Name	77CI-4204
Model Name	PVI
Tag Comment	HVAC ITER CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77CI-4304 HVAC ITER CURRENT L3)

Basic

Tag Name	77CI-4304
Model Name	PVI
Tag Comment	HVAC ITER CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-1204 HVAC ITER VOLTAGE L1-L2)

Basic

Tag Name	77VI-1204
Model Name	PVI
Tag Comment	HVAC ITER VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-2304 HVAC ITER VOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	77VI-2304.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-46-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 8:10:49 AM	COMMENT:	HVAC ITER VOLTAGE L2-L3		
SECTION:	DR0121	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	77VI-2304
Model Name	PVI
Tag Comment	HVAC ITER VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77VI-3104 HVAC ITER VOLTAGE L3-L1)

Basic

Tag Name	77VI-3104
Model Name	PVI
Tag Comment	HVAC ITER VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77FRQ-0004 HVAC ITER FREQUENCY)

Basic

Tag Name	77FRQ-0004
Model Name	PVI
Tag Comment	HVAC ITER FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1604 HVAC ITER APPARENT PWR)

Basic

Tag Name	77JI-1604
Model Name	PVI
Tag Comment	HVAC ITER APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1804 HVAC ITER REAL POWER)

Basic

Tag Name	77JI-1804

Model Name	PVI
Tag Comment	HVAC ITER REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77JI-1704 HVAC ITER REACTIVE POWER)

Basic

Tag Name	77JI-1704
Model Name	PVI
Tag Comment	HVAC ITER REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (77UI-1904 HVAC ITER POWER FACTOR)

Basic

Tag Name	77UI-1904
Model Name	PVI
Tag Comment	HVAC ITER POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4103 ICCP CURRENT L1)

Basic

Tag Name	87CI-4103
Model Name	PVI
Tag Comment	ICCP CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4203 ICCP CURRENT L2)

Basic

Tag Name	87CI-4203
Model Name	PVI
Tag Comment	ICCP CURRENT L2

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4303 ICCP CURRENT L3)

Basic

Tag Name	87CI-4303
Model Name	PVI
Tag Comment	ICCP CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-1203 ICCP VOLTAGE L1-L2)

Basic

Tag Name	87VI-1203
Model Name	PVI
Tag Comment	ICCP VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-2303 ICCP VOLTAGE L2-L3)

Basic

Tag Name	87VI-2303
Model Name	PVI
Tag Comment	ICCP VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-3103 ICCP VOLTAGE L3-L1)

Basic

Tag Name	87VI-3103
Model Name	PVI
Tag Comment	ICCP VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

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STATION:	FCS0101	SAVED DATE:	4/15/2025 8:10:49 AM	COMMENT:	ICCP VOLTAGE L3-L1		
SECTION:	DR0121	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87FRQ-0003 ICCP FREQUENCY)

Basic

Tag Name	87FRQ-0003
Model Name	PVI
Tag Comment	ICCP FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1603 ICCP APPARENT PWR)

Basic

Tag Name	87JI-1603
Model Name	PVI
Tag Comment	ICCP APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1803 ICCP REAL POWER)

Basic

Tag Name	87JI-1803
Model Name	PVI
Tag Comment	ICCP REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1703 ICCP REACTIVE PWR)

Basic

Tag Name	87JI-1703
Model Name	PVI
Tag Comment	ICCP REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	87JI-1703.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-46-9
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:34:53 AM	COMMENT:	ICCP REACTIVE PWR		
SECTION:	DR0121	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-1903 ICCP POWER FACTOR)

Basic

Tag Name	87UI-1903
Model Name	PVI
Tag Comment	ICCP POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

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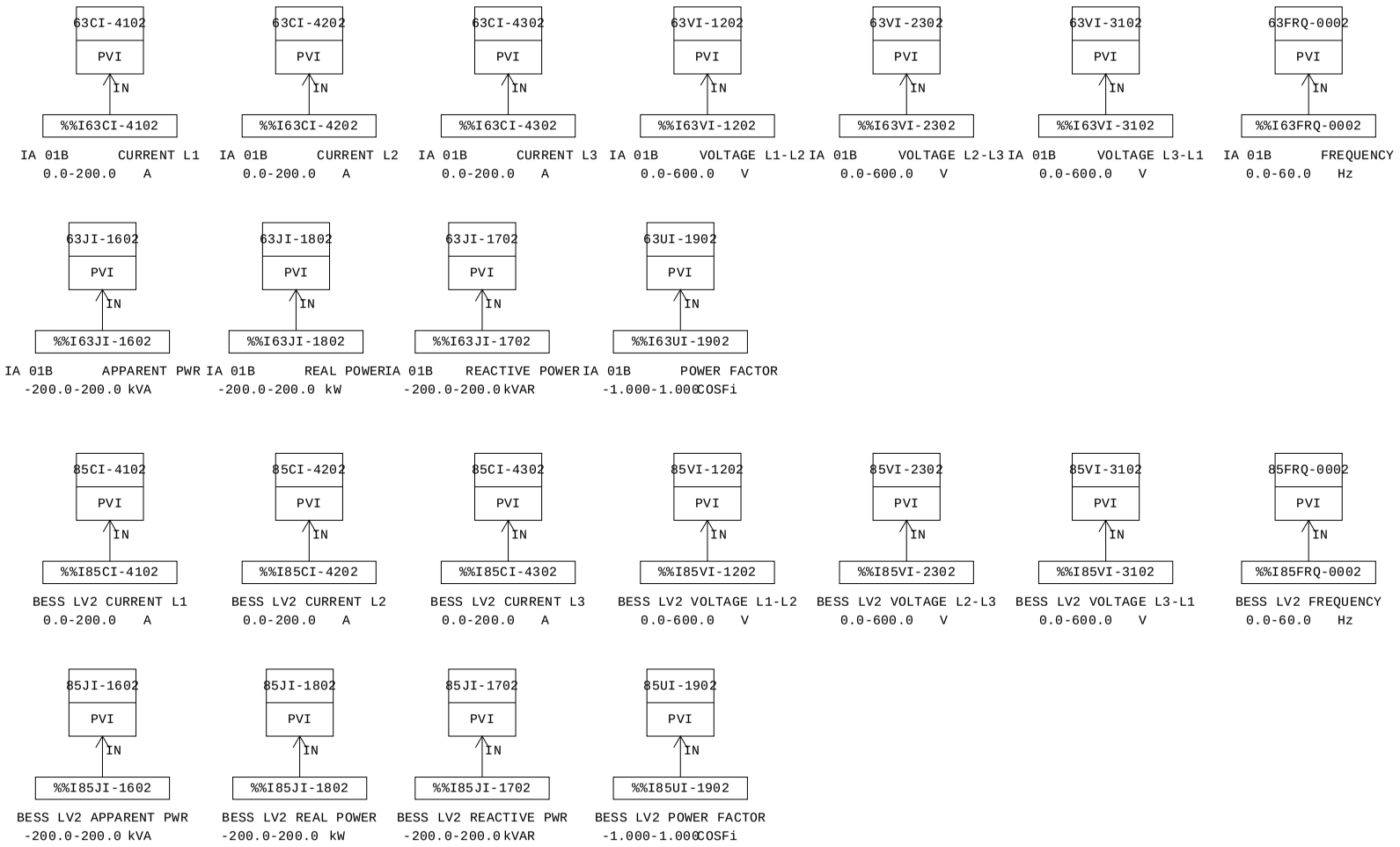
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0122.edf	SHEET:		YOKOGAWA	PAGE:3-25-47-2
STATION:	FCS0101	SAVED DATE:	5/3/2025 2:41:34 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
012	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
013	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
014	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
015	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
016	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
017	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
018	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
019	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
020	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
021	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
022	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0122.edf	SHEET:		YOKOGAWA	PAGE:3-25-47-3
STATION:	FCS0101	SAVED DATE:	5/3/2025 2:41:34 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	85CI-4102	PVI	BESS LV2 CURRENT L1	0.0	200.0	A	Communication Input	No	%%I85CI-4102
						4			
002	85CI-4202	PVI	BESS LV2 CURRENT L2	0.0	200.0	A	Communication Input	No	%%I85CI-4202
						4			
003	85CI-4302	PVI	BESS LV2 CURRENT L3	0.0	200.0	A	Communication Input	No	%%I85CI-4302
						4			
004	85VI-1202	PVI	BESS LV2 VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I85VI-1202
						4			
005	85VI-2302	PVI	BESS LV2 VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I85VI-2302
						4			
006	85VI-3102	PVI	BESS LV2 VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I85VI-3102
						4			
007	85FRQ-0002	PVI	BESS LV2 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I85FRQ-0002
						4			
008	85JI-1602	PVI	BESS LV2 APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I85JI-1602
						4			
009	85JI-1802	PVI	BESS LV2 REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I85JI-1802
						4			
010	85JI-1702	PVI	BESS LV2 REACTIVE PWR	-200.0	200.0	kVAR	Communication Input	No	%%I85JI-1702
						4			
011	85UI-1902	PVI	BESS LV2 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I85UI-1902
						4			
012	63CI-4102	PVI	IA 01B CURRENT L1	0.0	200.0	A	Communication Input	No	%%I63CI-4102
						4			
013	63CI-4202	PVI	IA 01B CURRENT L2	0.0	200.0	A	Communication Input	No	%%I63CI-4202
						4			
014	63CI-4302	PVI	IA 01B CURRENT L3	0.0	200.0	A	Communication Input	No	%%I63CI-4302
						4			
015	63VI-1202	PVI	IA 01B VOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I63VI-1202
						4			
016	63VI-2302	PVI	IA 01B VOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I63VI-2302
						4			
017	63VI-3102	PVI	IA 01B VOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I63VI-3102
						4			
018	63FRQ-0002	PVI	IA 01B FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I63FRQ-0002
						4			
019	63JI-1602	PVI	IA 01B APPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I63JI-1602
						4			
020	63JI-1802	PVI	IA 01B REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I63JI-1802
						4			
021	63JI-1702	PVI	IA 01B REACTIVE POWER	-200.0	200.0	kVAR	Communication Input	No	%%I63JI-1702
						4			
022	63UI-1902	PVI	IA 01B POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I63UI-1902
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	85CI-4102.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-47-4
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:14:25 AM	COMMENT:	BESS LV2 CURRENT L1		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85CI-4102 BESS LV2 CURRENT L1)

Basic

Tag Name	85CI-4102
Model Name	PVI
Tag Comment	BESS LV2 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85CI-4202 BESS LV2 CURRENT L2)

Basic

Tag Name	85CI-4202
Model Name	PVI
Tag Comment	BESS LV2 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85CI-4302 BESS LV2 CURRENT L3)

Basic

Tag Name	85CI-4302
Model Name	PVI
Tag Comment	BESS LV2 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-1202 BESS LV2 VOLTAGE L1-L2)

Basic

Tag Name	85VI-1202
Model Name	PVI
Tag Comment	BESS LV2 VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-2302 BESS LV2 VOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	85VI-2302.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-47-5
STATION:	FCS0101	SAVED DATE:	4/29/2025 1:41:23 AM	COMMENT:	BESS LV2 VOLTAGE L2-L3		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	85VI-2302
Model Name	PVI
Tag Comment	BESS LV2 VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-3102 BESS LV2 VOLTAGE L3-L1)

Basic

Tag Name	85VI-3102
Model Name	PVI
Tag Comment	BESS LV2 VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85FRQ-0002 BESS LV2 FREQUENCY)

Basic

Tag Name	85FRQ-0002
Model Name	PVI
Tag Comment	BESS LV2 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1602 BESS LV2 APPARENT PWR)

Basic

Tag Name	85JI-1602
Model Name	PVI
Tag Comment	BESS LV2 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1802 BESS LV2 REAL POWER)

Basic

Tag Name	85JI-1802

PROJECT:	BLPH-CW1	FILE NAME:	85JI-1802.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-47-6
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:42:08 AM	COMMENT:	BESS LV2 REAL POWER		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	BESS LV2 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1702 BESS LV2 REACTIVE PWR)

Basic

Tag Name	85JI-1702
Model Name	PVI
Tag Comment	BESS LV2 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85UI-1902 BESS LV2 POWER FACTOR)

Basic

Tag Name	85UI-1902
Model Name	PVI
Tag Comment	BESS LV2 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63CI-4102 IA 01B CURRENT L1)

Basic

Tag Name	63CI-4102
Model Name	PVI
Tag Comment	IA 01B CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63CI-4202 IA 01B CURRENT L2)

Basic

Tag Name	63CI-4202
Model Name	PVI
Tag Comment	IA 01B CURRENT L2

PROJECT:	BLPH-CW1	FILE NAME:	63CI-4202.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-47-7
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:14:25 AM	COMMENT:	IA 01B CURRENT L2		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63CI-4302 IA 01B CURRENT L3)

Basic

Tag Name	63CI-4302
Model Name	PVI
Tag Comment	IA 01B CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63VI-1202 IA 01B VOLTAGE L1-L2)

Basic

Tag Name	63VI-1202
Model Name	PVI
Tag Comment	IA 01B VOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63VI-2302 IA 01B VOLTAGE L2-L3)

Basic

Tag Name	63VI-2302
Model Name	PVI
Tag Comment	IA 01B VOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63VI-3102 IA 01B VOLTAGE L3-L1)

Basic

Tag Name	63VI-3102
Model Name	PVI
Tag Comment	IA 01B VOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	63VI-3102.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-47-8
STATION:	FCS0101	SAVED DATE:	4/15/2025 8:23:12 AM	COMMENT:	IA 01B VOLTAGE L3-L1		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63FRQ-0002 IA 01B FREQUENCY)

Basic

Tag Name	63FRQ-0002
Model Name	PVI
Tag Comment	IA 01B FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63JI-1602 IA 01B APPARENT PWR)

Basic

Tag Name	63JI-1602
Model Name	PVI
Tag Comment	IA 01B APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63JI-1802 IA 01B REAL POWER)

Basic

Tag Name	63JI-1802
Model Name	PVI
Tag Comment	IA 01B REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63JI-1702 IA 01B REACTIVE POWER)

Basic

Tag Name	63JI-1702
Model Name	PVI
Tag Comment	IA 01B REACTIVE POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	63JI-1702.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-47-9
STATION:	FCS0101	SAVED DATE:	5/3/2025 1:42:08 AM	COMMENT:	IA 01B REACTIVE POWER		
SECTION:	DR0122	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (63UI-1902 IA 01B POWER FACTOR)

Basic

Tag Name	63UI-1902
Model Name	PVI
Tag Comment	IA 01B POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

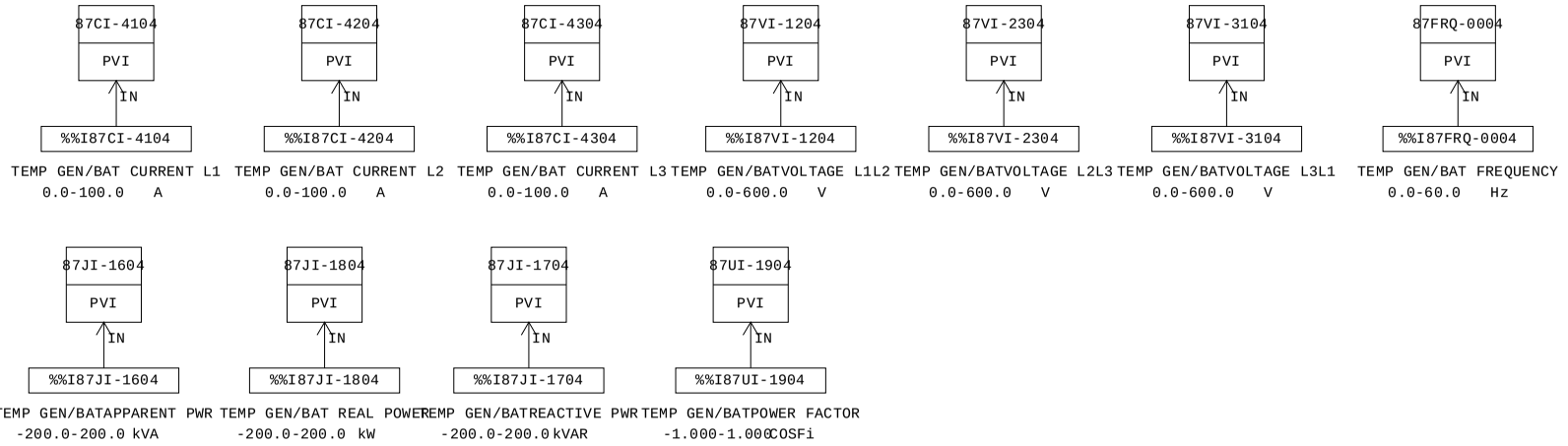
Input Signal Conversion

Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25

Totalizer

Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0123.edf	SHEET:		YOKOGAWA	PAGE:3-25-48-1
STATION:	FCS0101	SAVED DATE:	5/3/2025 2:45:30 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0123	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0123.edf	SHEET:		YOKOGAWA	PAGE:3-25-48-2
STATION:	FCS0101	SAVED DATE:	5/3/2025 2:45:30 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0123	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_001	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_002	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_003	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_004	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_005	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_006	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_007	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_011	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_008	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_009	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_010	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0123.edf	SHEET:		YOKOGAWA	PAGE:3-25-48-3
STATION:	FCS0101	SAVED DATE:	5/3/2025 2:45:30 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0123	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	87CI-4104	PVI	TEMP GEN/BAT CURRENT L1	0.0	100.0	A	Communication Input	No	%%I87CI-4104
						4			
002	87CI-4204	PVI	TEMP GEN/BAT CURRENT L2	0.0	100.0	A	Communication Input	No	%%I87CI-4204
						4			
003	87CI-4304	PVI	TEMP GEN/BAT CURRENT L3	0.0	100.0	A	Communication Input	No	%%I87CI-4304
						4			
004	87VI-1204	PVI	TEMP GEN/BATVOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I87VI-1204
						4			
005	87VI-2304	PVI	TEMP GEN/BATVOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I87VI-2304
						4			
006	87VI-3104	PVI	TEMP GEN/BATVOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I87VI-3104
						4			
007	87FRQ-0004	PVI	TEMP GEN/BAT FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I87FRQ-0004
						4			
008	87JI-1604	PVI	TEMP GEN/BATAPPARENT PWR	-200.0	200.0	kVA	Communication Input	No	%%I87JI-1604
						4			
009	87JI-1804	PVI	TEMP GEN/BAT REAL POWER	-200.0	200.0	kW	Communication Input	No	%%I87JI-1804
						4			
010	87JI-1704	PVI	TEMP GEN/BATREACTIVE PWR	-200.0	200.0	kVAR	Communication Input	No	%%I87JI-1704
						4			
011	87UI-1904	PVI	TEMP GEN/BATPOWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I87UI-1904
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	87CI-4104.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-48-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:43:53 PM	COMMENT:	TEMP GEN/BAT CURRENT L1		
SECTION:	DR0123	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87CI-4104 TEMP GEN/BAT CURRENT L1)

Basic

Tag Name	87CI-4104
Model Name	PVI
Tag Comment	TEMP GEN/BAT CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4204 TEMP GEN/BAT CURRENT L2)

Basic

Tag Name	87CI-4204
Model Name	PVI
Tag Comment	TEMP GEN/BAT CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87CI-4304 TEMP GEN/BAT CURRENT L3)

Basic

Tag Name	87CI-4304
Model Name	PVI
Tag Comment	TEMP GEN/BAT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-1204 TEMP GEN/BATVOLTAGE L1L2)

Basic

Tag Name	87VI-1204
Model Name	PVI
Tag Comment	TEMP GEN/BATVOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-2304 TEMP GEN/BATVOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	87VI-2304.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-48-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 5:08:36 AM	COMMENT:	TEMP GEN/BATVOLTAGE L2L3		
SECTION:	DR0123	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	87VI-2304
Model Name	PVI
Tag Comment	TEMP GEN/BATVOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87VI-3104 TEMP GEN/BATVOLTAGE L3L1)

Basic

Tag Name	87VI-3104
Model Name	PVI
Tag Comment	TEMP GEN/BATVOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87FRQ-0004 TEMP GEN/BAT FREQUENCY)

Basic

Tag Name	87FRQ-0004
Model Name	PVI
Tag Comment	TEMP GEN/BAT FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1604 TEMP GEN/BATAPPARENT PWR)

Basic

Tag Name	87JI-1604
Model Name	PVI
Tag Comment	TEMP GEN/BATAPPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1804 TEMP GEN/BAT REAL POWER)

Basic

Tag Name	87JI-1804

PROJECT:	BLPH-CW1	FILE NAME:	87JI-1804.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-48-6
STATION:	FCS0101	SAVED DATE:	5/3/2025 2:45:30 AM	COMMENT:	TEMP GEN/BAT REAL POWER		
SECTION:	DR0123	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	TEMP GEN/BAT REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87JI-1704 TEMP GEN/BATREACTIVE PWR)

Basic

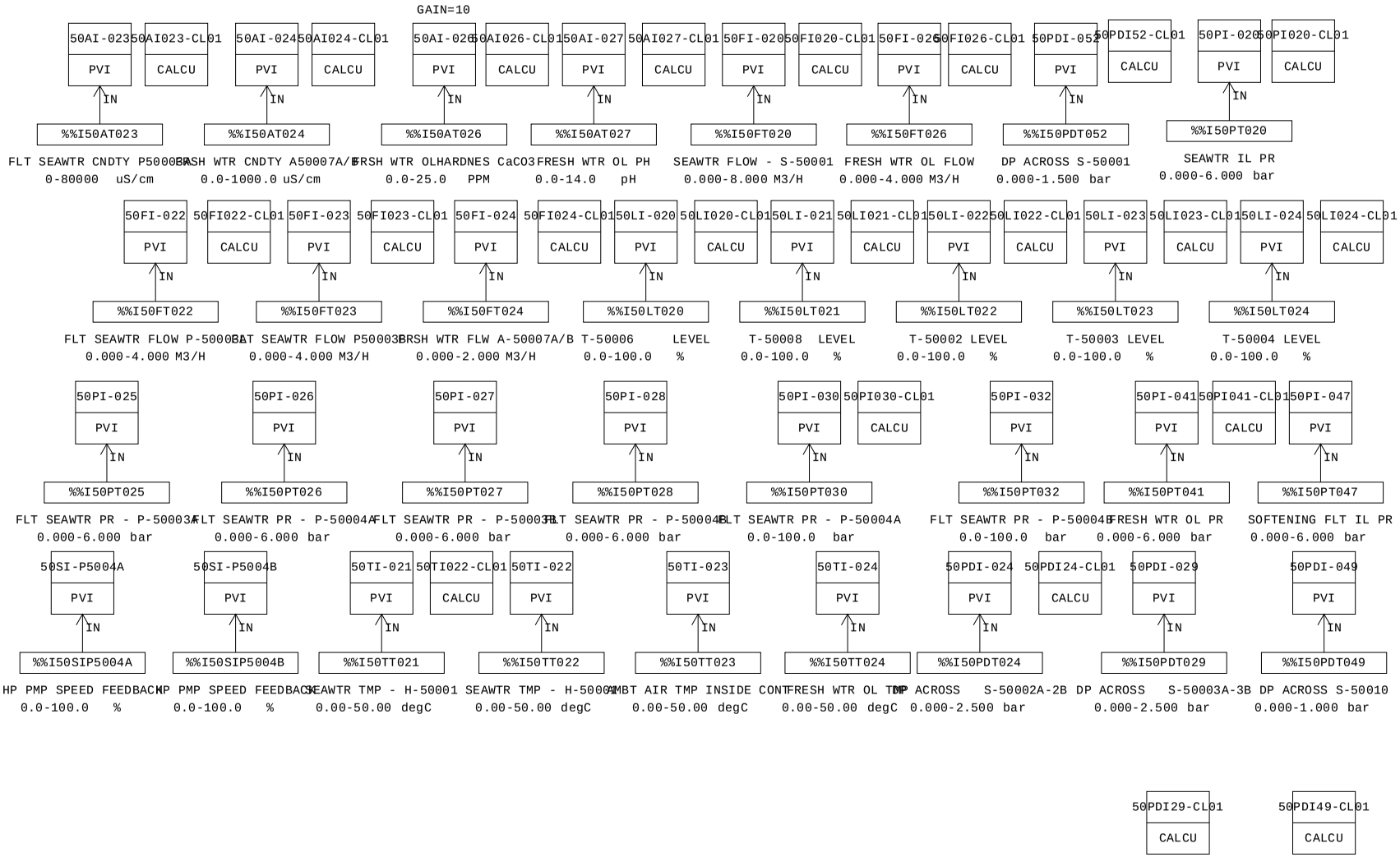
Tag Name	87JI-1704
Model Name	PVI
Tag Comment	TEMP GEN/BATREACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (87UI-1904 TEMP GEN/BATPOWER FACTOR)

Basic

Tag Name	87UI-1904
Model Name	PVI
Tag Comment	TEMP GEN/BATPOWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

[FCS0101 | DR0125| BLPH-CW | WTP SUB SYSTEM]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0125.edf	SHEET:		YOKOGAWA	PAGE:3-25-49-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:WTP SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	50AI-023	PVI	FLT SEAWTR CNDTY P50003A	0	80000	uS/cm	Communication Input	No	%%I50AT023
						4			
002	50AI-024	PVI	FRSH WTR CNDTY A50007A/B	0.0	1000.0	uS/cm	Communication Input	No	%%I50AT024
						4			
003	50AI-026	PVI	FRSH WTR OLHARDNES CaCO3	0.0	25.0	PPM	Communication Input	No	%%I50AT026
						4			
004	50AI-027	PVI	FRESH WTR OL PH	0.0	14.0	pH	Communication Input	No	%%I50AT027
						4			
005	50FI-020	PVI	SEAWTR FLOW - S-50001	0.000	8.000	M3/H	Communication Input	No	%%I50FT020
						4			
006	50FI-026	PVI	FRESH WTR OL FLOW	0.000	4.000	M3/H	Communication Input	No	%%I50FT026
						4			
007	50FI-022	PVI	FLT SEAWTR FLOW P-50003A	0.000	4.000	M3/H	Communication Input	No	%%I50FT022
						4			
008	50FI-023	PVI	FLT SEAWTR FLOW P50003B	0.000	4.000	M3/H	Communication Input	No	%%I50FT023
						4			
009	50FI-024	PVI	FRSH WTR FLW A-50007A/B	0.000	2.000	M3/H	Communication Input	No	%%I50FT024
						4			
010	50LI-020	PVI	T-50006 LEVEL	0.0	100.0	%	Communication Input	No	%%I50LT020
						4			
011	50LI-021	PVI	T-50008 LEVEL	0.0	100.0	%	Communication Input	No	%%I50LT021
						4			
012	50LI-022	PVI	T-50002 LEVEL	0.0	100.0	%	Communication Input	No	%%I50LT022
						4			
013	50LI-023	PVI	T-50003 LEVEL	0.0	100.0	%	Communication Input	No	%%I50LT023
						4			
014	50LI-024	PVI	T-50004 LEVEL	0.0	100.0	%	Communication Input	No	%%I50LT024
						4			
015	50PDI-052	PVI	DP ACROSS S-50001	0.000	1.500	bar	Communication Input	No	%%I50PDT052
						4			
016	50PI-020	PVI	SEAWTR IL PR	0.000	6.000	bar	Communication Input	No	%%I50PT020
						4			
017	50PI-025	PVI	FLT SEAWTR PR - P-50003A	0.000	6.000	bar	Communication Input	No	%%I50PT025
						4			
018	50PI-026	PVI	FLT SEAWTR PR - P-50004A	0.000	6.000	bar	Communication Input	No	%%I50PT026
						4			
019	50PI-027	PVI	FLT SEAWTR PR - P-50003B	0.000	6.000	bar	Communication Input	No	%%I50PT027
						4			
020	50PI-028	PVI	FLT SEAWTR PR - P-50004B	0.000	6.000	bar	Communication Input	No	%%I50PT028
						4			
021	50PI-030	PVI	FLT SEAWTR PR - P-50004A	0.0	100.0	bar	Communication Input	No	%%I50PT030
						4			
022	50PI-032	PVI	FLT SEAWTR PR - P-50004B	0.0	100.0	bar	Communication Input	No	%%I50PT032
						4			
023	50PI-041	PVI	FRESH WTR OL PR	0.000	6.000	bar	Communication Input	No	%%I50PT041
						4			
024	50PI-047	PVI	SOFTENING FLT IL PR	0.000	6.000	bar	Communication Input	No	%%I50PT047
						4			
025	50SI-P5004A	PVI	HP PMP SPEED FEEDBACK	0.0	100.0	%	Communication Input	No	%%I50SIP5004A
						4			
026	50SI-P5004B	PVI	HP PMP SPEED FEEDBACK	0.0	100.0	%	Communication Input	No	%%I50SIP5004B
						4			
027	50TI-021	PVI	SEAWTR TMP - H-50001	0.00	50.00	degC	Communication Input	No	%%I50TT021
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	DR0125.edf	SHEET:		YOKOGAWA	PAGE:3-25-49-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

028	50TI-022	PVI	SEAWTR TMP - H-50001	0.00	50.00	degC	Communication Input	No	%%I50TT022	
						4				
029	50TI-023	PVI	AMBT AIR TMP INSIDE CONT	0.00	50.00	degC	Communication Input	No	%%I50TT023	
						4				
030	50TI-024	PVI	FRESH WTR OL TMP	0.00	50.00	degC	Communication Input	No	%%I50TT024	
						4				
031	50AI027-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
032	50AI024-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
033	50AI026-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
034	50AI023-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
035	50FI020-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
036	50FI022-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
037	50FI023-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
038	50FI026-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
039	50FI024-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
040	50LI020-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
041	50LI021-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
042	50LI022-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
043	50LI023-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
044	50LI024-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
045	50PDI52-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
046	50PI020-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
047	50PI030-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
048	50PI041-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
049	50TI022-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
050	50PDI-024	PVI	DP ACROSS S-50002A-2B	0.000	2.500	bar	Communication Input	No	%%I50PDT024	
						4				
051	50PDI24-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
052	50PDI-029	PVI	DP ACROSS S-50003A-3B	0.000	2.500	bar	Communication Input	No	%%I50PDT029	
						4				
053	50PDI-049	PVI	DP ACROSS S-50010	0.000	1.000	bar	Communication Input	No	%%I50PDT049	
						4				
054	50PDI29-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				
055	50PDI49-CL01	CALCU	ALARM SP BASED ON DI	0.0	100.0	%	No	No		
						4				

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50AI-023.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	FLT SEAWTR CNDTY P50003A		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI-023 FLT SEAWTR CNDTY P50003A)

Basic

Tag Name	50AI-023
Model Name	PVI
Tag Comment	FLT SEAWTR CNDTY P50003A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50AI-024 FRSH WTR CNDTY A50007A/B)

Basic

Tag Name	50AI-024
Model Name	PVI
Tag Comment	FRSH WTR CNDTY A50007A/B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50AI-026 FRSH WTR OLHARDNES CaCO3)

Basic

Tag Name	50AI-026
Model Name	PVI
Tag Comment	FRSH WTR OLHARDNES CaCO3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	10.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50AI-027 FRESH WTR OL PH)

Basic

Tag Name	50AI-027
Model Name	PVI
Tag Comment	FRESH WTR OL PH
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50FI-020 SEAWTR FLOW - S-50001)

PROJECT:	BLPH-CW1	FILE NAME:	50FI-020.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	SEAWTR FLOW - S-50001		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	50FI-020
Model Name	PVI
Tag Comment	SEAWTR FLOW - S-50001
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50FI-026 FRESH WTR OL FLOW)

Basic

Tag Name	50FI-026
Model Name	PVI
Tag Comment	FRESH WTR OL FLOW
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50FI-022 FLT SEAWTR FLOW P-50003A)

Basic

Tag Name	50FI-022
Model Name	PVI
Tag Comment	FLT SEAWTR FLOW P-50003A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50FI-023 FLT SEAWTR FLOW P50003B)

Basic

Tag Name	50FI-023
Model Name	PVI
Tag Comment	FLT SEAWTR FLOW P50003B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50FI-024 FRSH WTR FLW A-50007A/B)

Basic

Tag Name	50FI-024

PROJECT:	BLPH-CW1	FILE NAME:	50FI-024.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	FRSH WTR FLW A-50007A/B		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name PVI
Tag Comment FRSH WTR FLW A-50007A/B
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50LI-020 T-50006 LEVEL)

Basic
Tag Name 50LI-020
Model Name PVI
Tag Comment T-50006 LEVEL
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50LI-021 T-50008 LEVEL)

Basic
Tag Name 50LI-021
Model Name PVI
Tag Comment T-50008 LEVEL
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50LI-022 T-50002 LEVEL)

Basic
Tag Name 50LI-022
Model Name PVI
Tag Comment T-50002 LEVEL
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50LI-023 T-50003 LEVEL)

Basic
Tag Name 50LI-023
Model Name PVI
Tag Comment T-50003 LEVEL

PROJECT:	BLPH-CW1	FILE NAME:	50LI-023.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	T-50003 LEVEL		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50LI-024 T-50004 LEVEL)

Basic

Tag Name	50LI-024
Model Name	PVI
Tag Comment	T-50004 LEVEL
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PDI-052 DP ACROSS S-50001)

Basic

Tag Name	50PDI-052
Model Name	PVI
Tag Comment	DP ACROSS S-50001
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-020 SEAWTR IL PR)

Basic

Tag Name	50PI-020
Model Name	PVI
Tag Comment	SEAWTR IL PR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-025 FLT SEAWTR PR - P-50003A)

Basic

Tag Name	50PI-025
Model Name	PVI
Tag Comment	FLT SEAWTR PR - P-50003A
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	50PI-025.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	FLT SEAWTR PR - P-50003A		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-026 FLT SEAWTR PR - P-50004A)

Basic

Tag Name	50PI-026
Model Name	PVI
Tag Comment	FLT SEAWTR PR - P-50004A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-027 FLT SEAWTR PR - P-50003B)

Basic

Tag Name	50PI-027
Model Name	PVI
Tag Comment	FLT SEAWTR PR - P-50003B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-028 FLT SEAWTR PR - P-50004B)

Basic

Tag Name	50PI-028
Model Name	PVI
Tag Comment	FLT SEAWTR PR - P-50004B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PI-030 FLT SEAWTR PR - P-50004A)

Basic

Tag Name	50PI-030
Model Name	PVI
Tag Comment	FLT SEAWTR PR - P-50004A
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	50PI-030.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	FLT SEAWTR PR - P-50004A		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1.000
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — No
Sum Value Entry — Not Allowed

Tag Detail (50PI-032 FLT SEAWTR PR - P-50004B)

Basic
Tag Name — 50PI-032
Model Name — PVI
Tag Comment — FLT SEAWTR PR - P-50004B
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1.000
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — No
Sum Value Entry — Not Allowed

Tag Detail (50PI-041 FRESH WTR OL PR)

Basic
Tag Name — 50PI-041
Model Name — PVI
Tag Comment — FRESH WTR OL PR
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1.000
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — No
Sum Value Entry — Not Allowed

Tag Detail (50PI-047 SOFTENING FLT IL PR)

Basic
Tag Name — 50PI-047
Model Name — PVI
Tag Comment — SOFTENING FLT IL PR
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1.000
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — No
Sum Value Entry — Not Allowed

Tag Detail (50SI-P5004A HP PMP SPEED FEEDBACK)

Basic
Tag Name — 50SI-P5004A
Model Name — PVI
Tag Comment — HP PMP SPEED FEEDBACK
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input

PROJECT:	BLPH-CW1	FILE NAME:	50SI-P5004A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	HP PMP SPEED FEEDBACK		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50SI-P5004B HP PMP SPEED FEEDBACK)

Basic
Tag Name 50SI-P5004B
Model Name PVI
Tag Comment HP PMP SPEED FEEDBACK
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50TI-021 SEAWTR TMP - H-50001)

Basic
Tag Name 50TI-021
Model Name PVI
Tag Comment SEAWTR TMP - H-50001
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50TI-022 SEAWTR TMP - H-50001)

Basic
Tag Name 50TI-022
Model Name PVI
Tag Comment SEAWTR TMP - H-50001
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000
Input High Limit Detection Set Value 106.25
Input Low Limit Detection Set Value -6.25
Totalizer
Totalizer Time Unit No
Sum Value Entry Not Allowed

Tag Detail (50TI-023 AMBT AIR TMP INSIDE CONT)

Basic
Tag Name 50TI-023
Model Name PVI
Tag Comment AMBT AIR TMP INSIDE CONT
Lvl 4
Scan Period Basic Scan
Scan coefficient 1
Scan phase 0
Input Signal Conversion
Input Signal Conversion Communication Input
Data Conversion Gain 1.000
Data Conversion Bias 0.000

PROJECT:	BLPH-CW1	FILE NAME:	50TI-023.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	AMBT AIR TMP INSIDE CONT		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50TI-024 FRESH WTR OL TMP)

Basic

Tag Name	50TI-024
Model Name	PVI
Tag Comment	FRESH WTR OL TMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50AI027-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50AI027-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50AI027-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-12
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50AI027-CL01 ALARM SP BASED ON DI)

```
Line Number   General-Purpose Calculation Formula
   001        alias AISH 50AI-027.SH
   002        alias AISL 50AI-027.SL
   003
   004        alias DIHH 50AIT027-HH.PV
   005        alias DIHI 50AIT027-H.PV
   006
   007        alias DILL 50AIT027-LL.PV
   008        alias DILO 50AIT027-L.PV
   009
   010
   011        alias AIHH  50AI-027.HH
   012        alias AIHI  50AI-027.PH
   013        alias AILL  50AI-027.LL
   014        alias AILO  50AI-027.PL
   015
   016        alias MEAS  50AI-027.PV
   017
   018        !ALARM HH,HI=0
   019        if ((DIHH==0)) then
   020            AIHH=0
   021            AIHI=0
   022        !ALARM HH =MAX ,HI=0
   023        else if ((DIHH==1 AND  DIHI==0)) then
   024            AIHH=AISH
   025           AIHI=0
   026        !ALARM NORMAL
   027        else if ((DIHH==1 AND  DIHI==1)) then
   028
   029            AIHH=AISH
   030            AIHI=AISH
   031        END IF
   032
   033        !ALARM LO,LL=MAX
   034        if ((DILL==0)) then
   035            AILL=AISH
   036           AILO=AISH
   037        !ALARM LL =MIN ,L0=MAX
   038        else if ((DILL==1 AND  DILO==0)) then
   039            AILL=0
   040           AILO=AISH
   041        !ALARM NORMAL
   042        else if ((DILL==1 AND  DILO==1)) then
   043            AILL=AISL
   044            AILO=AISL
   045        END IF
   046
   047
```

PROJECT:	BLPH-CW1	FILE NAME:	50AI024-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-13
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI024-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50AI024-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50AI024-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-14
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50AI024-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50AI-024.SH
002	alias AISL 50AI-024.SL
003	
004	alias DIHH 50AIT024-HH.PV
005	alias DIHI 50AIT024-H.PV
006	
007	alias AIHH 50AI-024.HH
008	alias AIHI 50AI-024.PH
009	
010	alias MEAS 50AI-024.PV
011	
012	!ALARM HH,HI=0
013	if ((DIHH==0)) then
014	AIHH=0
015	AIHI=0
016	!ALARM HH =MAX ,HI=0
017	else if ((DIHH==1 AND DIHI==0)) then
018	AIHH=AISH
019	AIHI=0
020	!ALARM NORMAL
021	else if ((DIHH==1 AND DIHI==1)) then
022	
023	AIHH=AISH
024	AIHI=AISH
025	END IF
026	
027	
028	
029	

PROJECT:	BLPH-CW1	FILE NAME:	50AI026-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-15
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI026-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50AI026-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50AI026-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-16
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50AI026-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50AI-026.SH
002	alias AISL 50AI-026.SL
003	
004	alias DIHH 50AIT026-HH.PV
005	alias DIHI 50AIT026-H.PV
006	
007	alias AIHH 50AI-026.HH
008	alias AIHI 50AI-026.PH
009	
010	alias MEAS 50AI-026.PV
011	
012	!ALARM HH,HI=0
013	if ((DIHH==0)) then
014	AIHH=0
015	AIHI=0
016	!ALARM HH =MAX ,HI=0
017	else if ((DIHH==1 AND DIHI==0)) then
018	AIHH=AISH
019	AIHI=0
020	!ALARM NORMAL
021	else if ((DIHH==1 AND DIHI==1)) then
022	
023	AIHH=AISH
024	AIHI=AISH
025	END IF
026	
027	
028	
029	

PROJECT:	BLPH-CW1	FILE NAME:	50AI023-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-17
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50AI023-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50AI023-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50AI023-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-18
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50AI023-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50AI-023.SH
002	alias AISL 50AI-023.SL
003	
004	alias DIHI 50AIT023-H.PV
005	
006	alias AIHI 50AI-023.PH
007	
008	alias MEAS 50AI-023.PV
009	
010	!ALARM HI=0
011	if ((DIHI==0)) then
012	AIHI=0
013	!ALARM HI=MAX
014	else if ((DIHI==1)) then
015	AIHI=AISH
016	!ALARM NORMAL
017	else if ((DIHI==1)) then
018	
019	AIHI=AISH
020	END IF
021	
022	
023	
024	

PROJECT:	BLPH-CW1	FILE NAME:	50FI020-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-19
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50FI020-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50FI020-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50FI020-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-20
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50FI020-CL01 ALARM SP BASED ON DI)

```
Line Number   General-Purpose Calculation Formula
   001        alias AISH 50FI-020.SH
   002        alias AISL 50FI-020.SL
   003
   004        alias DIHI 50FIT020-H.PV
   005        alias DILO 50FIT020-L.PV
   006
   007        alias AIHI  50FI-020.PH
   008        alias AILO  50FI-020.PL
   009
   010        alias MEAS  50FI-020.PV
   011
   012        !ALARM HI=0
   013        if ((DIHI==0)) then
   014            AIHI=0
   015        !ALARM HI=MAX
   016        else if ((DIHI==1)) then
   017            AIHI=AISH
   018        !ALARM NORMAL
   019        else if ((DIHI==1)) then
   020            AIHI=AISH
   021        END IF
   022
   023        !ALARM LO=MAX
   024        if ((DILO==0)) then
   025            AILO=AISH
   026        !ALARM NORMAL
   027        else if ((DILO==1)) then
   028            AILO=AISL
   029        END IF
   030
   031
```

PROJECT:	BLPH-CW1	FILE NAME:	50FI022-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-21
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50FI022-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50FI022-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50FI022-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-22
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50FI022-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50FI-022.SH
002	alias AISL 50FI-022.SL
003	
004	alias DIHI 50FIT022-H.PV
005	alias DILO 50FIT022-L.PV
006	
007	alias AIHI 50FI-022.PH
008	alias AILO 50FI-022.PL
009	
010	alias MEAS 50FI-022.PV
011	
012	!ALARM HI=0
013	if ((DIHI==0)) then
014	AIHI=0
015	!ALARM HI=MAX
016	else if ((DIHI==1)) then
017	AIHI=AISH
018	!ALARM NORMAL
019	
020	END IF
021	
022	!ALARM LO=MAX
023	if ((DILO==0)) then
024	AILO=AISH
025	!ALARM NORMAL
026	else if ((DILO==1)) then
027	AILO=AISL
028	END IF
029	
030	

PROJECT:	BLPH-CW1	FILE NAME:	50FI023-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-23
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50FI023-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50FI023-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50FI023-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-24
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50FI023-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50FI-023.SH
002	alias AISL 50FI-023.SL
003	
004	alias DIHI 50FIT023-H.PV
005	alias DILO 50FIT023-L.PV
006	
007	alias AIHI 50FI-023.PH
008	alias AILO 50FI-023.PL
009	
010	alias MEAS 50FI-023.PV
011	
012	!ALARM HI=0
013	if ((DIHI==0)) then
014	AIHI=0
015	!ALARM HI=MAX
016	else if ((DIHI==1)) then
017	AIHI=AISH
018	!ALARM NORMAL
019	
020	END IF
021	
022	!ALARM LO=MAX
023	if ((DILO==0)) then
024	AILO=AISH
025	!ALARM NORMAL
026	else if ((DILO==1)) then
027	AILO=AISL
028	END IF
029	
030	

PROJECT:	BLPH-CW1	FILE NAME:	50FI026-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-25
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50FI026-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50FI026-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50FI026-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-26
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:03 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50FI026-CL01 ALARM SP BASED ON DI)

```
Line Number   General-Purpose Calculation Formula
   001        alias AISH 50FI-026.SH
   002        alias AISL 50FI-026.SL
   003
   004        alias DILO 50FIT026-L.PV
   005
   006        alias AILO  50FI-026.PL
   007
   008        alias MEAS  50FI-026.PV
   009
   010        !ALARM LO=MAX
   011        if ((DILO==0)) then
   012            AILO=AISH
   013        !ALARM NORMAL
   014        else if ((DILO==1)) then
   015            AILO=AISL
   016        END IF
   017
   018
```

PROJECT:	BLPH-CW1	FILE NAME:	50FI024-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-27
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50FI024-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50FI024-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50FI024-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-28
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50FI024-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50FI-024.SH
002	alias AISL 50FI-024.SL
003	
004	alias DILO 50FIT024-L.PV
005	
006	alias AILO 50FI-024.PL
007	
008	alias MEAS 50FI-024.PV
009	
010	!ALARM LO=MAX
011	if ((DILO==0)) then
012	AILO=AISH
013	!ALARM NORMAL
014	else if ((DILO==1)) then
015	AILO=AISL
016	END IF
017	
018	

PROJECT:	BLPH-CW1	FILE NAME:	50LI020-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-29
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50LI020-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50LI020-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50LI020-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-30
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50LI020-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50LI-020.SH
002	alias AISL 50LI-020.SL
003	
004	alias DIHI 50LIT020-H.PV
005	
006	alias DILL 50LIT020-LL.PV
007	alias DILO 50LIT020-L.PV
008	
009	
010	alias AIHI 50LI-020.PH
011	alias AILL 50LI-020.LL
012	alias AILO 50LI-020.PL
013	
014	alias MEAS 50LI-020.PV
015	
016	!ALARM HI=0
017	
018	!ALARM HH =MAX ,HI=0
019	if ((DIHI==0)) then
020	AIHI=0
021	!ALARM NORMAL
022	else if ((DIHI==1)) then
023	AIHI=AISH
024	END IF
025	
026	!ALARM LO,LL=MAX
027	if ((DILL==0)) then
028	AILL=AISH
029	AILO=AISH
030	!ALARM LL =MIN ,L0=MAX
031	else if ((DILL==1 AND DILO==0)) then
032	AILL=AISL
033	AILO=AISH
034	!ALARM NORMAL
035	else if ((DILL==1 AND DILO==1)) then
036	AILL=AISL
037	AILO=AISL
038	END IF
039	
040	
041	

PROJECT:	BLPH-CW1	FILE NAME:	50LI021-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-31
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50LI021-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50LI021-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50LI021-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-32
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50LI021-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50LI-021.SH
002	alias AISL 50LI-021.SL
003	
004	alias DIHI 50LIT021-H.PV
005	
006	alias DILL 50LIT021-LL.PV
007	alias DILO 50LIT021-L.PV
008	
009	
010	alias AIHI 50LI-021.PH
011	alias AILL 50LI-021.LL
012	alias AILO 50LI-021.PL
013	
014	alias MEAS 50LI-021.PV
015	
016	!ALARM HI=0
017	
018	!ALARM HH =MAX ,HI=0
019	if ((DIHI==0)) then
020	AIHI=0
021	!ALARM NORMAL
022	else if ((DIHI==1)) then
023	AIHI=AISH
024	END IF
025	
026	!ALARM LO,LL=MAX
027	if ((DILL==0)) then
028	AILL=AISH
029	AILO=AISH
030	!ALARM LL =MIN ,L0=MAX
031	else if ((DILL==1 AND DILO==0)) then
032	AILL=AISL
033	AILO=AISH
034	!ALARM NORMAL
035	else if ((DILL==1 AND DILO==1)) then
036	AILL=AISL
037	AILO=AISL
038	END IF
039	
040	
041	

PROJECT:	BLPH-CW1	FILE NAME:	50LI022-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-33
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50LI022-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50LI022-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50LI022-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-34
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50LI022-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50LI-022.SH
002	alias AISL 50LI-022.SL
003	
004	
005	
006	alias DILL 50LIT022-LL.PV
007	alias DILO 50LIT022-L.PV
008	
009	
010	alias AILL 50LI-022.LL
011	alias AILO 50LI-022.PL
012	
013	alias MEAS 50LI-022.PV
014	
015	
016	!ALARM LO,LL=MAX
017	if ((DILL==0)) then
018	AILL=AISH
019	AILO=AISH
020	!ALARM LL =MIN ,L0=MAX
021	else if ((DILL==1 AND DILO==0)) then
022	AILL=AISL
023	AILO=AISH
024	!ALARM NORMAL
025	else if ((DILL==1 AND DILO==1)) then
026	AILL=AISL
027	AILO=AISL
028	END IF
029	
030	
031	

PROJECT:	BLPH-CW1	FILE NAME:	50LI023-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-35
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50LI023-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50LI023-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50LI023-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-36
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50LI023-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50LI-023.SH
002	alias AISL 50LI-023.SL
003	
004	
005	
006	alias DILL 50LIT023-LL.PV
007	alias DILO 50LIT023-L.PV
008	
009	
010	alias AILL 50LI-023.LL
011	alias AILO 50LI-023.PL
012	
013	alias MEAS 50LI-023.PV
014	
015	
016	!ALARM LO,LL=MAX
017	if ((DILL==0)) then
018	AILL=AISH
019	AILO=AISH
020	!ALARM LL =MIN ,L0=MAX
021	else if ((DILL==1 AND DILO==0)) then
022	AILL=AISL
023	AILO=AISH
024	!ALARM NORMAL
025	else if ((DILL==1 AND DILO==1)) then
026	AILL=AISL
027	AILO=AISL
028	END IF
029	
030	
031	

PROJECT:	BLPH-CW1	FILE NAME:	50LI024-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-37
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50LI024-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50LI024-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50LI024-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-38
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50LI024-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50LI-024.SH
002	alias AISL 50LI-024.SL
003	
004	
005	
006	alias DILL 50LIT024-LL.PV
007	alias DILO 50LIT024-L.PV
008	
009	
010	alias AILL 50LI-024.LL
011	alias AILO 50LI-024.PL
012	
013	alias MEAS 50LI-024.PV
014	
015	
016	!ALARM LO,LL=MAX
017	if ((DILL==0)) then
018	AILL=AISH
019	AILO=AISH
020	!ALARM LL =MIN ,L0=MAX
021	else if ((DILL==1 AND DILO==0)) then
022	AILL=AISL
023	AILO=AISH
024	!ALARM NORMAL
025	else if ((DILL==1 AND DILO==1)) then
026	AILL=AISL
027	AILO=AISL
028	END IF
029	
030	
031	

PROJECT:	BLPH-CW1	FILE NAME:	50PDI52-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-39
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PDI52-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50PDI52-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PDI52-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-40
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PDI52-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50PDI-052.SH
002	alias AISL 50PDI-052.SL
003	
004	alias DIHI 50PDIT052-H.PV
005	
006	
007	
008	
009	alias AIHI 50PDI-052.PH
010	
011	
012	alias MEAS 50PDI-052.PV
013	
014	!ALARM HI=0
015	
016	!ALARM HI=0
017	if ((DIHI==0)) then
018	AIHI=0
019	!ALARM NORMAL
020	else if ((DIHI==1)) then
021	AIHI=AISH
022	END IF

PROJECT:	BLPH-CW1	FILE NAME:	50PI020-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-41
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PI020-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50PI020-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PI020-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-42
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PI020-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH1 50PI-020.SH
002	alias AISL1 50PI-020.SL
003	alias AISH2 50PI-025.SH
004	alias AISL2 50PI-025.SL
005	alias AISH3 50PI-026.SH
006	alias AISL3 50PI-026.SL
007	alias AISH4 50PI-027.SH
008	alias AISL4 50PI-027.SL
009	alias AISH5 50PI-028.SH
010	alias AISL5 50PI-028.SL
011	
012	alias DILO1 50PIT020-L.PV
013	alias DILO2 50PIT025-L.PV
014	alias DILO3 50PIT026-L.PV
015	alias DILO4 50PIT027-L.PV
016	alias DILO5 50PIT028-L.PV
017	
018	
019	alias AILO1 50PI-020.PL
020	alias AILO2 50PI-025.PL
021	alias AILO3 50PI-026.PL
022	alias AILO4 50PI-027.PL
023	alias AILO5 50PI-028.PL
024	
025	alias AILL1 50PI-020.LL
026	alias AILL2 50PI-025.LL
027	alias AILL3 50PI-026.LL
028	alias AILL4 50PI-027.LL
029	alias AILL5 50PI-028.LL
030	
031	alias MEAS1 50PI-020.PV
032	alias MEAS2 50PI-025.PV
033	alias MEAS3 50PI-026.PV
034	alias MEAS4 50PI-027.PV
035	alias MEAS5 50PI-028.PV
036	
037	!ALARM LO=MAX
038	if ((DILO1==0)) then
039	AILO1=AISH1
040	!ALARM NORMAL
041	else
042	AILL1=AISL1
043	AILO1=AISL1
044	END IF
045	
046	!ALARM LO=MAX
047	if ((DILO2==0)) then
048	AILO2=AISH2
049	!ALARM NORMAL
050	else
051	AILL2=AISL2
052	AILO2=AISL2
053	END IF
054	
055	!ALARM LO=MAX
056	if ((DILO3==0)) then
057	AILO3=AISH3
058	!ALARM NORMAL
059	else
060	AILL3=AISL3
061	AILO3=AISL3
062	END IF
063	!ALARM LO=MAX
064	if ((DILO4==0)) then
065	AILO4=AISH4
066	!ALARM NORMAL
067	else
068	AILL4=AISL4
069	AILO4=AISL4
070	END IF
071	
072	!ALARM LO=MAX
073	if ((DILO5==0)) then
074	AILO5=AISH4
075	!ALARM NORMAL
076	else
077	AILL5=AISL5
078	AILO5=AISL5
079	END IF

PROJECT:	BLPH-CW1	FILE NAME:	50PI030-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-43
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PI030-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50PI030-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PI030-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-44
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PI030-CL01 ALARM SP BASED ON DI)

```
Line Number   General-Purpose Calculation Formula
   001        alias AISH1 50PI-030.SH
   002        alias AISL1 50PI-030.SL
   003        alias AISH2 50PI-032.SH
   004        alias AISL2 50PI-032.SL
   005
   006
   007        alias DIHI1 50PIT030-H.PV
   008        alias DILO1 50PIT030-L.PV
   009        alias DIHI2 50PIT032-H.PV
   010        alias DILO2 50PIT032-L.PV
   011
   012        alias AIHI1 50PI-030.PH
   013        alias AILO1 50PI-030.PL
   014        alias AIHI2 50PI-032.PH
   015        alias AILO2 50PI-032.PL
   016
   017        alias MEAS1 50PI-030.PV
   018        alias MEAS2 50PI-032.PV
   019
   020        !ALARM HI=0
   021        if ((DIHI1==0)) then
   022            AIHI1=AISL1
   023        !ALARM HI=MAX
   024        else if ((DIHI1==1)) then
   025            AIHI1=AISH1
   026        !ALARM NORMAL
   027        END IF
   028
   029        !ALARM LO=MAX
   030        if ((DILO1==0)) then
   031            AILO1=AISH1
   032        !ALARM NORMAL
   033        else if ((DILO1==1)) then
   034            AILO1=AISL1
   035        END IF
   036        !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
   037        if ((DIHI2==0)) then
   038            AIHI2=AISL2
   039        !ALARM HI=MAX
   040        else if ((DIHI2==1)) then
   041            AIHI1=AISH1
   042        !ALARM NORMAL
   043
   044        END IF
   045
   046        !ALARM LO=MAX
   047        if ((DILO2==0)) then
   048            AILO2=AISH2
   049        !ALARM NORMAL
   050        else if ((DILO2==1)) then
   051            AILO2=AISL2
   052        END IF
   053
```

PROJECT:	BLPH-CW1	FILE NAME:	50PI041-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-45
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PI041-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50PI041-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PI041-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-46
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PI041-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH1 50PI-041.SH
002	alias AISL1 50PI-041.SL
003	alias AISH2 50PI-047.SH
004	alias AISL2 50PI-047.SL
005	
006	
007	alias DIHI1 50PIT041-H.PV
008	alias DILO1 50PIT041-L.PV
009	alias DIHI2 50PIT047-H.PV
010	alias DILO2 50PIT047-L.PV
011	
012	alias AIHI1 50PI-041.PH
013	alias AILO1 50PI-041.PL
014	alias AIHI2 50PI-047.PH
015	alias AILO2 50PI-047.PL
016	
017	alias MEAS1 50PI-041.PV
018	alias MEAS2 50PI-047.PV
019	
020	!ALARM HI=0
021	if ((DIHI1==0)) then
022	AIHI1=AISL1
023	!ALARM HI=MAX
024	else if ((DIHI1==1)) then
025	AIHI1=AISH1
026	!ALARM NORMAL
027	END IF
028	
029	!ALARM LO=MAX
030	if ((DILO1==0)) then
031	AILO1=AISH1
032	!ALARM NORMAL
033	else if ((DILO1==1)) then
034	AILO1=AISL1
035	END IF
036	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
037	if ((DIHI2==0)) then
038	AIHI2=AISL2
039	!ALARM HI=MAX
040	else if ((DIHI2==1)) then
041	AIHI1=AISH1
042	!ALARM NORMAL
043	
044	END IF
045	
046	!ALARM LO=MAX
047	if ((DILO2==0)) then
048	AILO2=AISH2
049	!ALARM NORMAL
050	else if ((DILO2==1)) then
051	AILO2=AISL2
052	END IF
053	

PROJECT:	BLPH-CW1	FILE NAME:	50TI022-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-47
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50TI022-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50TI022-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50TI022-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-48
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50TI022-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50TI-022.SH
002	alias AISL 50TI-022.SL
003	
004	alias DIHH 50TIT022-HH.PV
005	alias DIHI 50TIT022-H.PV
006	
007	
008	alias DILO 50TIT022-L.PV
009	
010	
011	alias AIHH 50TI-022.HH
012	alias AIHI 50TI-022.PH
013	alias AILL 50TI-022.LL
014	alias AILO 50TI-022.PL
015	
016	alias MEAS 50TI-022.PV
017	
018	!ALARM HH,HI=0
019	if ((DIHH==0)) then
020	AIHH=0
021	AIHI=0
022	!ALARM HH =MAX ,HI=0
023	else if ((DIHH==1 AND DIHI==0)) then
024	AIHH=AISH
025	AIHI=0
026	!ALARM NORMAL
027	else if ((DIHH==1 AND DIHI==1)) then
028	
029	AIHH=AISH
030	AIHI=AISH
031	END IF
032	
033	!ALARM LO=MAX
034	if ((DILO==0)) then
035	AILO=AISH
036	!ALARM NORMAL
037	else if ((DILO==1)) then
038	AILO=AISL
039	END IF
040	
041	

PROJECT:	BLPH-CW1	FILE NAME:	50PDI-024.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-49
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	DP ACROSS S-50002A-2B		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PDI-024 DP ACROSS S-50002A-2B)

Basic

Tag Name	50PDI-024
Model Name	PVI
Tag Comment	DP ACROSS S-50002A-2B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PDI24-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50PDI24-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PDI24-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-50
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PDI24-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50PDI-024.SH
002	alias AISL 50PDI-024.SL
003	
004	alias DIHI 50PDIT024-H.PV
005	
006	
007	
008	
009	alias AIHI 50PDI-024.PH
010	
011	
012	alias MEAS 50PDI-024.PV
013	
014	!ALARM HI=0
015	
016	!ALARM HI=0
017	if ((DIHI==0)) then
018	AIHI=0
019	!ALARM NORMAL
020	else if ((DIHI==1)) then
021	AIHI=AISH
022	END IF

PROJECT:	BLPH-CW1	FILE NAME:	50PDI-029.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-51
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	DP ACROSS S-50003A-3B		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PDI-029 DP ACROSS S-50003A-3B)

Basic

Tag Name	50PDI-029
Model Name	PVI
Tag Comment	DP ACROSS S-50003A-3B
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PDI-049 DP ACROSS S-50010)

Basic

Tag Name	50PDI-049
Model Name	PVI
Tag Comment	DP ACROSS S-50010
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (50PDI29-CL01 ALARM SP BASED ON DI)

Basic

Tag Name	50PDI29-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PDI29-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-52
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PDI29-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50PDI-029.SH
002	alias AISL 50PDI-029.SL
003	
004	alias DIHI 50PDIT029-H.PV
005	
006	
007	
008	
009	alias AIHI 50PDI-029.PH
010	
011	
012	alias MEAS 50PDI-029.PV
013	
014	!ALARM HI=0
015	
016	!ALARM HI=0
017	if ((DIHI==0)) then
018	AIHI=0
019	!ALARM NORMAL
020	else if ((DIHI==1)) then
021	AIHI=AISH
022	END IF

PROJECT:	BLPH-CW1	FILE NAME:	50PDI49-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-53
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50PDI49-CL01 ALARM SP BASED ON DI)

Basic

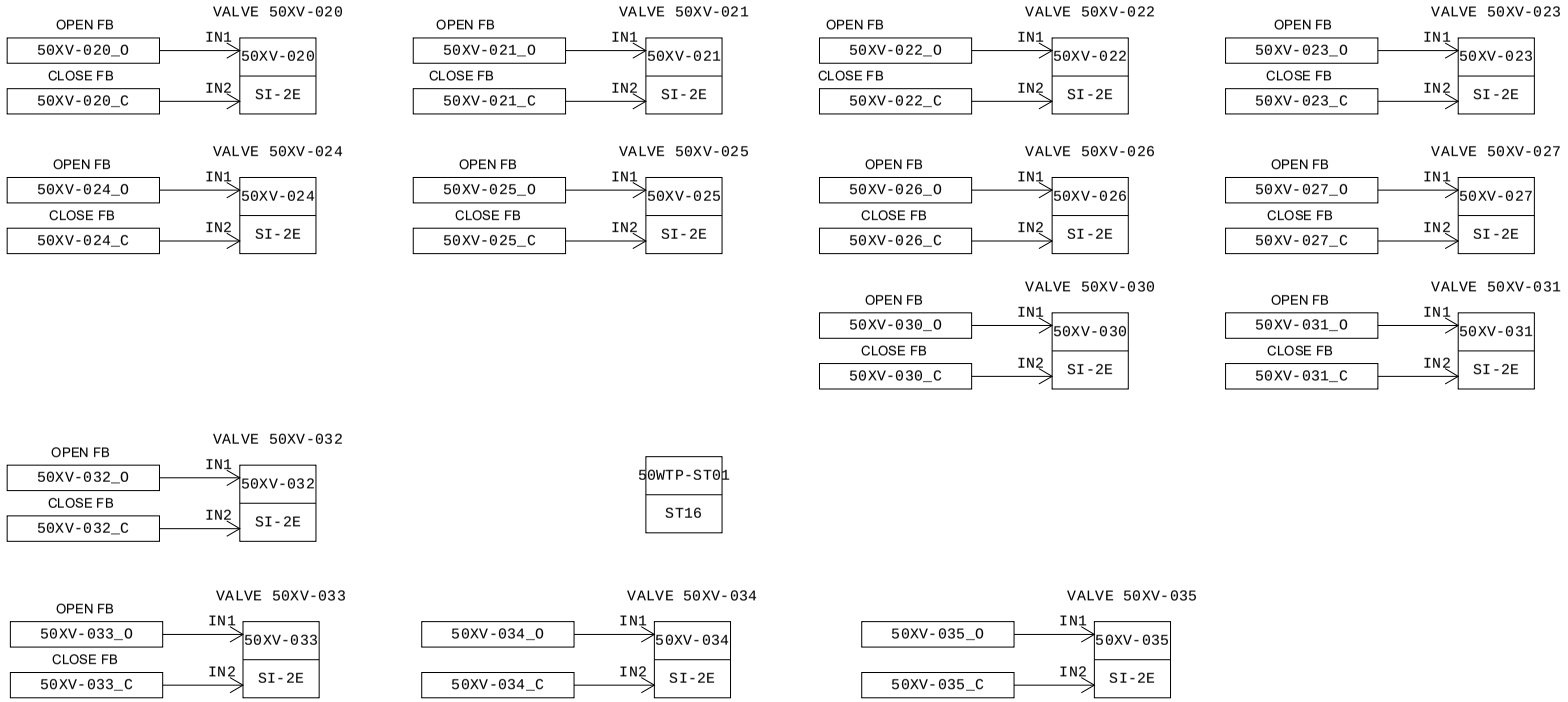
Tag Name	50PDI49-CL01
Model Name	CALCU
Tag Comment	ALARM SP BASED ON DI
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	50PDI49-CL01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-49-54
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:04 AM	COMMENT:	ALARM SP BASED ON DI		
SECTION:	DR0125	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (50PDI49-CL01 ALARM SP BASED ON DI)

Line Number	General-Purpose Calculation Formula
001	alias AISH 50PDI-049.SH
002	alias AISL 50PDI-049.SL
003	
004	alias DIHI 50PDIT049-H.PV
005	
006	
007	
008	
009	alias AIHI 50PDI-049.PH
010	
011	
012	alias MEAS 50PDI-049.PV
013	
014	!ALARM HI=0
015	
016	!ALARM HI=0
017	if ((DIHI==0)) then
018	AIHI=0
019	!ALARM NORMAL
020	else if ((DIHI==1)) then
021	AIHI=AISH
022	END IF

PROJECT:	BLPH-CW1	FILE NAME:	DR0126.edf	SHEET:		YOKOGAWA	PAGE:3-25-50-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0126.edf	SHEET:		YOKOGAWA	PAGE:3-25-50-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP005_001	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
002	TYP005_002	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
003	TYP005_003	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
004	TYP005_004	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
005	TYP005_005	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
006	TYP005_006	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
007	TYP005_007	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
008	TYP005_008	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
009	TYP005_012	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
010	TYP005_013	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
011	TYP005_011	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
012	TYP005_009	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
013	TYP005_010	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate
014	TYP005_014	TYP005	2024/11/15 20:54	SI-2 for subsystem valve faceplate

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0126.edf	SHEET:		YOKOGAWA	PAGE:3-25-50-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:WTP SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	50XV-020	SI-2E	VALVE 50XV-020	0	0	4			
002	50XV-021	SI-2E	VALVE 50XV-021	0	0	4			
003	50XV-022	SI-2E	VALVE 50XV-022	0	0	4			
004	50XV-023	SI-2E	VALVE 50XV-023	0	0	4			
005	50XV-024	SI-2E	VALVE 50XV-024	0	0	4			
006	50XV-025	SI-2E	VALVE 50XV-025	0	0	4			
007	50XV-026	SI-2E	VALVE 50XV-026	0	0	4			
008	50XV-027	SI-2E	VALVE 50XV-027	0	0	4			
009	50XV-030	SI-2E	VALVE 50XV-030	0	0	4			
010	50XV-031	SI-2E	VALVE 50XV-031	0	0	4			
011	50XV-032	SI-2E	VALVE 50XV-032	0	0	4			
012	50WTP-ST01	ST16	WTP ANN	0	0	4			
013	50XV-033	SI-2E	VALVE 50XV-033	0	0	4			
014	50XV-034	SI-2E	VALVE 50XV-034	0	0	4			
015	50XV-035	SI-2E	VALVE 50XV-035	0	0	4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50XV-020.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-50-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	VALVE 50XV-020		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-020 VALVE 50XV-020)

Basic

Tag Name	50XV-020
Model Name	SI-2E
Tag Comment	VALVE 50XV-020
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-021 VALVE 50XV-021)

Basic

Tag Name	50XV-021
Model Name	SI-2E
Tag Comment	VALVE 50XV-021
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-022 VALVE 50XV-022)

Basic

Tag Name	50XV-022
Model Name	SI-2E
Tag Comment	VALVE 50XV-022
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-023 VALVE 50XV-023)

Basic

Tag Name	50XV-023
Model Name	SI-2E
Tag Comment	VALVE 50XV-023
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-024 VALVE 50XV-024)

Basic

Tag Name	50XV-024
Model Name	SI-2E
Tag Comment	VALVE 50XV-024
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-025 VALVE 50XV-025)

Basic

Tag Name	50XV-025
Model Name	SI-2E
Tag Comment	VALVE 50XV-025
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-026 VALVE 50XV-026)

Basic

Tag Name	50XV-026
Model Name	SI-2E
Tag Comment	VALVE 50XV-026
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	50XV-026.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-50-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	VALVE 50XV-026		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-027 VALVE 50XV-027)

Basic

Tag Name	50XV-027
Model Name	SI-2E
Tag Comment	VALVE 50XV-027
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-030 VALVE 50XV-030)

Basic

Tag Name	50XV-030
Model Name	SI-2E
Tag Comment	VALVE 50XV-030
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-031 VALVE 50XV-031)

Basic

Tag Name	50XV-031
Model Name	SI-2E
Tag Comment	VALVE 50XV-031
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-032 VALVE 50XV-032)

Basic

Tag Name	50XV-032
Model Name	SI-2E
Tag Comment	VALVE 50XV-032
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50WTP-ST01 WTP ANN)

Basic

Tag Name	50WTP-ST01
Model Name	ST16
Tag Comment	WTP ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50WTP-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-50-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	WTP ANN		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (50WTP-ST01 WTP ANN)

Start Timing — Periodic Execution Type(T)
Output Timing — Output Each Time Conditions are Satisfied(E)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	50XV-020_FALM.PV	ON	SEAWTR IL VLV FAIL	N								
C02	50XV-021_FALM.PV	ON	P50003A SUCTVLV FAIL	N								
C03	50XV-022_FALM.PV	ON	P50003B SUCTVLV FAIL	N								
C04	50XV-023_FALM.PV	ON	P50003A FLSHVLV FAIL	N								
C05	50XV-024_FALM.PV	ON	P50003B FLSHVLV FAIL		N							
C06	50XV-025_FALM.PV	ON	A50007A_B VLV FAIL		N							
C07	50XV-026_FALM.PV	ON	FRSH WTR DRNA50007AB FAL		N							
C08	50XV-027_FALM.PV	ON	BRN VLV A50007A FAIL		N							
C09												
C10												
C11	50XV-030_FALM.PV	ON	BRN VLV A50007B FAIL			N						
C12	50XV-031_FALM.PV	ON	FRSH WTR OL VLV FAIL			N						
C13	50XV-032_FALM.PV	ON	FRSH WTR VLVOFFSPEC FAIL				N					
C14	50XV-033_FALM.PV	ON	SEA WTR DRN H-50001 FAIL				N					
C15	50XV-034_FALM.PV	ON	SEA WTR DRN T-50006 FAIL				N					
C16	50XV-035_FALM.PV	ON	SEA WTR DRN T-50008 FAIL				N					
C17												
C18	50AT020A-H.PV	ON	H2 DETECT CONTAINER HI					Y				
C19	50AT020A-HH.PV	ON	H2 DETECT CONTAINER HIHI					Y				
C20	50AT020B-H.PV	ON	H2 DETECT CONTAINER HI					Y				
C21	50AT020B-HH.PV	ON	H2 DETECT CONTAINER HIHI					Y				
C22	50AT020C-H.PV	ON	H2 DETECT CONTAINER HI					Y				
C23	50AT020C-HH.PV	ON	H2 DETECT CONTAINER HIHI					Y				
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	50XV020_FAN.PV	L	SEAWTR IL VLV FAIL	Y								
A02	50XV021_FAN.PV	L	P50003A SUCTVLV FAIL	Y								
A03	50XV022_FAN.PV	L	P50003B SUCTVLV FAIL	Y								
A04	50XV023_FAN.PV	L	P50003A FLSHVLV FAIL	Y								
A05	50XV024_FAN.PV	L	P50003B FLSHVLV FAIL		Y							
A06	50XV025_FAN.PV	L	A50007A_B VLV FAIL		Y							
A07	50XV026_FAN.PV	L	FRSH WTR DRNA50007AB FL		Y							
A08	50XV027_FAN.PV	L	BRN VLV A50007A FAIL		Y							
A09												
A10												
A11	50XV030_FAN.PV	L	BRN VLV A50007B FAIL			Y						
A12	50XV031_FAN.PV	L	FRSH WTR OL VLV FAIL			Y						
A13	50XV032_FAN.PV	L	FRSH WTR VLVOFFSPEC FAIL				Y					
A14	50XV033_FAN.PV	L	SEA WTR DRN H-50001				Y					
A15	50XV034_FAN.PV	L	SEA WTR DRN T-50006				Y					
A16	50XV035_FAN.PV	L	SEA WTR DRN T-50008				Y					
A17												
A18	950GDZ-020AH.PV	L	H2 DETECT CONTAINER HI					Y				
A19	950GDZ-020AHH.PV	L	H2 DETECT CONTAINER HIHI					Y				
A20	950GDZ-020BH.PV	L	H2 DETECT CONTAINER HI					Y				
A21	950GDZ-020BHH.PV	L	H2 DETECT CONTAINER HIHI					Y				
A22	950GDZ-020CH.PV	L	H2 DETECT CONTAINER HI					Y				
A23	950GDZ-020CHH.PV	L	H2 DETECT CONTAINER HIHI					Y				
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	50XV-033.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-50-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:07 AM	COMMENT:	VALVE 50XV-033		
SECTION:	DR0126	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50XV-033 VALVE 50XV-033)

Basic

Tag Name	50XV-033
Model Name	SI-2E
Tag Comment	VALVE 50XV-033
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-034 VALVE 50XV-034)

Basic

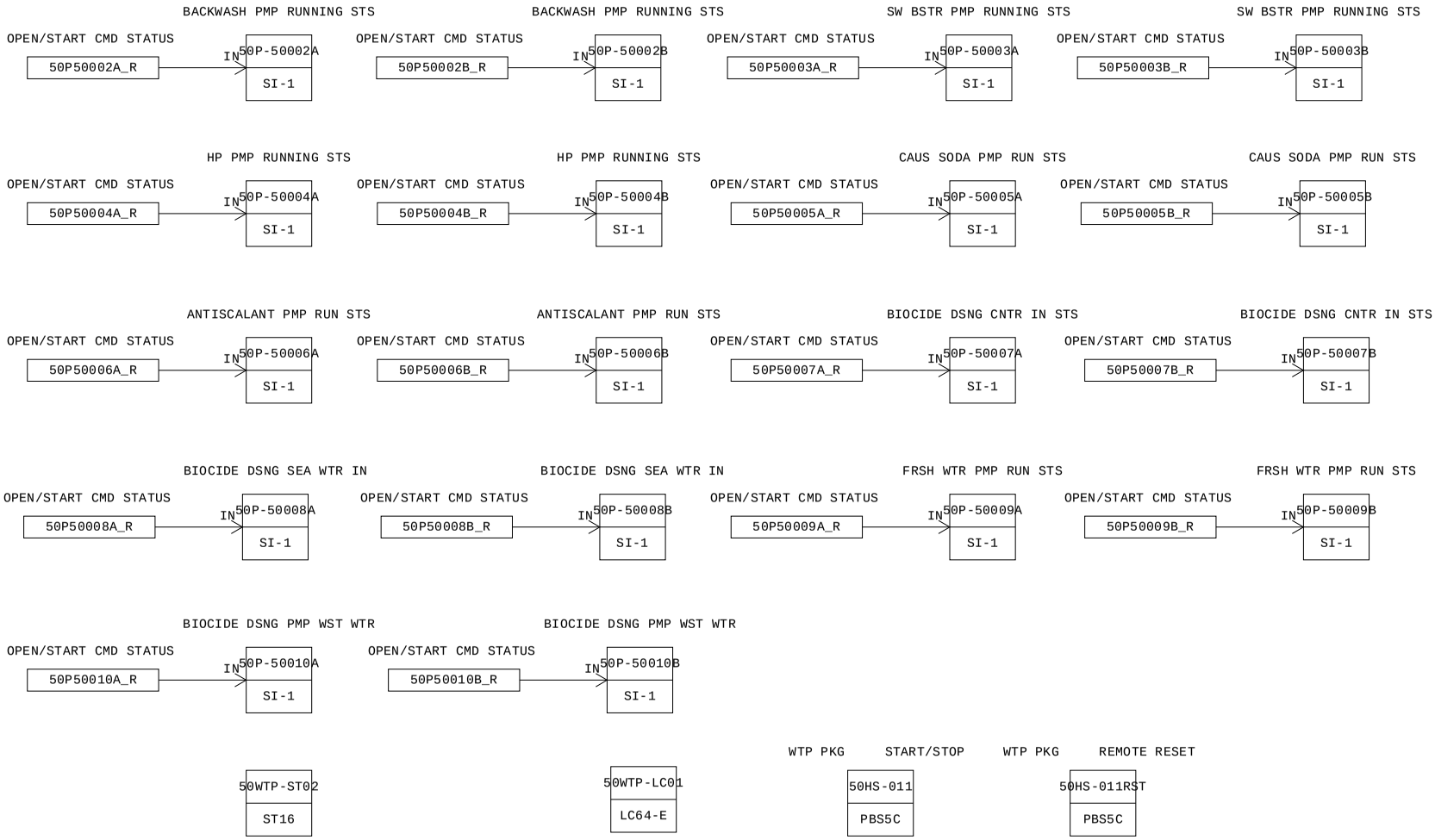
Tag Name	50XV-034
Model Name	SI-2E
Tag Comment	VALVE 50XV-034
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

Tag Detail (50XV-035 VALVE 50XV-035)

Basic

Tag Name	50XV-035
Model Name	SI-2E
Tag Comment	VALVE 50XV-035
Lvl	4
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	DR0127.edf	SHEET:		YOKOGAWA	PAGE:3-25-51-1
STATION:	FCS0101	SAVED DATE:	5/20/2025 6:08:56 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0127.edf	SHEET:		YOKOGAWA	PAGE:3-25-51-2
STATION:	FCS0101	SAVED DATE:	5/20/2025 6:08:56 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP008_001	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
002	TYP008_002	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
003	TYP008_003	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
004	TYP008_008	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
005	TYP008_004	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
006	TYP008_005	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
007	TYP008_006	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
008	TYP008_007	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
009	TYP008_013	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
010	TYP008_014	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
011	TYP008_015	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
012	TYP008_016	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
013	TYP008_009	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
014	TYP008_010	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
015	TYP008_011	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
016	TYP008_012	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
017	TYP008_017	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
018	TYP008_018	TYP008	2024/11/15 22:31	CMD STATUS TO PCS

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0127.edf	SHEET:		YOKOGAWA	PAGE:3-25-51-3
STATION:	FCS0101	SAVED DATE:	5/20/2025 6:08:56 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:WTP SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	50P-50002A	SI-1	BACKWASH PMP RUNNING STS	0	0				50P50002A_R
						4			
002	50P-50002B	SI-1	BACKWASH PMP RUNNING STS	0	0				50P50002B_R
						4			
003	50P-50003A	SI-1	SW BSTR PMP RUNNING STS	0	0				50P50003A_R
						4			
004	50P-50003B	SI-1	SW BSTR PMP RUNNING STS	0	0				50P50003B_R
						4			
005	50P-50004A	SI-1	HP PMP RUNNING STS	0	0				50P50004A_R
						4			
006	50P-50004B	SI-1	HP PMP RUNNING STS	0	0				50P50004B_R
						4			
007	50P-50005A	SI-1	CAUS SODA PMP RUN STS	0	0				50P50005A_R
						4			
008	50P-50005B	SI-1	CAUS SODA PMP RUN STS	0	0				50P50005B_R
						4			
009	50P-50006A	SI-1	ANTISCALANT PMP RUN STS	0	0				50P50006A_R
						4			
010	50P-50006B	SI-1	ANTISCALANT PMP RUN STS	0	0				50P50006B_R
						4			
011	50P-50007A	SI-1	BIOCIDE DSNG CNTR IN STS	0	0				50P50007A_R
						4			
012	50P-50007B	SI-1	BIOCIDE DSNG CNTR IN STS	0	0				50P50007B_R
						4			
013	50P-50008A	SI-1	BIOCIDE DSNG SEA WTR IN	0	0				50P50008A_R
						4			
014	50P-50008B	SI-1	BIOCIDE DSNG SEA WTR IN	0	0				50P50008B_R
						4			
015	50P-50009A	SI-1	FRSH WTR PMP RUN STS	0	0				50P50009A_R
						4			
016	50P-50009B	SI-1	FRSH WTR PMP RUN STS	0	0				50P50009B_R
						4			
017	50P-50010A	SI-1	BIOCIDE DSNG PMP WST WTR	0	0				50P50010A_R
						4			
018	50P-50010B	SI-1	BIOCIDE DSNG PMP WST WTR	0	0				50P50010B_R
						4			
019	50WTP-ST02	ST16	WTP ANN	0	0				
						4			
020	50WTP-LC01	LC64-E	WTP DO LOGIC	0	0				
						4			
021	50HS-011	PBS5C	WTP PKG START/STOP	0	0				
						3			
022	50HS-011RST	PBS5C	WTP PKG REMOTE RESET	0	0				
						3			

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50P-50002A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-51-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:09 AM	COMMENT:	BACKWASH PMP RUNNING STS		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50P-50002A BACKWASH PMP RUNNING STS)

Basic

Tag Name	50P-50002A
Model Name	SI-1
Tag Comment	BACKWASH PMP RUNNING STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50002B BACKWASH PMP RUNNING STS)

Basic

Tag Name	50P-50002B
Model Name	SI-1
Tag Comment	BACKWASH PMP RUNNING STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50003A SW BSTR PMP RUNNING STS)

Basic

Tag Name	50P-50003A
Model Name	SI-1
Tag Comment	SW BSTR PMP RUNNING STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50003B SW BSTR PMP RUNNING STS)

Basic

Tag Name	50P-50003B
Model Name	SI-1
Tag Comment	SW BSTR PMP RUNNING STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50004A HP PMP RUNNING STS)

Basic

Tag Name	50P-50004A
Model Name	SI-1
Tag Comment	HP PMP RUNNING STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50004B HP PMP RUNNING STS)

Basic

Tag Name	50P-50004B
Model Name	SI-1
Tag Comment	HP PMP RUNNING STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50005A CAUS SODA PMP RUN STS)

Basic

Tag Name	50P-50005A
Model Name	SI-1
Tag Comment	CAUS SODA PMP RUN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	50P-50005A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-51-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:09 AM	COMMENT:	CAUS SODA PMP RUN STS		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50P-50005B CAUS SODA PMP RUN STS)

Basic

Tag Name	50P-50005B
Model Name	SI-1
Tag Comment	CAUS SODA PMP RUN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50006A ANTISCALANT PMP RUN STS)

Basic

Tag Name	50P-50006A
Model Name	SI-1
Tag Comment	ANTISCALANT PMP RUN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50006B ANTISCALANT PMP RUN STS)

Basic

Tag Name	50P-50006B
Model Name	SI-1
Tag Comment	ANTISCALANT PMP RUN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50007A BIOCIDE DSNG CNTR IN STS)

Basic

Tag Name	50P-50007A
Model Name	SI-1
Tag Comment	BIOCIDE DSNG CNTR IN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50007B BIOCIDE DSNG CNTR IN STS)

Basic

Tag Name	50P-50007B
Model Name	SI-1
Tag Comment	BIOCIDE DSNG CNTR IN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50008A BIOCIDE DSNG SEA WTR IN)

Basic

Tag Name	50P-50008A
Model Name	SI-1
Tag Comment	BIOCIDE DSNG SEA WTR IN
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50008B BIOCIDE DSNG SEA WTR IN)

Basic

Tag Name	50P-50008B
Model Name	SI-1
Tag Comment	BIOCIDE DSNG SEA WTR IN
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	50P-50008B.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-51-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:09 AM	COMMENT:	BIOCIDE DSNG SEA WTR IN		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50P-50009A FRSH WTR PMP RUN STS)

Basic

Tag Name	50P-50009A
Model Name	SI-1
Tag Comment	FRSH WTR PMP RUN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50009B FRSH WTR PMP RUN STS)

Basic

Tag Name	50P-50009B
Model Name	SI-1
Tag Comment	FRSH WTR PMP RUN STS
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50010A BIOCIDE DSNG PMP WST WTR)

Basic

Tag Name	50P-50010A
Model Name	SI-1
Tag Comment	BIOCIDE DSNG PMP WST WTR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50P-50010B BIOCIDE DSNG PMP WST WTR)

Basic

Tag Name	50P-50010B
Model Name	SI-1
Tag Comment	BIOCIDE DSNG PMP WST WTR
Lvl	4
Scan Period	Basic Scan
Switch Position Label	RUNNING,,STOPPED,RUNNING
Label	Direct

Tag Detail (50WTP-ST02 WTP ANN)

Basic

Tag Name	50WTP-ST02
Model Name	ST16
Tag Comment	WTP ANN
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50WTP-ST02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-51-7
STATION:	FCS0101	SAVED DATE:	5/20/2025 6:08:56 AM	COMMENT:	WTP ANN		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (50WTP-ST02 WTP ANN)

Start Timing Periodic Execution Type(T)
Output Timing Output Only When Conditions Change(C)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	50P50002A_FALM.PV	OFF	BCK WSH PMP FAILURE	Y								
C02	50P50002B_FALM.PV	OFF	BCK WSH PMP FAILURE	.Y								
C03	50P50003A_FALM.PV	OFF	SW BSTR PMP FAILURE	..Y								
C04	50P50003B_FALM.PV	OFF	SW BSTR PMP FAILURE	...Y								
C05	50P50004A_FALM.PV	OFF	HP PMP FAILURE		Y							
C06	50P50004B_FALM.PV	OFF	HP PMP FAILURE		.Y							
C07	50P50005A_FALM.PV	OFF	CAUSTIC SODADSING PMP FL		..Y							
C08	50P50005B_FALM.PV	OFF	CAUSTIC SODADSING PMP FL		...Y							
C09	50P50006A_FALM.PV	OFF	ANTISCALANT DSING PMP FL			Y						
C10	50P50006B_FALM.PV	OFF	ANTISCALANT DSING PMP FL			.Y						
C11	50P50007A_FALM.PV	OFF	BIOCID DSNG CNTR IL FAIL			..Y						
C12	50P50007B_FALM.PV	OFF	BIOCID DSNG CNTR IL FAIL			...Y						
C13	50P50008A_FALM.PV	OFF	BIOCIDE DSNG SWTR IN F				Y					
C14	50P50008B_FALM.PV	OFF	BIOCIDE DSNG SWTR IN F				.Y					
C15	50P50009A_FALM.PV	OFF	FRSH WTR PMP FAILURE				..Y					
C16	50P50009B_FALM.PV	OFF	FRSH WTR PMP FAILURE				...Y					
C17	50P50010A_FALM.PV	OFF	BIOCIDE DSNGPMP WST TK F					Y				
C18	50P50010B_FALM.PV	OFF	BIOCIDE DSNGPMP WST TK F					.Y				
C19	50AT-021A.PV	OFF	950SDZ-05201					..Y				
C20	50AT-021B.PV	OFF	950SDZ-05202					...Y				
C21	50AT-021C.PV	OFF	950SDZ-05203						Y			
C22	50HS-021.PV	OFF	MANUAL ALARM CALL POINT						.Y			
C23	50XS-099.PV	OFF	SIA SYSTEM COMM FLT						..Y			
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	50P50002A_FAN.PV	L	BCK WSH PMP FAILURE	Y								
A02	50P50002B_FAN.PV	L	BCK WSH PMP FAILURE	.Y								
A03	50P50003A_FAN.PV	L	SW BSTR PMP FAILURE	..Y								
A04	50P50003B_FAN.PV	L	SW BSTR PMP FAILURE	...Y								
A05	50P50004A_FAN.PV	L	HP PMP FAILURE		Y							
A06	50P50004B_FAN.PV	L	HP PMP FAILURE		.Y							
A07	50P50005A_FAN.PV	L	CAUSTIC SODADSING PMP FL		..Y							
A08	50P50005B_FAN.PV	L	CAUSTIC SODADSING PMP FL		...Y							
A09	50P50006A_FAN.PV	L	ANTISCALANT DSING PMP FL			Y						
A10	50P50006B_FAN.PV	L	ANTISCALANT DSING PMP FL			.Y						
A11	50P50007A_FAN.PV	L	BIOCID DSNG CNTR IL FAIL			..Y						
A12	50P50007B_FAN.PV	L	BIOCID DSNG CNTR IL FAIL			...Y						
A13	50P50008A_FAN.PV	L	BIOCIDE DSNG SWTR IN FL				Y					
A14	50P50008B_FAN.PV	L	BIOCIDE DSNG SWTR IN FL				.Y					
A15	50P50009A_FAN.PV	L	FRSH WTR PMP FAILURE				..Y					
A16	50P50009B_FAN.PV	L	FRSH WTR PMP FAILURE				...Y					
A17	50P50010A_FAN.PV	L	BIOCIDE DSNGPMP WST TK F					Y				
A18	50P50010B_FAN.PV	L	BIOCIDE DSNGPMP WST TK F					.Y				
A19	950SDZ-05201.PV	L	WTP CONTAINR FIRE DETECT					..Y				
A20	950SDZ-05202.PV	L	WTP CONTAINR FIRE DETECT					...Y				
A21	950SDZ-05203.PV	L	WTP CONTAINR FIRE DETECT						Y			
A22	50HS-021.PV	L	MANUAL ALARM CALL POINT						.Y			
A23	50XS-099AN.PV	L	SIA SYS COMM FAULT						..Y			
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	50WTP-LC01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-51-8
STATION:	FCS0101	SAVED DATE:	5/1/2025 5:08:01 AM	COMMENT:	WTP DO LOGIC		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50WTP-LC01 WTP DO LOGIC)

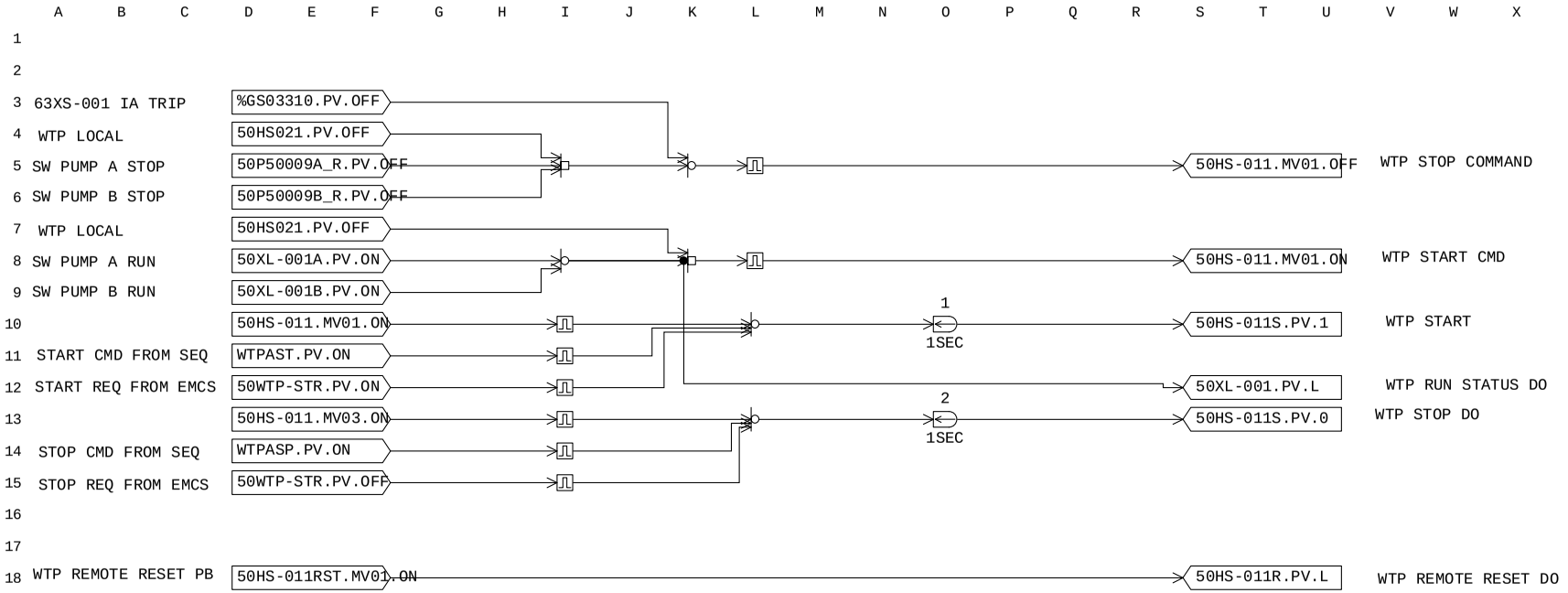
Basic

Tag Name	50WTP-LC01
Model Name	LC64-E
Tag Comment	WTP DO LOGIC
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	50WTP-LC01.edf	SHEET:		YOKOGAWA	PAGE:3-25-51-9
STATION:	FCS0101	SAVED DATE:	5/1/2025 5:08:01 AM	COMMENT:	WTP DO LOGIC		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (50WTP-LC01 WTP DO LOGIC)

Start Timing — Periodic Execution Type(T)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0
Execution Order — Matrix Order
Direct Direction Wiring
Reverse Direction Wiring



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50HS-011.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-51-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:09 AM	COMMENT:	WTP PKG START/STOP		
SECTION:	DR0127	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50HS-011 WTP PKG START/STOP)

Basic

Tag Name	50HS-011
Model Name	PBS5C
Tag Comment	WTP PKG START/STOP
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	50HS-011.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	50HS-011.MV03
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	50HS-011.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	50HS-011.MV03
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	START	START	Gray	Green
002	Not used	OFF	ON	White	Red
003	Button with Lamp	STOP	STOP	Gray	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

Tag Detail (50HS-011RST WTP PKG REMOTE RESET)

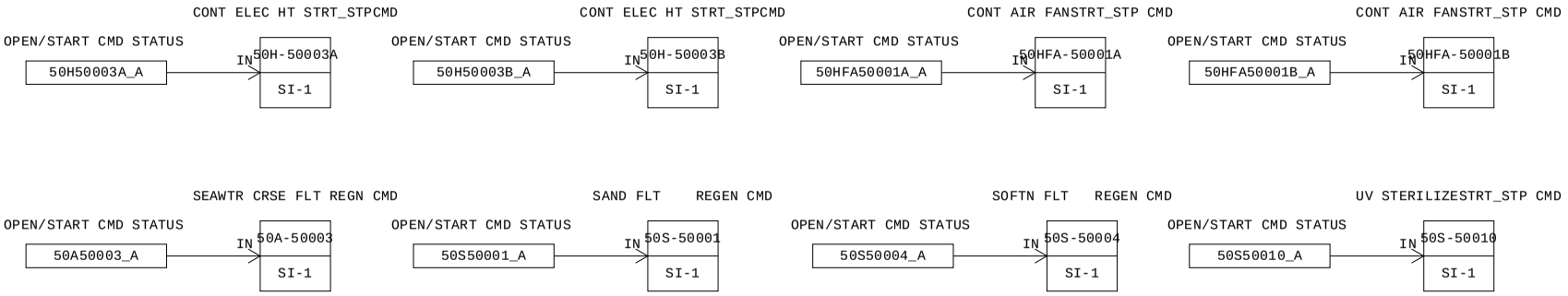
Basic

Tag Name	50HS-011RST
Model Name	PBS5C
Tag Comment	WTP PKG REMOTE RESET
Lvl	3
Scan Period	Basic Scan
Connection Information	
Block Mode Connection Target	
Block Status Connection Target	
Alarm Status Connection Target	
Connection Destination of Switch Status 1	50HS-011RST.MV01
Connection Destination of Switch Status 2	
Connection Destination of Switch Status 3	
Connection Destination of Switch Status 4	
Connection Destination of Switch Status 5	
Operation Command 1 Connection Destination	50HS-011RST.MV01
Operation Command 2 Connection Destination	
Operation Command 3 Connection Destination	
Operation Command 4 Connection Destination	
Operation Command 5 Connection Destination	
Interlock Switch Input	

Switch Attributes

No.	Switch Type	Label for OFF	Label for ON	Display Color for OFF	Display Color for ON
001	Button with Lamp	RESET	RESET	Gray	Red
002	Not used	OFF	ON	White	Red
003	Not used	OFF	ON	White	Red
004	Not used	OFF	ON	White	Red
005	Not used	OFF	ON	White	Red

PROJECT:	BLPH-CW1	FILE NAME:	DR0128.edf	SHEET:		YOKOGAWA	PAGE:3-25-52-1
STATION:	FCS0101	SAVED DATE:	4/16/2025 2:42:37 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0128	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP008_001	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
002	TYP008_002	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
003	TYP008_003	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
004	TYP008_004	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
005	TYP008_005	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
006	TYP008_006	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
007	TYP008_007	TYP008	2024/11/15 22:31	CMD STATUS TO PCS
008	TYP008_008	TYP008	2024/11/15 22:31	CMD STATUS TO PCS

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0128.edf	SHEET:		YOKOGAWA	PAGE:3-25-52-3
STATION:	FCS0101	SAVED DATE:	4/16/2025 2:42:37 AM	COMMENT:	WTP SUBSYSTEM		
SECTION:	DR0128	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:WTP SUBSYSTEM

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	50H-50003A	SI-1	CONT ELEC HT STRT_STPCMD	0	0				50H50003A_A
						4			
002	50H-50003B	SI-1	CONT ELEC HT STRT_STPCMD	0	0				50H50003B_A
						4			
003	50HFA-50001A	SI-1	CONT AIR FANSTRT_STP CMD	0	0				50HFA50001A_A
						4			
004	50HFA-50001B	SI-1	CONT AIR FANSTRT_STP CMD	0	0				50HFA50001B_A
						4			
005	50A-50003	SI-1	SEAWTR CRSE FLT REGN CMD	0	0				50A50003_A
						4			
006	50S-50001	SI-1	SAND FLT REGEN CMD	0	0				50S50001_A
						4			
007	50S-50004	SI-1	SOFTN FLT REGEN CMD	0	0				50S50004_A
						4			
008	50S-50010	SI-1	UV STERILIZESTRT_STP CMD	0	0				50S50010_A
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	50H-50003A.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-52-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:12 AM	COMMENT:	CONT ELEC HT STRT_STPCMD		
SECTION:	DR0128	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (50H-50003A CONT ELEC HT STRT_STPCMD)

Basic

Tag Name	50H-50003A
Model Name	SI-1
Tag Comment	CONT ELEC HT STRT_STPCMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

Tag Detail (50H-50003B CONT ELEC HT STRT_STPCMD)

Basic

Tag Name	50H-50003B
Model Name	SI-1
Tag Comment	CONT ELEC HT STRT_STPCMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

Tag Detail (50HFA-50001A CONT AIR FANSTRT_STP CMD)

Basic

Tag Name	50HFA-50001A
Model Name	SI-1
Tag Comment	CONT AIR FANSTRT_STP CMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

Tag Detail (50HFA-50001B CONT AIR FANSTRT_STP CMD)

Basic

Tag Name	50HFA-50001B
Model Name	SI-1
Tag Comment	CONT AIR FANSTRT_STP CMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

Tag Detail (50A-50003 SEAWTR CRSE FLT REGN CMD)

Basic

Tag Name	50A-50003
Model Name	SI-1
Tag Comment	SEAWTR CRSE FLT REGN CMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

Tag Detail (50S-50001 SAND FLT REGN CMD)

Basic

Tag Name	50S-50001
Model Name	SI-1
Tag Comment	SAND FLT REGN CMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

Tag Detail (50S-50004 SOFTN FLT REGN CMD)

Basic

Tag Name	50S-50004
Model Name	SI-1
Tag Comment	SOFTN FLT REGN CMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

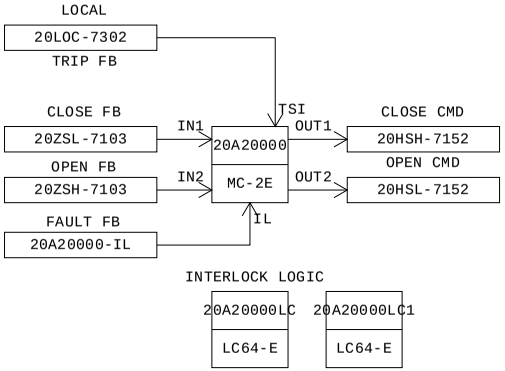
PROJECT:	BLPH-CW1	FILE NAME:	50S-50004.edf	SHEET:		YOKOGAWA	PAGE:3-25-52-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:12 AM	COMMENT:	SOFTN FLT REGEN CMD		
SECTION:	DR0128	PRINTED DATE:	9/15/2025	DRAWER:			

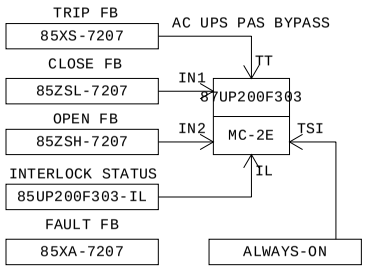
Tag Detail (50S-50010 UV STERILIZESTRT_STP CMD)

Basic

Tag Name	50S-50010
Model Name	SI-1
Tag Comment	UV STERILIZESTRT_STP CMD
Lvl	4
Scan Period	Basic Scan
Switch Position Label	ACTVD,,N_ACTVD,ACTVD
Label	Direct

PROJECT:	BLPH-CW1	FILE NAME:	DR0130.edf	SHEET:		YOKOGAWA	PAGE:3-25-53-1
STATION:	FCS0101	SAVED DATE:	5/23/2025 8:48:05 AM	COMMENT:	LVSWGR CB		
SECTION:	DR0130	PRINTED DATE:	9/15/2025	DRAWER:			





MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Function Block Overview Definition

Comment:LVSWGR CB

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20A20000	MC-2E	QF1 ELECTROL.AUX LOAD	0.0	100.0	%	3-position Status Input		
						3			
002	20A20000LC	LC64-E	INTERLOCK	0	0				
						4			
003	87UP200F303	MC-2E	AC UPS PAS BYPASS	0.0	100.0	%	3-position Status Input		
						3			
004	20A20000LC1	LC64-E	COMMANDS	0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20A20000.edf	SHEET:		YOKOGAWA	PAGE:3-25-53-3
STATION:	FCS0101	SAVED DATE:	5/23/2025 8:37:00 AM	COMMENT:	QF1 ELECTROL.AUX LOAD		
SECTION:	DR0130	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20A20000 QF1 ELECTROL.AUX LOAD)

Basic

Tag Name	20A20000
Model Name	MC-2E
Tag Comment	QF1 ELECTROL.AUX LOAD
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (20A20000LC INTERLOCK)

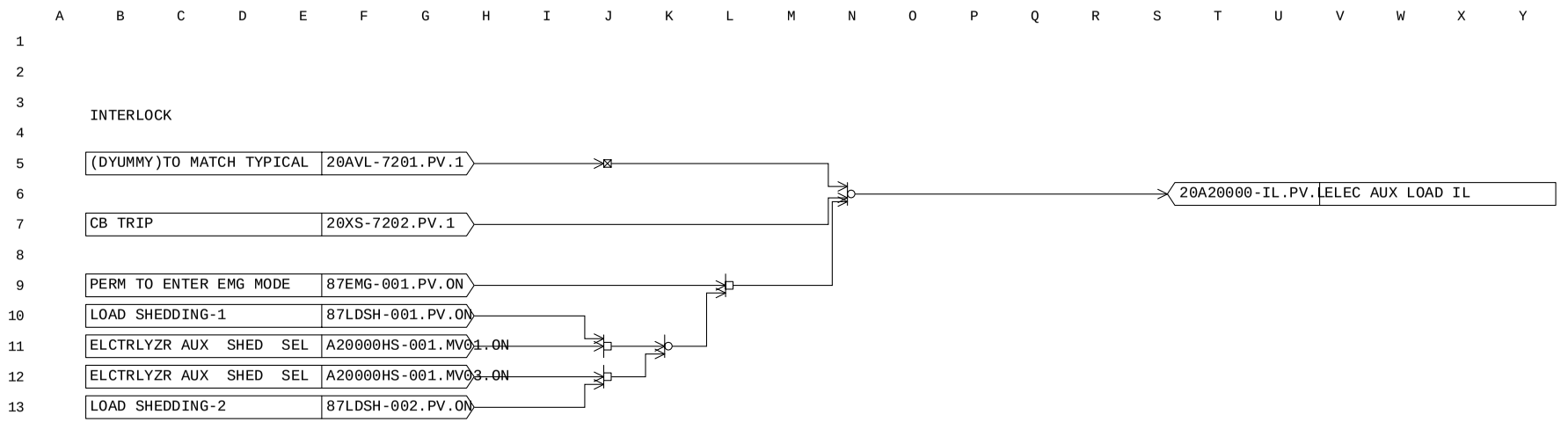
Basic

Tag Name	20A20000LC
Model Name	LC64-E
Tag Comment	INTERLOCK
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	20A20000LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-53-4
STATION:	FCS0101	SAVED DATE:	5/23/2025 8:48:05 AM	COMMENT:	INTERLOCK		
SECTION:	DR0130	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (20A20000LC INTERLOCK)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	87UP200F303.edf	SHEET:		YOKOGAWA	PAGE:3-25-53-5
STATION:	FCS0101	SAVED DATE:	4/17/2025 5:10:56 AM	COMMENT:	AC UPS PAS BYPASS		
SECTION:	DR0130	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (87UP200F303 AC UPS PAS BYPASS)

Basic

Tag Name	87UP200F303
Model Name	MC-2E
Tag Comment	AC UPS PAS BYPASS
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (20A20000LC1 COMMANDS)

Basic

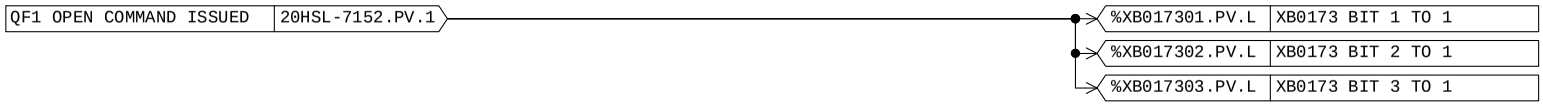
Tag Name	20A20000LC1
Model Name	LC64-E
Tag Comment	COMMANDS
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	20A20000LC1.edf	SHEET:		YOKOGAWA	PAGE:3-25-53-6
STATION:	FCS0101	SAVED DATE:	5/23/2025 8:48:05 AM	COMMENT:	COMMANDS		
SECTION:	DR0130	PRINTED DATE:	9/15/2025	DRAWER:			

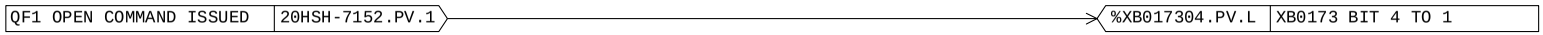
Logic Chart (20A20000LC1 COMMANDS)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————

DECIMAL 7 TO OPEN COMMAND

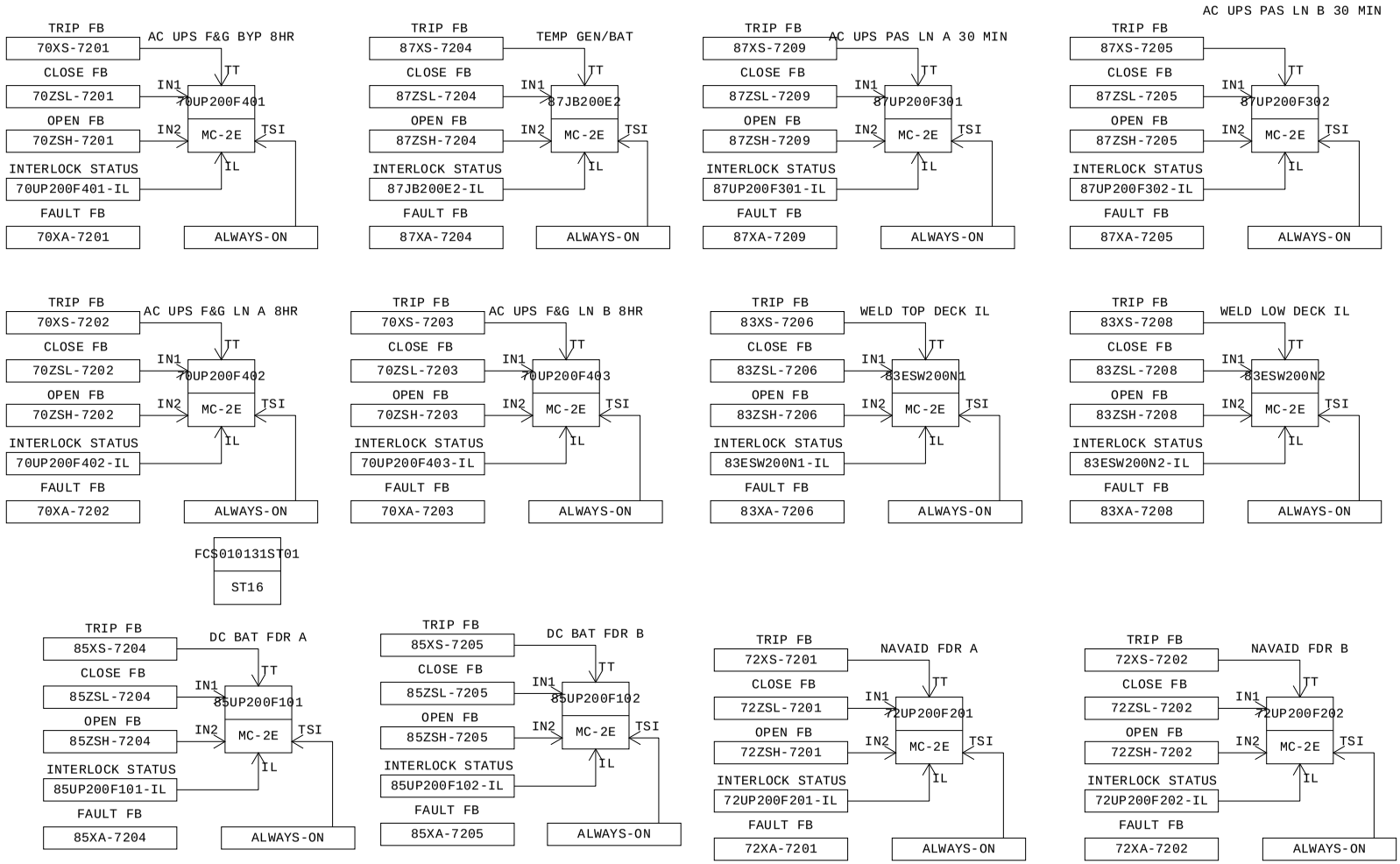


DECIMAL 8 TO OPEN COMMAND



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0131.edf	SHEET:		YOKOGAWA	PAGE:3-25-54-1
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:30:03 AM	COMMENT:	LV SWGR CB		
SECTION:	DR0131	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0131.edf	SHEET:		YOKOGAWA	PAGE:3-25-54-2
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:30:03 AM	COMMENT:	LV SWGR CB		
SECTION:	DR0131	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SWGR CB

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	FCS010131ST01	ST16	LV SWGR IL	0	0				
						4			
002	70UP200F401	MC-2E	AC UPS F&G BYP 8HR	0.0	100.0	%	3-position Status Input		
						3			
003	87JB200E2	MC-2E	TEMP GEN/BAT	0.0	100.0	%	3-position Status Input		
						3			
004	87UP200F301	MC-2E	AC UPS PAS LN A 30 MIN	0.0	100.0	%	3-position Status Input		
						3			
005	87UP200F302	MC-2E	AC UPS PAS LN B 30 MIN	0.0	100.0	%	3-position Status Input		
						3			
006	70UP200F402	MC-2E	AC UPS F&G LN A 8HR	0.0	100.0	%	3-position Status Input		
						3			
007	70UP200F403	MC-2E	AC UPS F&G LN B 8HR	0.0	100.0	%	3-position Status Input		
						3			
008	83ESW200N1	MC-2E	WELD TOP DECK IL	0.0	100.0	%	3-position Status Input		
						3			
009	83ESW200N2	MC-2E	WELD LOW DECK IL	0.0	100.0	%	3-position Status Input		
						3			
010	85UP200F102	MC-2E	DC BAT FDR B	0.0	100.0	%	3-position Status Input		
						3			
011	72UP200F201	MC-2E	NAVAID FDR A	0.0	100.0	%	3-position Status Input		
						3			
012	85UP200F101	MC-2E	DC BAT FDR A	0.0	100.0	%	3-position Status Input		
						3			
013	72UP200F202	MC-2E	NAVAID FDR B	0.0	100.0	%	3-position Status Input		
						3			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS010131ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-54-3
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:30:03 AM	COMMENT:	LV SWGR IL		
SECTION:	DR0131	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS010131ST01 LV SWGR IL)

Basic

Tag Name	FCS010131ST01
Model Name	ST16
Tag Comment	LV SWGR IL
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS010131ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-54-4
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:30:03 AM	COMMENT:	LV SWGR IL		
SECTION:	DR0131	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS010131ST01 LV SWGR IL)

Start Timing: Periodic Execution Type(T)
Output Timing: Output Each Time Conditions are Satisfied(E)
Scan Period: Basic Scan
Control Period: 1
Control Phase: 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	70XA-7201.PV	OFF	AC UPS F&G BYP INT.FAULT	Y								
C02	87XA-7204.PV	ON	TEMP GEN/BAT INTER FLT	.Y								
C03	87XA-7209.PV	OFF	AC UPS PAS A INT.FAULT	..Y								
C04	87XA-7205.PV	OFF	AC UPS PAS LN B CB FLT	...Y								
C05	70XA-7202.PV	OFF	AC UPS F&G A INT.FAULT		Y							
C06	70XA-7203.PV	OFF	AC UPS F&G B INT.FAULT		.Y							
C07	83XA-7206.PV	OFF	WELD TOP DECK INT.FAULT		..Y							
C08	83XA-7208.PV	OFF	WELD LOW DECK INT.FAULT		...Y							
C09	85XA-7204.PV	OFF	DC BAT FDR A INT.FAULT			Y						
C10	85XA-7205.PV	OFF	DC BAT FDR B INT.FAULT			.Y						
C11	72XA-7201.PV	OFF	NAVAID FDR A INT.FAULT			..Y						
C12	72XA-7202.PV	OFF	NAVAID FDR B INT.FAULT			...Y						
C13	85XA-7207.PV	OFF	AC UPS PAS BYP INT.FAULT				Y					
C14												
C15												
C16												
C17												
C18												
C19												
C20												
C21												
C22												
C23												
C24												
C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	70UP200F401-IL.PV	L	AC UPS F&G BYP IL	Y								
A02	87JB200E2-IL.PV	L	CRANE CB INTERLOCK	.Y								
A03	87UP200F301-IL.PV	L	AC UPA PAS LN A IL	..Y								
A04	87UP200F302-IL.PV	L	AC UPA PAS LN B IL	...Y								
A05	70UP200F402-IL.PV	L	AC UPS F&G LN A 8HR IL		Y							
A06	70UP200F403-IL.PV	L	AC UPS F&G LN B 8HR IL		.Y							
A07	83ESW200N1-IL.PV	L	WELD TOP DECK IL		..Y							
A08	83ESW200N2-IL.PV	L	WELD LW DECK IL		...Y							
A09	85UP200F101-IL.PV	L	DC BAT FDR A			Y						
A10	85UP200F102-IL.PV	L	DC BAT FDR B			.Y						
A11	72UP200F201-IL.PV	L	NAVAID FDR A			..Y						
A12	72UP200F202-IL.PV	L	NAVAID FDR B			...Y						
A13	85UP200F303-IL.PV	L	AC UPS PAS BYPASS				Y					
A14												
A15												
A16												
A17												
A18												
A19												
A20												
A21												
A22												
A23												
A24												
A25												
A26												
A27												
A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	70UP200F401.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-54-5
STATION:	FCS0101	SAVED DATE:	4/17/2025 6:35:21 AM	COMMENT:	AC UPS FG BYP 8HR		
SECTION:	DR0131	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (70UP200F401 AC UPS F&G BYP 8HR)

Basic

Tag Name	70UP200F401
Model Name	MC-2E
Tag Comment	AC UPS F&G BYP 8HR
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (87JB200E2 TEMP GEN/BAT)

Basic

Tag Name	87JB200E2
Model Name	MC-2E
Tag Comment	TEMP GEN/BAT
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (87UP200F301 AC UPS PAS LN A 30 MIN)

Basic

Tag Name	87UP200F301
Model Name	MC-2E
Tag Comment	AC UPS PAS LN A 30 MIN
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (87UP200F302 AC UPS PAS LN B 30 MIN)

Basic

Tag Name	87UP200F302
Model Name	MC-2E
Tag Comment	AC UPS PAS LN B 30 MIN
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (70UP200F402 AC UPS F&G LN A 8HR)

Basic

Tag Name	70UP200F402
Model Name	MC-2E
Tag Comment	AC UPS F&G LN A 8HR
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (70UP200F403 AC UPS F&G LN B 8HR)

Basic

Tag Name	70UP200F403
Model Name	MC-2E
Tag Comment	AC UPS F&G LN B 8HR
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse

Input Signal Conversion
Input Signal Conversion 3-position Status Input
Direction of Answerback Direct

Tag Detail (83ESW200N1 WELD TOP DECK IL)

Basic
Tag Name 83ESW200N1
Model Name MC-2E
Tag Comment WELD TOP DECK IL
Lvl 3
Scan Period Basic Scan
Switch Position Label OPEN,,CLOSE,OPEN
Label Reverse
Input Signal Conversion
Input Signal Conversion 3-position Status Input
Direction of Answerback Direct

Tag Detail (83ESW200N2 WELD LOW DECK IL)

Basic
Tag Name 83ESW200N2
Model Name MC-2E
Tag Comment WELD LOW DECK IL
Lvl 3
Scan Period Basic Scan
Switch Position Label OPEN,,CLOSE,OPEN
Label Reverse
Input Signal Conversion
Input Signal Conversion 3-position Status Input
Direction of Answerback Direct

Tag Detail (85UP200F102 DC BAT FDR B)

Basic
Tag Name 85UP200F102
Model Name MC-2E
Tag Comment DC BAT FDR B
Lvl 3
Scan Period Basic Scan
Switch Position Label OPEN,,CLOSE,OPEN
Label Reverse
Input Signal Conversion
Input Signal Conversion 3-position Status Input
Direction of Answerback Direct

Tag Detail (72UP200F201 NAVAID FDR A)

Basic
Tag Name 72UP200F201
Model Name MC-2E
Tag Comment NAVAID FDR A
Lvl 3
Scan Period Basic Scan
Switch Position Label OPEN,,CLOSE,OPEN
Label Reverse
Input Signal Conversion
Input Signal Conversion 3-position Status Input
Direction of Answerback Direct

Tag Detail (85UP200F101 DC BAT FDR A)

Basic
Tag Name 85UP200F101
Model Name MC-2E
Tag Comment DC BAT FDR A
Lvl 3
Scan Period Basic Scan
Switch Position Label OPEN,,CLOSE,OPEN
Label Reverse
Input Signal Conversion
Input Signal Conversion 3-position Status Input
Direction of Answerback Direct

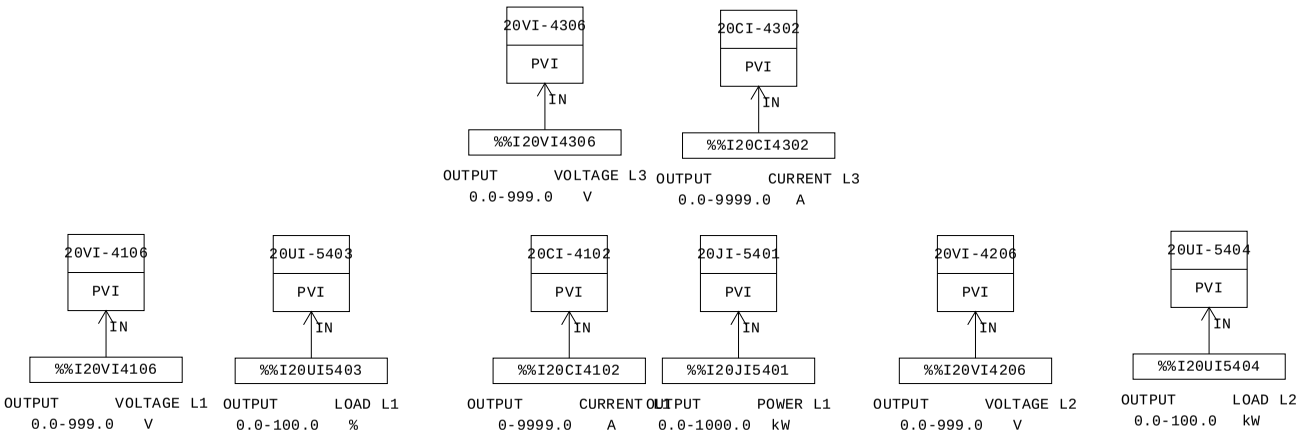
Tag Detail (72UP200F202 NAVAID FDR B)

Basic
Tag Name 72UP200F202

PROJECT:	BLPH-CW1	FILE NAME:	72UP200F202.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-54-7
STATION:	FCS0101	SAVED DATE:	4/17/2025 5:09:53 AM	COMMENT:	NAVAID FDR B		
SECTION:	DR0131	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	MC-2E
Tag Comment	NAVAID FDR B
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

PROJECT:	BLPH-CW1	FILE NAME:	DR0134.edf	SHEET:		YOKOGAWA	PAGE:3-25-55-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:19 AM	COMMENT:	200F4 FGS UPS-A		
SECTION:	DR0134	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0134.edf	SHEET:		YOKOGAWA	PAGE:3-25-55-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:19 AM	COMMENT:	200F4 FGS UPS-A		
SECTION:	DR0134	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F4 FGS UPS-A

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	20VI-4306	PVI	VOLTAGE L3	0.0	999.0	V	Communication Input	No	%%I20VI4306
		OUTPUT				4			
002	20CI-4302	PVI	CURRENT L3	0.0	9999.0	A	Communication Input	No	%%I20CI4302
		OUTPUT				4			
003	20UI-5404	PVI	LOAD L2	0.0	100.0	kW	Communication Input	No	%%I20UI5404
		OUTPUT				4			
004	20VI-4106	PVI	VOLTAGE L1	0.0	999.0	V	Communication Input	No	%%I20VI4106
		OUTPUT				4			
005	20UI-5403	PVI	LOAD L1	0.0	100.0	%	Communication Input	No	%%I20UI5403
		OUTPUT				4			
006	20CI-4102	PVI	CURRENT L1	0	9999.0	A	Communication Input	No	%%I20CI4102
		OUTPUT				4			
007	20JI-5401	PVI	POWER L1	0.0	1000.0	kW	Communication Input	No	%%I20JI5401
		OUTPUT				4			
008	20VI-4206	PVI	VOLTAGE L2	0.0	999.0	V	Communication Input	No	%%I20VI4206
		OUTPUT				4			

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PROJECT:	BLPH-CW1	FILE NAME:	20VI-4306.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-55-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:19 AM	COMMENT:	OUTPUT VOLTAGE L3		
SECTION:	DR0134	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20VI-4306 OUTPUT VOLTAGE L3)

Basic

Tag Name	20VI-4306
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20CI-4302 OUTPUT CURRENT L3)

Basic

Tag Name	20CI-4302
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-5404 OUTPUT LOAD L2)

Basic

Tag Name	20UI-5404
Model Name	PVI
Tag Comment	OUTPUT LOAD L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20VI-4106 OUTPUT VOLTAGE L1)

Basic

Tag Name	20VI-4106
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-5403 OUTPUT LOAD L1)

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5403.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-55-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:19 AM	COMMENT:	OUTPUT LOAD L1		
SECTION:	DR0134	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20UI-5403
Model Name	PVI
Tag Comment	OUTPUT LOAD L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20CI-4102 OUTPUT CURRENT L1)

Basic

Tag Name	20CI-4102
Model Name	PVI
Tag Comment	OUTPUT CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20JI-5401 OUTPUT POWER L1)

Basic

Tag Name	20JI-5401
Model Name	PVI
Tag Comment	OUTPUT POWER L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

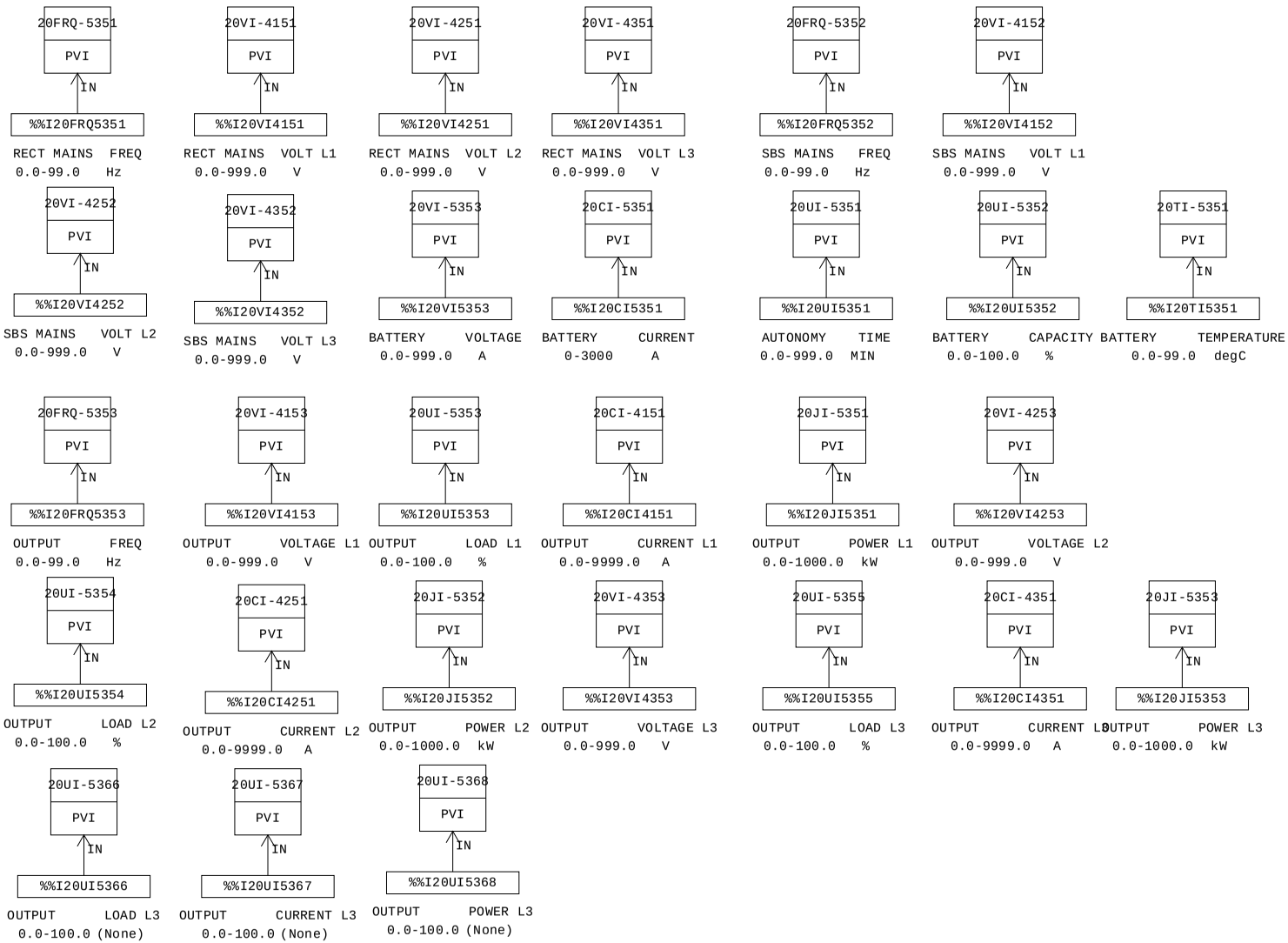
Tag Detail (20VI-4206 OUTPUT VOLTAGE L2)

Basic

Tag Name	20VI-4206
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1.000
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0135.edf	SHEET:		YOKOGAWA	PAGE:3-25-56-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	2500F3 PAS UPS-B		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0135 | BLPH-CW | PVI SUBSYSTEM - BLPH UPS]



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PROJECT:	BLPH-CW1	FILE NAME:	DR0135.edf	SHEET:		YOKOGAWA	PAGE:3-25-56-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	2500F3 PAS UPS-B		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:2500F3 PAS UPS-B

No.	Tag Name	Model Name	Tag Comment		Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection			Set Value Input Connection Information		Lvl			
001	20FRQ-5351	PVI	RECT MAINS	FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5351
							4			
002	20VI-4151	PVI	RECT MAINS	VOLT L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4151
							4			
003	20VI-4251	PVI	RECT MAINS	VOLT L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4251
							4			
004	20VI-4351	PVI	RECT MAINS	VOLT L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4351
							4			
005	20FRQ-5352	PVI	SBS MAINS	FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5352
							4			
006	20VI-4152	PVI	SBS MAINS	VOLT L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4152
							4			
007	20VI-4252	PVI	SBS MAINS	VOLT L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4252
							4			
008	20VI-4352	PVI	SBS MAINS	VOLT L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4352
							4			
009	20CI-5351	PVI	BATTERY	CURRENT	0	3000	A	Communication Input	Hour	%%I20CI5351
							4			
010	20VI-5353	PVI	BATTERY	VOLTAGE	0.0	999.0	A	Communication Input	Hour	%%I20VI5353
							4			
011	20UI-5352	PVI	BATTERY	CAPACITY	0.0	100.0	%	Communication Input	Hour	%%I20UI5352
							4			
012	20UI-5351	PVI	AUTONOMY	TIME	0.0	999.0	MIN	Communication Input	Hour	%%I20UI5351
							4			
013	20TI-5351	PVI	BATTERY	TEMPERATURE	0.0	99.0	degC	Communication Input	Hour	%%I20TI5351
							4			
014	20FRQ-5353	PVI	OUTPUT	FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5353
							4			
015	20VI-4153	PVI	OUTPUT	VOLTAGE L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4153
							4			
016	20UI-5353	PVI	OUTPUT	LOAD L1	0.0	100.0	%	Communication Input	Hour	%%I20UI5353
							4			
017	20CI-4151	PVI	OUTPUT	CURRENT L1	0.0	9999.0	A	Communication Input	Hour	%%I20CI4151
							4			
018	20JI-5351	PVI	OUTPUT	POWER L1	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5351
							4			
019	20VI-4253	PVI	OUTPUT	VOLTAGE L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4253
							4			
020	20UI-5354	PVI	OUTPUT	LOAD L2	0.0	100.0	%	Communication Input	Hour	%%I20UI5354
							4			
021	20CI-4251	PVI	OUTPUT	CURRENT L2	0.0	9999.0	A	Communication Input	Hour	%%I20CI4251
							4			
022	20VI-4353	PVI	OUTPUT	VOLTAGE L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4353
							4			
023	20JI-5352	PVI	OUTPUT	POWER L2	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5352
							4			
024	20CI-4351	PVI	OUTPUT	CURRENT L3	0.0	9999.0	A	Communication Input	Hour	%%I20CI4351
							4			
025	20UI-5355	PVI	OUTPUT	LOAD L3	0.0	100.0	%	Communication Input	Hour	%%I20UI5355
							4			
026	20JI-5353	PVI	OUTPUT	POWER L3	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5353
							4			
027	20UI-5367	PVI	OUTPUT	CURRENT L3	0.0	100.0	(None)	Communication Input	Hour	%%I20UI5367
							4			

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028	20UI-5366	PVI	OUTPUT	LOAD L3	0.0	100.0	(None) 4	Communication Input	Hour	%%I20UI5366
029	20UI-5368	PVI	OUTPUT	POWER L3	0.0	100.0	(None) 4	Communication Input	Hour	%%I20UI5368

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PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5351.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	RECT MAINS FREQ		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20FRQ-5351 RECT MAINS FREQ)

Basic

Tag Name	20FRQ-5351
Model Name	PVI
Tag Comment	RECT MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4151 RECT MAINS VOLT L1)

Basic

Tag Name	20VI-4151
Model Name	PVI
Tag Comment	RECT MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4251 RECT MAINS VOLT L2)

Basic

Tag Name	20VI-4251
Model Name	PVI
Tag Comment	RECT MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4351 RECT MAINS VOLT L3)

Basic

Tag Name	20VI-4351
Model Name	PVI
Tag Comment	RECT MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5352 SBS MAINS FREQ)

PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5352.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	SBS MAINS FREQ		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20FRQ-5352
Model Name	PVI
Tag Comment	SBS MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4152 SBS MAINS VOLT L1)

Basic

Tag Name	20VI-4152
Model Name	PVI
Tag Comment	SBS MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4252 SBS MAINS VOLT L2)

Basic

Tag Name	20VI-4252
Model Name	PVI
Tag Comment	SBS MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4352 SBS MAINS VOLT L3)

Basic

Tag Name	20VI-4352
Model Name	PVI
Tag Comment	SBS MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-5351 BATTERY CURRENT)

Basic

Tag Name	20CI-5351

PROJECT:	BLPH-CW1	FILE NAME:	20CI-5351.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	BATTERY CURRENT		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	BATTERY CURRENT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-5353 BATTERY VOLTAGE)

Basic

Tag Name	20VI-5353
Model Name	PVI
Tag Comment	BATTERY VOLTAGE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5352 BATTERY CAPACITY)

Basic

Tag Name	20UI-5352
Model Name	PVI
Tag Comment	BATTERY CAPACITY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5351 AUTONOMY TIME)

Basic

Tag Name	20UI-5351
Model Name	PVI
Tag Comment	AUTONOMY TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-5351 BATTERY TEMPERATURE)

Basic

Tag Name	20TI-5351
Model Name	PVI
Tag Comment	BATTERY TEMPERATURE

PROJECT:	BLPH-CW1	FILE NAME:	20TI-5351.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	BATTERY TEMPERATURE		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5353 OUTPUT FREQ)

Basic

Tag Name	20FRQ-5353
Model Name	PVI
Tag Comment	OUTPUT FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4153 OUTPUT VOLTAGE L1)

Basic

Tag Name	20VI-4153
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5353 OUTPUT LOAD L1)

Basic

Tag Name	20UI-5353
Model Name	PVI
Tag Comment	OUTPUT LOAD L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4151 OUTPUT CURRENT L1)

Basic

Tag Name	20CI-4151
Model Name	PVI
Tag Comment	OUTPUT CURRENT L1
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	20CI-4151.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	OUTPUT CURRENT L1		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5351 OUTPUT POWER L1)

Basic

Tag Name	20JI-5351
Model Name	PVI
Tag Comment	OUTPUT POWER L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4253 OUTPUT VOLTAGE L2)

Basic

Tag Name	20VI-4253
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5354 OUTPUT LOAD L2)

Basic

Tag Name	20UI-5354
Model Name	PVI
Tag Comment	OUTPUT LOAD L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4251 OUTPUT CURRENT L2)

Basic

Tag Name	20CI-4251
Model Name	PVI
Tag Comment	OUTPUT CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	20CI-4251.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	OUTPUT CURRENT L2		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20VI-4353 OUTPUT VOLTAGE L3)

Basic

Tag Name	20VI-4353
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5352 OUTPUT POWER L2)

Basic

Tag Name	20JI-5352
Model Name	PVI
Tag Comment	OUTPUT POWER L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4351 OUTPUT CURRENT L3)

Basic

Tag Name	20CI-4351
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5355 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5355
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5355.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	OUTPUT LOAD L3		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5353 OUTPUT POWER L3)

Basic

Tag Name	20JI-5353
Model Name	PVI
Tag Comment	OUTPUT POWER L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5367 OUTPUT CURRENT L3)

Basic

Tag Name	20UI-5367
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5366 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5366
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5368 OUTPUT POWER L3)

Basic

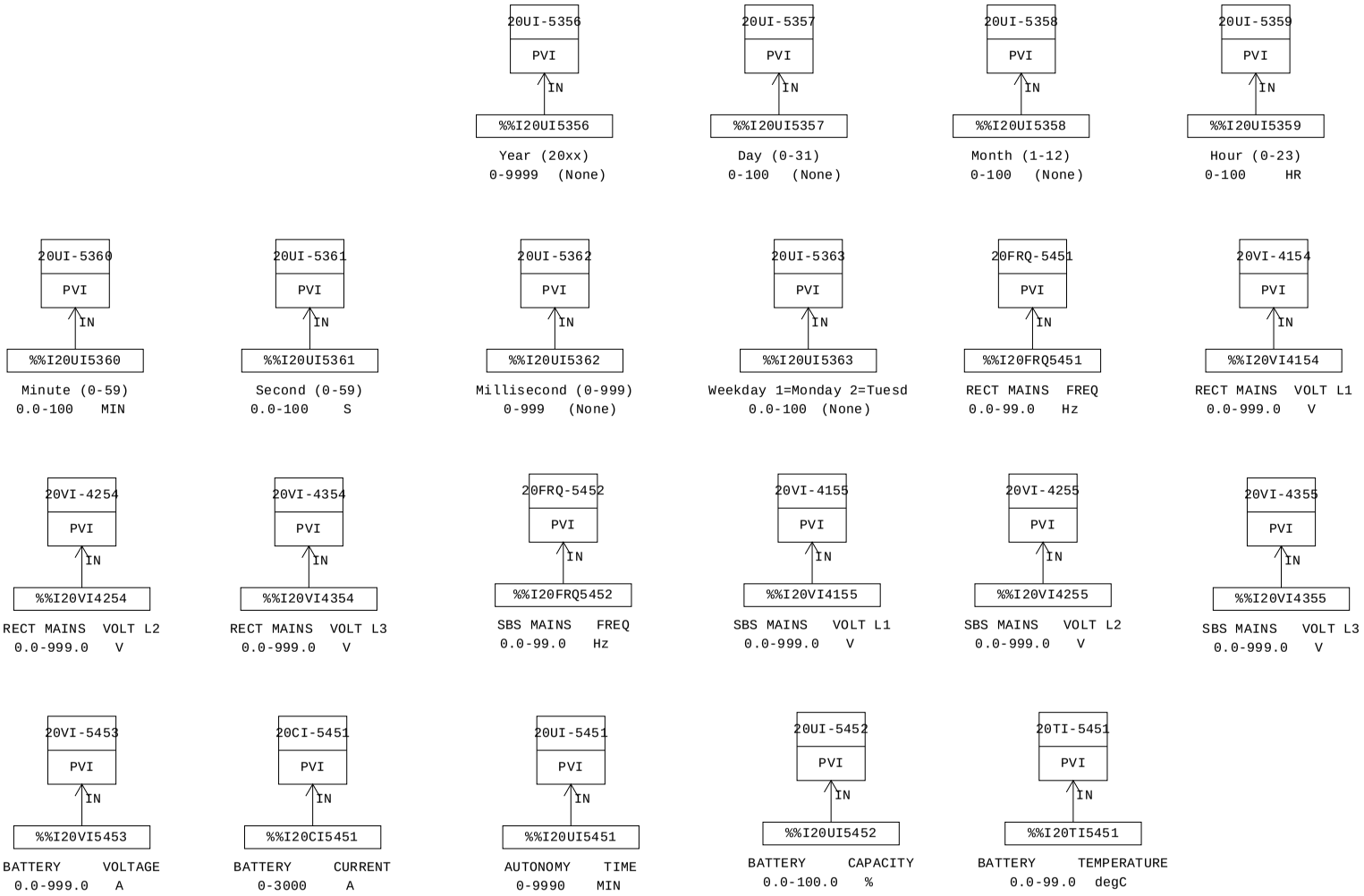
Tag Name	20UI-5368
Model Name	PVI
Tag Comment	OUTPUT POWER L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5368.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-56-11
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:22 AM	COMMENT:	OUTPUT POWER L3		
SECTION:	DR0135	PRINTED DATE:	9/15/2025	DRAWER:			

Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0136.edf	SHEET:		YOKOGAWA	PAGE:3-25-57-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	200F3/4 PAS FGS UPS B		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0136| BLPH-CW | PVI SUBSYSTEM - BLPH UPS]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0136.edf	SHEET:		YOKOGAWA	PAGE:3-25-57-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	200F3/4 PAS FGS UPS B		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F3/4 PAS FGS UPS B

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20UI-5356	PVI	Year (20xx)	0	9999	(None)	Communication Input	Hour	%%I20UI5356
						4			
002	20UI-5357	PVI	Day (0-31)	0	100	(None)	Communication Input	Hour	%%I20UI5357
						4			
003	20UI-5358	PVI	Month (1-12)	0	100	(None)	Communication Input	Hour	%%I20UI5358
						4			
004	20UI-5359	PVI	Hour (0-23)	0	100	HR	Communication Input	Hour	%%I20UI5359
						4			
005	20UI-5360	PVI	Minute (0-59)	0.0	100	MIN	Communication Input	Hour	%%I20UI5360
						4			
006	20UI-5361	PVI	Second (0-59)	0.0	100	S	Communication Input	Hour	%%I20UI5361
						4			
007	20UI-5362	PVI	Millisecond (0-999)	0	999	(None)	Communication Input	Hour	%%I20UI5362
						4			
008	20UI-5363	PVI	Weekday 1=Monday 2=Tuesd	0.0	100	(None)	Communication Input	Hour	%%I20UI5363
						4			
009	20FRQ-5451	PVI	RECT MAINS FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5451
						4			
010	20VI-4154	PVI	RECT MAINS VOLT L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4154
						4			
011	20VI-4254	PVI	RECT MAINS VOLT L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4254
						4			
012	20VI-4354	PVI	RECT MAINS VOLT L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4354
						4			
013	20FRQ-5452	PVI	SBS MAINS FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5452
						4			
014	20VI-4155	PVI	SBS MAINS VOLT L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4155
						4			
015	20VI-4255	PVI	SBS MAINS VOLT L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4255
						4			
016	20VI-4355	PVI	SBS MAINS VOLT L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4355
						4			
017	20CI-5451	PVI	BATTERY CURRENT	0	3000	A	Communication Input	Hour	%%I20CI5451
						4			
018	20VI-5453	PVI	BATTERY VOLTAGE	0.0	999.0	A	Communication Input	Hour	%%I20VI5453
						4			
019	20UI-5452	PVI	BATTERY CAPACITY	0.0	100.0	%	Communication Input	Hour	%%I20UI5452
						4			
020	20UI-5451	PVI	AUTONOMY TIME	0	9990	MIN	Communication Input	Hour	%%I20UI5451
						4			
021	20TI-5451	PVI	BATTERY TEMPERATURE	0.0	99.0	degC	Communication Input	Hour	%%I20TI5451
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5356.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-57-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	Year (20xx)		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20UI-5356 Year (20xx))

Basic

Tag Name	20UI-5356
Model Name	PVI
Tag Comment	Year (20xx)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5357 Day (0-31))

Basic

Tag Name	20UI-5357
Model Name	PVI
Tag Comment	Day (0-31)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5358 Month (1-12))

Basic

Tag Name	20UI-5358
Model Name	PVI
Tag Comment	Month (1-12)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5359 Hour (0-23))

Basic

Tag Name	20UI-5359
Model Name	PVI
Tag Comment	Hour (0-23)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5360 Minute (0-59))

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5360.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-57-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	Minute (0-59)		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20UI-5360
Model Name	PVI
Tag Comment	Minute (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5361 Second (0-59))

Basic

Tag Name	20UI-5361
Model Name	PVI
Tag Comment	Second (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5362 Millisecond (0-999))

Basic

Tag Name	20UI-5362
Model Name	PVI
Tag Comment	Millisecond (0-999)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5363 Weekday 1=Monday 2=Tuesd)

Basic

Tag Name	20UI-5363
Model Name	PVI
Tag Comment	Weekday 1=Monday 2=Tuesd
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5451 RECT MAINS FREQ)

Basic

Tag Name	20FRQ-5451

PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5451.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-57-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	RECT MAINS FREQ		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	RECT MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4154 RECT MAINS VOLT L1)

Basic

Tag Name	20VI-4154
Model Name	PVI
Tag Comment	RECT MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4254 RECT MAINS VOLT L2)

Basic

Tag Name	20VI-4254
Model Name	PVI
Tag Comment	RECT MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4354 RECT MAINS VOLT L3)

Basic

Tag Name	20VI-4354
Model Name	PVI
Tag Comment	RECT MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5452 SBS MAINS FREQ)

Basic

Tag Name	20FRQ-5452
Model Name	PVI
Tag Comment	SBS MAINS FREQ

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4155 SBS MAINS VOLT L1)

Basic

Tag Name	20VI-4155
Model Name	PVI
Tag Comment	SBS MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4255 SBS MAINS VOLT L2)

Basic

Tag Name	20VI-4255
Model Name	PVI
Tag Comment	SBS MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4355 SBS MAINS VOLT L3)

Basic

Tag Name	20VI-4355
Model Name	PVI
Tag Comment	SBS MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-5451 BATTERY CURRENT)

Basic

Tag Name	20CI-5451
Model Name	PVI
Tag Comment	BATTERY CURRENT
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	20CI-5451.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-57-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	BATTERY CURRENT		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-5453 BATTERY VOLTAGE)

Basic

Tag Name	20VI-5453
Model Name	PVI
Tag Comment	BATTERY VOLTAGE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5452 BATTERY CAPACITY)

Basic

Tag Name	20UI-5452
Model Name	PVI
Tag Comment	BATTERY CAPACITY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5451 AUTONOMY TIME)

Basic

Tag Name	20UI-5451
Model Name	PVI
Tag Comment	AUTONOMY TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-5451 BATTERY TEMPERATURE)

Basic

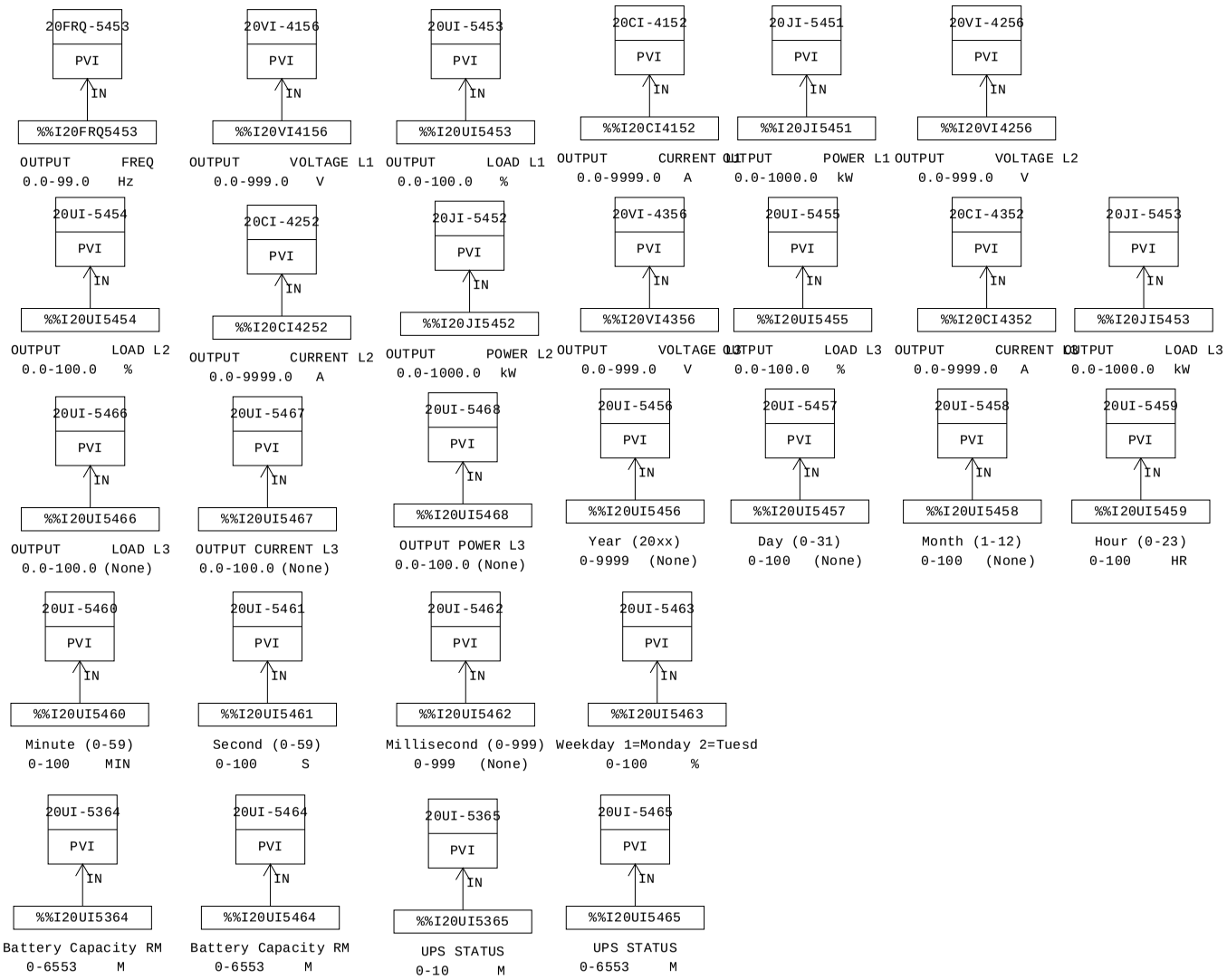
Tag Name	20TI-5451
Model Name	PVI
Tag Comment	BATTERY TEMPERATURE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	20TI-5451.edf	SHEET:		YOKOGAWA	PAGE:3-25-57-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:25 AM	COMMENT:	BATTERY TEMPERATURE		
SECTION:	DR0136	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0137.edf	SHEET:		YOKOGAWA	PAGE:3-25-58-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	200F4 FGS UPS-B		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

[FCS0101 | DR0137 | BLPH-CW | PVI SUBSYSTEM - BLPH UPS]



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0137.edf	SHEET:		YOKOGAWA	PAGE:3-25-58-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	200F4 FGS UPS-B		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F4 FGS UPS-B

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20UI-5464	PVI	Battery Capacity RM	0	6553	M	Communication Input	Hour	%%I20UI5464
						4			
002	20UI-5364	PVI	Battery Capacity RM	0	6553	M	Communication Input	Hour	%%I20UI5364
						4			
003	20UI-5365	PVI	UPS STATUS	0	10	M	Communication Input	Hour	%%I20UI5365
						4			
004	20UI-5465	PVI	UPS STATUS	0	6553	M	Communication Input	Hour	%%I20UI5465
						4			
005	20FRQ-5453	PVI	OUTPUT FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5453
						4			
006	20VI-4156	PVI	OUTPUT VOLTAGE L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4156
						4			
007	20UI-5453	PVI	OUTPUT LOAD L1	0.0	100.0	%	Communication Input	Hour	%%I20UI5453
						4			
008	20CI-4152	PVI	OUTPUT CURRENT L1	0.0	9999.0	A	Communication Input	Hour	%%I20CI4152
						4			
009	20JI-5451	PVI	OUTPUT POWER L1	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5451
						4			
010	20VI-4256	PVI	OUTPUT VOLTAGE L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4256
						4			
011	20UI-5454	PVI	OUTPUT LOAD L2	0.0	100.0	%	Communication Input	Hour	%%I20UI5454
						4			
012	20CI-4252	PVI	OUTPUT CURRENT L2	0.0	9999.0	A	Communication Input	Hour	%%I20CI4252
						4			
013	20VI-4356	PVI	OUTPUT VOLTAGE L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4356
						4			
014	20JI-5452	PVI	OUTPUT POWER L2	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5452
						4			
015	20CI-4352	PVI	OUTPUT CURRENT L3	0.0	9999.0	A	Communication Input	Hour	%%I20CI4352
						4			
016	20UI-5455	PVI	OUTPUT LOAD L3	0.0	100.0	%	Communication Input	Hour	%%I20UI5455
						4			
017	20JI-5453	PVI	OUTPUT LOAD L3	0.0	1000.0	kW	Communication Input	Hour	%%I20JI5453
						4			
018	20UI-5467	PVI	OUTPUT CURRENT L3	0.0	100.0	(None)	Communication Input	Hour	%%I20UI5467
						4			
019	20UI-5466	PVI	OUTPUT LOAD L3	0.0	100.0	(None)	Communication Input	Hour	%%I20UI5466
						4			
020	20UI-5468	PVI	OUTPUT POWER L3	0.0	100.0	(None)	Communication Input	Hour	%%I20UI5468
						4			
021	20UI-5456	PVI	Year (20xx)	0	9999	(None)	Communication Input	Hour	%%I20UI5456
						4			
022	20UI-5457	PVI	Day (0-31)	0	100	(None)	Communication Input	Hour	%%I20UI5457
						4			
023	20UI-5458	PVI	Month (1-12)	0	100	(None)	Communication Input	Hour	%%I20UI5458
						4			
024	20UI-5459	PVI	Hour (0-23)	0	100	HR	Communication Input	Hour	%%I20UI5459
						4			
025	20UI-5460	PVI	Minute (0-59)	0	100	MIN	Communication Input	Hour	%%I20UI5460
						4			
026	20UI-5461	PVI	Second (0-59)	0	100	S	Communication Input	Hour	%%I20UI5461
						4			
027	20UI-5462	PVI	Millisecond (0-999)	0	999	(None)	Communication Input	Hour	%%I20UI5462
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0137.edf	SHEET:		YOKOGAWA	PAGE:3-25-58-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	200F4 FGS UPS-B		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

028 20UI-5463 PVI Weekday 1=Monday 2=Tuesd 0 100 % Communication Input Hour %%I20UI5463
4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5464.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-58-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	Battery Capacity RM		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20UI-5464 Battery Capacity RM)

Basic

Tag Name	20UI-5464
Model Name	PVI
Tag Comment	Battery Capacity RM
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5364 Battery Capacity RM)

Basic

Tag Name	20UI-5364
Model Name	PVI
Tag Comment	Battery Capacity RM
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5365 UPS STATUS)

Basic

Tag Name	20UI-5365
Model Name	PVI
Tag Comment	UPS STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5465 UPS STATUS)

Basic

Tag Name	20UI-5465
Model Name	PVI
Tag Comment	UPS STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5453 OUTPUT FREQ)

PROJECT:	BLPH-CW1	FILE NAME:	20FRQ-5453.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-58-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	OUTPUT FREQ		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20FRQ-5453
Model Name	PVI
Tag Comment	OUTPUT FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4156 OUTPUT VOLTAGE L1)

Basic

Tag Name	20VI-4156
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5453 OUTPUT LOAD L1)

Basic

Tag Name	20UI-5453
Model Name	PVI
Tag Comment	OUTPUT LOAD L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4152 OUTPUT CURRENT L1)

Basic

Tag Name	20CI-4152
Model Name	PVI
Tag Comment	OUTPUT CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5451 OUTPUT POWER L1)

Basic

Tag Name	20JI-5451

Model Name	PVI
Tag Comment	OUTPUT POWER L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4256 OUTPUT VOLTAGE L2)

Basic

Tag Name	20VI-4256
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5454 OUTPUT LOAD L2)

Basic

Tag Name	20UI-5454
Model Name	PVI
Tag Comment	OUTPUT LOAD L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4252 OUTPUT CURRENT L2)

Basic

Tag Name	20CI-4252
Model Name	PVI
Tag Comment	OUTPUT CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4356 OUTPUT VOLTAGE L3)

Basic

Tag Name	20VI-4356
Model Name	PVI
Tag Comment	OUTPUT VOLTAGE L3

PROJECT:	BLPH-CW1	FILE NAME:	20VI-4356.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-58-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	OUTPUT VOLTAGE L3		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5452 OUTPUT POWER L2)

Basic

Tag Name	20JI-5452
Model Name	PVI
Tag Comment	OUTPUT POWER L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-4352 OUTPUT CURRENT L3)

Basic

Tag Name	20CI-4352
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5455 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5455
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20JI-5453 OUTPUT LOAD L3)

Basic

Tag Name	20JI-5453
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan

PROJECT:	BLPH-CW1	FILE NAME:	20JI-5453.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-58-8
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	OUTPUT LOAD L3		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5467 OUTPUT CURRENT L3)

Basic

Tag Name	20UI-5467
Model Name	PVI
Tag Comment	OUTPUT CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5466 OUTPUT LOAD L3)

Basic

Tag Name	20UI-5466
Model Name	PVI
Tag Comment	OUTPUT LOAD L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5468 OUTPUT POWER L3)

Basic

Tag Name	20UI-5468
Model Name	PVI
Tag Comment	OUTPUT POWER L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5456 Year (20xx))

Basic

Tag Name	20UI-5456
Model Name	PVI
Tag Comment	Year (20xx)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5456.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-58-9
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	Year (20xx)		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20UI-5457 Day (0-31))

Basic
Tag Name — 20UI-5457
Model Name — PVI
Tag Comment — Day (0-31)
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20UI-5458 Month (1-12))

Basic
Tag Name — 20UI-5458
Model Name — PVI
Tag Comment — Month (1-12)
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20UI-5459 Hour (0-23))

Basic
Tag Name — 20UI-5459
Model Name — PVI
Tag Comment — Hour (0-23)
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input
Data Conversion Gain — 1
Data Conversion Bias — 0.000
Input High Limit Detection Set Value — 106.25
Input Low Limit Detection Set Value — -6.25
Totalizer
Totalizer Time Unit — Hour
Totalizer Low-Input Cut Value — 0%

Tag Detail (20UI-5460 Minute (0-59))

Basic
Tag Name — 20UI-5460
Model Name — PVI
Tag Comment — Minute (0-59)
Lvl — 4
Scan Period — Basic Scan
Scan coefficient — 1
Scan phase — 0
Input Signal Conversion
Input Signal Conversion — Communication Input

PROJECT:	BLPH-CW1	FILE NAME:	20UI-5460.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-58-10
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:28 AM	COMMENT:	Minute (0-59)		
SECTION:	DR0137	PRINTED DATE:	9/15/2025	DRAWER:			

Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5461 Second (0-59))

Basic

Tag Name	20UI-5461
Model Name	PVI
Tag Comment	Second (0-59)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5462 Millisecond (0-999))

Basic

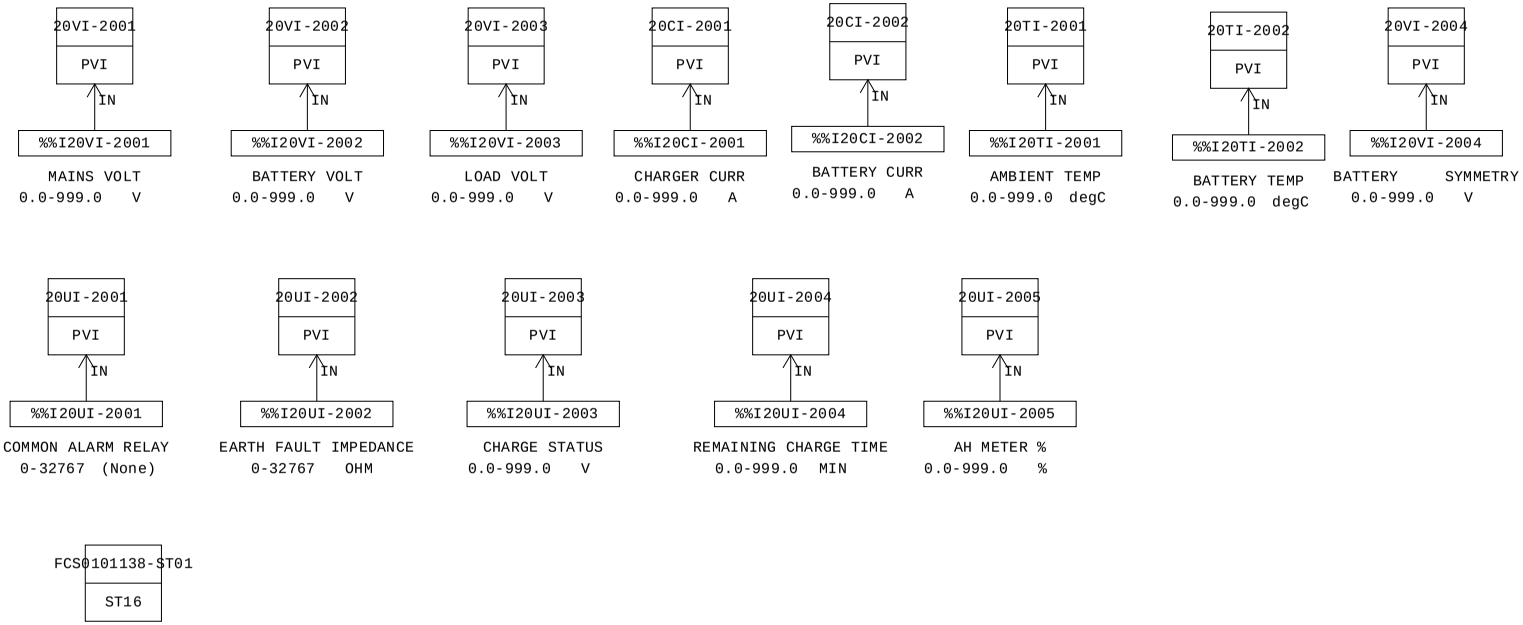
Tag Name	20UI-5462
Model Name	PVI
Tag Comment	Millisecond (0-999)
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5463 Weekday 1=Monday 2=Tuesd)

Basic

Tag Name	20UI-5463
Model Name	PVI
Tag Comment	Weekday 1=Monday 2=Tuesd
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0138.edf	SHEET:		YOKOGAWA	PAGE:3-25-59-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:30 AM	COMMENT:	200F1DC UPS-A		
SECTION:	DR0138	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0138.edf	SHEET:		YOKOGAWA	PAGE:3-25-59-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:30 AM	COMMENT:	200F1DC UPS-A		
SECTION:	DR0138	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F1DC UPS-A

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20VI-2001	PVI	MAINS VOLT	0.0	999.0	V	Communication Input	Hour	%%I20VI-2001
						4			
002	20VI-2002	PVI	BATTERY VOLT	0.0	999.0	V	Communication Input	Hour	%%I20VI-2002
						4			
003	20VI-2003	PVI	LOAD VOLT	0.0	999.0	V	Communication Input	Hour	%%I20VI-2003
						4			
004	20CI-2001	PVI	CHARGER CURR	0.0	999.0	A	Communication Input	Hour	%%I20CI-2001
						4			
005	20CI-2002	PVI	BATTERY CURR	0.0	999.0	A	Communication Input	Hour	%%I20CI-2002
						4			
006	20TI-2001	PVI	AMBIENT TEMP	0.0	999.0	degC	Communication Input	Hour	%%I20TI-2001
						4			
007	20TI-2002	PVI	BATTERY TEMP	0.0	999.0	degC	Communication Input	Hour	%%I20TI-2002
						4			
008	20VI-2004	PVI	BATTERY SYMMETRY	0.0	999.0	V	Communication Input	Hour	%%I20VI-2004
						4			
009	20UI-2001	PVI	COMMON ALARM RELAY	0	32767	(None)	Communication Input	Hour	%%I20UI-2001
						4			
010	20UI-2002	PVI	EARTH FAULT IMPEDANCE	0	32767	OHM	Communication Input	No	%%I20UI-2002
						4			
011	20UI-2003	PVI	CHARGE STATUS	0.0	999.0	V	Communication Input	No	%%I20UI-2003
						4			
012	20UI-2004	PVI	REMAINING CHARGE TIME	0.0	999.0	MIN	Communication Input	No	%%I20UI-2004
						4			
013	20UI-2005	PVI	AH METER %	0.0	999.0	%	Communication Input	No	%%I20UI-2005
						4			
014	FCS0101138-ST01	ST16		0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20VI-2001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-59-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:30 AM	COMMENT:	MAINS VOLT		
SECTION:	DR0138	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20VI-2001 MAINS VOLT)

Basic

Tag Name	20VI-2001
Model Name	PVI
Tag Comment	MAINS VOLT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-2002 BATTERY VOLT)

Basic

Tag Name	20VI-2002
Model Name	PVI
Tag Comment	BATTERY VOLT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-2003 LOAD VOLT)

Basic

Tag Name	20VI-2003
Model Name	PVI
Tag Comment	LOAD VOLT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-2001 CHARGER CURR)

Basic

Tag Name	20CI-2001
Model Name	PVI
Tag Comment	CHARGER CURR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-2002 BATTERY CURR)

PROJECT:	BLPH-CW1	FILE NAME:	20CI-2002.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-59-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:30 AM	COMMENT:	BATTERY CURR		
SECTION:	DR0138	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20CI-2002
Model Name	PVI
Tag Comment	BATTERY CURR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-2001 AMBIENT TEMP)

Basic

Tag Name	20TI-2001
Model Name	PVI
Tag Comment	AMBIENT TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-2002 BATTERY TEMP)

Basic

Tag Name	20TI-2002
Model Name	PVI
Tag Comment	BATTERY TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-2004 BATTERY SYMMETRY)

Basic

Tag Name	20VI-2004
Model Name	PVI
Tag Comment	BATTERY SYMMETRY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-2001 COMMON ALARM RELAY)

Basic

Tag Name	20UI-2001

Model Name	PVI
Tag Comment	COMMON ALARM RELAY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-2002 EARTH FAULT IMPEDANCE)

Basic

Tag Name	20UI-2002
Model Name	PVI
Tag Comment	EARTH FAULT IMPEDANCE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-2003 CHARGE STATUS)

Basic

Tag Name	20UI-2003
Model Name	PVI
Tag Comment	CHARGE STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-2004 REMAINING CHARGE TIME)

Basic

Tag Name	20UI-2004
Model Name	PVI
Tag Comment	REMAINING CHARGE TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-2005 AH METER %)

Basic

Tag Name	20UI-2005
Model Name	PVI
Tag Comment	AH METER %

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SECTION:	DR0138	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (FCS0101138-ST01)

Basic

Tag Name	FCS0101138-ST01
Model Name	ST16
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101138-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-59-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:30 AM	COMMENT:			
SECTION:	DR0138	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101138-ST01)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20XA-2001.PV	ON	HI MAINS VOLT	Y								
C02	20XA-2002.PV	ON	LO MAINS VOLT	.Y								
C03	20XA-2003.PV	ON	CHARGER FAIL	..Y								
C04	20XA-2004.PV	ON	HI BATTERY VOLT	...Y								
C05	20XA-2005.PV	ON	LO BATTERY VOLT		Y							
C06	20XA-2006.PV	ON	HI DC VOLT		.Y							
C07	20XA-2007.PV	ON	LO DC VOLT		..Y							
C08	20XA-2008.PV	ON	GROUND FLT +		...Y							
C09	20XA-2009.PV	ON	GROUND FLT -			Y						
C10	20US-2001.PV	ON	CHARGER CURR LMT			.Y						
C11	20US-2002.PV	ON	BATTERY CURR LMT			..Y						
C12	20XA-2010.PV	ON	HI CHARGER CURR			...Y						
C13	20XA-2011.PV	ON	HI BATTERY CURR				Y					
C14	20XA-2012.PV	ON	HI TEMP				.Y					
C15	20XA-2013.PV	ON	TEMP SENSOR ERROR				..Y					
C16	20XA-2014.PV	ON	INTERNAL COMM ERR				...Y					
C17	20XA-2015.PV	ON	BATTERY TEST FAIL					Y				
C18	20XA-2016.PV	ON	BATTERY TEST ABORTED					.Y				
C19	20XA-2017.PV	ON	HI BATTERY TEMP					..Y				
C20	20XA-2018.PV	ON	HI FLOAT CURR					...Y				
C21	20XA-2019.PV	ON	LONG CHARGE TIME						Y			
C22	20XA-2020.PV	ON	NO POWER SUPPLY VOLT						.Y			
C23	20XA-2021.PV	ON	BATTERY IN OPERATION						..Y			
C24	20XA-2022.PV	ON	BATTERY SYMMETRY FLT						...Y			
C25	20US-2003.PV	ON	Q1 OPEN							Y		
C26	20US-2004.PV	ON	REMOTE OFF INHIBITION							.Y		
C27	20XA-2024.PV	ON	BATTERY PROTECTION							..Y		
C28	20XA-2025.PV	ON	DISTRIBUTION FAULT							...Y		
C29												
C30	20XA-2027.PV	ON	VENTILATION FAULT								.Y	
C31												
C32												
A01	20XA-2001AN.PV	L	HI MAINS VOLT	Y								
A02	20XA-2002AN.PV	L	LO MAINS VOLT	.Y								
A03	20XA-2003AN.PV	L	CHARGER FAIL	..Y								
A04	20XA-2004AN.PV	L	HI BATTERY VOLT	...Y								
A05	20XA-2005AN.PV	L	LO BATTERY VOLT		Y							
A06	20XA-2006AN.PV	L	HI DC VOLT		.Y							
A07	20XA-2007AN.PV	L	LO DC VOLT		..Y							
A08	20XA-2008AN.PV	L	GROUND FLT +		...Y							
A09	20XA-2009AN.PV	L	GROUND FLT -			Y						
A10	20US-2001AN.PV	L	CHARGER CURR LMT			.Y						
A11	20US-2002AN.PV	L	BATTERY CURR LMT			..Y						
A12	20XA-2010AN.PV	L	HI CHARGER CURR			...Y						
A13	20XA-2011AN.PV	L	HI BATTERY CURR				Y					
A14	20XA-2012AN.PV	L	HI TEMP				.Y					
A15	20XA-2013AN.PV	L	TEMP SENSOR ERROR				..Y					
A16	20XA-2014AN.PV	L	INTERNAL COMM ERR				...Y					
A17	20XA-2015AN.PV	L	BATTERY TEST FAIL					Y				
A18	20XA-2016AN.PV	L	BATTERY TEST ABORTED					.Y				
A19	20XA-2017AN.PV	L	HI BATTERY TEMP					..Y				
A20	20XA-2018AN.PV	L	HI FLOAT CURR					...Y				
A21	20XA-2019AN.PV	L	LONG CHARGE TIME						Y			
A22	20XA-2020AN.PV	L	NO POWER SUPPLY VOLT						.Y			
A23	20XA-2021AN.PV	L	BATTERY IN OPERATION						..Y			
A24	20XA-2022AN.PV	L	BATTERY SYMMETRY FLT						...Y			
A25	20US-2003AN.PV	L	Q1 OPEN							Y		
A26	20US-2004AN.PV	L	REMOTE OFF INHIBITION							.Y		
A27	20XA-2024AN.PV	L	BATTERY PROTECTION							..Y		
A28	20XA-2025AN.PV	L	DISTRIBUTION FAULT							...Y		
A29												
A30	20XA-2027AN.PV	L	VENTILATION FAULT								.Y	
A31												
A32												
PREV			THEN									
NEXT			ELSE									

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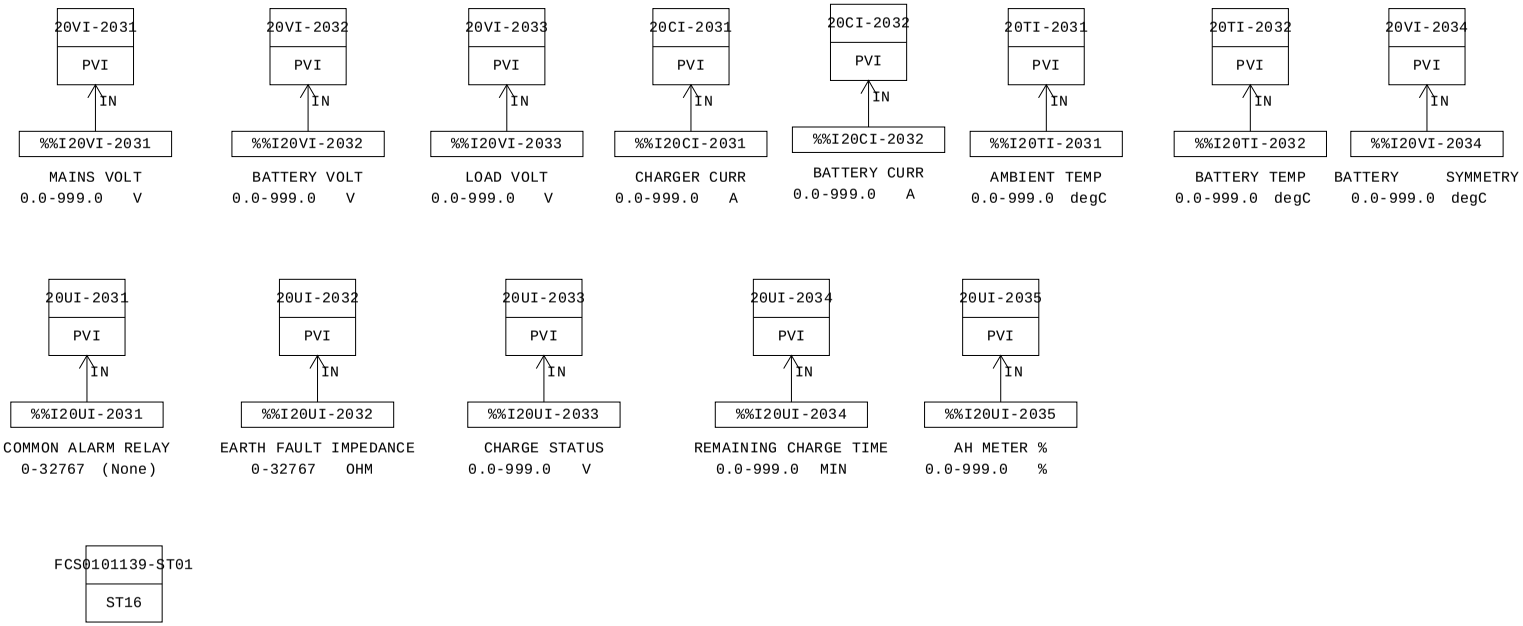
SECTION:	DR0139	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0139.edf	SHEET:		YOKOGAWA	PAGE:3-25-60-2
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SECTION:	DR0139	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F1 DC UPS-B

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	20VI-2031	PVI	MAINS VOLT	0.0	999.0	V	Communication Input	Hour	%%I20VI-2031
						4			
002	20VI-2032	PVI	BATTERY VOLT	0.0	999.0	V	Communication Input	Hour	%%I20VI-2032
						4			
003	20VI-2033	PVI	LOAD VOLT	0.0	999.0	V	Communication Input	Hour	%%I20VI-2033
						4			
004	20CI-2031	PVI	CHARGER CURR	0.0	999.0	A	Communication Input	Hour	%%I20CI-2031
						4			
005	20CI-2032	PVI	BATTERY CURR	0.0	999.0	A	Communication Input	Hour	%%I20CI-2032
						4			
006	20TI-2031	PVI	AMBIENT TEMP	0.0	999.0	degC	Communication Input	Hour	%%I20TI-2031
						4			
007	20TI-2032	PVI	BATTERY TEMP	0.0	999.0	degC	Communication Input	Hour	%%I20TI-2032
						4			
008	20VI-2034	PVI	BATTERY SYMMETRY	0.0	999.0	degC	Communication Input	Hour	%%I20VI-2034
						4			
009	20UI-2031	PVI	COMMON ALARM RELAY	0	32767	(None)	Communication Input	Hour	%%I20UI-2031
						4			
010	20UI-2032	PVI	EARTH FAULT IMPEDANCE	0	32767	OHM	Communication Input	No	%%I20UI-2032
						4			
011	20UI-2033	PVI	CHARGE STATUS	0.0	999.0	V	Communication Input	No	%%I20UI-2033
						4			
012	20UI-2034	PVI	REMAINING CHARGE TIME	0.0	999.0	MIN	Communication Input	No	%%I20UI-2034
						4			
013	20UI-2035	PVI	AH METER %	0.0	999.0	%	Communication Input	No	%%I20UI-2035
						4			
014	FCS0101139-ST01	ST16		0	0				
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:33 AM	COMMENT:	MAINS VOLT		
SECTION:	DR0139	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20VI-2031 MAINS VOLT)

Basic

Tag Name	20VI-2031
Model Name	PVI
Tag Comment	MAINS VOLT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-2032 BATTERY VOLT)

Basic

Tag Name	20VI-2032
Model Name	PVI
Tag Comment	BATTERY VOLT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-2033 LOAD VOLT)

Basic

Tag Name	20VI-2033
Model Name	PVI
Tag Comment	LOAD VOLT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-2031 CHARGER CURR)

Basic

Tag Name	20CI-2031
Model Name	PVI
Tag Comment	CHARGER CURR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-2032 BATTERY CURR)

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STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:33 AM	COMMENT:	BATTERY CURR		
SECTION:	DR0139	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20CI-2032
Model Name	PVI
Tag Comment	BATTERY CURR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-2031 AMBIENT TEMP)

Basic

Tag Name	20TI-2031
Model Name	PVI
Tag Comment	AMBIENT TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-2032 BATTERY TEMP)

Basic

Tag Name	20TI-2032
Model Name	PVI
Tag Comment	BATTERY TEMP
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-2034 BATTERY SYMMETRY)

Basic

Tag Name	20VI-2034
Model Name	PVI
Tag Comment	BATTERY SYMMETRY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-2031 COMMON ALARM RELAY)

Basic

Tag Name	20UI-2031

Model Name	PVI
Tag Comment	COMMON ALARM RELAY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-2032 EARTH FAULT IMPEDANCE)

Basic

Tag Name	20UI-2032
Model Name	PVI
Tag Comment	EARTH FAULT IMPEDANCE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-2033 CHARGE STATUS)

Basic

Tag Name	20UI-2033
Model Name	PVI
Tag Comment	CHARGE STATUS
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-2034 REMAINING CHARGE TIME)

Basic

Tag Name	20UI-2034
Model Name	PVI
Tag Comment	REMAINING CHARGE TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (20UI-2035 AH METER %)

Basic

Tag Name	20UI-2035
Model Name	PVI
Tag Comment	AH METER %

PROJECT:	BLPH-CW1	FILE NAME:	20UI-2035.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-60-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:33 AM	COMMENT:	AH METER %		
SECTION:	DR0139	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (FCS0101139-ST01)

Basic

Tag Name	FCS0101139-ST01
Model Name	ST16
Tag Comment	
Lvl	4

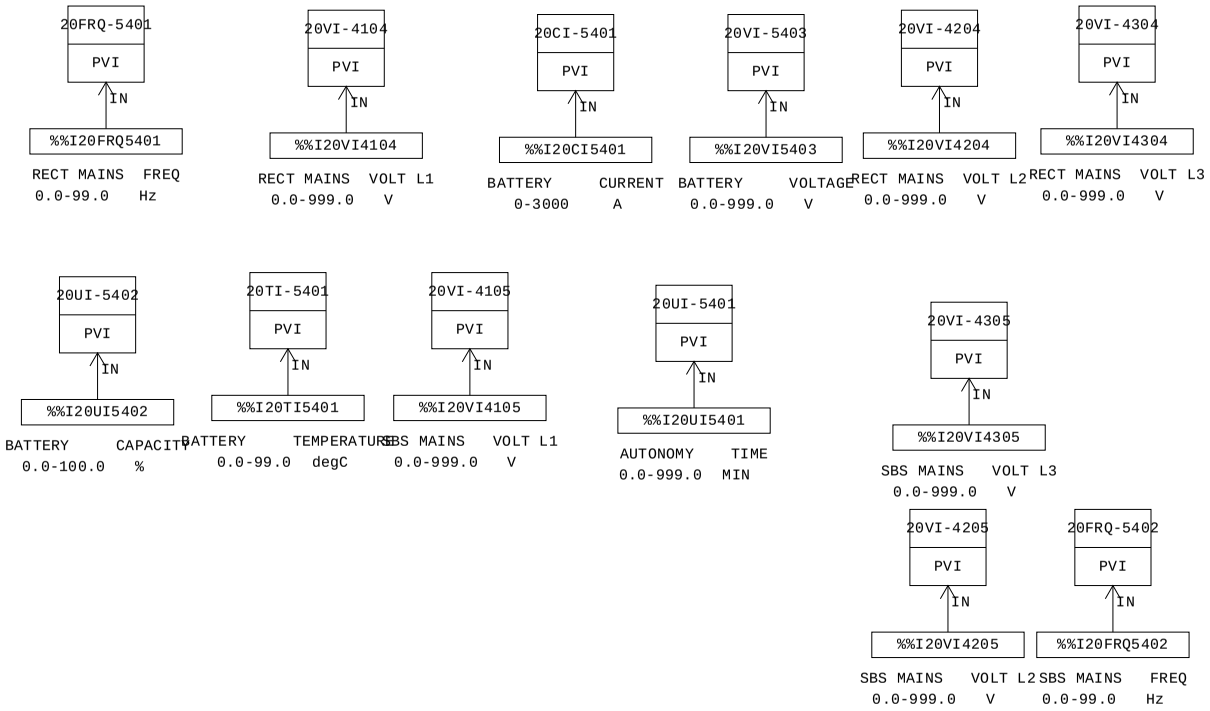
PROJECT:	BLPH-CW1	FILE NAME:	FCS0101139-ST01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-60-7
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:33 AM	COMMENT:			
SECTION:	DR0139	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101139-ST01)

Start Timing Periodic Execution Type(T)
Output Timing Output Each Time Conditions are Satisfied(E)
Scan Period Basic Scan
Control Period 1
Control Phase 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01	20XA-2031.PV	ON	HI MAINS VOLT	Y								
C02	20XA-2032.PV	ON	LO MAINS VOLT	.Y								
C03	20XA-2033.PV	ON	CHARGER FAIL	..Y								
C04	20XA-2034.PV	ON	HI BATTERY VOLT	...Y								
C05	20XA-2035.PV	ON	LO BATTERY VOLT		Y							
C06	20XA-2036.PV	ON	HI DC VOLT		.Y							
C07	20XA-2037.PV	ON	LO DC VOLT		..Y							
C08	20XA-2038.PV	ON	GROUND FLT +		...Y							
C09	20XA-2039.PV	ON	GROUND FLT -			Y						
C10	20US-2031.PV	ON	CHARGER CURR LMT			.Y						
C11	20US-2032.PV	ON	BATTERY CURR LMT			..Y						
C12	20XA-2040.PV	ON	HI CHARGER CURR			...Y						
C13	20XA-2041.PV	ON	HI BATTERY CURR				Y					
C14	20XA-2042.PV	ON	HI TEMP				.Y					
C15	20XA-2043.PV	ON	TEMP SENSOR ERROR				..Y					
C16	20XA-2044.PV	ON	INTERNAL COMM ERR				...Y					
C17	20XA-2045.PV	ON	BATTERY TEST FAIL					Y				
C18	20XA-2046.PV	ON	BATTERY TEST ABORTED					.Y				
C19	20XA-2047.PV	ON	HI BATTERY TEMP					..Y				
C20	20XA-2048.PV	ON	HI FLOAT CURR					...Y				
C21	20XA-2049.PV	ON	LONG CHARGE TIME						Y			
C22	20XA-2050.PV	ON	NO POWER SUPPLY VOLT						.Y			
C23	20XA-2051.PV	ON	BATTERY IN OPERATION						..Y			
C24	20XA-2052.PV	ON	BATTERY SYMMETRY FLT						...Y			
C25	20US-2033.PV	ON	Q1 OPEN							Y		
C26	20US-2034.PV	ON	REMOTE OFF INHIBITION							.Y		
C27	20XA-2054.PV	ON	BATTERY PROTECTION							..Y		
C28												
C29												
C30	20XA-2055.PV	ON	DISTRIBUTION FAULT							...Y		
C31												
C32	20XA-2057.PV	ON	VENTILATION FAULT								.Y	
A01	20XA-2031AN.PV	L	HI MAINS VOLT	Y								
A02	20XA-2032AN.PV	L	LO MAINS VOLT	.Y								
A03	20XA-2033AN.PV	L	CHARGER FAIL	..Y								
A04	20XA-2034AN.PV	L	HI BATTERY VOLT	...Y								
A05	20XA-2035AN.PV	L	LO BATTERY VOLT		Y							
A06	20XA-2036AN.PV	L	HI DC VOLT		.Y							
A07	20XA-2037AN.PV	L	LO DC VOLT		..Y							
A08	20XA-2038AN.PV	L	GROUND FLT +		...Y							
A09	20XA-2039AN.PV	L	GROUND FLT -			Y						
A10	20US-2031AN.PV	L	CHARGER CURR LMT			.Y						
A11	20US-2032AN.PV	L	BATTERY CURR LMT			..Y						
A12	20XA-2040AN.PV	L	HI CHARGER CURR			...Y						
A13	20XA-2041AN.PV	L	HI BATTERY CURR				Y					
A14	20XA-2042AN.PV	L	HI TEMP				.Y					
A15	20XA-2043AN.PV	L	TEMP SENSOR ERROR				..Y					
A16	20XA-2044AN.PV	L	INTERNAL COMM ERR				...Y					
A17	20XA-2045AN.PV	L	BATTERY TEST FAIL					Y				
A18	20XA-2046AN.PV	L	BATTERY TEST ABORTED					.Y				
A19	20XA-2047AN.PV	L	HI BATTERY TEMP					..Y				
A20	20XA-2048AN.PV	L	HI FLOAT CURR					...Y				
A21	20XA-2049AN.PV	L	LONG CHARGE TIME						Y			
A22	20XA-2050AN.PV	L	NO POWER SUPPLY VOLT						.Y			
A23	20XA-2051AN.PV	L	BATTERY IN OPERATION						..Y			
A24	20XA-2052AN.PV	L	BATTERY SYMMETRY FLT						...Y			
A25	20US-2033AN.PV	L	Q1 OPEN							Y		
A26	20US-2034AN.PV	L	REMOTE OFF INHIBITION							.Y		
A27	20XA-2054AN.PV	L	BATTERY PROTECTION							..Y		
A28												
A29												
A30	20XA-2055AN.PV	L	DISTRIBUTION FAULT							...Y		
A31												
A32	20XA-2057AN.PV	L	VENTILATION FAULT								.Y	
PREV			THEN									
NEXT			ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	DR0140.edf	SHEET:		YOKOGAWA	PAGE:3-25-61-1
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:35 AM	COMMENT:	200F4 FGS UPA-A		
SECTION:	DR0140	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0140.edf	SHEET:		YOKOGAWA	PAGE:3-25-61-2
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:35 AM	COMMENT:	200F4 FGS UPA-A		
SECTION:	DR0140	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:200F4 FGS UPA-A

No.	Tag Name	Model Name	Tag Comment		Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection			Set Value Input Connection Information		Lvl			
001	20VI-4104	PVI	RECT MAINS	VOLT L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4104
							4			
002	20CI-5401	PVI	BATTERY	CURRENT	0	3000	A	Communication Input	Hour	%%I20CI5401
							4			
003	20VI-5403	PVI	BATTERY	VOLTAGE	0.0	999.0	V	Communication Input	Hour	%%I20VI5403
							4			
004	20VI-4204	PVI	RECT MAINS	VOLT L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4204
							4			
005	20VI-4304	PVI	RECT MAINS	VOLT L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4304
							4			
006	20FRQ-5401	PVI	RECT MAINS	FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5401
							4			
007	20UI-5402	PVI	BATTERY	CAPACITY	0.0	100.0	%	Communication Input	Hour	%%I20UI5402
							4			
008	20TI-5401	PVI	BATTERY	TEMPERATURE	0.0	99.0	degC	Communication Input	Hour	%%I20TI5401
							4			
009	20VI-4105	PVI	SBS MAINS	VOLT L1	0.0	999.0	V	Communication Input	Hour	%%I20VI4105
							4			
010	20UI-5401	PVI	AUTONOMY	TIME	0.0	999.0	MIN	Communication Input	Hour	%%I20UI5401
							4			
011	20FRQ-5402	PVI	SBS MAINS	FREQ	0.0	99.0	Hz	Communication Input	Hour	%%I20FRQ5402
							4			
012	20VI-4205	PVI	SBS MAINS	VOLT L2	0.0	999.0	V	Communication Input	Hour	%%I20VI4205
							4			
013	20VI-4305	PVI	SBS MAINS	VOLT L3	0.0	999.0	V	Communication Input	Hour	%%I20VI4305
							4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	20VI-4104.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-61-3
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:35 AM	COMMENT:	RECT MAINS VOLT L1		
SECTION:	DR0140	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (20VI-4104 RECT MAINS VOLT L1)

Basic

Tag Name	20VI-4104
Model Name	PVI
Tag Comment	RECT MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20CI-5401 BATTERY CURRENT)

Basic

Tag Name	20CI-5401
Model Name	PVI
Tag Comment	BATTERY CURRENT
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-5403 BATTERY VOLTAGE)

Basic

Tag Name	20VI-5403
Model Name	PVI
Tag Comment	BATTERY VOLTAGE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4204 RECT MAINS VOLT L2)

Basic

Tag Name	20VI-4204
Model Name	PVI
Tag Comment	RECT MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4304 RECT MAINS VOLT L3)

PROJECT:	BLPH-CW1	FILE NAME:	20VI-4304.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-61-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:35 AM	COMMENT:	RECT MAINS VOLT L3		
SECTION:	DR0140	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	20VI-4304
Model Name	PVI
Tag Comment	RECT MAINS VOLT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5401 RECT MAINS FREQ)

Basic

Tag Name	20FRQ-5401
Model Name	PVI
Tag Comment	RECT MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5402 BATTERY CAPACITY)

Basic

Tag Name	20UI-5402
Model Name	PVI
Tag Comment	BATTERY CAPACITY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20TI-5401 BATTERY TEMPERATURE)

Basic

Tag Name	20TI-5401
Model Name	PVI
Tag Comment	BATTERY TEMPERATURE
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4105 SBS MAINS VOLT L1)

Basic

Tag Name	20VI-4105

PROJECT:	BLPH-CW1	FILE NAME:	20VI-4105.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-61-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:36 AM	COMMENT:	SBS MAINS VOLT L1		
SECTION:	DR0140	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	SBS MAINS VOLT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20UI-5401 AUTONOMY TIME)

Basic

Tag Name	20UI-5401
Model Name	PVI
Tag Comment	AUTONOMY TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20FRQ-5402 SBS MAINS FREQ)

Basic

Tag Name	20FRQ-5402
Model Name	PVI
Tag Comment	SBS MAINS FREQ
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4205 SBS MAINS VOLT L2)

Basic

Tag Name	20VI-4205
Model Name	PVI
Tag Comment	SBS MAINS VOLT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

Tag Detail (20VI-4305 SBS MAINS VOLT L3)

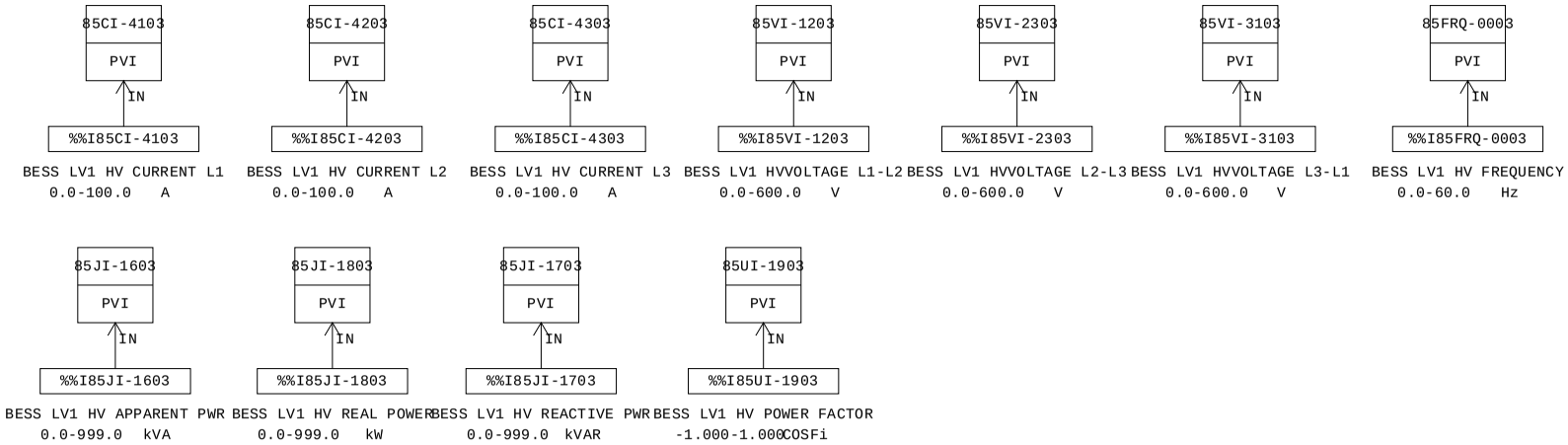
Basic

Tag Name	20VI-4305
Model Name	PVI
Tag Comment	SBS MAINS VOLT L3

PROJECT:	BLPH-CW1	FILE NAME:	20VI-4305.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-61-6
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:36 AM	COMMENT:	SBS MAINS VOLT L3		
SECTION:	DR0140	PRINTED DATE:	9/15/2025	DRAWER:			

Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	Hour
Totalizer Low-Input Cut Value	0%

PROJECT:	BLPH-CW1	FILE NAME:	DR0143.edf	SHEET:		YOKOGAWA	PAGE:3-25-62-1
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:30:37 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0143	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Smart-part object list

No.	Smart-part object name	Smart-part name	Data modification date	Object comment
001	TYP002_012	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
002	TYP002_013	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
003	TYP002_014	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
004	TYP002_015	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
005	TYP002_016	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
006	TYP002_017	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
007	TYP002_018	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
008	TYP002_022	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
009	TYP002_021	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
010	TYP002_020	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR
011	TYP002_019	TYP002	2025/02/05 04:52	PVI SUBSYSTEM INDICATOR

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0143.edf	SHEET:		YOKOGAWA	PAGE:3-25-62-3
STATION:	FCS0101	SAVED DATE:	7/8/2025 6:30:37 AM	COMMENT:	LV SUBSYSTEM AI		
SECTION:	DR0143	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	85CI-4103	PVI	BESS LV1 HV CURRENT L1	0.0	100.0	A	Communication Input	No	%%I85CI-4103
						4			
002	85CI-4203	PVI	BESS LV1 HV CURRENT L2	0.0	100.0	A	Communication Input	No	%%I85CI-4203
						4			
003	85CI-4303	PVI	BESS LV1 HV CURRENT L3	0.0	100.0	A	Communication Input	No	%%I85CI-4303
						4			
004	85VI-1203	PVI	BESS LV1 HVVOLTAGE L1-L2	0.0	600.0	V	Communication Input	No	%%I85VI-1203
						4			
005	85VI-2303	PVI	BESS LV1 HVVOLTAGE L2-L3	0.0	600.0	V	Communication Input	No	%%I85VI-2303
						4			
006	85VI-3103	PVI	BESS LV1 HVVOLTAGE L3-L1	0.0	600.0	V	Communication Input	No	%%I85VI-3103
						4			
007	85FRQ-0003	PVI	BESS LV1 HV FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I85FRQ-0003
						4			
008	85JI-1603	PVI	BESS LV1 HV APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I85JI-1603
						4			
009	85JI-1803	PVI	BESS LV1 HV REAL POWER	0.0	999.0	kW	Communication Input	No	%%I85JI-1803
						4			
010	85JI-1703	PVI	BESS LV1 HV REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I85JI-1703
						4			
011	85UI-1903	PVI	BESS LV1 HV POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I85UI-1903
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	85CI-4103.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-62-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:41:11 PM	COMMENT:	BESS LV1 HV CURRENT L1		
SECTION:	DR0143	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85CI-4103 BESS LV1 HV CURRENT L1)

Basic

Tag Name	85CI-4103
Model Name	PVI
Tag Comment	BESS LV1 HV CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85CI-4203 BESS LV1 HV CURRENT L2)

Basic

Tag Name	85CI-4203
Model Name	PVI
Tag Comment	BESS LV1 HV CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85CI-4303 BESS LV1 HV CURRENT L3)

Basic

Tag Name	85CI-4303
Model Name	PVI
Tag Comment	BESS LV1 HV CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-1203 BESS LV1 HVVOLTAGE L1-L2)

Basic

Tag Name	85VI-1203
Model Name	PVI
Tag Comment	BESS LV1 HVVOLTAGE L1-L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-2303 BESS LV1 HVVOLTAGE L2-L3)

PROJECT:	BLPH-CW1	FILE NAME:	85VI-2303.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-62-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 8:29:39 AM	COMMENT:	BESS LV1 HVVOLTAGE L2-L3		
SECTION:	DR0143	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	85VI-2303
Model Name	PVI
Tag Comment	BESS LV1 HVVOLTAGE L2-L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85VI-3103 BESS LV1 HVVOLTAGE L3-L1)

Basic

Tag Name	85VI-3103
Model Name	PVI
Tag Comment	BESS LV1 HVVOLTAGE L3-L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85FRQ-0003 BESS LV1 HV FREQUENCY)

Basic

Tag Name	85FRQ-0003
Model Name	PVI
Tag Comment	BESS LV1 HV FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1603 BESS LV1 HV APPARENT PWR)

Basic

Tag Name	85JI-1603
Model Name	PVI
Tag Comment	BESS LV1 HV APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1803 BESS LV1 HV REAL POWER)

Basic

Tag Name	85JI-1803

PROJECT:	BLPH-CW1	FILE NAME:	85JI-1803.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-62-6
STATION:	FCS0101	SAVED DATE:	4/15/2025 8:29:39 AM	COMMENT:	BESS LV1 HV REAL POWER		
SECTION:	DR0143	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	BESS LV1 HV REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85JI-1703 BESS LV1 HV REACTIVE PWR)

Basic

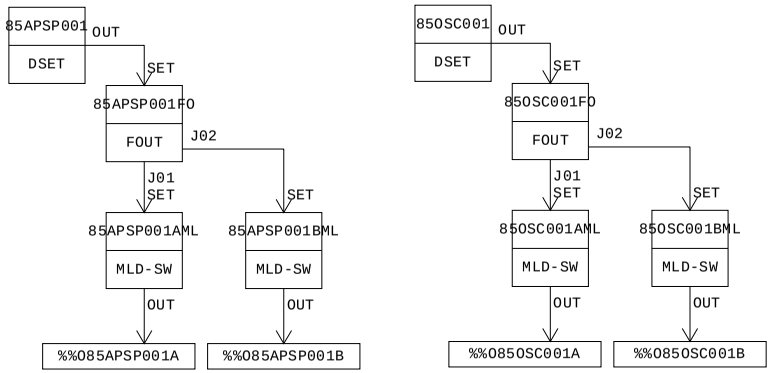
Tag Name	85JI-1703
Model Name	PVI
Tag Comment	BESS LV1 HV REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (85UI-1903 BESS LV1 HV POWER FACTOR)

Basic

Tag Name	85UI-1903
Model Name	PVI
Tag Comment	BESS LV1 HV POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0145.edf	SHEET:		YOKOGAWA	PAGE:3-25-63-1
STATION:	FCS0101	SAVED DATE:	5/21/2025 12:28:56 AM	COMMENT:	EMCS BESS MODBUS		
SECTION:	DR0145	PRINTED DATE:	9/15/2025	DRAWER:			



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PROJECT:	BLPH-CW1	FILE NAME:	DR0145.edf	SHEET:		YOKOGAWA	PAGE:3-25-63-2
STATION:	FCS0101	SAVED DATE:	5/21/2025 12:28:56 AM	COMMENT:	EMCS BESS MODBUS		
SECTION:	DR0145	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:EMCS BESS MODBUS

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	85APSP001	DSET	BESS ACTIVE POWER SP	-1000.0	1000.0	kW			
		85APSP001FO.SET				4			
002	85APSP001FO	FOUT	BESS ACTIVE POWER SP	0	0	pH			
					85APSP001.OUT	4			
003	85APSP001BML	MLD-SW	BESS ACTIVE POWER SP B	0	0	pH			
		%%O85APSP001B			85APSP001FO.J02	4			
004	85APSP001AML	MLD-SW	BESS ACTIVE POWER SP A	0	0	kW			
		%%O85APSP001A			85APSP001FO.J01	4			
005	85OSC001	DSET	BESS OPERATING STATUS CM	0	65535	(None)			
		85OSC001FO.SET				4			
006	85OSC001FO	FOUT	BESS OPERATING STATUS CM	0	0	pH			
					85OSC001.OUT	4			
007	85OSC001BML	MLD-SW	BESS OPRTNG STATUS CMD B	0	0	(None)			
		%%O85OSC001B			85OSC001FO.J02	4			
008	85OSC001AML	MLD-SW	BESS OPRTNG STATUS CMD A	0	0	(None)			
		%%O85OSC001A			85OSC001FO.J01	4			

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PROJECT:	BLPH-CW1	FILE NAME:	85APSP001.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-63-3
STATION:	FCS0101	SAVED DATE:	5/21/2025 12:28:23 AM	COMMENT:	BESS ACTIVE POWER SP		
SECTION:	DR0145	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (85APSP001 BESS ACTIVE POWER SP)

Basic

Tag Name	85APSP001
Model Name	DSET
Tag Comment	BESS ACTIVE POWER SP
Lvl	4
Scan Period	Basic Scan

Tag Detail (85APSP001FO BESS ACTIVE POWER SP)

Basic

Tag Name	85APSP001FO
Model Name	FOUT
Tag Comment	BESS ACTIVE POWER SP
Lvl	4
SV Range	
High limit value	1000.0
Low limit value	-1000.0

Tag Detail (85APSP001BML BESS ACTIVE POWER SP B)

Basic

Tag Name	85APSP001BML
Model Name	MLD-SW
Tag Comment	BESS ACTIVE POWER SP B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	-1000.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (85APSP001AML BESS ACTIVE POWER SP A)

Basic

Tag Name	85APSP001AML
Model Name	MLD-SW
Tag Comment	BESS ACTIVE POWER SP A
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	1000.0
Low limit value	-1000.0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (85OSC001 BESS OPERATING STATUS CM)

Basic

Tag Name	85OSC001
Model Name	DSET
Tag Comment	BESS OPERATING STATUS CM
Lvl	4
Scan Period	Basic Scan

Tag Detail (85OSC001FO BESS OPERATING STATUS CM)

Basic

Tag Name	85OSC001FO
Model Name	FOUT
Tag Comment	BESS OPERATING STATUS CM
Lvl	4
SV Range	
High limit value	65535
Low limit value	0

Tag Detail (85OSC001BML BESS OPRTNG STATUS CMD B)

Basic

Tag Name	85OSC001BML

PROJECT:	BLPH-CW1	FILE NAME:	85OSC001BML.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-63-4
STATION:	FCS0101	SAVED DATE:	5/21/2025 12:27:31 AM	COMMENT:	BESS OPRTNG STATUS CMD B		
SECTION:	DR0145	PRINTED DATE:	9/15/2025	DRAWER:			

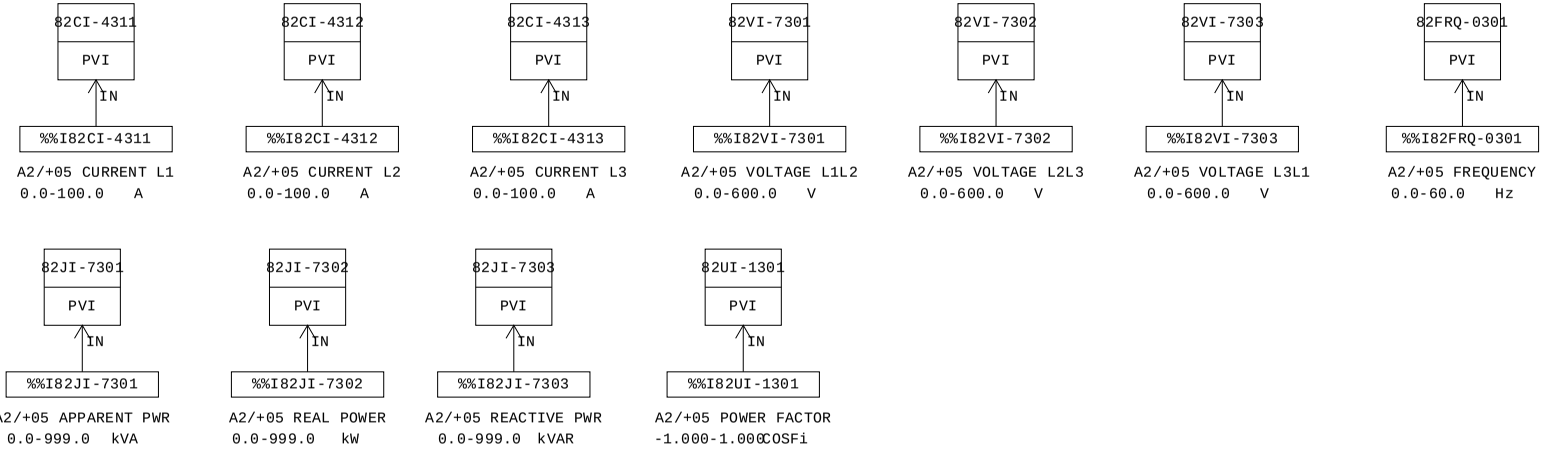
Model Name	MLD-SW
Tag Comment	BESS OPRTNG STATUS CMD B
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	65535
Low limit value	0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

Tag Detail (85OSC001AML BESS OPRTNG STATUS CMD A)

Basic

Tag Name	85OSC001AML
Model Name	MLD-SW
Tag Comment	BESS OPRTNG STATUS CMD A
Lvl	4
Scan Period	Basic Scan
SV Range	
High limit value	65535
Low limit value	0
Open/Close mark	No
Output Signal Conversion	
Output Signal Conversion	Communication Output
Data Conversion Gain	1.000
Data Conversion Bias	0.000

PROJECT:	BLPH-CW1	FILE NAME:	DR0150.edf	SHEET:		YOKOGAWA	PAGE:3-25-64-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:52 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0150	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0150.edf	SHEET:		YOKOGAWA	PAGE:3-25-64-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:52 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0150	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4311	PVI	A2/+05 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4311
						4			
002	82CI-4312	PVI	A2/+05 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4312
						4			
003	82CI-4313	PVI	A2/+05 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4313
						4			
004	82VI-7301	PVI	A2/+05 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7301
						4			
005	82VI-7302	PVI	A2/+05 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7302
						4			
006	82VI-7303	PVI	A2/+05 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7303
						4			
007	82FRQ-0301	PVI	A2/+05 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0301
						4			
008	82JI-7301	PVI	A2/+05 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7301
						4			
009	82JI-7302	PVI	A2/+05 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7302
						4			
010	82JI-7303	PVI	A2/+05 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7303
						4			
011	82UI-1301	PVI	A2/+05 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1301
						4			

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PROJECT:	BLPH-CW1	FILE NAME:	82CI-4311.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-64-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:52 PM	COMMENT:	A2/+05 CURRENT L1		
SECTION:	DR0150	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4311 A2/+05 CURRENT L1)

Basic

Tag Name	82CI-4311
Model Name	PVI
Tag Comment	A2/+05 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4312 A2/+05 CURRENT L2)

Basic

Tag Name	82CI-4312
Model Name	PVI
Tag Comment	A2/+05 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4313 A2/+05 CURRENT L3)

Basic

Tag Name	82CI-4313
Model Name	PVI
Tag Comment	A2/+05 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7301 A2/+05 VOLTAGE L1L2)

Basic

Tag Name	82VI-7301
Model Name	PVI
Tag Comment	A2/+05 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7302 A2/+05 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7302.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-64-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 5:40:18 AM	COMMENT:	A2/+05 VOLTAGE L2L3		
SECTION:	DR0150	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7302
Model Name	PVI
Tag Comment	A2/+05 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7303 A2/+05 VOLTAGE L3L1)

Basic

Tag Name	82VI-7303
Model Name	PVI
Tag Comment	A2/+05 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0301 A2/+05 FREQUENCY)

Basic

Tag Name	82FRQ-0301
Model Name	PVI
Tag Comment	A2/+05 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7301 A2/+05 APPARENT PWR)

Basic

Tag Name	82JI-7301
Model Name	PVI
Tag Comment	A2/+05 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7302 A2/+05 REAL POWER)

Basic

Tag Name	82JI-7302

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7302.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-64-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 5:40:18 AM	COMMENT:	A2/+05 REAL POWER		
SECTION:	DR0150	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A2/+05 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7303 A2/+05 REACTIVE PWR)

Basic

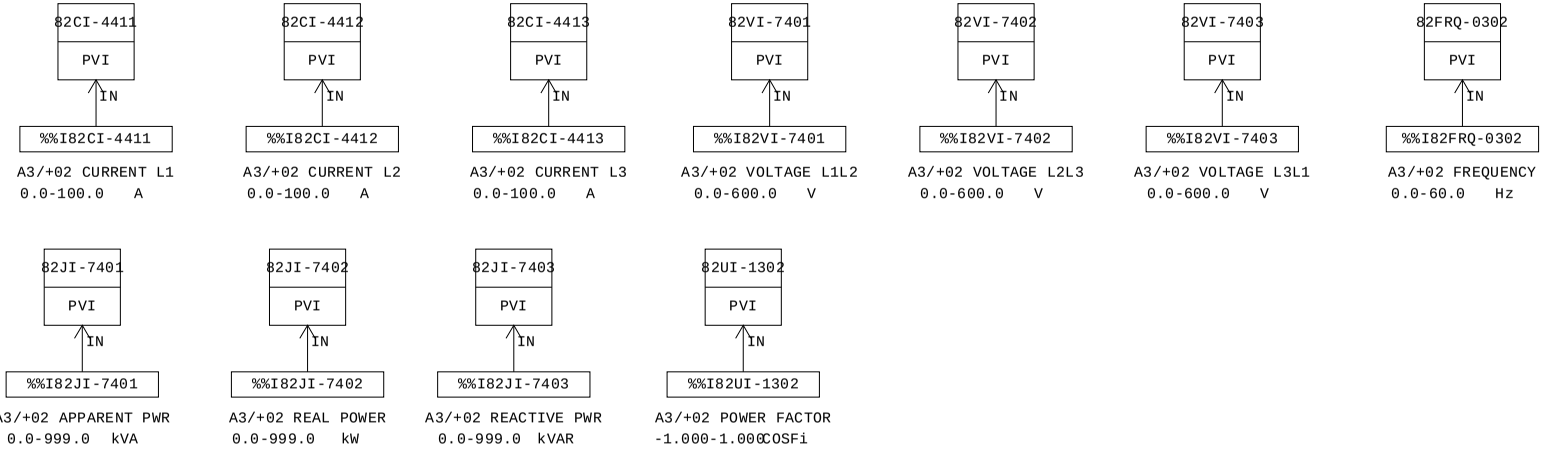
Tag Name	82JI-7303
Model Name	PVI
Tag Comment	A2/+05 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1301 A2/+05 POWER FACTOR)

Basic

Tag Name	82UI-1301
Model Name	PVI
Tag Comment	A2/+05 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0151.edf	SHEET:		YOKOGAWA	PAGE:3-25-65-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:40 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0151	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0151.edf	SHEET:		YOKOGAWA	PAGE:3-25-65-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:40 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0151	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4411	PVI	A3/+02 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4411
						4			
002	82CI-4412	PVI	A3/+02 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4412
						4			
003	82CI-4413	PVI	A3/+02 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4413
						4			
004	82VI-7401	PVI	A3/+02 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7401
						4			
005	82VI-7402	PVI	A3/+02 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7402
						4			
006	82VI-7403	PVI	A3/+02 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7403
						4			
007	82FRQ-0302	PVI	A3/+02 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0302
						4			
008	82JI-7401	PVI	A3/+02 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7401
						4			
009	82JI-7402	PVI	A3/+02 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7402
						4			
010	82JI-7403	PVI	A3/+02 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7403
						4			
011	82UI-1302	PVI	A3/+02 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1302
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-4411.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-65-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:40 PM	COMMENT:	A3/+02 CURRENT L1		
SECTION:	DR0151	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4411 A3/+02 CURRENT L1)

Basic

Tag Name	82CI-4411
Model Name	PVI
Tag Comment	A3/+02 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4412 A3/+02 CURRENT L2)

Basic

Tag Name	82CI-4412
Model Name	PVI
Tag Comment	A3/+02 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4413 A3/+02 CURRENT L3)

Basic

Tag Name	82CI-4413
Model Name	PVI
Tag Comment	A3/+02 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7401 A3/+02 VOLTAGE L1L2)

Basic

Tag Name	82VI-7401
Model Name	PVI
Tag Comment	A3/+02 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7402 A3/+02 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7402.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-65-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 5:34:11 AM	COMMENT:	A3/+02 VOLTAGE L2L3		
SECTION:	DR0151	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7402
Model Name	PVI
Tag Comment	A3/+02 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7403 A3/+02 VOLTAGE L3L1)

Basic

Tag Name	82VI-7403
Model Name	PVI
Tag Comment	A3/+02 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0302 A3/+02 FREQUENCY)

Basic

Tag Name	82FRQ-0302
Model Name	PVI
Tag Comment	A3/+02 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7401 A3/+02 APPARENT PWR)

Basic

Tag Name	82JI-7401
Model Name	PVI
Tag Comment	A3/+02 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7402 A3/+02 REAL POWER)

Basic

Tag Name	82JI-7402

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7402.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-65-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 5:34:11 AM	COMMENT:	A3/+02 REAL POWER		
SECTION:	DR0151	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A3/+02 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7403 A3/+02 REACTIVE PWR)

Basic

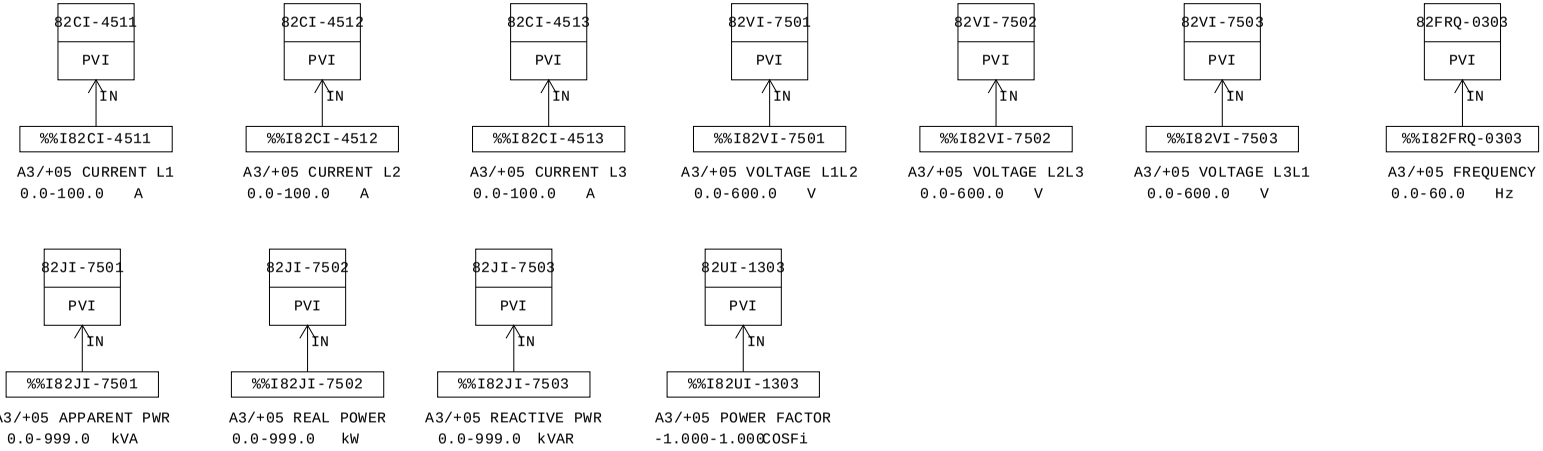
Tag Name	82JI-7403
Model Name	PVI
Tag Comment	A3/+02 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1302 A3/+02 POWER FACTOR)

Basic

Tag Name	82UI-1302
Model Name	PVI
Tag Comment	A3/+02 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0152.edf	SHEET:		YOKOGAWA	PAGE:3-25-66-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:31 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0152	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0152.edf	SHEET:		YOKOGAWA	PAGE:3-25-66-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:31 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0152	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4511	PVI	A3/+05 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4511
						4			
002	82CI-4512	PVI	A3/+05 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4512
						4			
003	82CI-4513	PVI	A3/+05 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4513
						4			
004	82VI-7501	PVI	A3/+05 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7501
						4			
005	82VI-7502	PVI	A3/+05 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7502
						4			
006	82VI-7503	PVI	A3/+05 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7503
						4			
007	82FRQ-0303	PVI	A3/+05 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0303
						4			
008	82JI-7501	PVI	A3/+05 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7501
						4			
009	82JI-7502	PVI	A3/+05 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7502
						4			
010	82JI-7503	PVI	A3/+05 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7503
						4			
011	82UI-1303	PVI	A3/+05 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1303
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-4511.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-66-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:31 PM	COMMENT:	A3/+05 CURRENT L1		
SECTION:	DR0152	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4511 A3/+05 CURRENT L1)

Basic

Tag Name	82CI-4511
Model Name	PVI
Tag Comment	A3/+05 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4512 A3/+05 CURRENT L2)

Basic

Tag Name	82CI-4512
Model Name	PVI
Tag Comment	A3/+05 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4513 A3/+05 CURRENT L3)

Basic

Tag Name	82CI-4513
Model Name	PVI
Tag Comment	A3/+05 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7501 A3/+05 VOLTAGE L1L2)

Basic

Tag Name	82VI-7501
Model Name	PVI
Tag Comment	A3/+05 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7502 A3/+05 VOLTAGE L2L3)

Basic

Tag Name	82VI-7502
Model Name	PVI
Tag Comment	A3/+05 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7503 A3/+05 VOLTAGE L3L1)

Basic

Tag Name	82VI-7503
Model Name	PVI
Tag Comment	A3/+05 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0303 A3/+05 FREQUENCY)

Basic

Tag Name	82FRQ-0303
Model Name	PVI
Tag Comment	A3/+05 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7501 A3/+05 APPARENT PWR)

Basic

Tag Name	82JI-7501
Model Name	PVI
Tag Comment	A3/+05 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7502 A3/+05 REAL POWER)

Basic

Tag Name	82JI-7502

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7502.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-66-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 5:37:29 AM	COMMENT:	A3/+05 REAL POWER		
SECTION:	DR0152	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A3/+05 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7503 A3/+05 REACTIVE PWR)

Basic

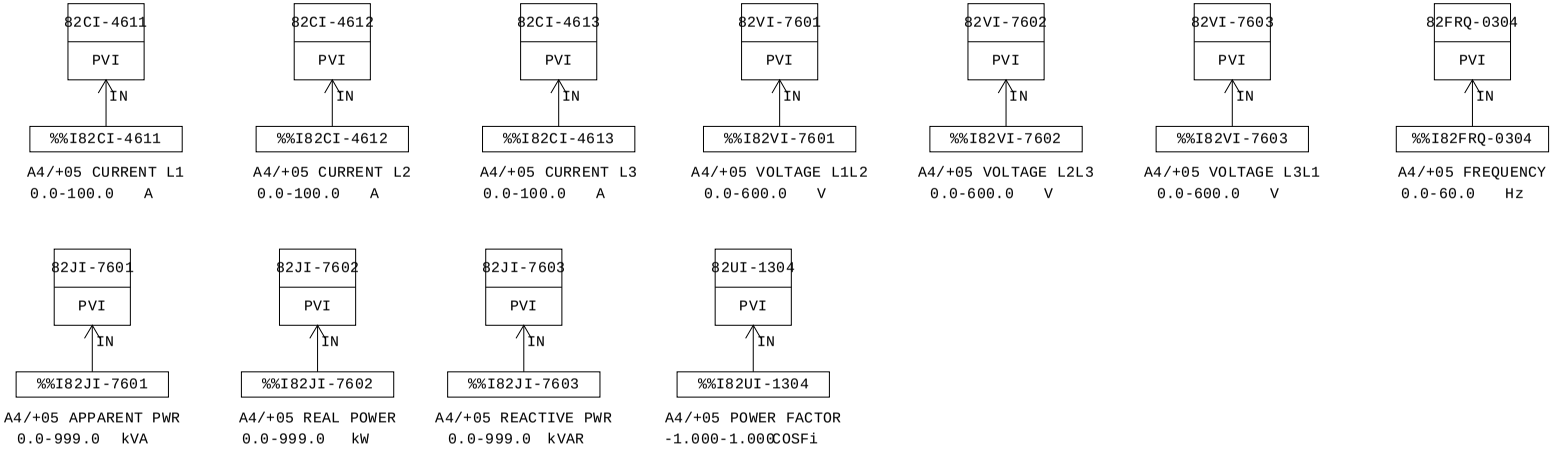
Tag Name	82JI-7503
Model Name	PVI
Tag Comment	A3/+05 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1303 A3/+05 POWER FACTOR)

Basic

Tag Name	82UI-1303
Model Name	PVI
Tag Comment	A3/+05 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0153.edf	SHEET:		YOKOGAWA	PAGE:3-25-67-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:21 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0153	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0153.edf	SHEET:		YOKOGAWA	PAGE:3-25-67-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:21 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0153	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4611	PVI	A4/+05 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4611
						4			
002	82CI-4612	PVI	A4/+05 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4612
						4			
003	82CI-4613	PVI	A4/+05 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4613
						4			
004	82VI-7601	PVI	A4/+05 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7601
						4			
005	82VI-7602	PVI	A4/+05 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7602
						4			
006	82VI-7603	PVI	A4/+05 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7603
						4			
007	82FRQ-0304	PVI	A4/+05 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0304
						4			
008	82JI-7601	PVI	A4/+05 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7601
						4			
009	82JI-7602	PVI	A4/+05 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7602
						4			
010	82JI-7603	PVI	A4/+05 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7603
						4			
011	82UI-1304	PVI	A4/+05 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1304
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-4611.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-67-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:21 PM	COMMENT:	A4/+05 CURRENT L1		
SECTION:	DR0153	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4611 A4/+05 CURRENT L1)

Basic

Tag Name	82CI-4611
Model Name	PVI
Tag Comment	A4/+05 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4612 A4/+05 CURRENT L2)

Basic

Tag Name	82CI-4612
Model Name	PVI
Tag Comment	A4/+05 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4613 A4/+05 CURRENT L3)

Basic

Tag Name	82CI-4613
Model Name	PVI
Tag Comment	A4/+05 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7601 A4/+05 VOLTAGE L1L2)

Basic

Tag Name	82VI-7601
Model Name	PVI
Tag Comment	A4/+05 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7602 A4/+05 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7602.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-67-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:14 AM	COMMENT:	A4/+05 VOLTAGE L2L3		
SECTION:	DR0153	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7602
Model Name	PVI
Tag Comment	A4/+05 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7603 A4/+05 VOLTAGE L3L1)

Basic

Tag Name	82VI-7603
Model Name	PVI
Tag Comment	A4/+05 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0304 A4/+05 FREQUENCY)

Basic

Tag Name	82FRQ-0304
Model Name	PVI
Tag Comment	A4/+05 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7601 A4/+05 APPARENT PWR)

Basic

Tag Name	82JI-7601
Model Name	PVI
Tag Comment	A4/+05 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7602 A4/+05 REAL POWER)

Basic

Tag Name	82JI-7602

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7602.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-67-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:14 AM	COMMENT:	A4/+05 REAL POWER		
SECTION:	DR0153	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A4/+05 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7603 A4/+05 REACTIVE PWR)

Basic

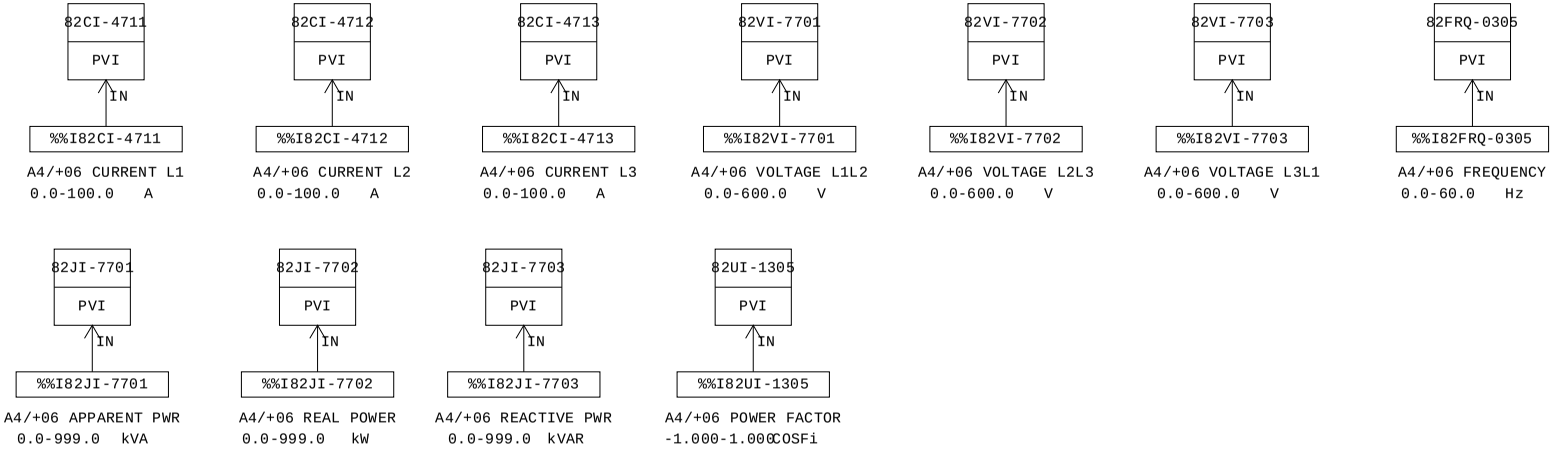
Tag Name	82JI-7603
Model Name	PVI
Tag Comment	A4/+05 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1304 A4/+05 POWER FACTOR)

Basic

Tag Name	82UI-1304
Model Name	PVI
Tag Comment	A4/+05 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0154.edf	SHEET:		YOKOGAWA	PAGE:3-25-68-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:11 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0154	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0154.edf	SHEET:		YOKOGAWA	PAGE:3-25-68-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:11 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0154	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4711	PVI	A4/+06 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4711
						4			
002	82CI-4712	PVI	A4/+06 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4712
						4			
003	82CI-4713	PVI	A4/+06 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4713
						4			
004	82VI-7701	PVI	A4/+06 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7701
						4			
005	82VI-7702	PVI	A4/+06 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7702
						4			
006	82VI-7703	PVI	A4/+06 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7703
						4			
007	82FRQ-0305	PVI	A4/+06 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0305
						4			
008	82JI-7701	PVI	A4/+06 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7701
						4			
009	82JI-7702	PVI	A4/+06 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7702
						4			
010	82JI-7703	PVI	A4/+06 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7703
						4			
011	82UI-1305	PVI	A4/+06 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1305
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-4711.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-68-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:11 PM	COMMENT:	A4/+06 CURRENT L1		
SECTION:	DR0154	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4711 A4/+06 CURRENT L1)

Basic

Tag Name	82CI-4711
Model Name	PVI
Tag Comment	A4/+06 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4712 A4/+06 CURRENT L2)

Basic

Tag Name	82CI-4712
Model Name	PVI
Tag Comment	A4/+06 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4713 A4/+06 CURRENT L3)

Basic

Tag Name	82CI-4713
Model Name	PVI
Tag Comment	A4/+06 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7701 A4/+06 VOLTAGE L1L2)

Basic

Tag Name	82VI-7701
Model Name	PVI
Tag Comment	A4/+06 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7702 A4/+06 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7702.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-68-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:31 AM	COMMENT:	A4/+06 VOLTAGE L2L3		
SECTION:	DR0154	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7702
Model Name	PVI
Tag Comment	A4/+06 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7703 A4/+06 VOLTAGE L3L1)

Basic

Tag Name	82VI-7703
Model Name	PVI
Tag Comment	A4/+06 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0305 A4/+06 FREQUENCY)

Basic

Tag Name	82FRQ-0305
Model Name	PVI
Tag Comment	A4/+06 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7701 A4/+06 APPARENT PWR)

Basic

Tag Name	82JI-7701
Model Name	PVI
Tag Comment	A4/+06 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7702 A4/+06 REAL POWER)

Basic

Tag Name	82JI-7702

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7702.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-68-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:31 AM	COMMENT:	A4/+06 REAL POWER		
SECTION:	DR0154	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A4/+06 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7703 A4/+06 REACTIVE PWR)

Basic

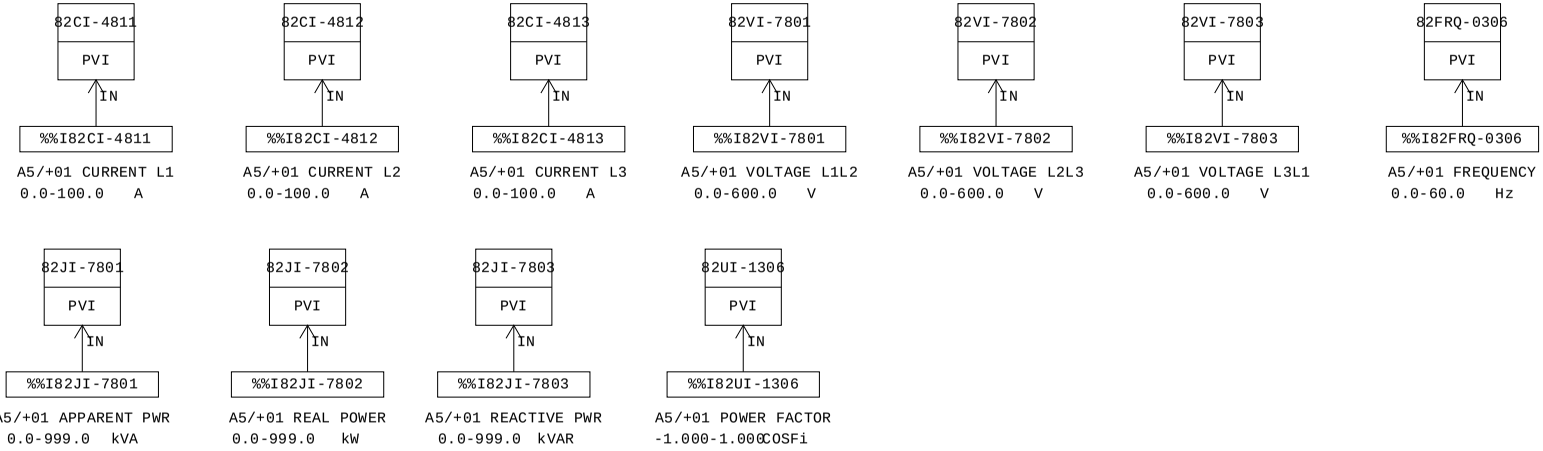
Tag Name	82JI-7703
Model Name	PVI
Tag Comment	A4/+06 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1305 A4/+06 POWER FACTOR)

Basic

Tag Name	82UI-1305
Model Name	PVI
Tag Comment	A4/+06 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0155.edf	SHEET:		YOKOGAWA	PAGE:3-25-69-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:01 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0155	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0155.edf	SHEET:		YOKOGAWA	PAGE:3-25-69-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:01 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0155	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4811	PVI	A5/+01 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4811
						4			
002	82CI-4812	PVI	A5/+01 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4812
						4			
003	82CI-4813	PVI	A5/+01 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4813
						4			
004	82VI-7801	PVI	A5/+01 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7801
						4			
005	82VI-7802	PVI	A5/+01 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7802
						4			
006	82VI-7803	PVI	A5/+01 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7803
						4			
007	82FRQ-0306	PVI	A5/+01 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0306
						4			
008	82JI-7801	PVI	A5/+01 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7801
						4			
009	82JI-7802	PVI	A5/+01 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7802
						4			
010	82JI-7803	PVI	A5/+01 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7803
						4			
011	82UI-1306	PVI	A5/+01 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1306
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-4811.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-69-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:40:01 PM	COMMENT:	A5/+01 CURRENT L1		
SECTION:	DR0155	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4811 A5/+01 CURRENT L1)

Basic

Tag Name	82CI-4811
Model Name	PVI
Tag Comment	A5/+01 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4812 A5/+01 CURRENT L2)

Basic

Tag Name	82CI-4812
Model Name	PVI
Tag Comment	A5/+01 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4813 A5/+01 CURRENT L3)

Basic

Tag Name	82CI-4813
Model Name	PVI
Tag Comment	A5/+01 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7801 A5/+01 VOLTAGE L1L2)

Basic

Tag Name	82VI-7801
Model Name	PVI
Tag Comment	A5/+01 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7802 A5/+01 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7802.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-69-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:43 AM	COMMENT:	A5/+01 VOLTAGE L2L3		
SECTION:	DR0155	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7802
Model Name	PVI
Tag Comment	A5/+01 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7803 A5/+01 VOLTAGE L3L1)

Basic

Tag Name	82VI-7803
Model Name	PVI
Tag Comment	A5/+01 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0306 A5/+01 FREQUENCY)

Basic

Tag Name	82FRQ-0306
Model Name	PVI
Tag Comment	A5/+01 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7801 A5/+01 APPARENT PWR)

Basic

Tag Name	82JI-7801
Model Name	PVI
Tag Comment	A5/+01 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7802 A5/+01 REAL POWER)

Basic

Tag Name	82JI-7802

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7802.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-69-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:43 AM	COMMENT:	A5/+01 REAL POWER		
SECTION:	DR0155	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A5/+01 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7803 A5/+01 REACTIVE PWR)

Basic

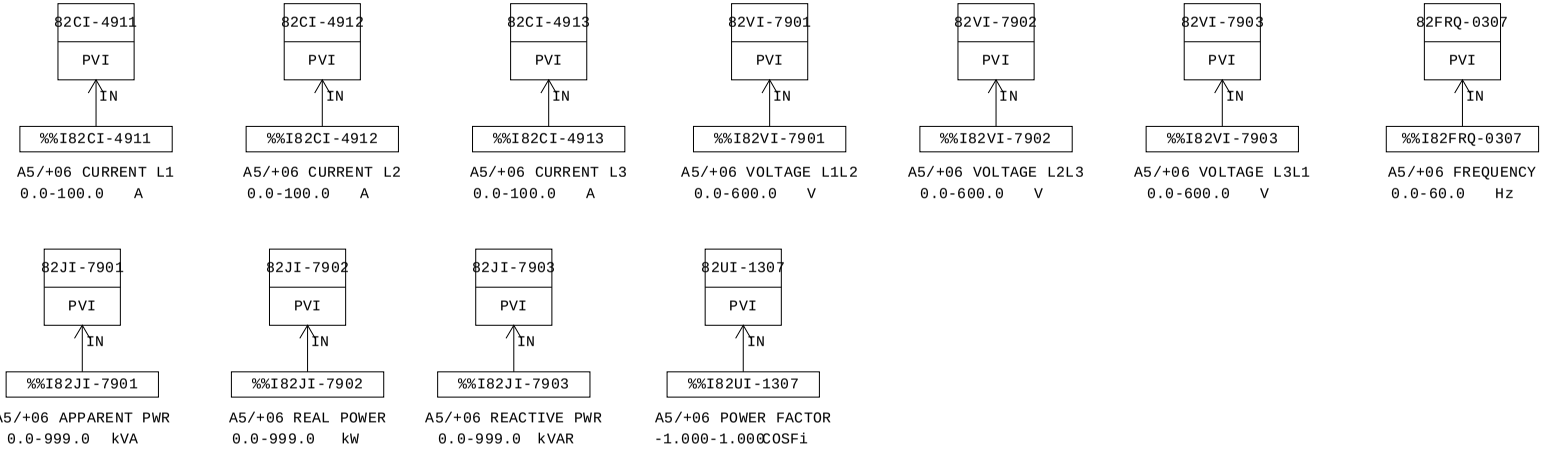
Tag Name	82JI-7803
Model Name	PVI
Tag Comment	A5/+01 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1306 A5/+01 POWER FACTOR)

Basic

Tag Name	82UI-1306
Model Name	PVI
Tag Comment	A5/+01 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0156.edf	SHEET:		YOKOGAWA	PAGE:3-25-70-1
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:39:51 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0156	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0156.edf	SHEET:		YOKOGAWA	PAGE:3-25-70-2
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:39:51 PM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0156	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-4911	PVI	A5/+06 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-4911
						4			
002	82CI-4912	PVI	A5/+06 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-4912
						4			
003	82CI-4913	PVI	A5/+06 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-4913
						4			
004	82VI-7901	PVI	A5/+06 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7901
						4			
005	82VI-7902	PVI	A5/+06 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7902
						4			
006	82VI-7903	PVI	A5/+06 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7903
						4			
007	82FRQ-0307	PVI	A5/+06 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0307
						4			
008	82JI-7901	PVI	A5/+06 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7901
						4			
009	82JI-7902	PVI	A5/+06 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7902
						4			
010	82JI-7903	PVI	A5/+06 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7903
						4			
011	82UI-1307	PVI	A5/+06 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1307
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-4911.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-70-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:39:51 PM	COMMENT:	A5/+06 CURRENT L1		
SECTION:	DR0156	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-4911 A5/+06 CURRENT L1)

Basic

Tag Name	82CI-4911
Model Name	PVI
Tag Comment	A5/+06 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4912 A5/+06 CURRENT L2)

Basic

Tag Name	82CI-4912
Model Name	PVI
Tag Comment	A5/+06 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-4913 A5/+06 CURRENT L3)

Basic

Tag Name	82CI-4913
Model Name	PVI
Tag Comment	A5/+06 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7901 A5/+06 VOLTAGE L1L2)

Basic

Tag Name	82VI-7901
Model Name	PVI
Tag Comment	A5/+06 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7902 A5/+06 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7902.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-70-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:54 AM	COMMENT:	A5/+06 VOLTAGE L2L3		
SECTION:	DR0156	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7902
Model Name	PVI
Tag Comment	A5/+06 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7903 A5/+06 VOLTAGE L3L1)

Basic

Tag Name	82VI-7903
Model Name	PVI
Tag Comment	A5/+06 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0307 A5/+06 FREQUENCY)

Basic

Tag Name	82FRQ-0307
Model Name	PVI
Tag Comment	A5/+06 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7901 A5/+06 APPARENT PWR)

Basic

Tag Name	82JI-7901
Model Name	PVI
Tag Comment	A5/+06 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7902 A5/+06 REAL POWER)

Basic

Tag Name	82JI-7902

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7902.edf	SHEET:		YOKOGAWA	PAGE:3-25-70-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:20:54 AM	COMMENT:	A5/+06 REAL POWER		
SECTION:	DR0156	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A5/+06 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7903 A5/+06 REACTIVE PWR)

Basic

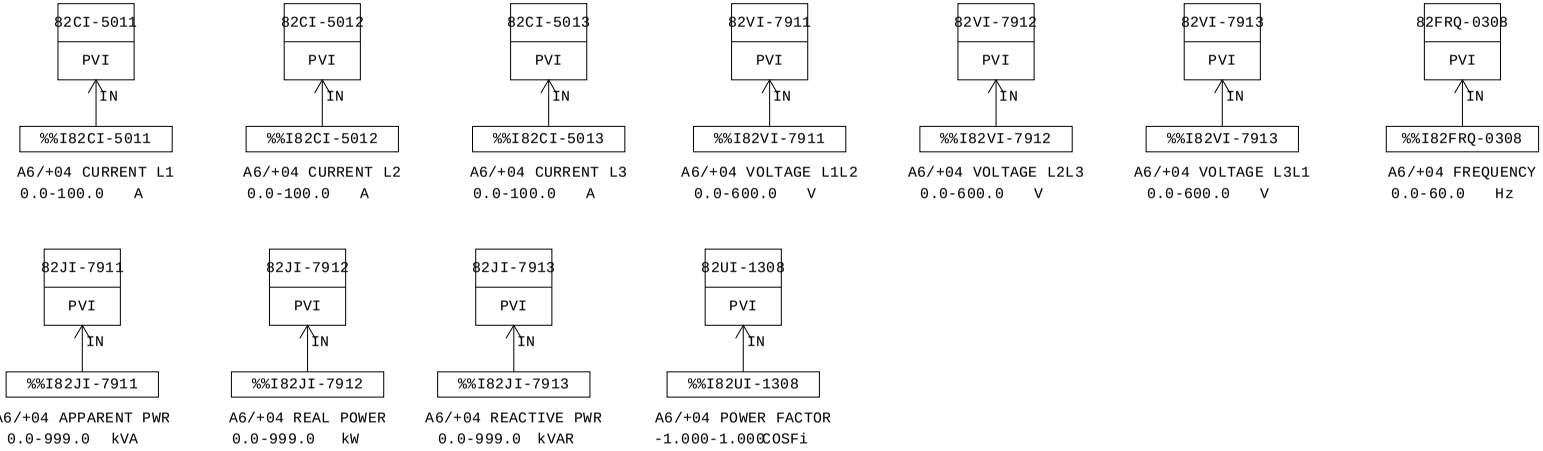
Tag Name	82JI-7903
Model Name	PVI
Tag Comment	A5/+06 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82UI-1307 A5/+06 POWER FACTOR)

Basic

Tag Name	82UI-1307
Model Name	PVI
Tag Comment	A5/+06 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

PROJECT:	BLPH-CW1	FILE NAME:	DR0157.edf	SHEET:		YOKOGAWA	PAGE:3-25-71-1
STATION:	FCS0101	SAVED DATE:	4/28/2025 6:11:24 AM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0157	PRINTED DATE:	9/15/2025	DRAWER:			



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0157.edf	SHEET:		YOKOGAWA	PAGE:3-25-71-2
STATION:	FCS0101	SAVED DATE:	4/28/2025 6:11:24 AM	COMMENT:	LV SUBSYSTEM AI SPARE		
SECTION:	DR0157	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LV SUBSYSTEM AI SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	82CI-5011	PVI	A6/+04 CURRENT L1	0.0	100.0	A	Communication Input	No	%%I82CI-5011
						4			
002	82CI-5012	PVI	A6/+04 CURRENT L2	0.0	100.0	A	Communication Input	No	%%I82CI-5012
						4			
003	82CI-5013	PVI	A6/+04 CURRENT L3	0.0	100.0	A	Communication Input	No	%%I82CI-5013
						4			
004	82VI-7911	PVI	A6/+04 VOLTAGE L1L2	0.0	600.0	V	Communication Input	No	%%I82VI-7911
						4			
005	82VI-7912	PVI	A6/+04 VOLTAGE L2L3	0.0	600.0	V	Communication Input	No	%%I82VI-7912
						4			
006	82VI-7913	PVI	A6/+04 VOLTAGE L3L1	0.0	600.0	V	Communication Input	No	%%I82VI-7913
						4			
007	82FRQ-0308	PVI	A6/+04 FREQUENCY	0.0	60.0	Hz	Communication Input	No	%%I82FRQ-0308
						4			
008	82JI-7911	PVI	A6/+04 APPARENT PWR	0.0	999.0	kVA	Communication Input	No	%%I82JI-7911
						4			
009	82JI-7912	PVI	A6/+04 REAL POWER	0.0	999.0	kW	Communication Input	No	%%I82JI-7912
						4			
010	82JI-7913	PVI	A6/+04 REACTIVE PWR	0.0	999.0	kVAR	Communication Input	No	%%I82JI-7913
						4			
011	82UI-1308	PVI	A6/+04 POWER FACTOR	-1.000	1.000	COSFi	Communication Input	No	%%I82UI-1308
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	82CI-5011.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-71-3
STATION:	FCS0101	SAVED DATE:	4/15/2025 11:39:41 PM	COMMENT:	A6/+04 CURRENT L1		
SECTION:	DR0157	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (82CI-5011 A6/+04 CURRENT L1)

Basic

Tag Name	82CI-5011
Model Name	PVI
Tag Comment	A6/+04 CURRENT L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-5012 A6/+04 CURRENT L2)

Basic

Tag Name	82CI-5012
Model Name	PVI
Tag Comment	A6/+04 CURRENT L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82CI-5013 A6/+04 CURRENT L3)

Basic

Tag Name	82CI-5013
Model Name	PVI
Tag Comment	A6/+04 CURRENT L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7911 A6/+04 VOLTAGE L1L2)

Basic

Tag Name	82VI-7911
Model Name	PVI
Tag Comment	A6/+04 VOLTAGE L1L2
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7912 A6/+04 VOLTAGE L2L3)

PROJECT:	BLPH-CW1	FILE NAME:	82VI-7912.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-71-4
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:29:53 AM	COMMENT:	A6/+04 VOLTAGE L2L3		
SECTION:	DR0157	PRINTED DATE:	9/15/2025	DRAWER:			

Basic

Tag Name	82VI-7912
Model Name	PVI
Tag Comment	A6/+04 VOLTAGE L2L3
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82VI-7913 A6/+04 VOLTAGE L3L1)

Basic

Tag Name	82VI-7913
Model Name	PVI
Tag Comment	A6/+04 VOLTAGE L3L1
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82FRQ-0308 A6/+04 FREQUENCY)

Basic

Tag Name	82FRQ-0308
Model Name	PVI
Tag Comment	A6/+04 FREQUENCY
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.01
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7911 A6/+04 APPARENT PWR)

Basic

Tag Name	82JI-7911
Model Name	PVI
Tag Comment	A6/+04 APPARENT PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7912 A6/+04 REAL POWER)

Basic

Tag Name	82JI-7912

PROJECT:	BLPH-CW1	FILE NAME:	82JI-7912.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-71-5
STATION:	FCS0101	SAVED DATE:	4/15/2025 7:29:53 AM	COMMENT:	A6/+04 REAL POWER		
SECTION:	DR0157	PRINTED DATE:	9/15/2025	DRAWER:			

Model Name	PVI
Tag Comment	A6/+04 REAL POWER
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (82JI-7913 A6/+04 REACTIVE PWR)

Basic

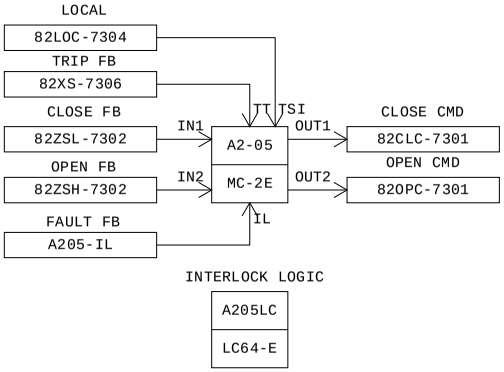
Tag Name	82JI-7913
Model Name	PVI
Tag Comment	A6/+04 REACTIVE PWR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.1
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

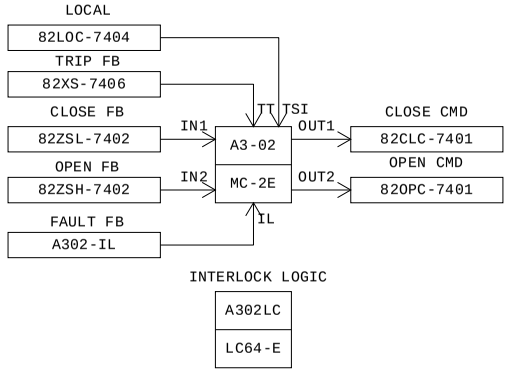
Tag Detail (82UI-1308 A6/+04 POWER FACTOR)

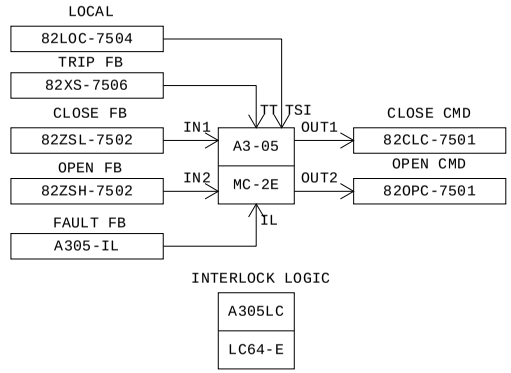
Basic

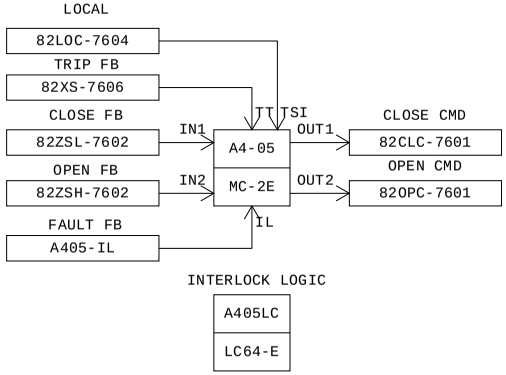
Tag Name	82UI-1308
Model Name	PVI
Tag Comment	A6/+04 POWER FACTOR
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	Communication Input
Data Conversion Gain	0.001
Data Conversion Bias	0.000
Input High Limit Detection Set Value	106.25
Input Low Limit Detection Set Value	-6.25
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

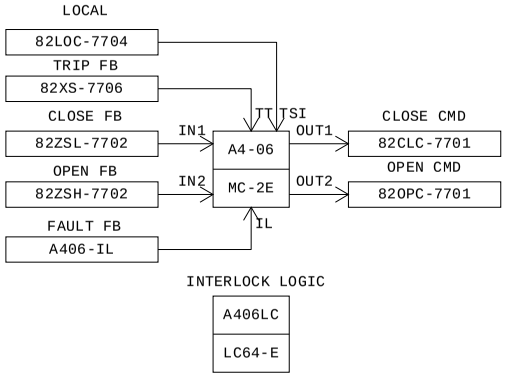
PROJECT:	BLPH-CW1	FILE NAME:	DR0161.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-1
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:04:33 AM	COMMENT:	LVSWGR CB SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

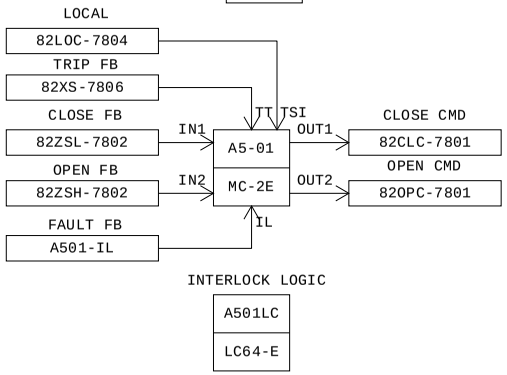


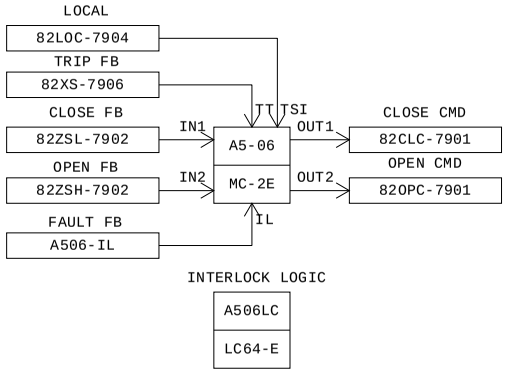


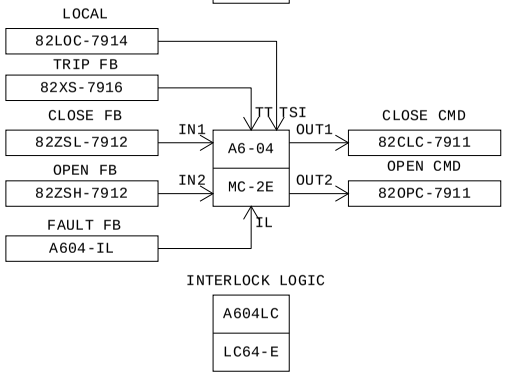












MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0161.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-2
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:04:33 AM	COMMENT:	LVSWGR CB SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:LVSWGR CB SPARE

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value	Input Connection Information	Lvl			
001	A205LC	LC64-E		0	0	4			
002	A2-05	MC-2E	A2/+05 SPARE	0.0	100.0	% 3	3-position Status Input		
003	A302LC	LC64-E		0	0	4			
004	A3-02	MC-2E	A3/+02 SPARE	0.0	100.0	% 3	3-position Status Input		
005	A305LC	LC64-E		0	0	4			
006	A3-05	MC-2E	A3/+05 SPARE	0.0	100.0	% 3	3-position Status Input		
007	A405LC	LC64-E		0	0	4			
008	A4-05	MC-2E	A4/+05 SPARE	0.0	100.0	% 3	3-position Status Input		
009	A406LC	LC64-E		0	0	4			
010	A4-06	MC-2E	A4/+06 SPARE	0.0	100.0	% 3	3-position Status Input		
011	A501LC	LC64-E		0	0	4			
012	A5-01	MC-2E	A5/+01 SPARE	0.0	100.0	% 3	3-position Status Input		
013	A506LC	LC64-E		0	0	4			
014	A5-06	MC-2E	A5/+06 SPARE	0.0	100.0	% 3	3-position Status Input		
015	A604LC	LC64-E		0	0	4			
016	A6-04	MC-2E	A6/+04 SPARE	0.0	100.0	% 3	3-position Status Input		

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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A205LC.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-3
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:18:48 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A205LC)

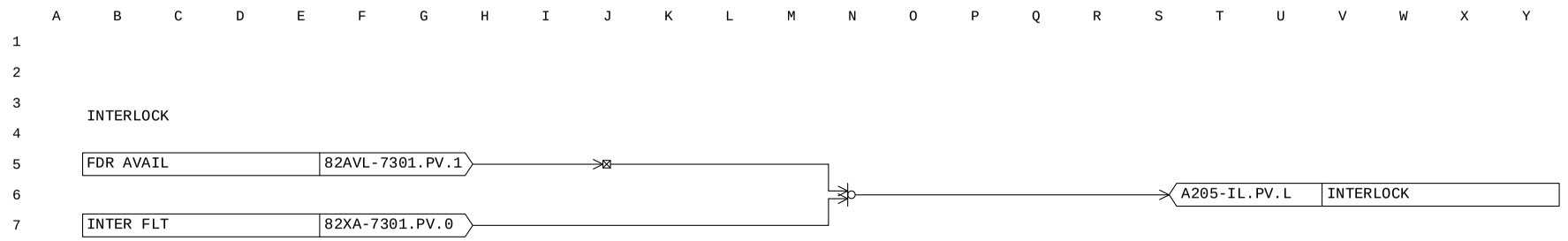
Basic

Tag Name	A205LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A205LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-4
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:18:48 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A205LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A2-05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-5
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:03:19 AM	COMMENT:	A2/+05 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A2-05 A2/+05 SPARE)

Basic

Tag Name	A2-05
Model Name	MC-2E
Tag Comment	A2/+05 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A302LC)

Basic

Tag Name	A302LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A302LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-6
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:18:48 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A302LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1
2
3 INTERLOCK
4
5 FDR AVAIL | 82AVL-7401.PV.1
6 A302-IL.PV.L | INTERLOCK
7 INTER FLT | 82XA-7401.PV.0
8
9
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MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A3-02.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-7
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:00:48 AM	COMMENT:	A3/+02 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A3-02 A3/+02 SPARE)

Basic

Tag Name	A3-02
Model Name	MC-2E
Tag Comment	A3/+02 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A305LC)

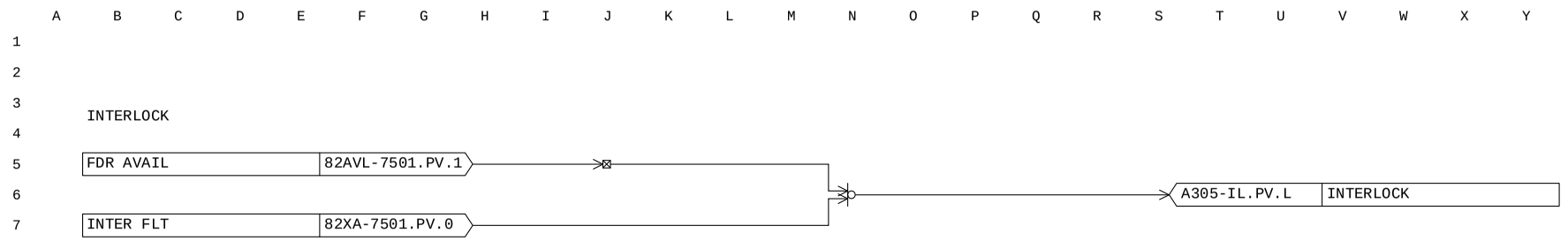
Basic

Tag Name	A305LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A305LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-8
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:18:48 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A305LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A3-05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-9
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:03:19 AM	COMMENT:	A3/+05 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A3-05 A3/+05 SPARE)

Basic

Tag Name	A3-05
Model Name	MC-2E
Tag Comment	A3/+05 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A405LC)

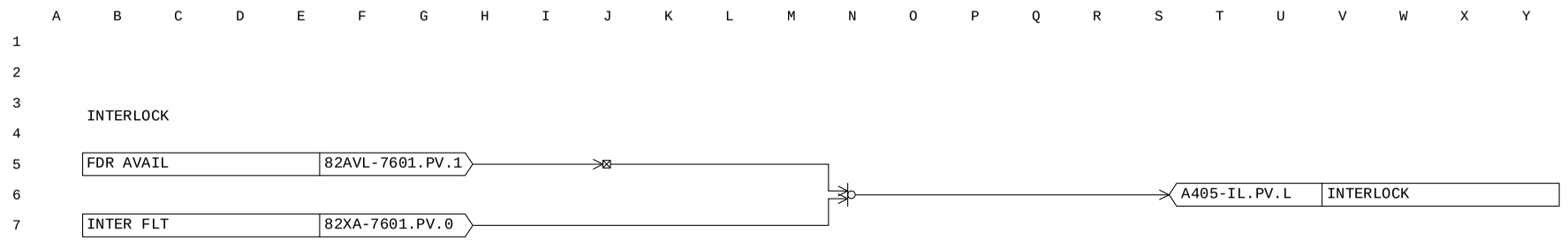
Basic

Tag Name	A405LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A405LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-10
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:22:06 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A405LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A4-05.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-11
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:52:38 AM	COMMENT:	A4/+05 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A4-05 A4/+05 SPARE)

Basic

Tag Name	A4-05
Model Name	MC-2E
Tag Comment	A4/+05 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A406LC)

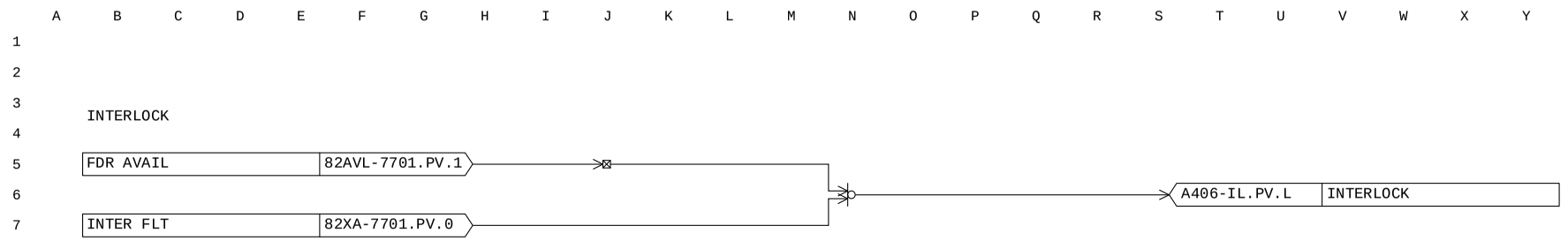
Basic

Tag Name	A406LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A406LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-12
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:24:39 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A406LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A4-06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-13
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:49:40 AM	COMMENT:	A4/+06 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A4-06 A4/+06 SPARE)

Basic

Tag Name	A4-06
Model Name	MC-2E
Tag Comment	A4/+06 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A501LC)

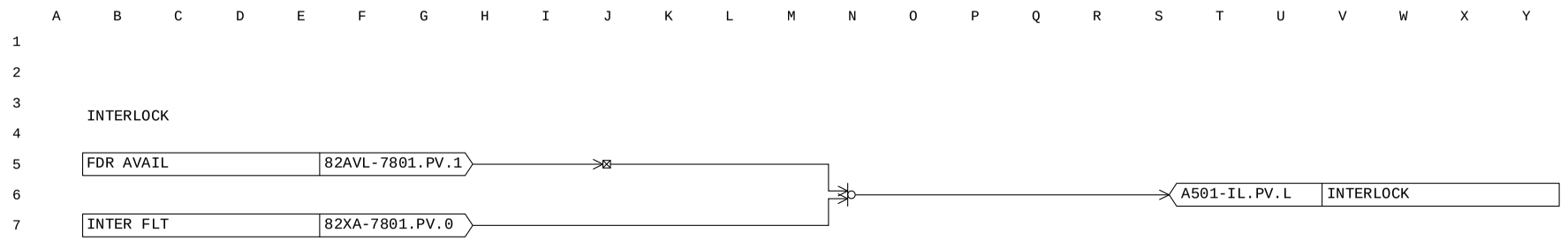
Basic

Tag Name	A501LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A501LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-14
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:27:36 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A501LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A5-01.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-15
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:50:29 AM	COMMENT:	A5/+01 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A5-01 A5/+01 SPARE)

Basic

Tag Name	A5-01
Model Name	MC-2E
Tag Comment	A5/+01 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A506LC)

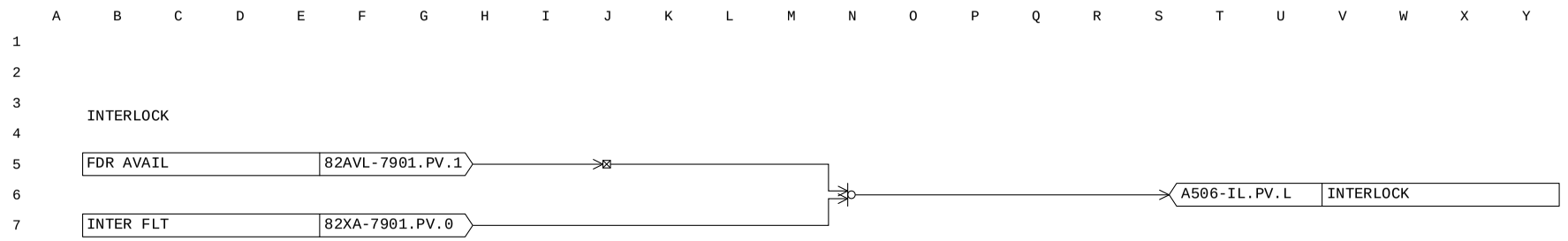
Basic

Tag Name	A506LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A506LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-16
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:32:08 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A506LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A5-06.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-17
STATION:	FCS0101	SAVED DATE:	5/2/2025 9:51:27 AM	COMMENT:	A5/+06 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (A5-06 A5/+06 SPARE)

Basic

Tag Name	A5-06
Model Name	MC-2E
Tag Comment	A5/+06 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

Tag Detail (A604LC)

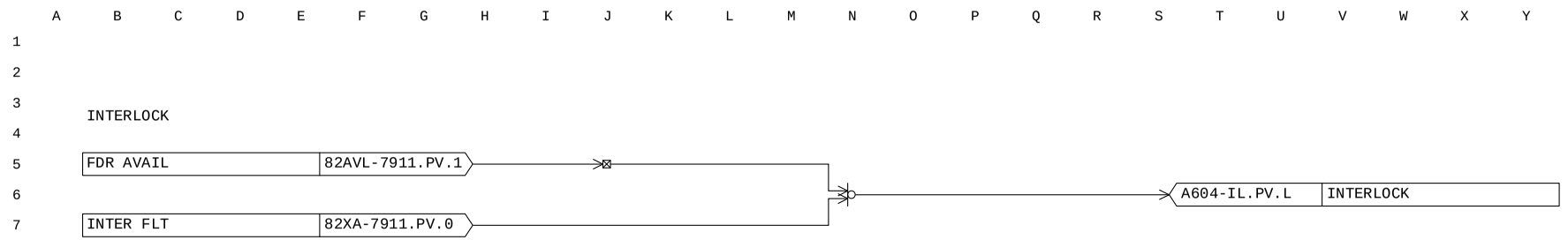
Basic

Tag Name	A604LC
Model Name	LC64-E
Tag Comment	
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	A604LC.edf	SHEET:		YOKOGAWA	PAGE:3-25-72-18
STATION:	FCS0101	SAVED DATE:	4/17/2025 12:33:51 AM	COMMENT:			
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

Logic Chart (A604LC)

Start Timing	Periodic Execution Type(T)
Scan Period	Basic Scan
Control Period	1
Control Phase	0
Execution Order	Matrix Order
Direct Direction Wiring	————
Reverse Direction Wiring	————————



MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	A6-04.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-72-19
STATION:	FCS0101	SAVED DATE:	5/9/2025 5:04:33 AM	COMMENT:	A6/+04 SPARE		
SECTION:	DR0161	PRINTED DATE:	9/15/2025	DRAWER:			

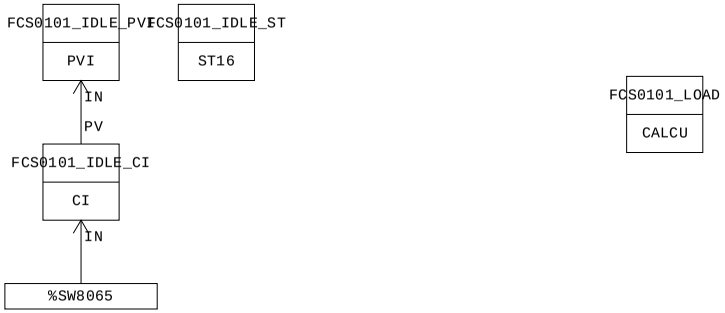
Tag Detail (A6-04 A6/+04 SPARE)

Basic

Tag Name	A6-04
Model Name	MC-2E
Tag Comment	A6/+04 SPARE
Lvl	3
Scan Period	Basic Scan
Switch Position Label	OPEN,,CLOSE,OPEN
Label	Reverse
Input Signal Conversion	
Input Signal Conversion	3-position Status Input
Direction of Answerback	Direct

PROJECT:	BLPH-CW1	FILE NAME:	DR0200.edf	SHEET:		YOKOGAWA	PAGE:3-25-73-1
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:16:17 AM	COMMENT:	FCS IDLE TIME		
SECTION:	DR0200	PRINTED DATE:	9/15/2025	DRAWER:			

FCS IDLE TIME



FCS0501 | DR0200

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	DR0200.edf	SHEET:		YOKOGAWA	PAGE:3-25-73-2
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:16:17 AM	COMMENT:	FCS IDLE TIME		
SECTION:	DR0200	PRINTED DATE:	9/15/2025	DRAWER:			

Function Block Overview Definition

Comment:FCS IDLE TIME

No.	Tag Name	Model Name	Tag Comment	Scale Low Limit	Scale High Limit	Engineering Unit Symbol	Input Signal Conversion	Totalizer Time Unit	Input Connection Information
		Output Connection		Set Value Input Connection Information		Lvl			
001	FCS0101_IDLE_CI	CI	FCS0501 IDLE TIME	0	0				%SW8065
						4			
002	FCS0101_IDLE_ST	ST16	FCS0501 IDLE TIME	0	0				
						4			
003	FCS0101_IDLE_PVI	PVI	FCS0501 IDLE TIME	0.0	60.0	S	No	No	FCS0101_IDLE_CI.PV
						4			
004	FCS0101_LOAD	CALCU		0.0	100.0	%	No	No	
						4			

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101_IDLE_CI.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-73-3
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:16:17 AM	COMMENT:	FCS0501 IDLE TIME		
SECTION:	DR0200	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101_IDLE_CI FCS0501 IDLE TIME)

Basic

Tag Name	FCS0101_IDLE_CI
Model Name	CI
Tag Comment	FCS0501 IDLE TIME
Lvl	4
Number of Bits Input	8
Code Conversion	No
Bit Inversion	No Invert

Tag Detail (FCS0101_IDLE_ST FCS0501 IDLE TIME)

Basic

Tag Name	FCS0101_IDLE_ST
Model Name	ST16
Tag Comment	FCS0501 IDLE TIME
Lvl	4

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101_IDLE_ST.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-73-4
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:40 AM	COMMENT:	FCS0501 IDLE TIME		
SECTION:	DR0200	PRINTED DATE:	9/15/2025	DRAWER:			

Sequence Tables (FCS0101_IDLE_ST FCS0501 IDLE TIME)

Start Timing — Periodic Execution Type(T)
Output Timing — Output Only When Conditions Change(C)
Scan Period — Basic Scan
Control Period — 1
Control Phase — 0

No.	Tag name.Data item	Data	RuleNo. / StepNo. / Reference Signal Comment	1 2 3 4	5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28	29 30 31 32	Comment
C01												
C02												
C03												
C04												
C05												
C06												
C07												
C08												
C09												
C10												
C11												
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C25												
C26												
C27												
C28												
C29												
C30												
C31												
C32												
A01	FCS0101_IDLE_CI.ACT	ON	FCS0501 IDLE TIME	Y								
A02												
A03												
A04												
A05												
A06												
A07												
A08												
A09												
A10												
A11												
A12												
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A28												
A29												
A30												
A31												
A32												
	PREV		THEN									
	NEXT		ELSE									

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101_IDLE_PVI.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-73-5
STATION:	FCS0101	SAVED DATE:	4/12/2025 2:16:40 AM	COMMENT:	FCS0501 IDLE TIME		
SECTION:	DR0200	PRINTED DATE:	9/15/2025	DRAWER:			

Tag Detail (FCS0101_IDLE_PVI FCS0501 IDLE TIME)

Basic

Tag Name	FCS0101_IDLE_PVI
Model Name	PVI
Tag Comment	FCS0501 IDLE TIME
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed

Tag Detail (FCS0101_LOAD)

Basic

Tag Name	FCS0101_LOAD
Model Name	CALCU
Tag Comment	
Lvl	4
Scan Period	Basic Scan
Scan coefficient	1
Scan phase	0
Processing Timing	
Start Timing	Periodic Execution
Input Signal Conversion	
Input Signal Conversion	No
Totalizer	
Totalizer Time Unit	No
Sum Value Entry	Not Allowed
Normalization of input/output signal	No

PROJECT:	BLPH-CW1	FILE NAME:	FCS0101_LOAD.edf	SHEET:		YOKOGAWA	PAGE:3-2 5-73-6
STATION:	FCS0101	SAVED DATE:	4/26/2025 8:16:17 AM	COMMENT:			
SECTION:	DR0200	PRINTED DATE:	9/15/2025	DRAWER:			

General-Purpose Calculation Formula (FCS0101_LOAD)

```
Line Number   General-Purpose Calculation Formula
   001        * FCS CPU loading communications loading calculation
   002        * This CALCU reads the FCS CPU idle time from the common-switch system flag
   003        * area and calculates the FCS load in per cent.
   004        * This makes the CPU loading available for trending purposes as CPV.
   005        * It also reads the common switches for communications loading as CPV1.
   006        * For FFCS V, common switches are %SW8065 onwards, in place of %SW0065
   007        * Issued 27 April 2012
   008
   009        program
   010
   011            alias   BIT7        %SW8065.PV
   012            alias   BIT6        %SW8066.PV
   013            alias   BIT5        %SW8067.PV
   014            alias   BIT4        %SW8068.PV
   015            alias   BIT3        %SW8069.PV
   016            alias   BIT2        %SW8070.PV
   017            alias   BIT1        %SW8071.PV
   018            alias   BIT0        %SW8072.PV
   019
   020            alias   CBIT7       %SW8073.PV
   021            alias   CBIT6       %SW8074.PV
   022            alias   CBIT5       %SW8075.PV
   023            alias   CBIT4       %SW8076.PV
   024            alias   CBIT3       %SW8077.PV
   025            alias   CBIT2       %SW8078.PV
   026            alias   CBIT1       %SW8079.PV
   027            alias   CBIT0       %SW8080.PV
   028
   029            NEW = (1*BIT0 + 2*BIT1 + 4*BIT2 + 8*BIT3 +16*BIT4 + 32*BIT5 + 64*BIT6 + 128*BIT7)
   030
   031            CPV = (((60 - NEW) / 60) * 100)
   032
   033        *   Communications loading "against one second" - refer section A4.1 of ref manual
   034
   035            CPV1 = (1*CBIT0 + 2*CBIT1 + 4*CBIT2 + 8*CBIT3 +16*CBIT4 + 32*CBIT5 + 64*CBIT6 + 128*CBIT7)
   036
   037        end
```

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-8.2 Logic diagram print out SIS and FGS

1724000594-IN-DG-00026

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out SIS and FGS	Sheet 1 of 311 Date: 16/09/2025 Rev: 01

Base Load Power Hub (BLPH)

Logic diagram print out SIS and FGS

Document Number: 1724000594-IN-DG-00026

Project Document Number: E366772C00-SIS_LD

Document Class: 3

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	29/09/2025

01	16/09/2025	Issue for Information (IFI)	JG	AB	SC
00	10/02/2025	Issue for Information (IFI)	SK	AB	SC
Rev.	Date	Description	Prepared	Reviewed	Approved

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic diagram print out SIS and FGS	Sheet 2 of 311 Date: 16/09/2025 Rev: 01

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)

HOLDS LIST

No.	Description
1	
2	
3	
4	

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

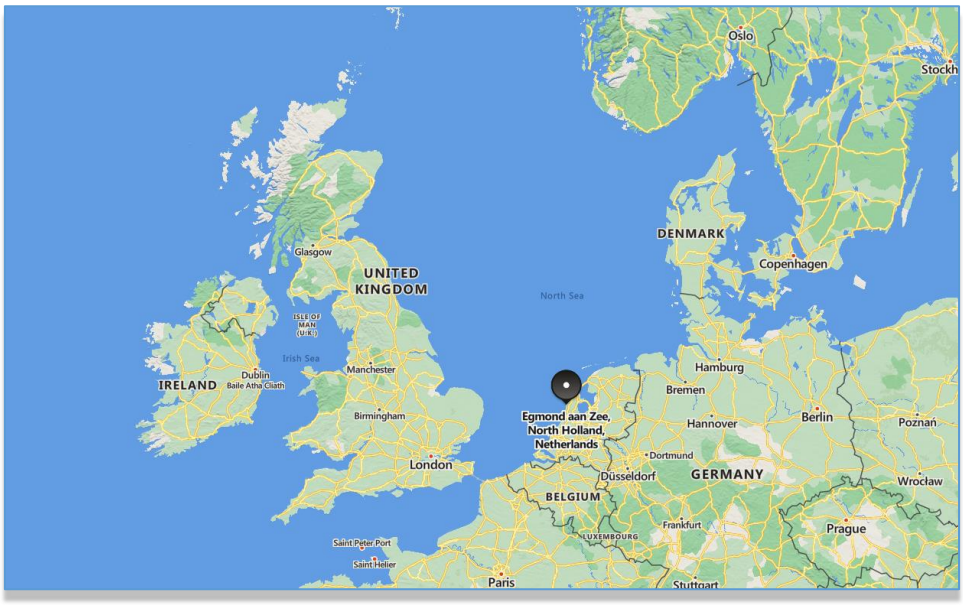

Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

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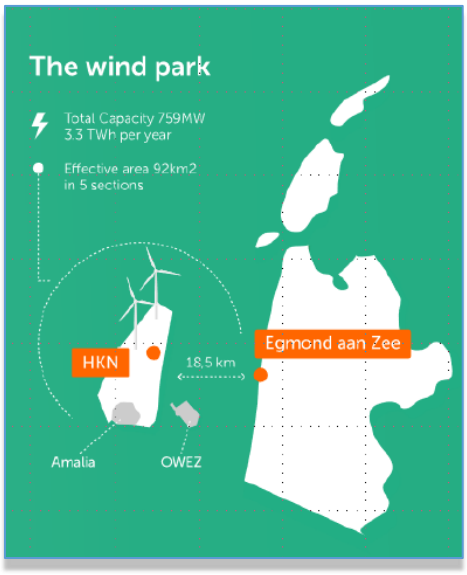

Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

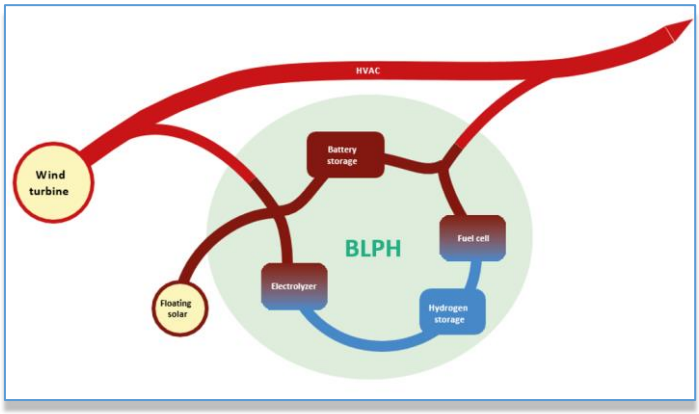

Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

In order to compare the application logic prior to modification and the application logic after the modification, the applications can be printed out with self-documentation. The consistency between the contents displayed on the windows and the contents in the printouts can also be confirmed.

Self-documentation is printouts the contents defined on the various builders and the tuning parameters to a document as archived materials.

2.1 REFERENCES

Doc. No.	*Description*
123A90-DDL-IN-DD-40019 Rev.00	Data Network Architecture Drawings
123A90-PML-QHSE-PRO-00113 Rev.01	Vendor final document requirements and management
123A90-PML-PM-RE-00038 Rev.01	PROJECT CODES AND STANDARDS REPORT
123A90-DDL-TL-SP-45007 Rev.02	Telecom System Philosophy and Specifications
123A90-DDL-SAF-DL-30027 Rev.00	FandG detection Layout - lower and upper deck
123A90-DDL-SAF-DL-30028 Rev.00	FandG detection Layout - Below Lower deck
123A90-DDL-PR-UFD-80006 Rev.01	BLPH UTILITY FLOW DIAGRAM WATER TREATMENT PLANT
123A90-DDL-PR-UFD-80007 Rev.01	BLPH UTILITY FLOW DIAGRAM INSTRUMENT AIR AND NITROGEN SYSTEMS
123A90-DDL-PR-UFD-80008 Rev.01	BLPH UTILITY FLOW DIAGRAM VENT SYSTEMS
123A90-DDL-IN-SP-40018 Rev. 00	Data Network Design Specification
123A90-DDL-IN-SP-40094 Rev. 00	Instrumentation for Package Unit Specification
123A90-DDL-IN-SP-40097 Rev.00	System Specification for Main Automation Contractor
123A90-DDL-IN-SP-40098 Rev.00	Control System (PCS) Specification
123A90-DDL-IN-SP-40100 Rev.00	Safety System (ESD, Fire and Gas) Specification
123A90-DDL-IN-RE-40023 Rev. 00	Cyber Security Design Philosophy

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Document Title:	Logic diagram print out SIS and FGS	Sheet 9 of 311 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
123A90-DDL-IN-RE-40093 Rev. 00	Control System Philosophy
123A90-DDL-IN-DD-40029 Rev.00	Automation Detailed Design and Construction Package
123A90-DDL-PR-DG-80000 Rev.01	Process Safety Cause and Effect Block Diagram
123A90-DDL-IN-MR-40103 Rev.01	MR - Process Automation System
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix
K559-2254-PM-PLN-003 Rev.02	BASIC DESIGN ENGINEERING PACKAGE
123A90-MOM-RM-OOE-CW-002 Rev.00	Solar Package – BLPH Network Redundancy discussion
CWHKN-INN-INP-SPC-00005 Rev.01	SCADA Functional Design Specification
Crosswind - System Security Requirements v1.0	SYSTEM SECURITY REQUIREMENTS
K559-2254-EL-PHI-002 Rev03	ELECTRICAL SYSTEM DESCRIPTION AND DESIGN PHILOSOPHY
K559-2254-IC-BLD-001 Rev.01	PRELIMINARY CONTROL SYSTEM ARCHITECTURE
K559-2254-IC-PHI-001 Rev.01	CONTROL SYSTEM PHILOSOPHY
K559-2254-IC-REP-003 Rev.00	CYBER SECURITY ASSESSMENT
K559-2254-IC-SPE-001 Rev.00	SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR
K559-2254-PR-BLD-001 Rev.01	BLOCK FLOW DIAGRAM SYSTEM OVERVIEW
K559-2254-EL-LST-001 Rev.00	CONTROL ALARM AND MONITORING TABLE
123A90-DDL-IN-LIS-40027 Rev.01	Master Alarm Database
123A90-DDL-IN-RE-40026 Rev.00	Alarm Management Workshop Report
123A90-DDL-IN-RE-40095 Rev.01	Process Control Logics Description
123A90-DDL-IN-PRO-40010 Rev.01	Override Procedures for Process Safeguarding Systems
123A90-DDL-IN-RE-40025 Rev.01	Alarm Management Workshop Terms of Reference
123A90-DDL-IN-SP-40024_Rev.00	Alarm System Requirements Specification
123A90-DDL-PR-RE-80031 Rev.02	Process Control, Operation, Start-up and Shutdown Philosophy

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Document Title:	Logic diagram print out SIS and FGS	Sheet 10 of 311 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
123A90-DDL-EL-DG-20014 Rev 01	Electrical Control, Protection and Metering Diagrams
123A90-DDL-EL-DG-20158 Rev.02	Overall-Key Single Line Diagram
123A90-DDL-EL-RE-20170 Rev.01	Electrical System Study Report - Load Flow
123A90-DDL-EL-RE-20171 REV.01	Electrical System Study Report - Short Circuit
123A90-DDL-EL-RE-20175 Rev.01	Electrical System Study Report - Power Factor Compensation
123A90-DDL-EL-RE-20176 Rev.01	Electrical System Study Report - Transient In-Rush
123A90-DDL-EL-SP-20141 Rev.01	Electrical System Description and Design Philosophy
1723001595-EL-DG-00012 Rev.02	Functional logic diagram
1723001595-EL-DG-00013 Rev.03	BASE LOAD POWER HUB (BLPH) - 66kV Switchgear (GIS) - Single line diagram
1723001595-EL-DG-00017 Rev.01	Inter-panel logic diagram
1723001697-EL-DG-00010 Rev.03	TR-100AD1 Termination and Wiring Diagram
1723002197-EL-DG-00010 Rev. 04	SG-100D1 HV SWBD 6,6kV - ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00011 Rev.04	SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00012 Rev.04	SG-200D2-LV SWBD 800V-ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00015 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - INCOMING FEEDER
1723002197-EL-DG-00016 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - BUS BAR METERING
1723002197-EL-DG-00017 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM BESS FEEDER A-8500
1723002197-EL-DG-00018 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00019 Rev.03	SG-100D1 HV SWBD 6,6kV- FUNCTIONAL DIAGRAM - FUEL CELL FEEDER A-80000
1723002197-EL-DG-00020 Rev.03	SG-100D1 HV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00021 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200DE1

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Document Title:	Logic diagram print out SIS and FGS	Sheet 11 of 311 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
1723002197-EL-DG-00022 Rev.01	SG-100D1 MV SWBD 6,6kV INTERCONNECTING
1723002197-EL-DG-00023 Rev.01	SG-100D1 MV SWBD 6,6kV-LOGIC DIAGRAM-INCOMING FEEDER TR-100AD1
1723002197-EL-DG-00025 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - BESS FEEDER A-85000
1723002197-EL-DG-00026 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00027 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM -FUEL CELL FEEDER A-80000
1723002197-EL-DG-00028 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00029 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00030 Rev.02	SG-200N1 LV SWBD 400-230V FUNCTIONAL DIAGRAMS - INCOMINGS AND INTERCONNECTING AND AUX DISTRIBUTION
1723002197-EL-DG-00031 Rev.02	SG-200N1 LV SWBD 400-230V - FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
1723002197-EL-DG-00032 Rev.01	SG-200D2 LV SWBD - ELECTRICAL FUNCTIONAL DIAGRAM
1724000428-IN-LIS-00016 Rev.03	IO LIST - INSTRUMENT AIR PACKAGE
1724000437-IN-LIS-00015 Rev.03	IO LIST - NITROGEN GENERATION PACKAGE U-64000
1724000372-EL-LIS-00014 Rev.02	IO LIST
1723002197-EL-LIS-00041 Rev.02	SG-100D1 IO LIST- Hv Switchgear
1723002197-EL-LIS-00042 Rev.02	SG-200N1 IO LIST - Lv Switchgear
1723002197-EL-LIS-00043 Rev.01	SG-200D2 IO LIST (HARDWARE -SOFTWARE)
1723001595-EL-LIS-00011 Rev.02	Switchgear IO list
1724000448-IN-LIS-00019 Rev.01	INPUT-OUTPUT LIST
123A90-DDL-EL-DG-20185 Rev.01	Electrical Single Line Diagram HV Systems
1724000372-EL-DG-00006 Rev.02	DC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM

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Document Title:	Logic diagram print out SIS and FGS	Sheet 12 of 311 Date: 16/09/2025 Rev: 01

Doc. No.	*Description*
1724000372-EL-DG-00007 Rev.02	AC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM
123A90-DDL-IN-LIS-40089 Rev.03	Instrument I-O List
123A90-DDL-EL-DL-20100 Rev 01	Base Load Power Hub - Electrical Equipment Layout - Top Deck
123A90-DDL-EL-DL-20101 Rev 01	BASE LOAD POWER HUB (BLPH) - Electrical Equipment Layout - Lower Deck
123A90-DDL-EL-DL-20104 Rev.02	Base Load Power Hub (BLPH) - Electrical Equipment Layout - HV Switch room
123A90-DDL-EL-DL-20105 Rev.02	Electrical Equipment Layout - LV Switch room
123A90-DDL-EL-DL-20106 Rev.01	Base Load Power Hub (BLPH) - Electrical Equipment Layout - UPSs & Batteries Switch room
123A90-DDL-IN-DL-40012_Rev.03	BASE LOAD POWER HUB - OFFSHORE ITER - EQUIPMENT LAYOUT
1724000049-HV-PID-00039.Rev.00	B-100 PID - E&I SHELTERS
1724000049-HV-PID-00040.Rev.00	B-200 PID - E&I SHELTERS
1724000049-HV-PID-00041.Rev.00	B-300 PID - E&I SHELTERS
1724000049-HV-PID-00042.Rev.00	B-400 PID - E&I SHELTERS
1724000428-PR-PID-00019 Rev.02	PACKAGE PID - INSTRUMENT AIR PACKAGE
1724000437-PR-PID-00018 Rev.02	PACKAGE PID - NITROGEN GENERATION PACKAGE
1724000448-PR-PID-00013_Rev.01	WATER TREATMENT PACKAGE-PID DIAGRAM
HKN1-04-DWG-312 RevD	HKN1-04-DWG-312 Power Export System Single Line Diagram
K559-2254-CWIWP4202201-C06-001 Rev.01	Electrical Single Line Diagrams
K559-2254-CWIWP4202202-C03-001 Rev.05	BALLARD - BLPH Project - P&IDs
C63-PID-001_Rev.07	ELOGEN BLPH Project - Process and Instrumentation Diagrams
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix

Table 1 - Reference Documents

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2.2 YOKOGAWA PROJECT DOCUMENTS

Doc. No.	Description
1724000594-IN-RE-00041 Rev00	Cybersecurity Workshop Preparation
1724000594-QC-ITP-00002 Rev01	INSPECTION AND TEST PLAN
1724000594-QC-PRO-00031 Rev00	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-SP-00018 Rev02	PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW)
1724000594-IN-LIS-00040 Rev00	VENDOR ASSET AND TAG REGISTER
1724000594-IN-MAN-00038 Rev00	Instructions for Operation and Maintenance for ProSafe-RS
1724000594-QC-PRO-00030 Rev01	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-RE-00008 Rev01	Safety Controller loading estimation
1724000594-IN-DD-00028 Rev01	HMI screens print out
1724000594-IN-PL-00029 Rev00	Safety Validation Plan (SVP)
1724000594-IN-LIS-00005 Rev00	EMCS IO List (HW and SW)
1724000594-IN-RE-00035 Rev01	Cyber Security Risk Assessment REPORT
1724000594-IN-RE-00043 Rev00	CYBER SECURITY SETTINGS
1724000594-IN-LIS-00036 Rev01	ATEX REGISTER
1724000594-IN-SP-00019 Rev02	EMCS Software Functional Design Specification (FDS-SW)
1724000594-QC-LIS-00034 Rev00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX
1724000594-QC-PRO-00042 Rev00	THIRD PARTY COMMUNICATION TEST PROCEDURE
1724000594-IN-DD-00015 Rev03	System Architecture
1724000594-IN-LIS-00004 Rev03	PCS and Safety System IO List (HW and SW)
1724000594-IN-DG-00016 Rev01	Network Connection Diagram
1724000594-IN-LIS-00007 Rev01	Systems Cables List
1724000594-IN-SP-00017 Rev01	PAS Hardware Functional Design Specification (FDS-HW)

Table 2 – Yokogawa Project Documents

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2.3 DEFINITIONS AND ABBREVIATIONS

ALE	Yokogawa Ethernet Communication Module
AMS	Alarm Management System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
Centum VP	Yokogawa's DCS Product
PCS	Process Control System
CI	Collaborative Information
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
DCS	Distributed Control System
DEP	Design and Engineering Practice
DOCUMENT NAME	Document Title
EMCS	Electrical Monitoring and Control System
EPC	Engineering, Procurement Construction
EWS	Engineering Workstation
FCS	Field Control Station
FGS	Fire & Gas System
GSD	General Station Description
HART	Highway Addressable Remote Transducer
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA.
IAMS	Instrument Asset Management System
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization

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ITER	Instrument & Telecoms Equipment Room
ITP	Inspection and Test Plan
MAC	Main Automation Contractor
MCC	Motor Control Centre
NA	Not Applicable
OER	Onshore Equipment Room
OPC	OLE (Object Linking Embedded) for Process Control
P&ID	Piping and Instrument Diagram
PCS	Process Control System
PIN	Plant Information Network
PRM	Plant Resource Manager
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
SCADA	Supervisory Control and Data Acquisition
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
TCP/IP	Transmission Control Protocol/Internet Protocol
Vnet/IP	Yokogawa Virtual Network
WSUS	Window Security Update Services

Table 3 - Definitions and Abbreviations

3 LOGIC DIAGRAM PRINT OUT SIS AND FGS

The self-documentation function is independent of SCS Manager and each builder; it is thus possible to double-check that the applications have been created as intended.

Self-documentation prints out the source files of the work database in an SCS project.

3.1 SIS CONTROLLER SCS0110 LOGIC PRINT OUT

Refer Attachment-1 SCS0110 Controller Logic Print Out

3.2 FGS CONTROLLER SCS0120 LOGIC PRINT OUT

Refer Attachment-2 FGS Controller SCS0120 Logic Print Out

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1724000594-IN-DG-00026

SIS and FGS Logic Print Out

Attachment-1

MYRSPJT

SCS0110

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 1
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

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3. POU

3.1. REV_HIS (* Rev History - Application Program Rev Information *)

1.0.0

```
************************************************************GENERAL INFORMATION*************************************************************

Project Name: Base Load Power Hub (BLPH)

Company Project Number: E366772C00

Contractor Project number: CW-I-WP4-2023-05

Yokogawa Affiliate: YOKOGAWA ITALIA SRL - ITALY

ORIGINATOR : DAMINI.D
APPROVER : ALESSANDRO
REVIEWER : MANOJKUMAR.P

project purpose: SIS APPLICATION

Process Units: -

************************************************************CURRENT REVISION*************************************************************

1.0 : ISSUED FOR HARDWARE PRE-FAT
1.1 : ISSUED FOR IMPLEMENTATION COMPLETED
1.2 : ISSUED FOR SW PREFAT
1.3 : ISSUED FOR SW PREFAT PUNCH CLOSURE
2.0 : ISSUED FOR FAT
3.0 : END OF FAT
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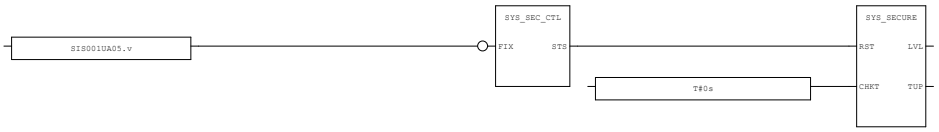
3.2. DIAG_SYS (* System Diagnostic *)

1.0.0

SCS0110_SYS_SEC PROGRAM SYSTEM ENABLE



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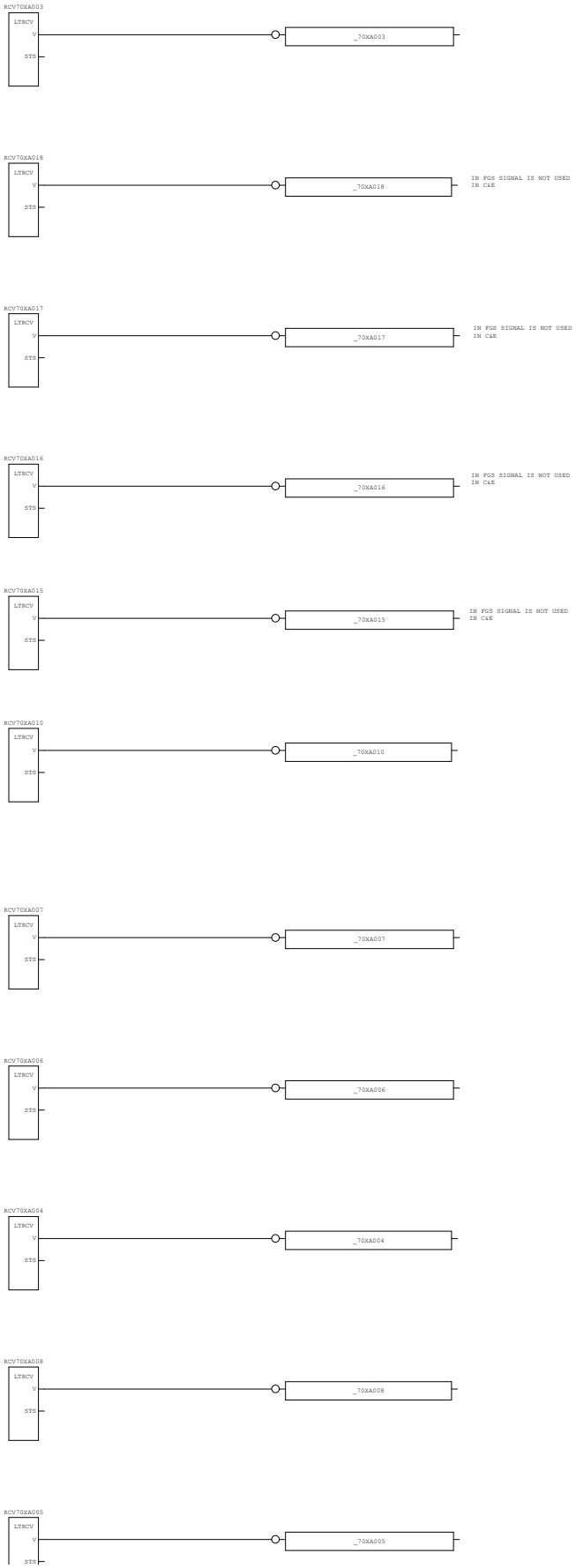
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.3. RECV (* Signal Transfer - Receive *)



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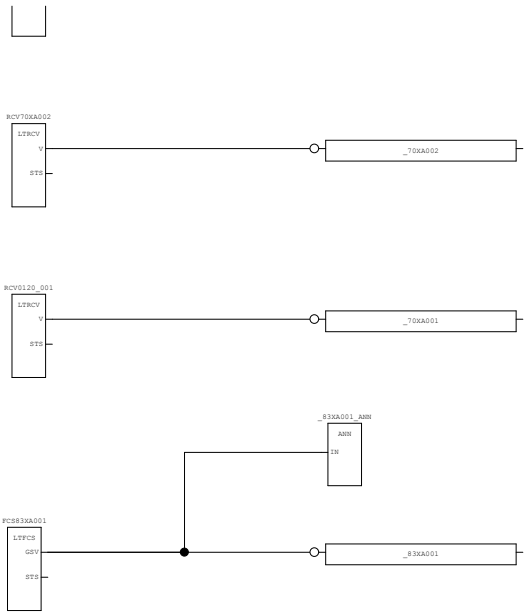

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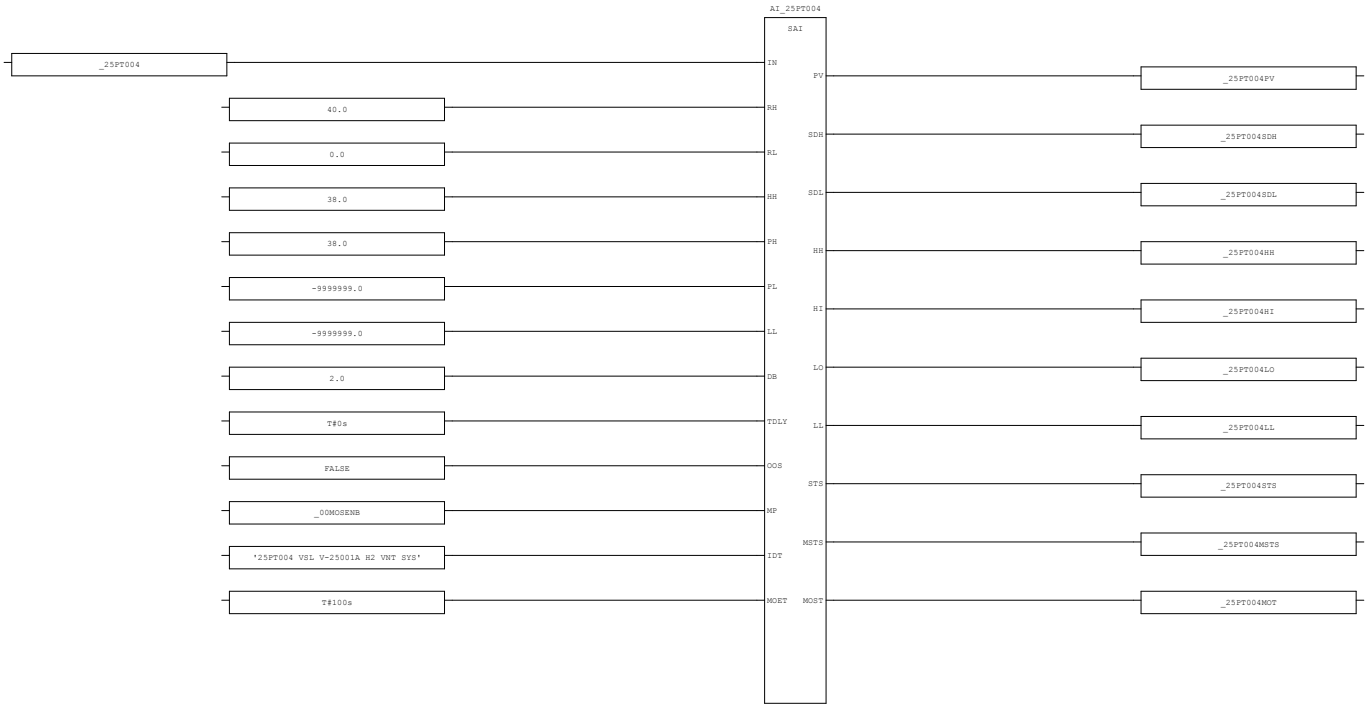
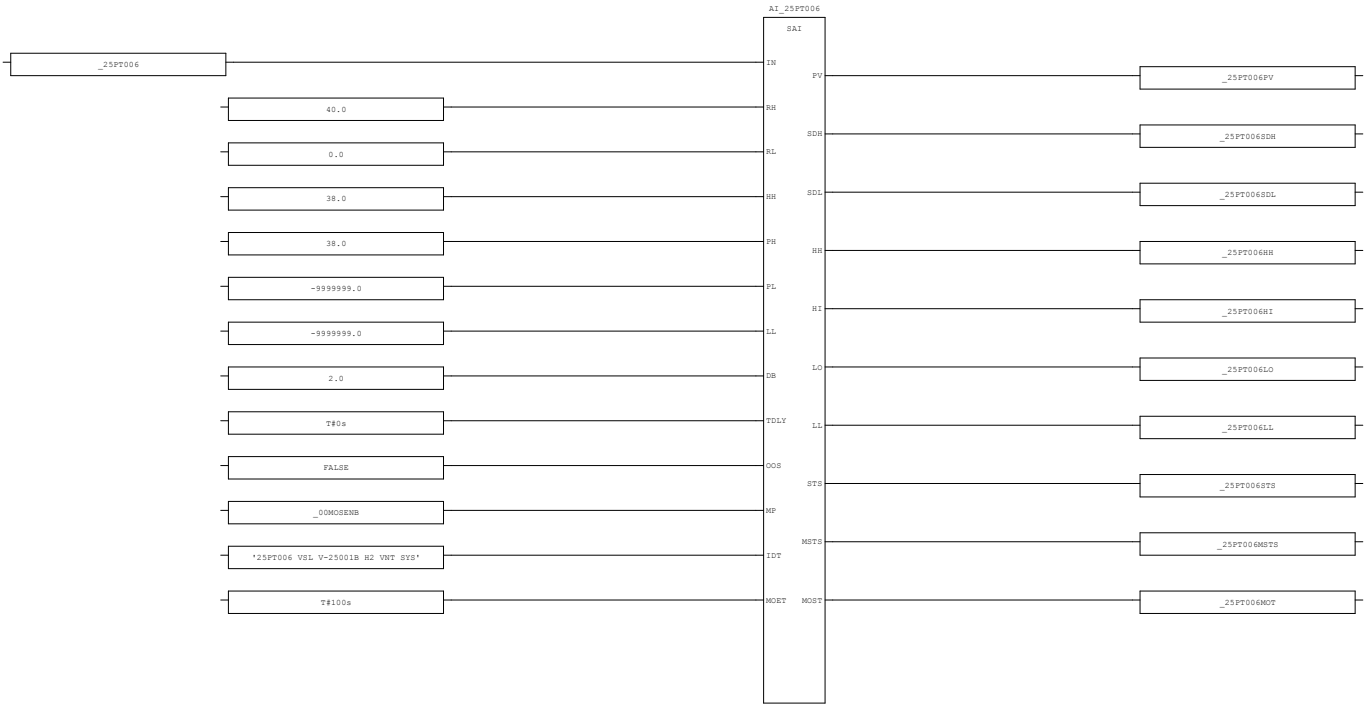
3.4. AI_01 (* Analog Input Processing *)





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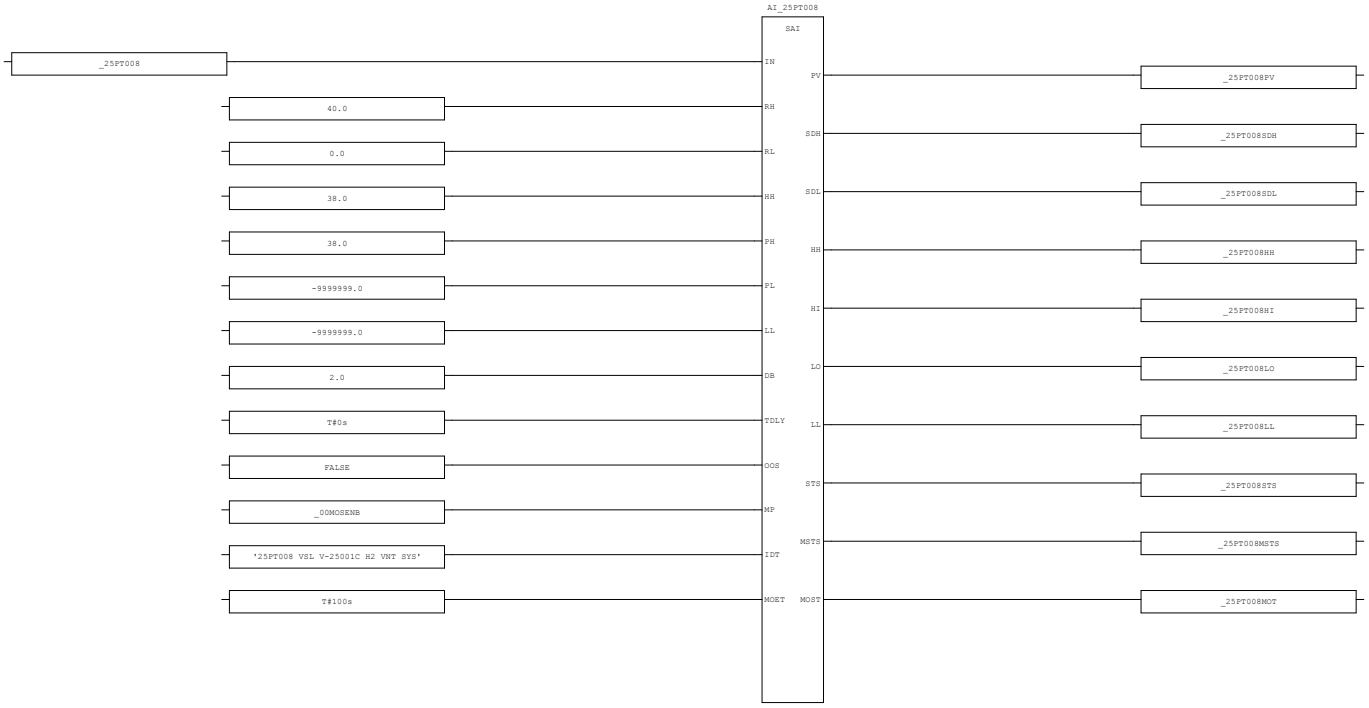

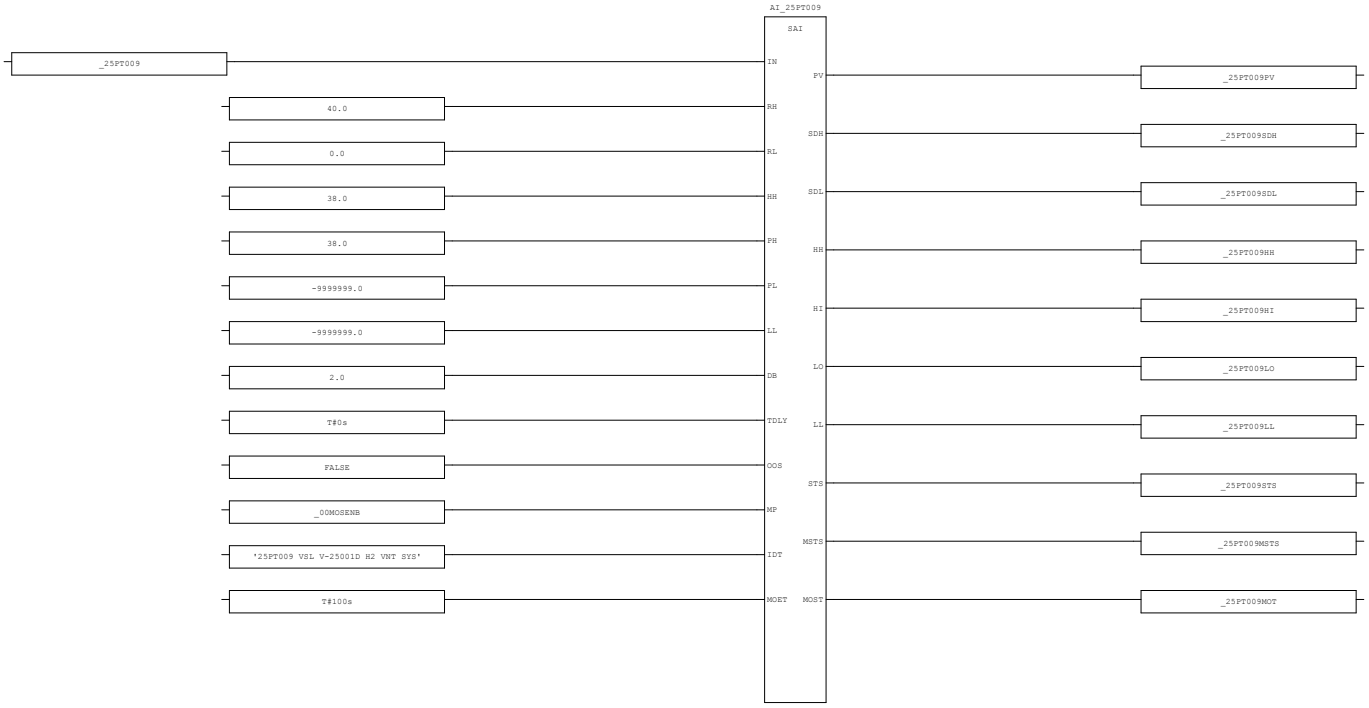

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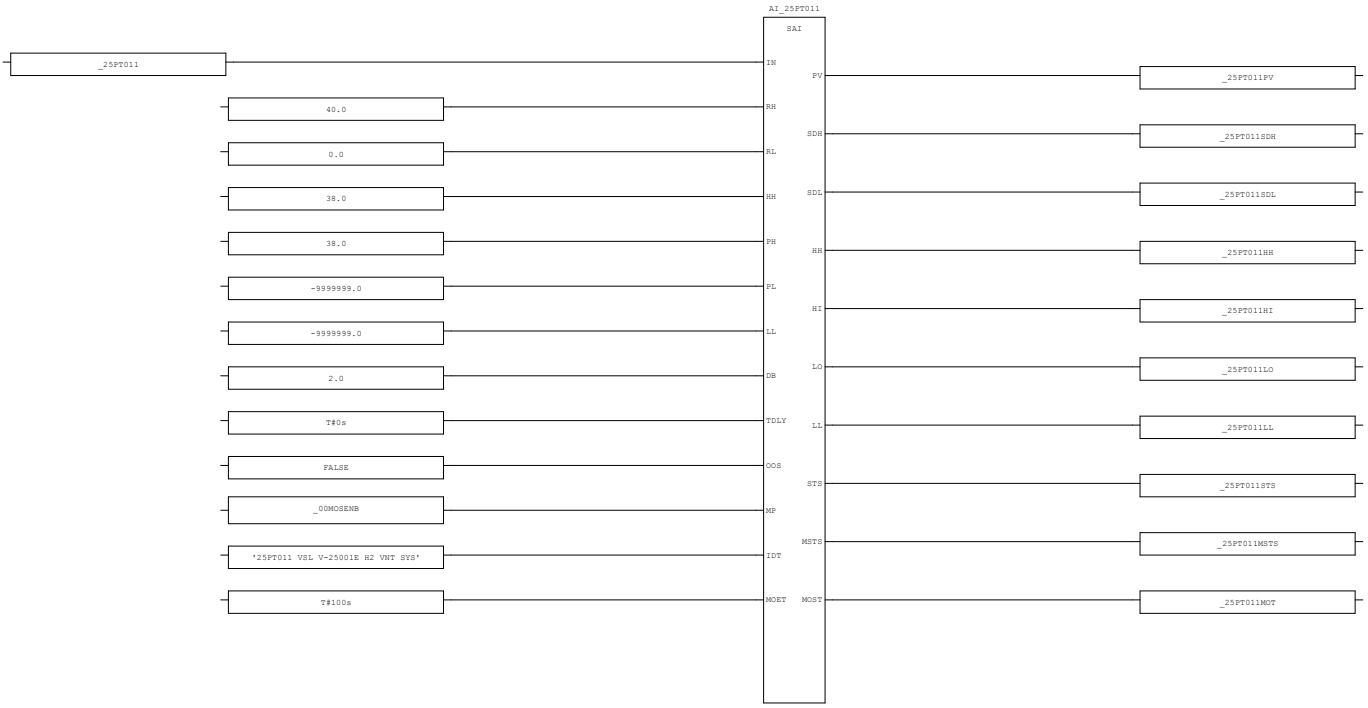

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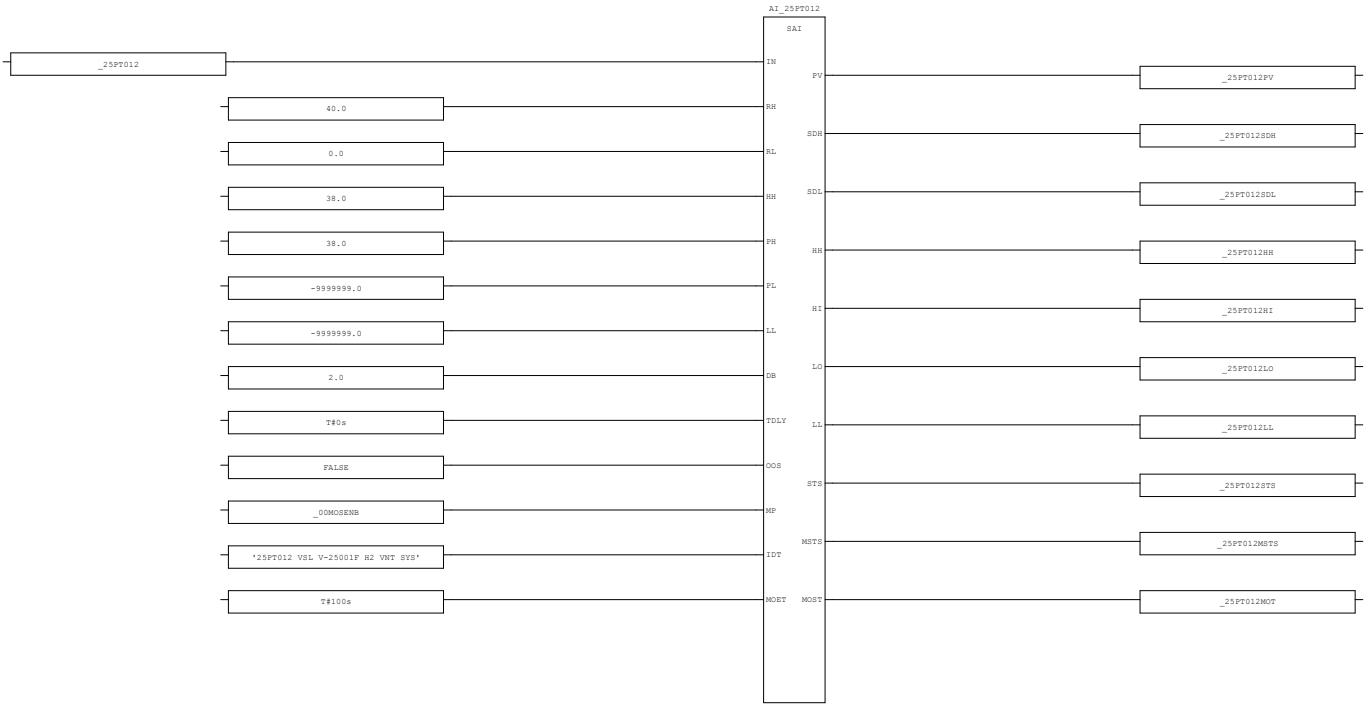
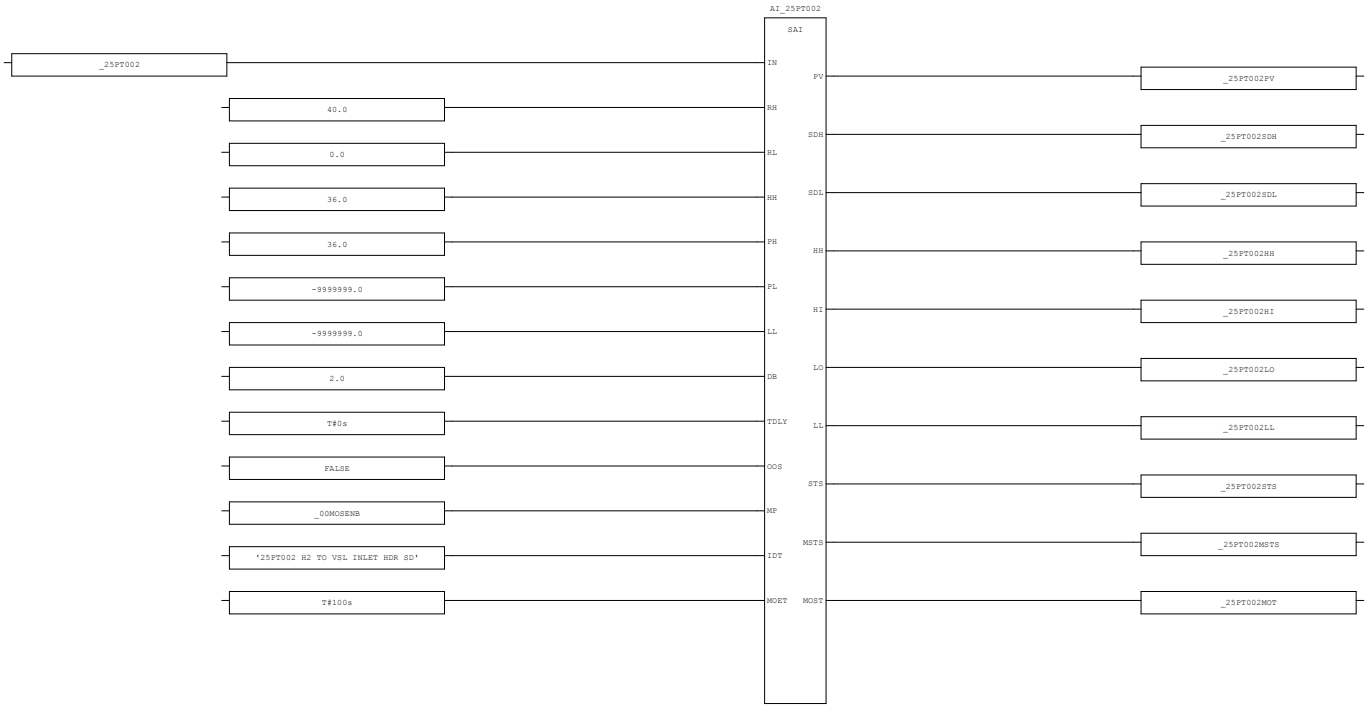
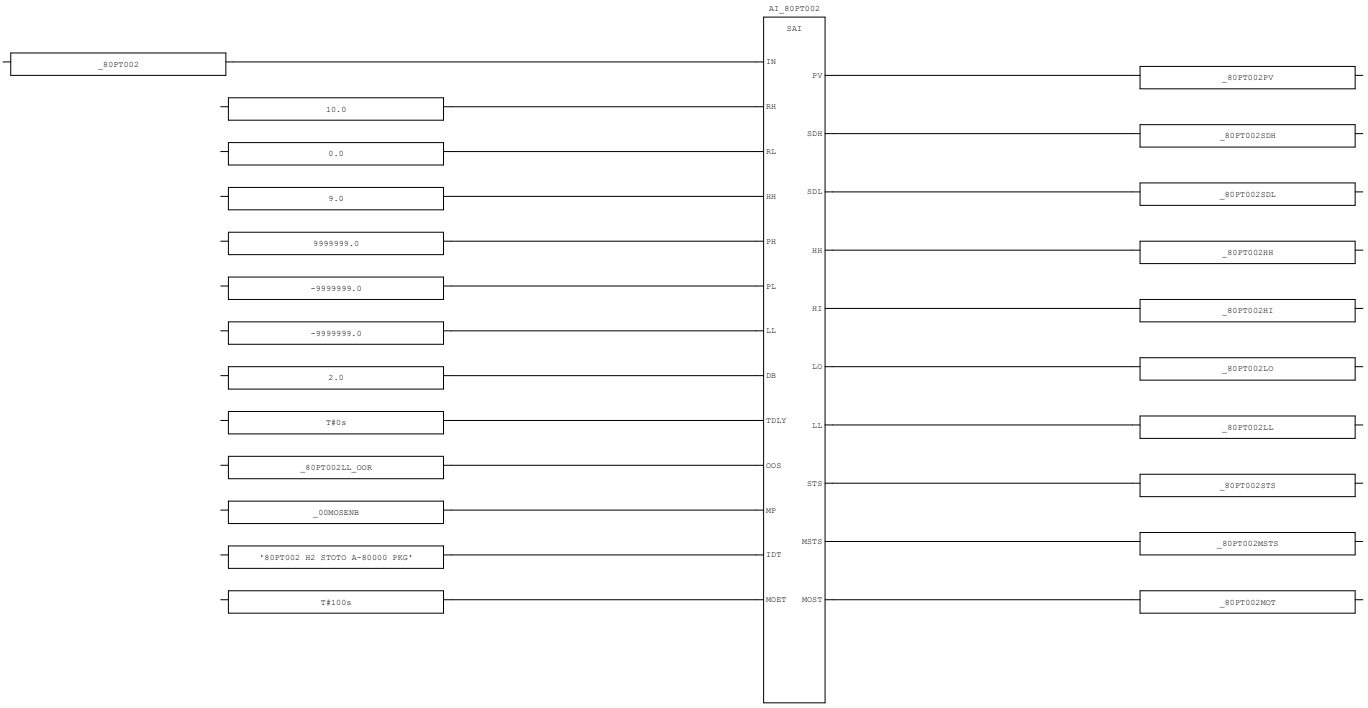
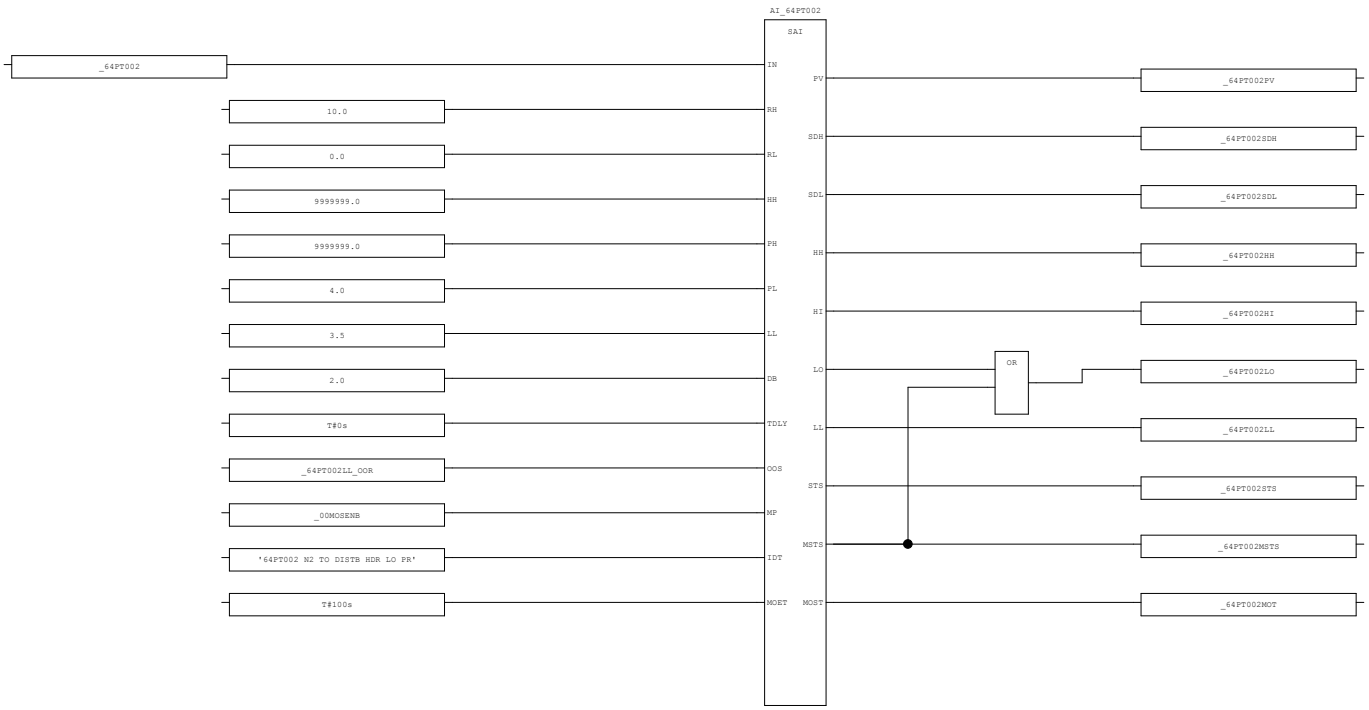
3.5. AI_02 (* Analog Input Processing *)









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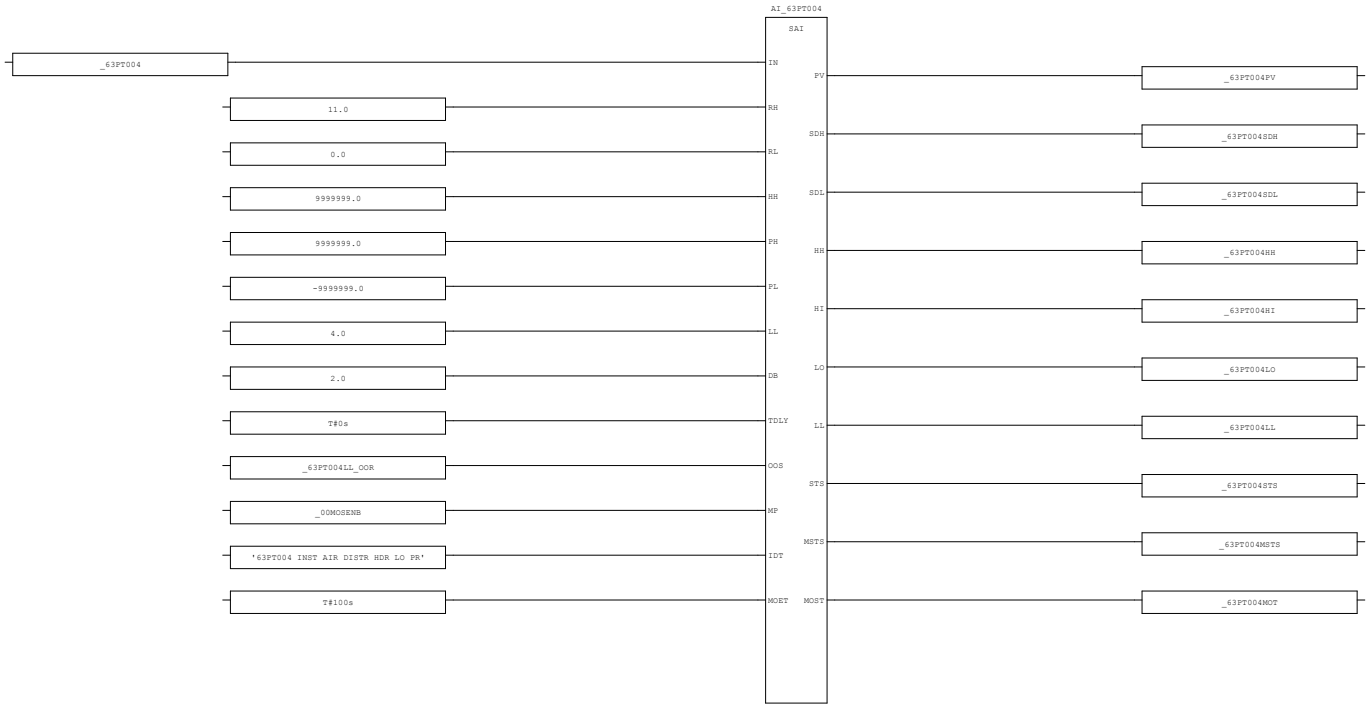
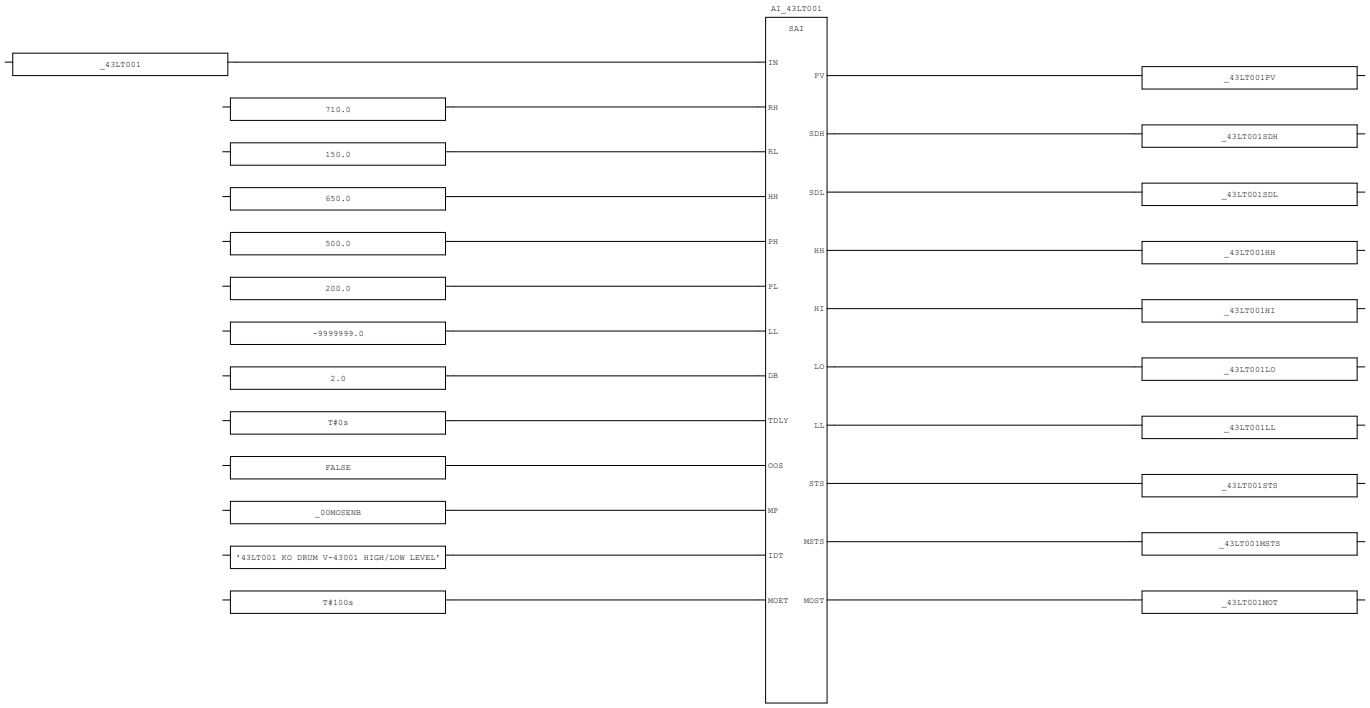
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





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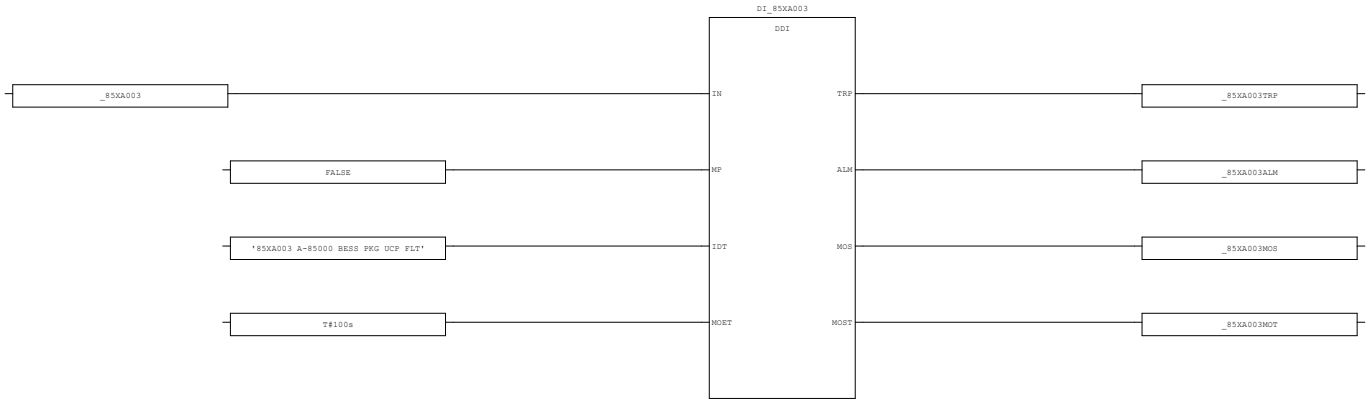
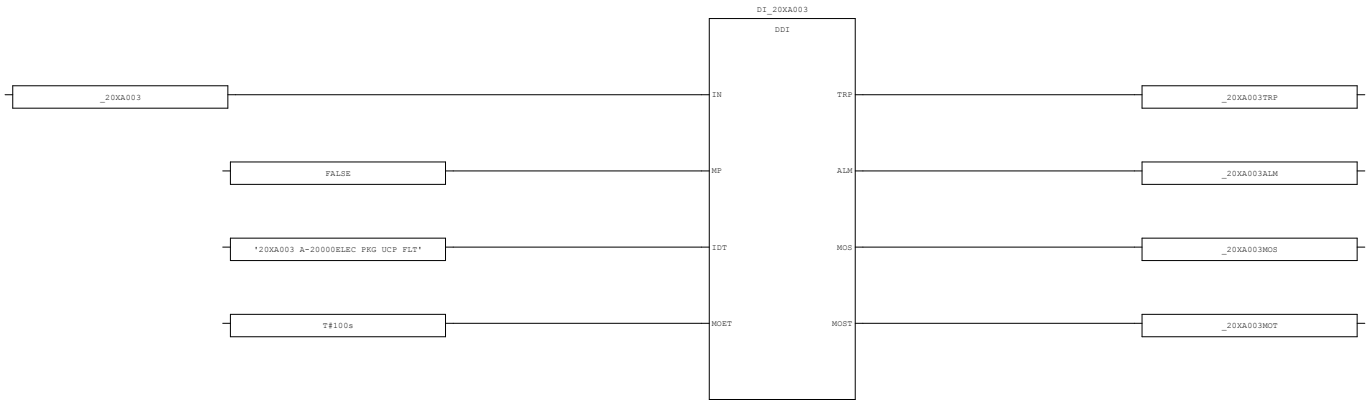
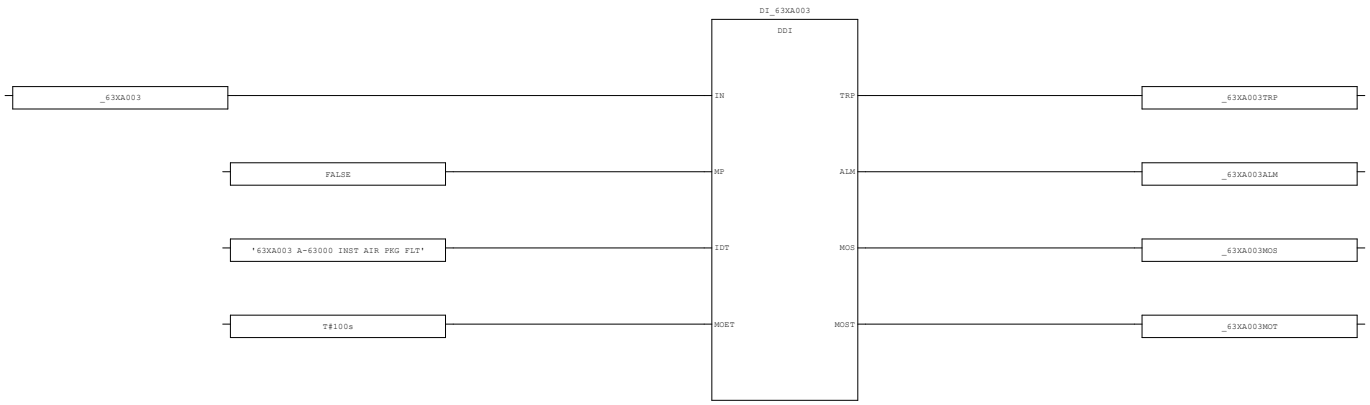
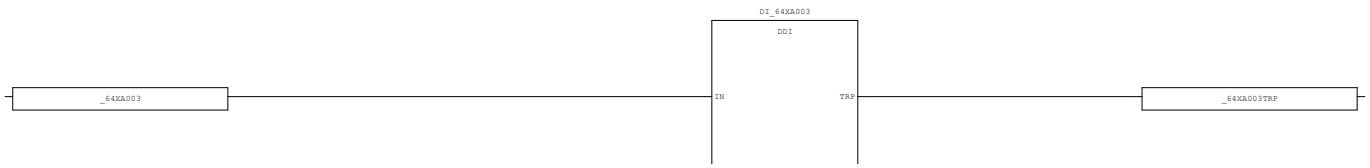
3.6. DI_01 (* Digital Input Processing - DDI *)









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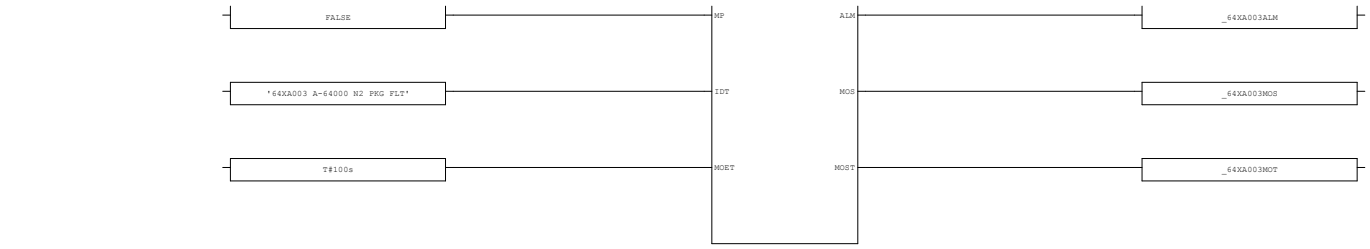

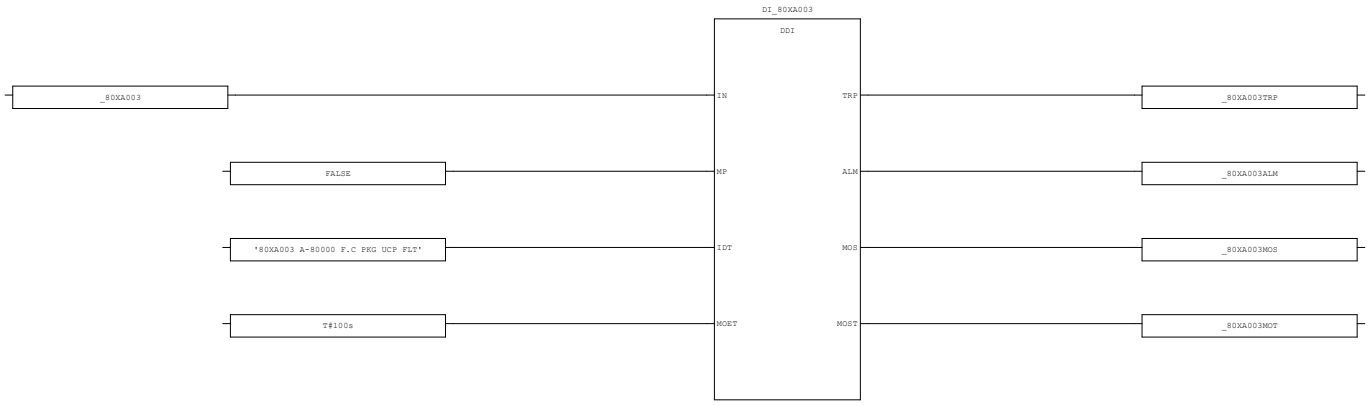

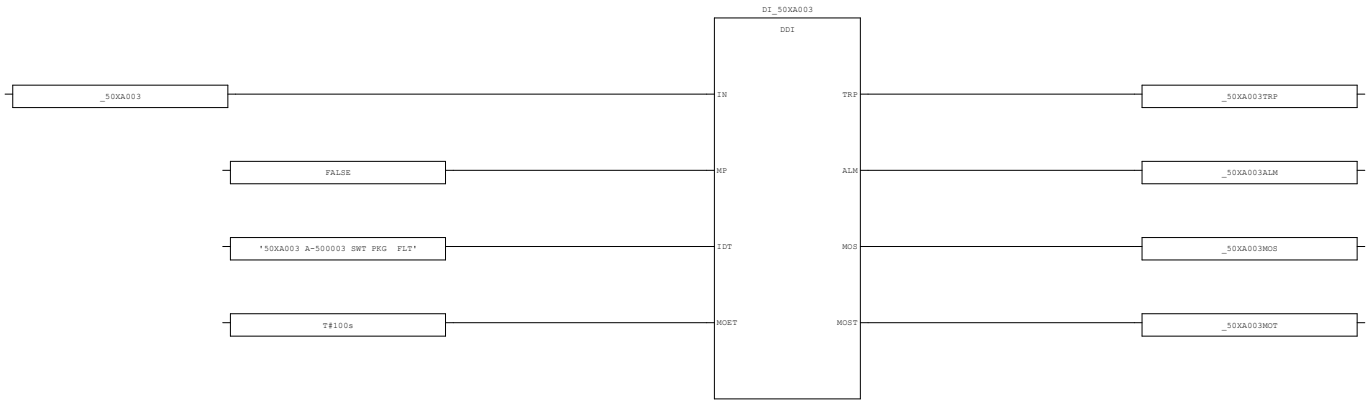

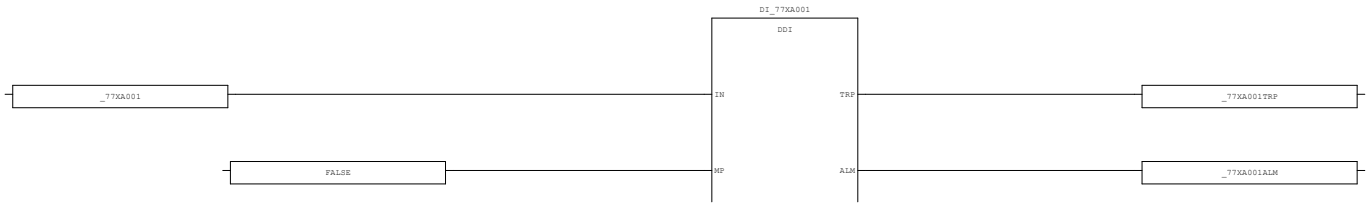

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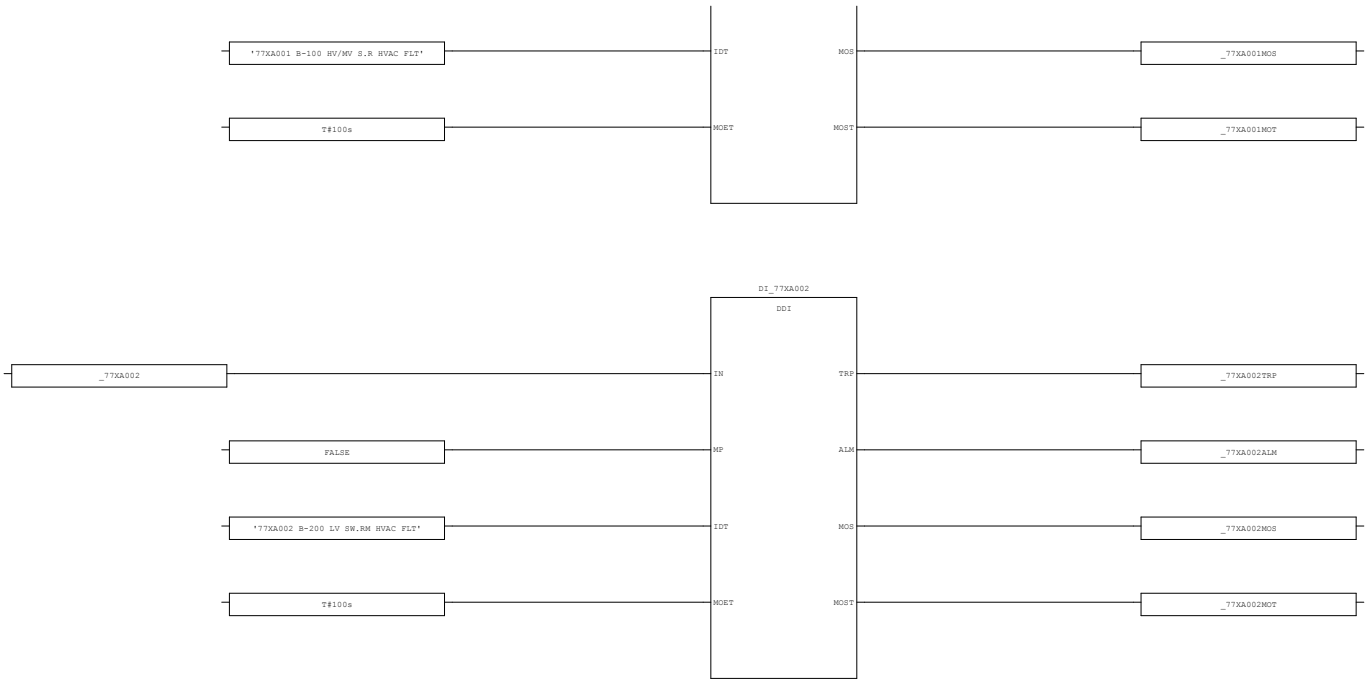



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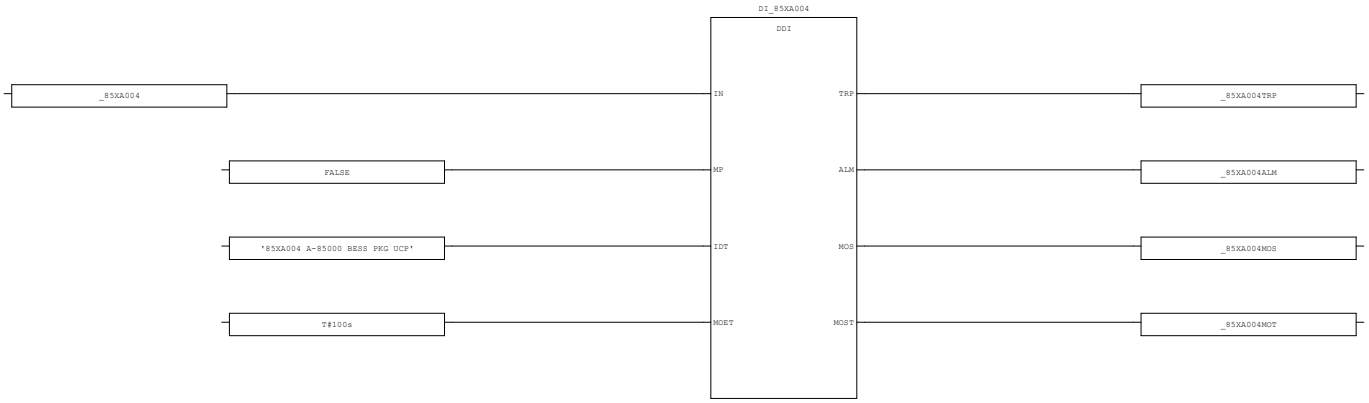
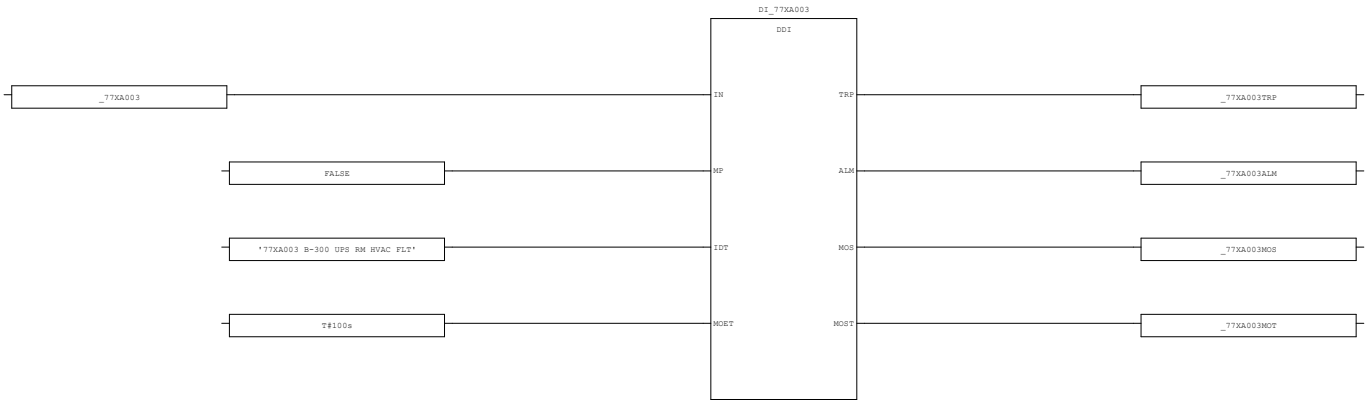
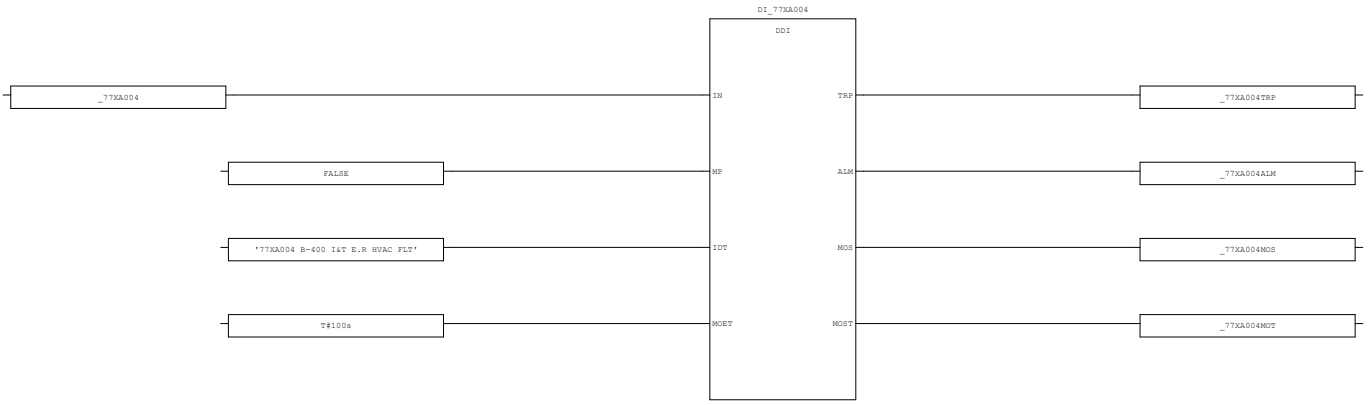
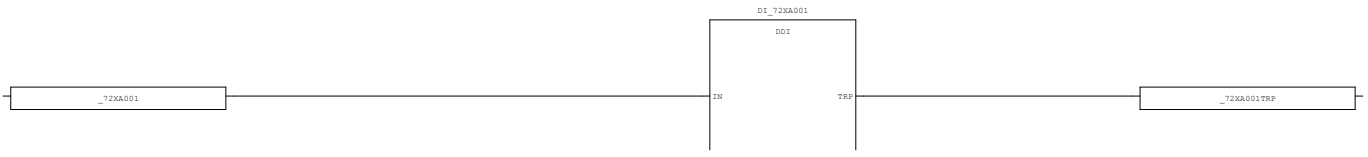
3.7. DI_02 (* Digital Input Processing - DDI *)









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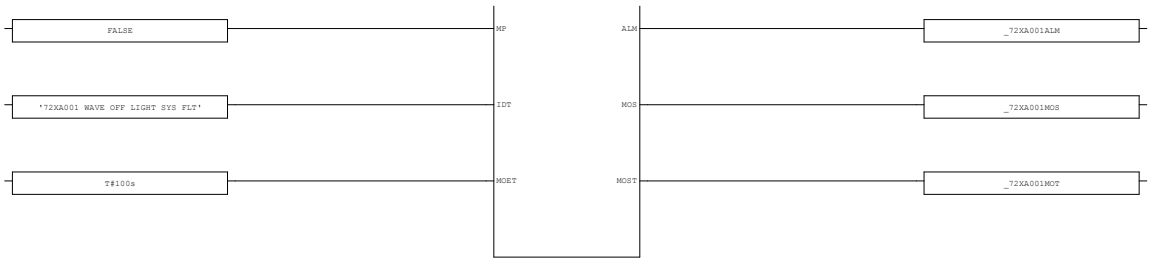

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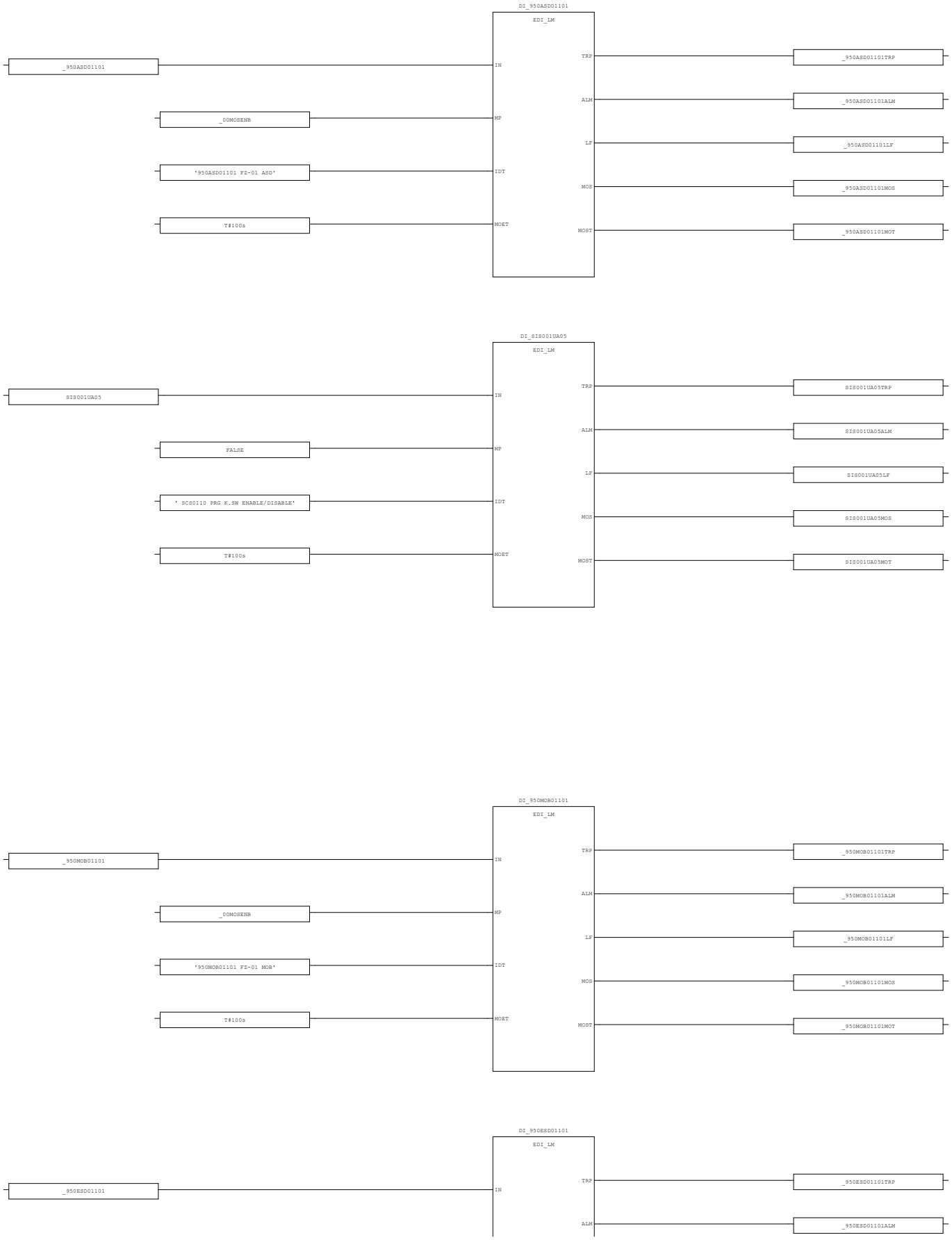
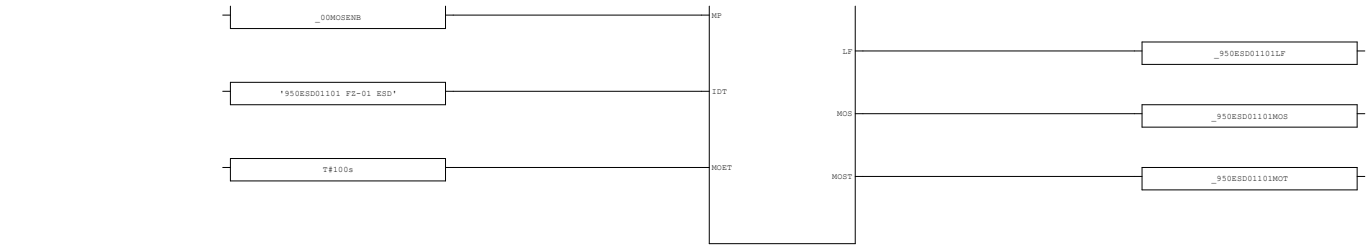
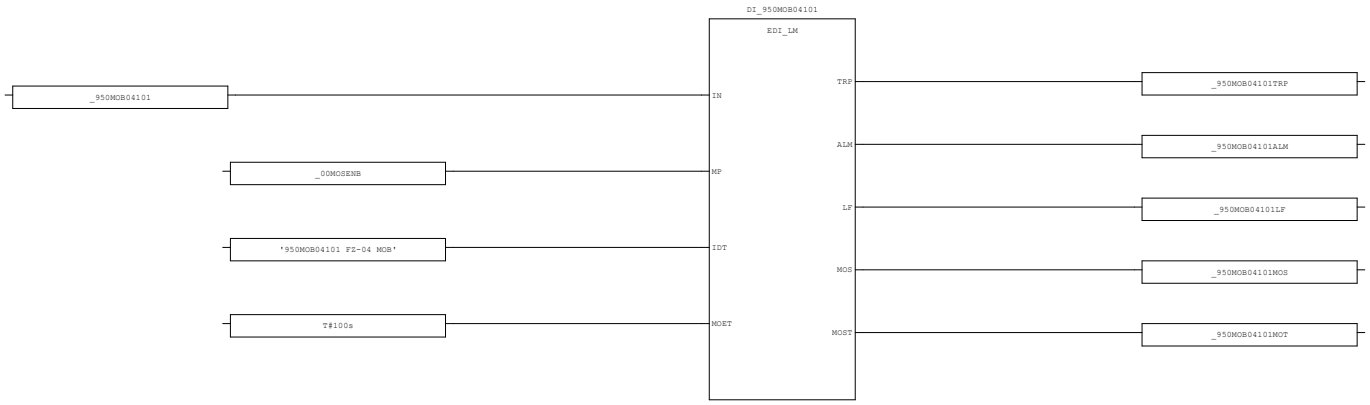
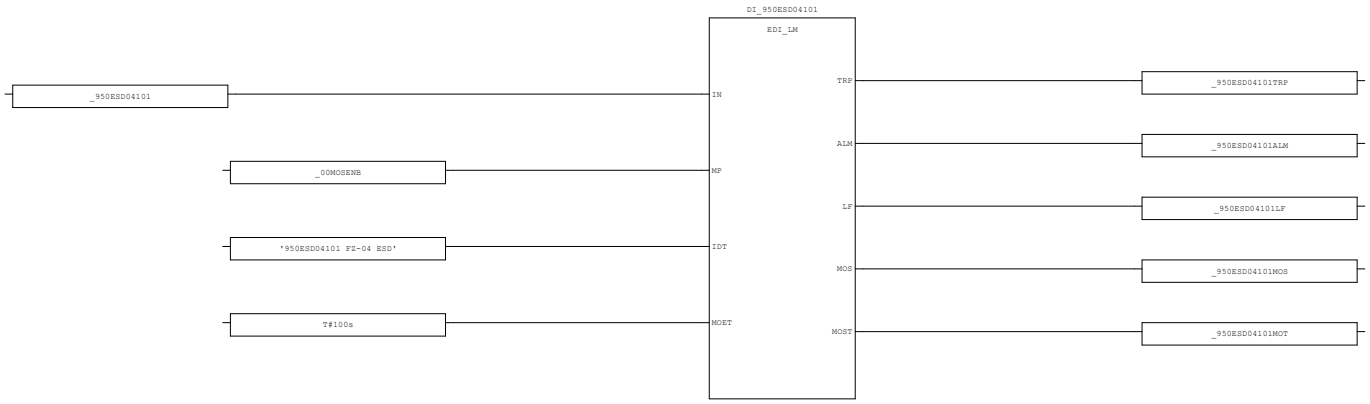
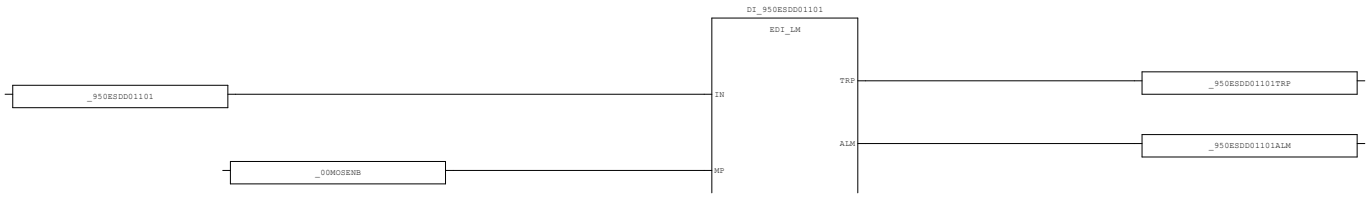
3.8. DI_03 (* Digital Input Processing - EDI *)











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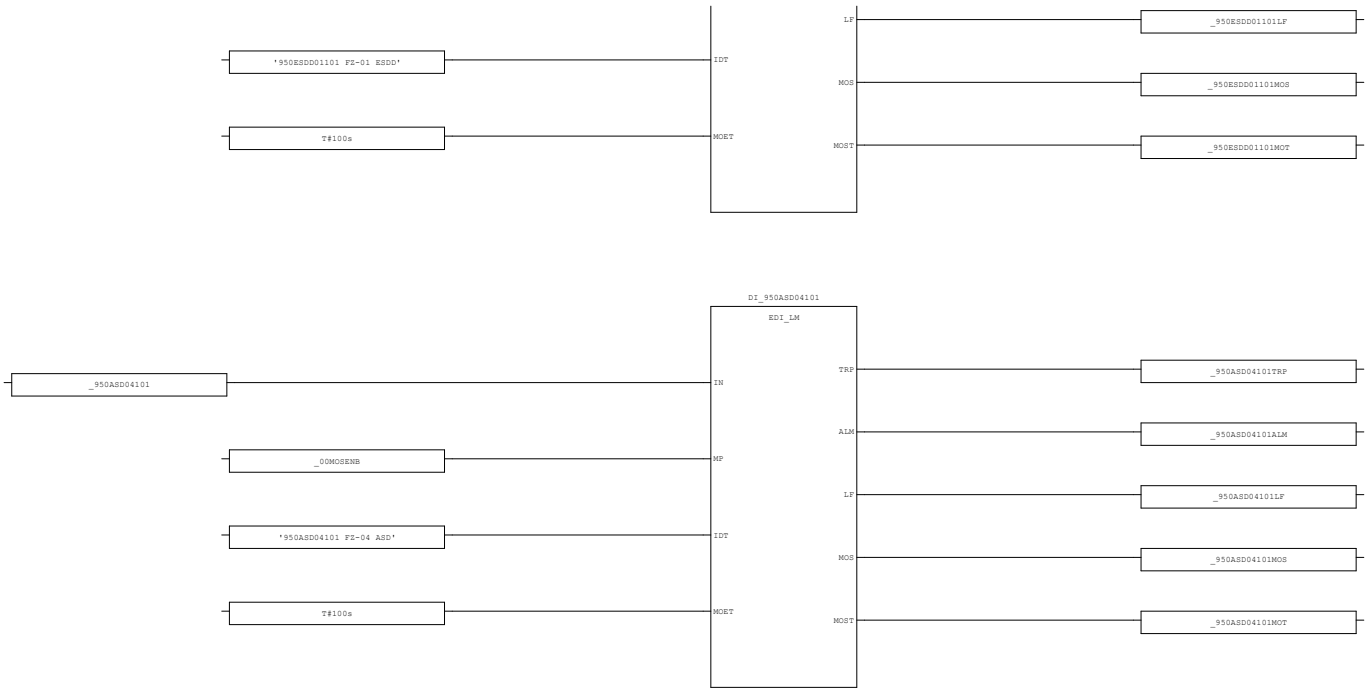

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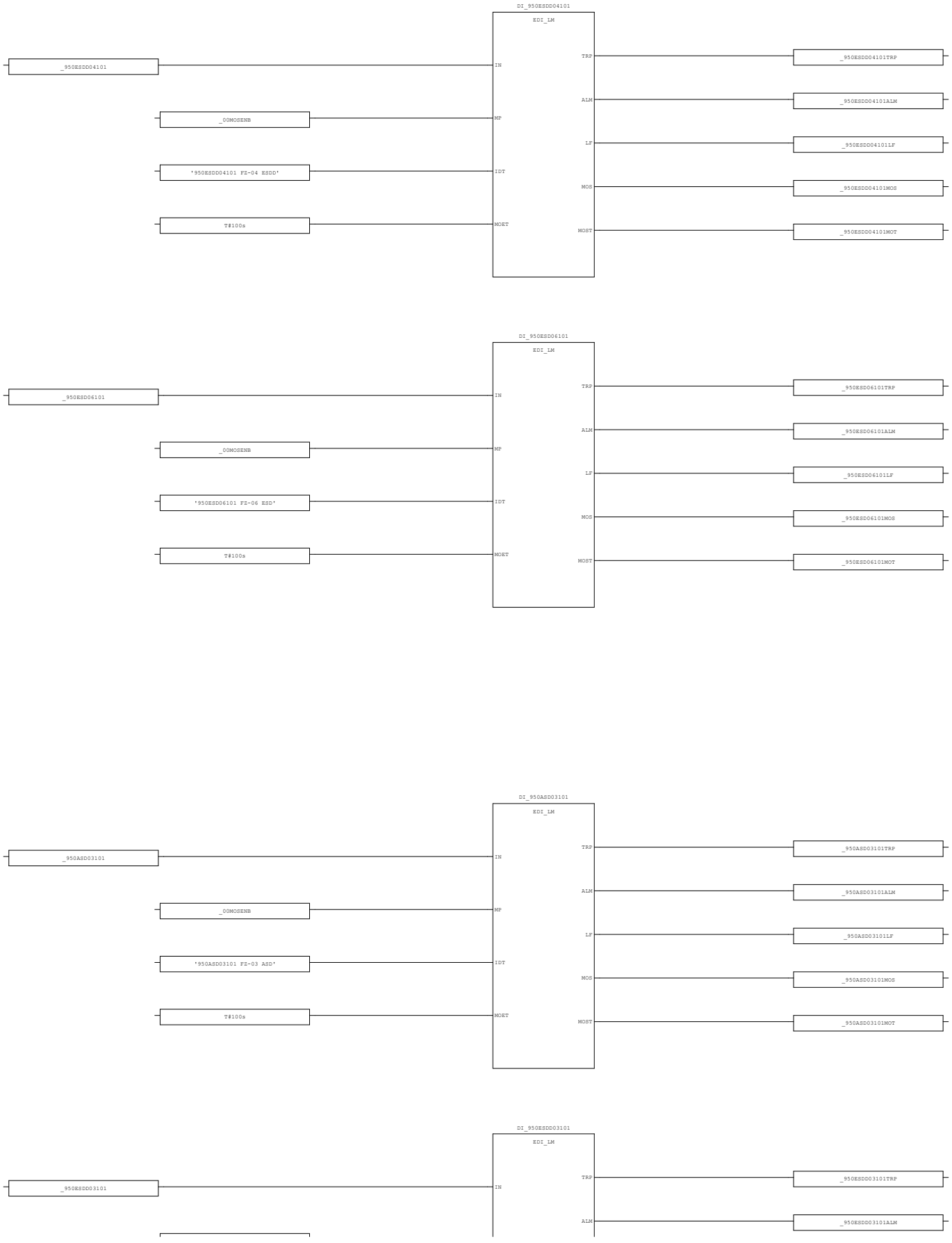
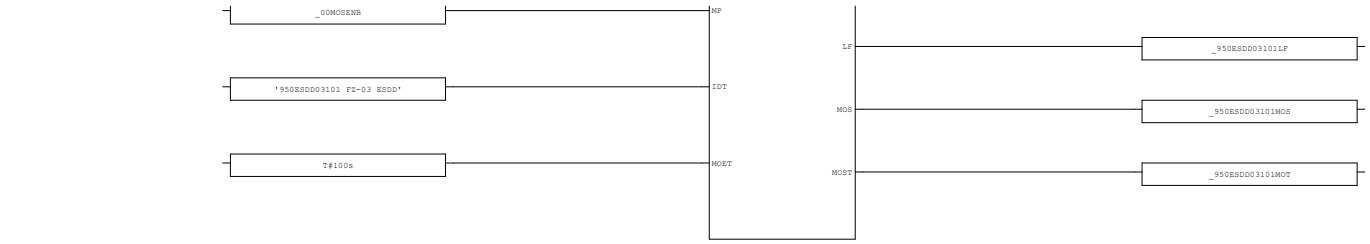
3.9. DI_04 (* Digital Input Processing - EDI *)

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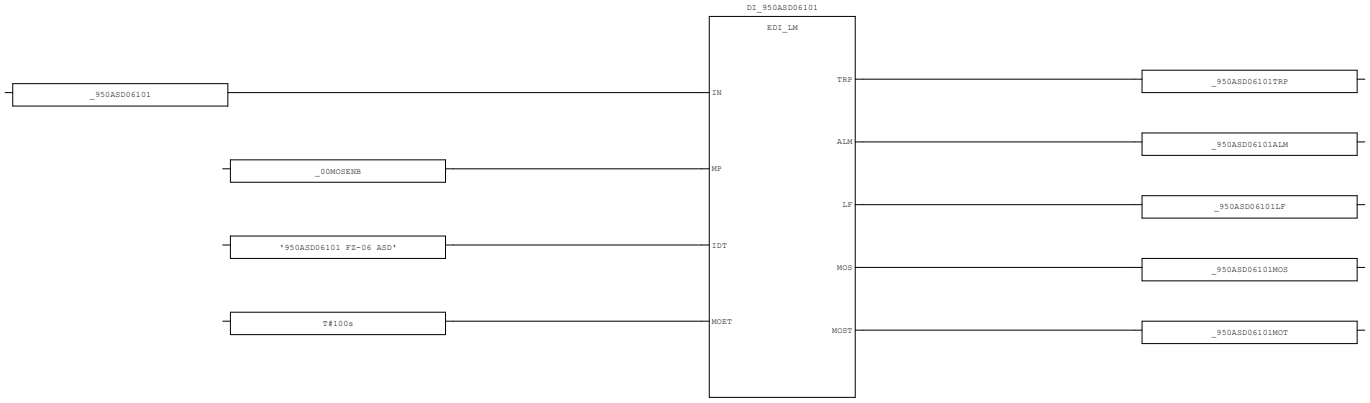
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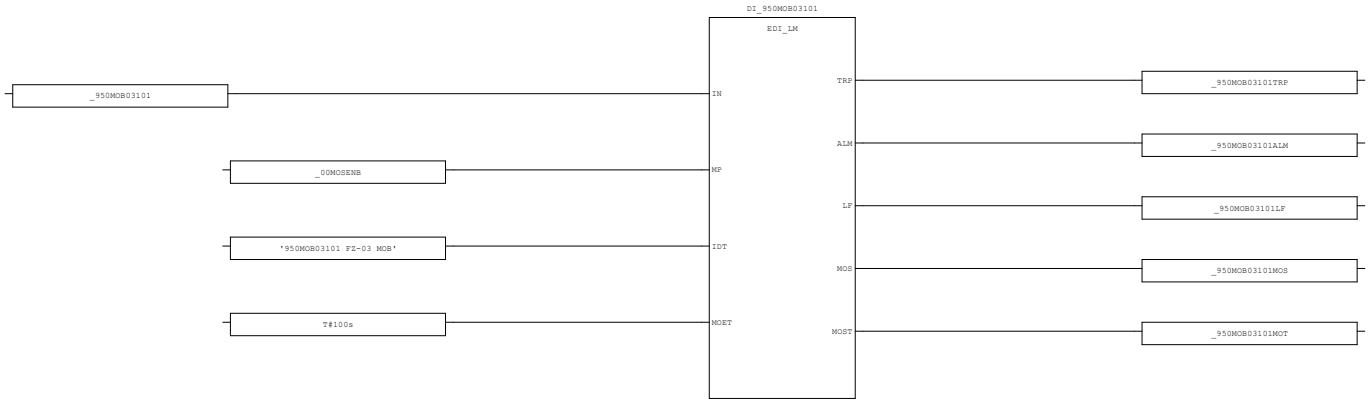
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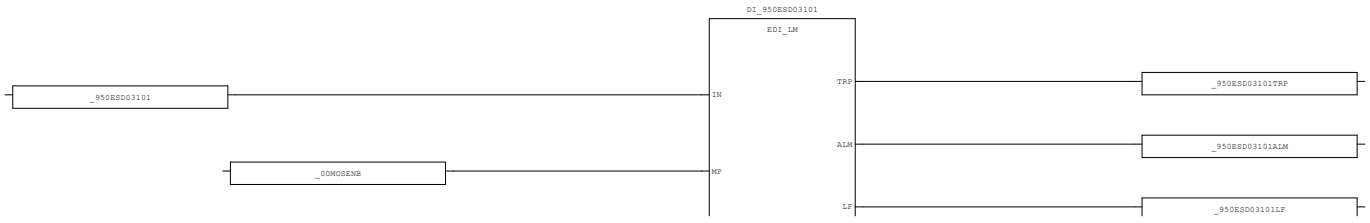
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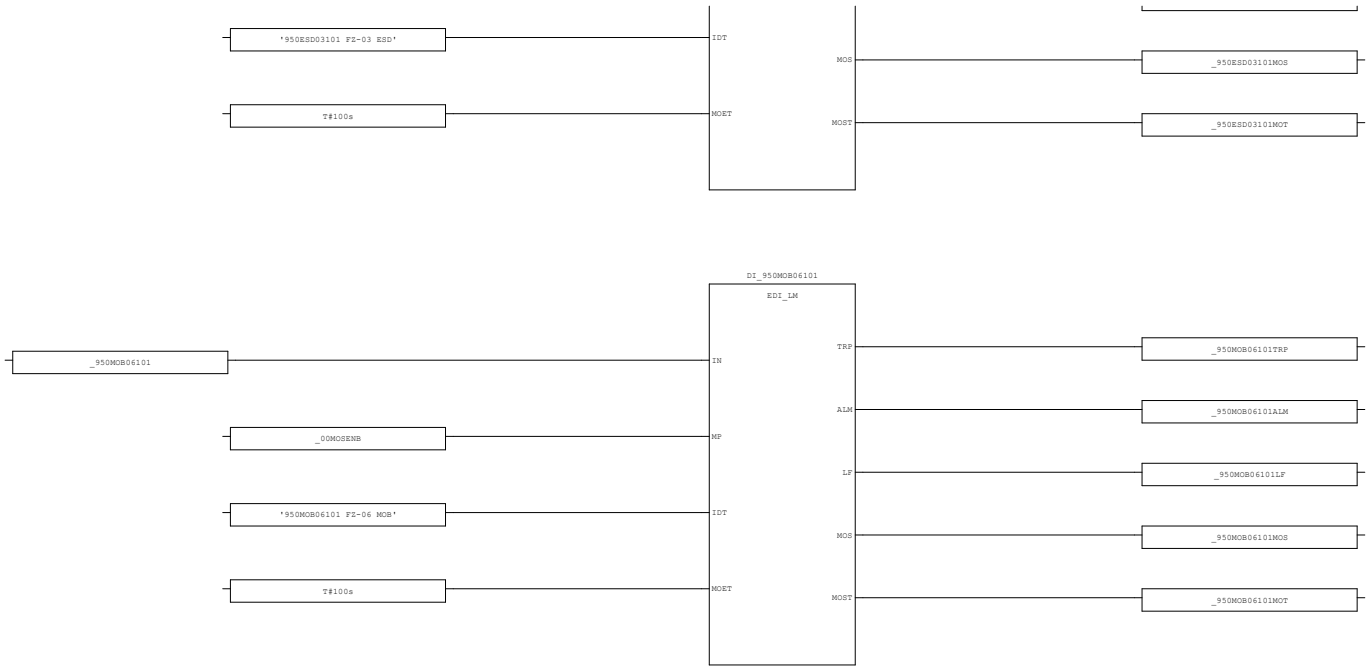
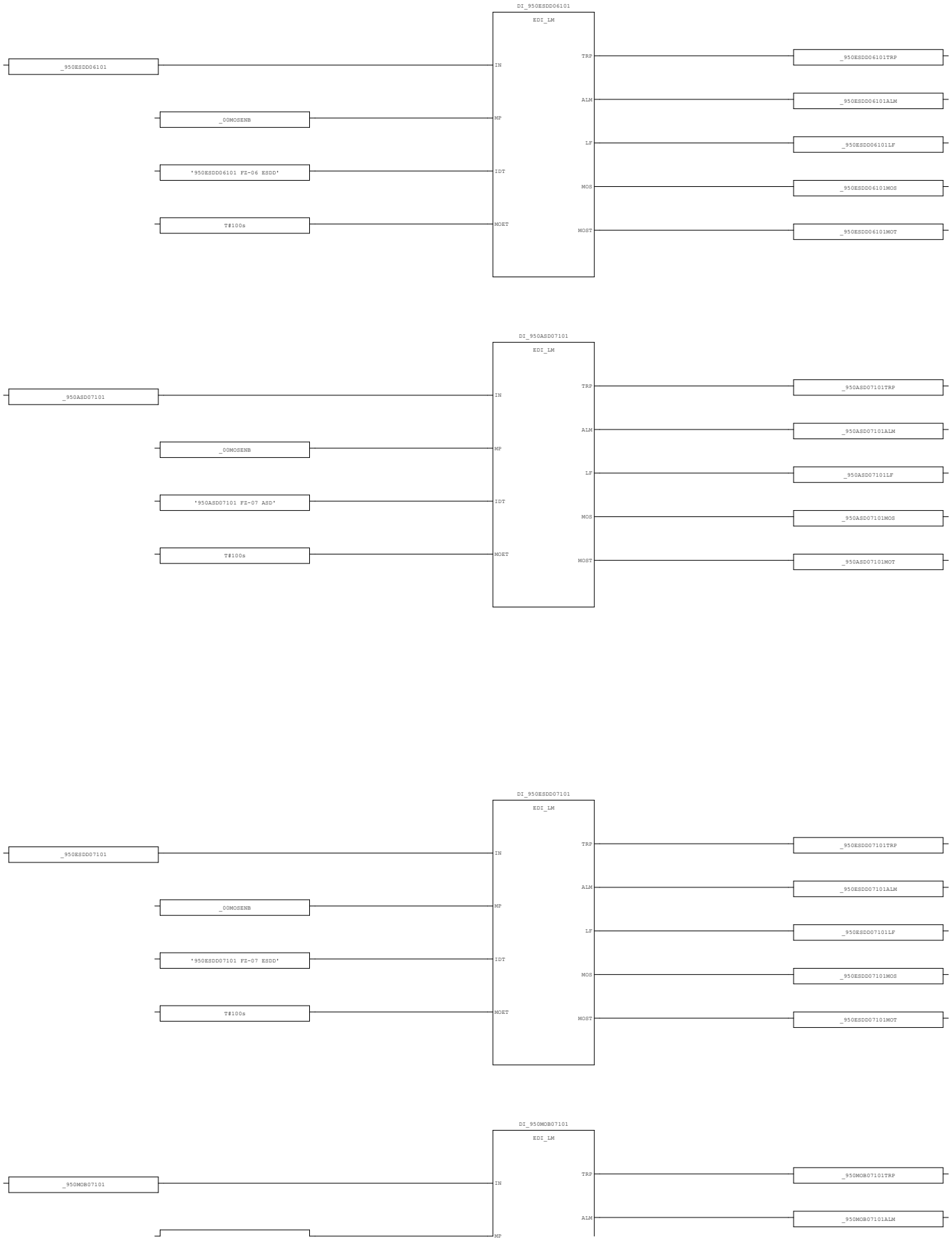
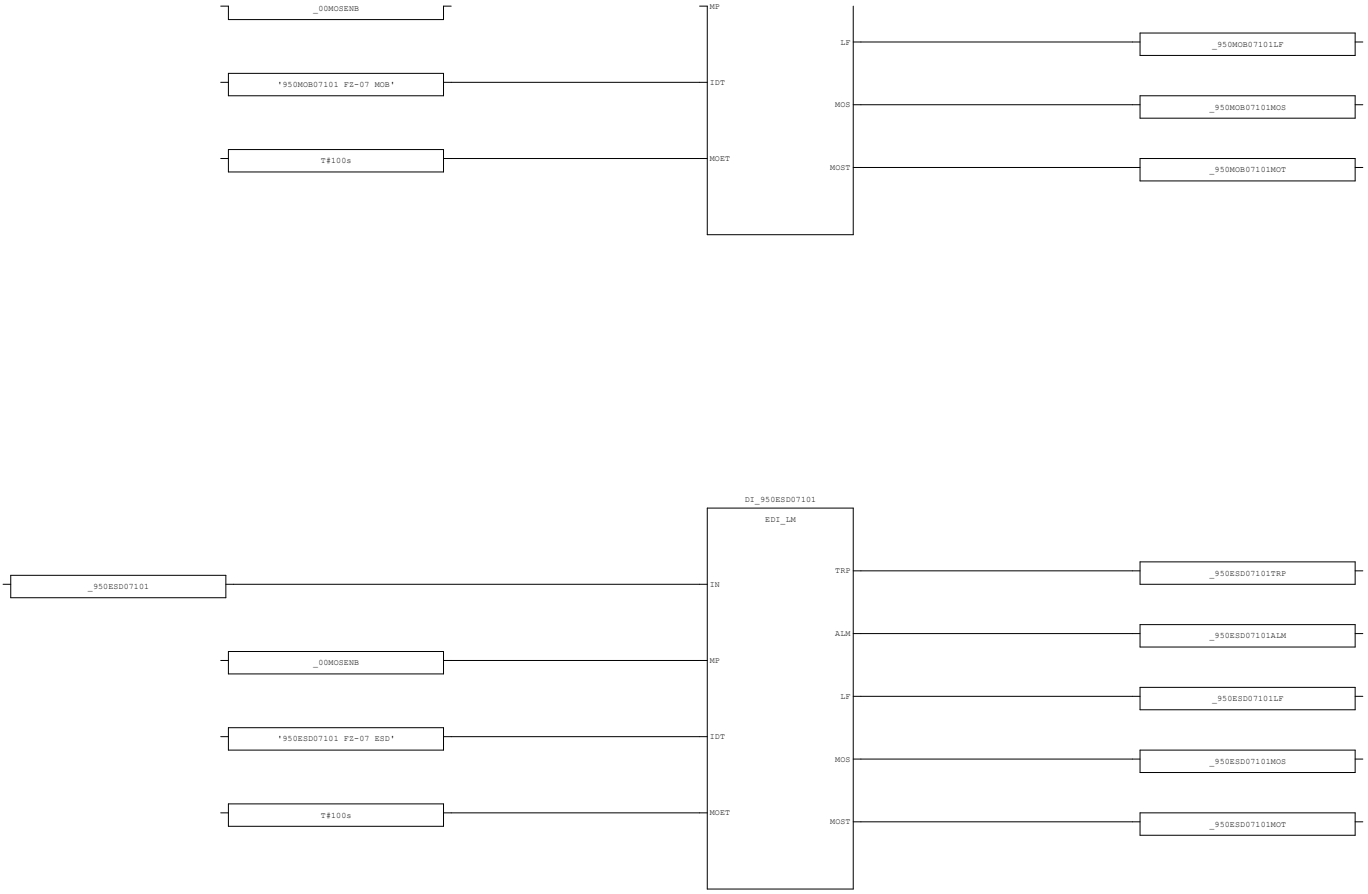


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:24
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

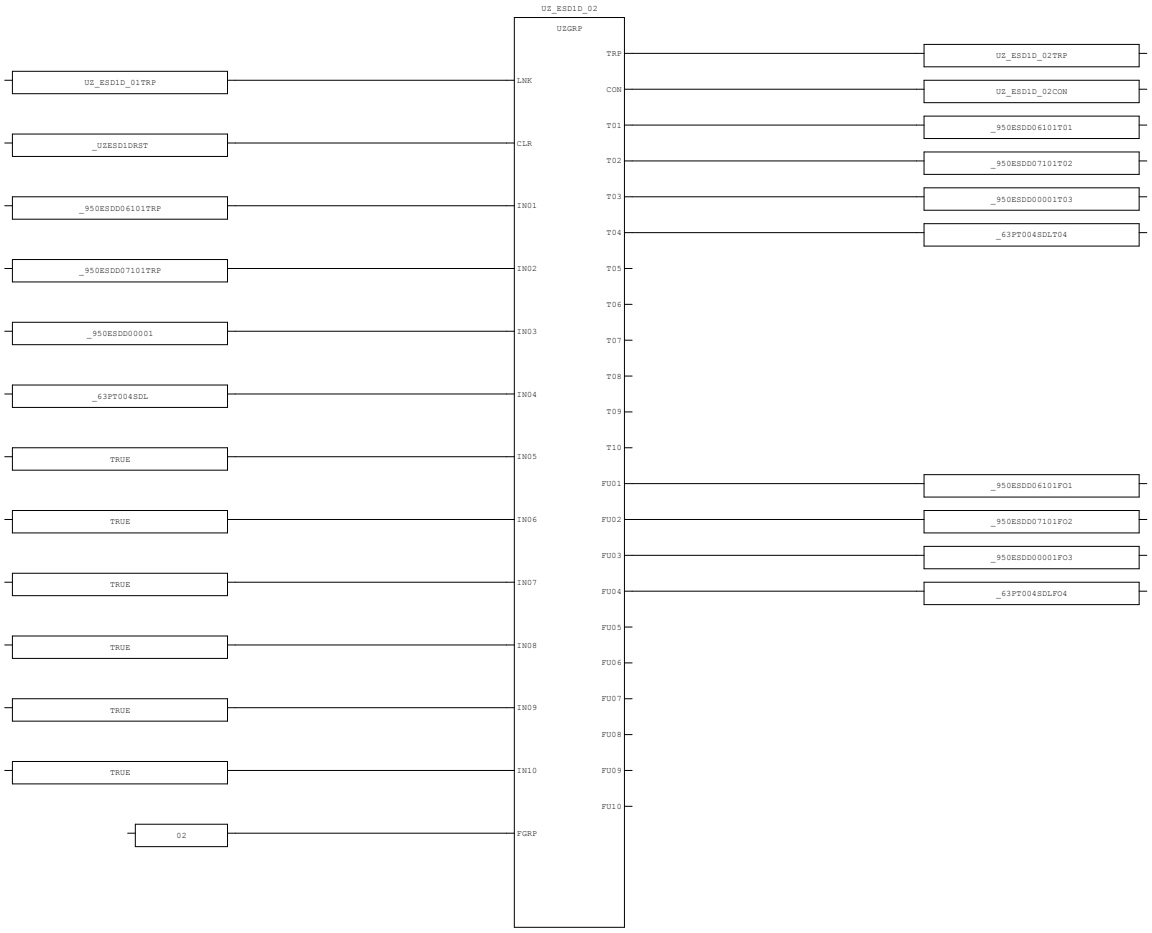
3.10. DI_05 (* Digital Input Processing - EDI *)

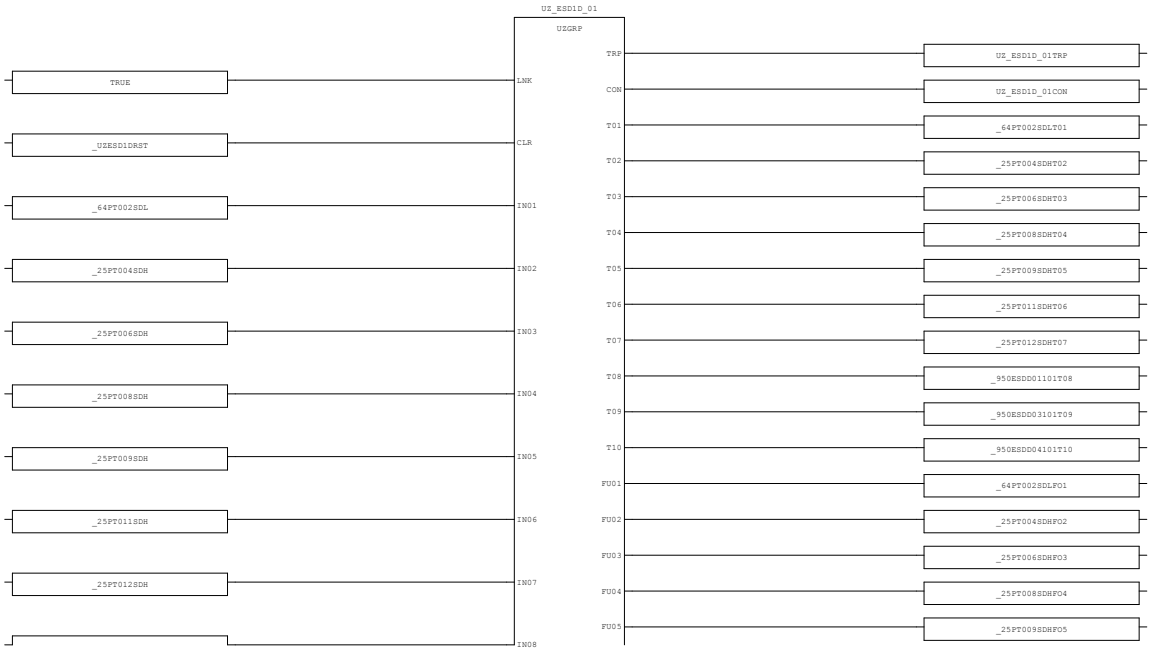




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:26
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.11. CE_LOGIC_1 (* C&E Interlock Logic *)





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:27
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
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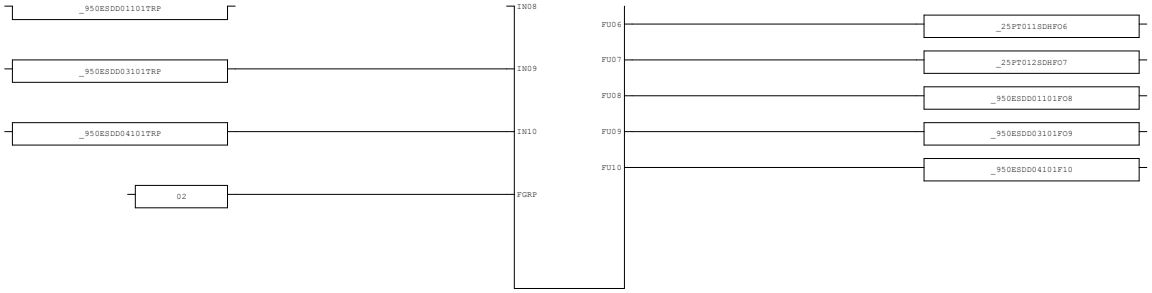
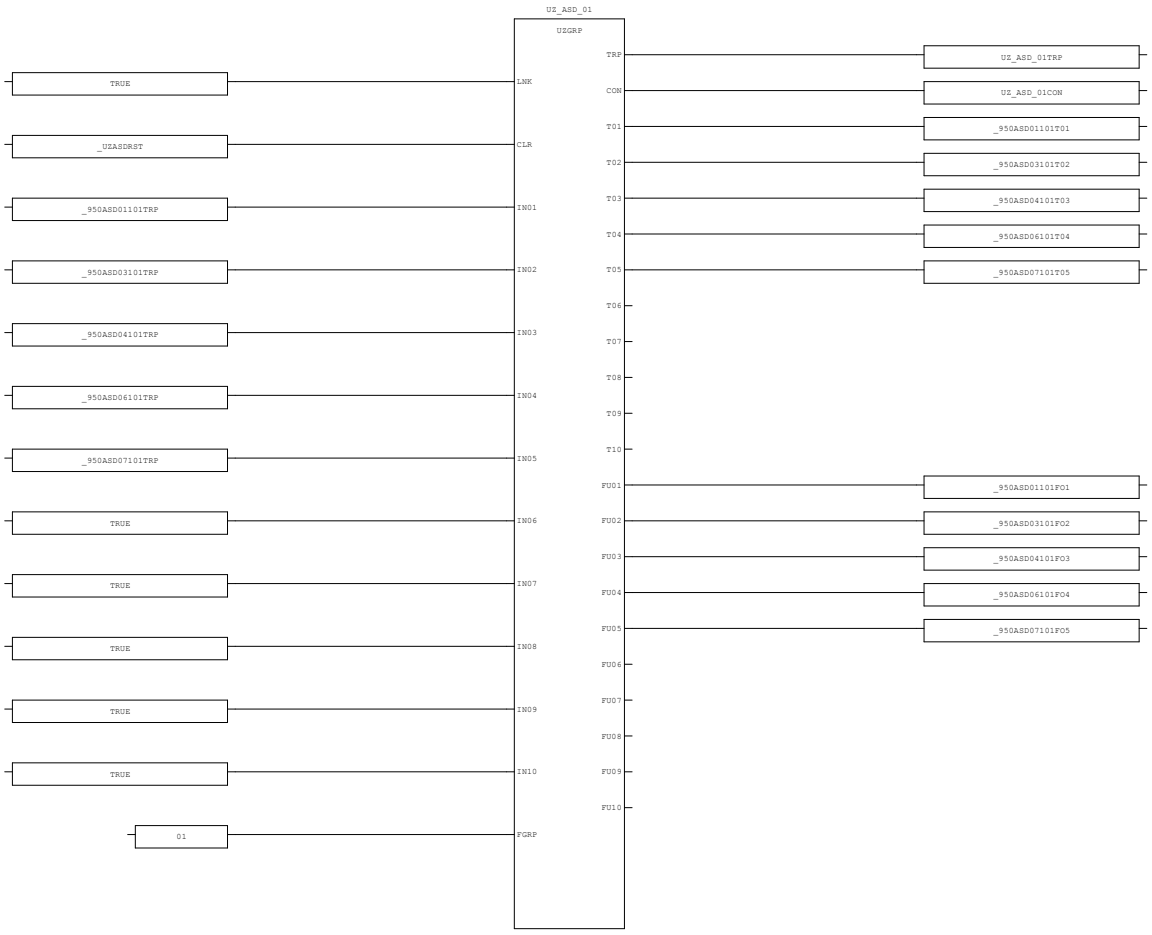
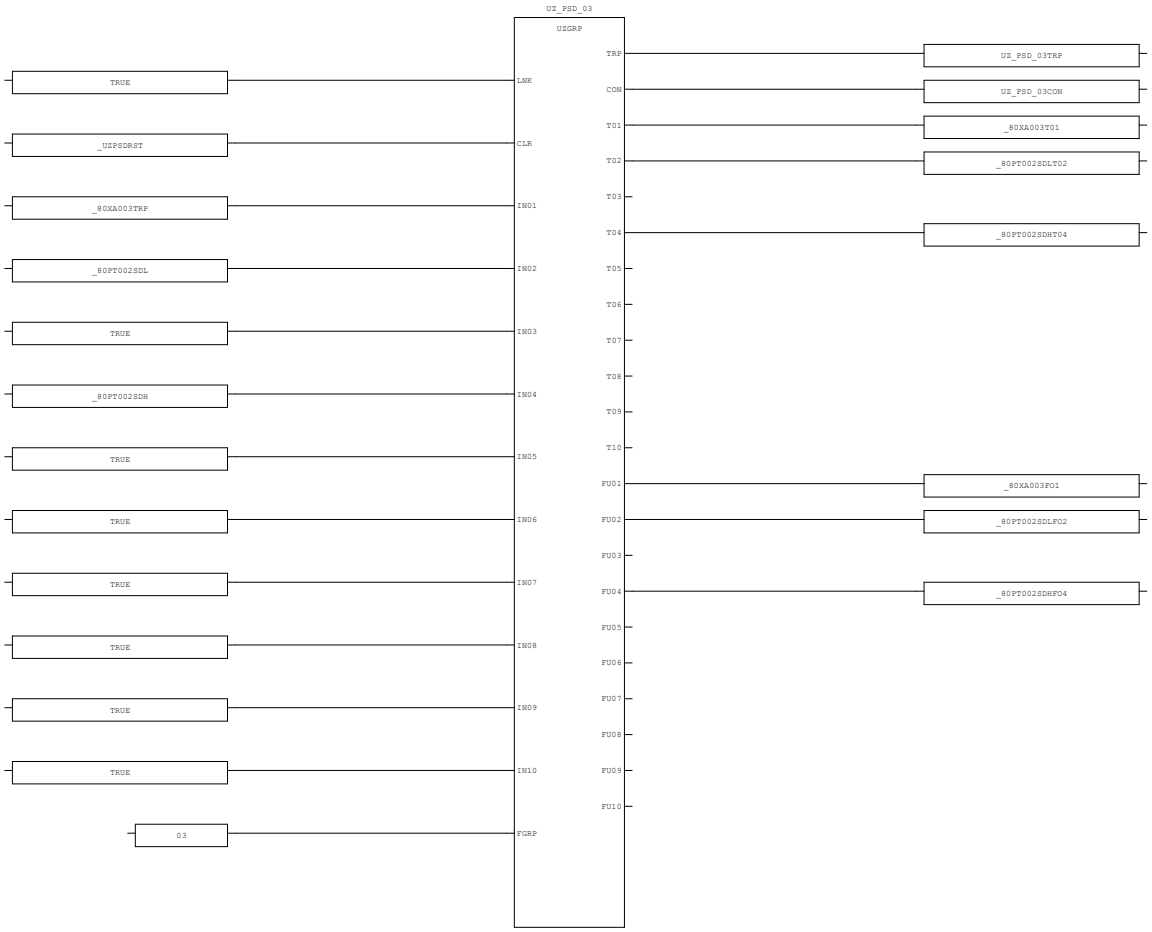
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

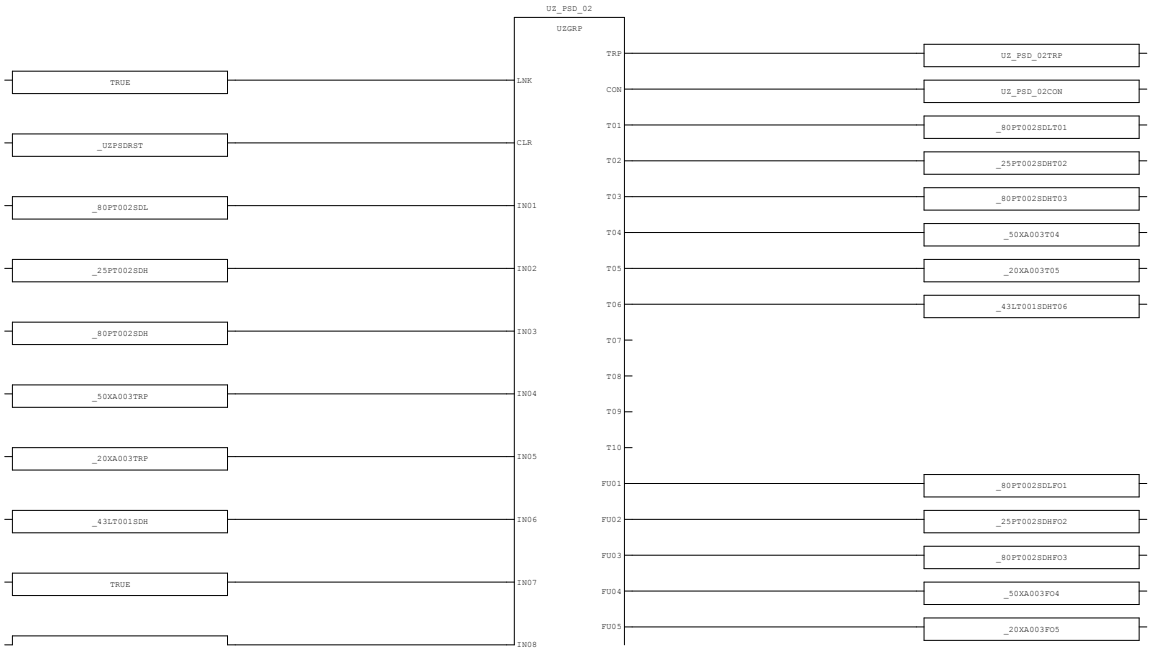




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:28
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.12. CE_LOGIC_2 (* C&E Interlock Logic *)





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:29
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
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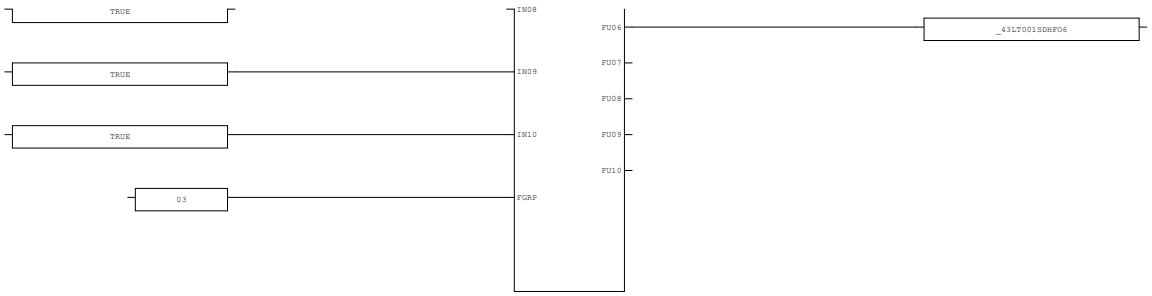
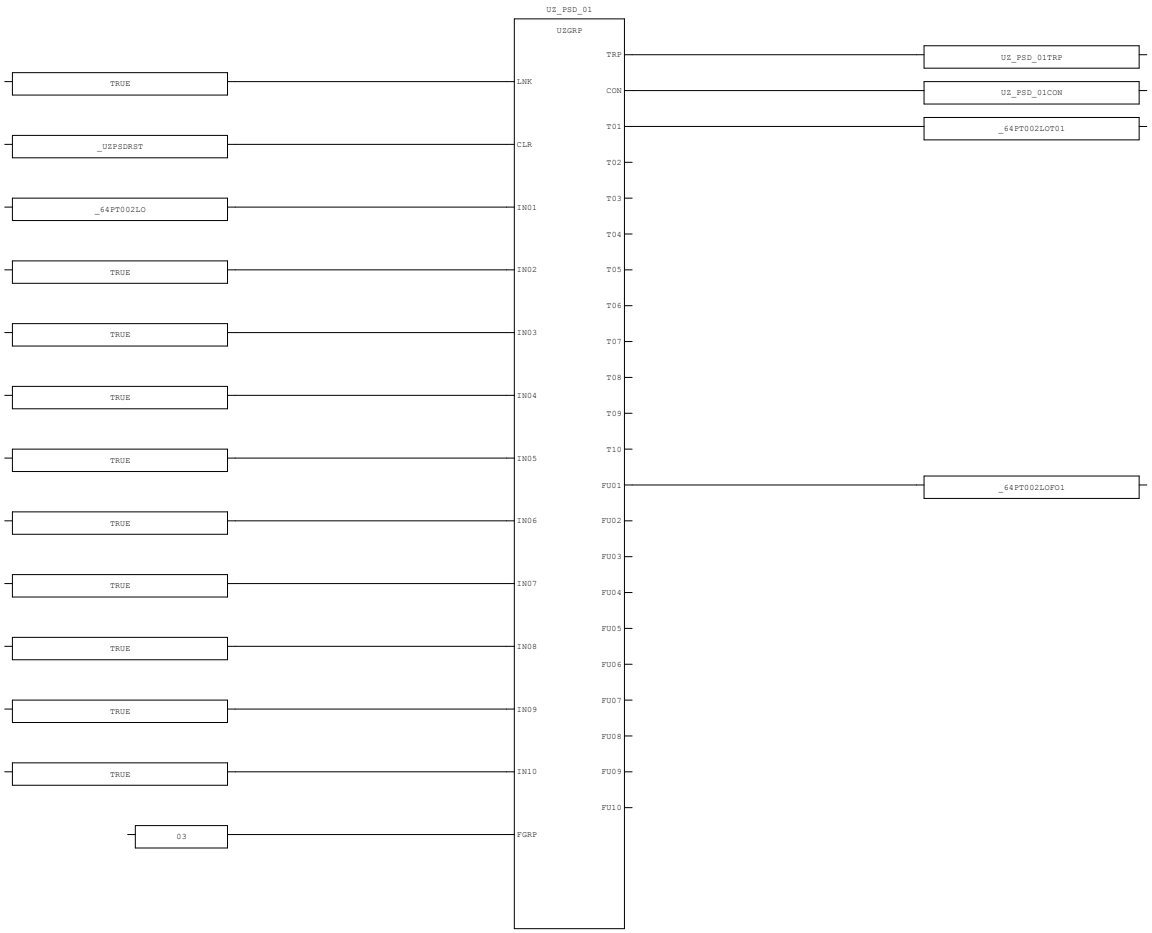
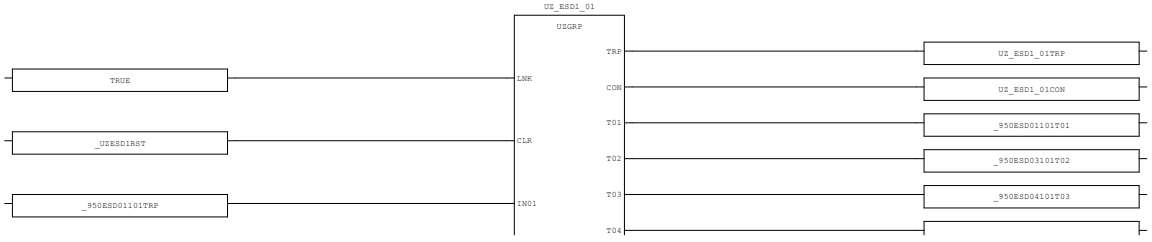
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:30
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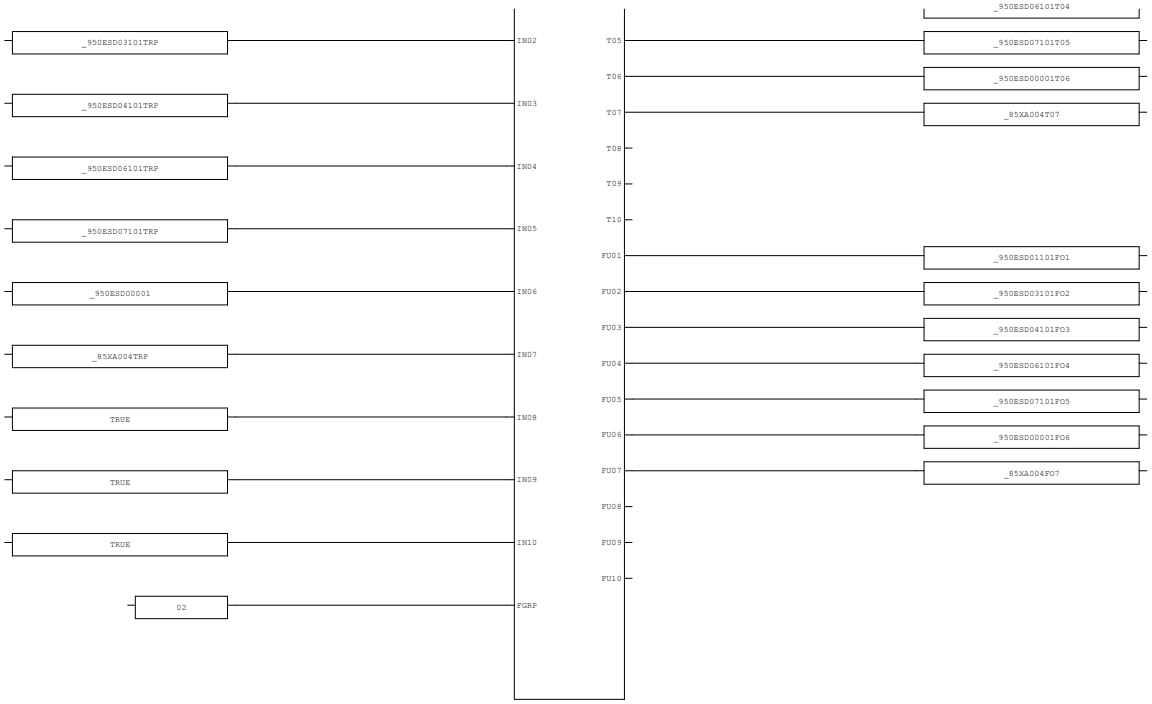
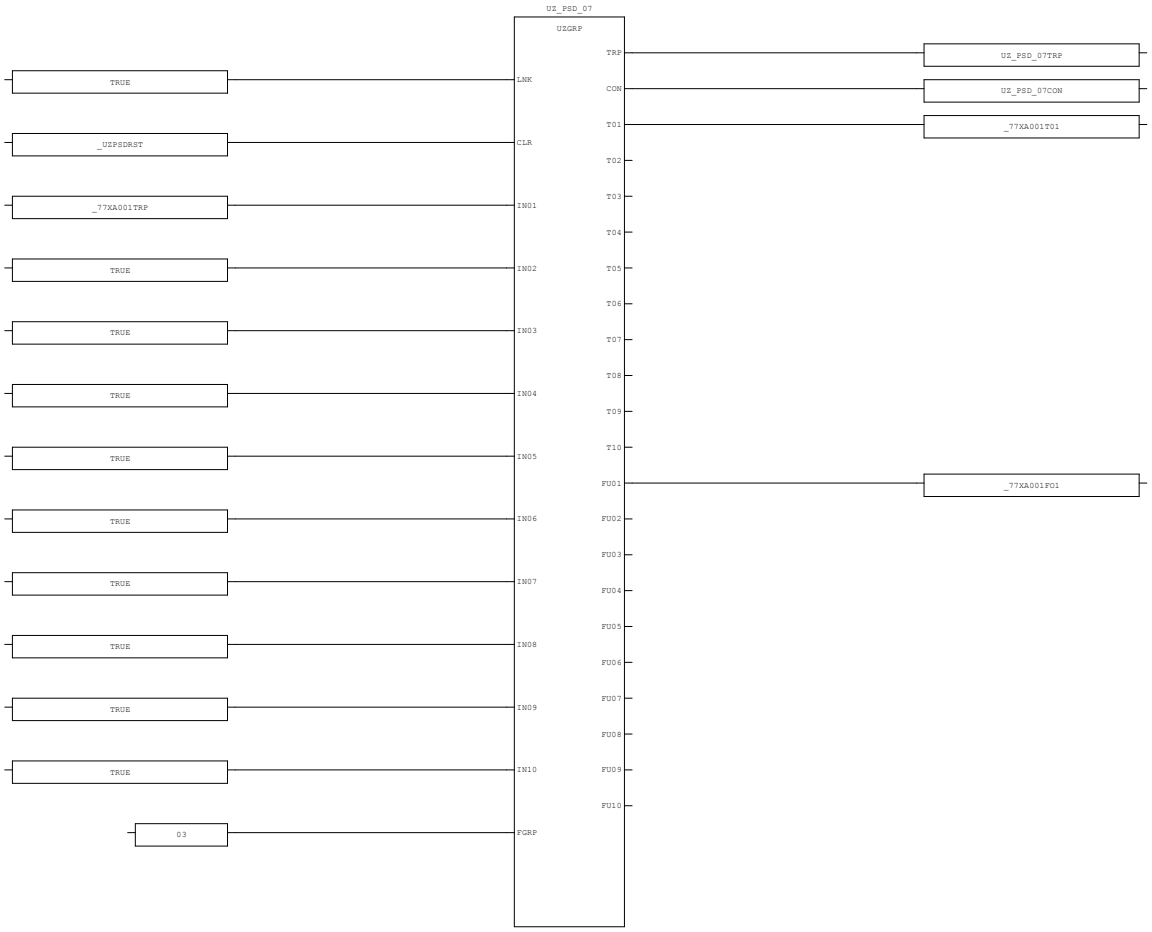
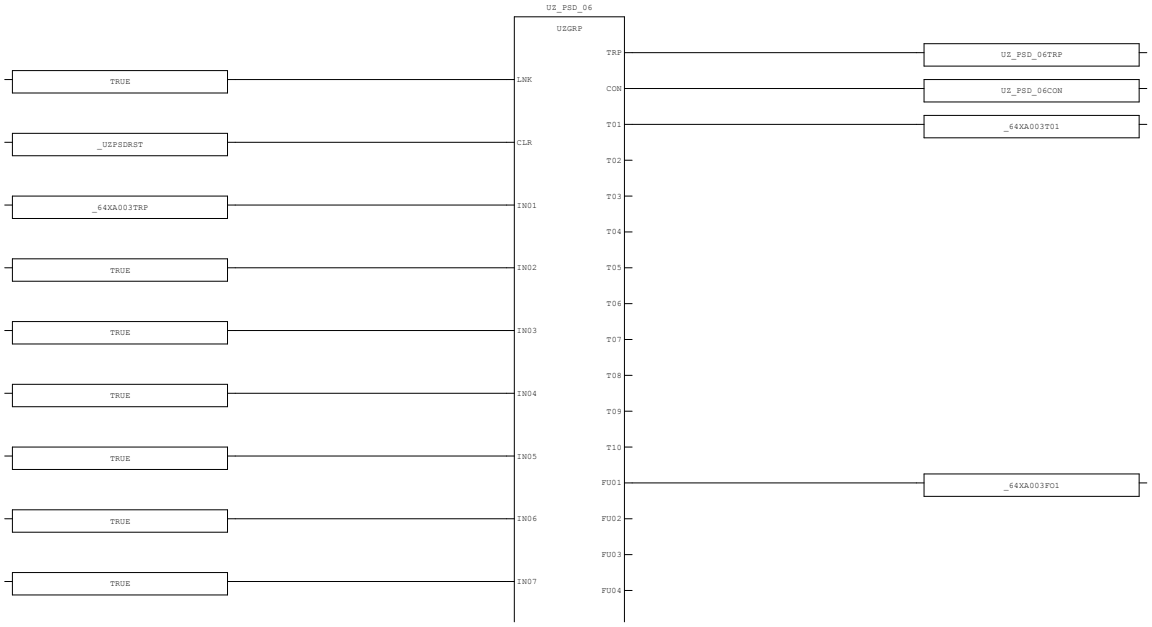
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:31
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.13. CE_LOGIC_3 (* C&E Interlock Logic *)





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:32
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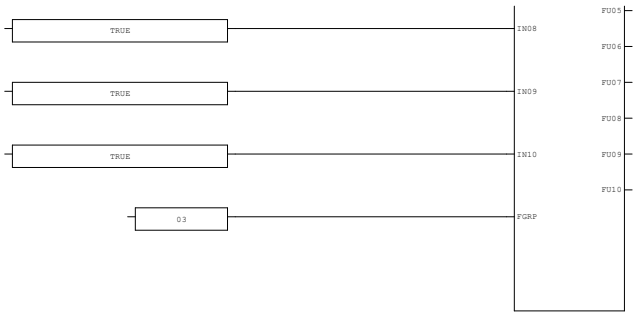
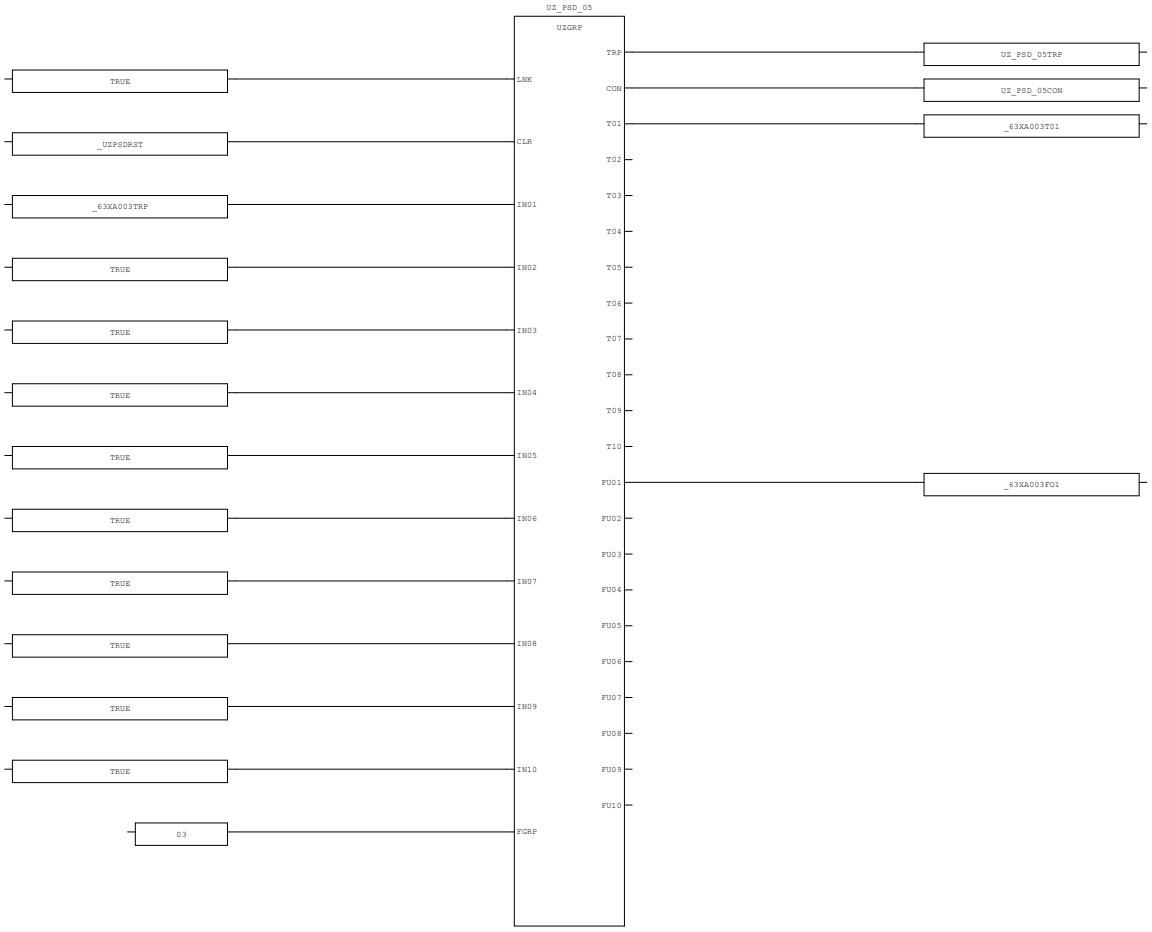
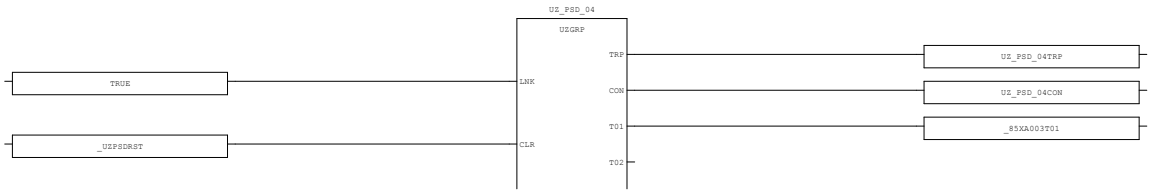
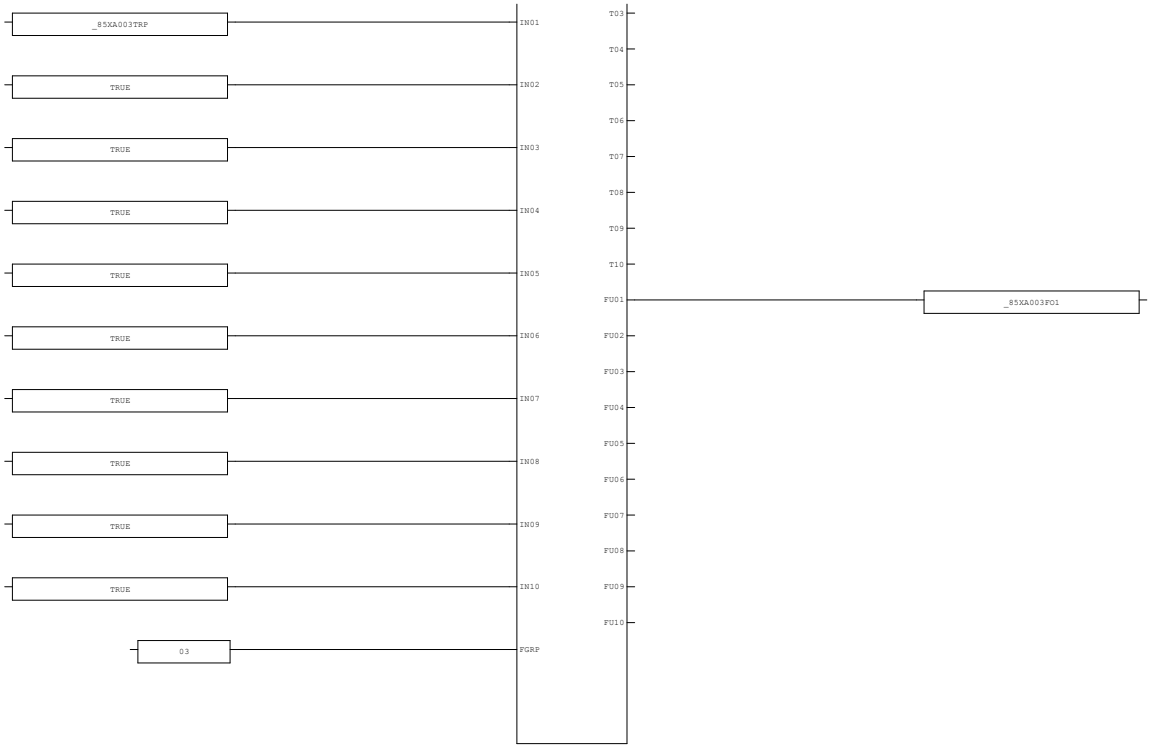
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





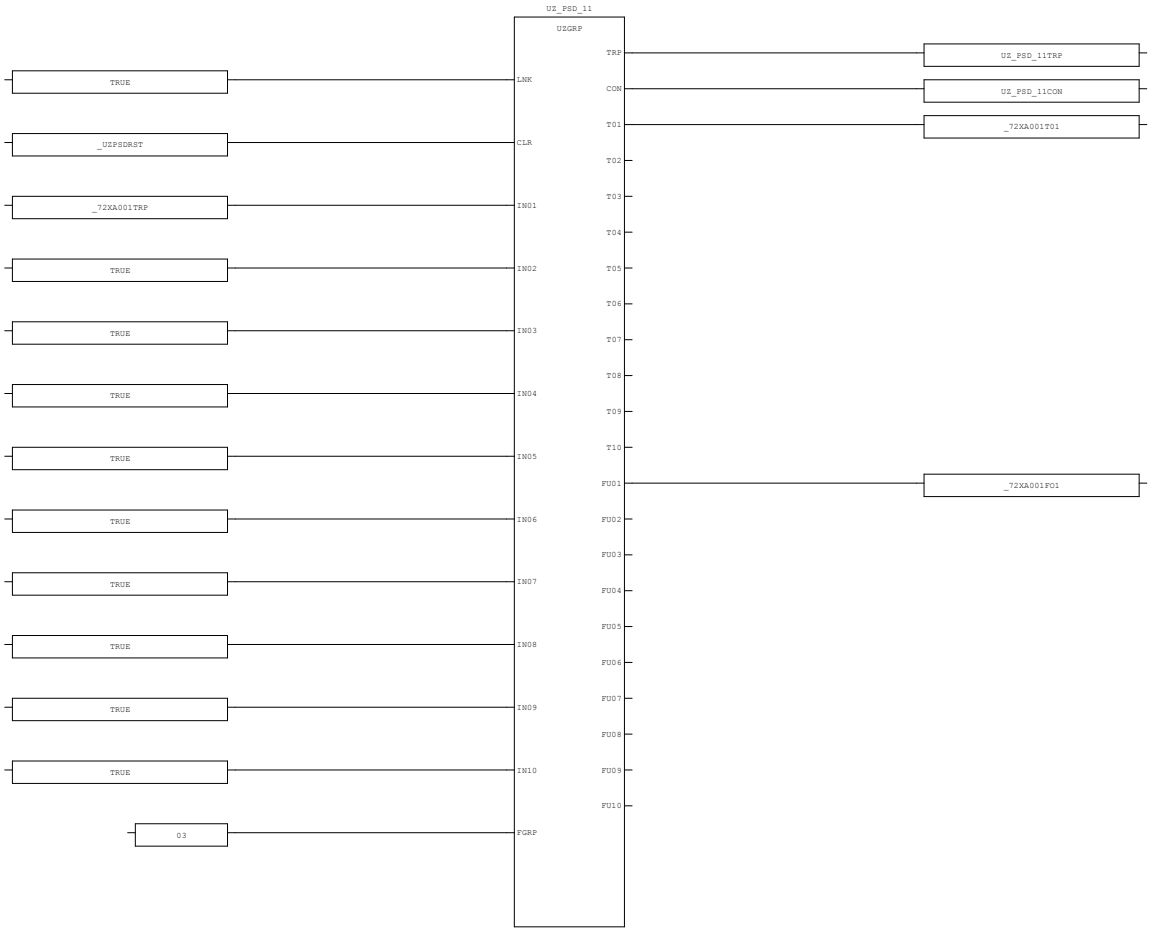


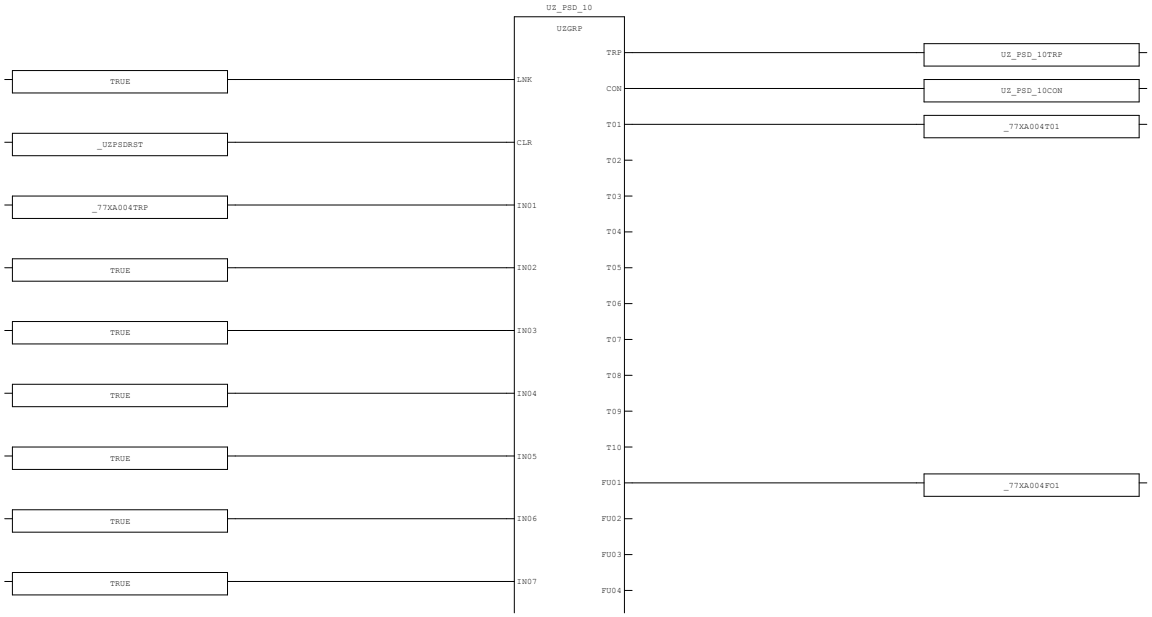
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:33
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:34
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.14. CE_LOGIC_4 (* C&E Interlock Logic *)





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:35
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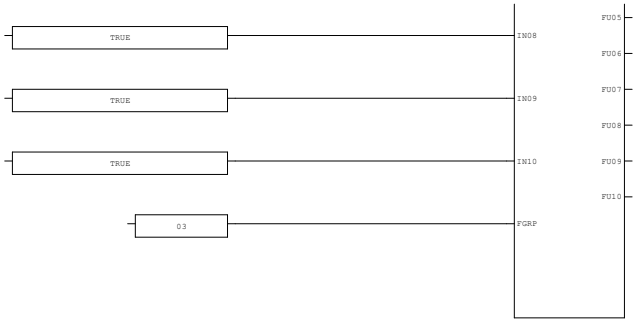
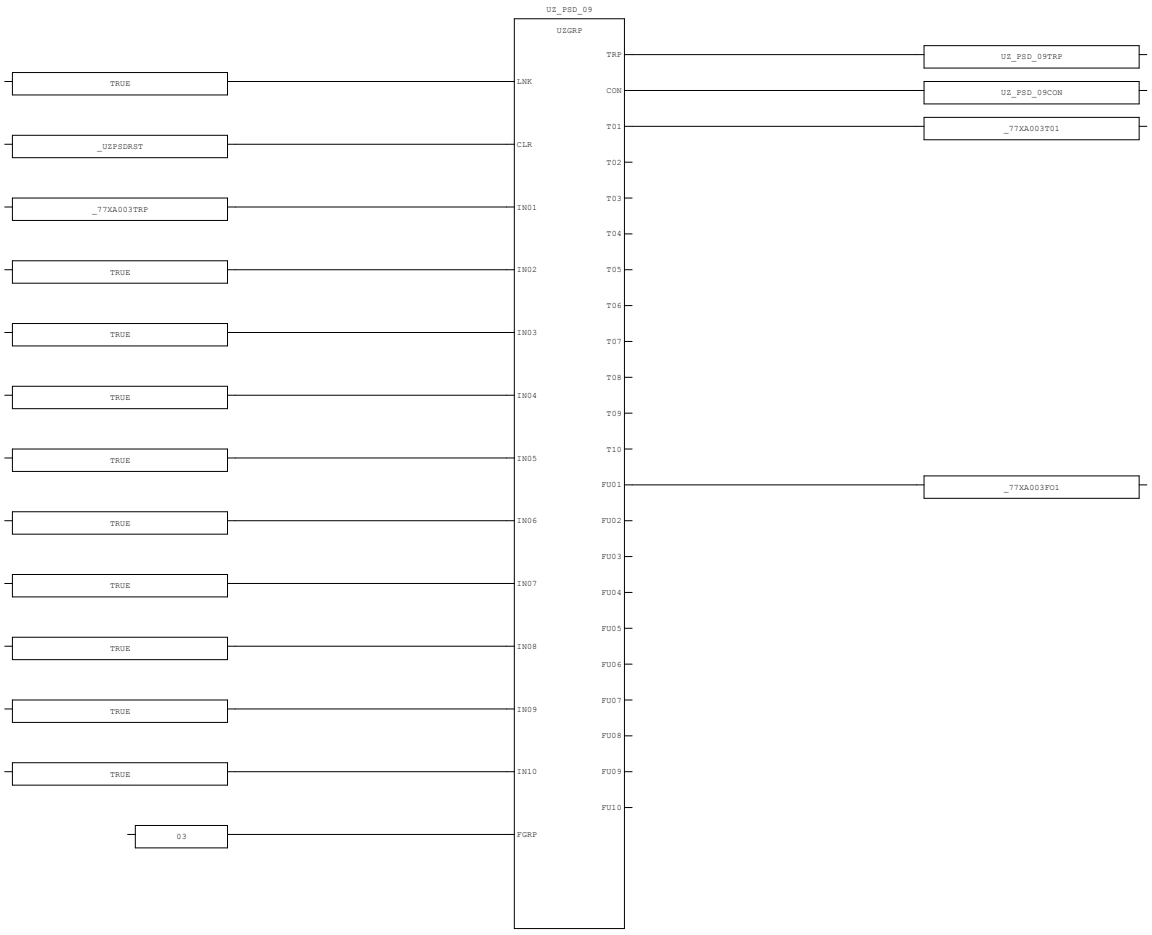
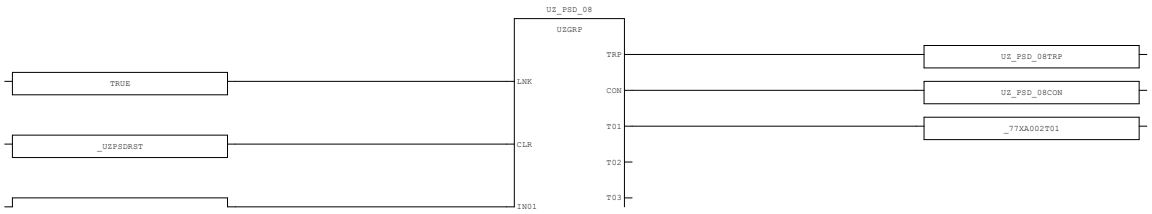
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:36
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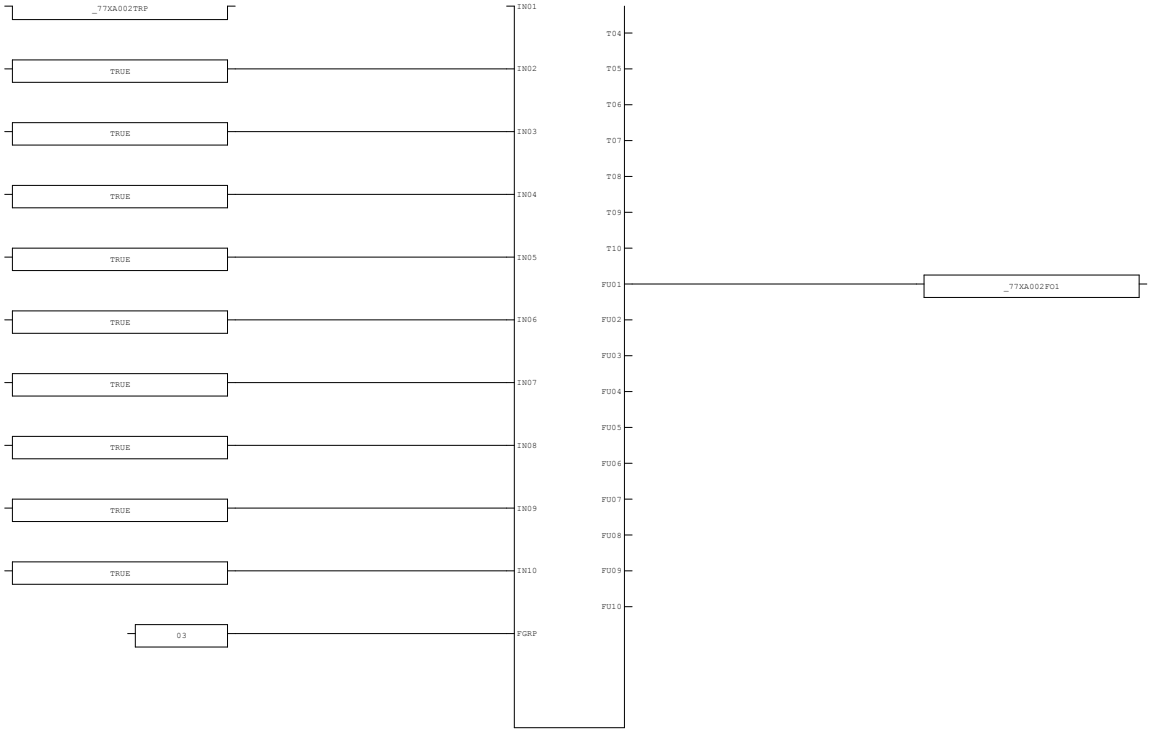
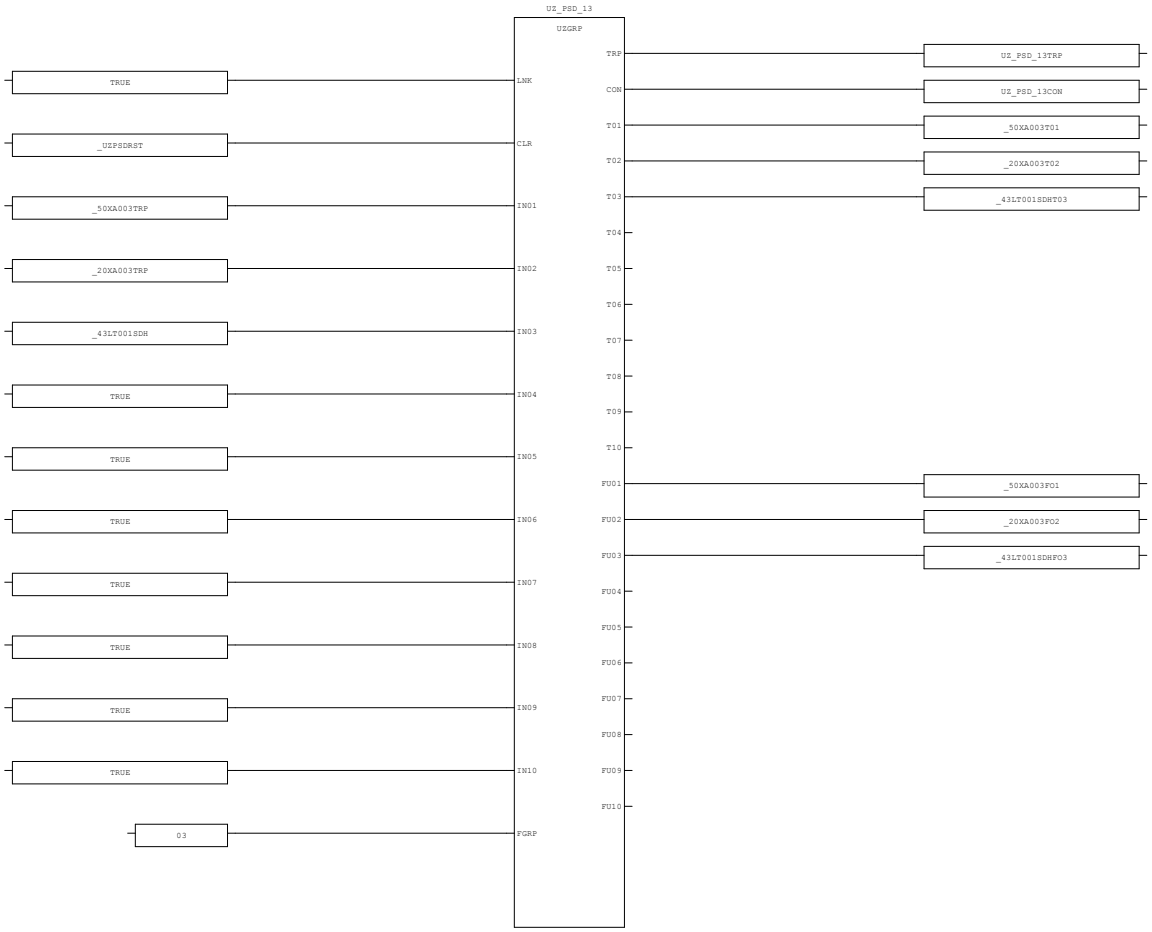
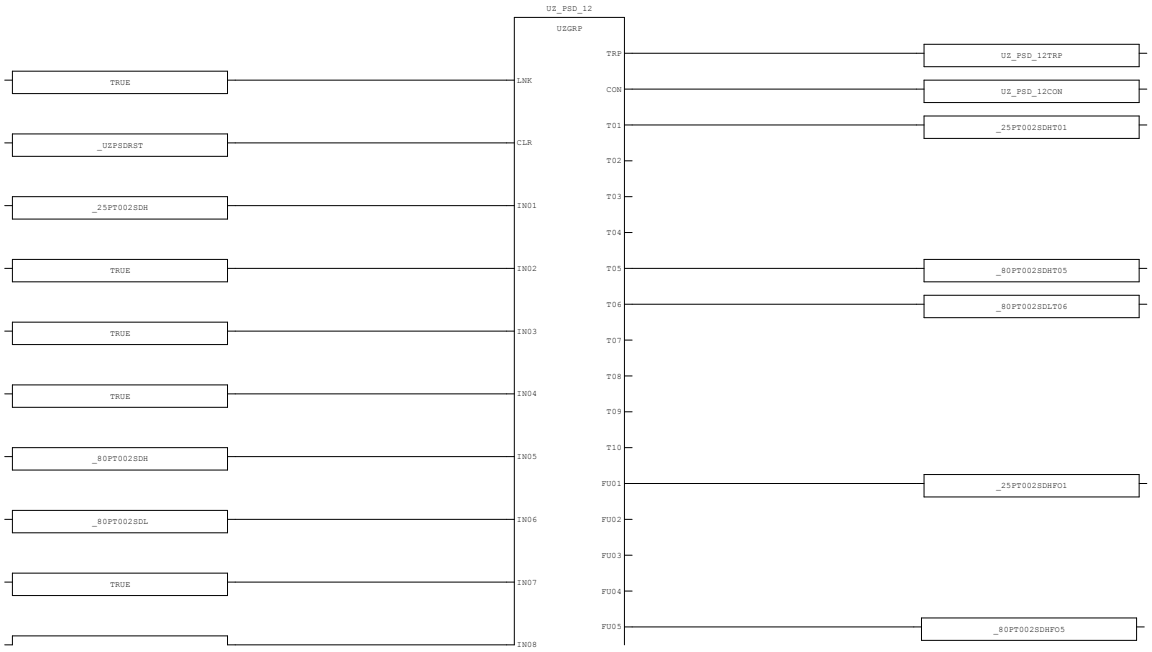
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



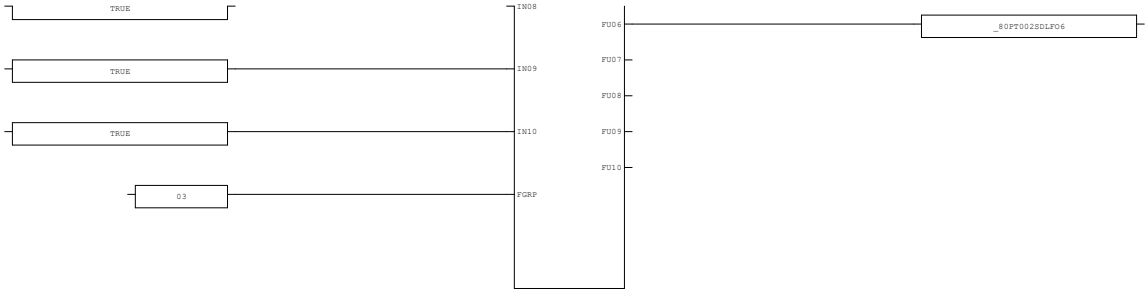
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:37
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.15. CE_LOGIC_5 (* C&E Interlock Logic *)



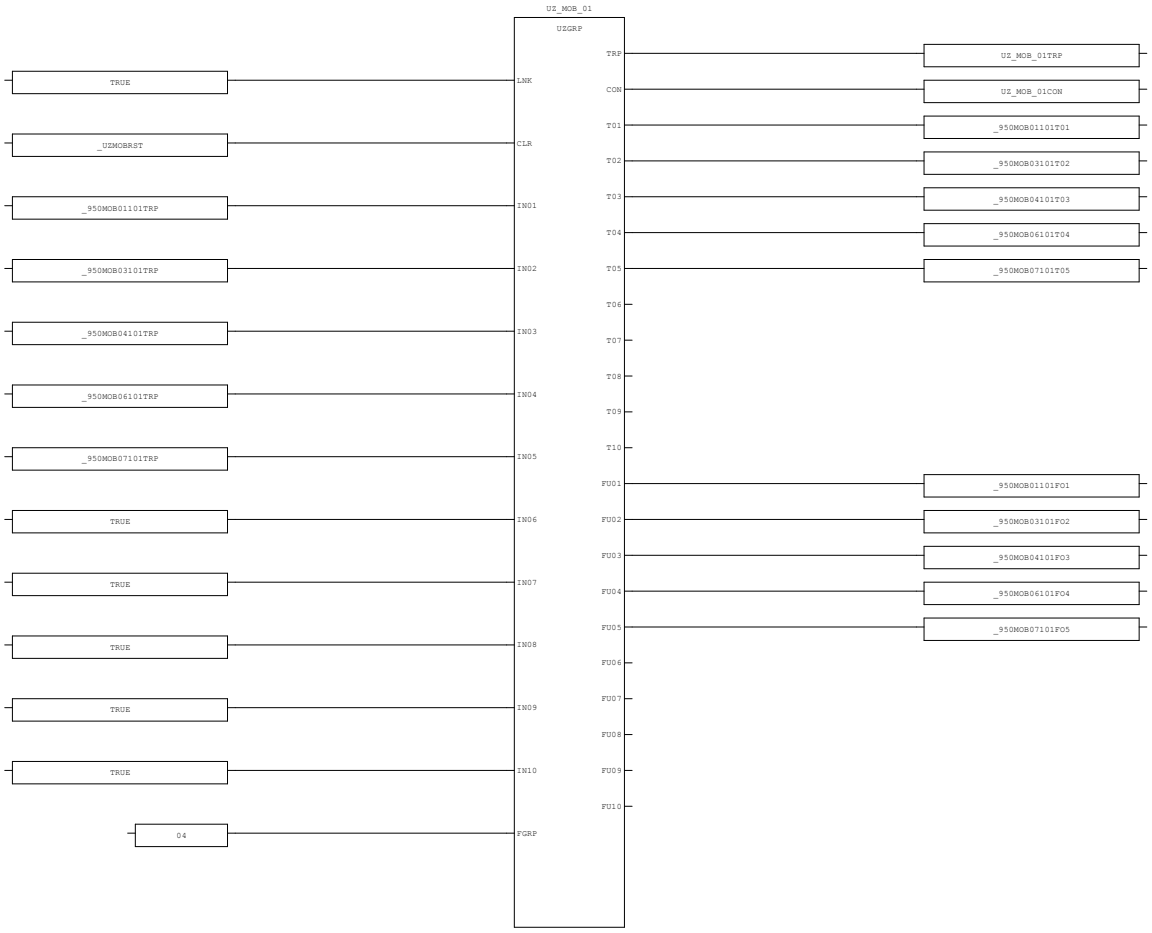


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:38
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

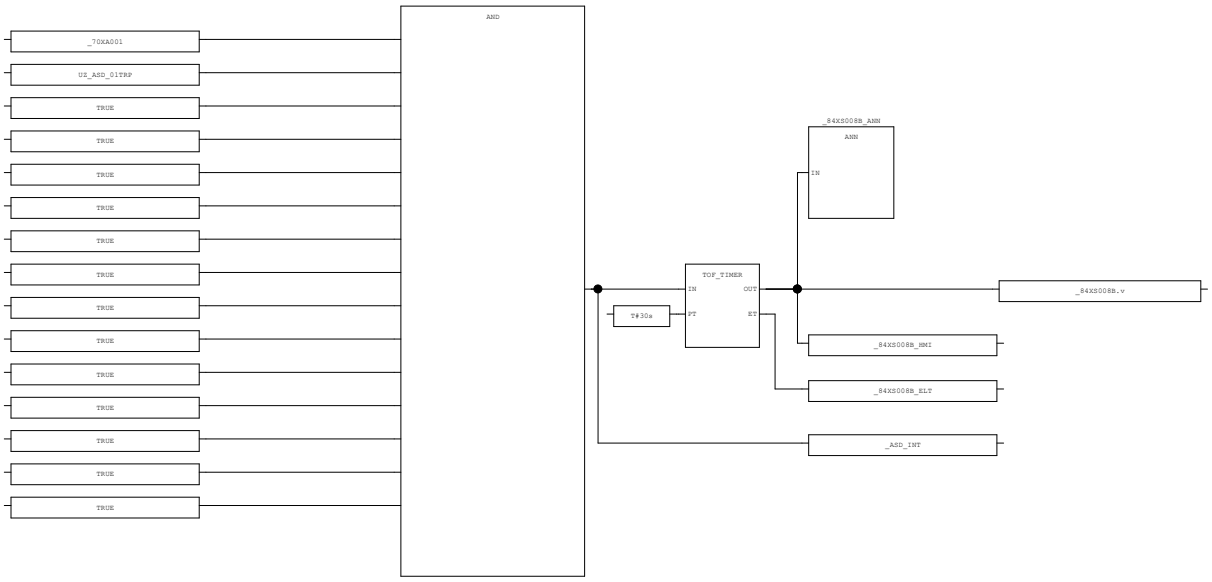


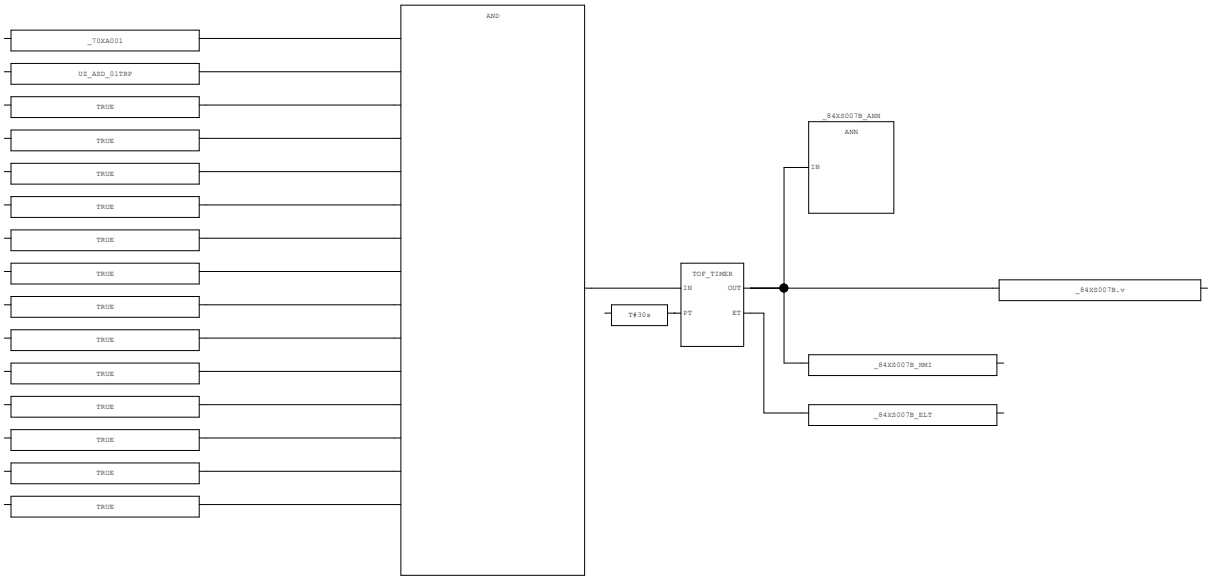
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:39
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

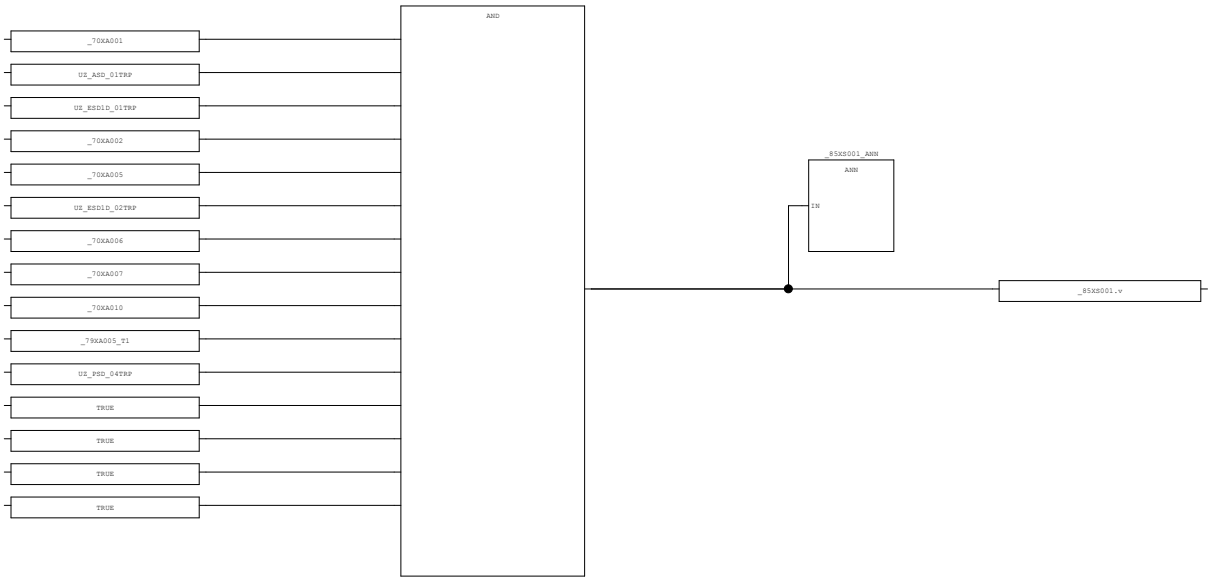
3.16. CE_LOGIC_6 (* C&E Interlock Logic *)

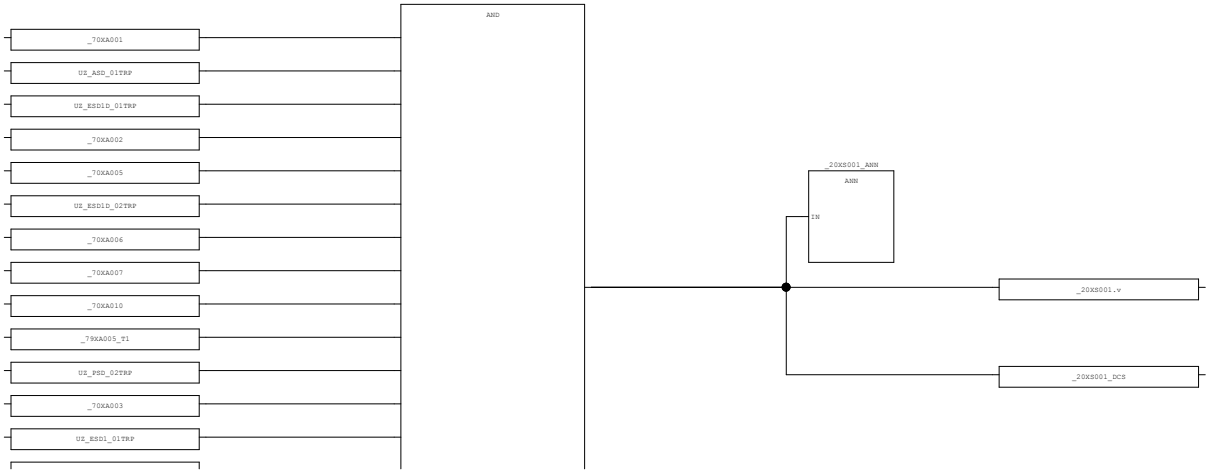


3.17. DO_01 (* Digital Output Processing *)









AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:42
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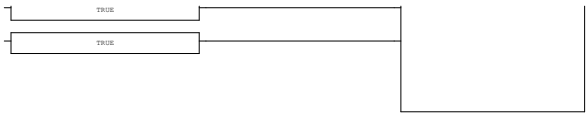
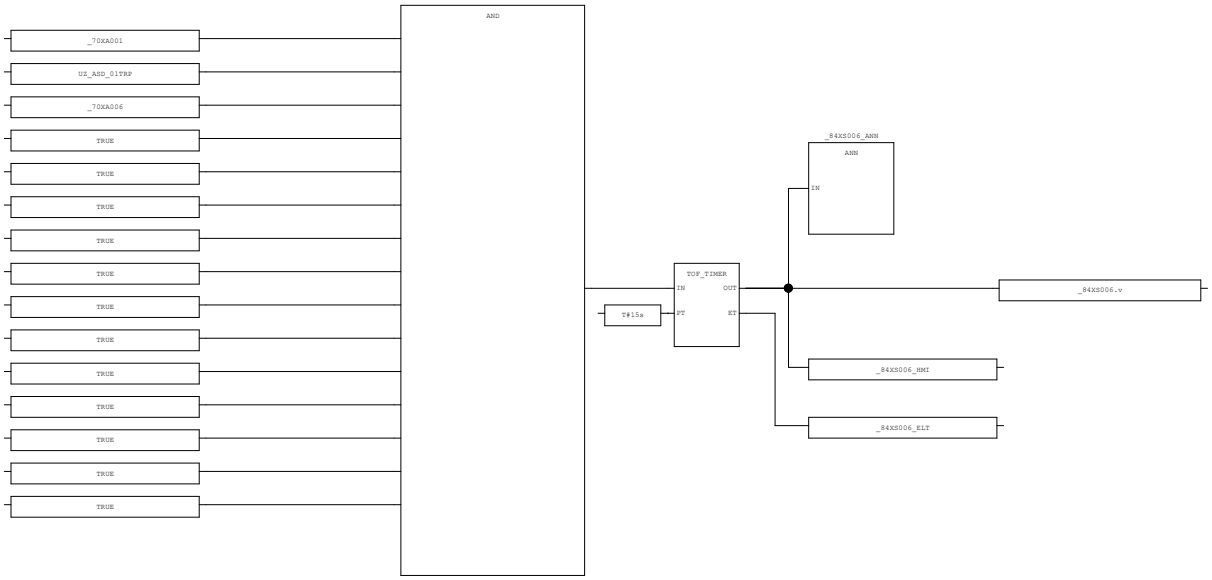
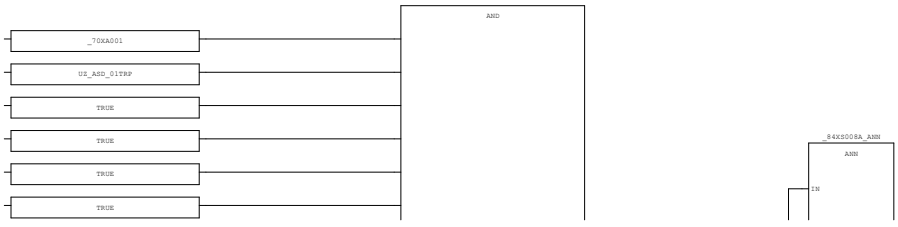
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:43
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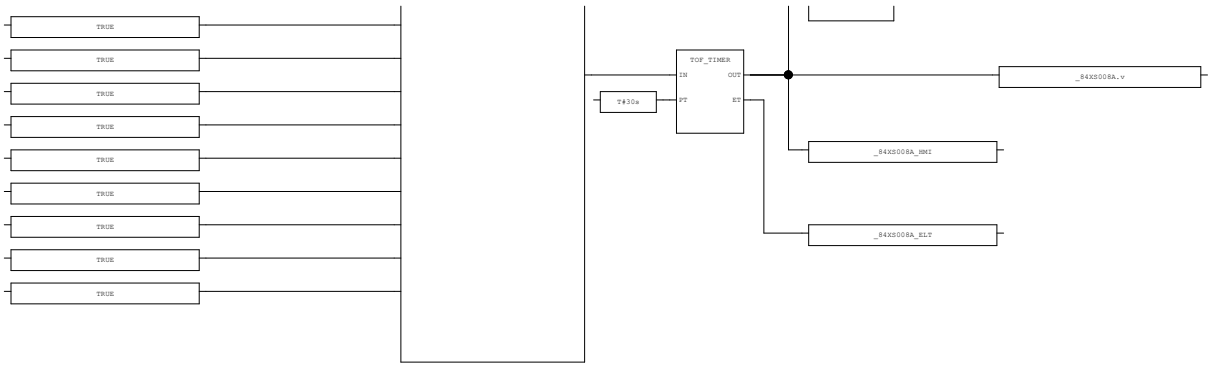
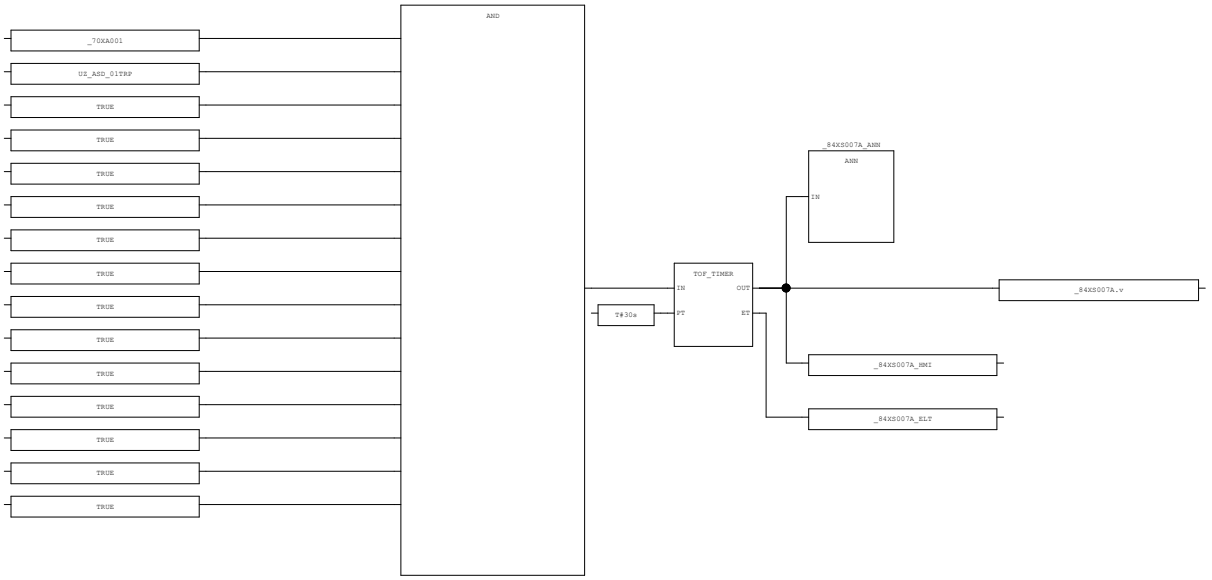
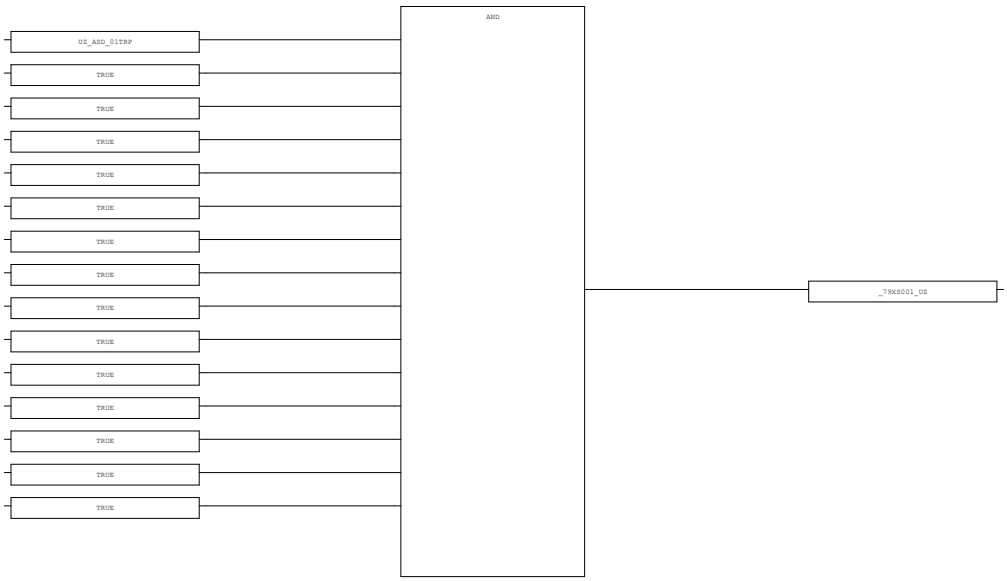
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		



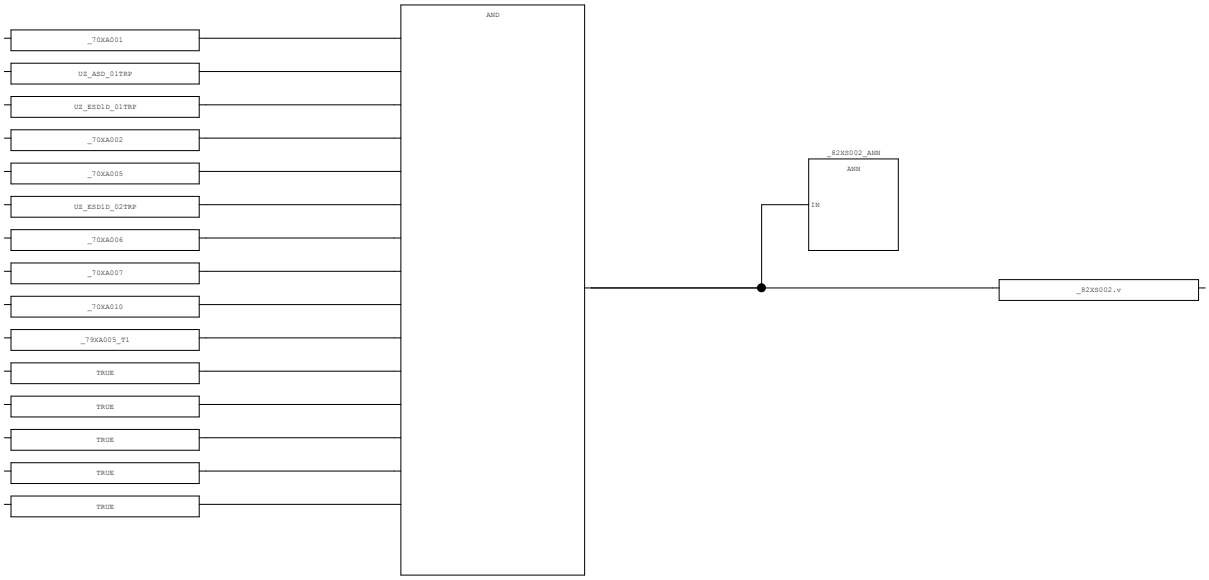


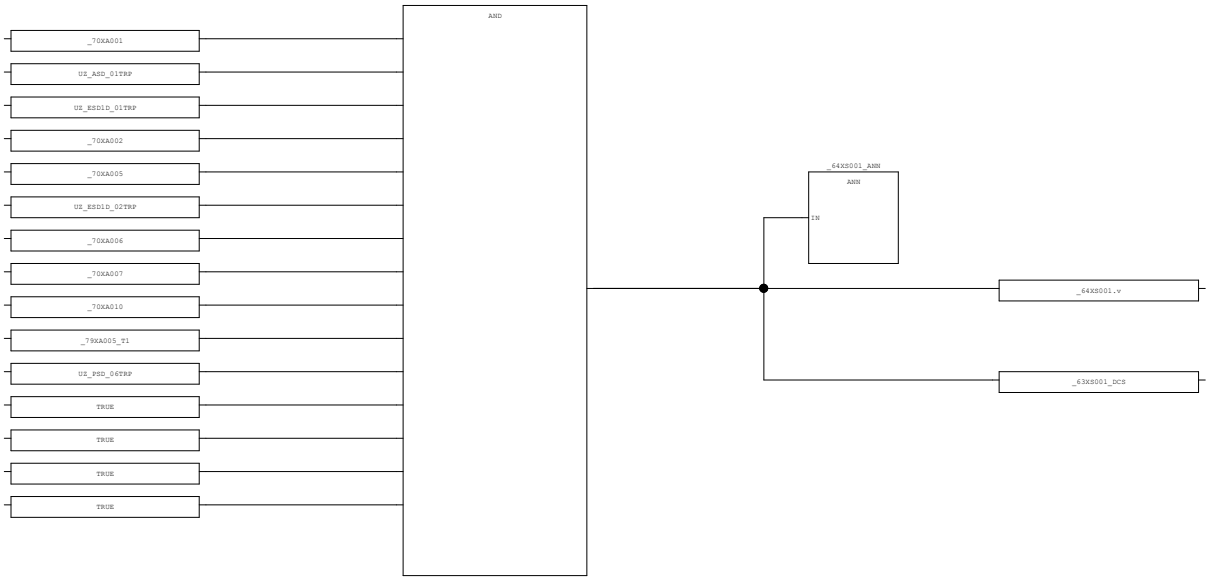
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:44
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



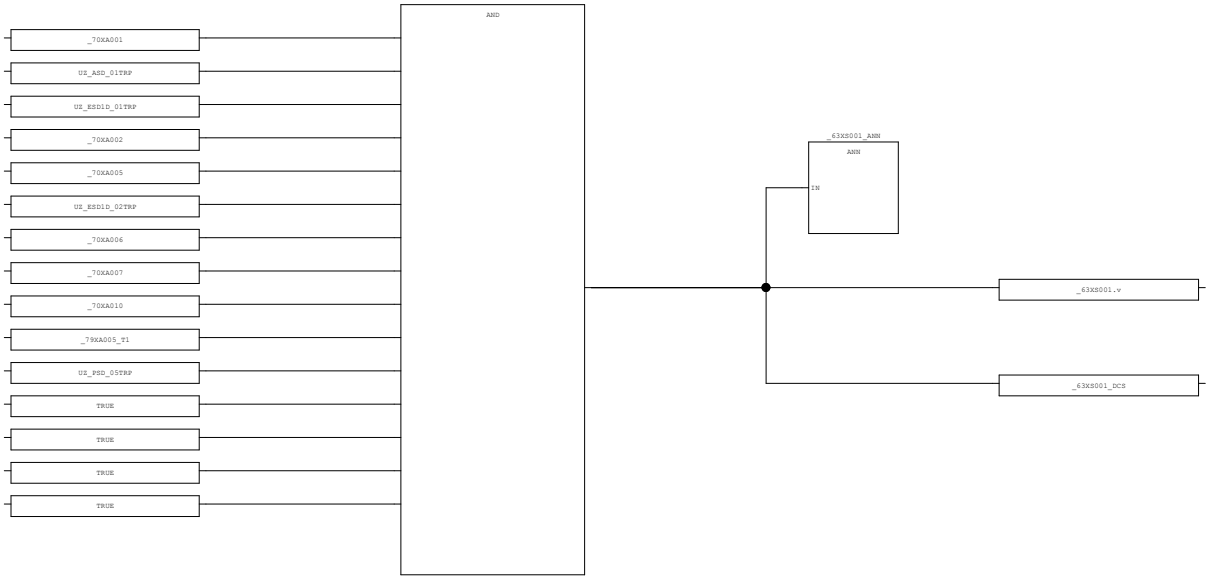
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:45
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

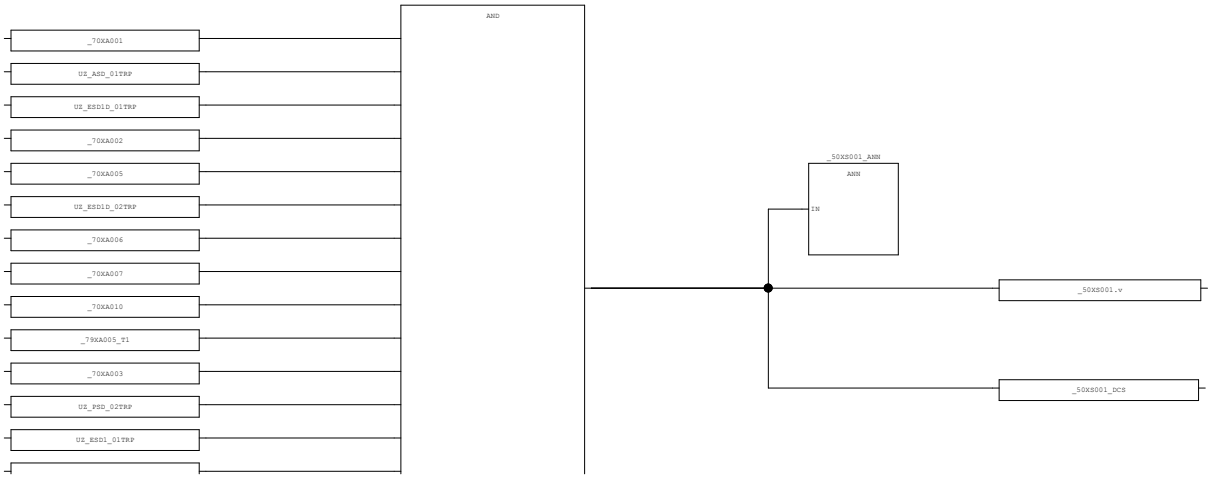
3.18. DO_02 (* Digital Output Processing *)





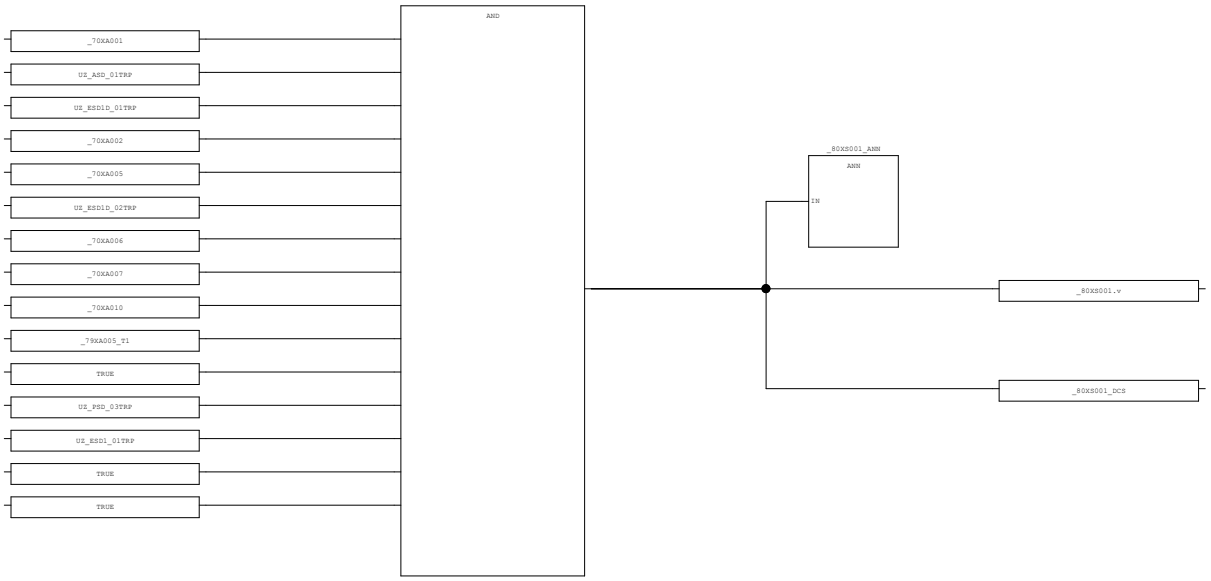
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:46
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

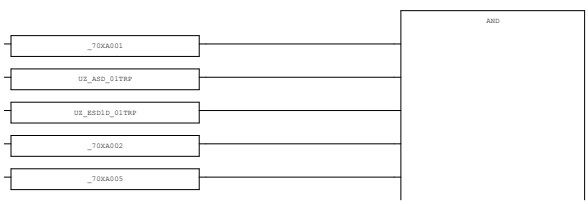




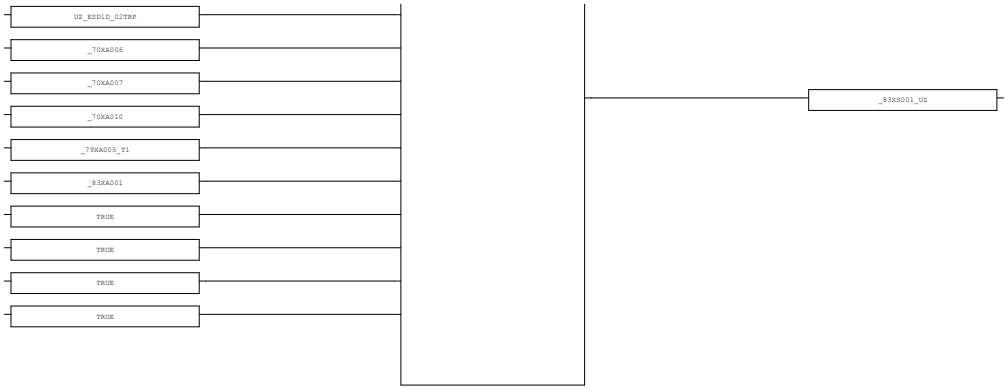
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:47
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





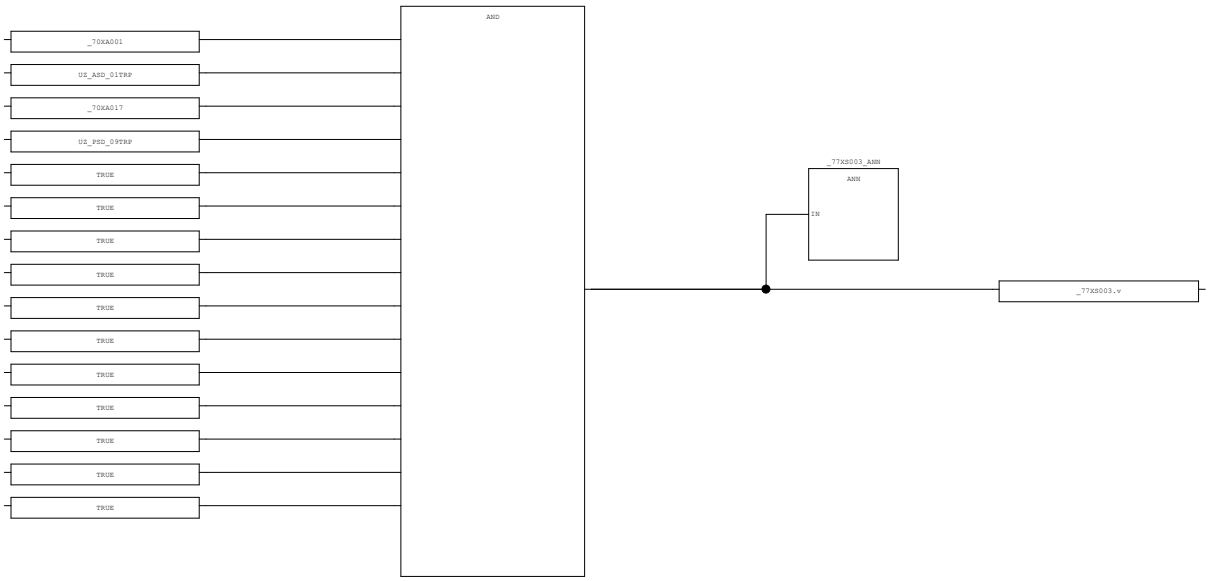


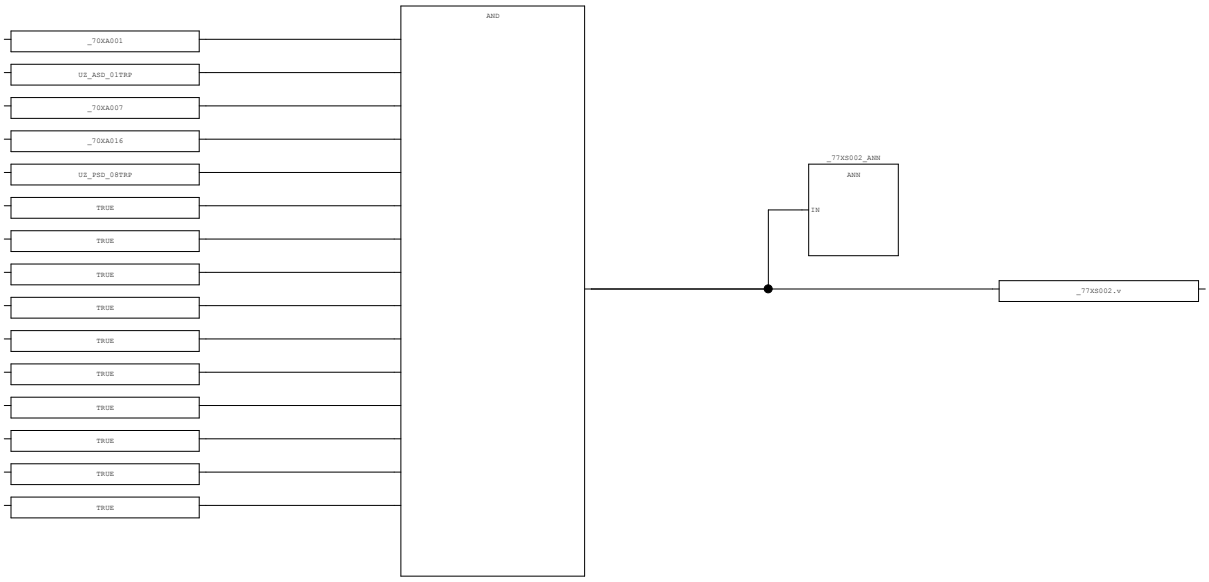
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:48
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		



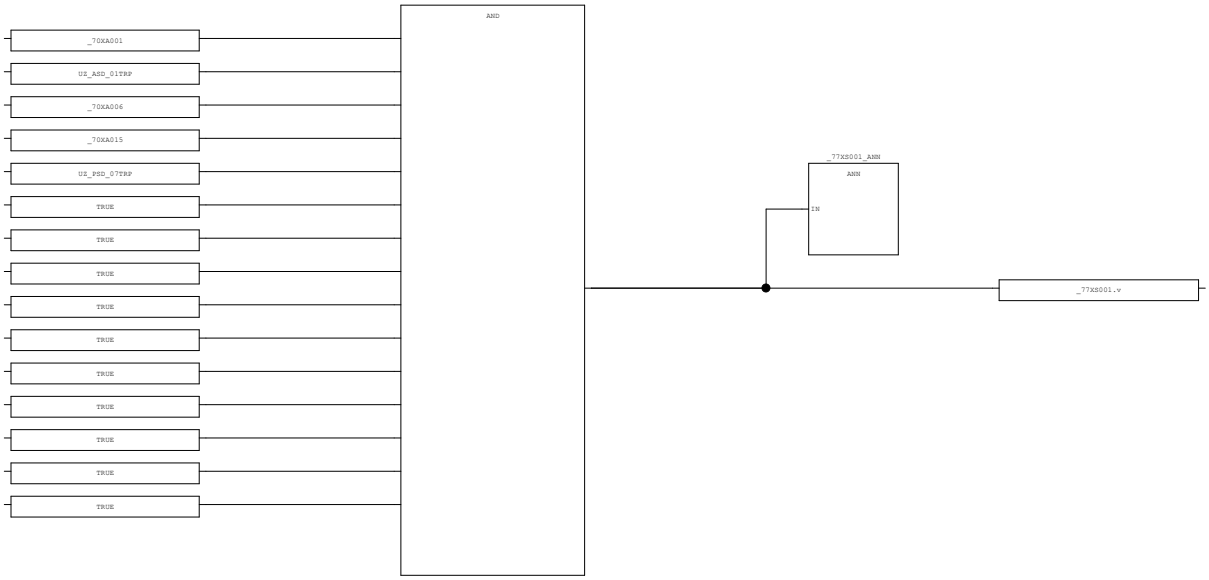
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:49
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

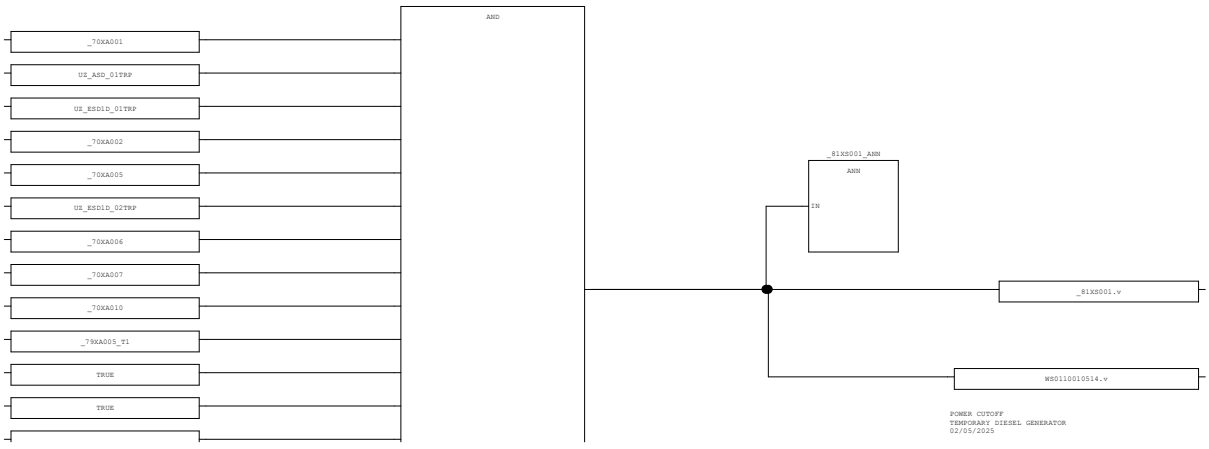
3.19. DO_03 (* Digital Output Processing *)



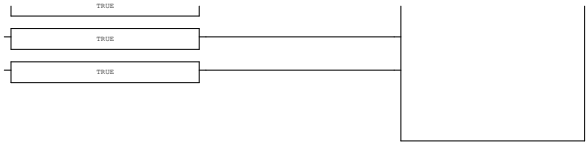


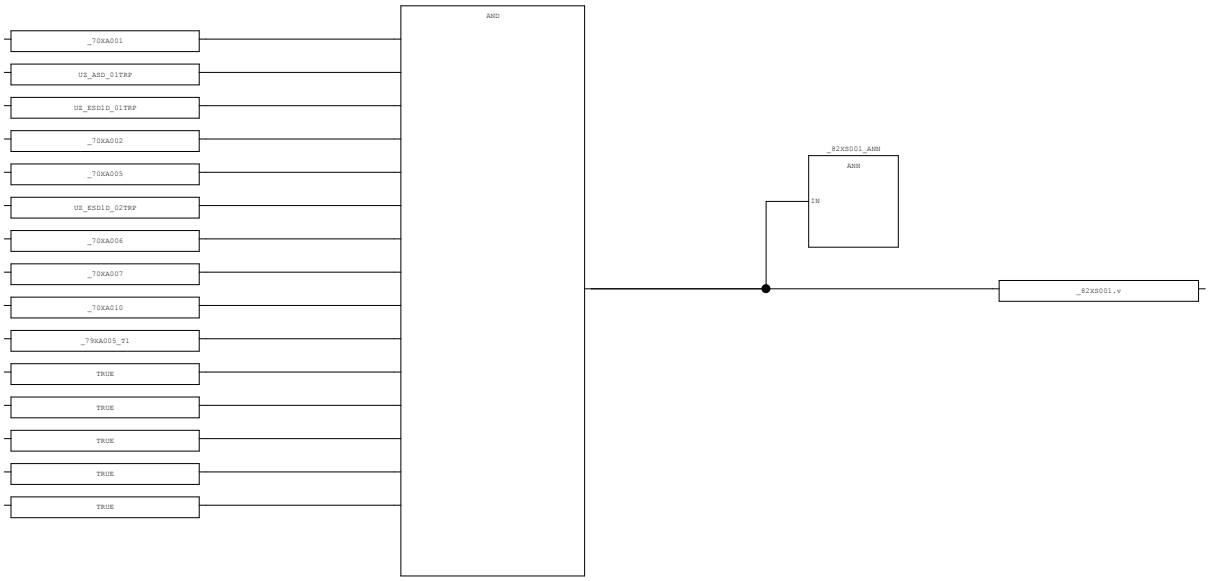
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:50
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

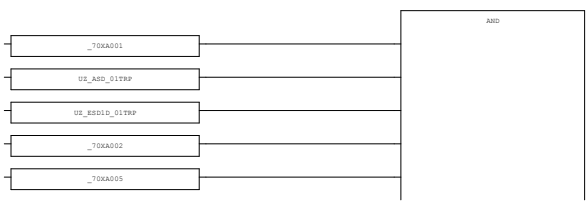




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:51
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

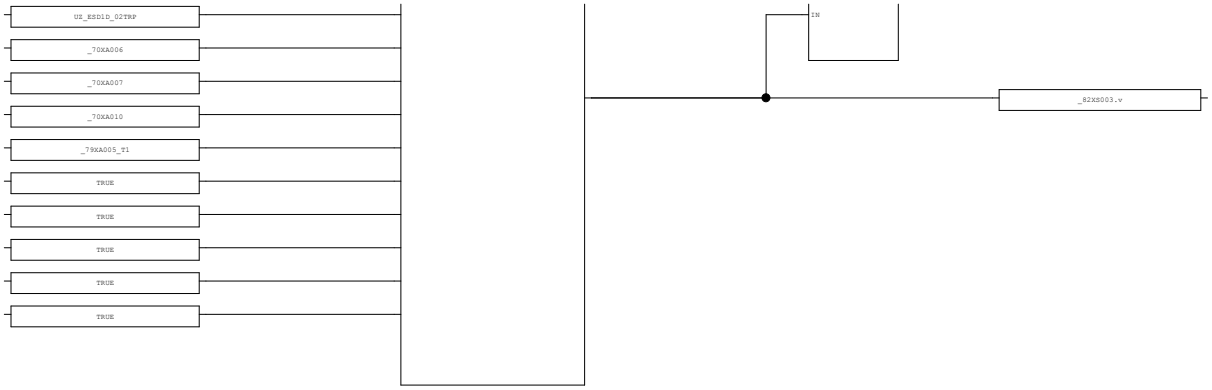






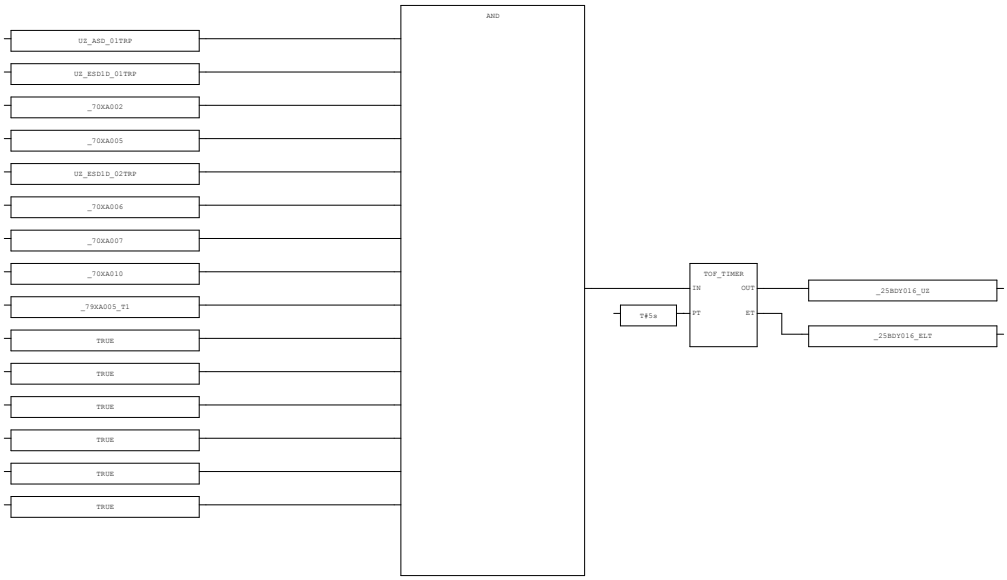


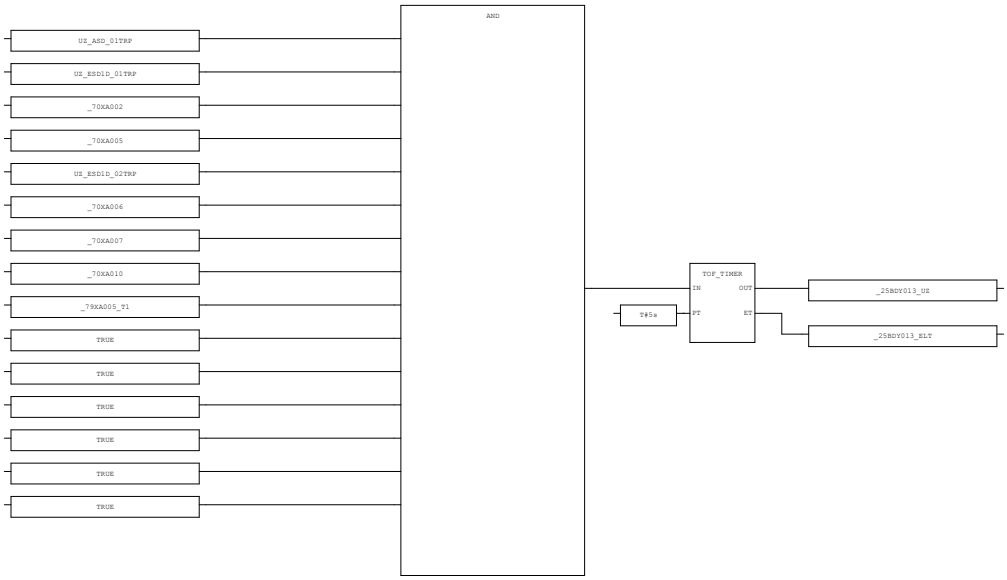
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:52
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

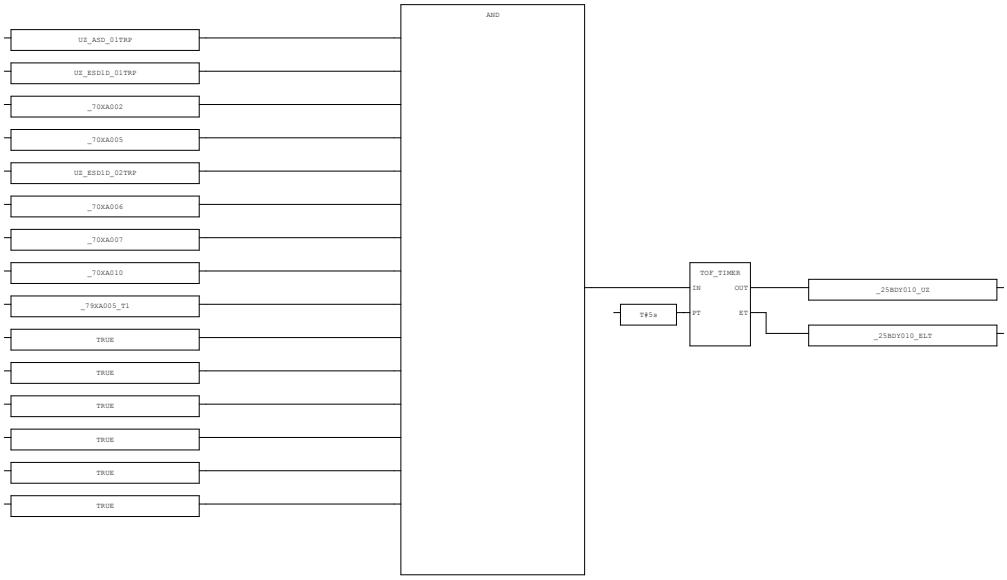


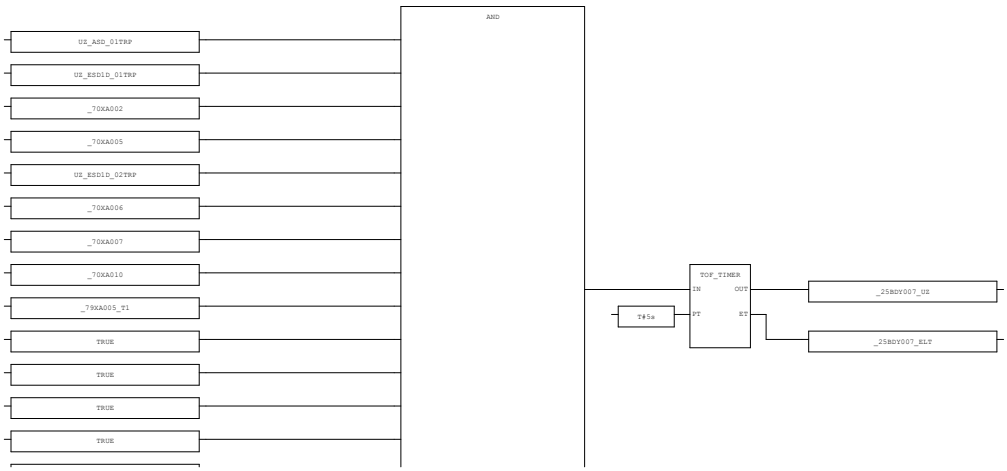
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:53
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.20. DO_04 (* Digital Output Processing *)

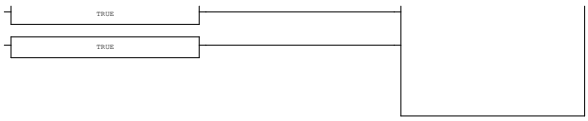


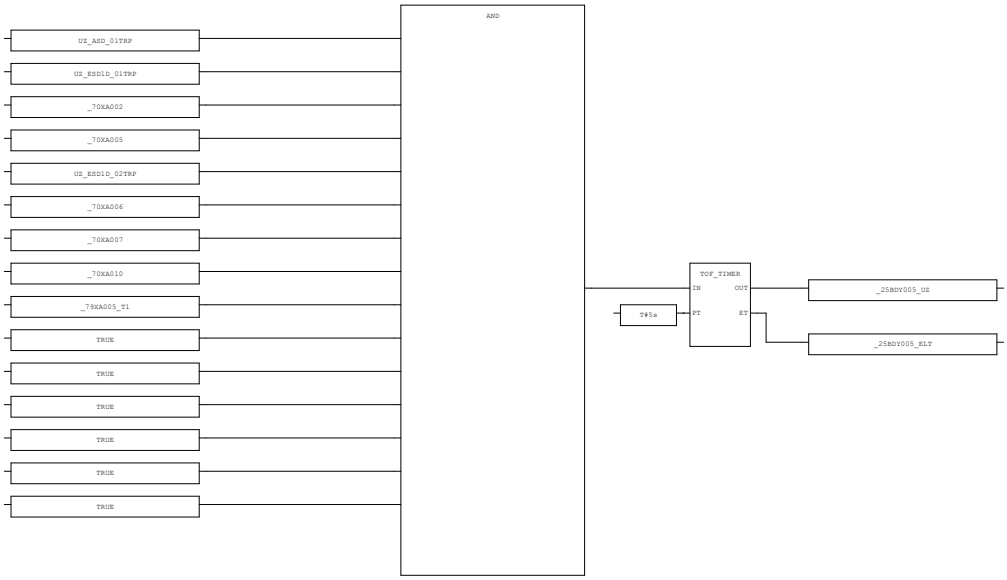


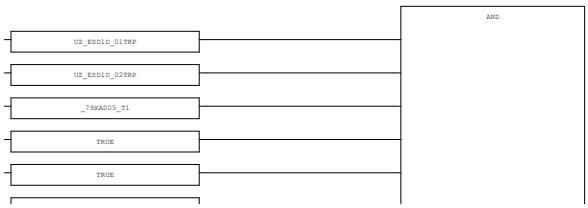




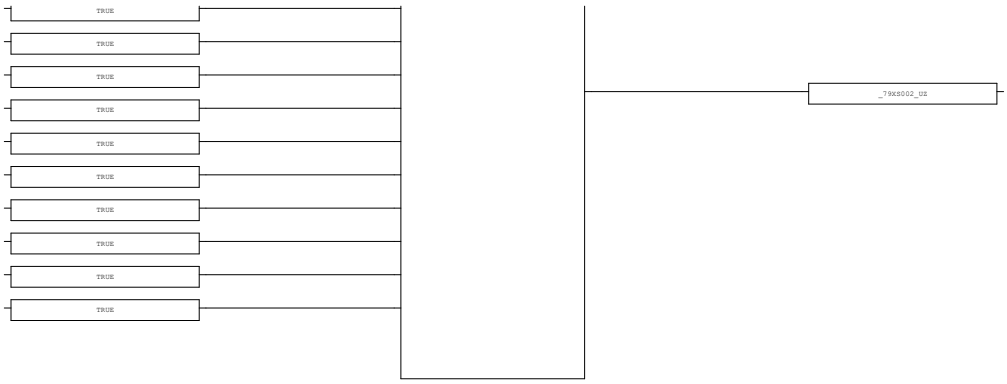
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:55
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

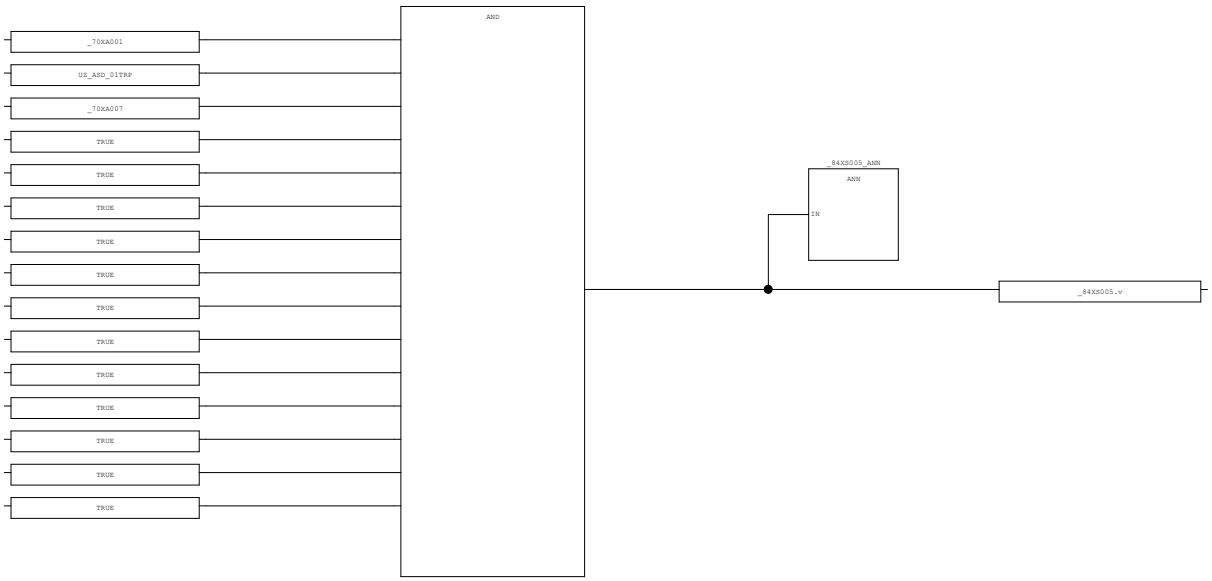




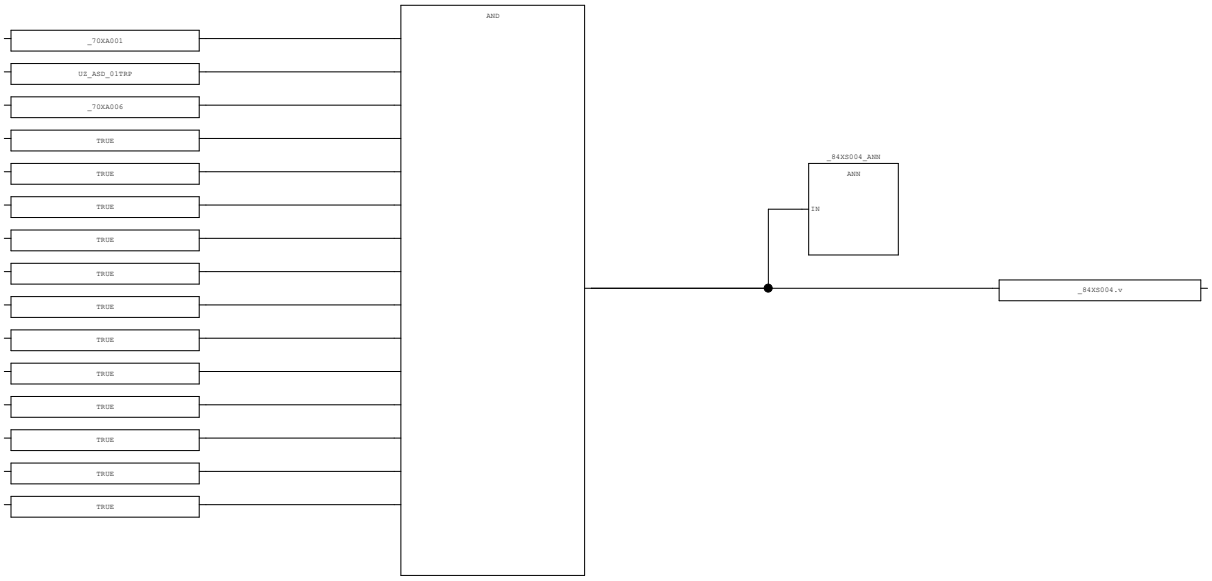


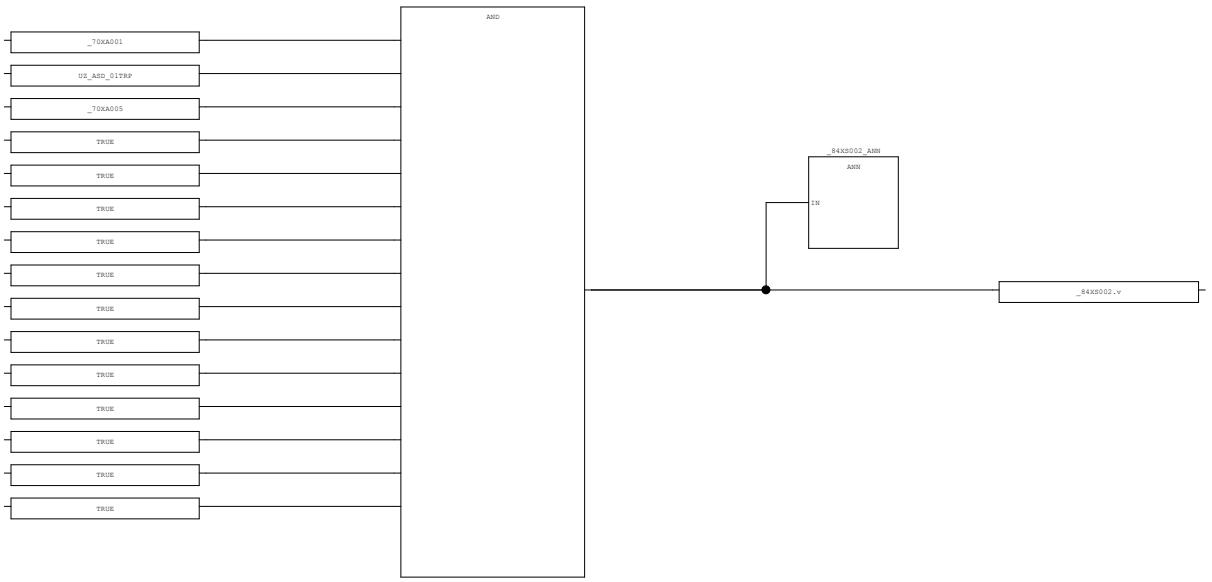
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:56
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		



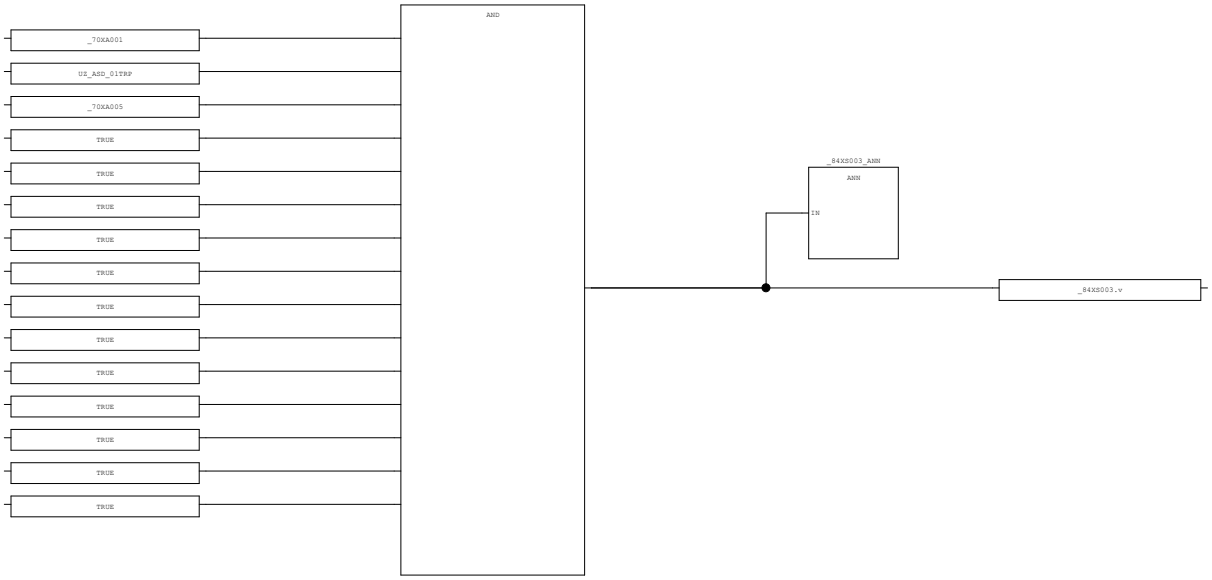


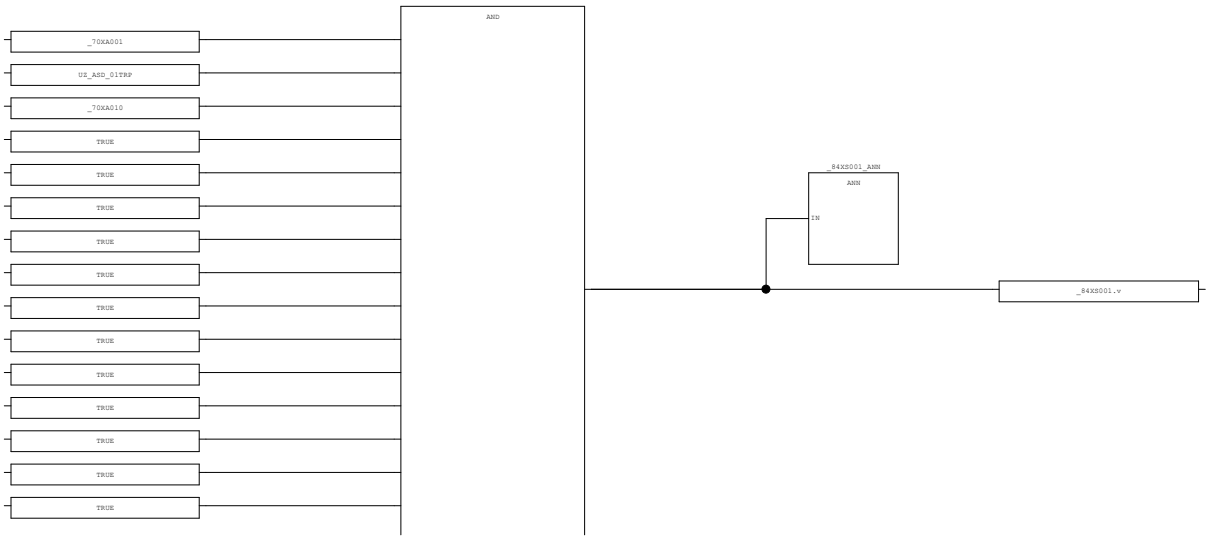
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:57
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		



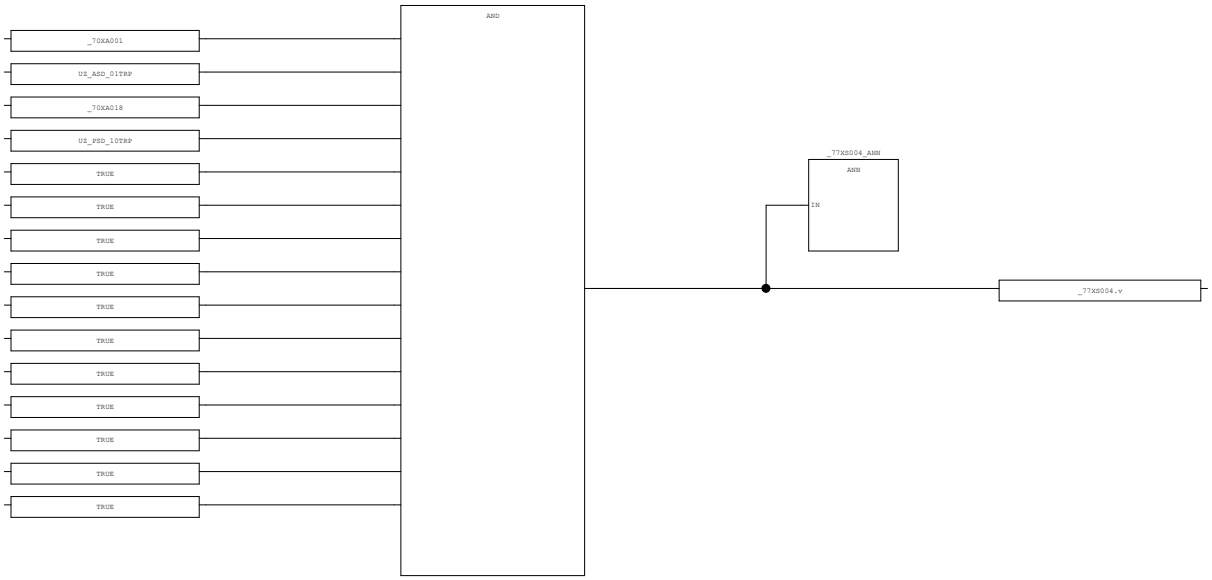


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:58
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		



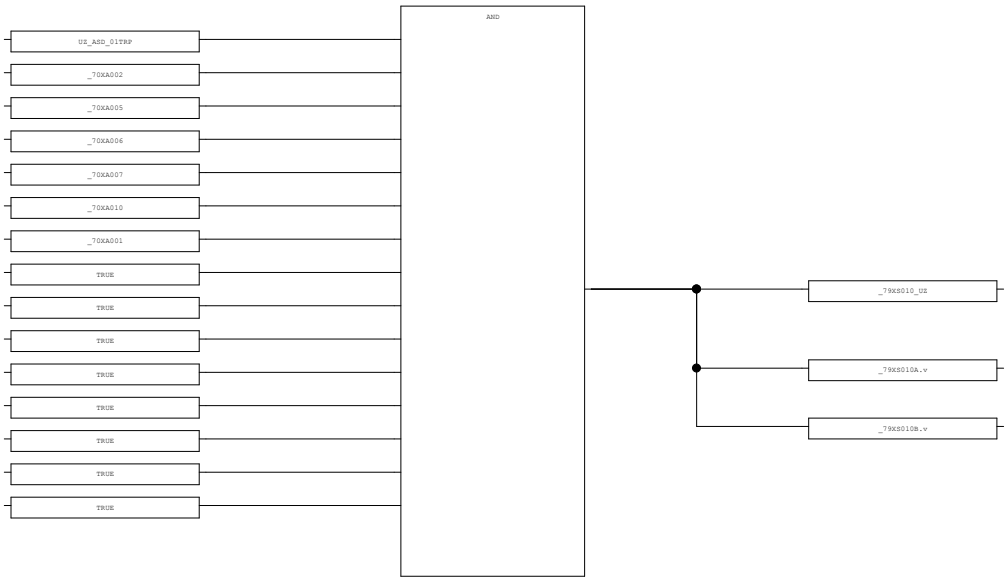


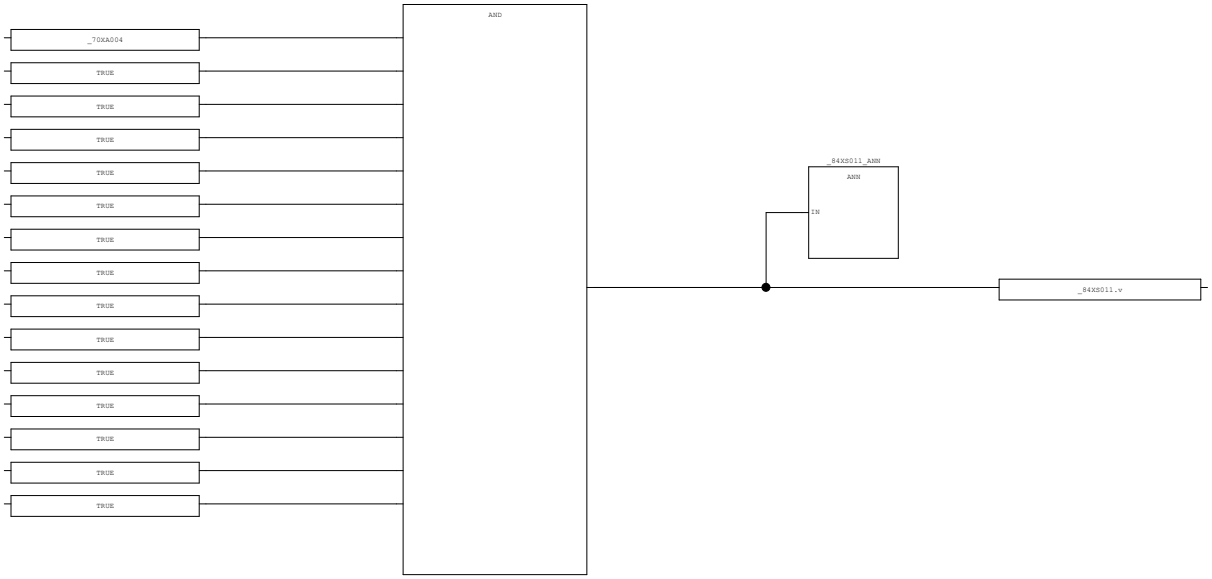
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:59
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		



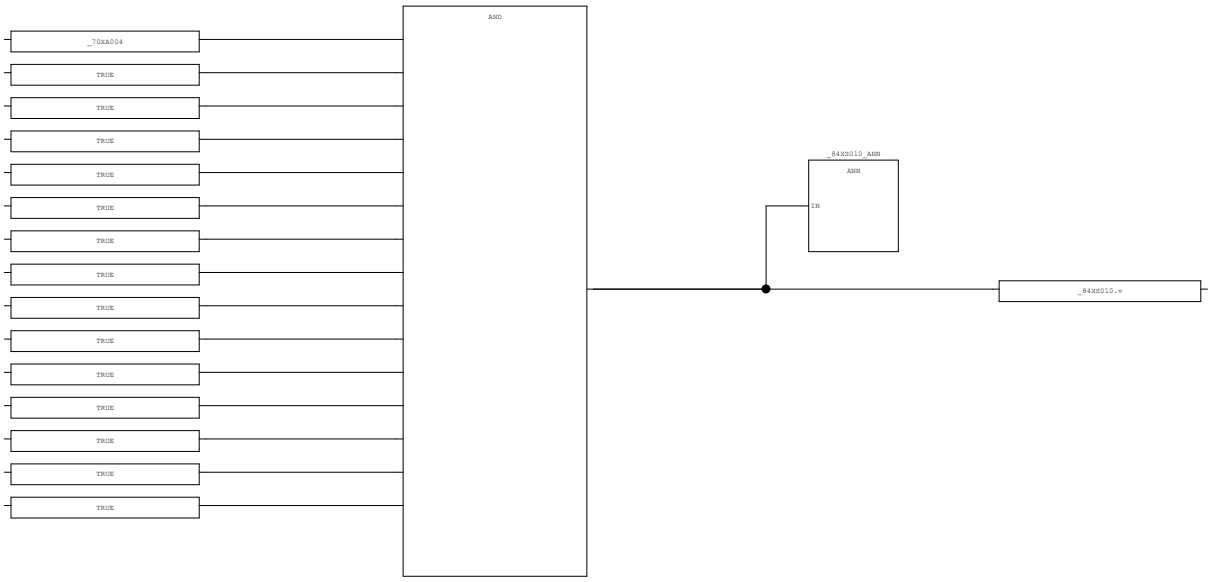
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:60
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

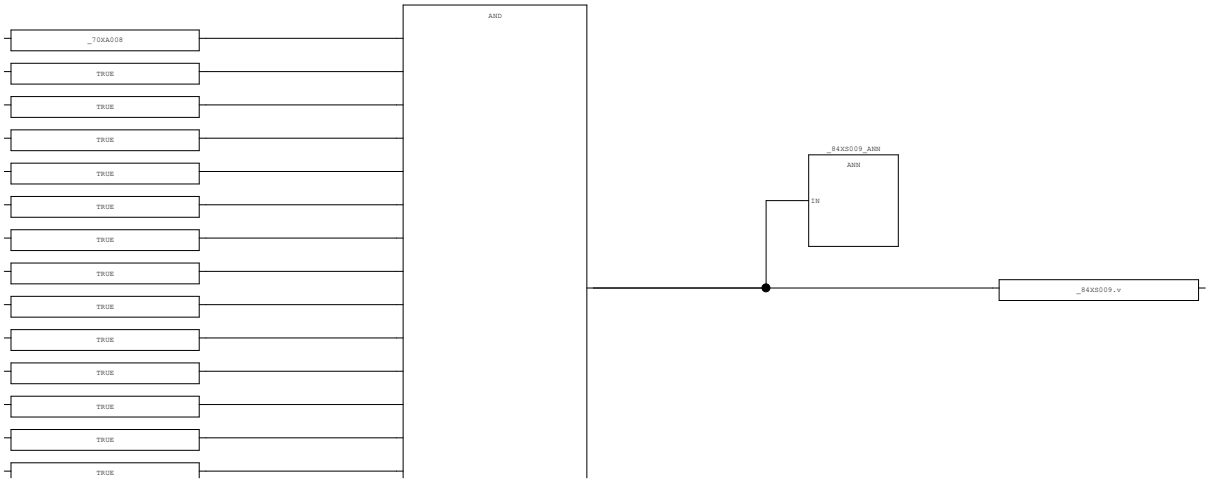
3.21. DO_05 (* Digital Output Processing *)





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:61
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:62
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		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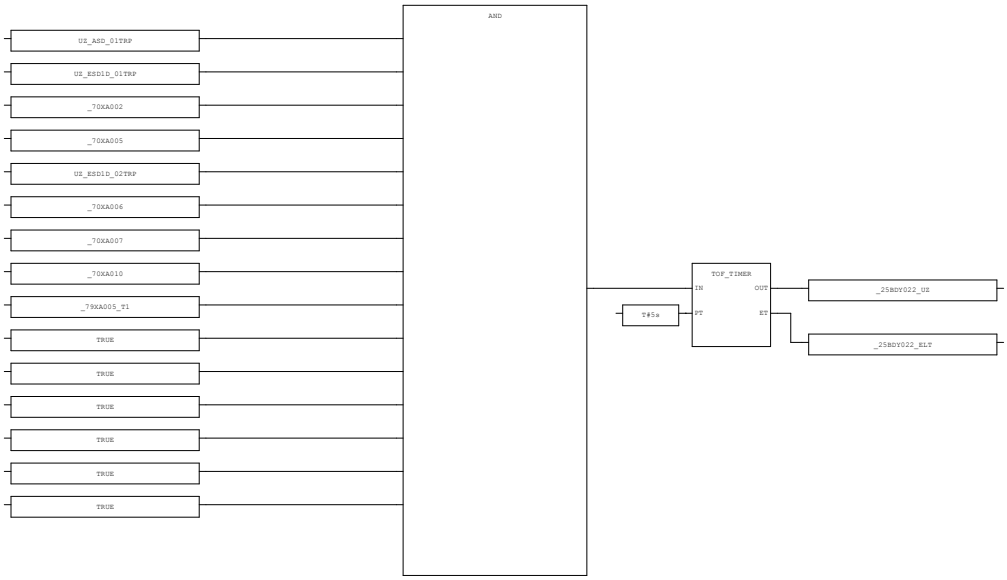
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UZ_ESD1D_01TRP
_70XA002
_70XA005
UZ_ESD1D_02TRP
_70XA006
_70XA007
_70XA010
_79XA005_T1
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TOF_TIMER
IN
OUT
PT
ET
T#5s
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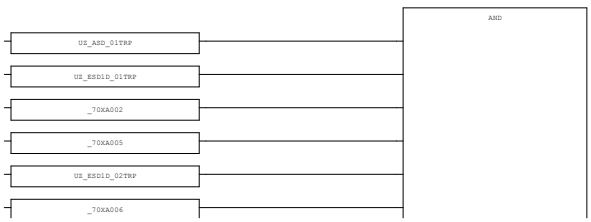
AND
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UZ_ESD1D_01TRP
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_70XA005
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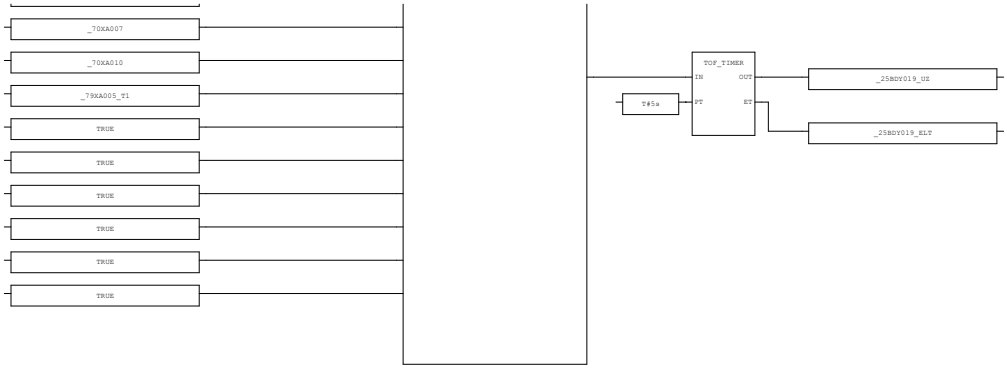
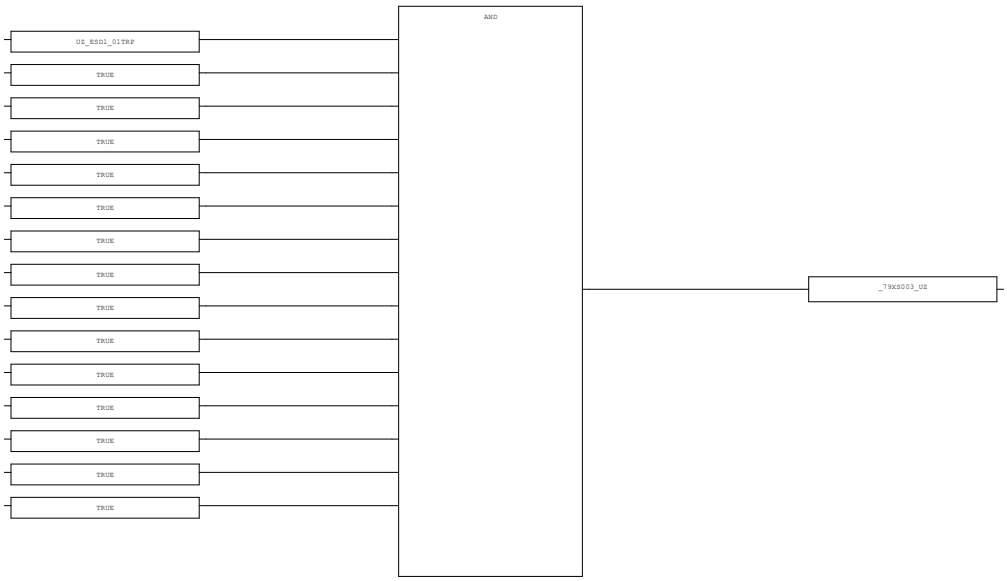
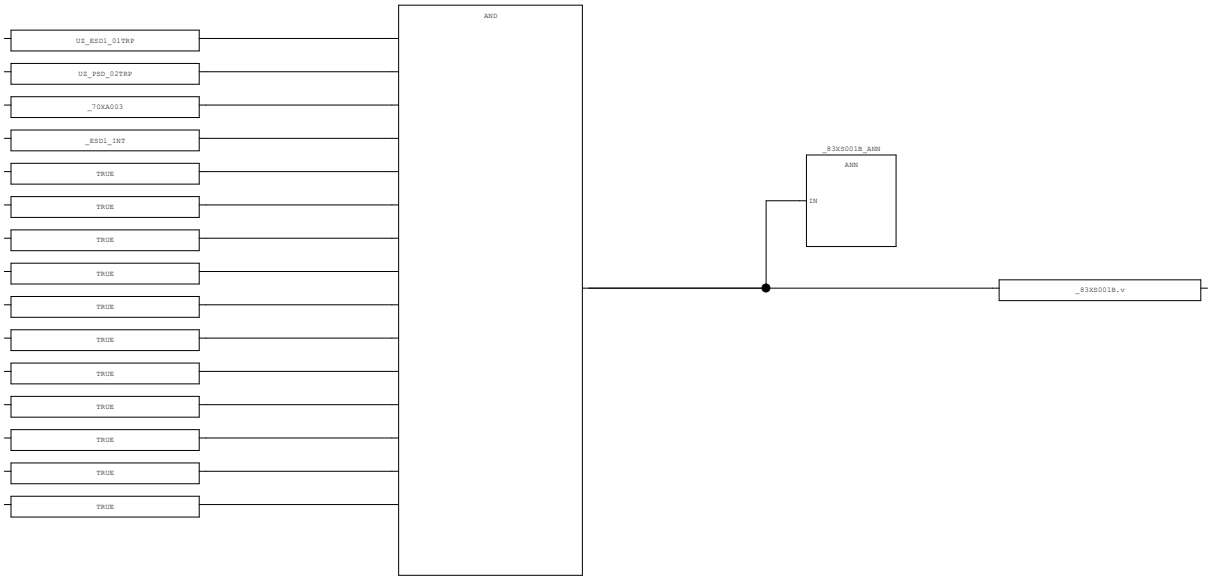


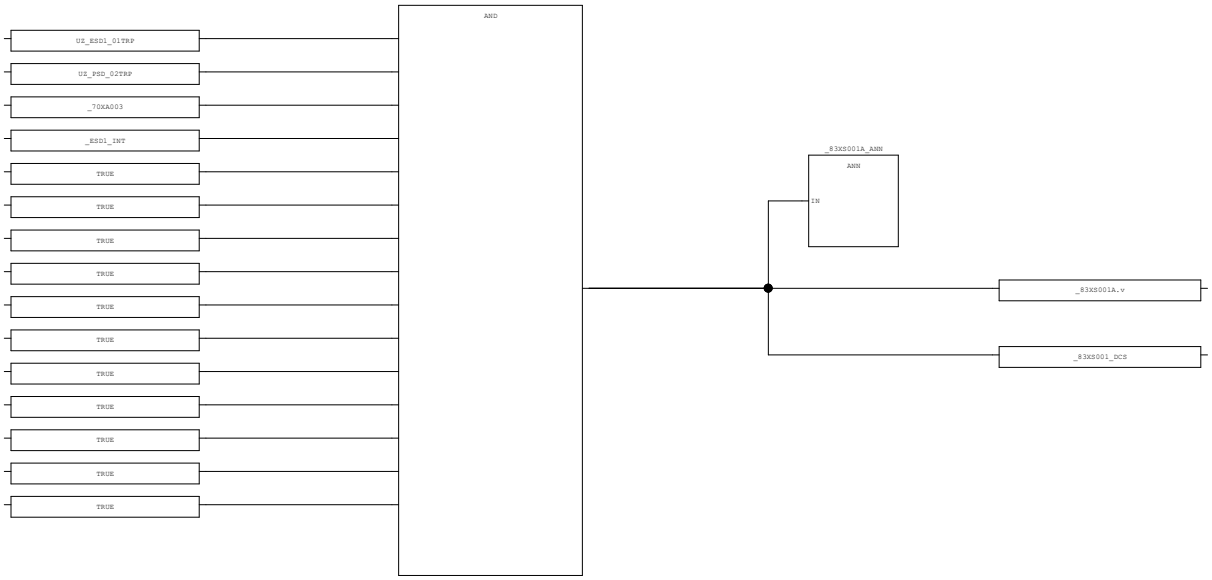
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:64
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

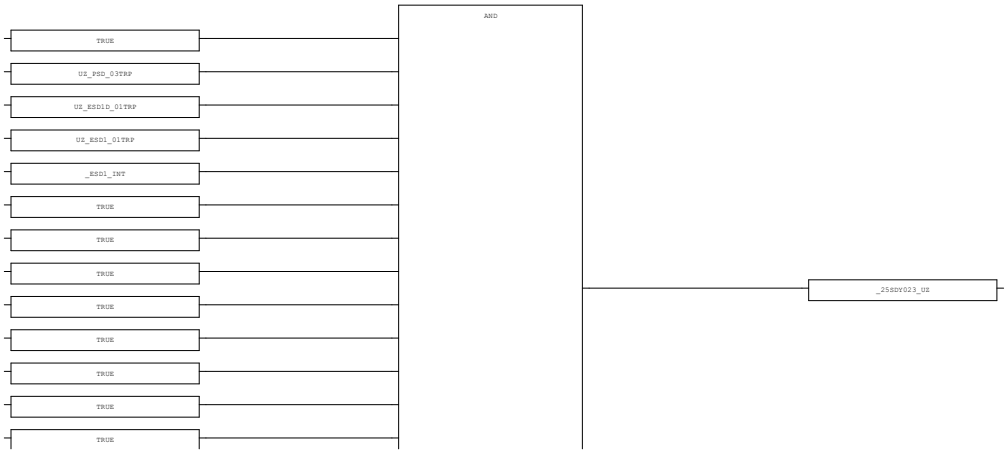
3.22. DO_06 (* Digital Output Processing *)



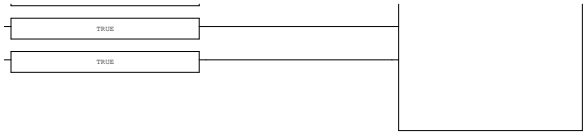


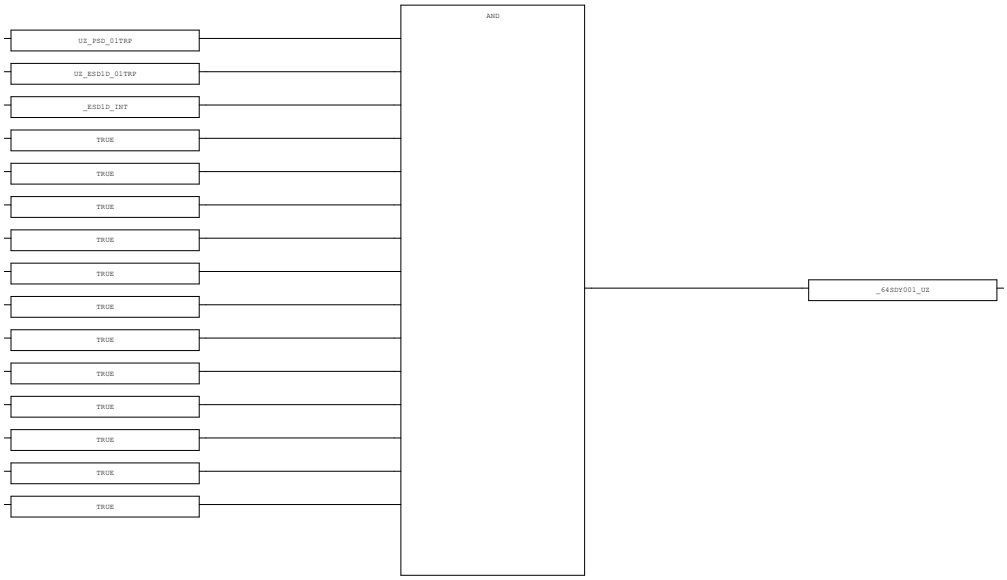
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:65
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		





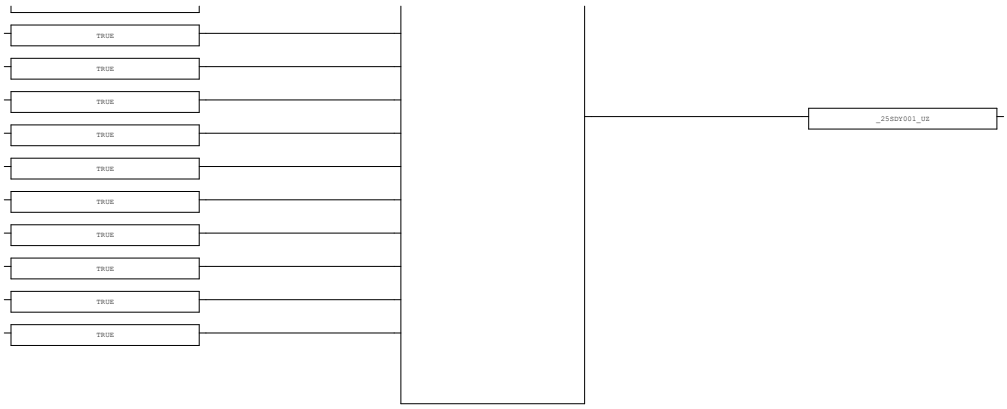
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:66
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





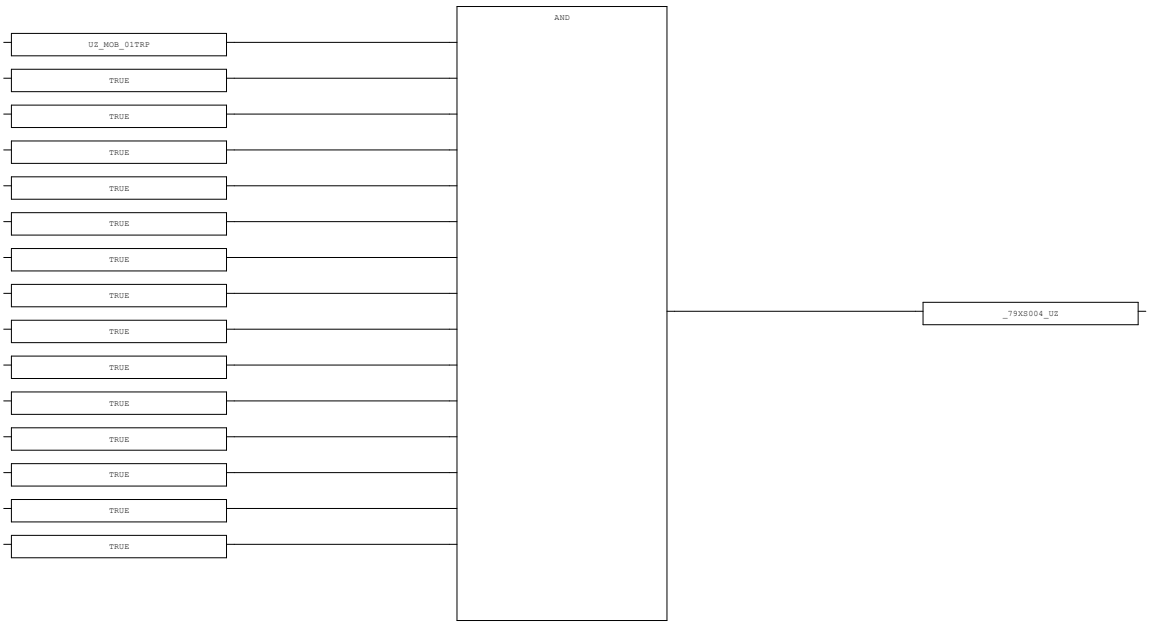


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:67
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		



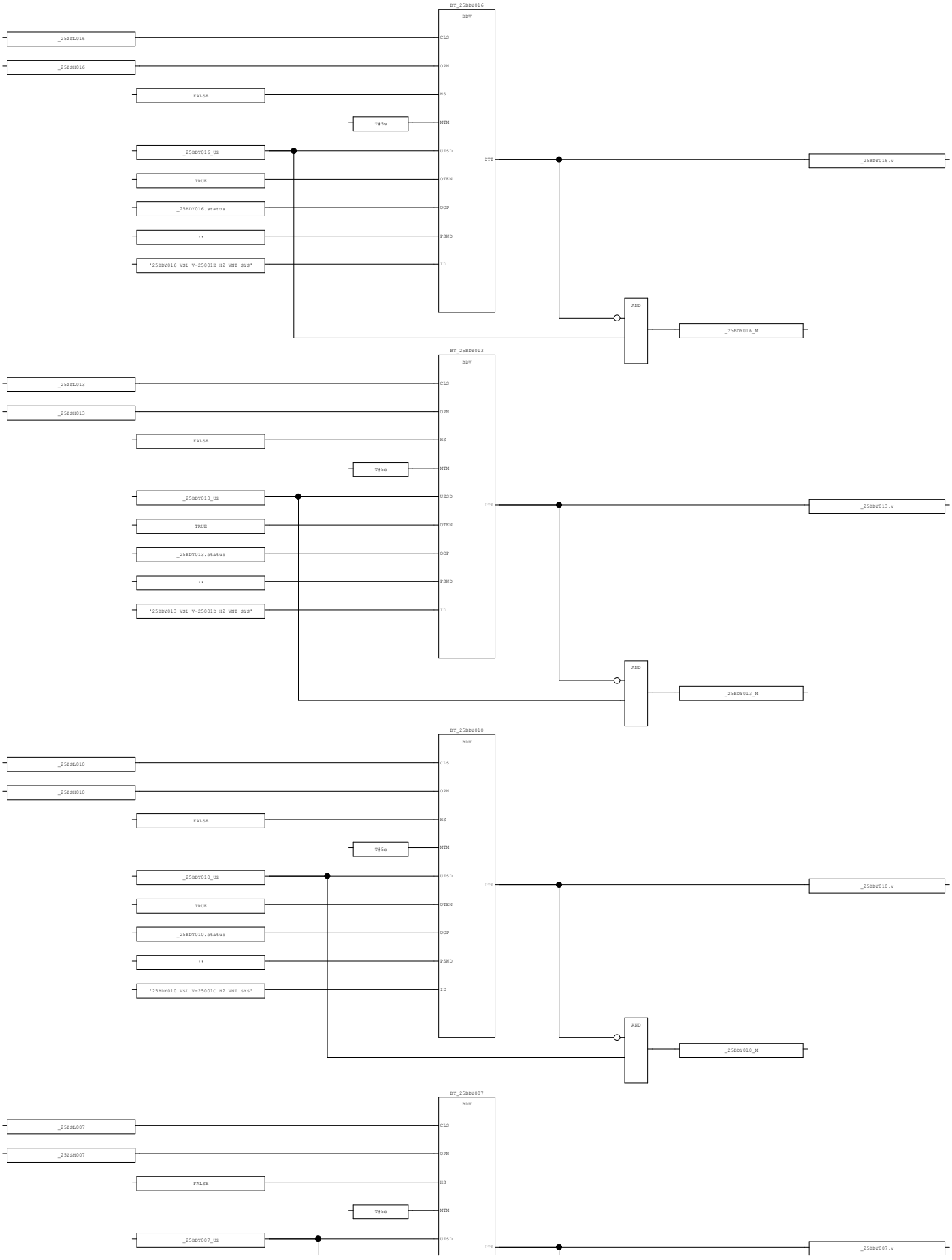
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:68
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.23. DO_07 (* Digital Output Processing *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:69
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.24. DO_PROC_01 (* Valve Condtioning *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:70
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
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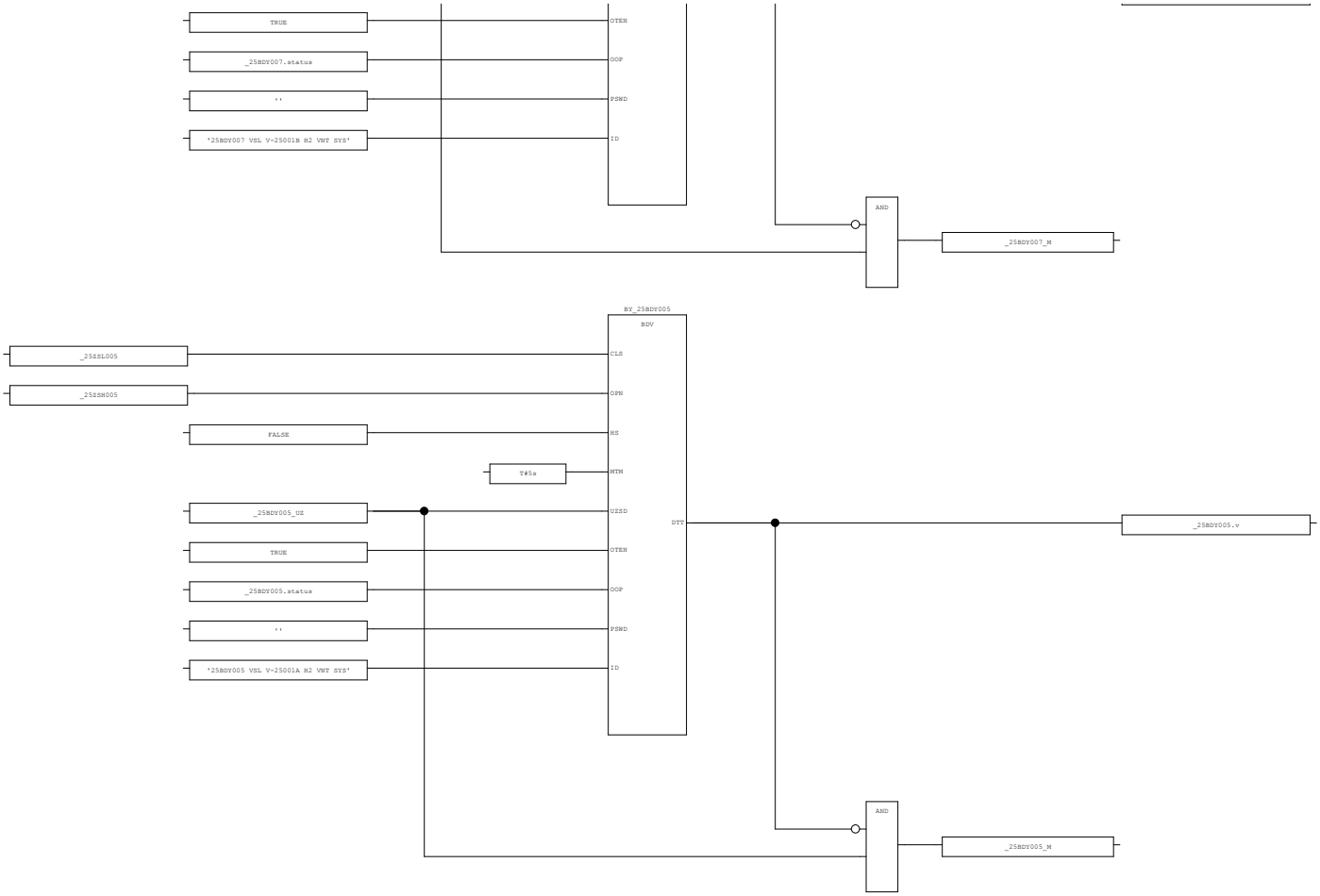
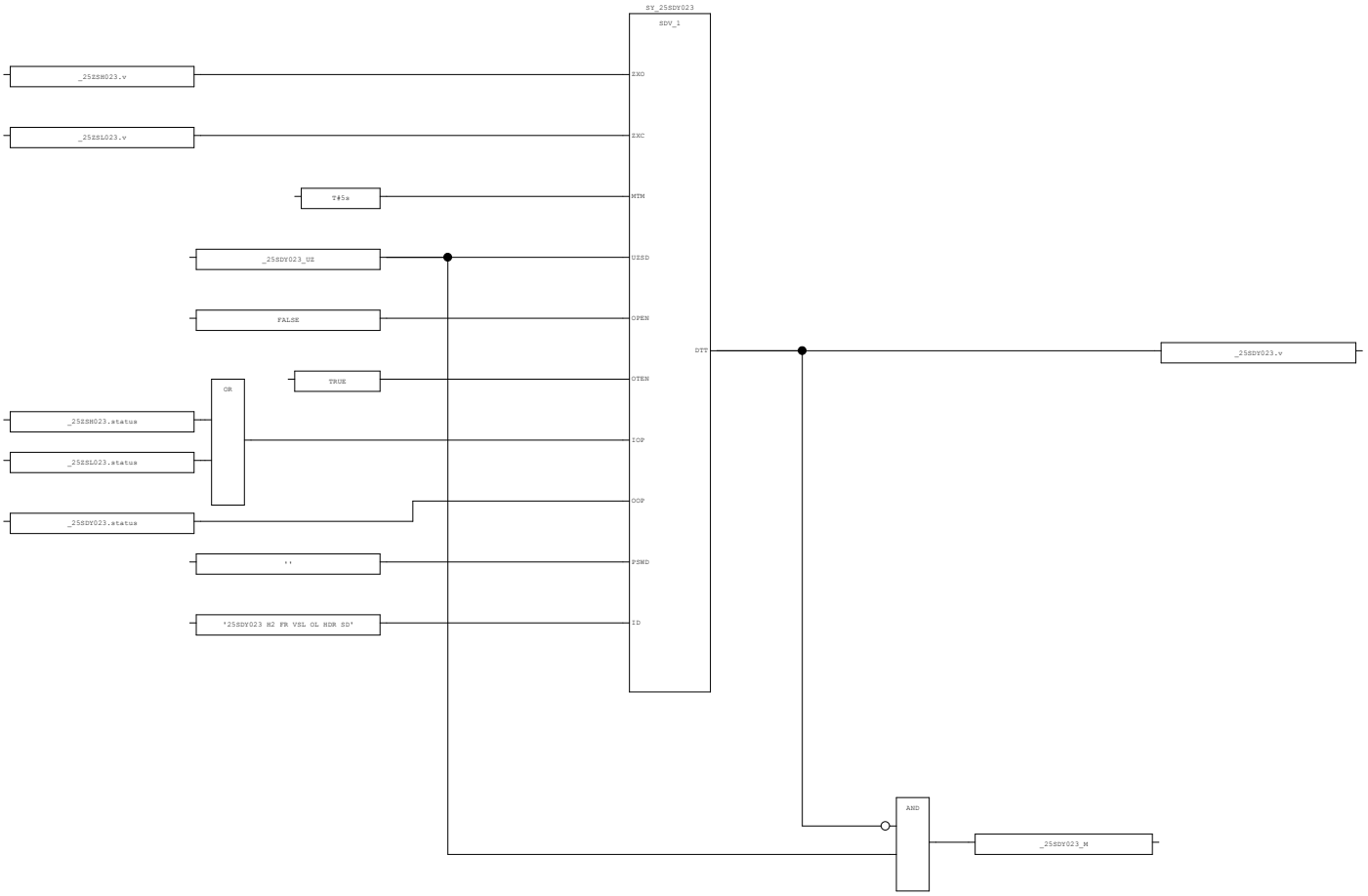
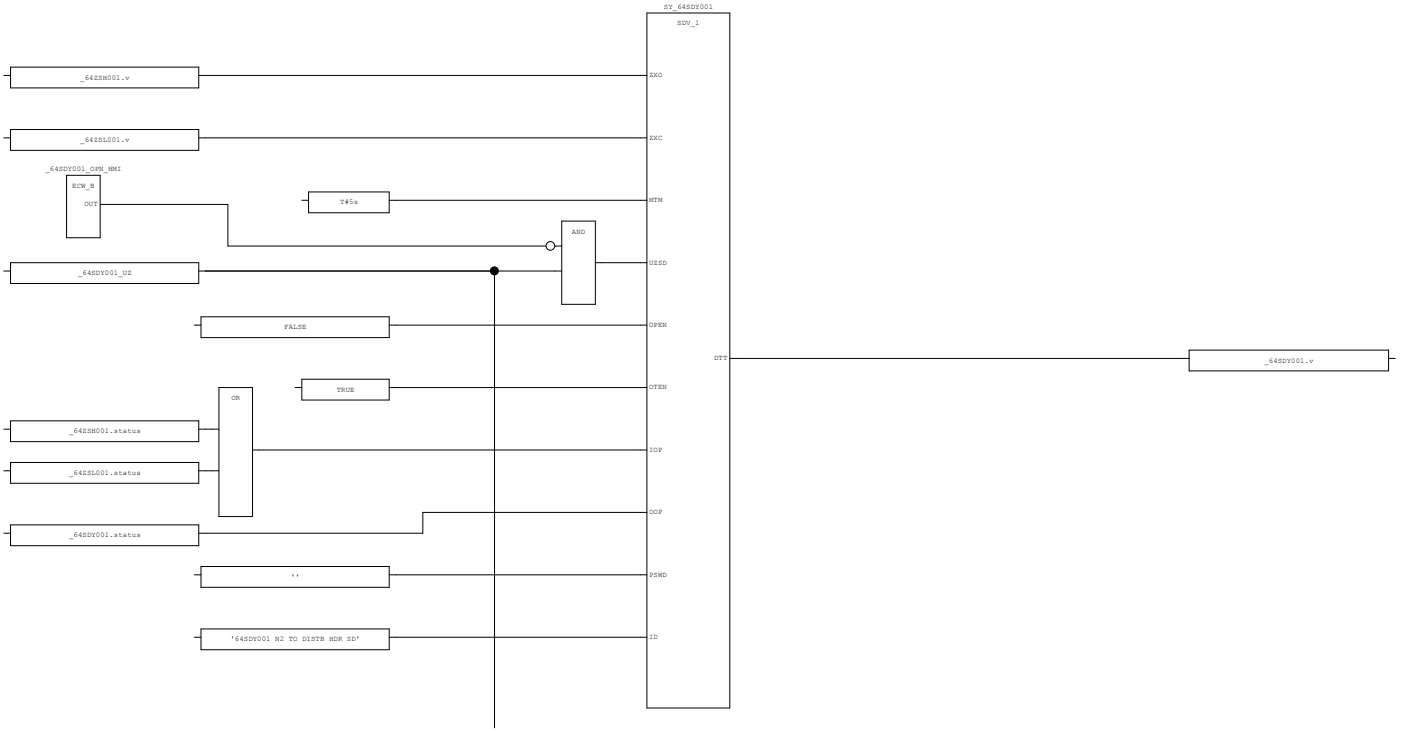
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:71
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.25. DO_PROC_02 (* Valve Condtioning *)





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:72
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
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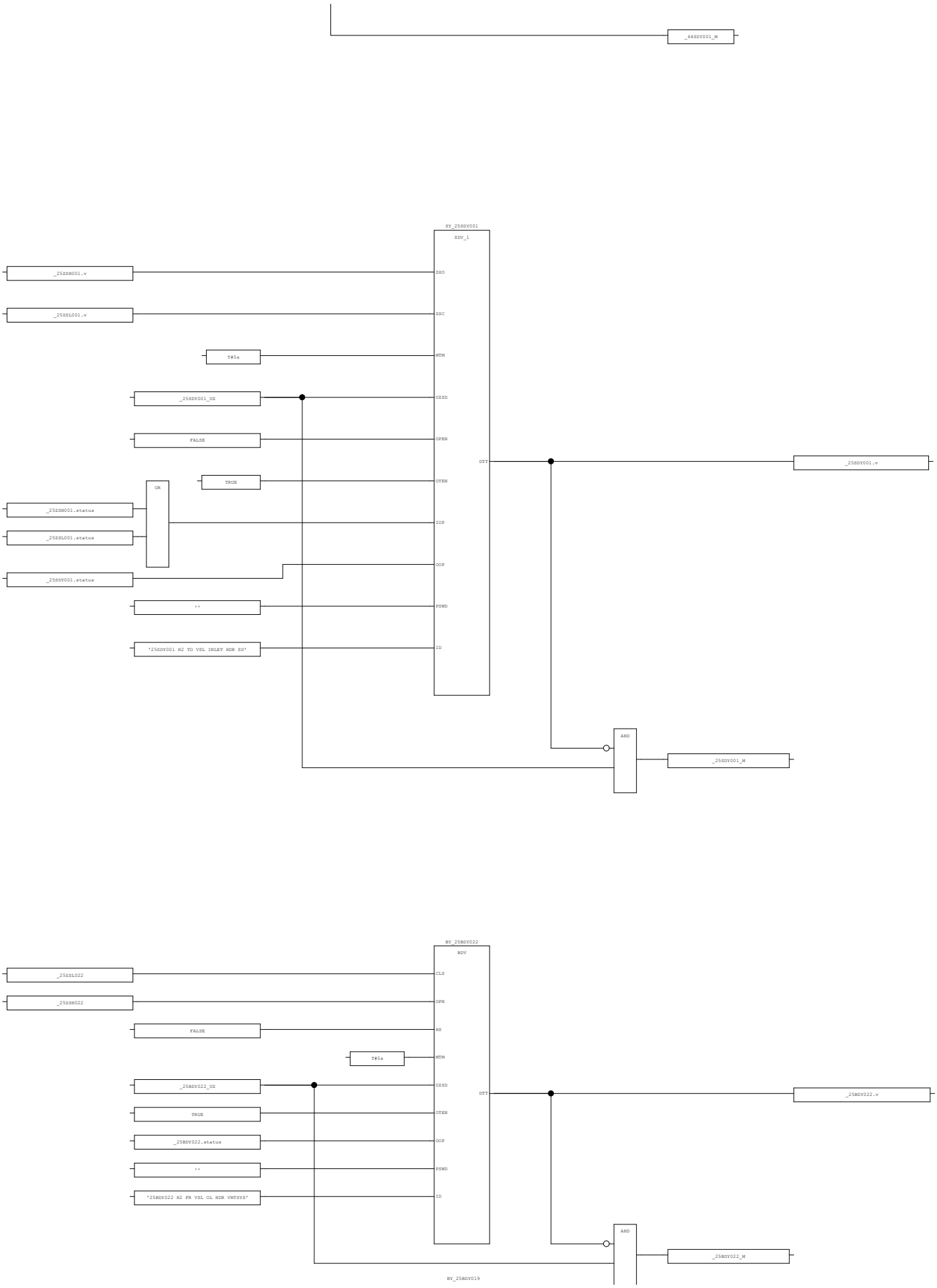
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:73
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
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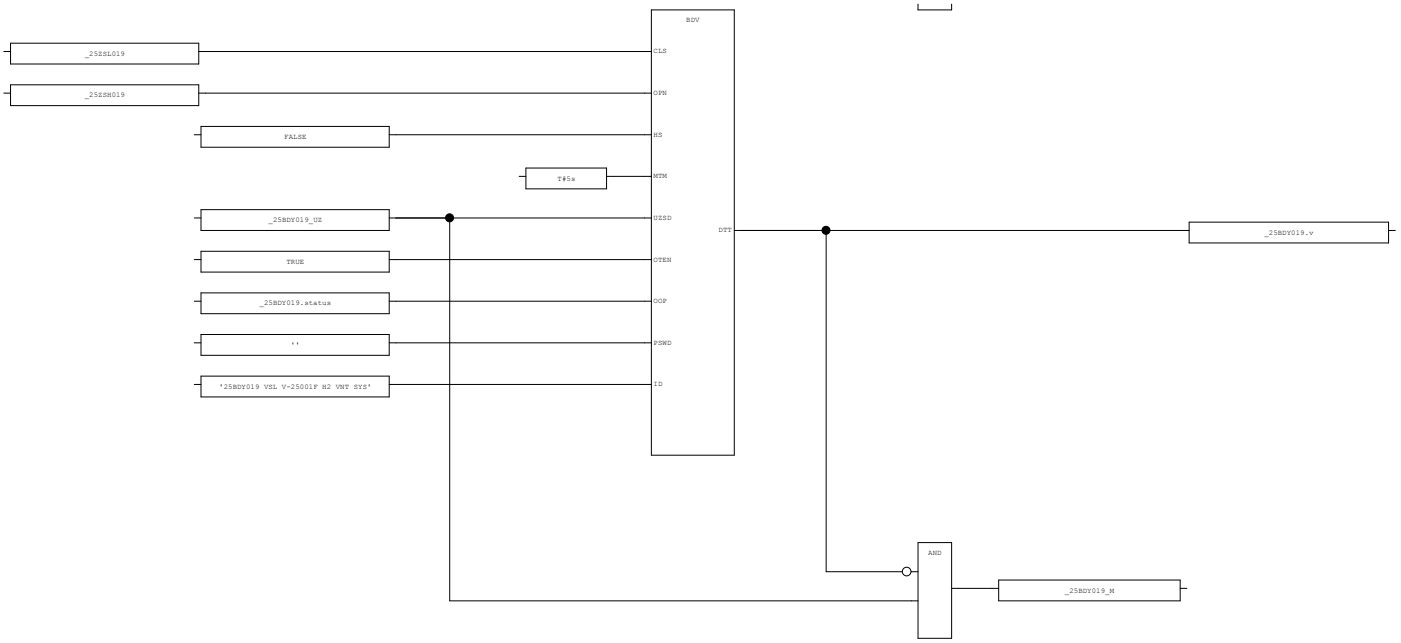
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:74
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
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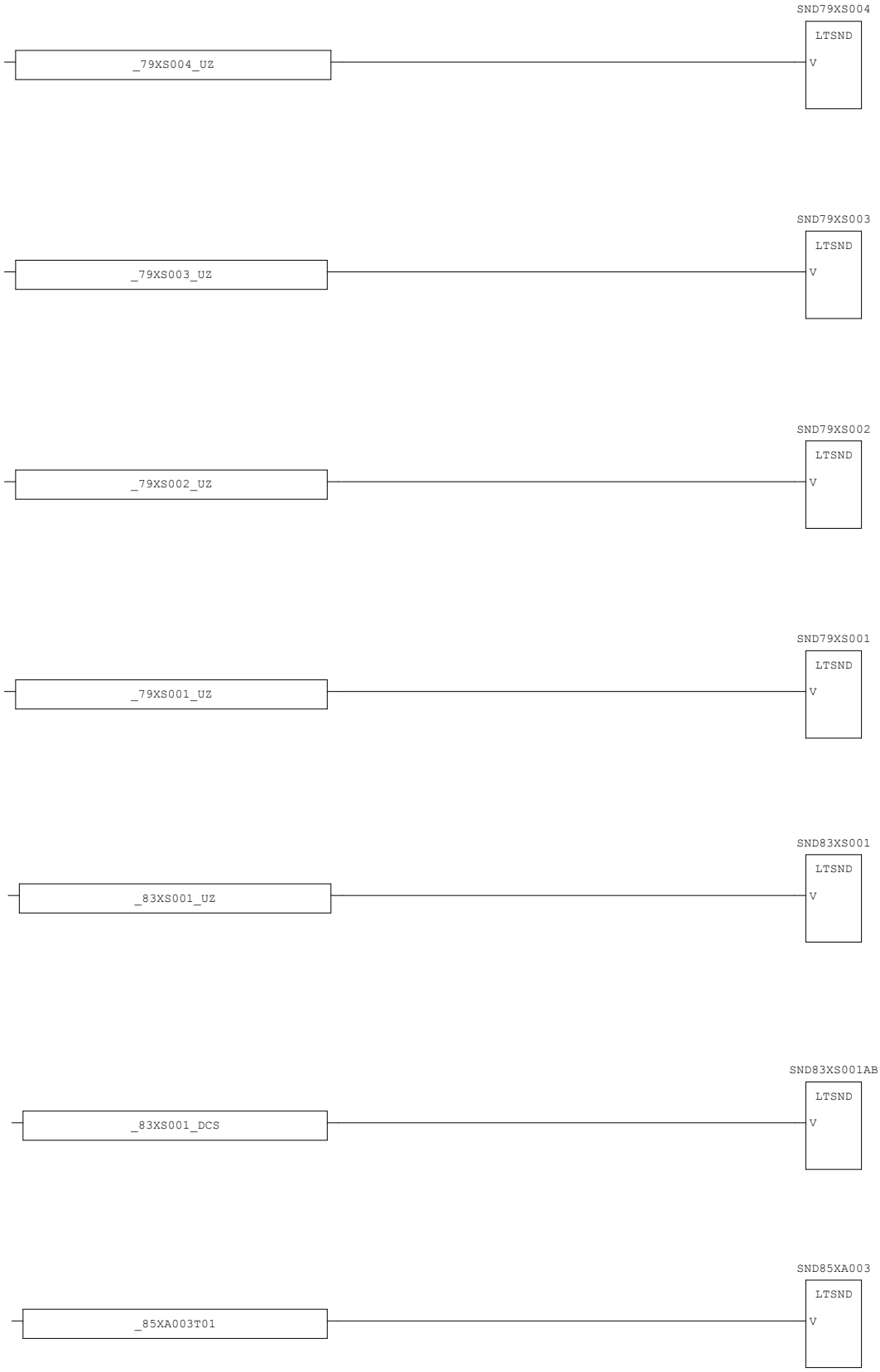
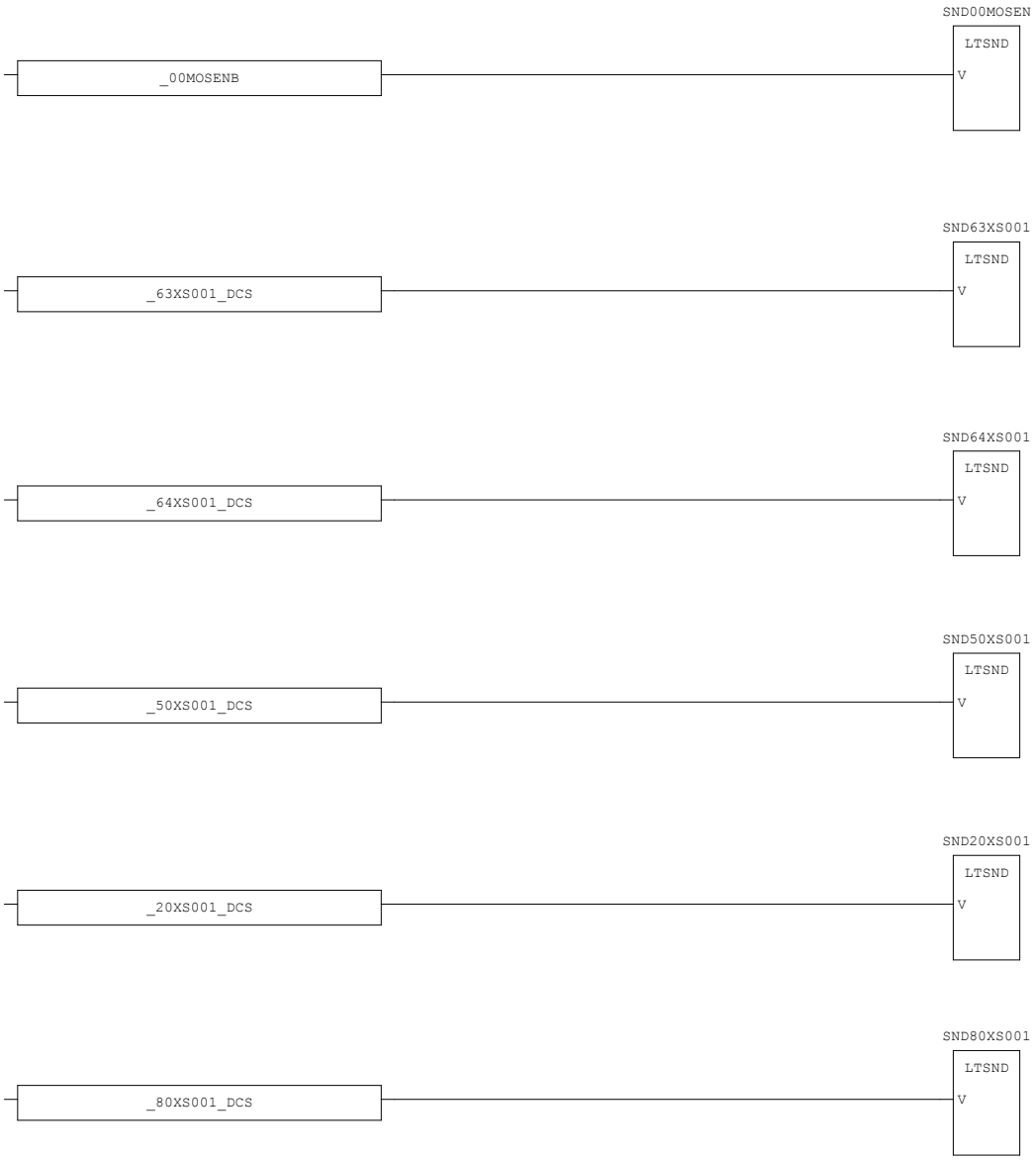
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.26. SEND (* Signal Transfer - Send *)

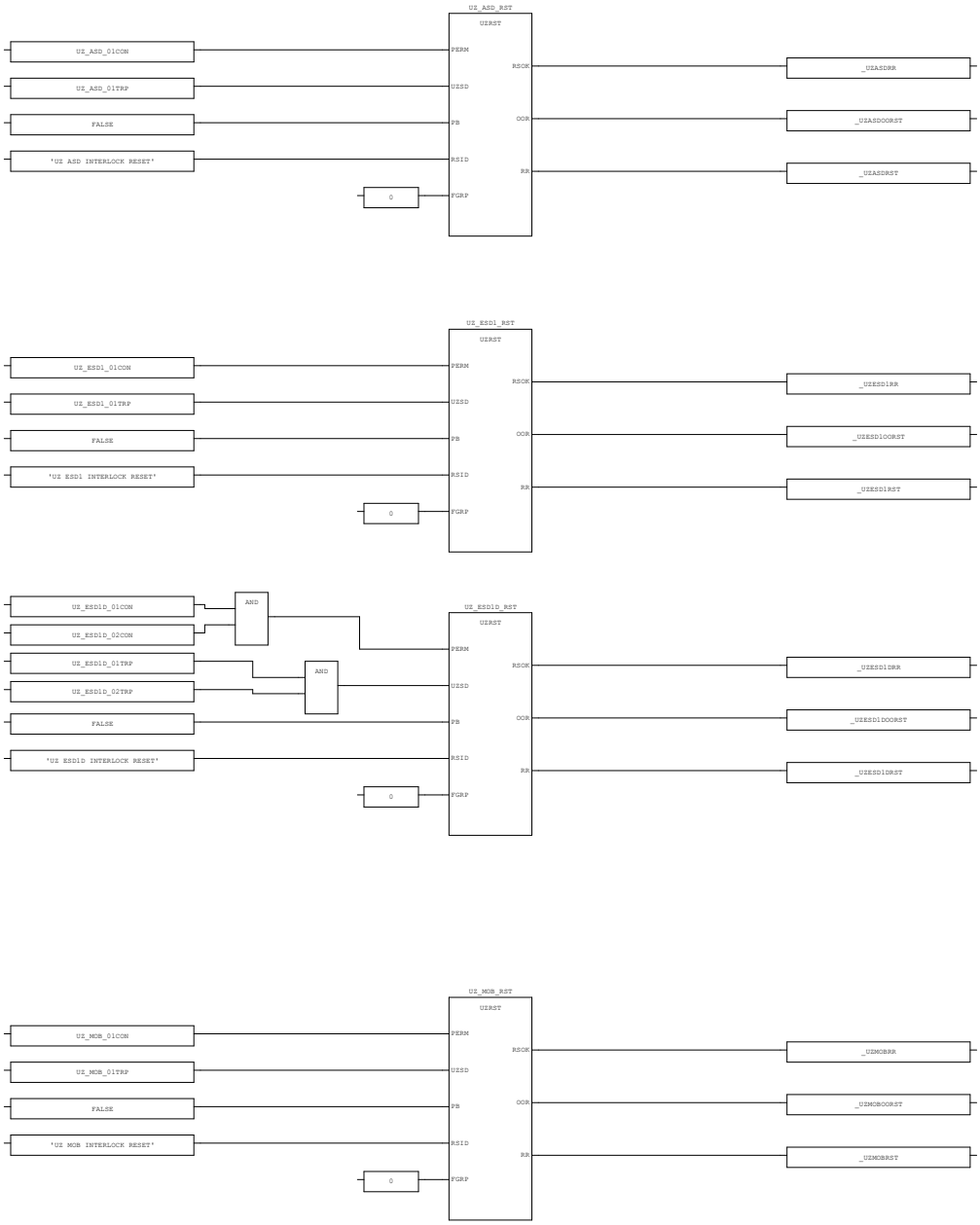


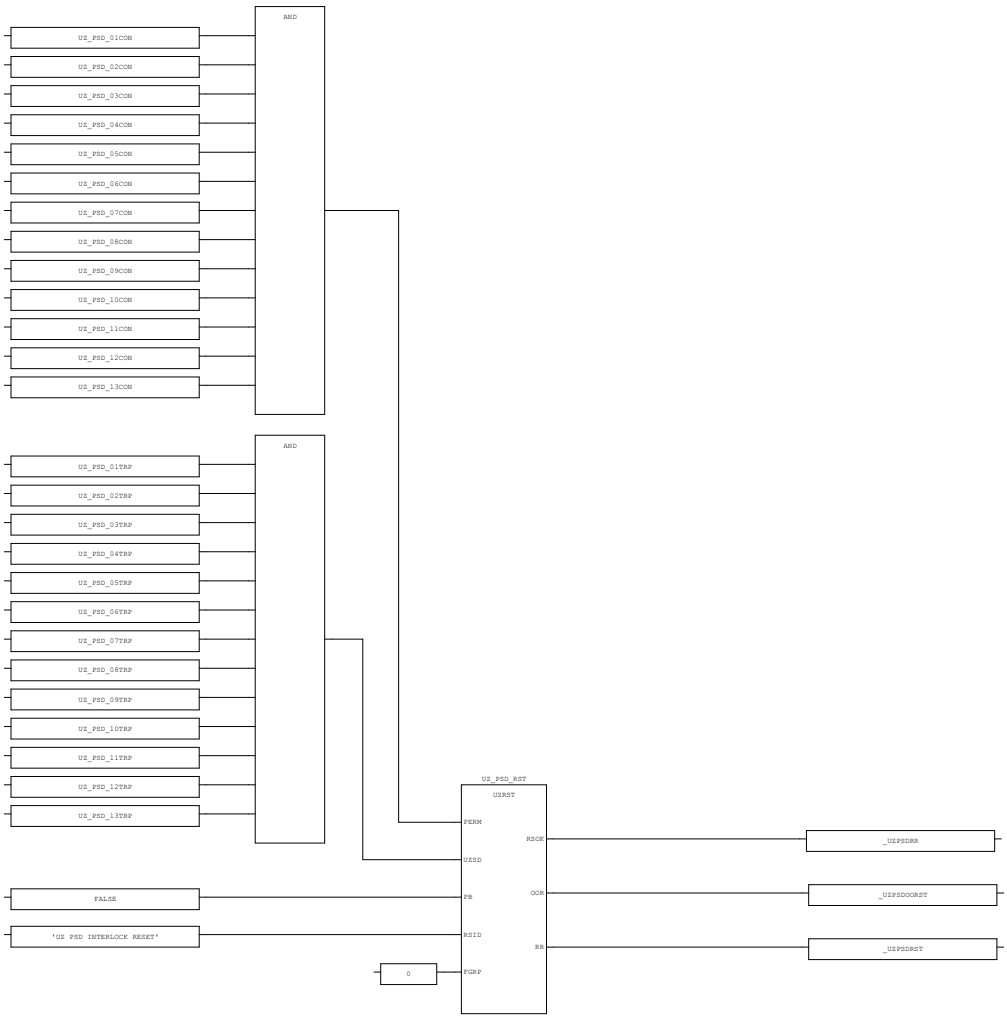
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:75
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

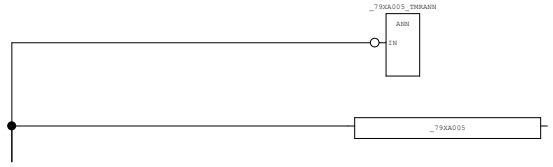


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:76
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.27. Logics1 (* RST-COMM LOGICS *)

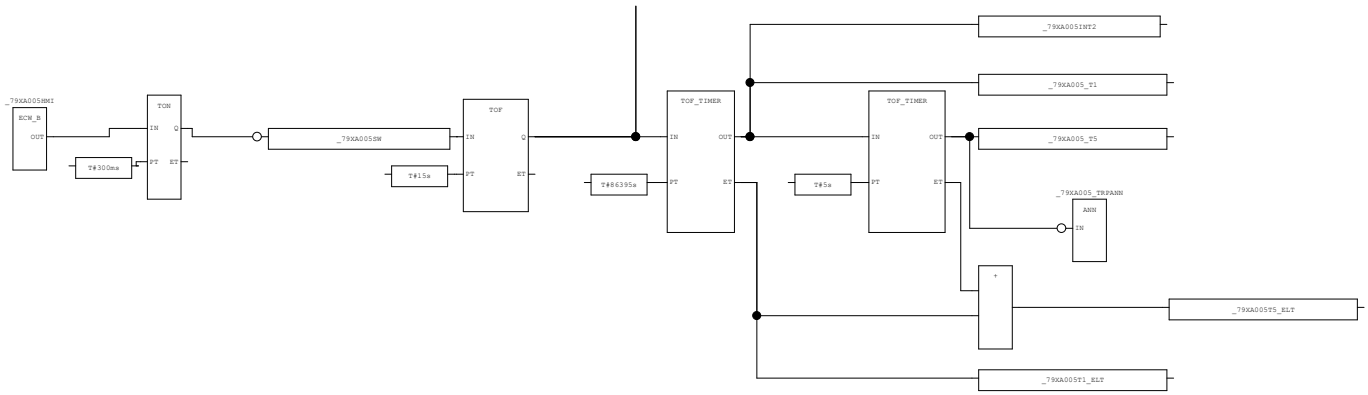






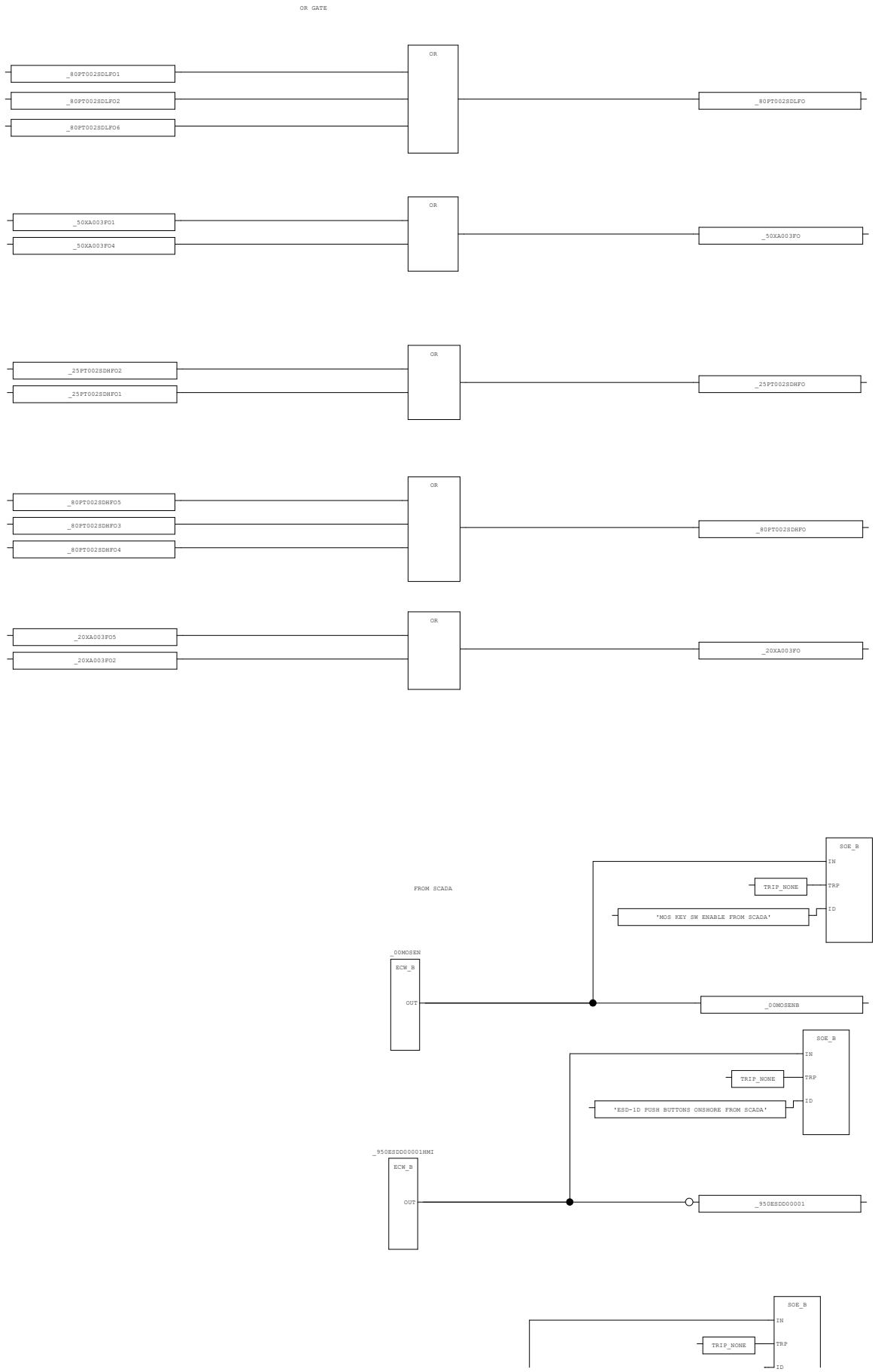
WATCHDOG TIMER FROM SCADA FOR LOSS OF COMMUNICATION

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:78
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:79
SCS PROJECT:	SCS0110	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-SIS		
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.28. Logics2 (* OR GATE-MOS ENB LOGICS *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:80
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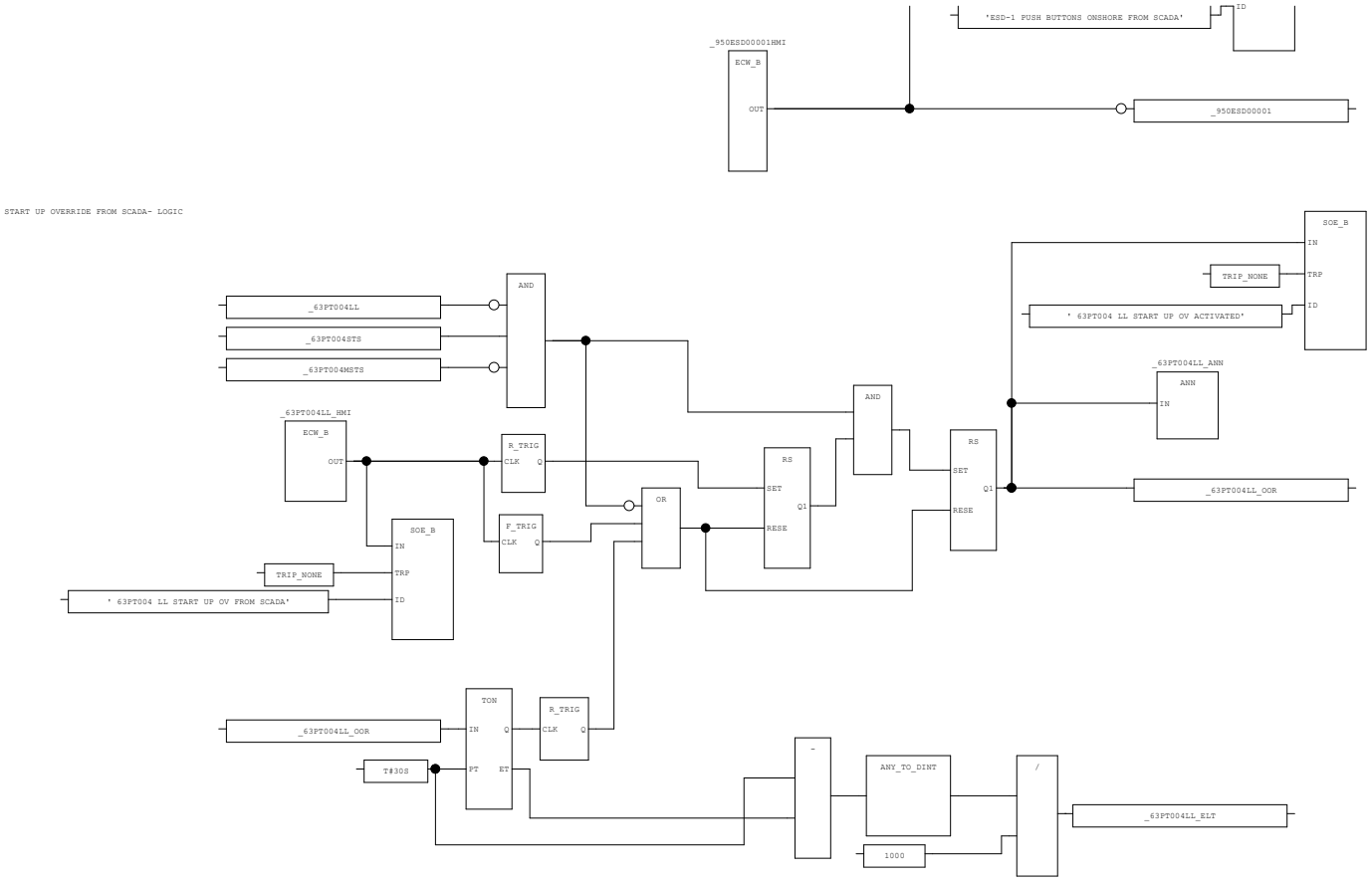
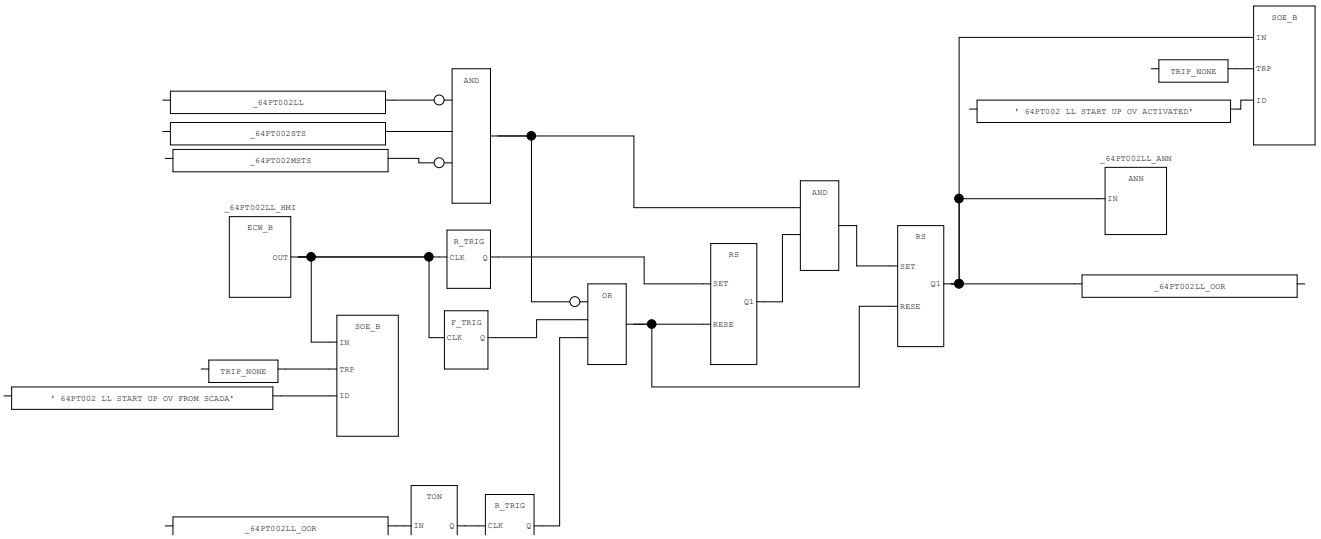
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:81
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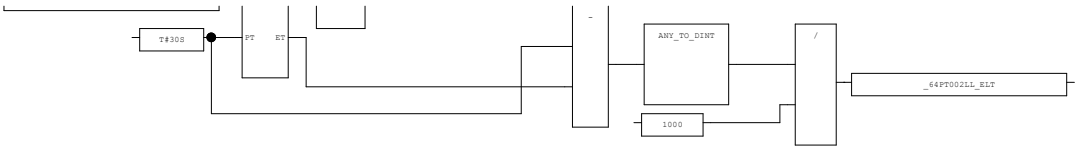
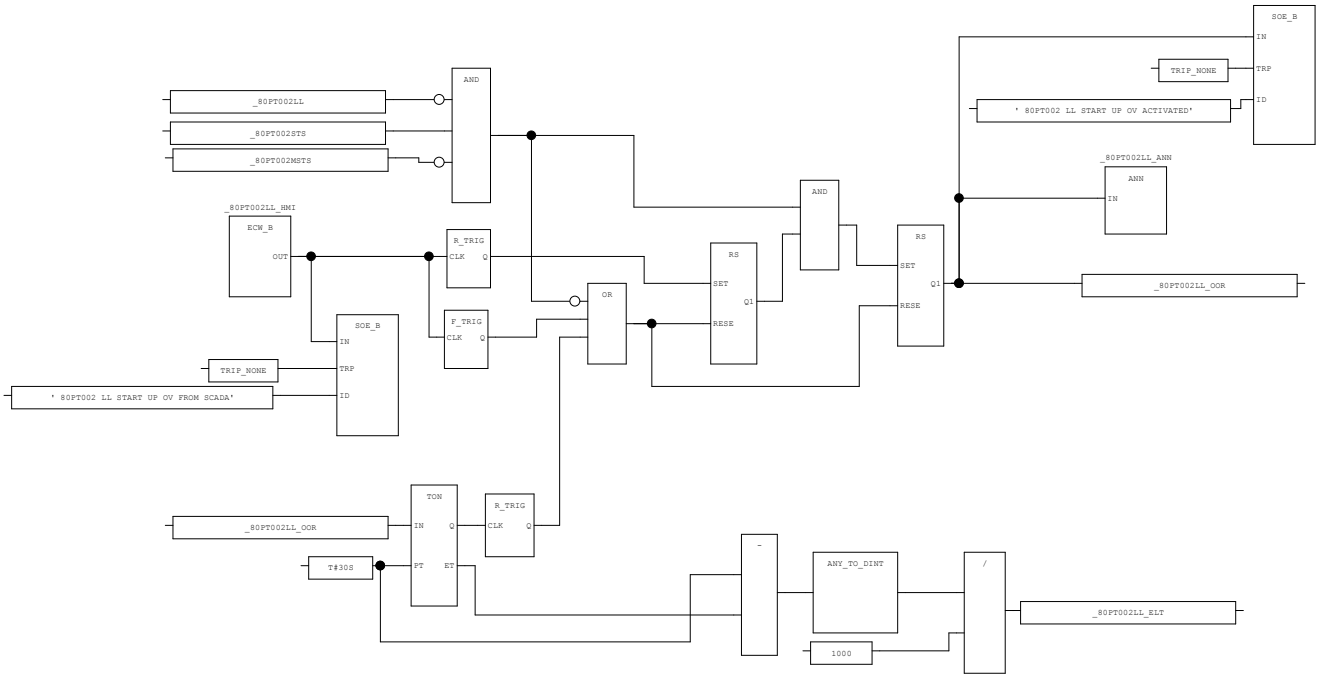
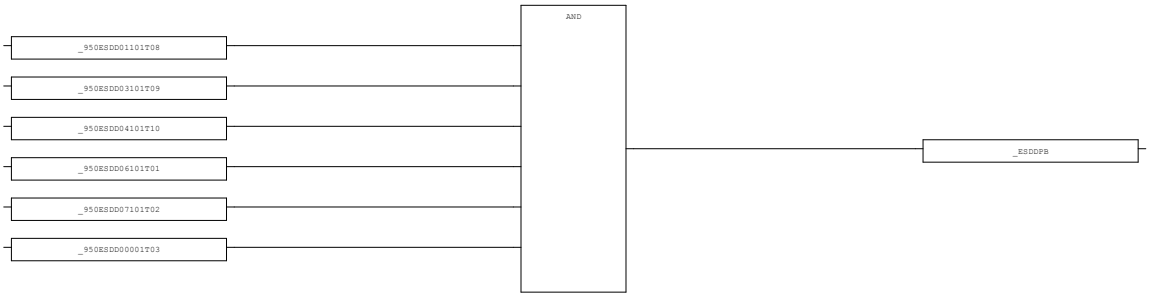
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103





CAP LOGIC



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:82
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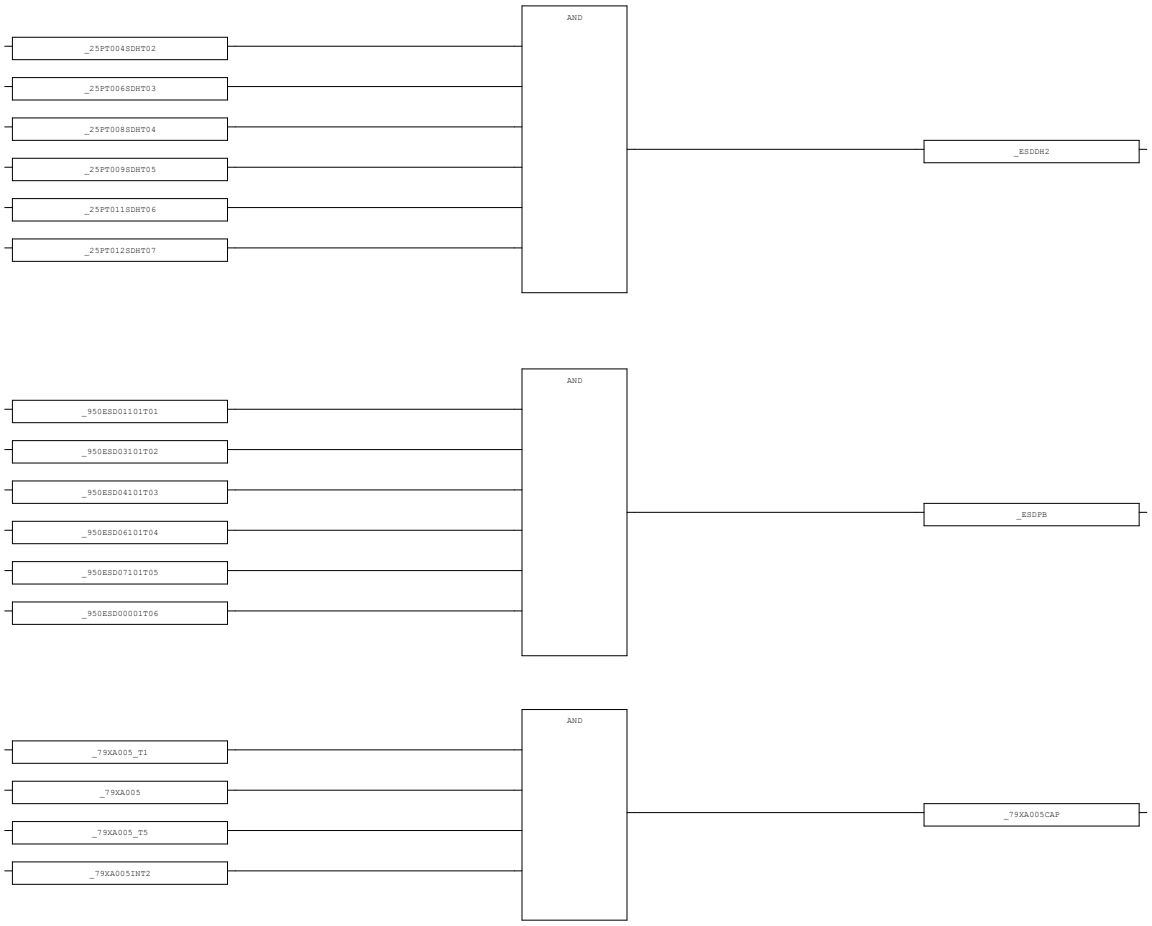
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:83
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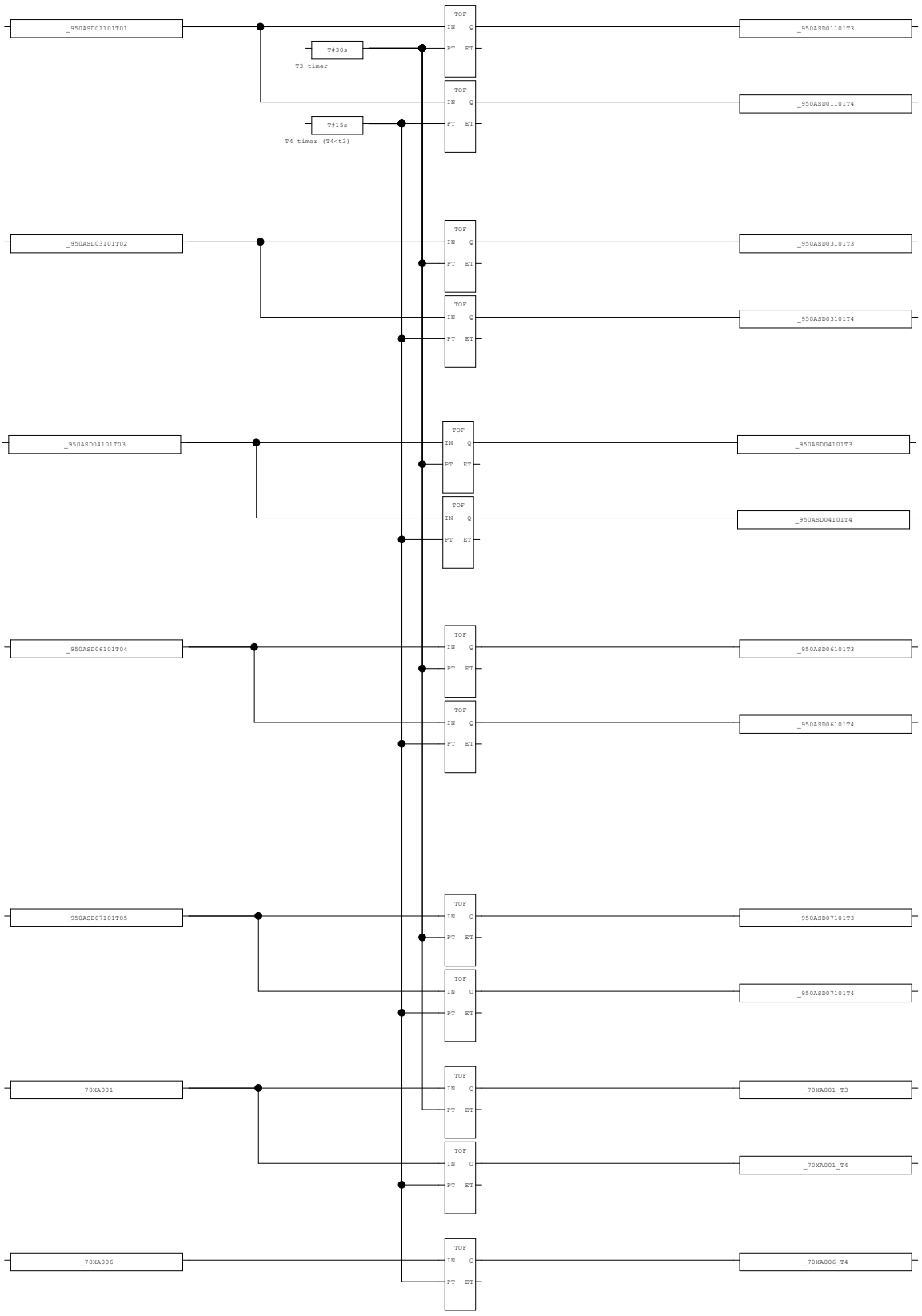
				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.29. TIMER (* C&E Timer Logic *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:84
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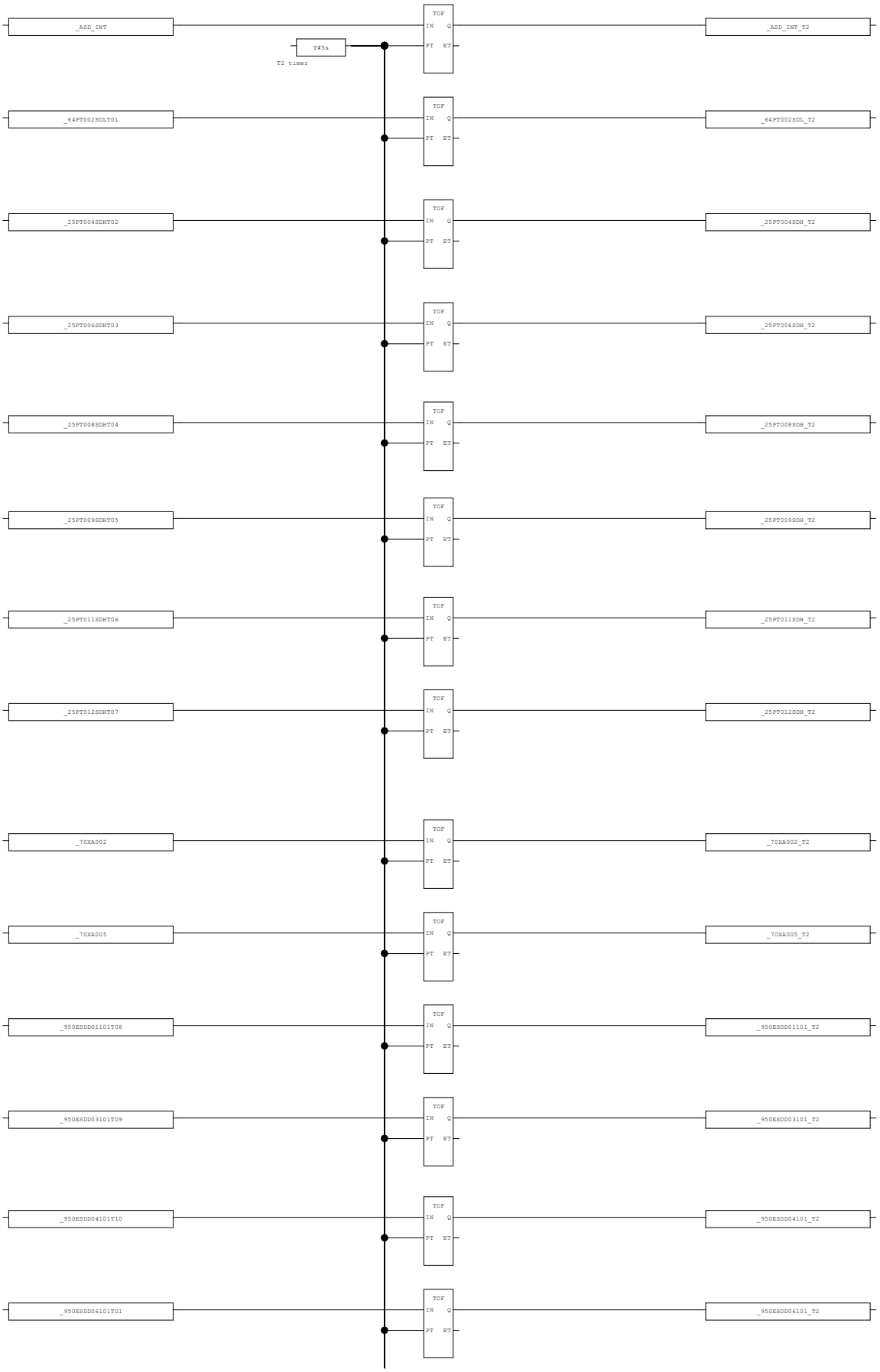
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.30. TIMER2 (* C&E Timer Logic *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:85
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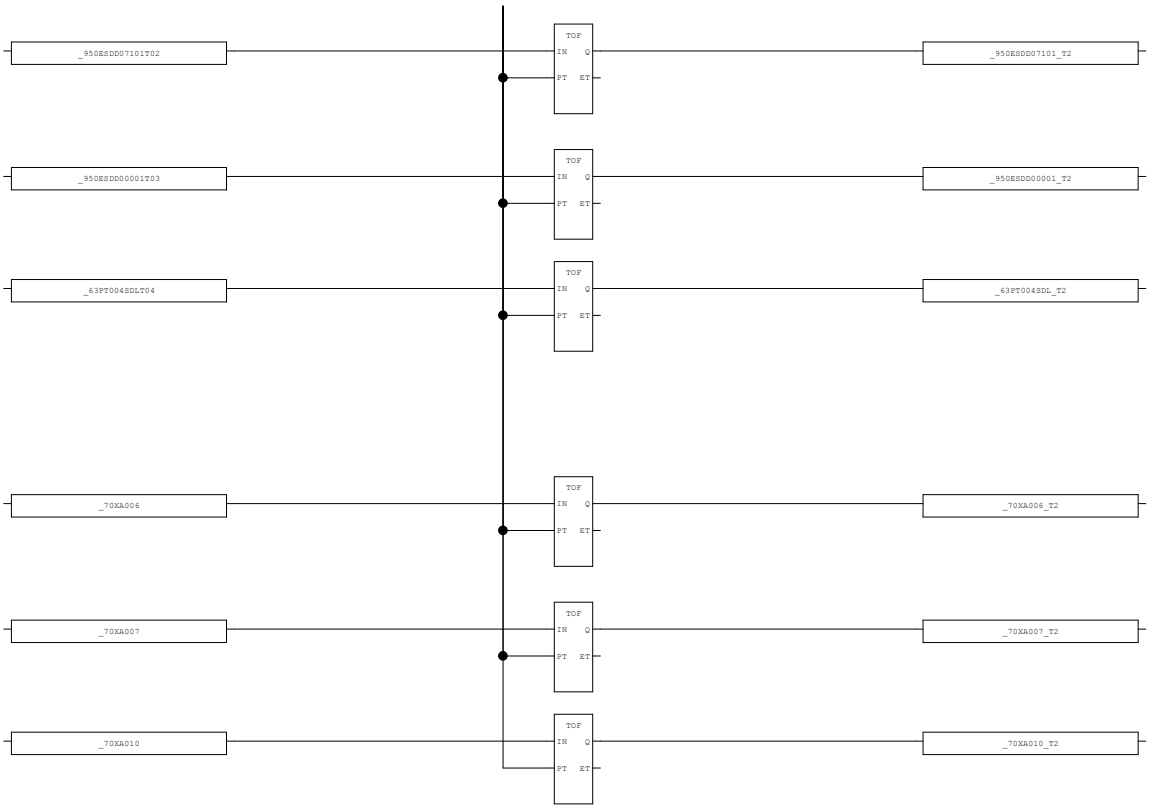
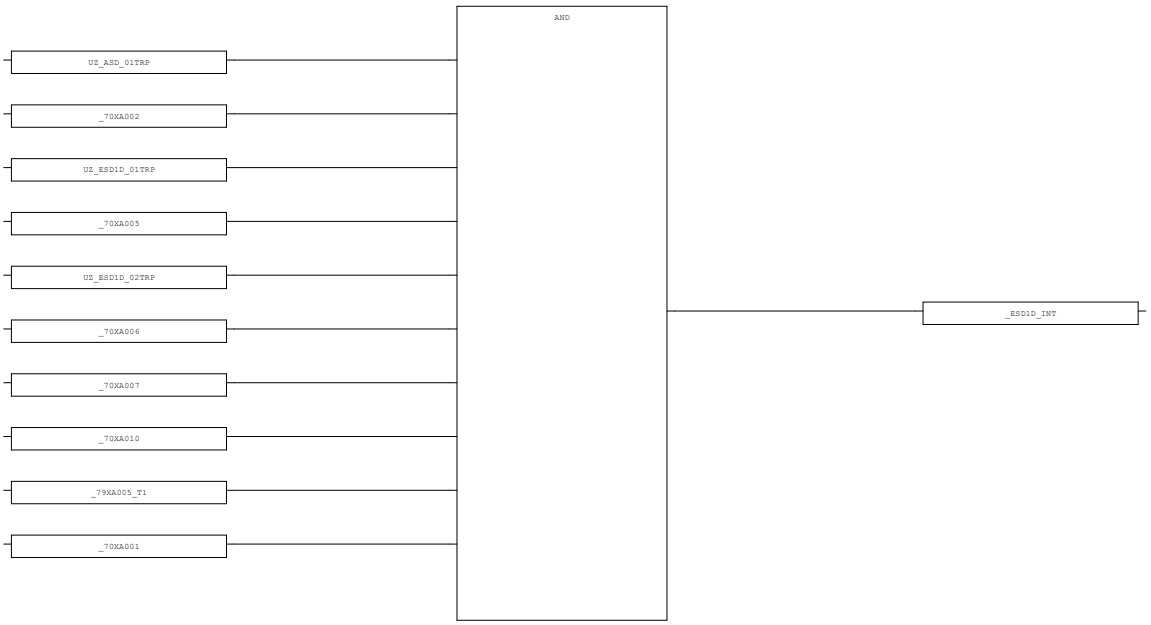
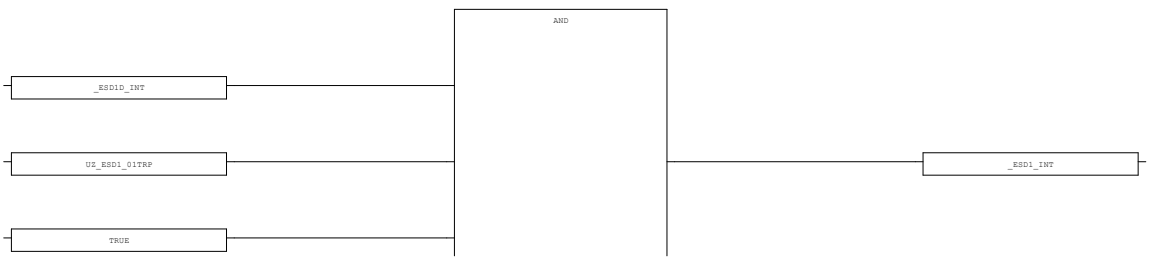
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:86
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SYSTEM:	ESD	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 103
				REVISION:	5.4		

3.31. SPARE_POU_01 (* SPARE POU *)

3.32. SPARE_POU_02 (* SPARE POU *)

3.33. AOS (* IPS Override function *)

1.0.0

YOKOGAWA

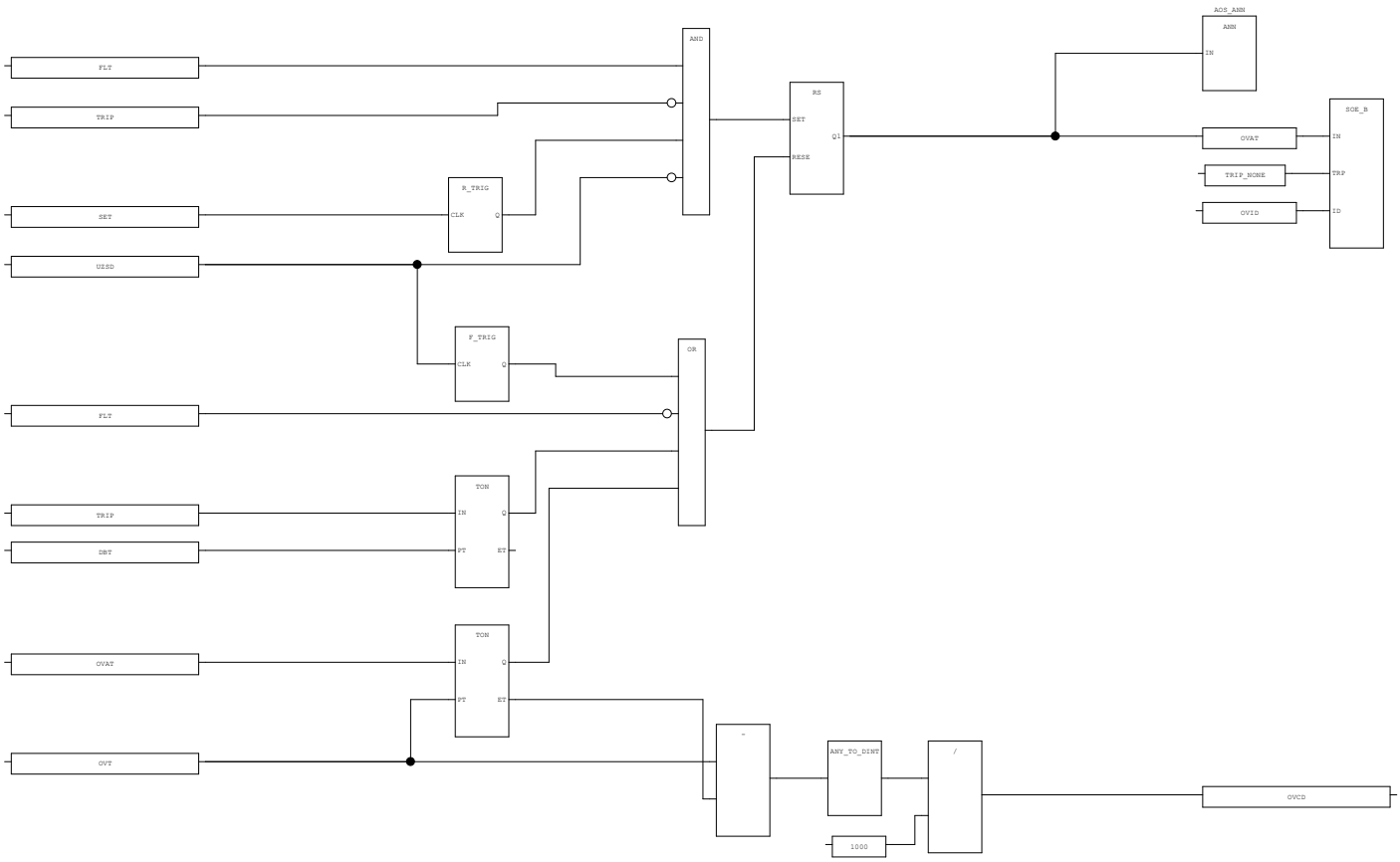
TYPICAL : AOS (User Defined Function Block)

DESCRIPTION : This FB is used for the Automatic Operational Override. The AOS function block has the following main functions:
-Manage the Automatic operational override request.
-Reset the Automatic operational override when the override time is elapsed.
-Reset the Automatic operational override when the process value has reached above the Low set point for at least a predefined time (process settling time) within the allowed operational override time.
-Reset the Automatic operational override when the transmitter is faulty.
-Reset the Automatic operational override when the UZ group trips.

The Automatic operational override timer is activated by a UZ-group reset. The operational override will be activated on a rising edge of the reset signal if the following conditions are met:
-if the input typical is in Low Low alarm;
-and if there is no transmitter fault.
-and if UZ group tripped.

The operational override will be active as long as the operational override time is not elapsed. The operational override will be reset if:
-if the operational override time is elapsed;
-or if the process value has reached above the Low Low set point for at least a predefined time (process settling time) within the allowed operational override time,
-or if the transmitter is faulty.

Rev 00



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:90
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				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.34. BDV (* Blowdown Valve with Limit switches *)

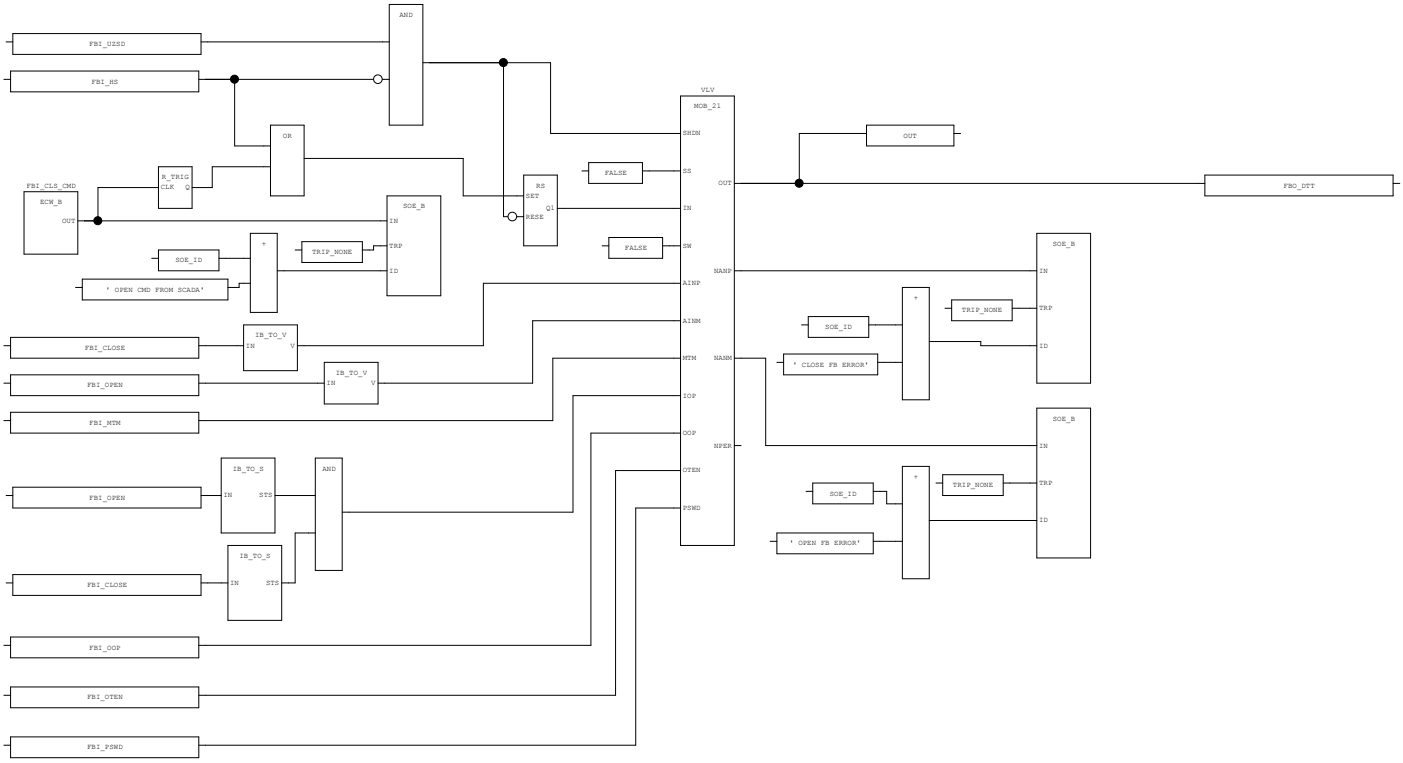
1.0.0

YOKOGAWA

TYPICAL : BDV(User Defined Function Block)

DESCRIPTION : Blowdown valve with limit switch feedback.
Typical to handle:
- Blowdown valve with limit switch input.
- Blowdown valve with Field Handswitch to initiate blowdown.
- Manual operation prohibited. Upon UZGRP reset,valve shall be closed manually ans returns to AUTO mode.

Rev 00
Rev 01
Rev 02 - FAT Punch



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:91
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				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.35. DDI (* De-energized to trip without LM *)

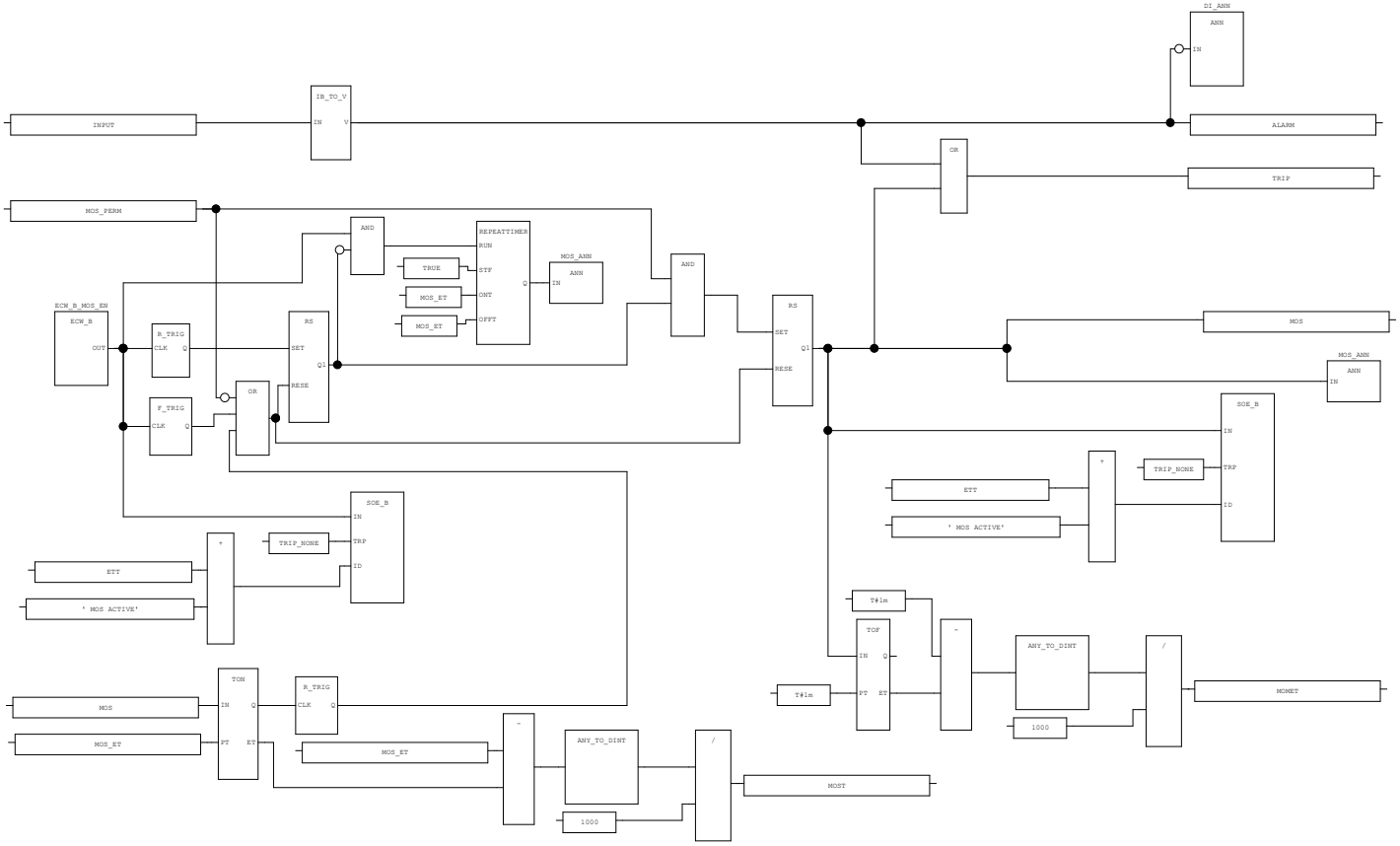
1.0.0

YOKOGAWA

TYPICAL : DDI (User Defined Function Block)

DESCRIPTION : This typical is used for inputs that are wired fail safe with the following main functions.
- Line monitoring
- Trip Management

Rev 00
Rev 01



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:92
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				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.36. DDI_LM (* De-energized to trip with LM *)

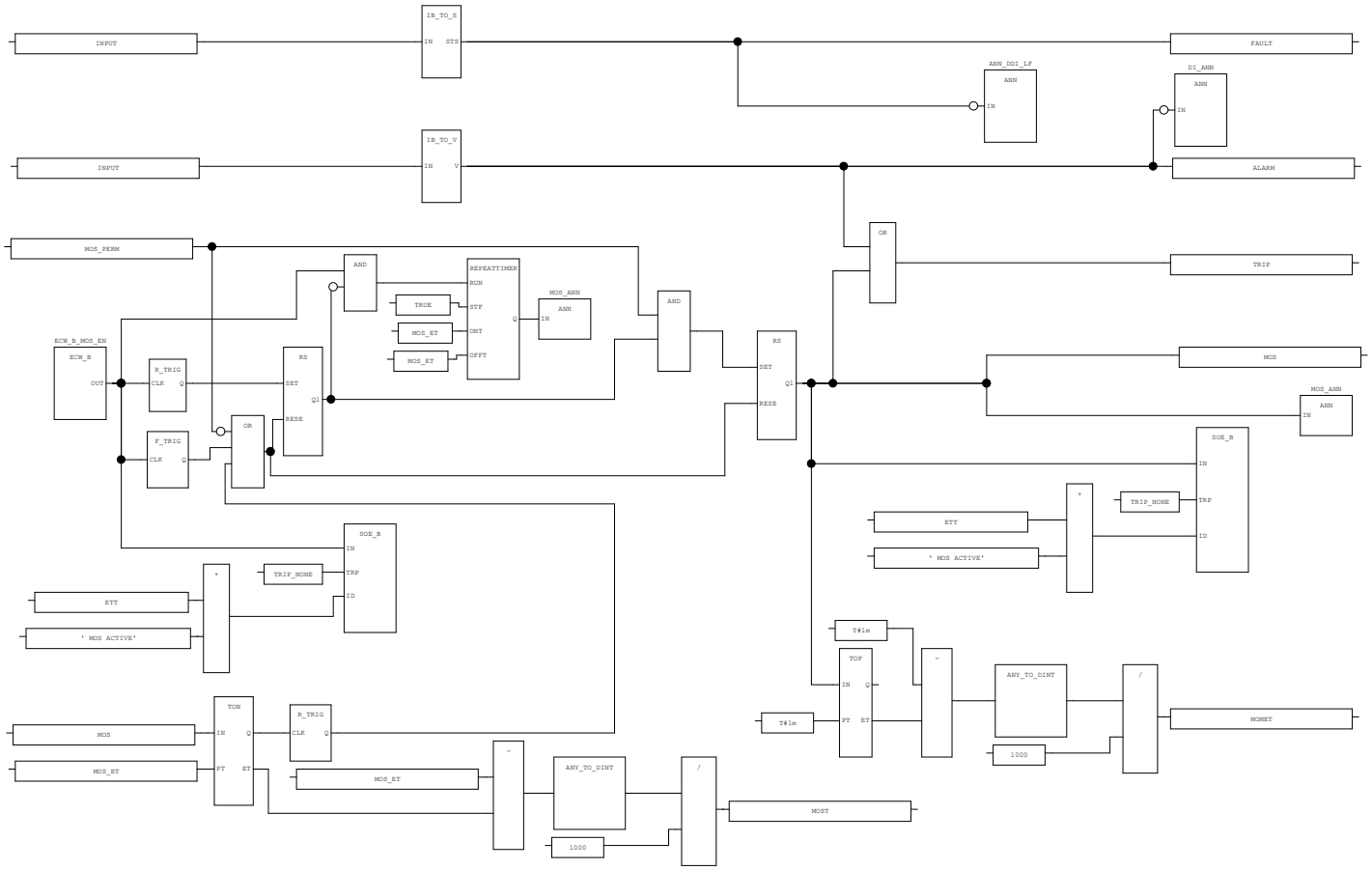
1.0.0

YOKOGAWA

TYPICAL : DDI (User Defined Function Block)

DESCRIPTION : This typical is used for inputs that are wired fail safe with the following main functions.
- Line monitoring
- Trip Management

Rev 00
Rev 01



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:93
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				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.37. EDI (* Energize to trip without LM *)

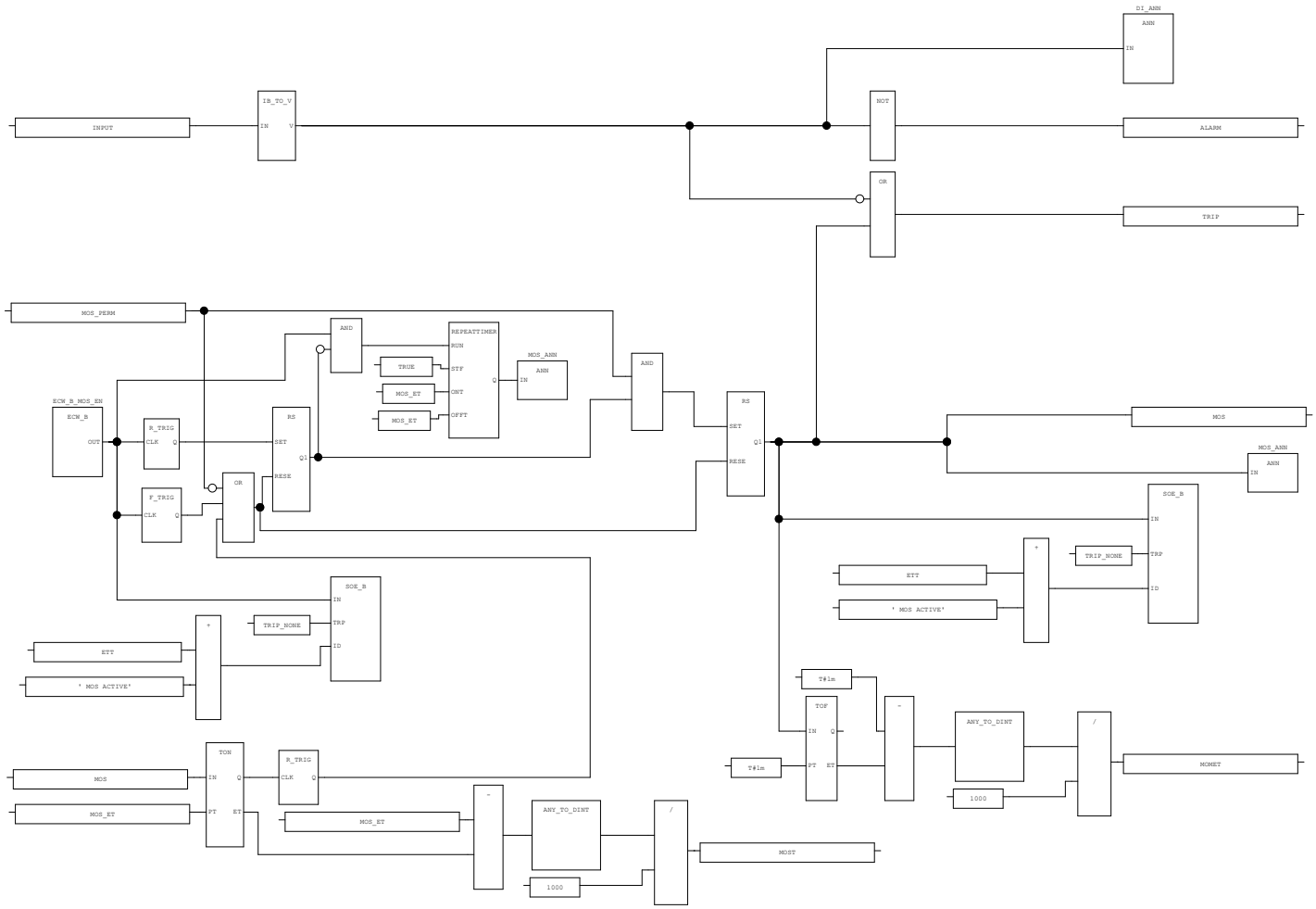
1.0.0

YOKOGAWA

TYPICAL : EDI (User Defined Function Block)

DESCRIPTION : This typical is applicable for energise to trip inputs with the following functions.
- Trip management
- Line monitoring

Rev 00
Rev 01



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				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.38. EDI_LM (* Energize to trip with LM *)

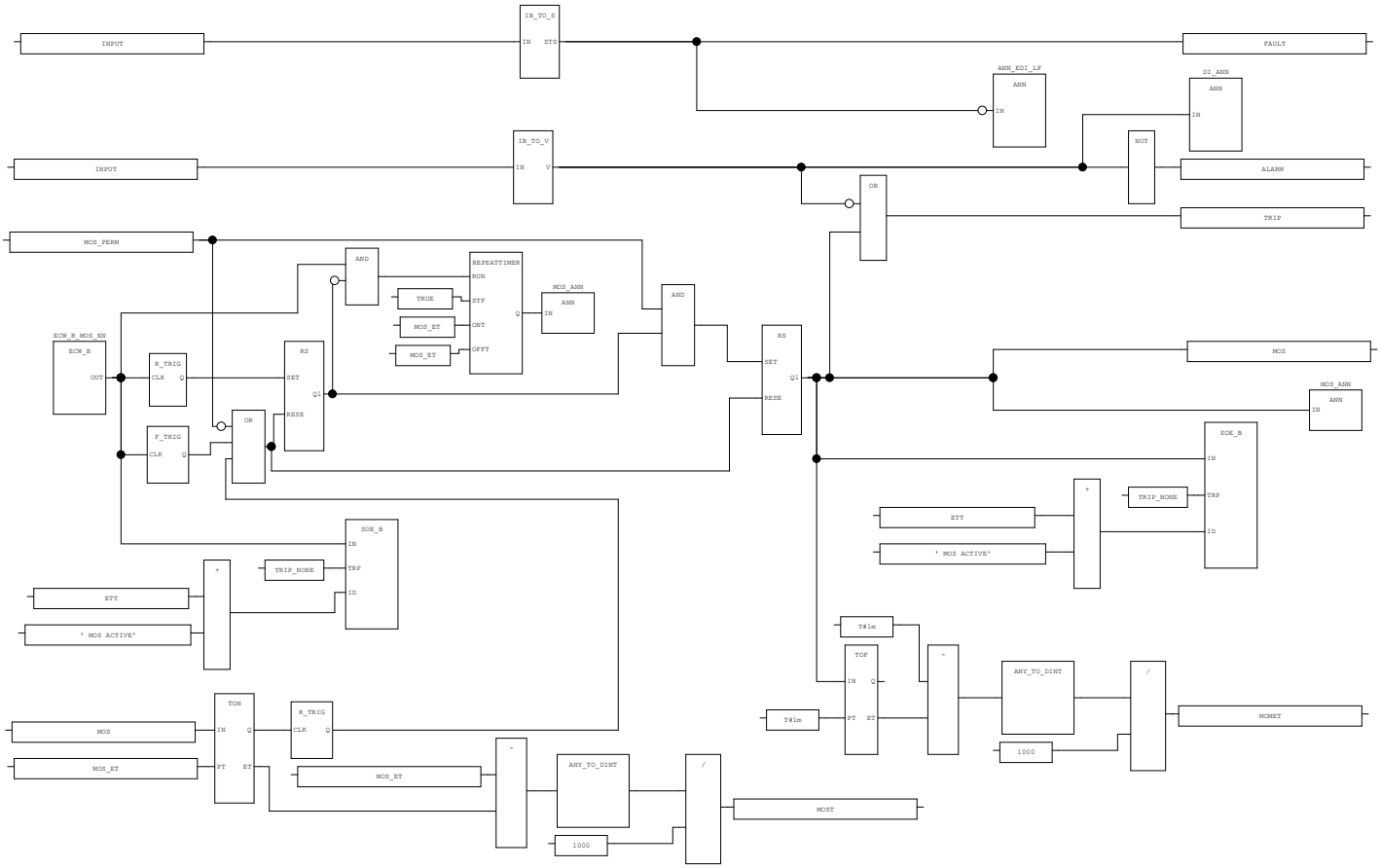
1.0.0

YOKOGAWA

TYPICAL : EDI (User Defined Function Block)

DESCRIPTION : This typical is applicable for energise to trip inputs with the following functions.
- Trip management
- Line monitoring

Rev 00
Rev 01



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:95
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				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

3.39. SAI (* IPS Analog input with HH/LL trip *)

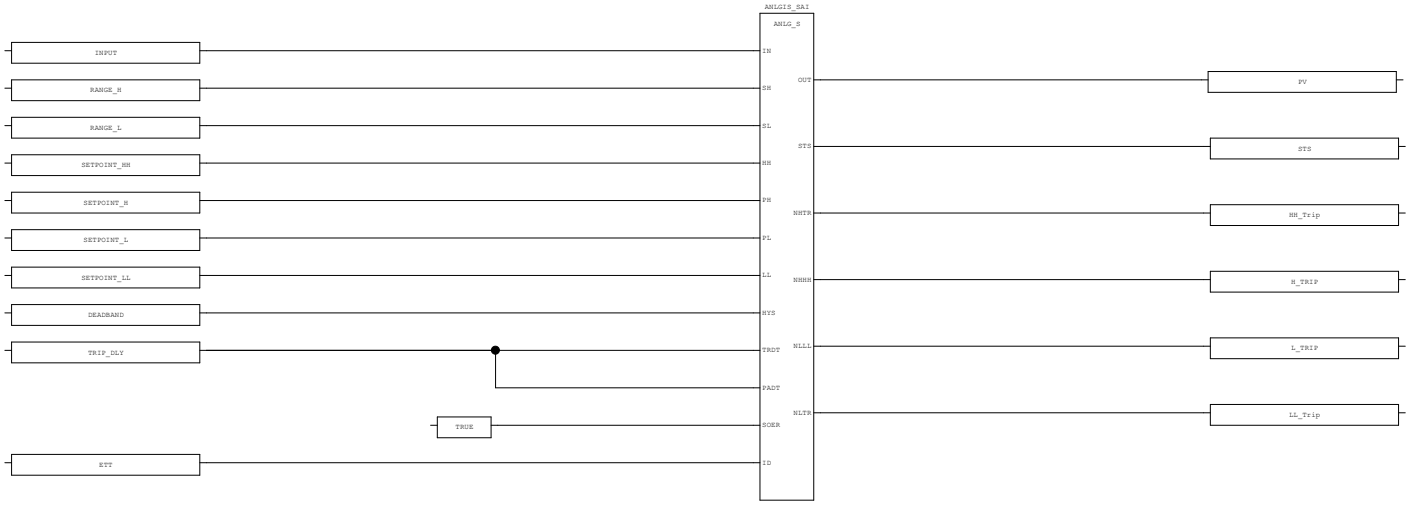
1.0.0

YOKOGAWA

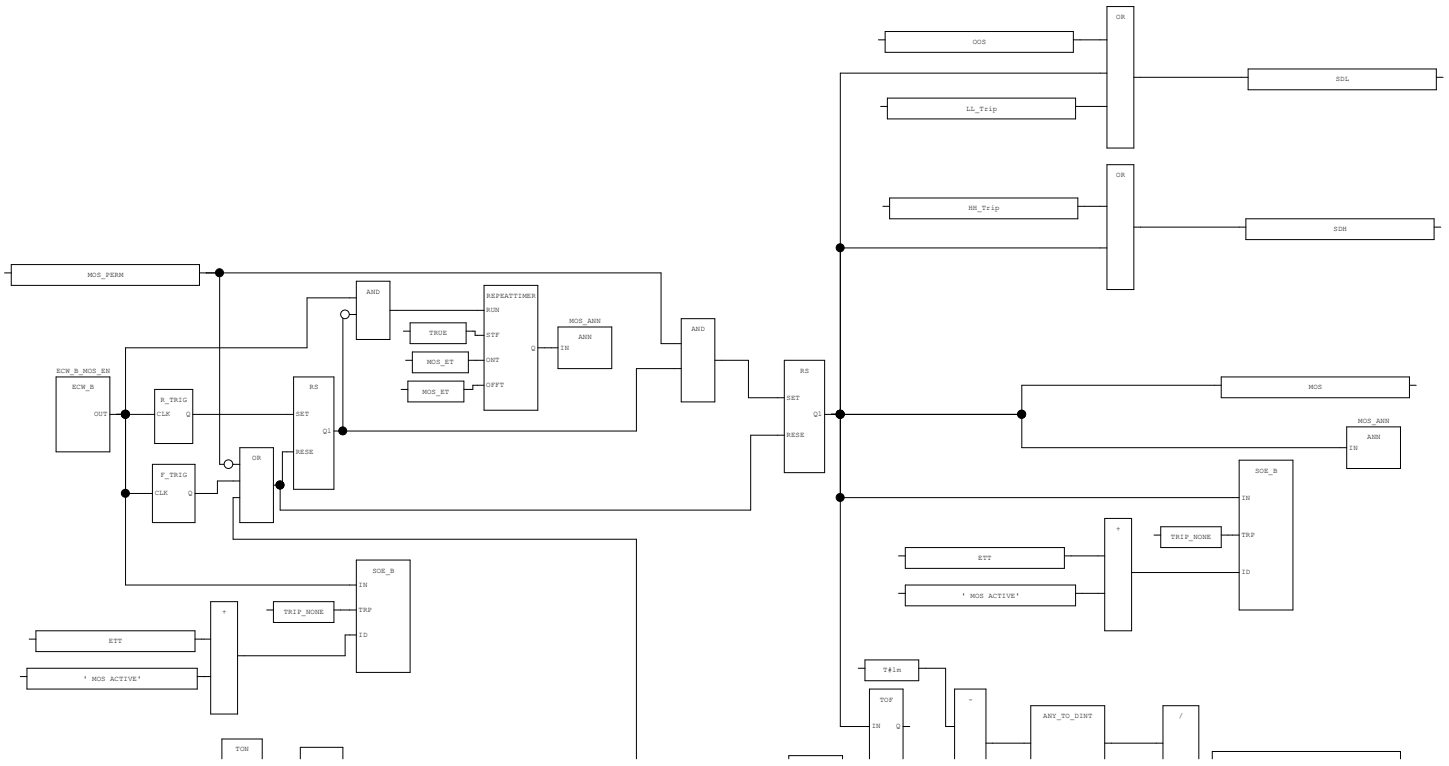
TYPICAL : SAI (User Defined Function Block)

DESCRIPTION : The typical has the following functions.
- Validity check of the signal.
- Process threshold management.
- Optional functions are maintenance override, operational override and noise filtering.

Rev 00
Rev 01



2.0.0



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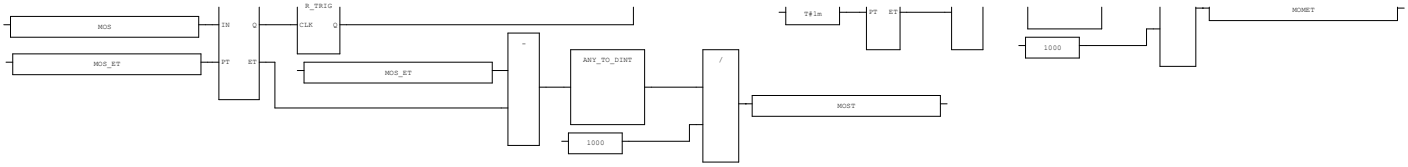

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:97
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				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.40. SDV_1 (* SDV VLV Position FB with Manua/Auto Open *)

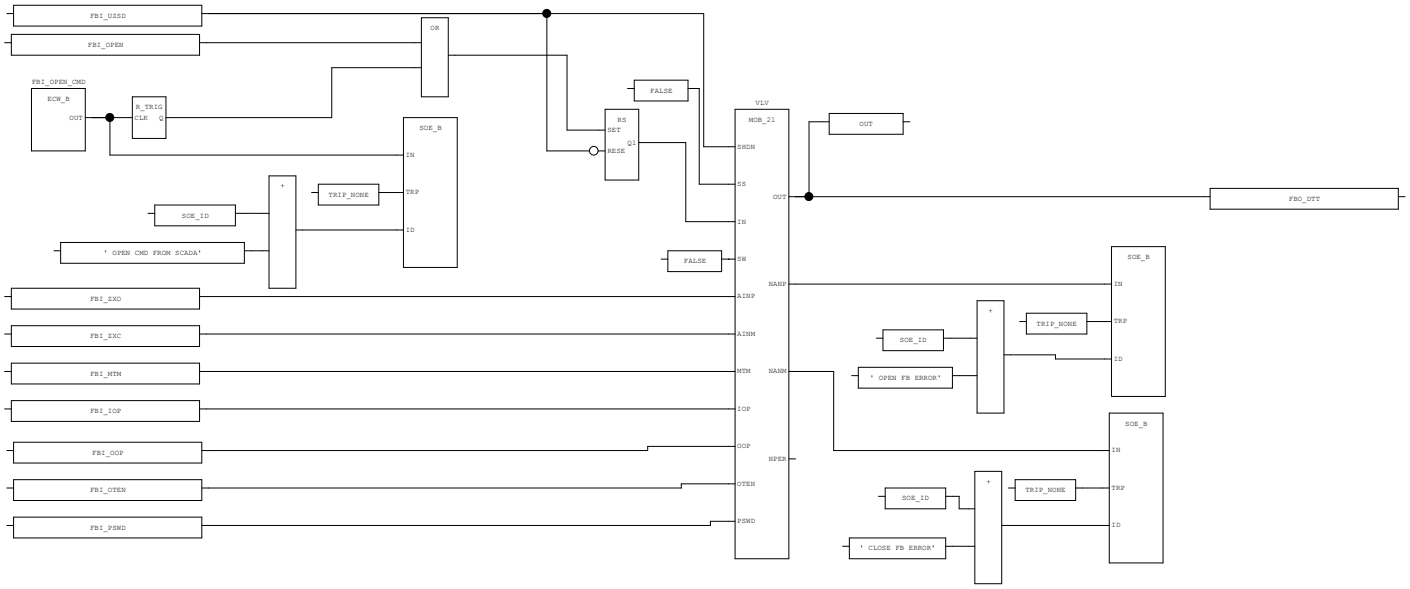
1.0.0

YOKOGAWA

TYPICAL : SDV_1(User Defined Function Block)

DESCRIPTION : Shutdown valve with limit switch/position transmitter feedback.
Typical to handle:
- Shutdown valve with limit switch input.
- Shutdown valve with Field reset & Manual open command.

Rev 00



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				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.41. UZGRP (* IPS UZ group with 10 inputs *)

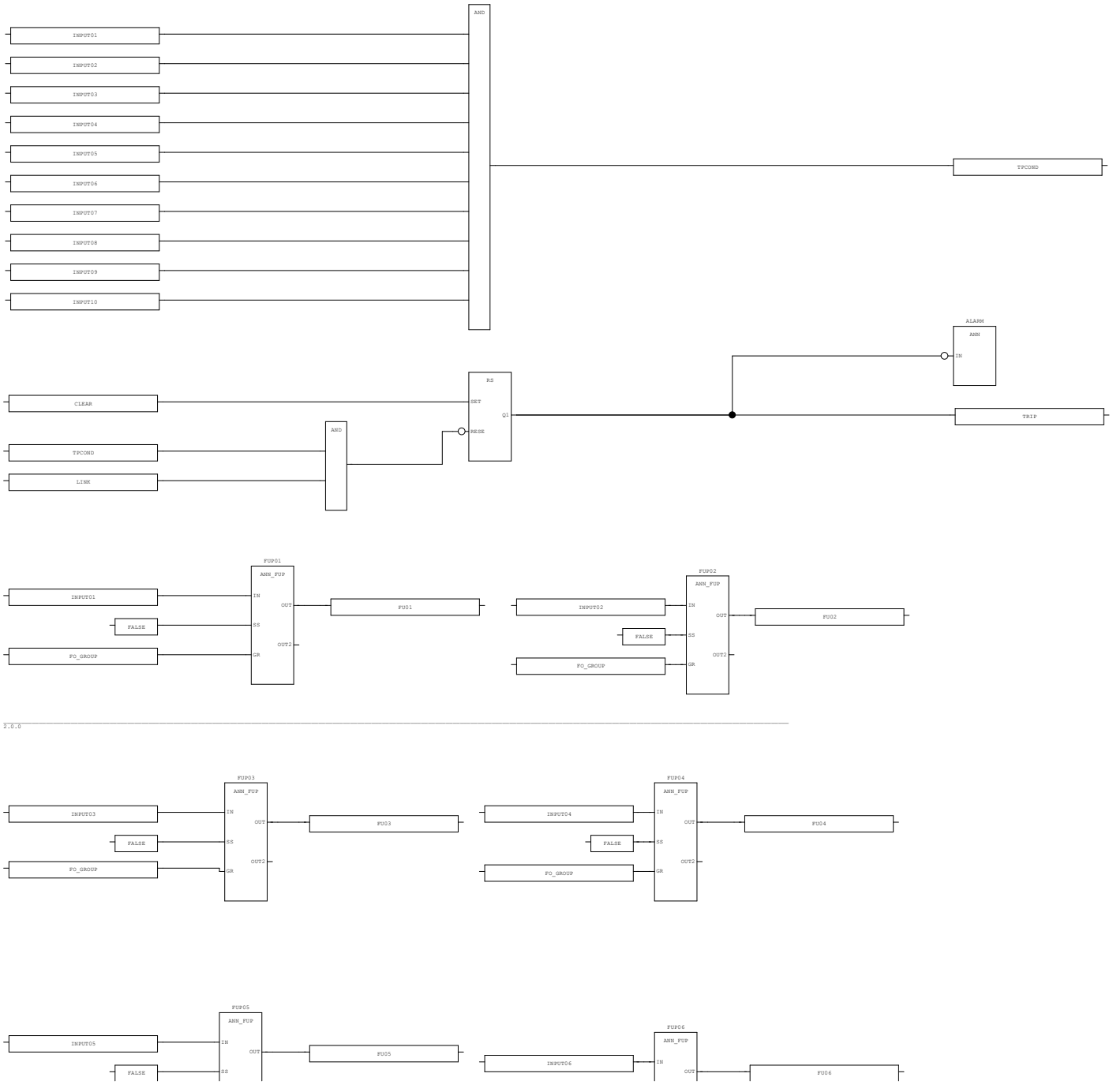
1.0.0

YOKOGAWA

TYPICAL : UZGRP (User Defined Function Block)

DESCRIPTION : This FB is used for the processing trip logic.
The UZGRP function block has the following main functions:
- Trip the UZ group if any of the input causes are in tripped state.
- Initiate a first out alarm.
- Latch the UZ trip until the causes have returned to normal state & no reset is activated.

Rev 00



2.0.0

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE:99
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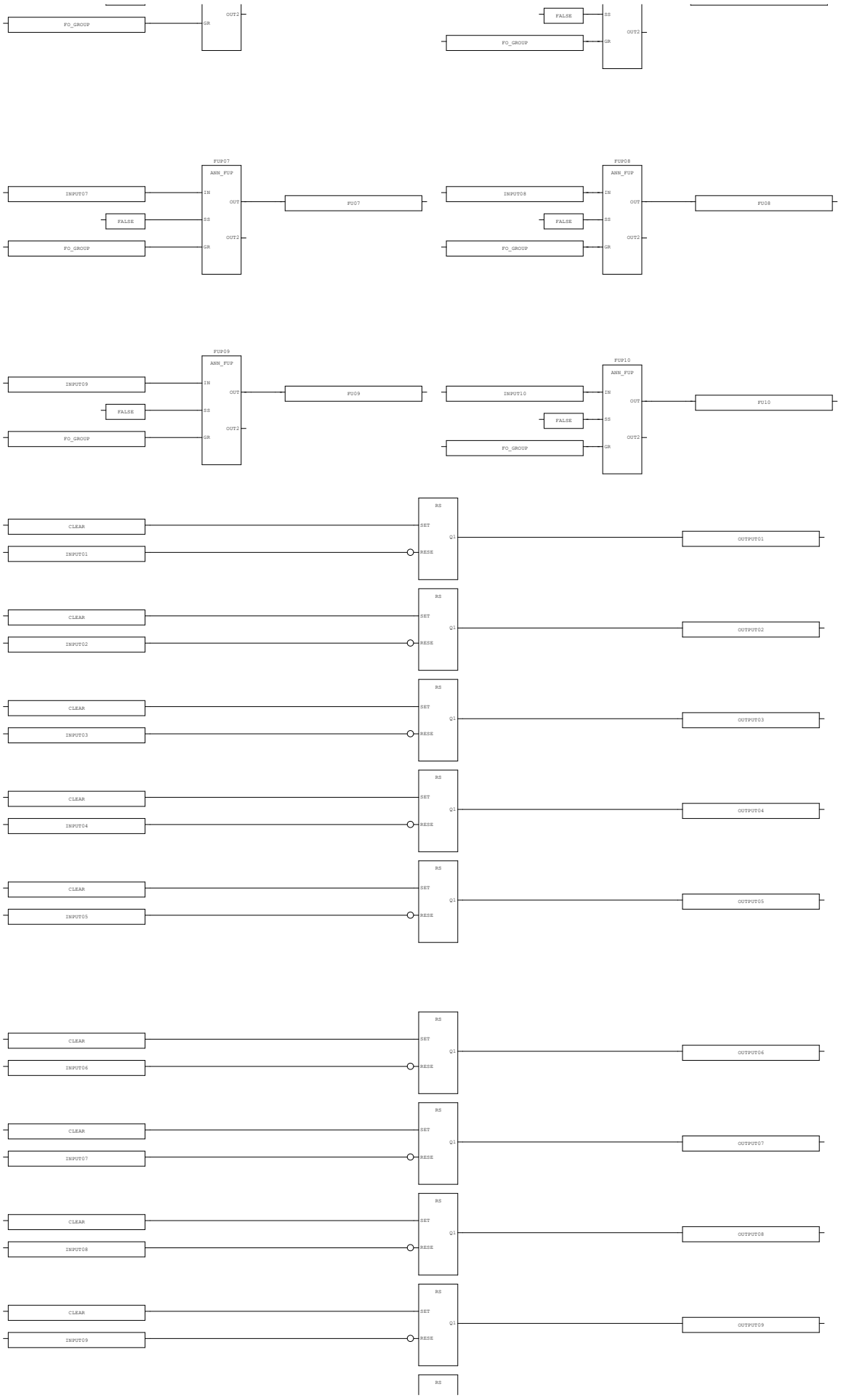
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



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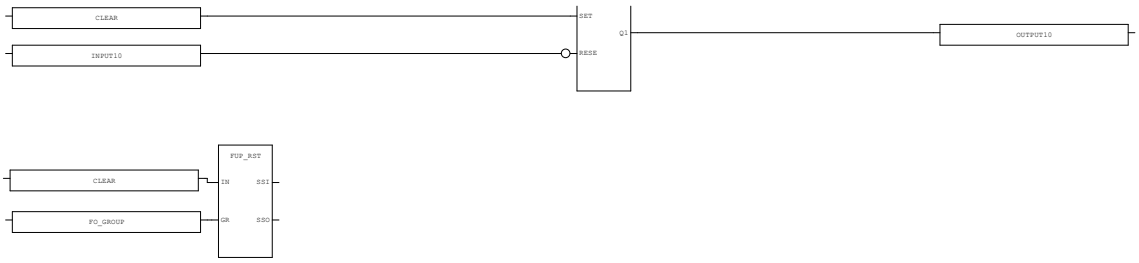
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103



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				DATE:	16-Sep-2025		TOTAL 103
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

3.42. UZRST (* IPS Reset for UZ group *)

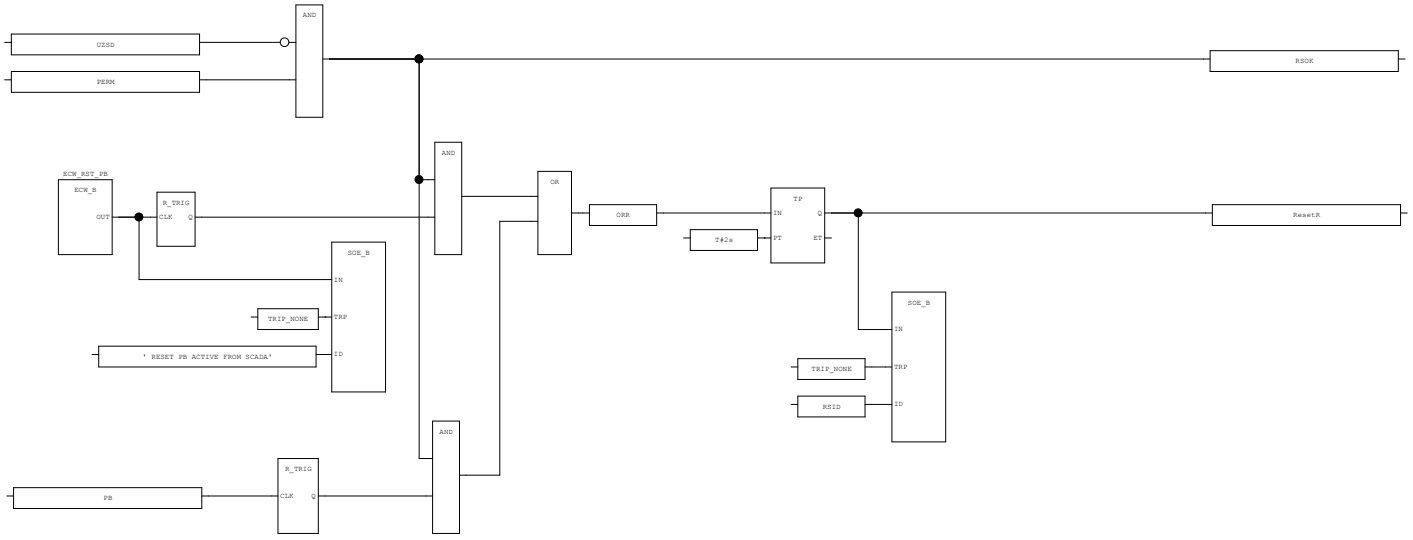
1.0.0

YOKOGAWA

TYPICAL : UZRST (User Defined Function Block)

DESCRIPTION : This FB is used for the UZ group reset.
The UZRST function block has the following main functions:
- Reset UZ groups only when SCS Reset operated from HIS has been applied
- Indicate that SCS reset is allowed
- Reset First out alarm

Rev 00



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE102
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				DATE:	16-Sep-2025		TOTAL
SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		103

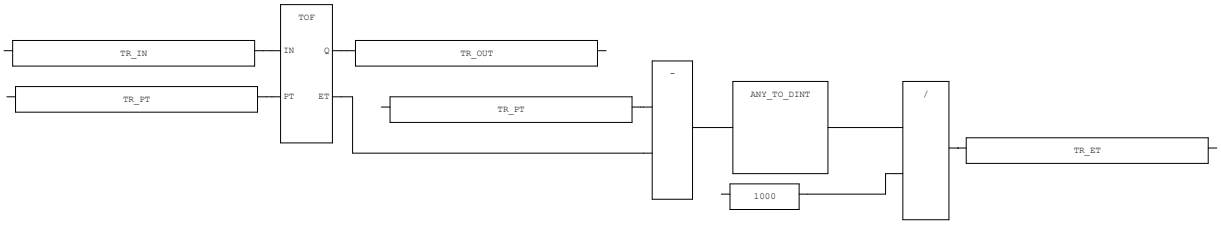
3.43. TOF_TIMER

YOKOGAWA

TYPICAL : TOF TIMER (User Defined Function Block)

DESCRIPTION : This FB is used to provide delayed action or alarm in response
to specific condition.
.
The TOF TIMER function block has the following main functions:
- Avtivation on condition.
- Timing Period
- Condition sustains beyond the timer

Rev 01



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SYSTEM:	ESD	POU COMMENT:		REVISION:	5.4		

1724000594-IN-DG-00026
SIS and FGS Logic Print Out
Attachment-2

MYRSPJT
SCS0120

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 1
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

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3. POU

3.1. REV_HIS (* Rev History - Application Program Rev Information *)

1.0.0

```
************************************************************GENERAL INFORMATION*************************************************************

Project Name: Base Load Power Hub (BLPH)

Company Project Number: E366772C00

Contractor Project number: CW-I-WP4-2023-05

Yokogawa Affiliate: YOKOGAWA ITALIA SRL - ITALY

ORIGINATOR : DAMINI.D
APPROVER : ALESSANDRO
REVIEWER : MANOJKUMAR.P

project purpose: FGS APPLICATION

Process Units: -

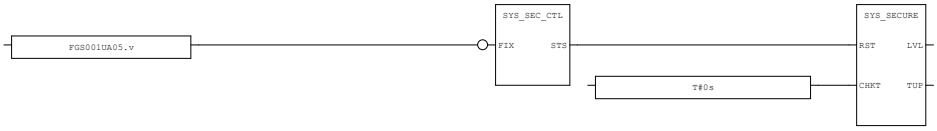
************************************************************CURRENT REVISION*************************************************************

1.0 : ISSUED FOR HARDWARE PRE-FAT
1.1 : ISSUED FOR IMPLEMENTATION COMPLETED
1.2 : ISSUED FOR SW PREFAT
1.3 : ISSUED FOR SW PREFAT PUNCH CLOSURE
2.0 : ISSUED FOR FAT
3.0 : END OF FAT
```

3.2. DIAG_SYS (* System Diagnostic *)

I.0.0

SCS0120_SYS_SEC PROGRAM SYSTEM ENABLE



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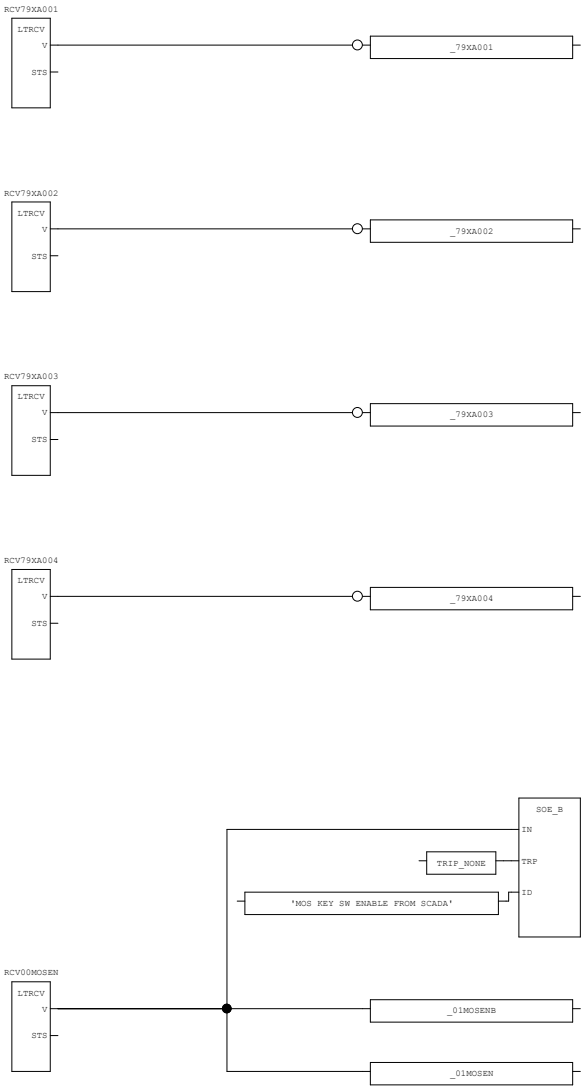
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.3. RECV (* Signal Transfer - Receive *)



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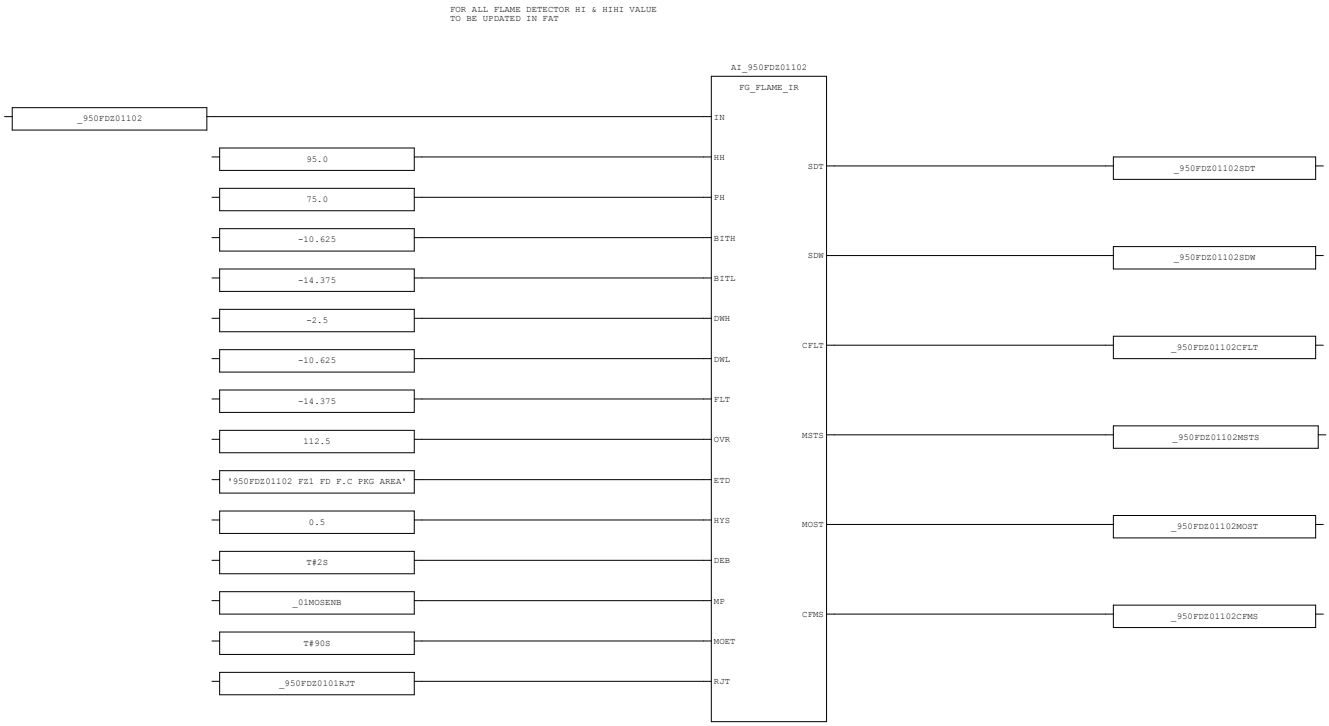
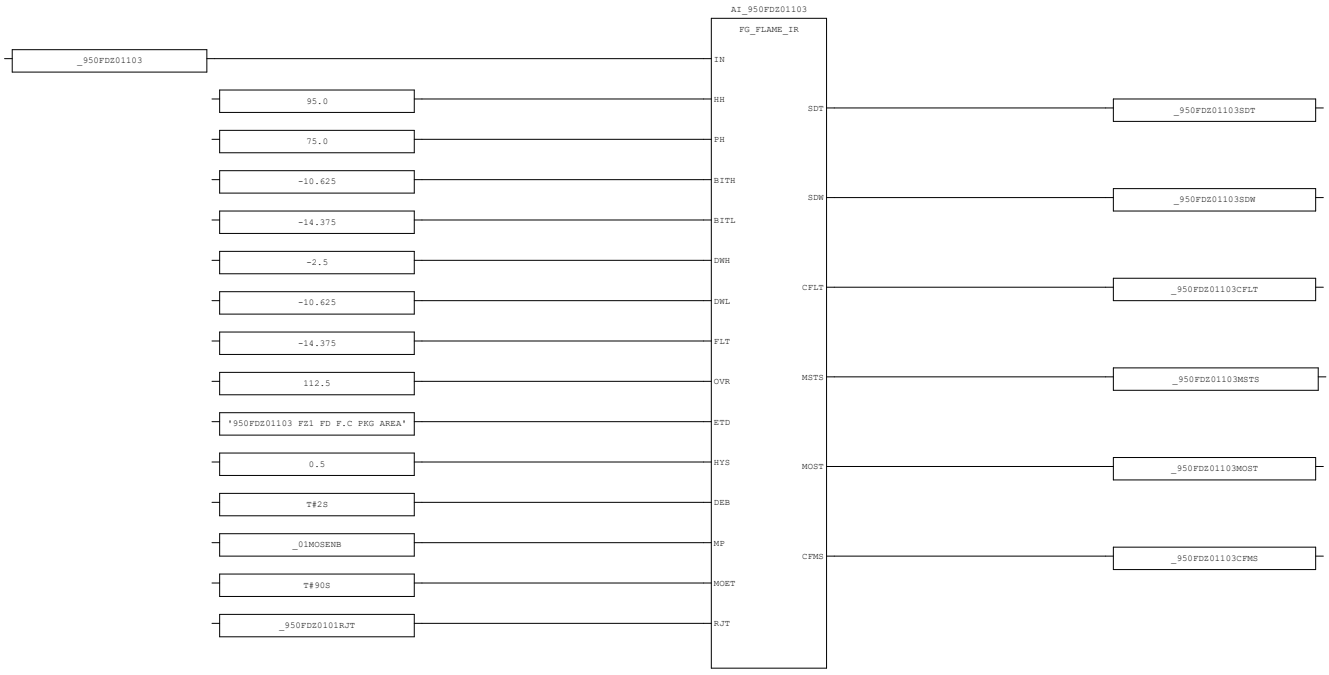
3.4. AI_FD_01 (* Analog Input Processing-Flame Detector *)





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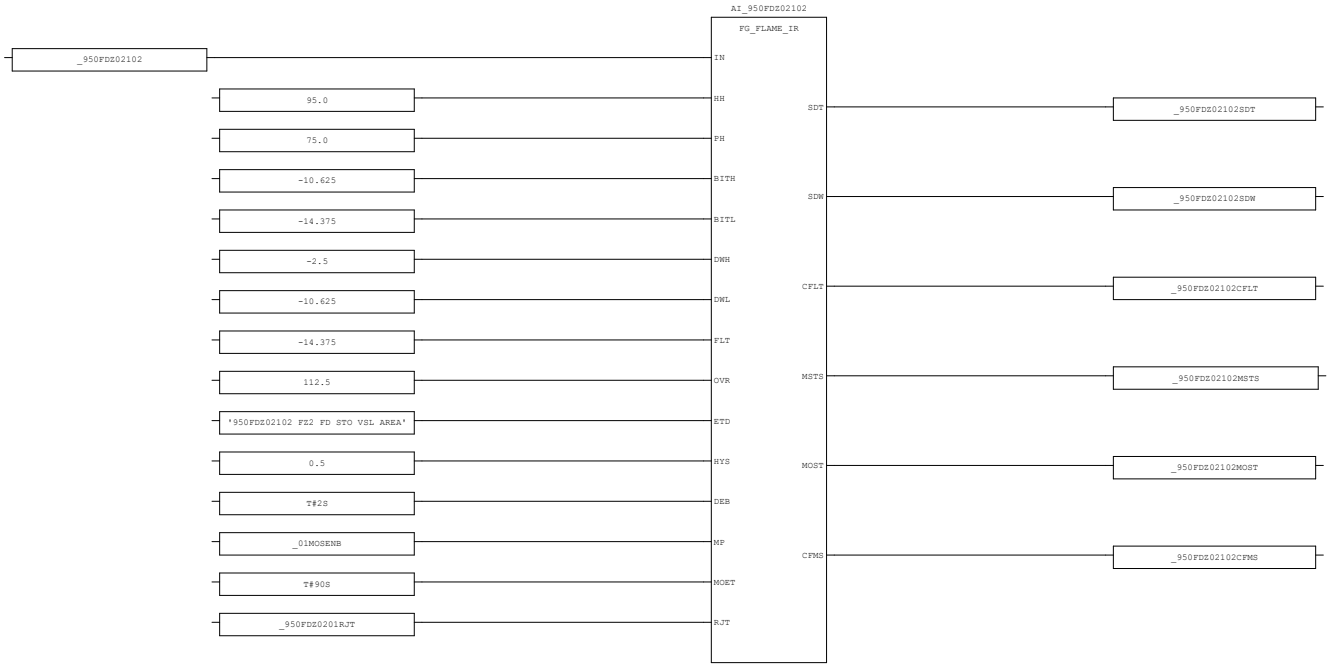

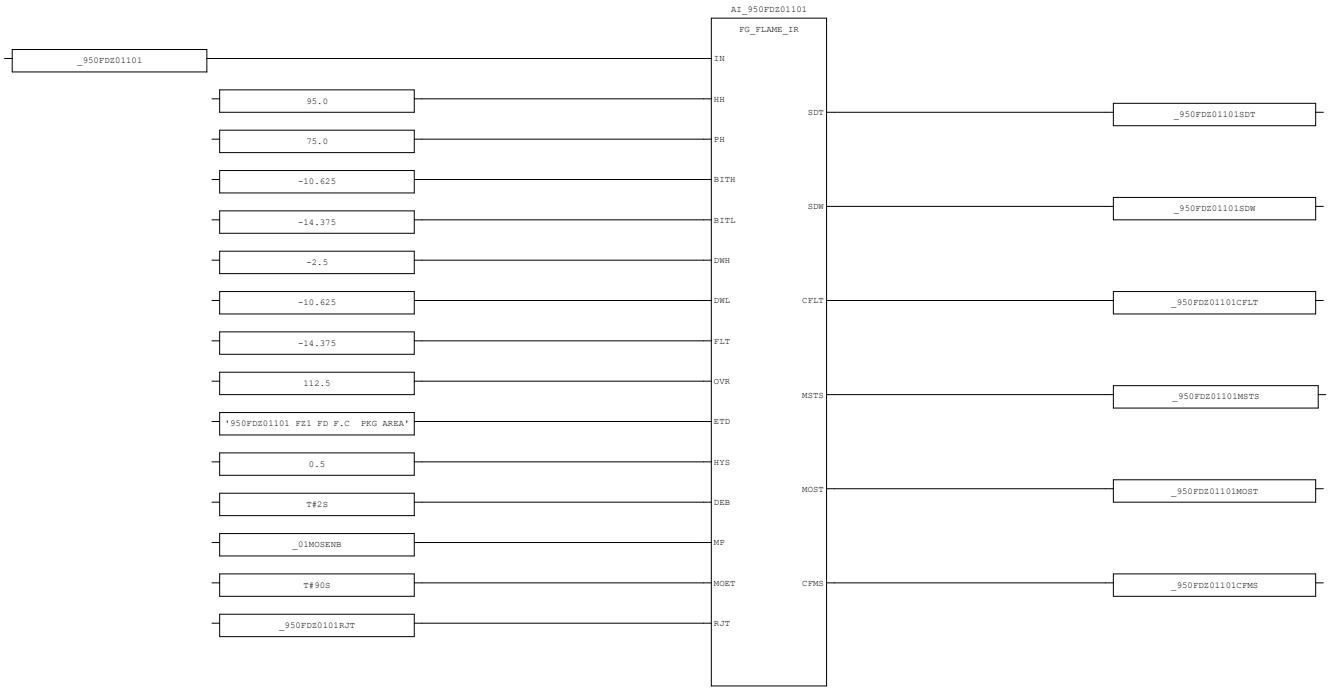

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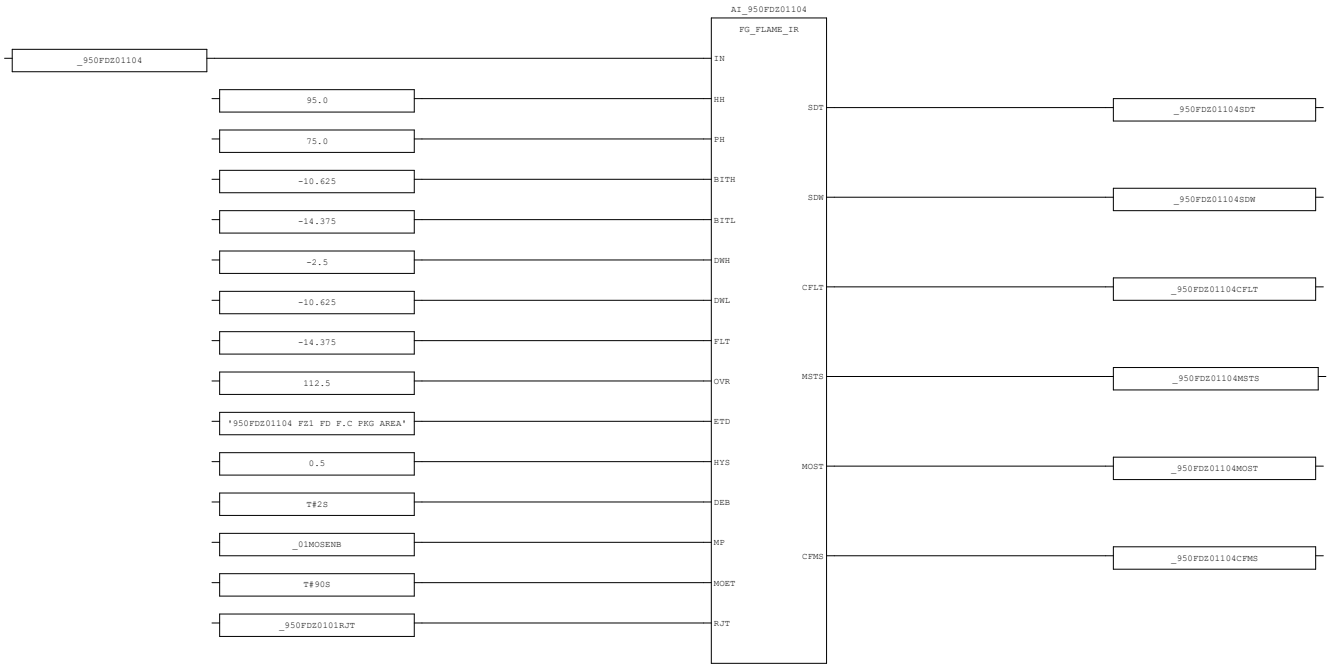

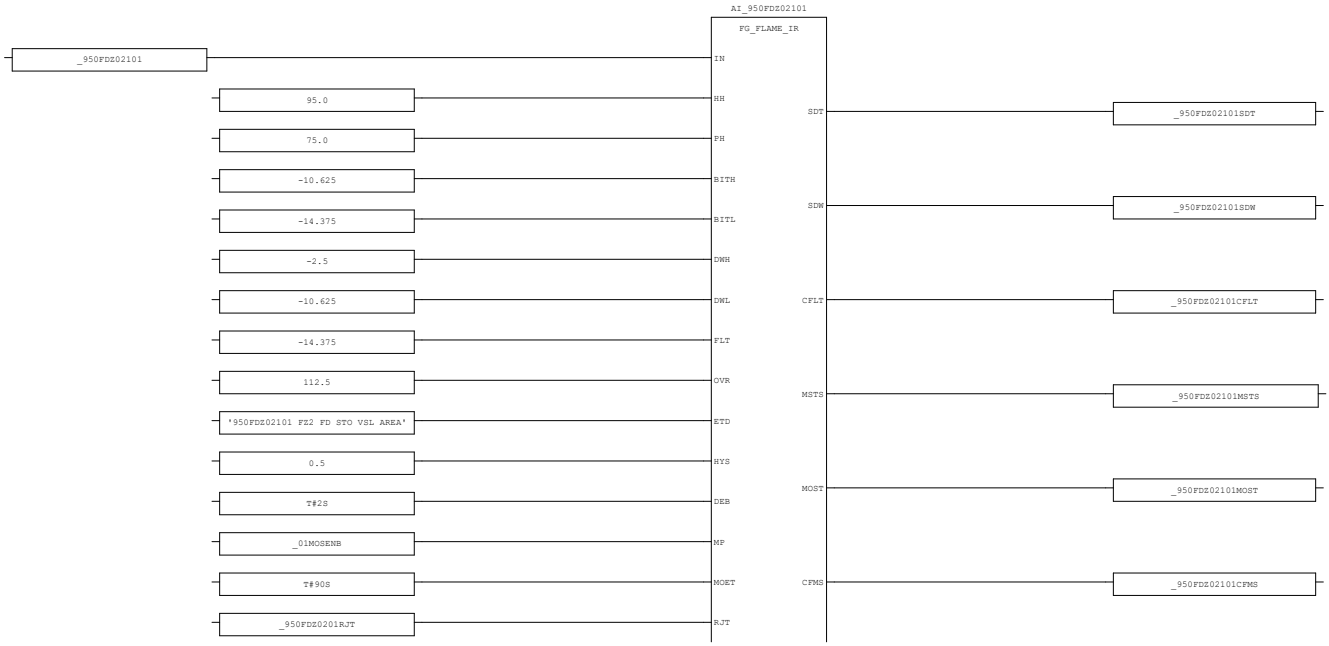

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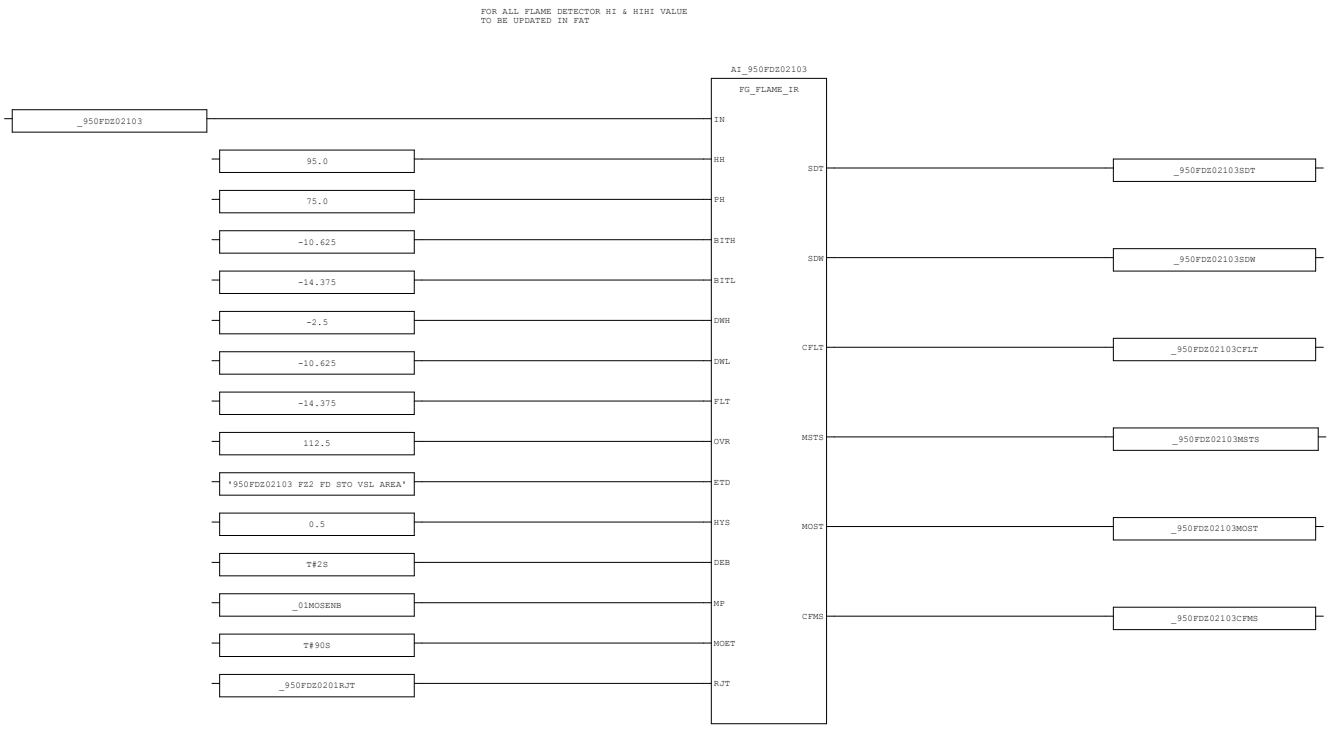
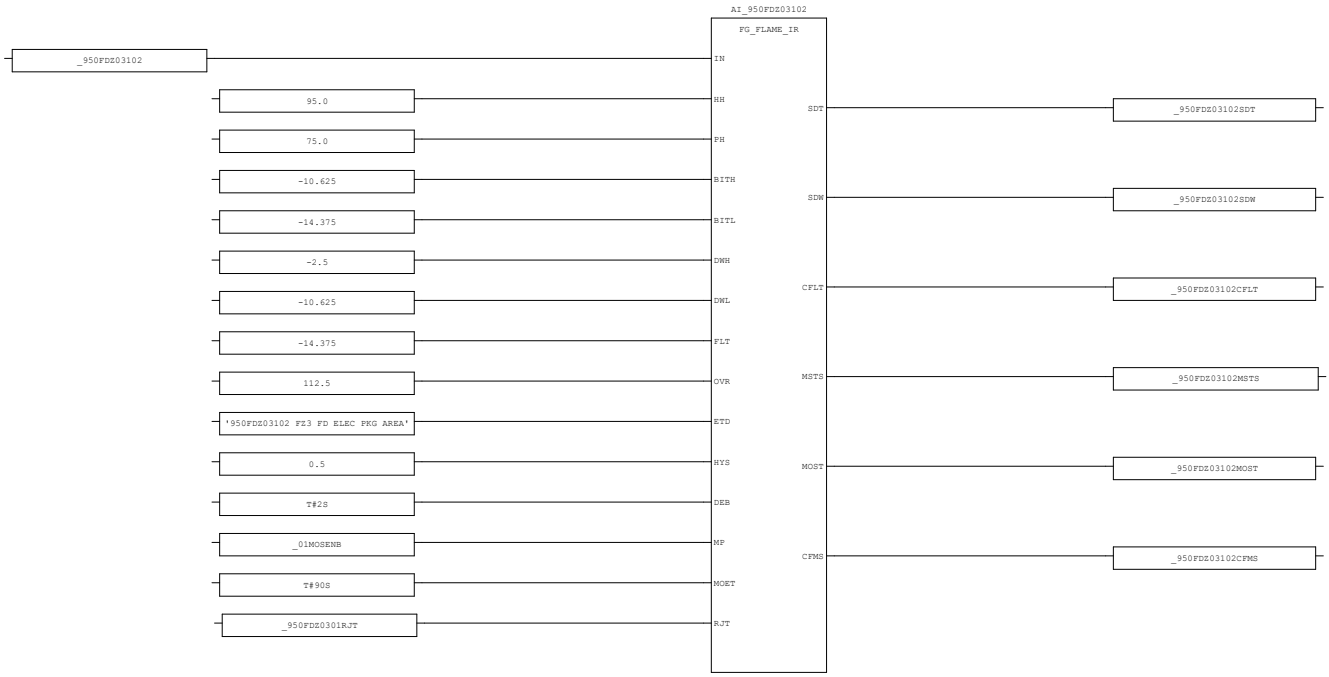
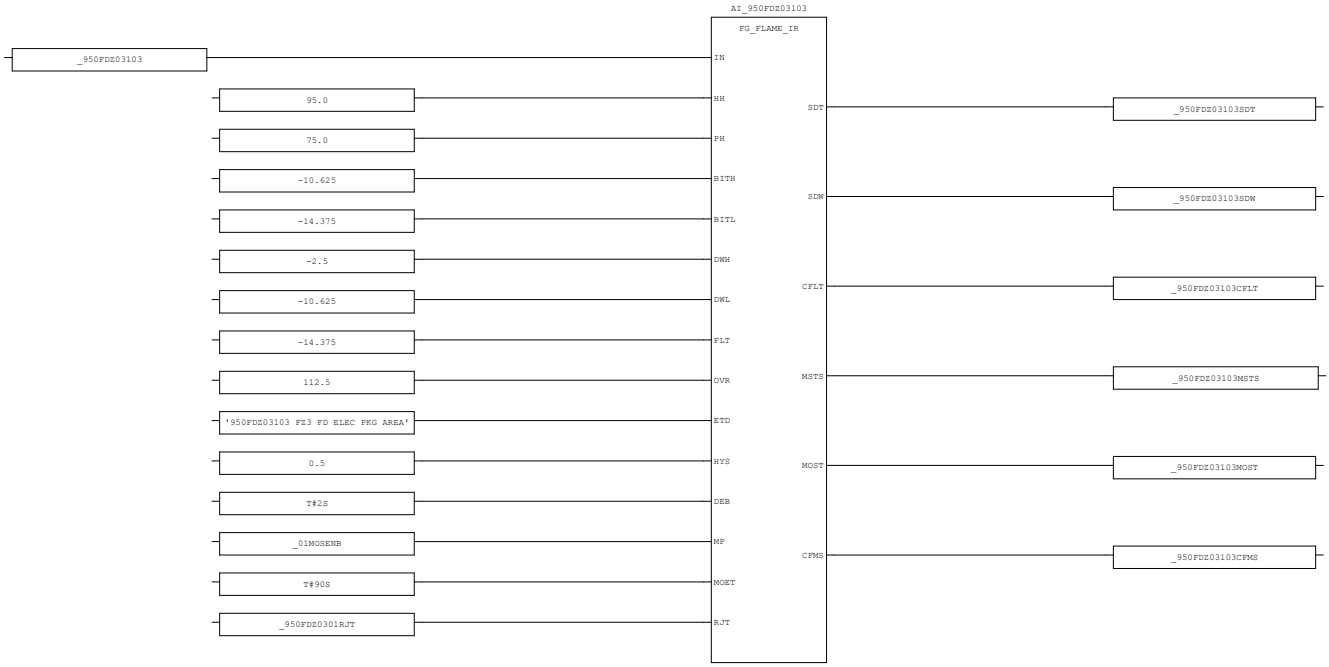
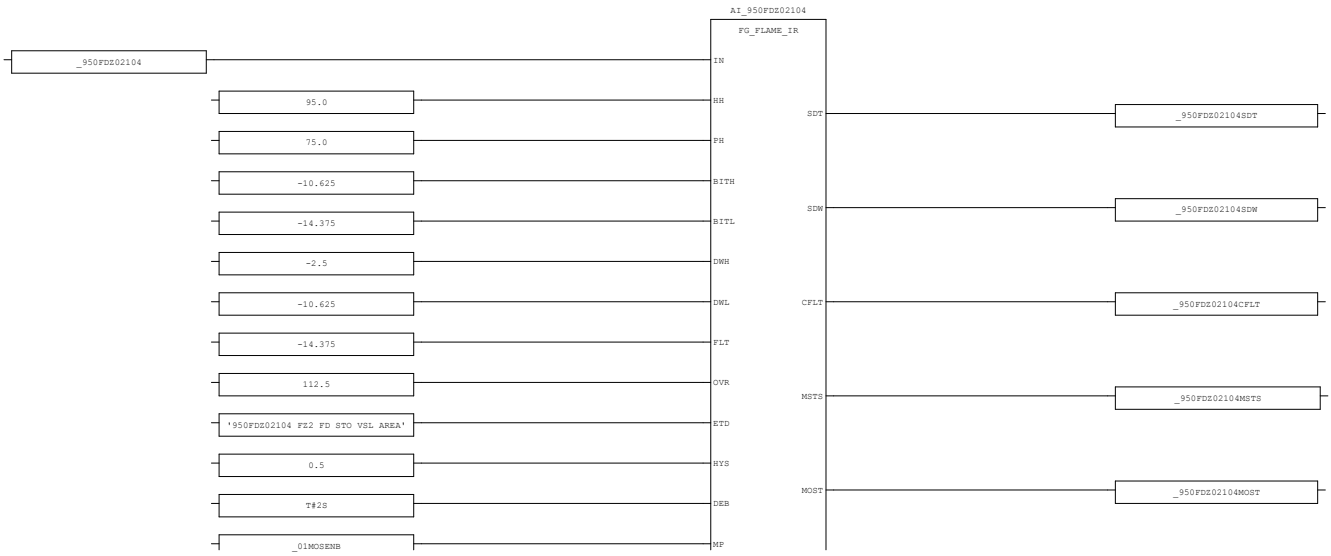
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.5. AI_FD_02 (* Analog Input Processing-Flame Detector *)

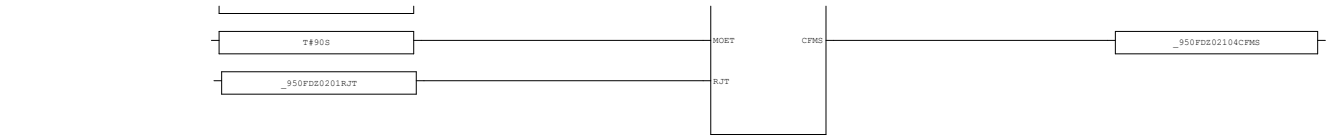


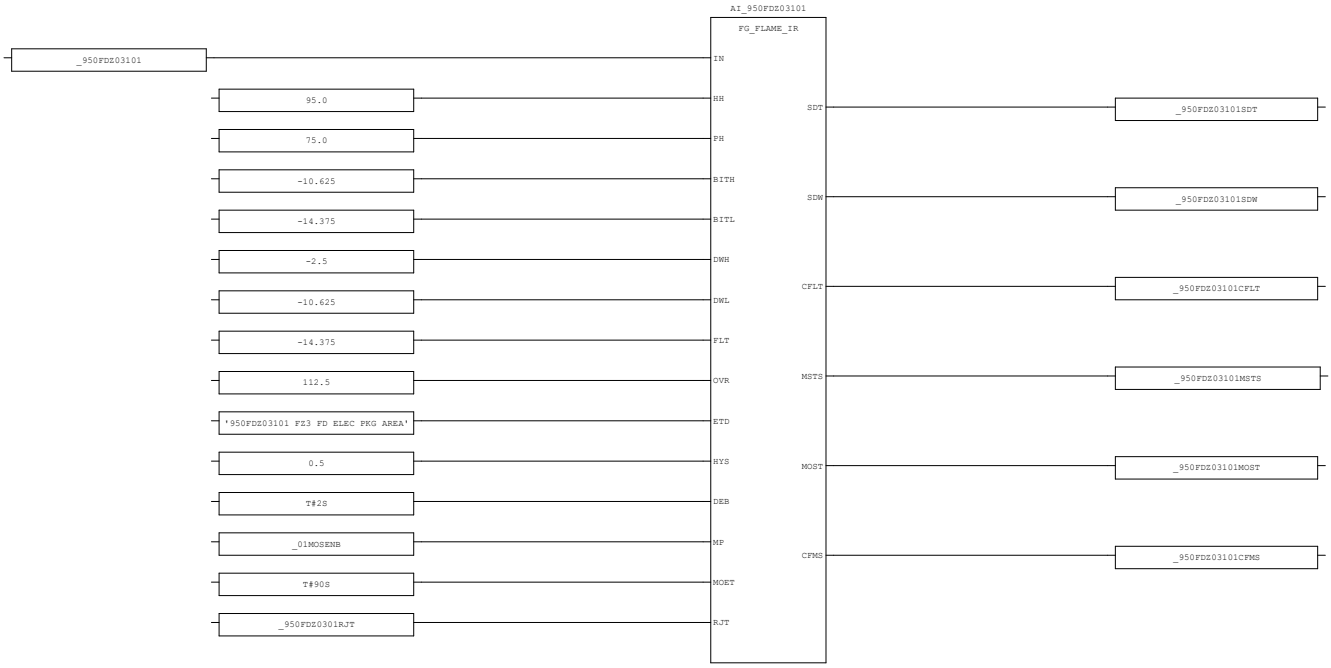


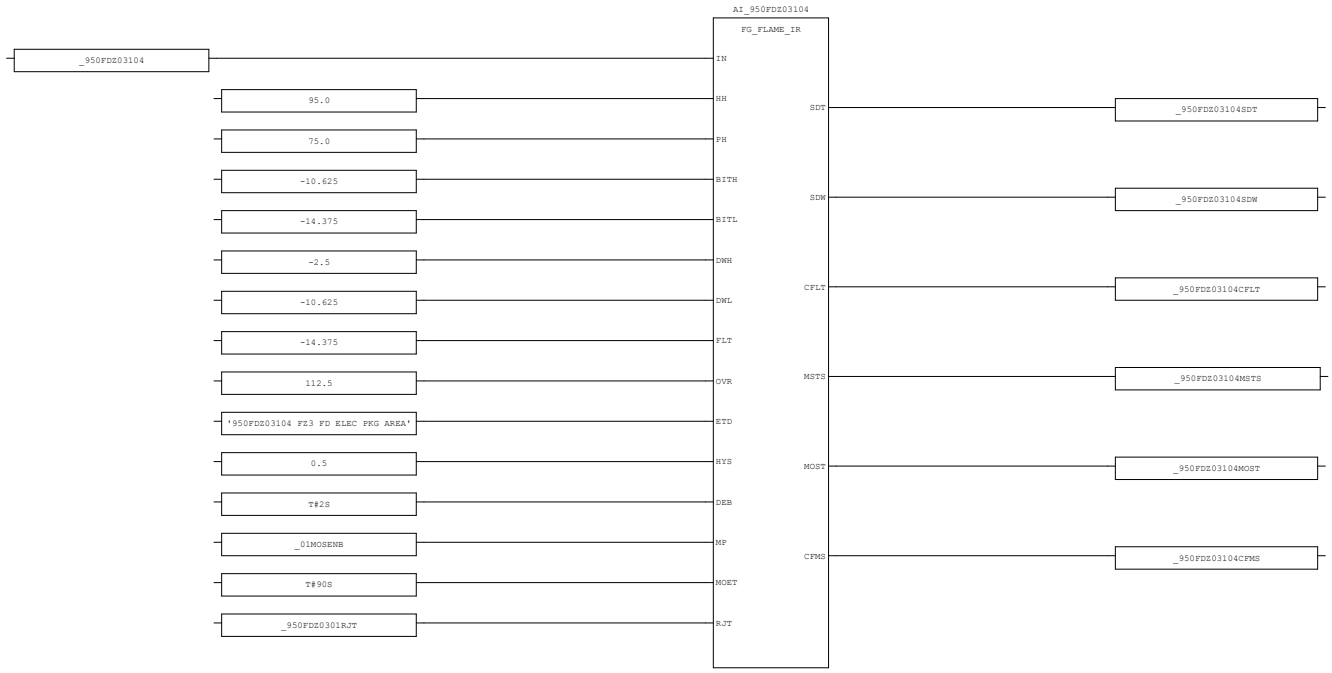




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 13
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

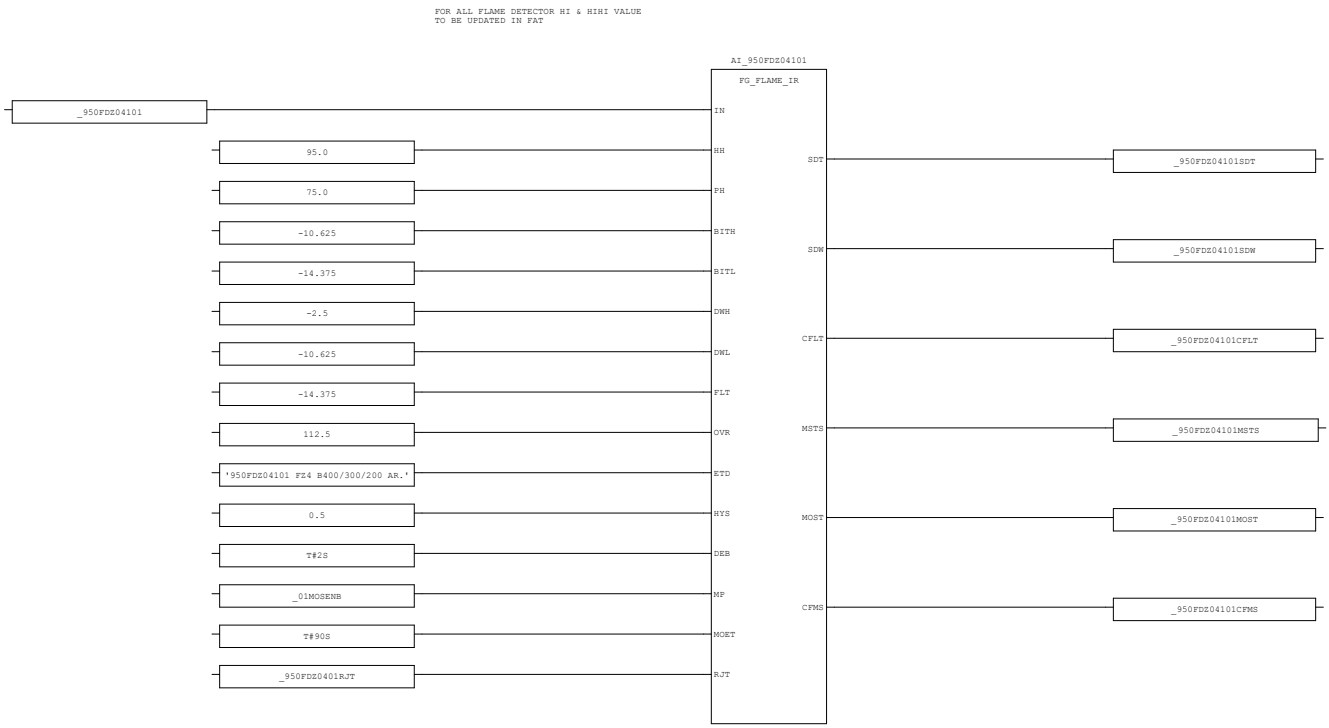


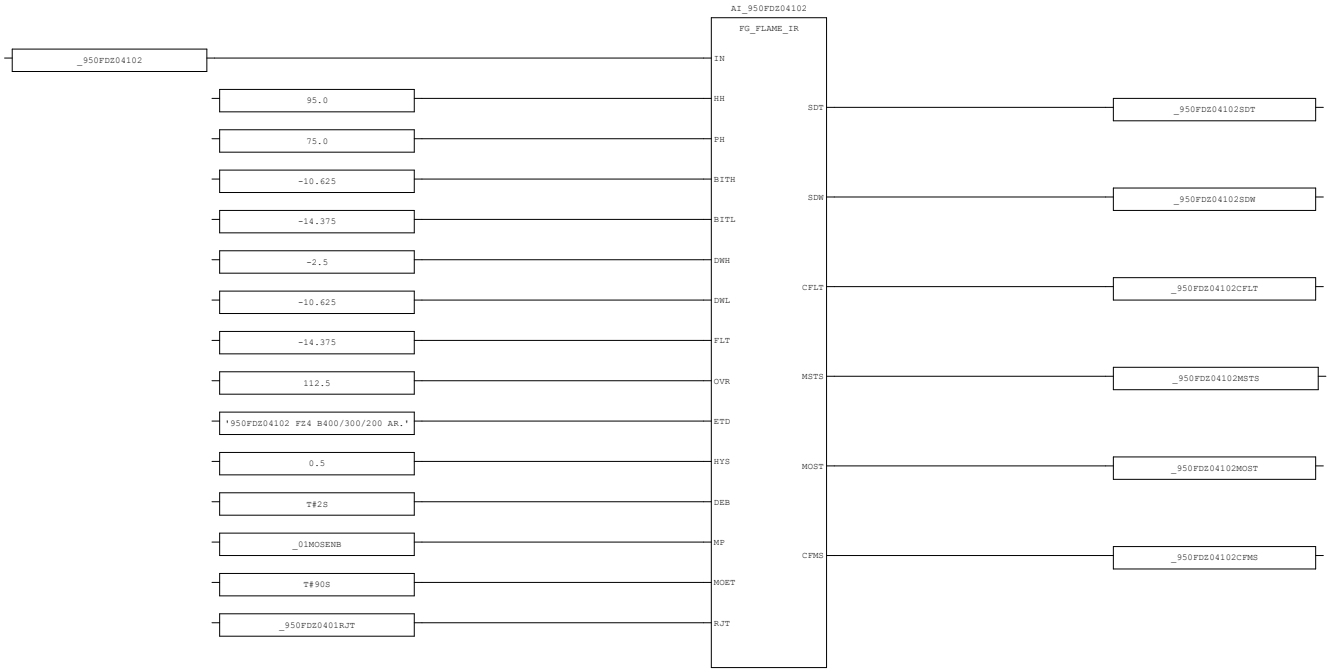




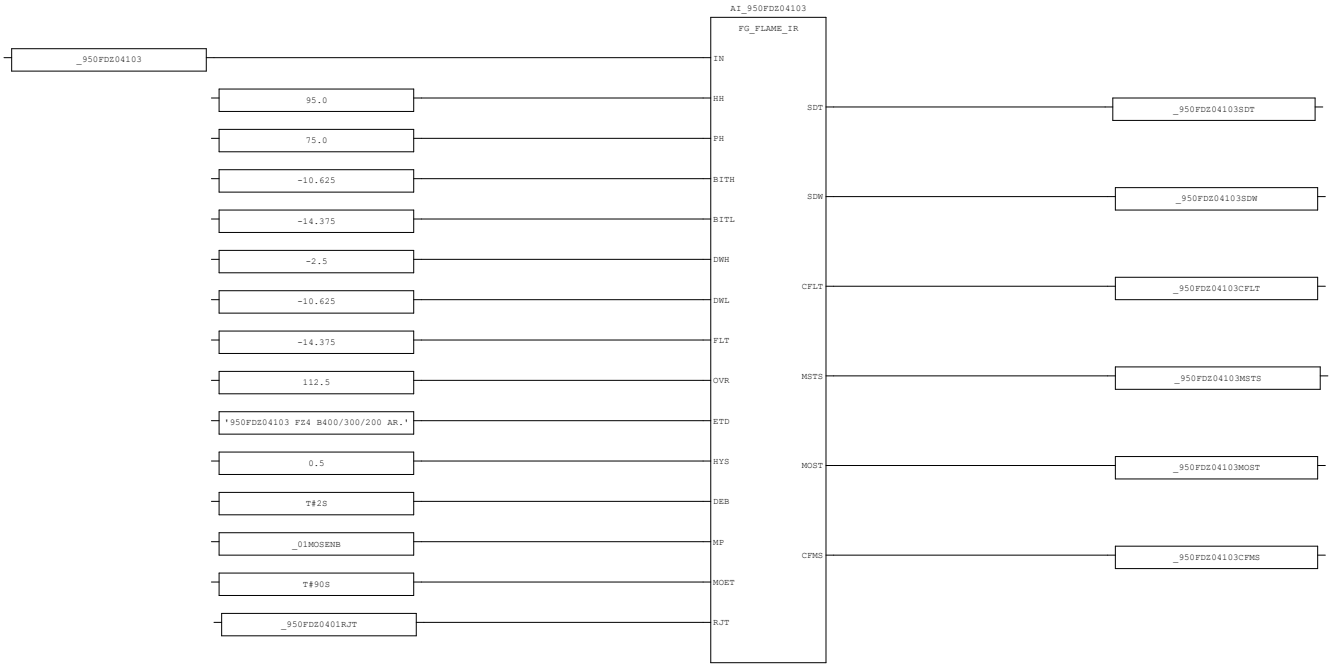
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 14
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

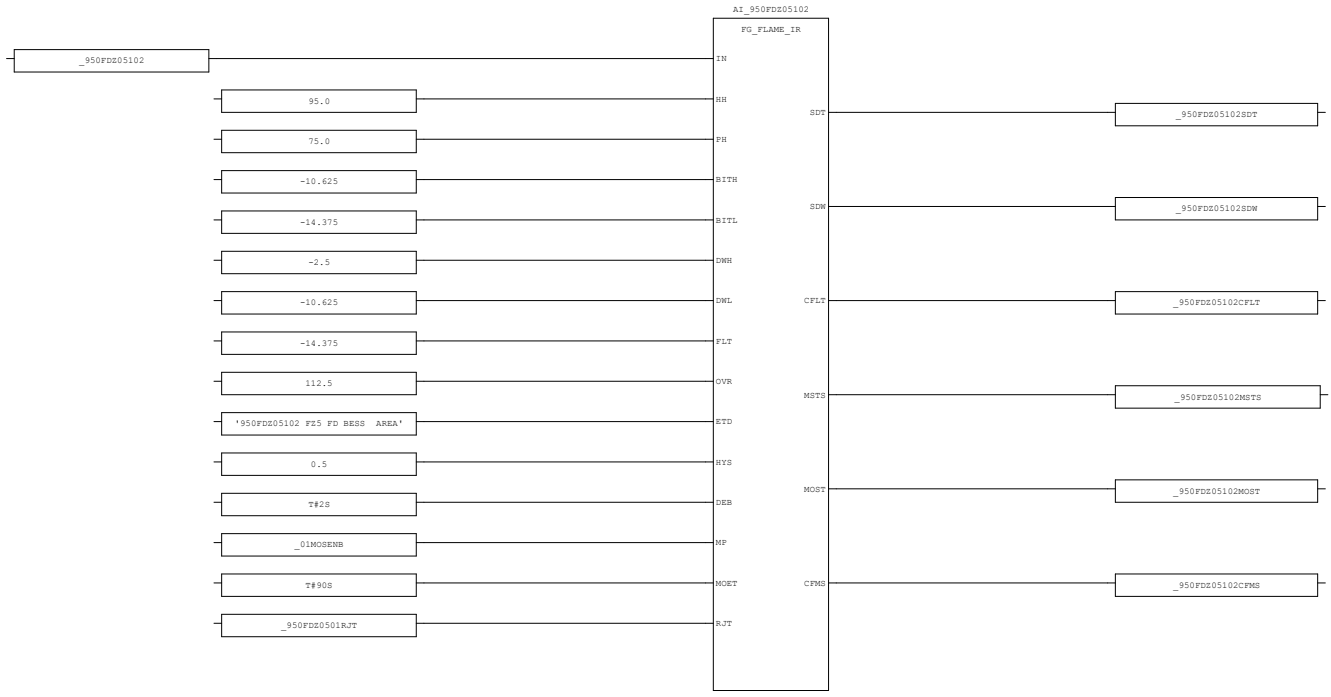
3.6. AI_FD_03 (* Analog Input Processing-Flame Detector *)



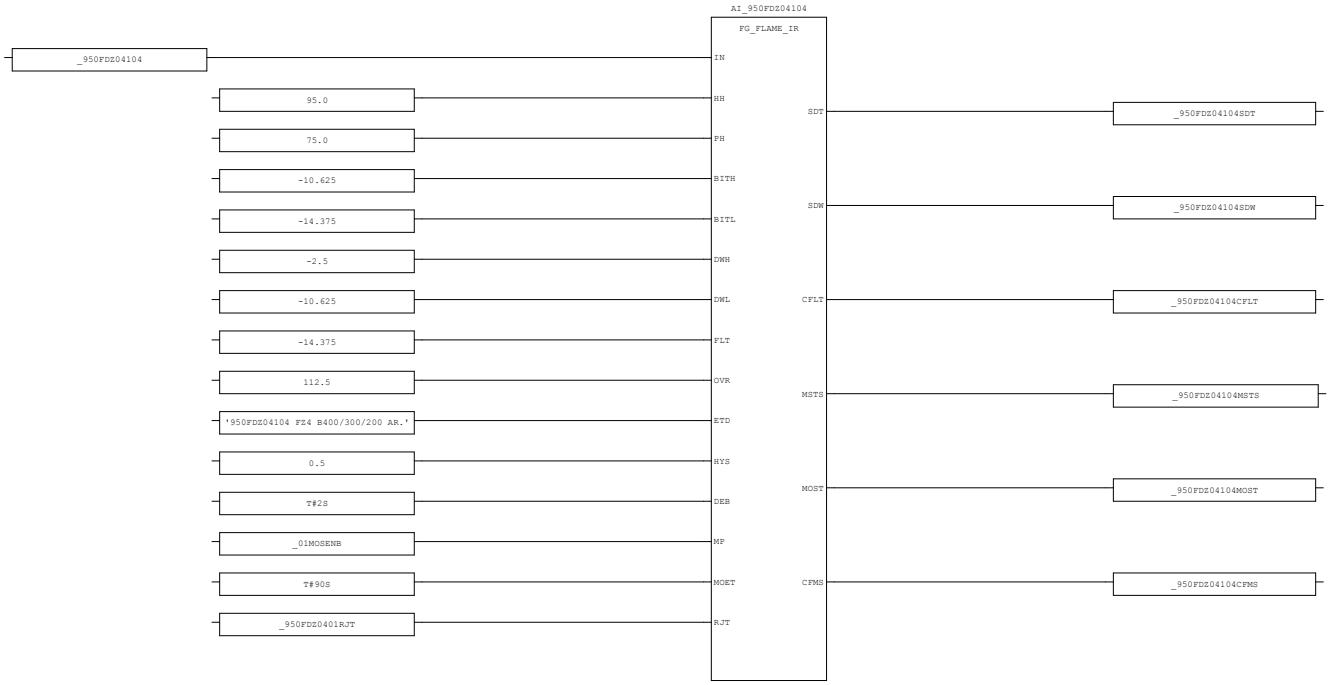


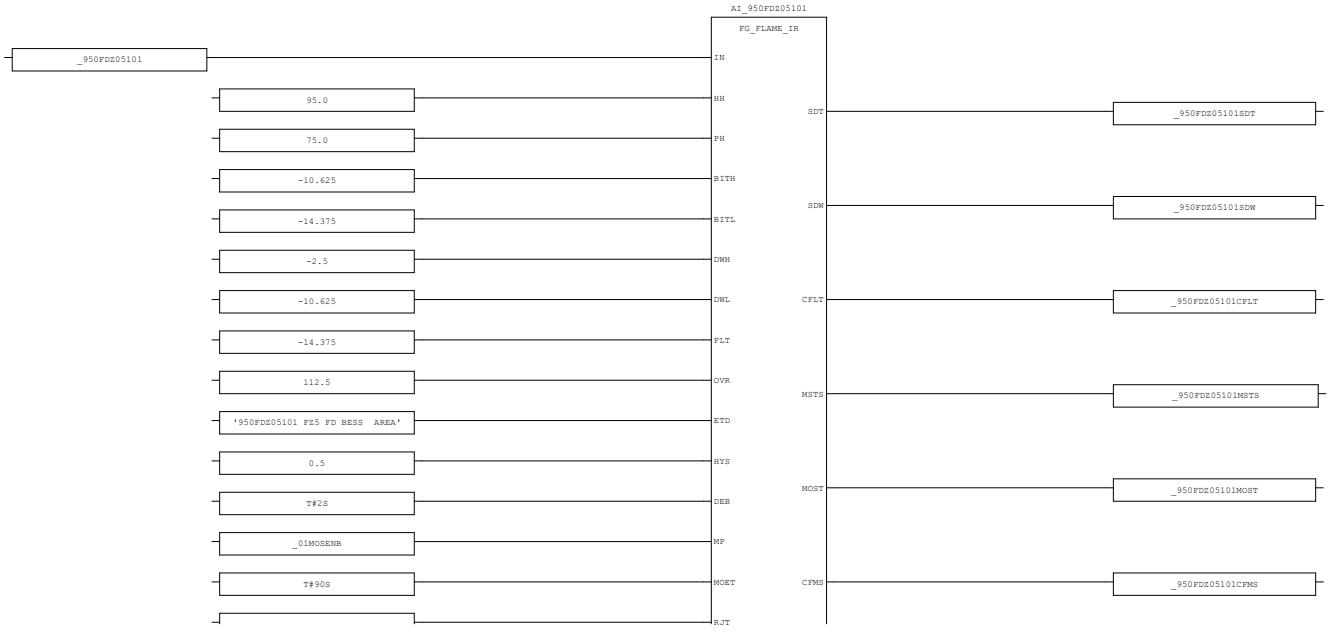
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 15
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 16
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



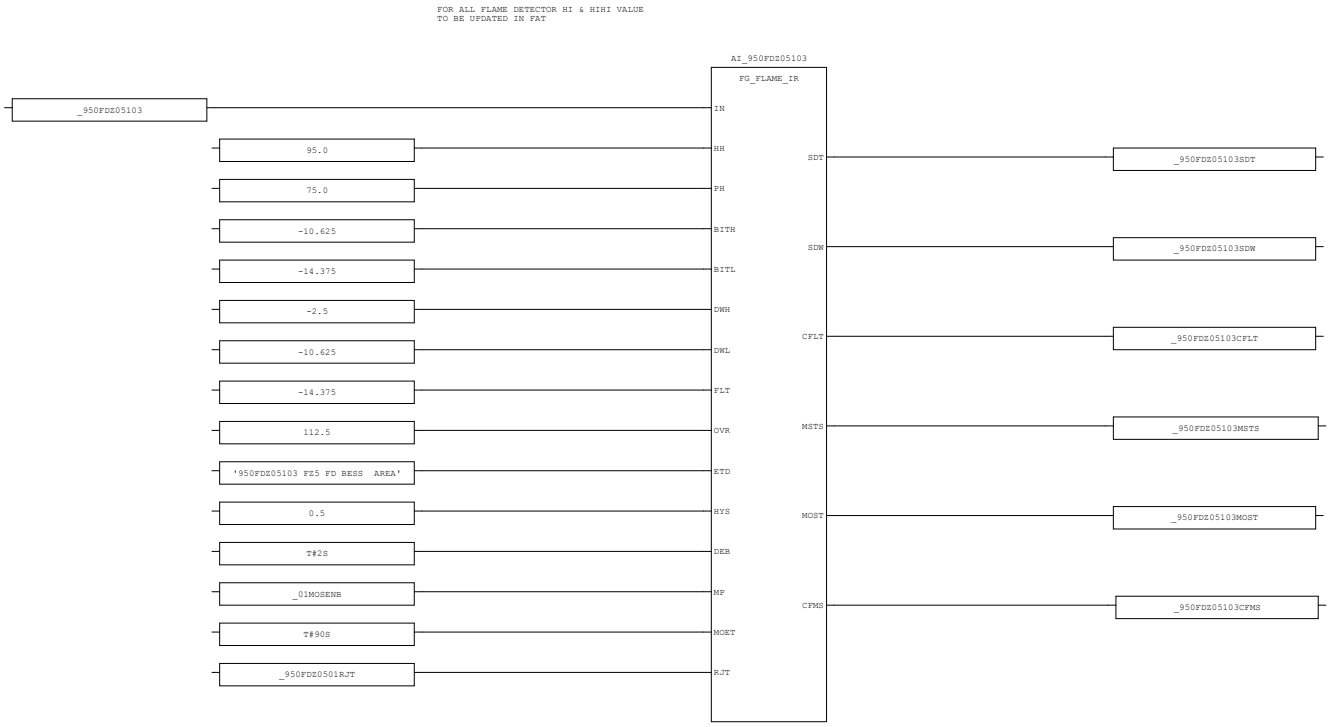


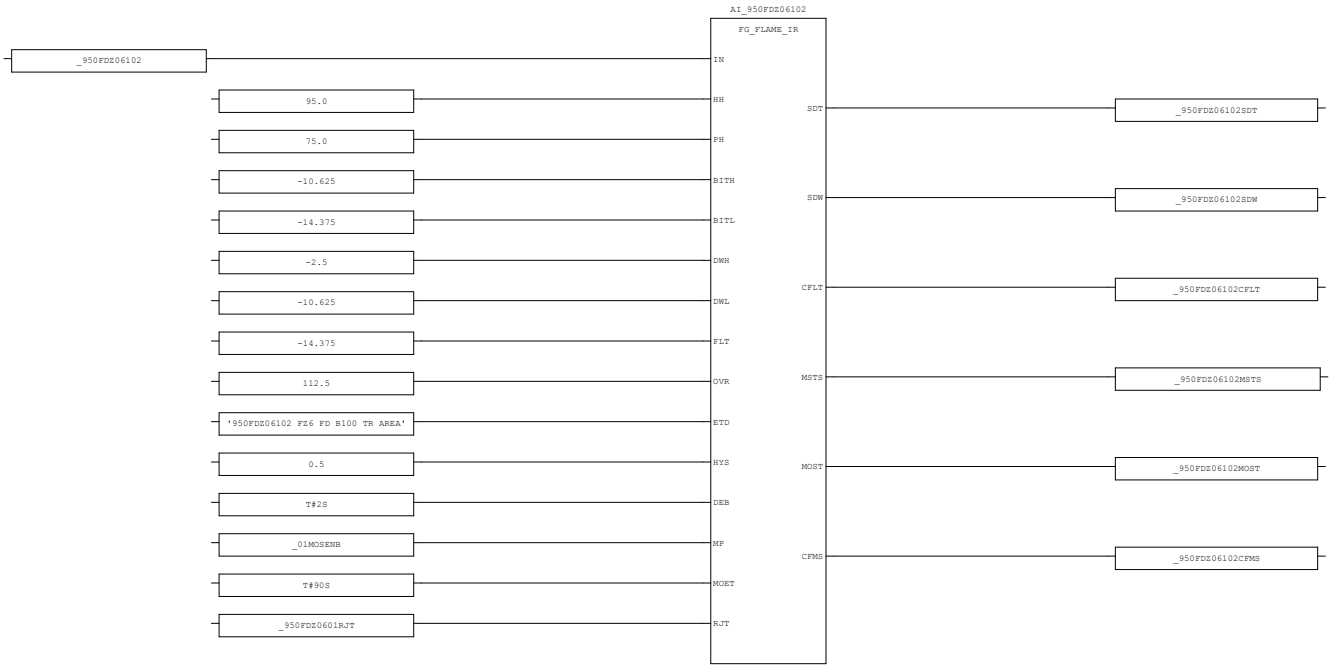
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 17
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

_950FDZ0501RJT

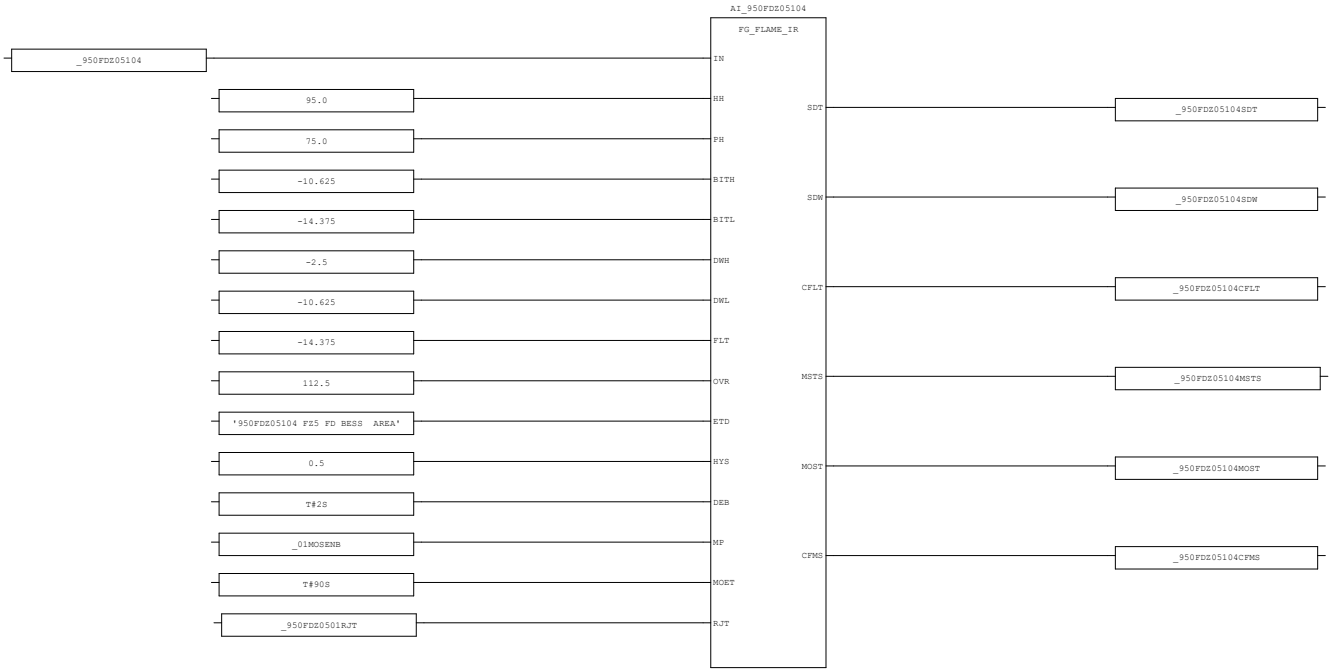
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 18
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

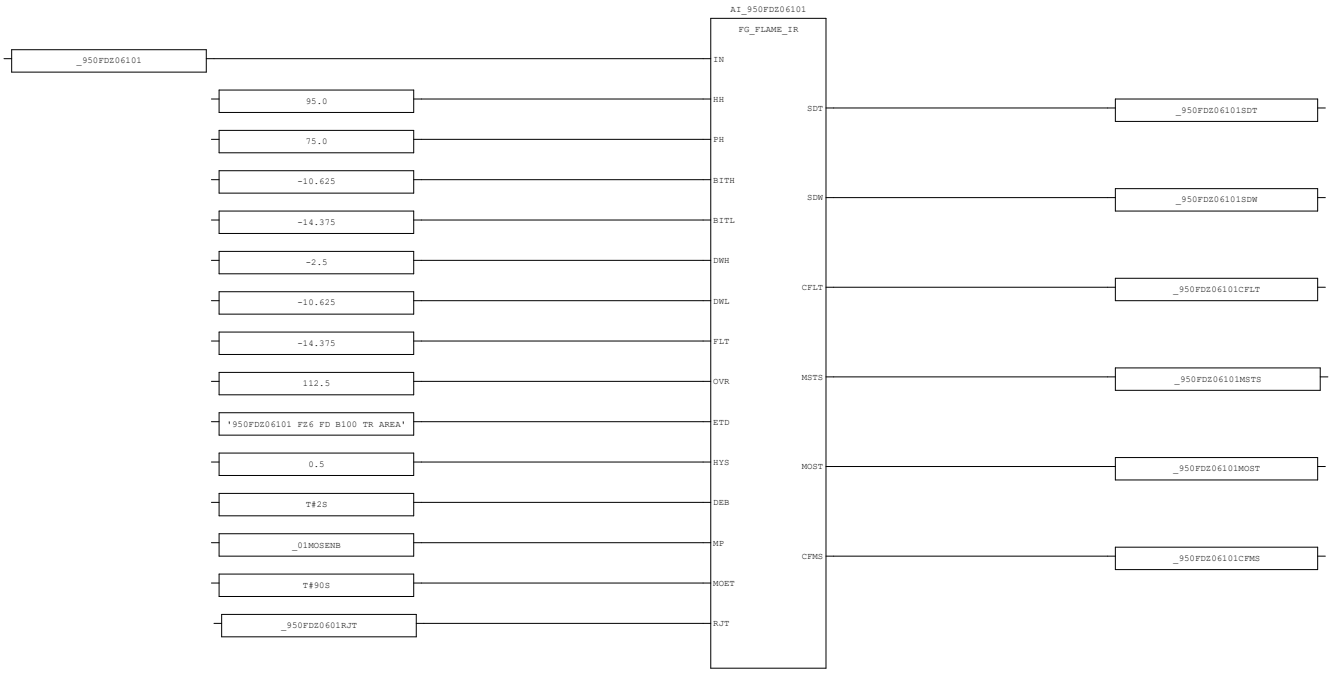
3.7. AI_FD_04 (* Analog Input Processing-Flame Detector *)





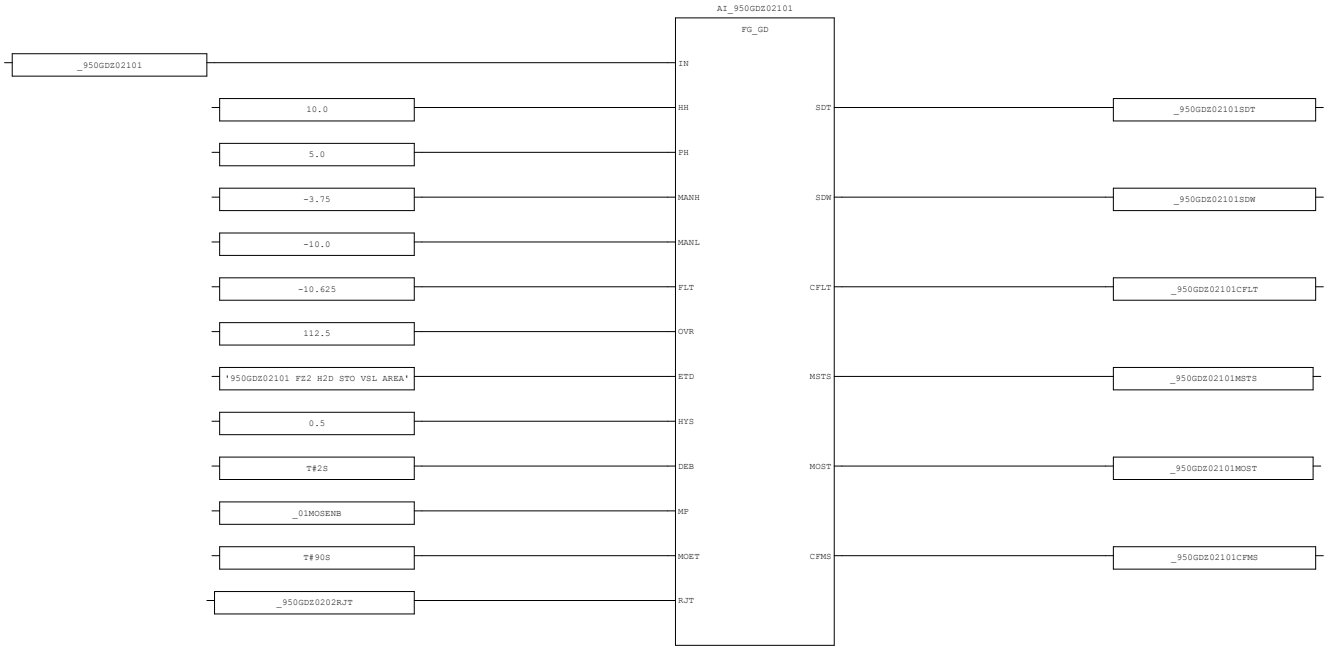
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 19
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

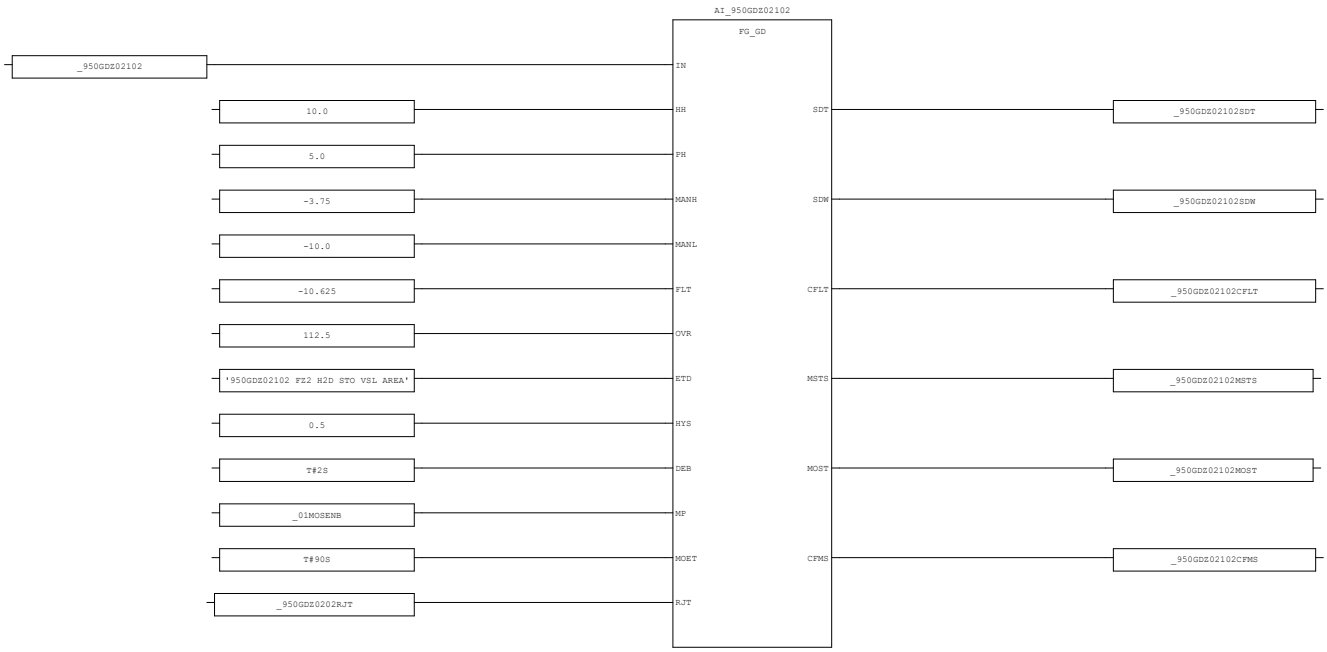




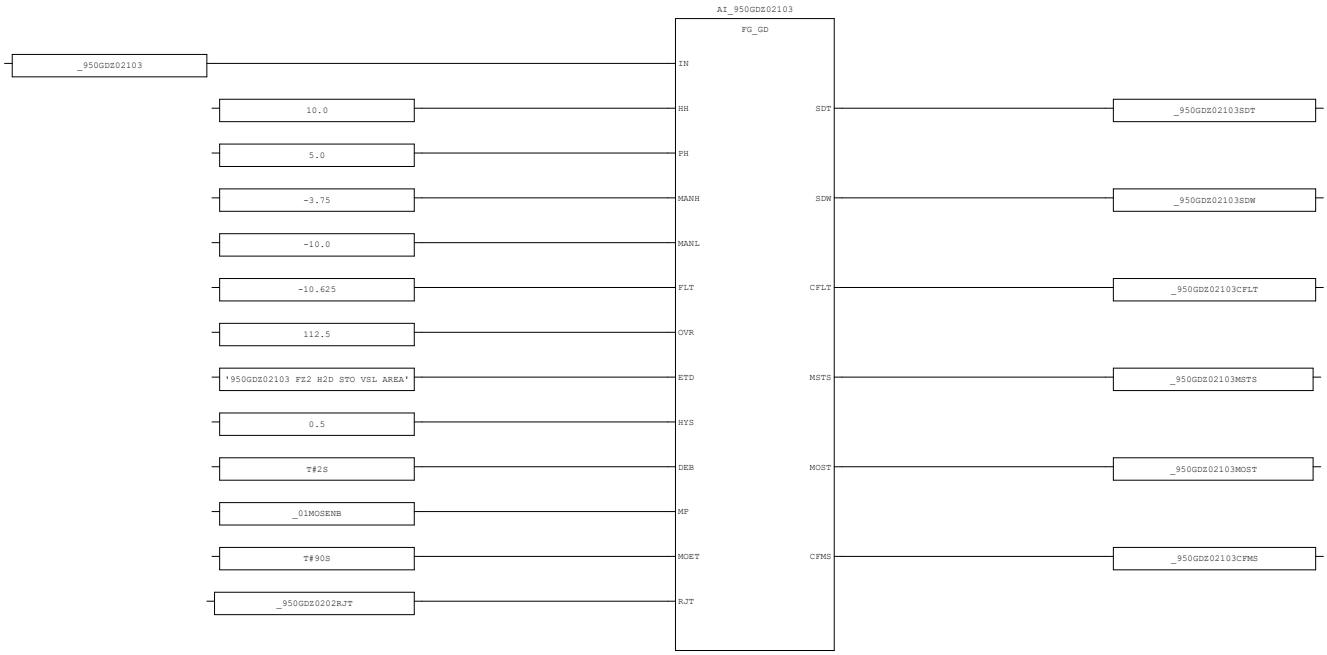
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 20
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

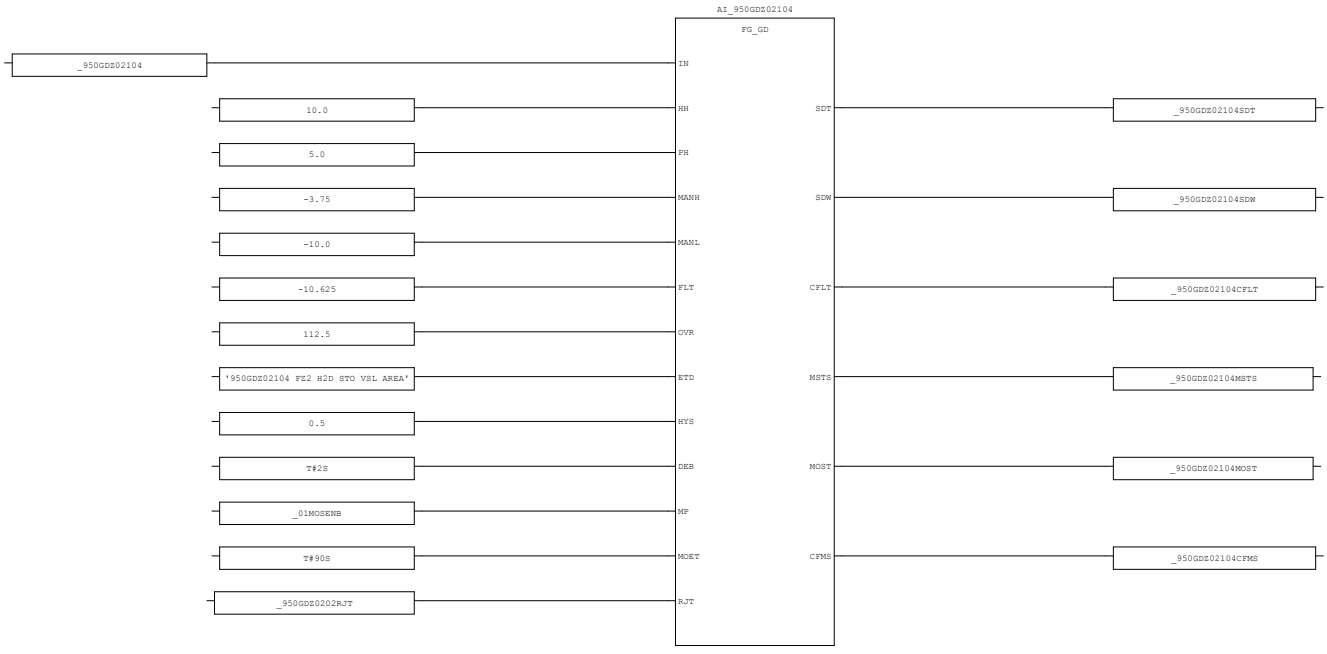
3.8. AI_GD_01 (* Analog Input Processing-Gas Detector *)



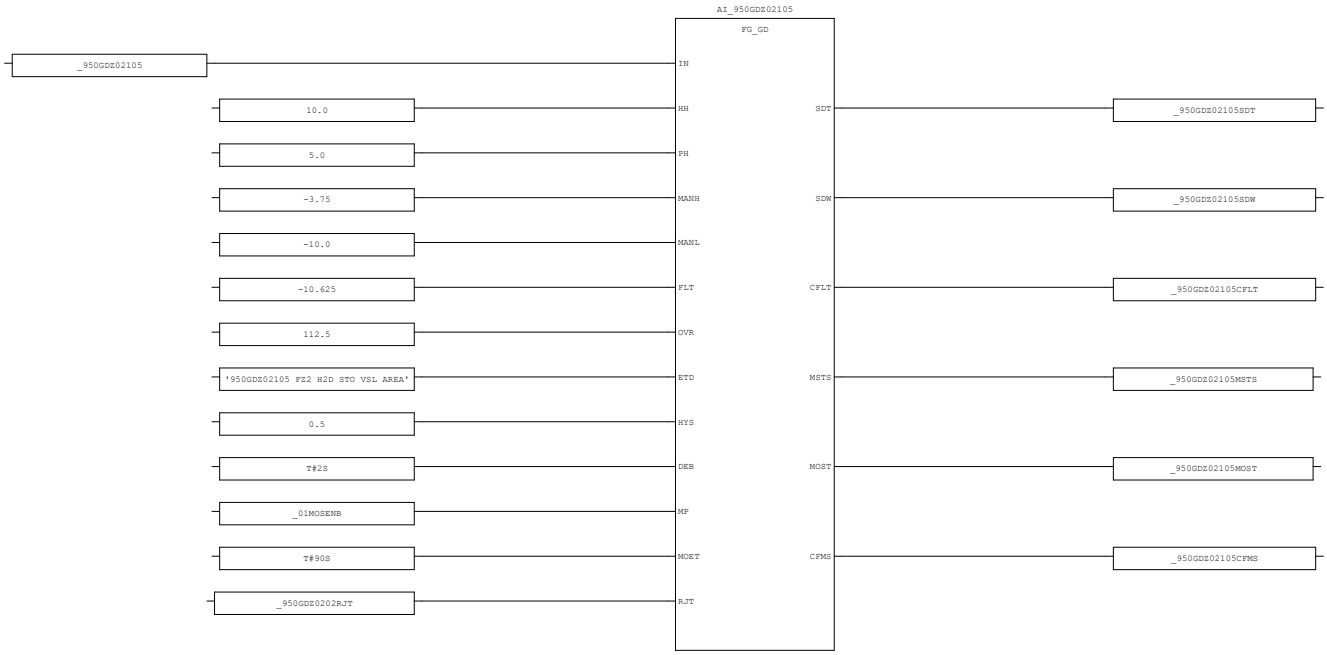


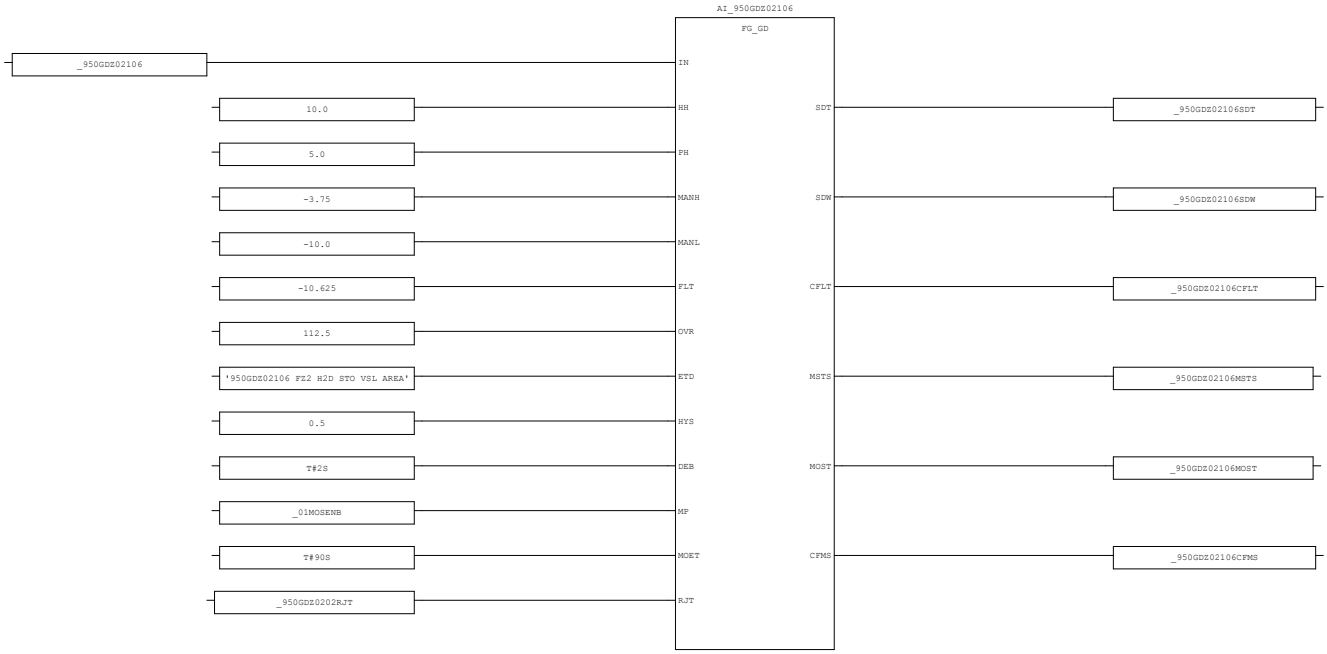
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 21
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		





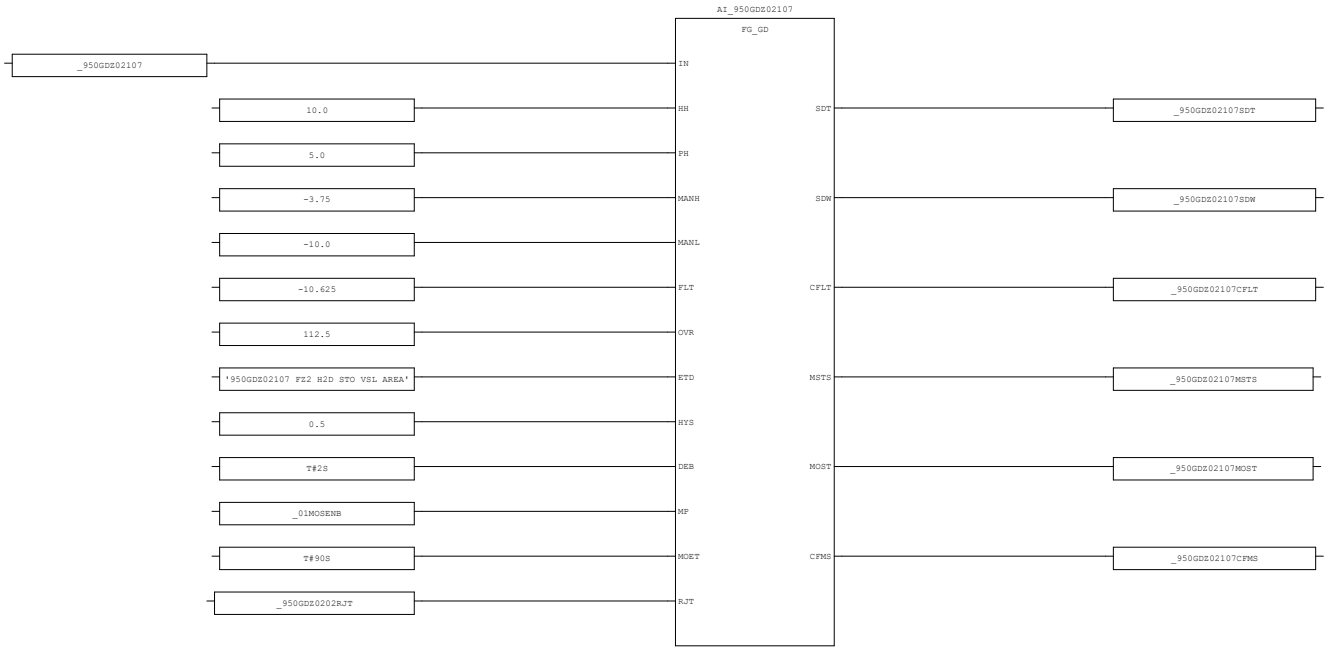
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 22
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

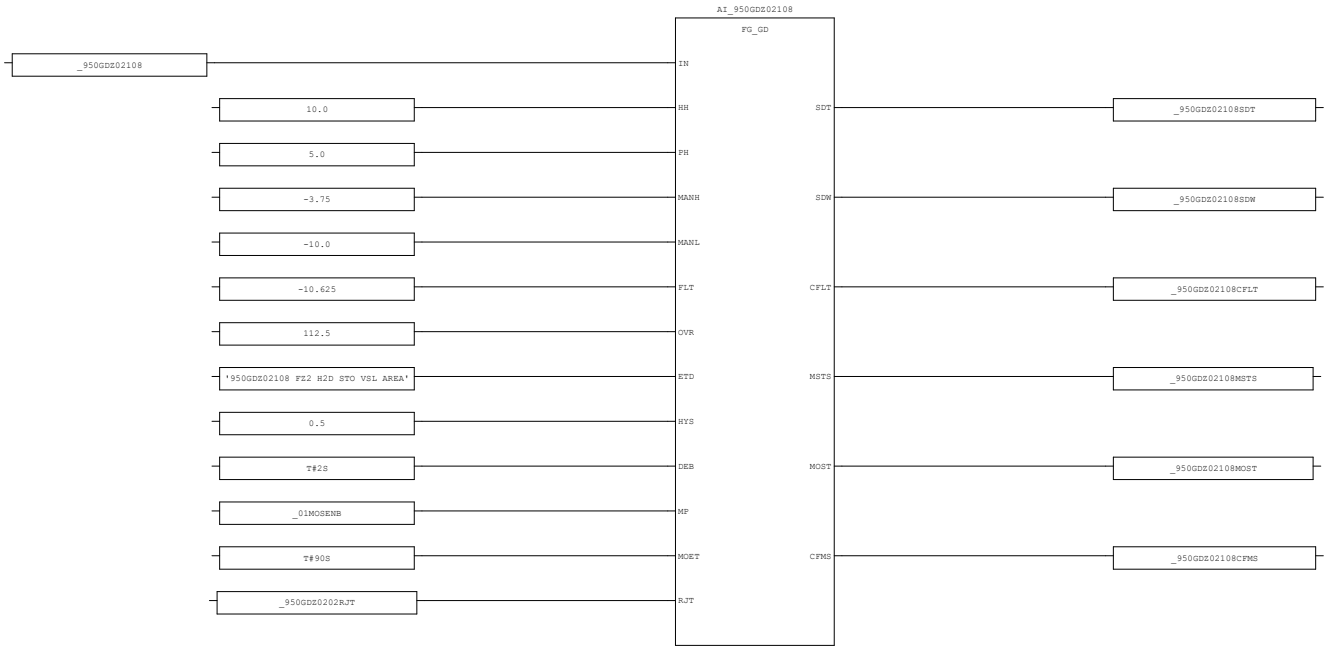


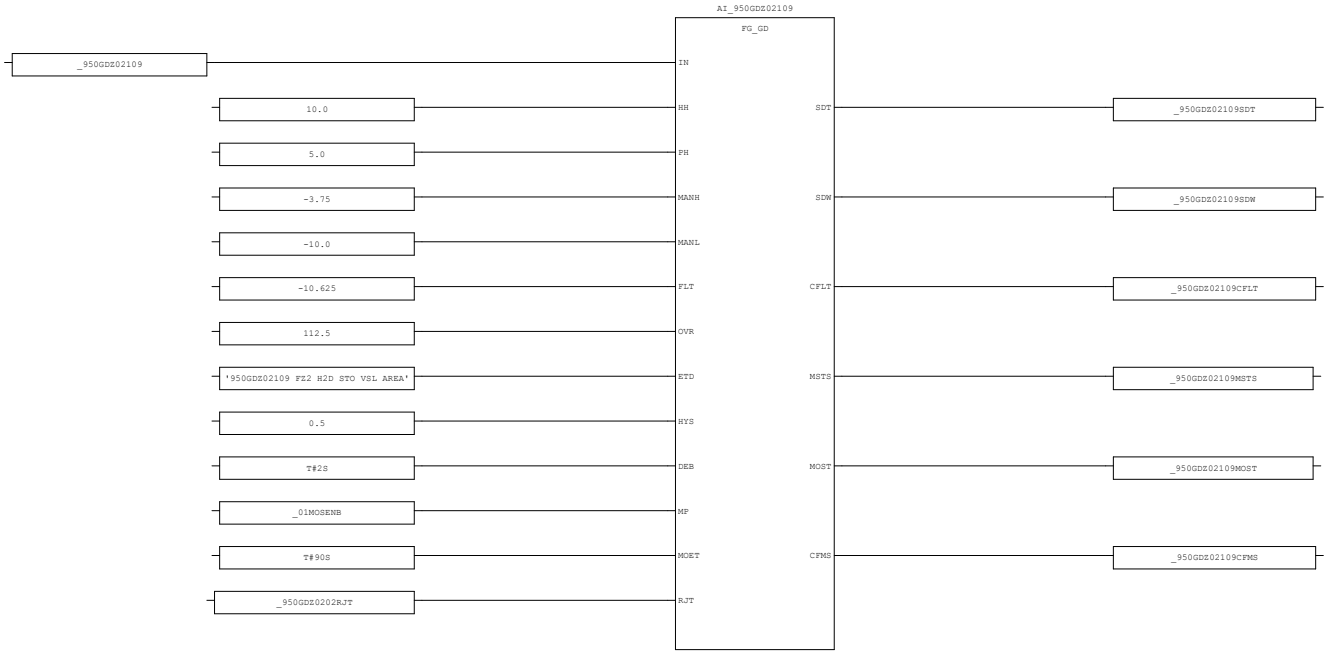


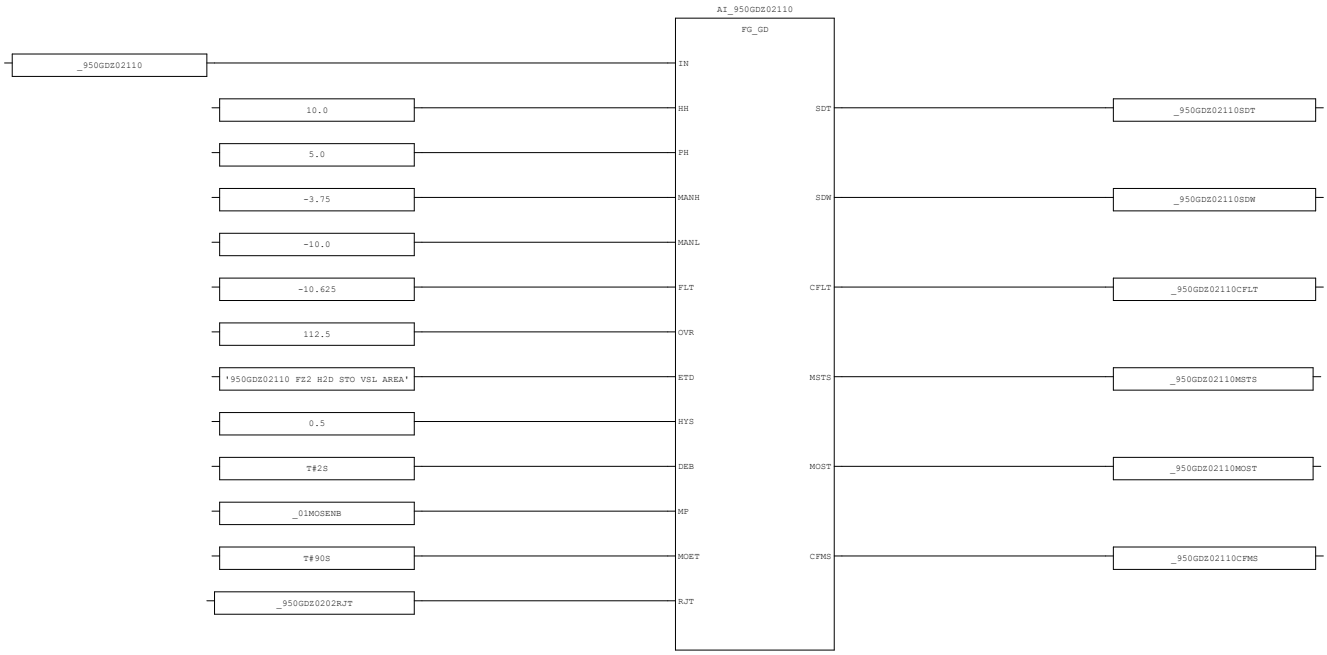
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 23
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.9. AI_GD_02 (* Analog Input Processing-Gas Detector *)

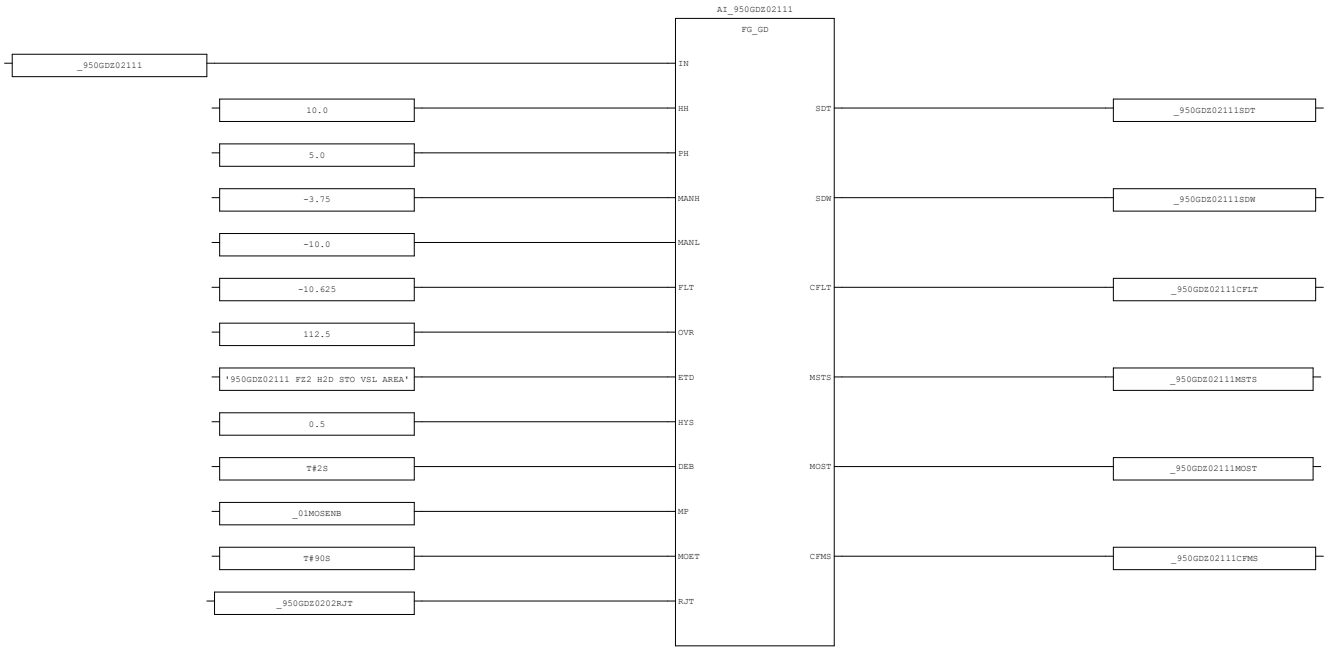


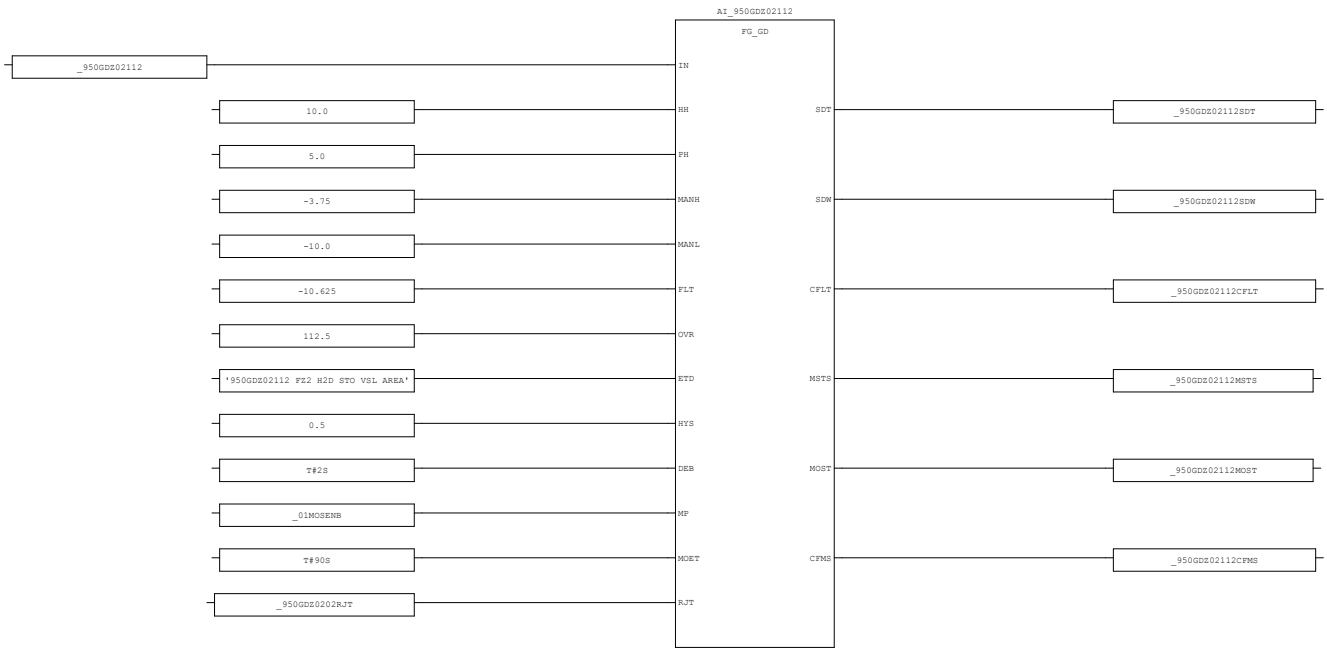






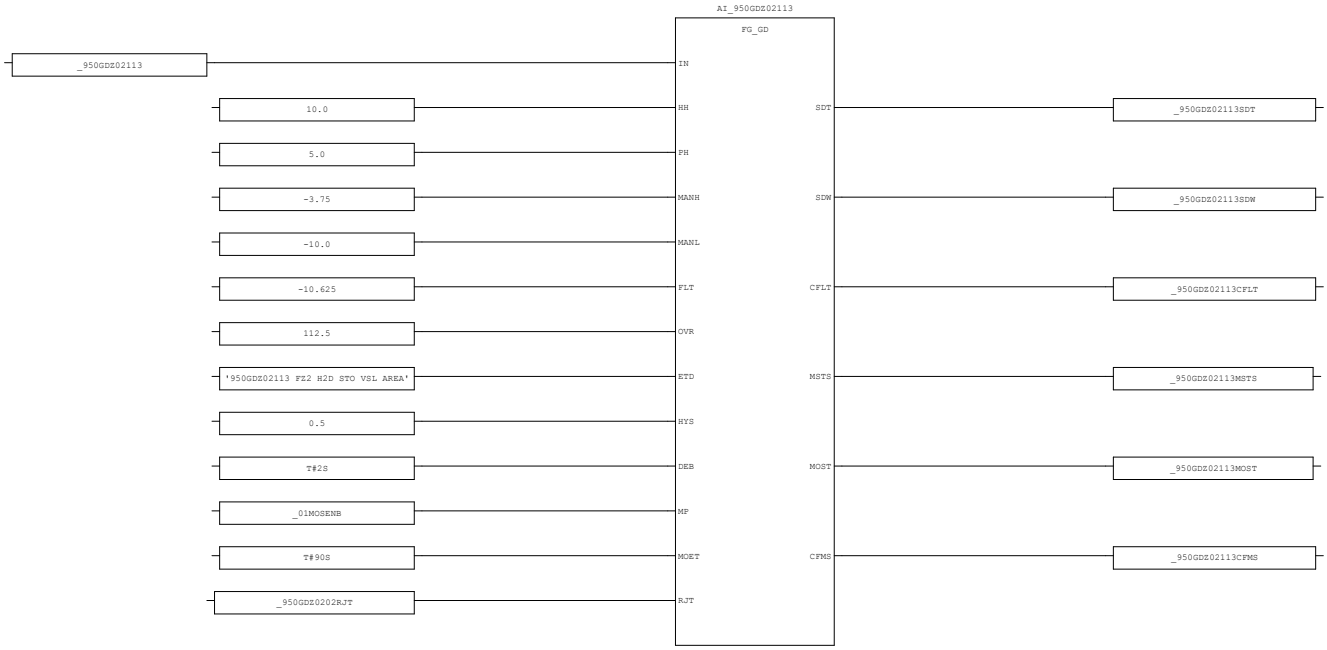
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 25
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

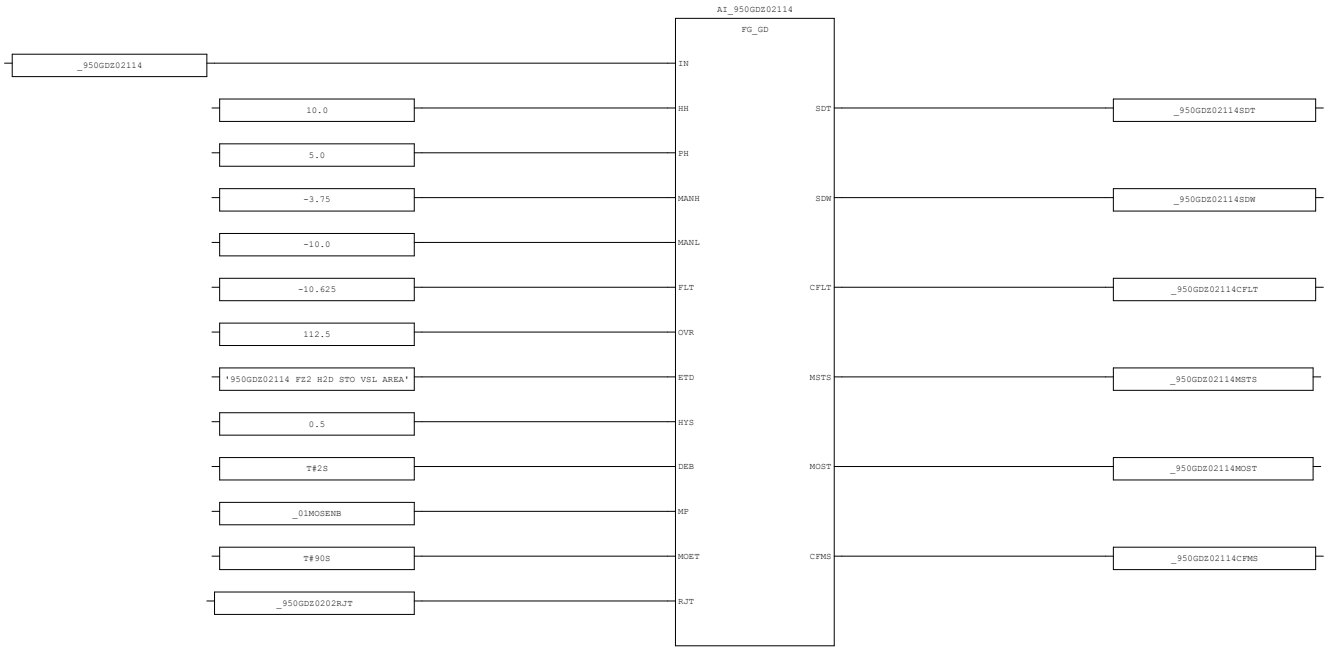


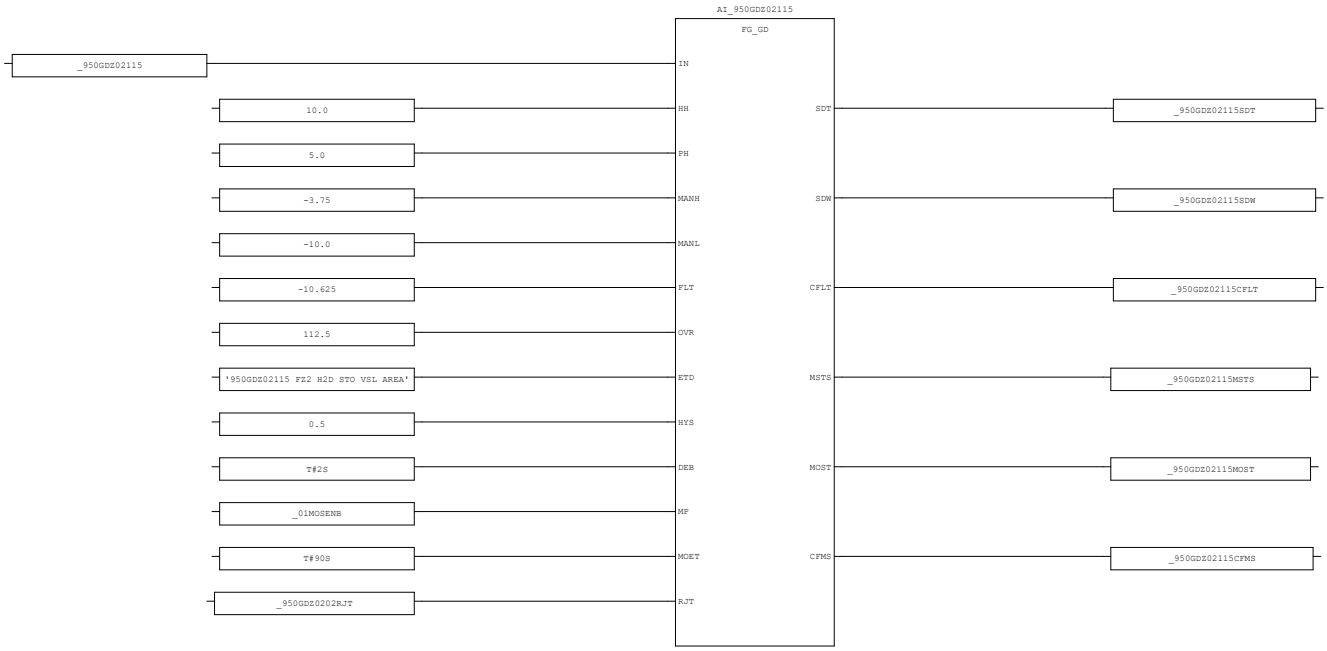


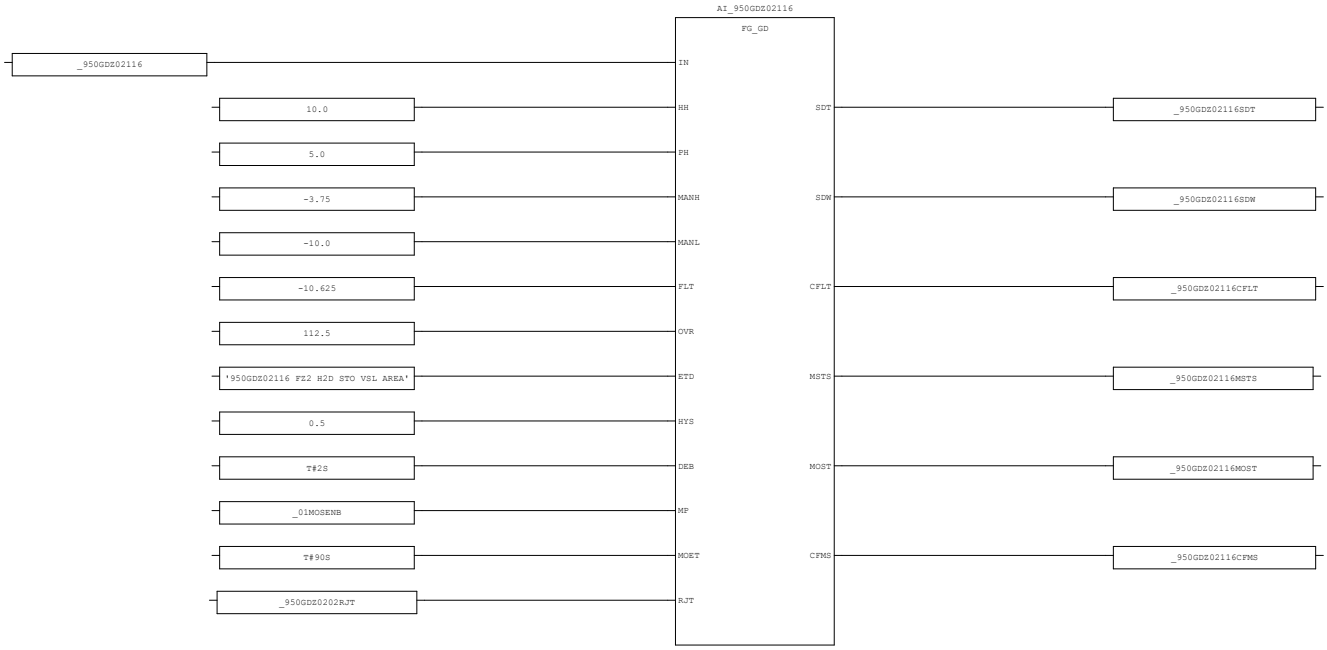
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 26
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.10. AI_GD_03 (* Analog Input Processing-Gas Detector *)

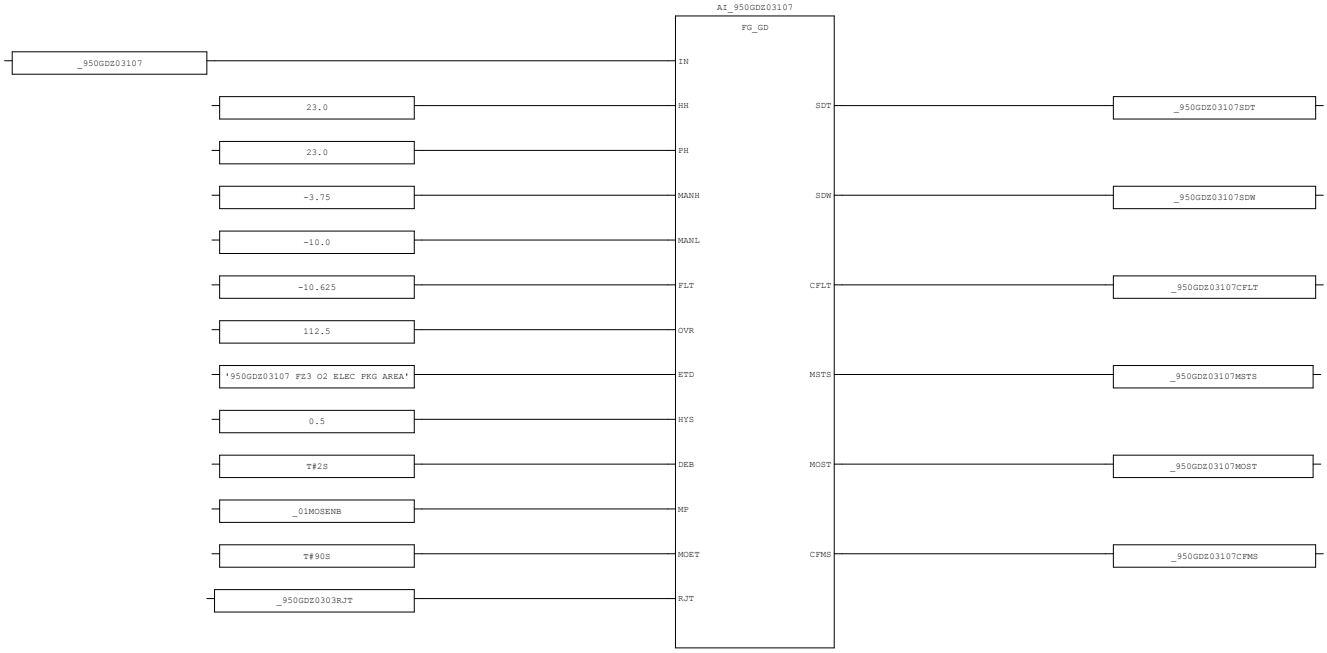


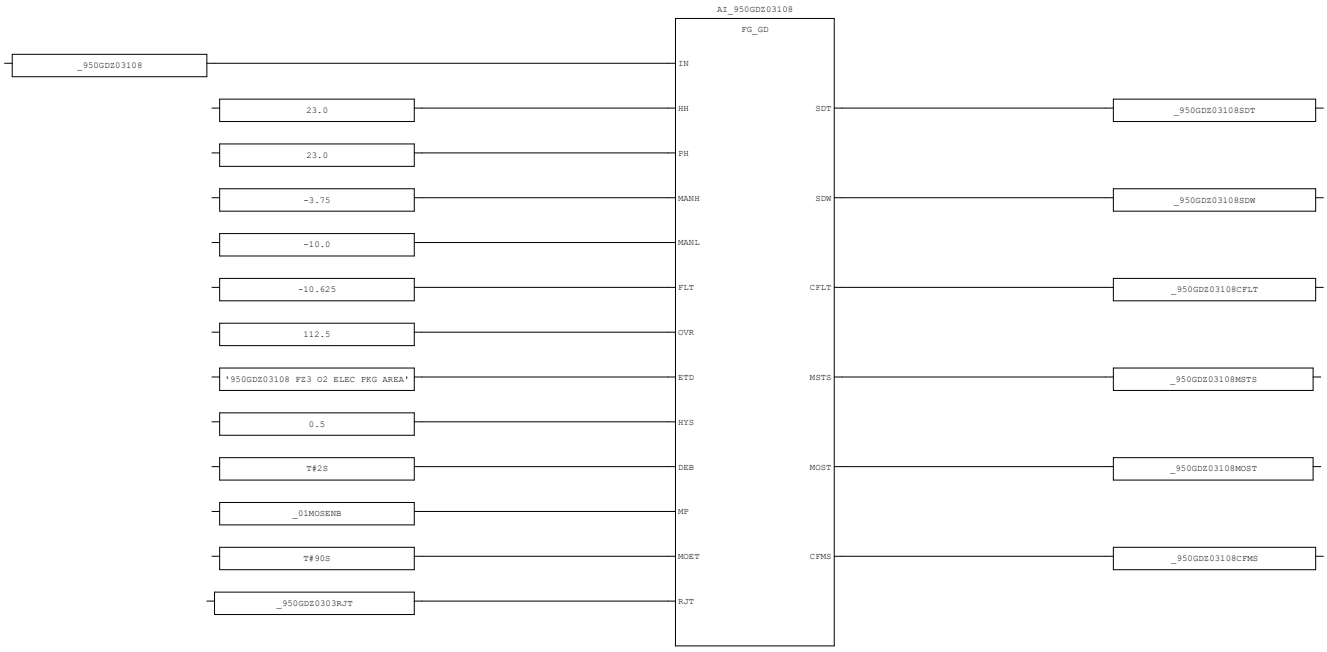






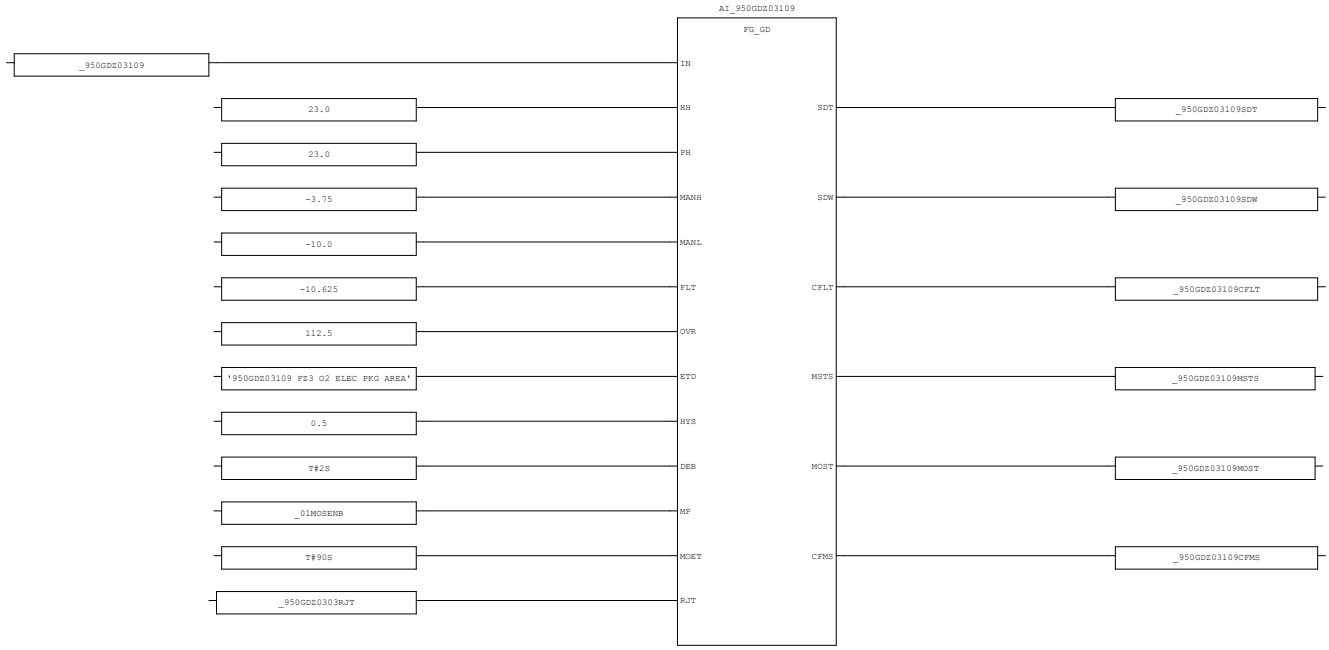
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 28
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

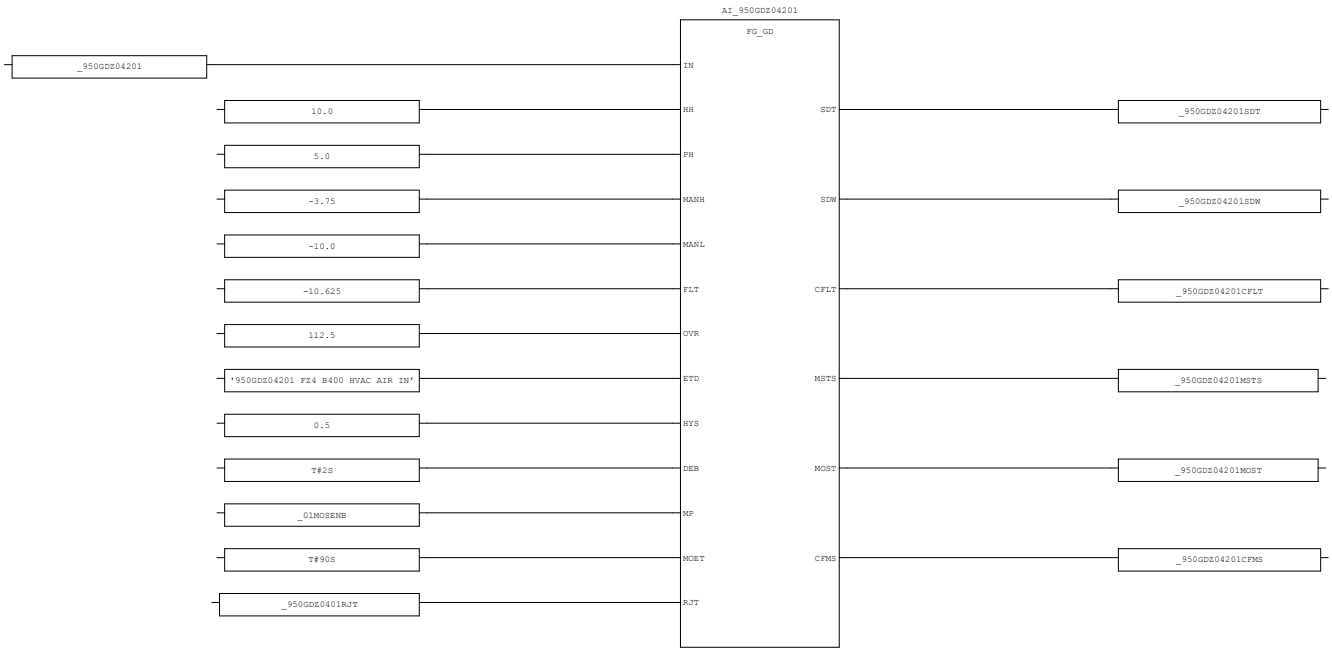


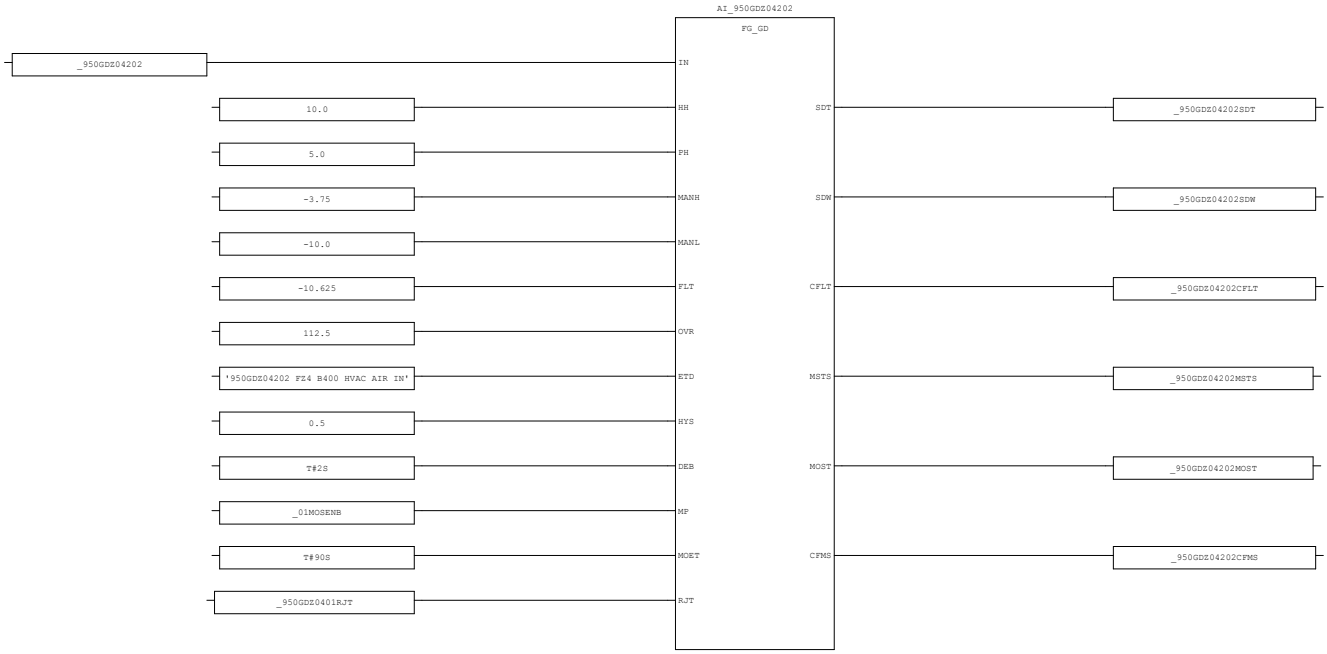


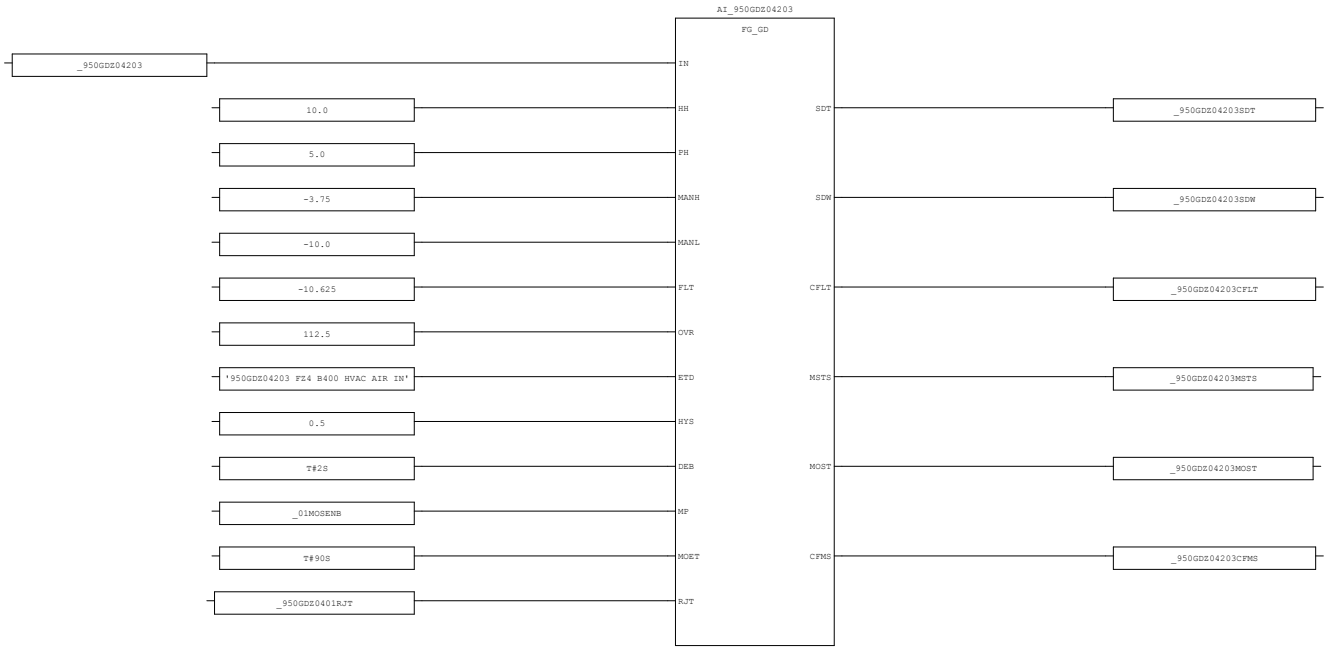
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 29
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.11. AI_GD_04 (* Analog Input Processing-Gas Detector *)

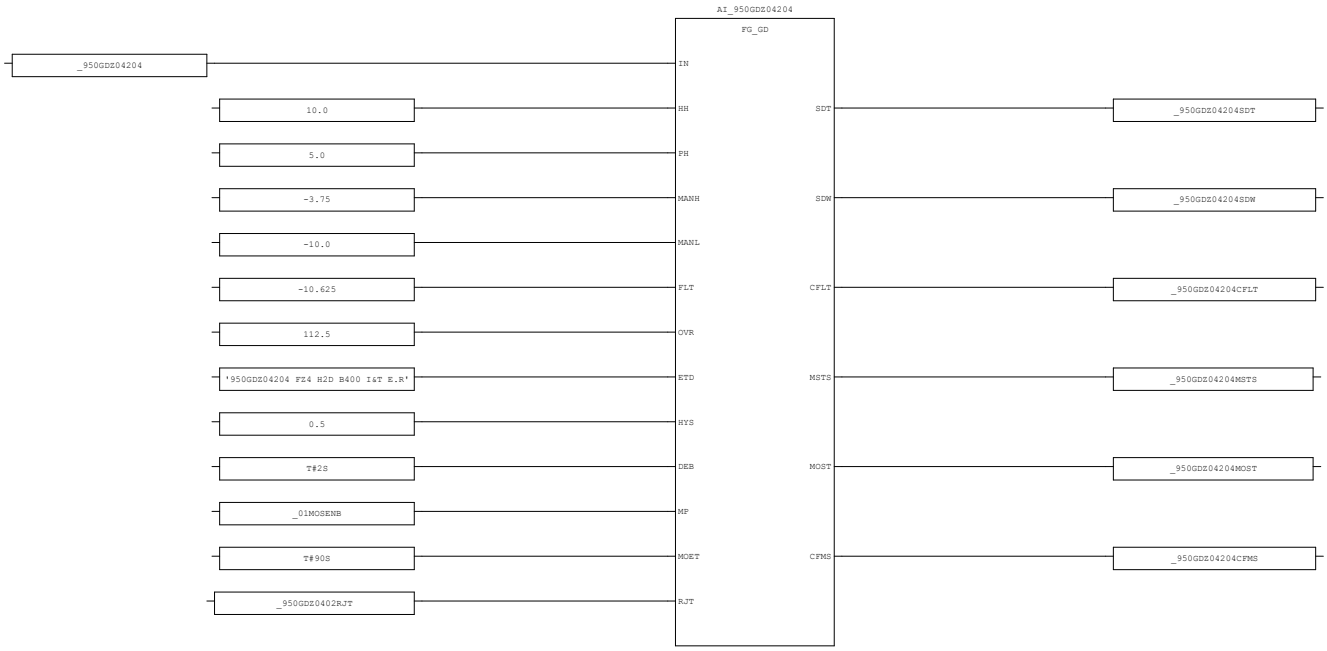


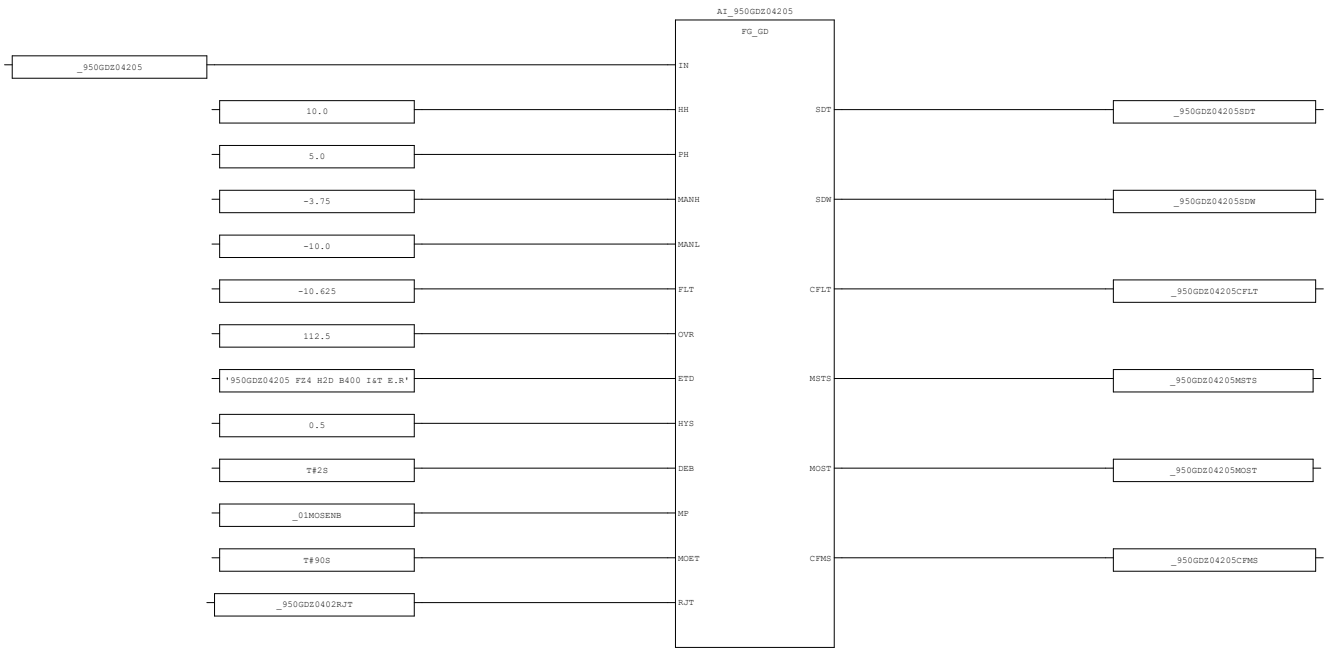






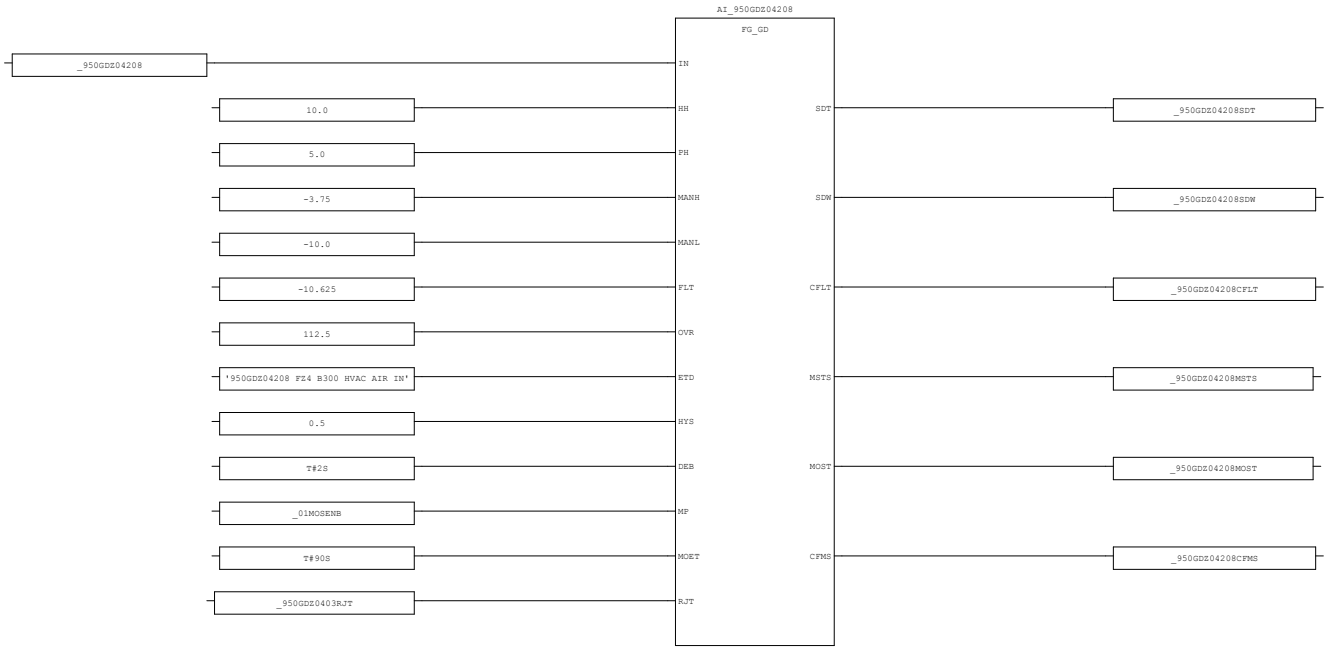
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 31
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

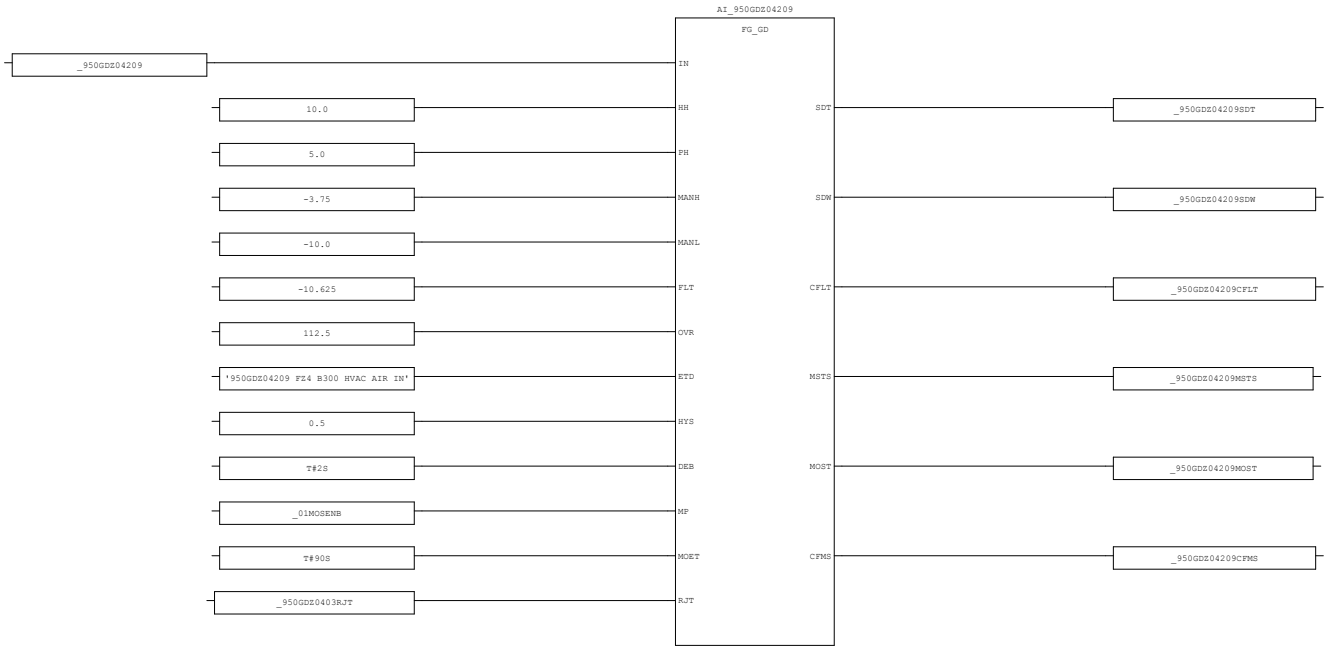


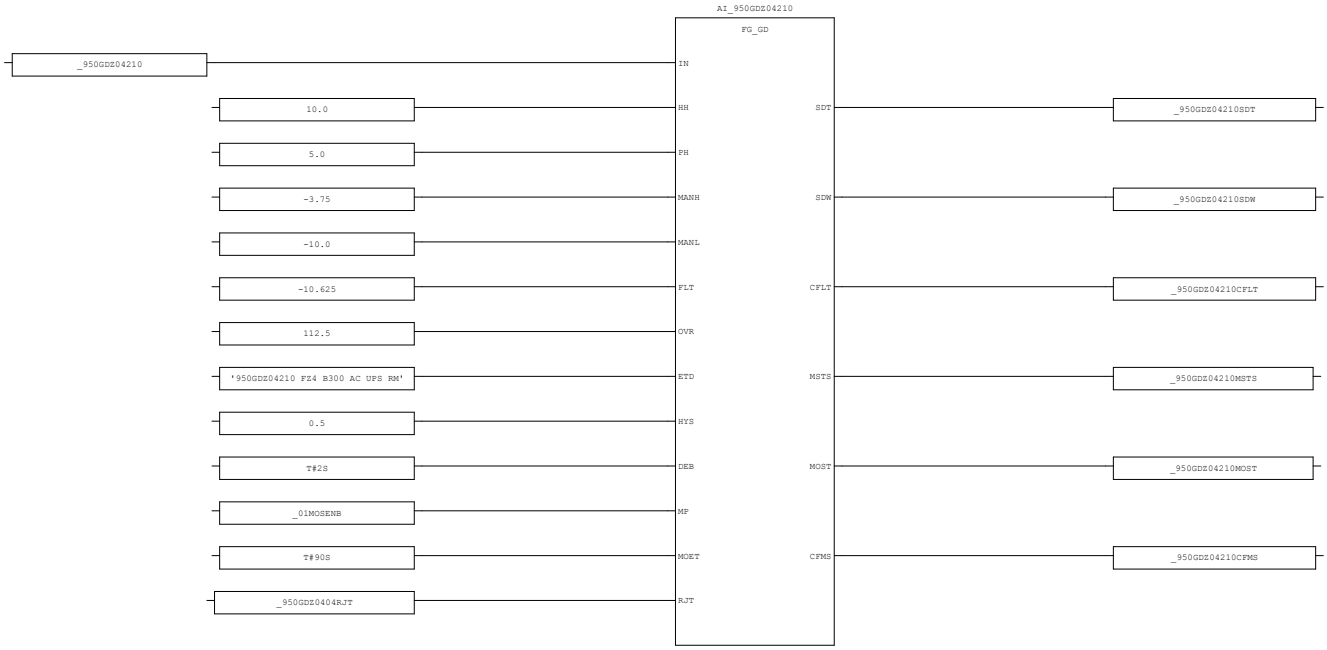


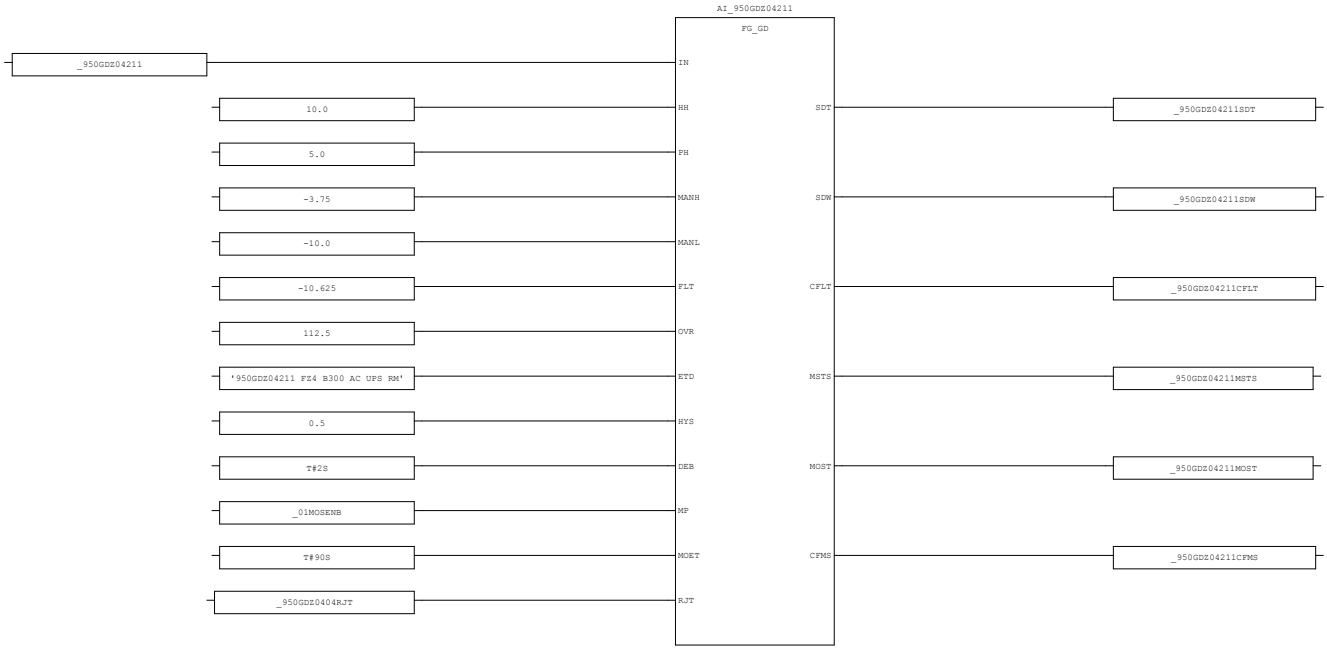
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 32
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.12. AI_GD_05 (* Analog Input Processing-Gas Detector *)

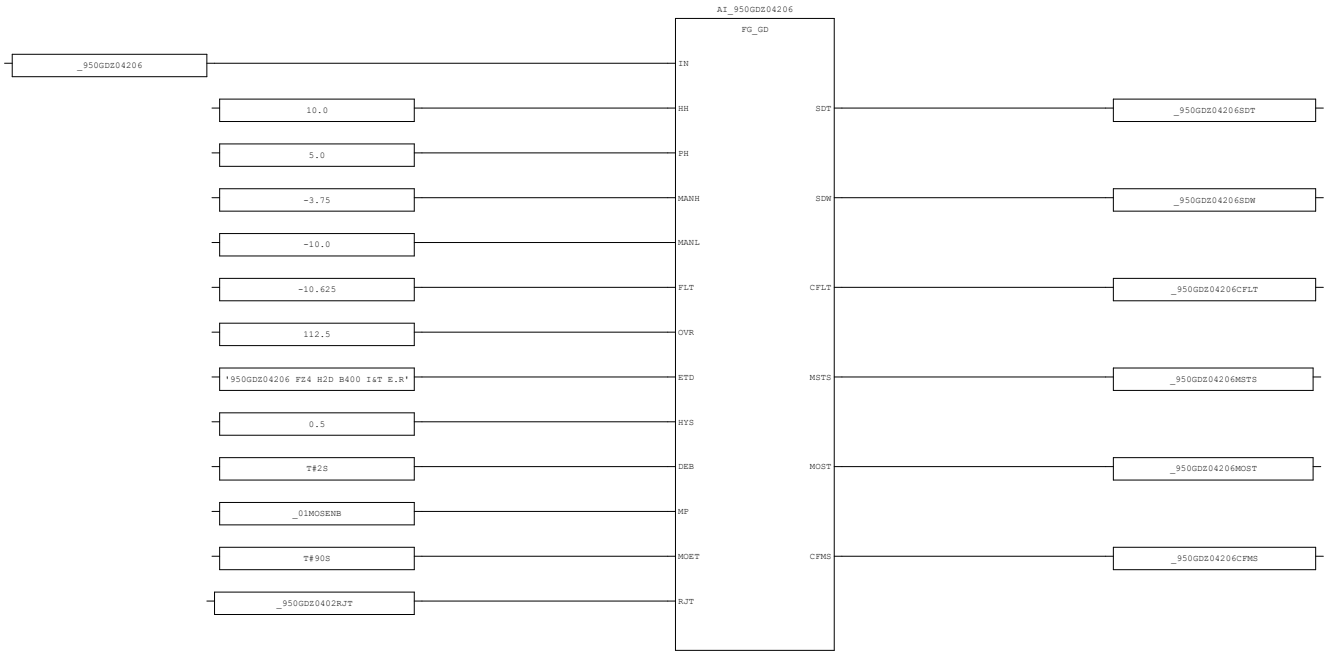


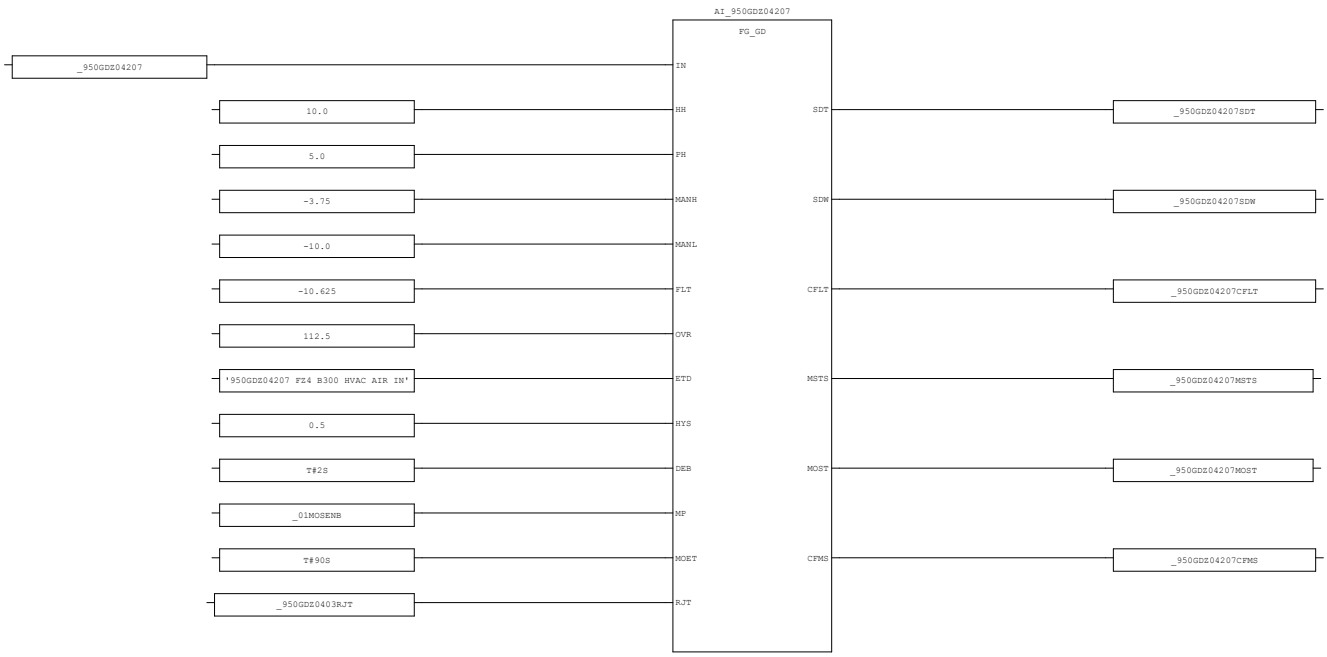






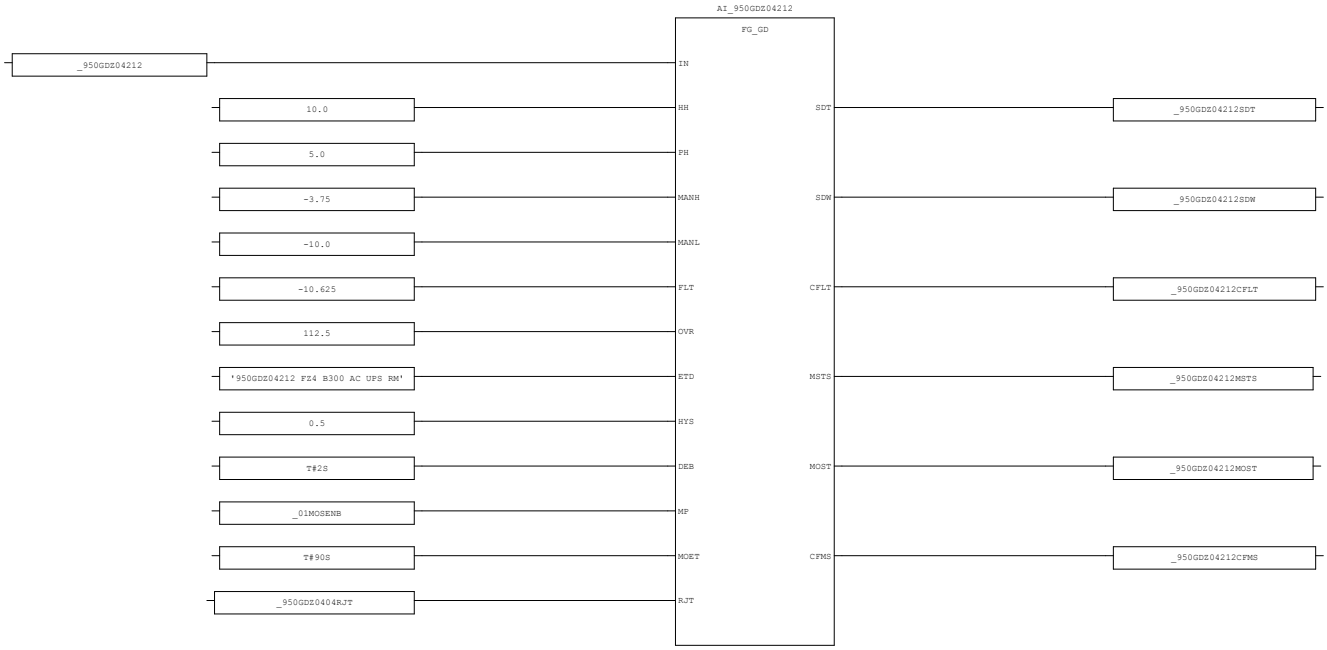
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 34
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

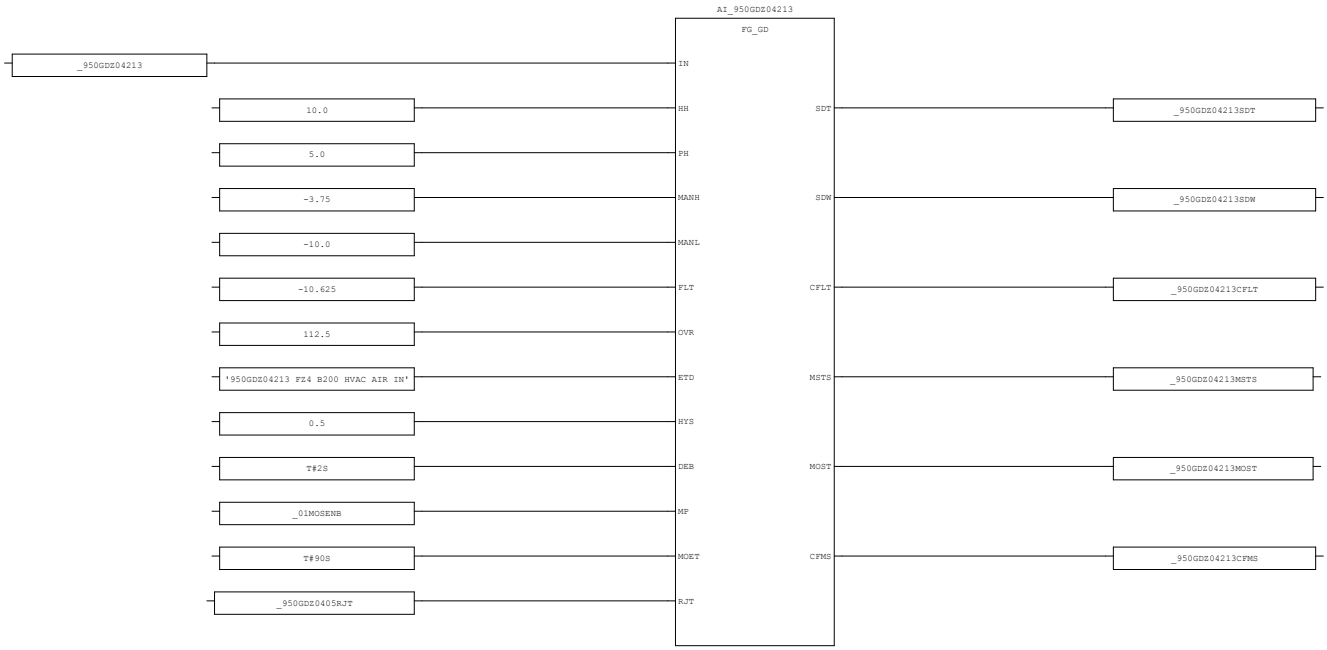


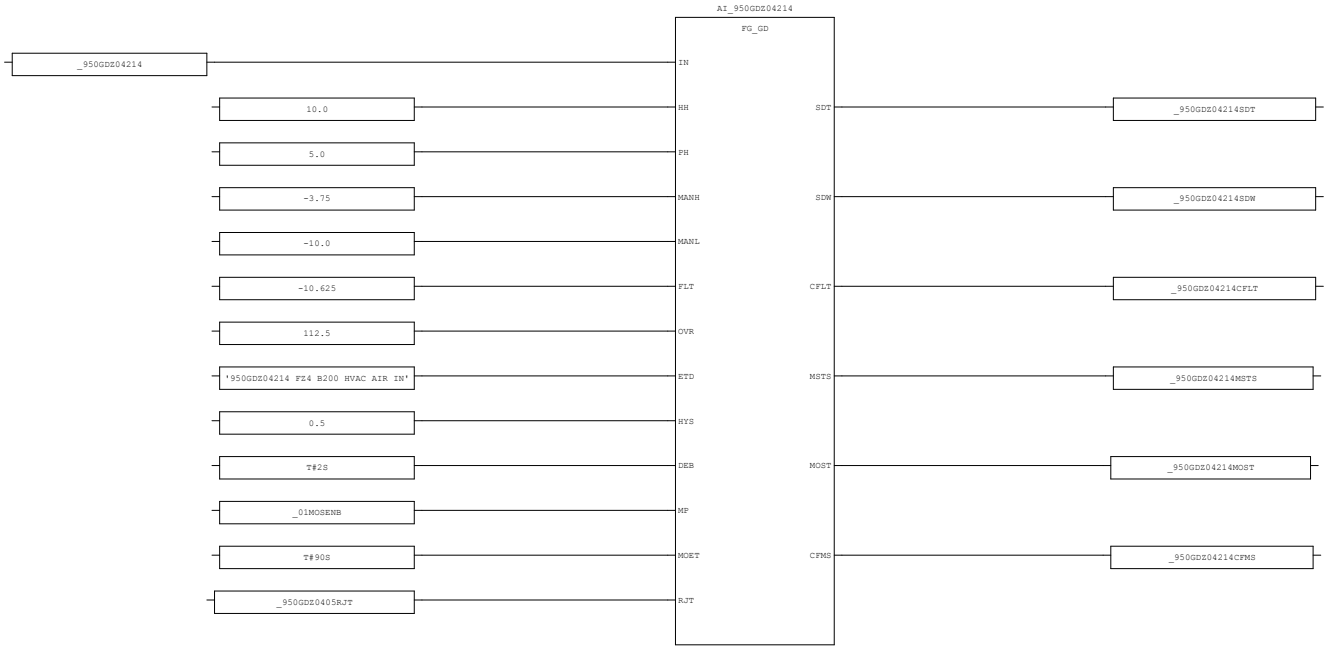


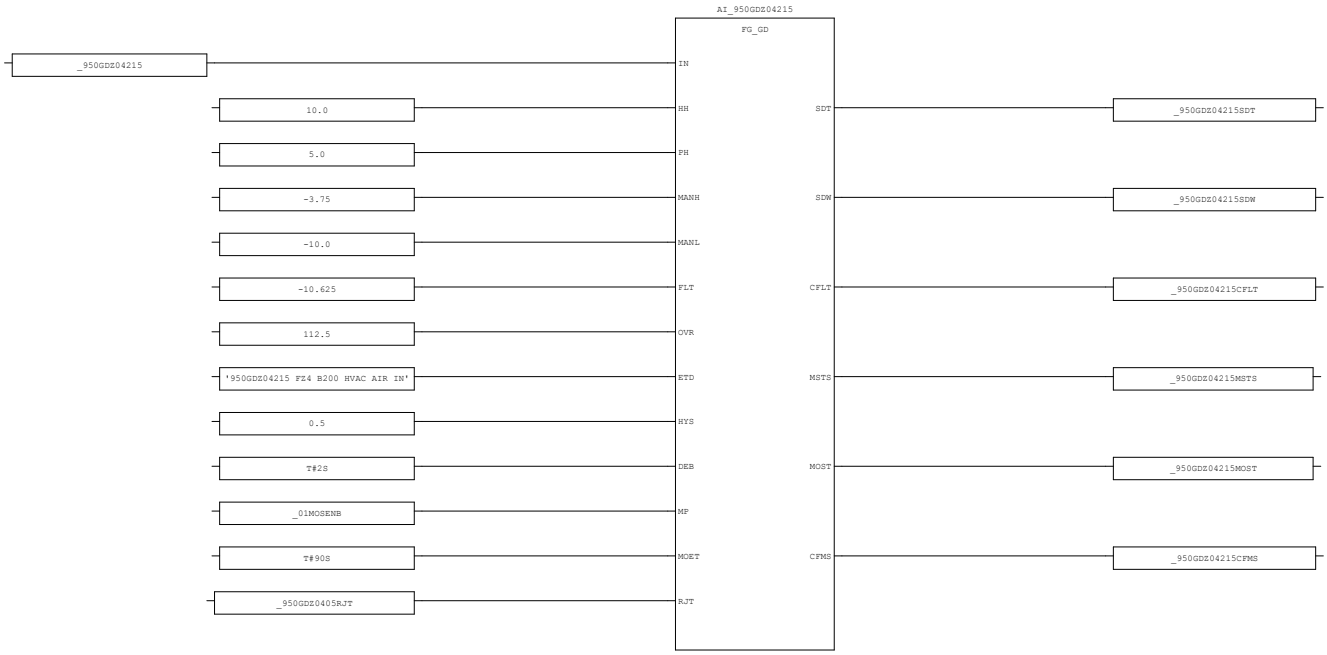
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 35
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.13. AI_GD_06 (* Analog Input Processing-Gas Detector *)

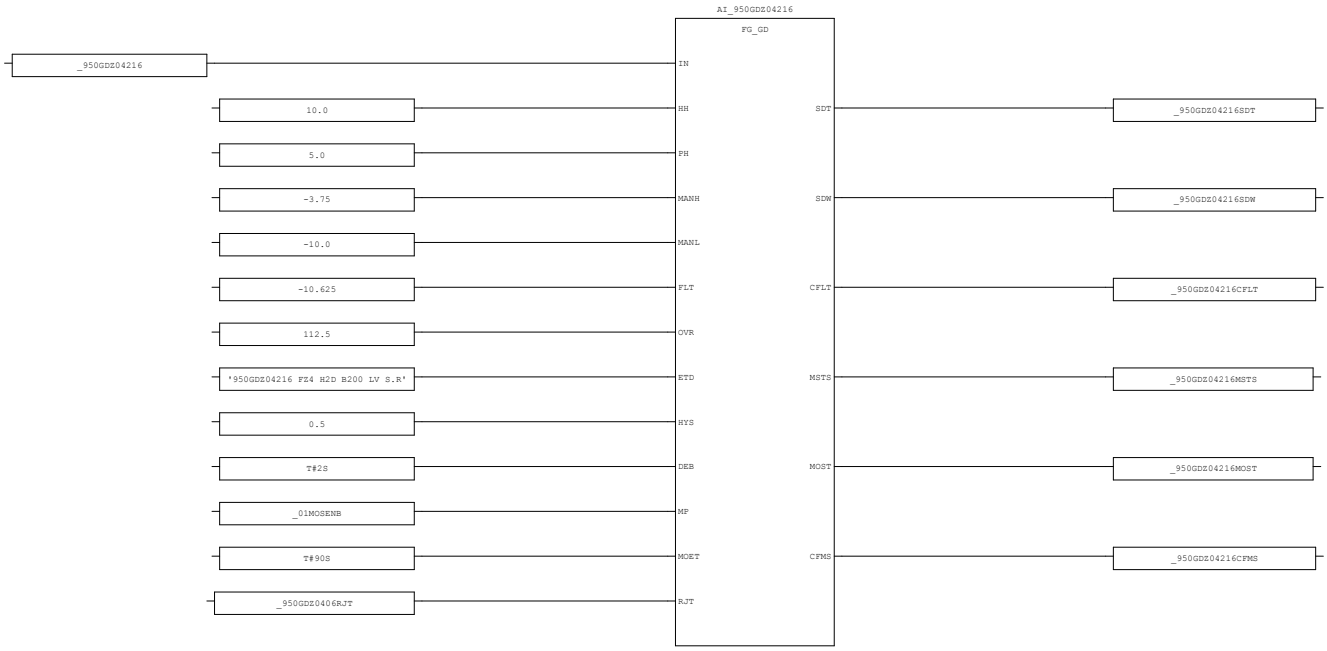


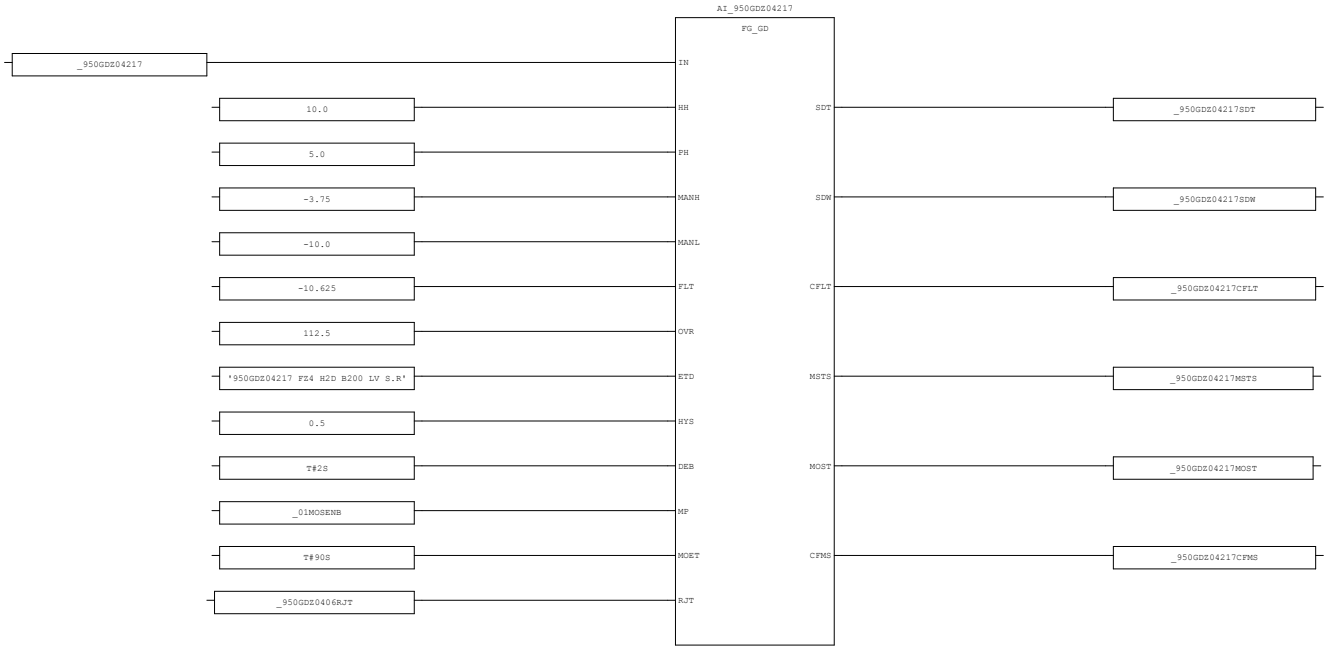






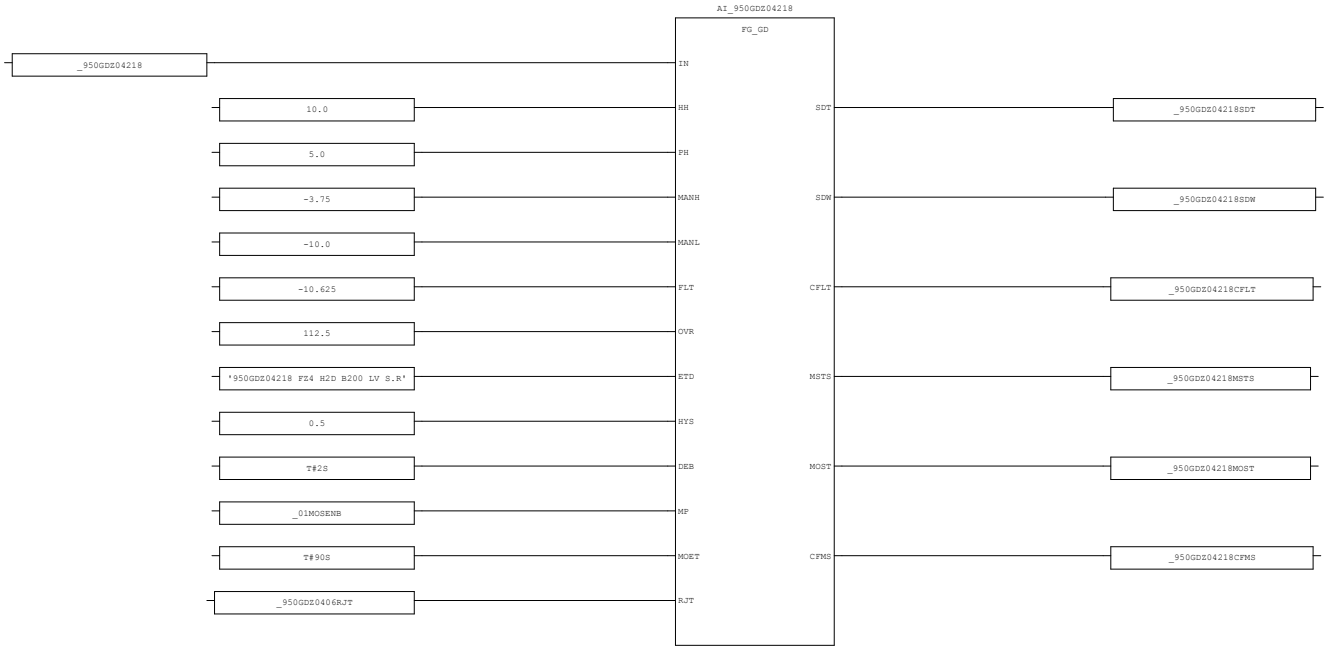
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 37
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

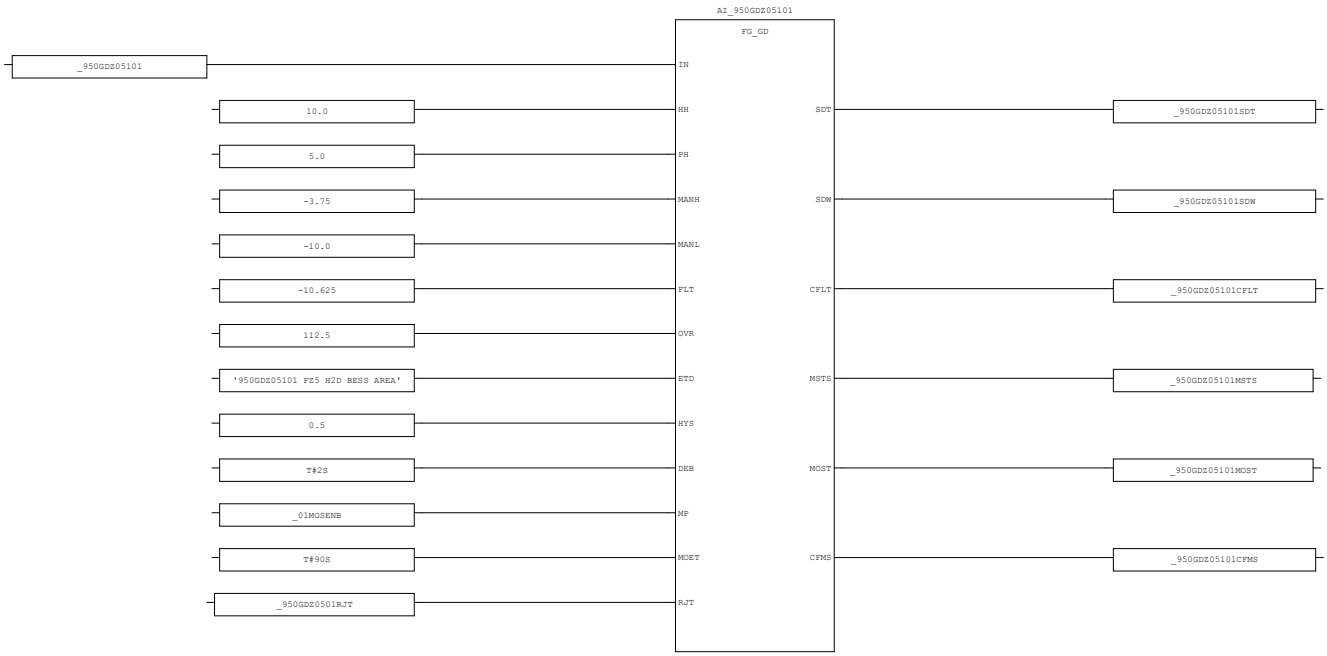




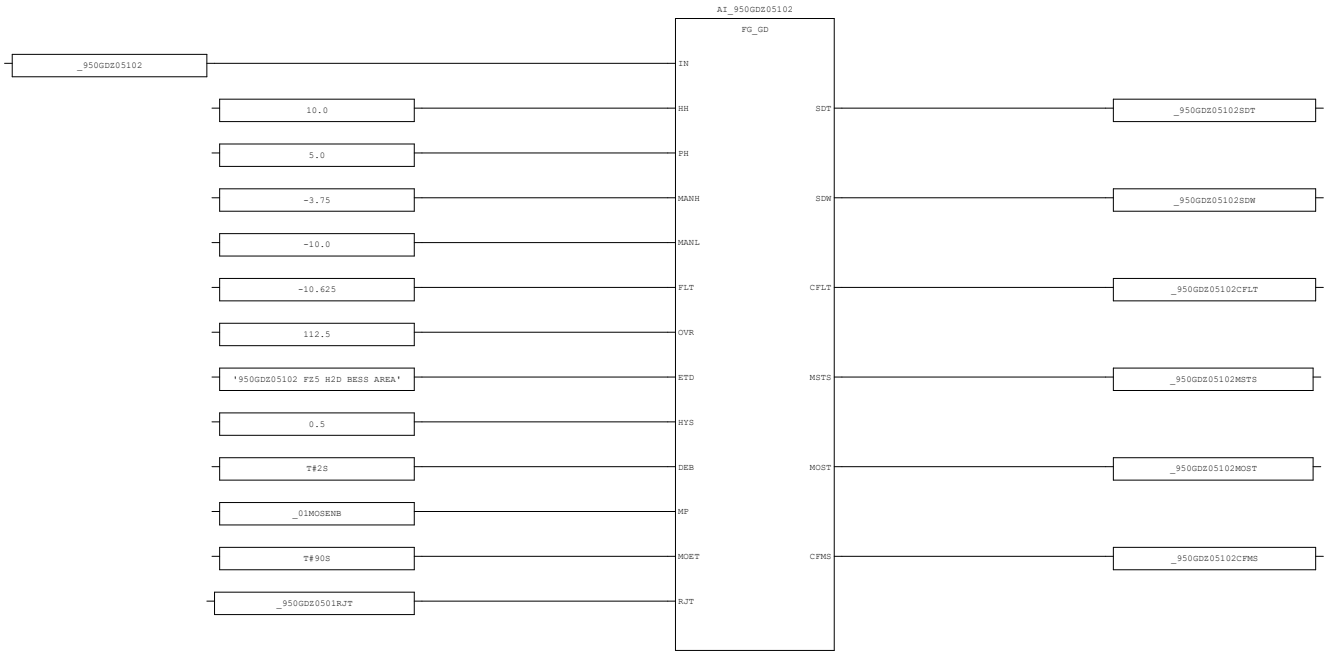
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 38
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

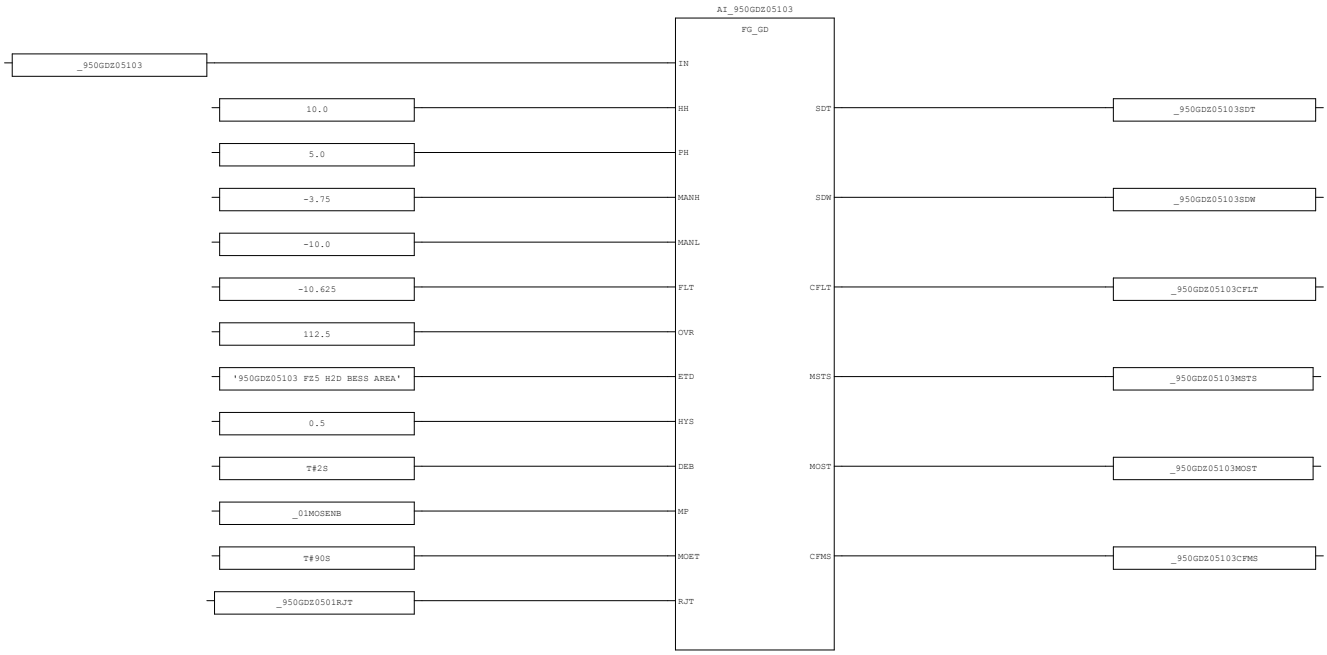
3.14. AI_GD_07 (* Analog Input Processing-Gas Detector *)



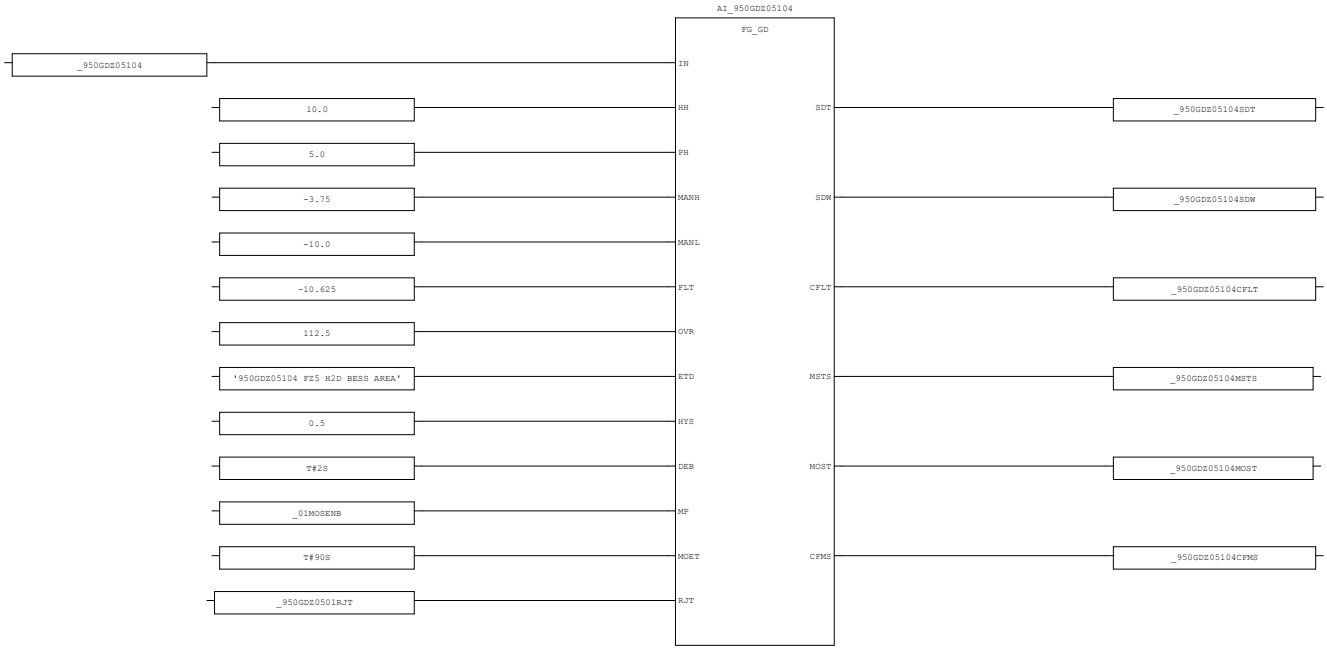


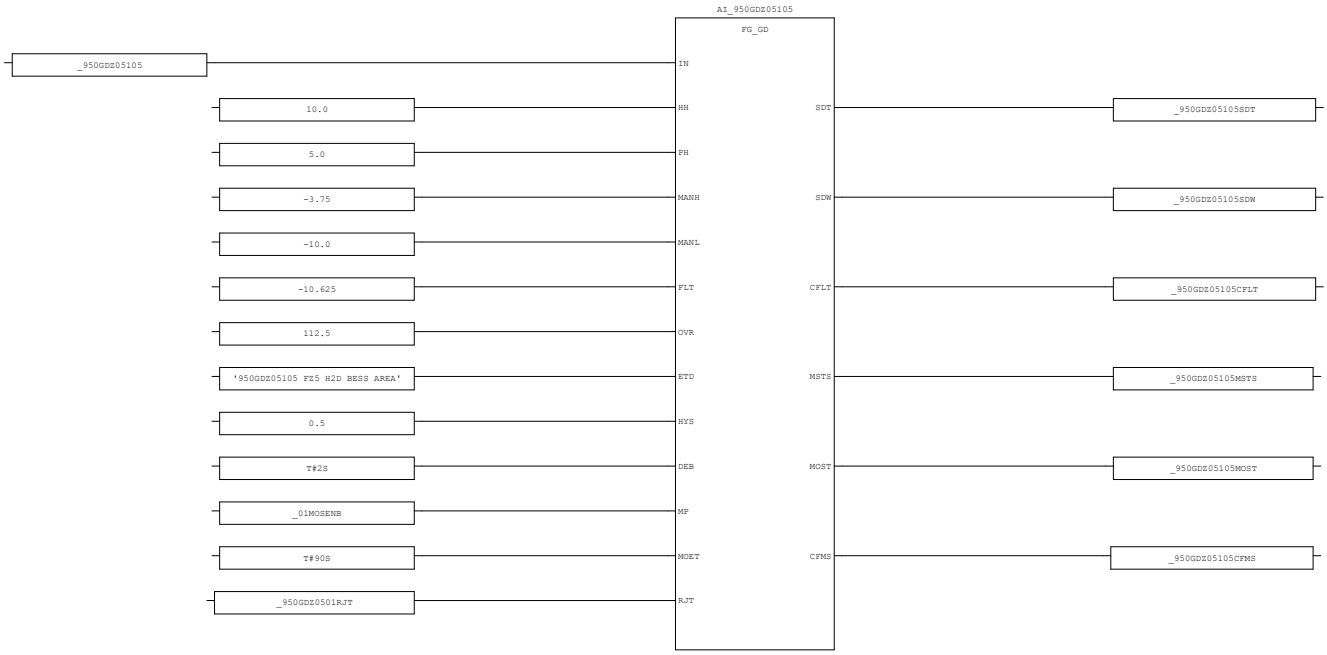
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 39
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		





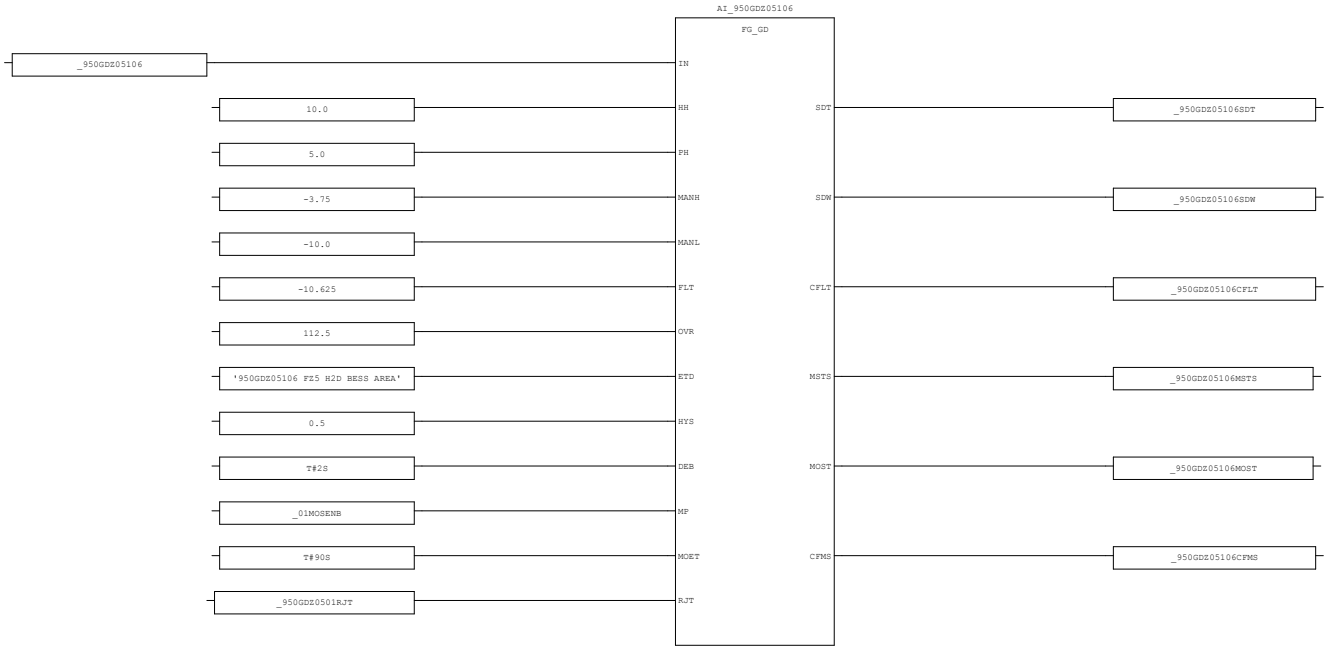
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 40
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

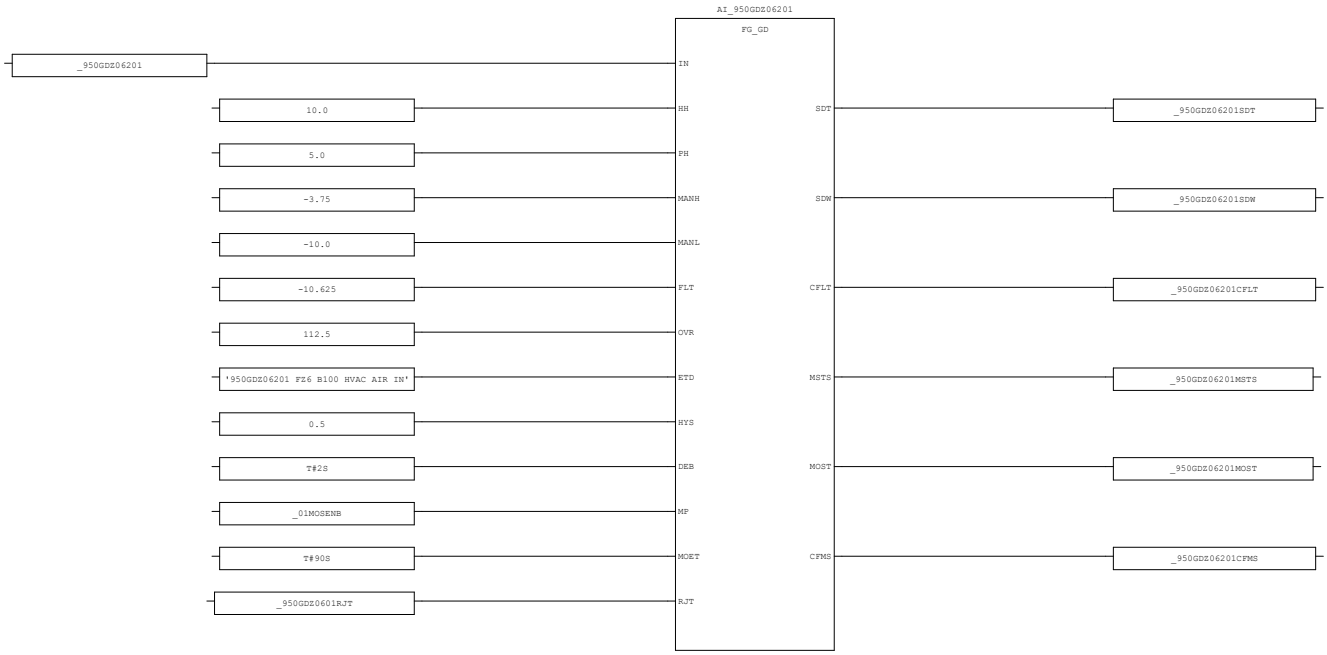


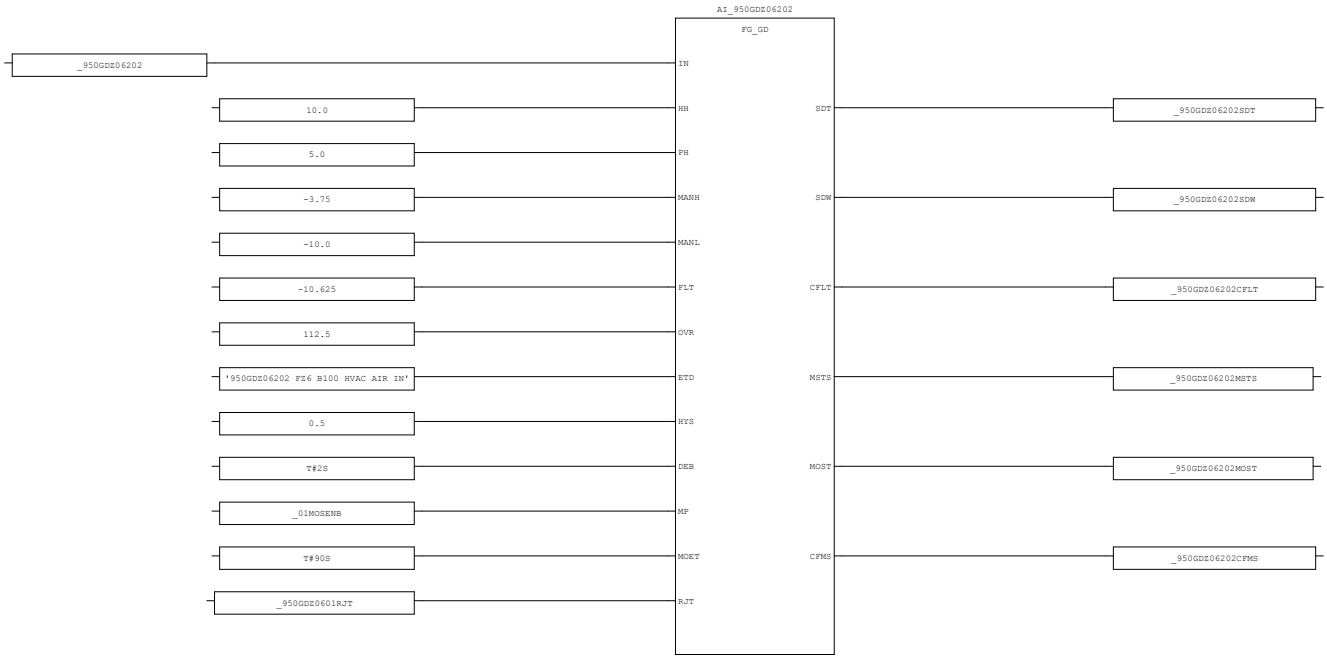


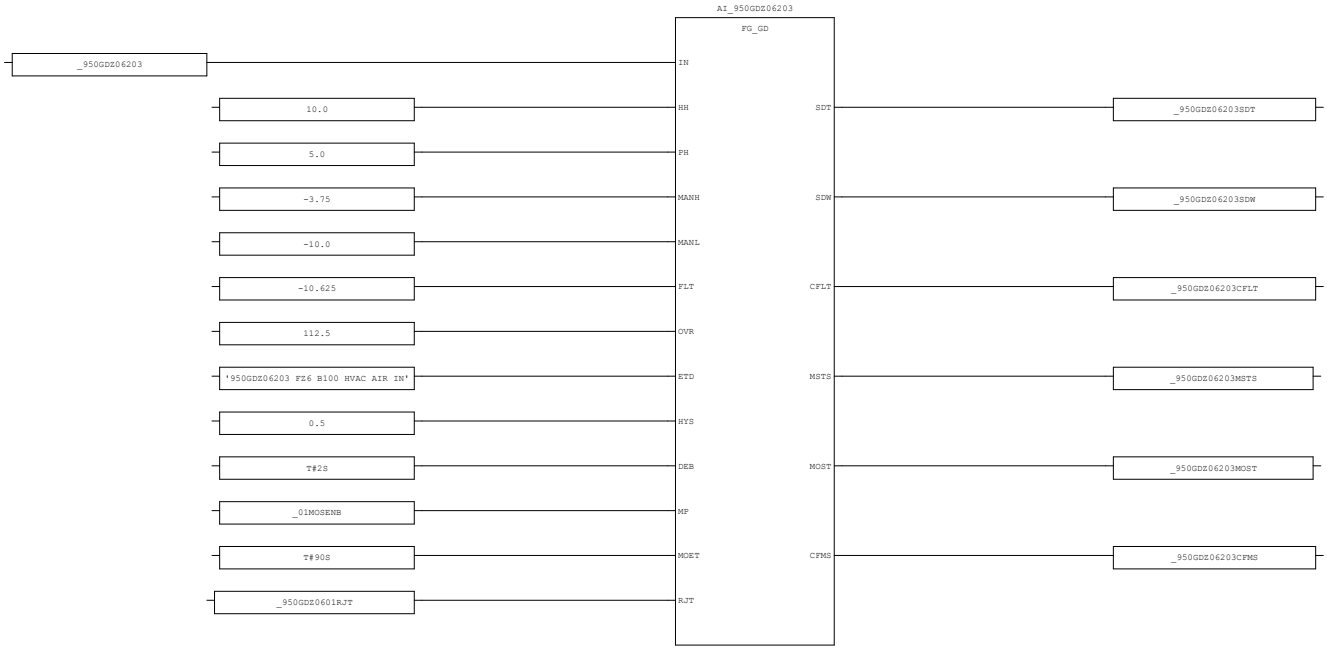
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 41
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.15. AI_GD_08 (* Analog Input Processing-Gas Detector *)

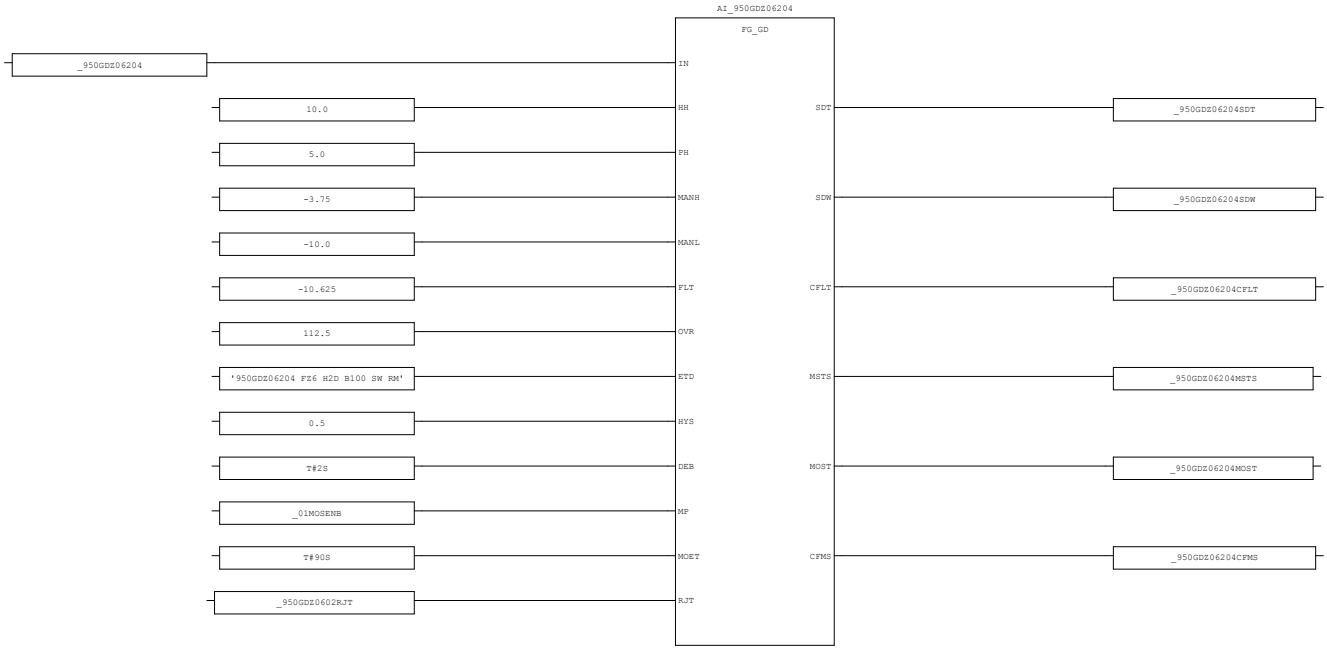


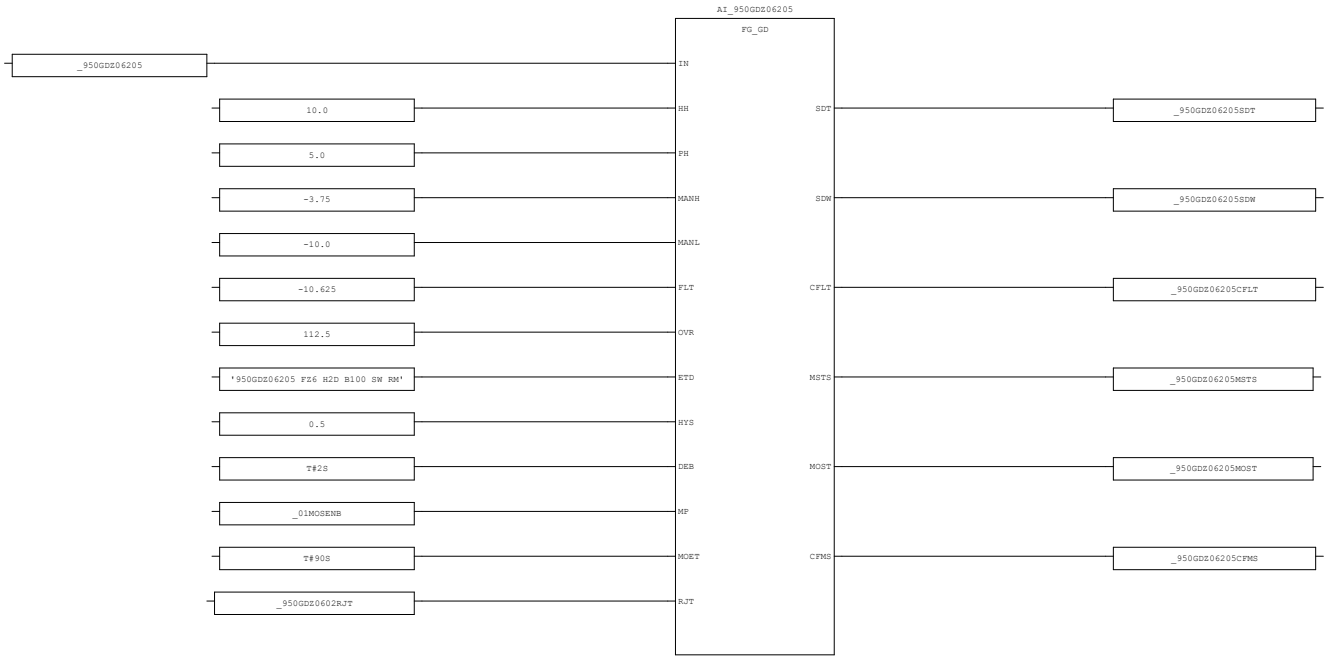




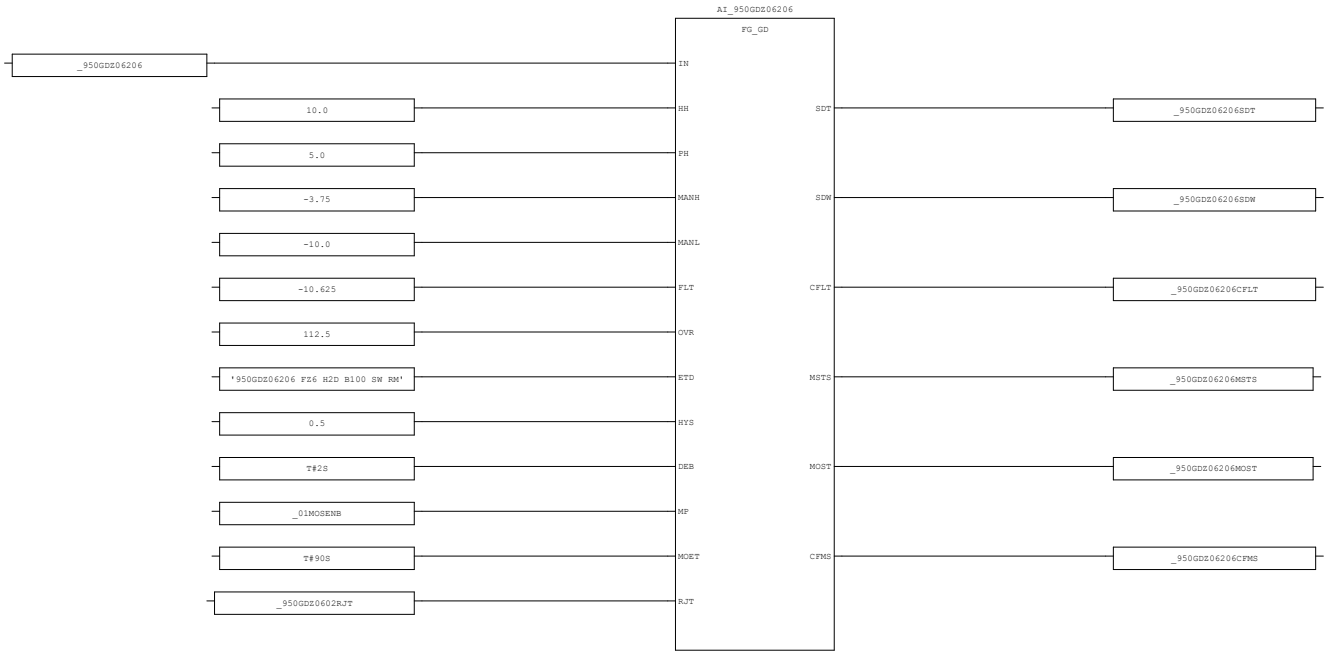


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 43
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



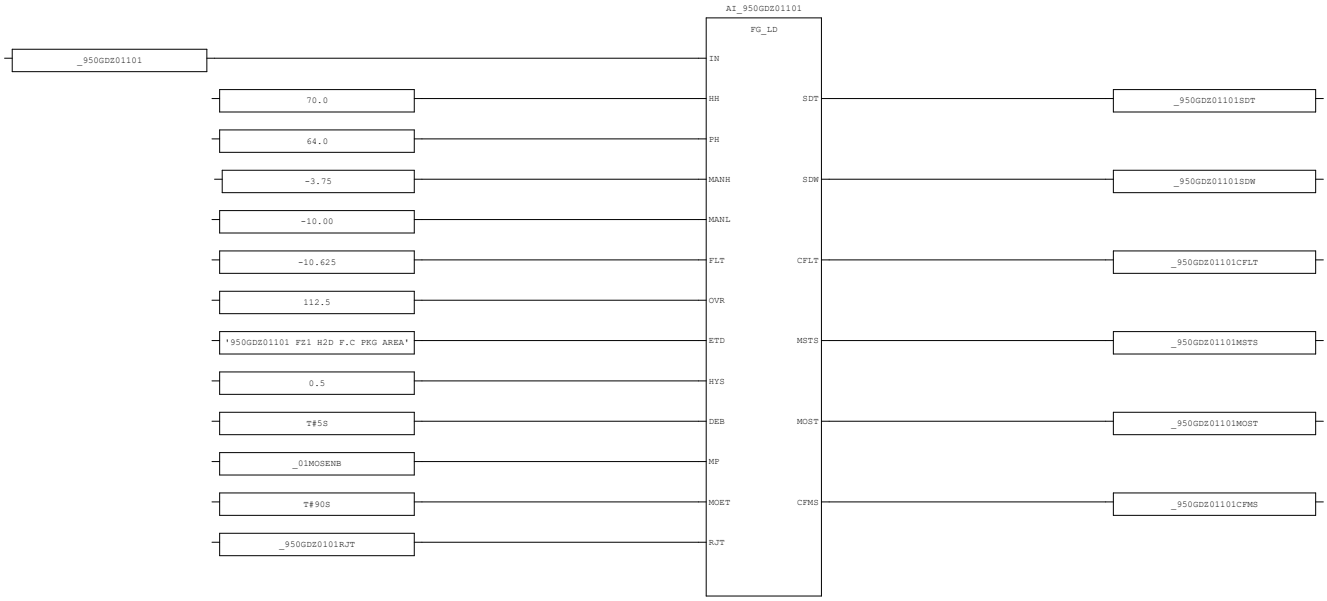


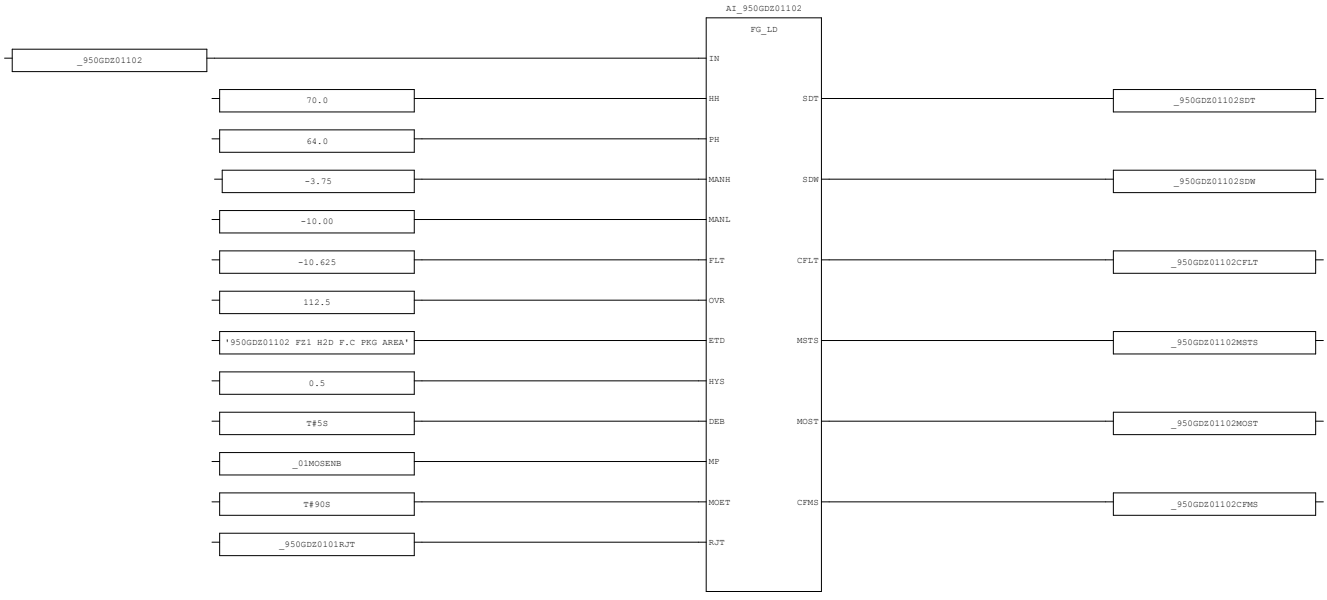
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 44
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

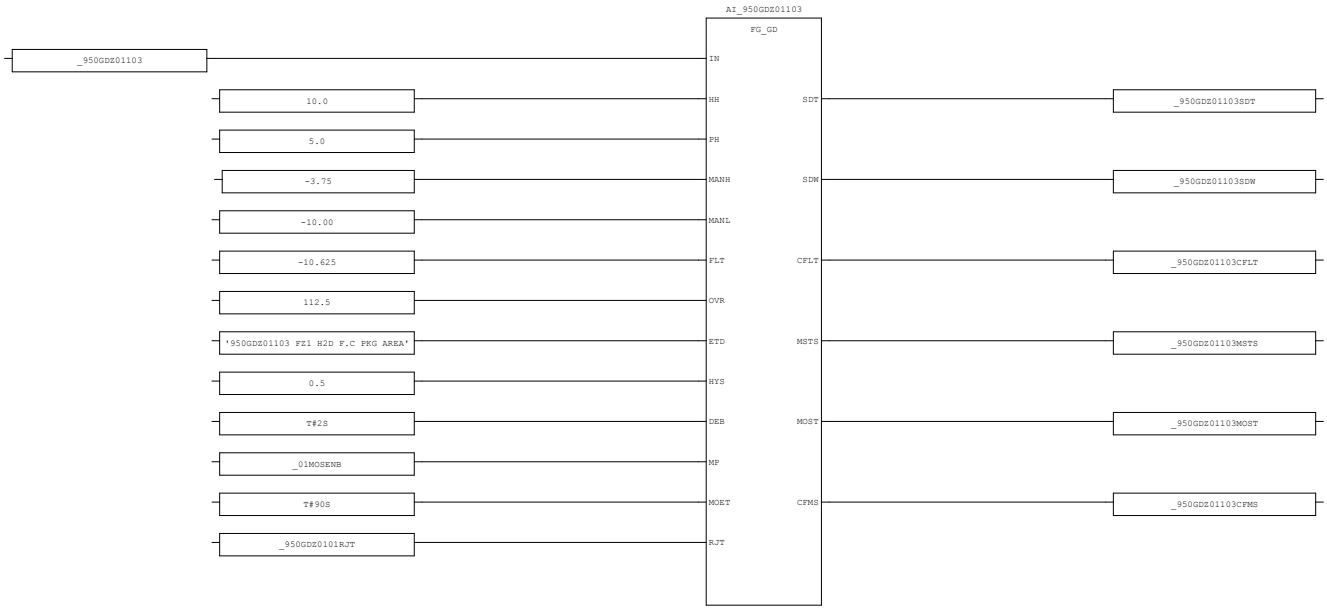


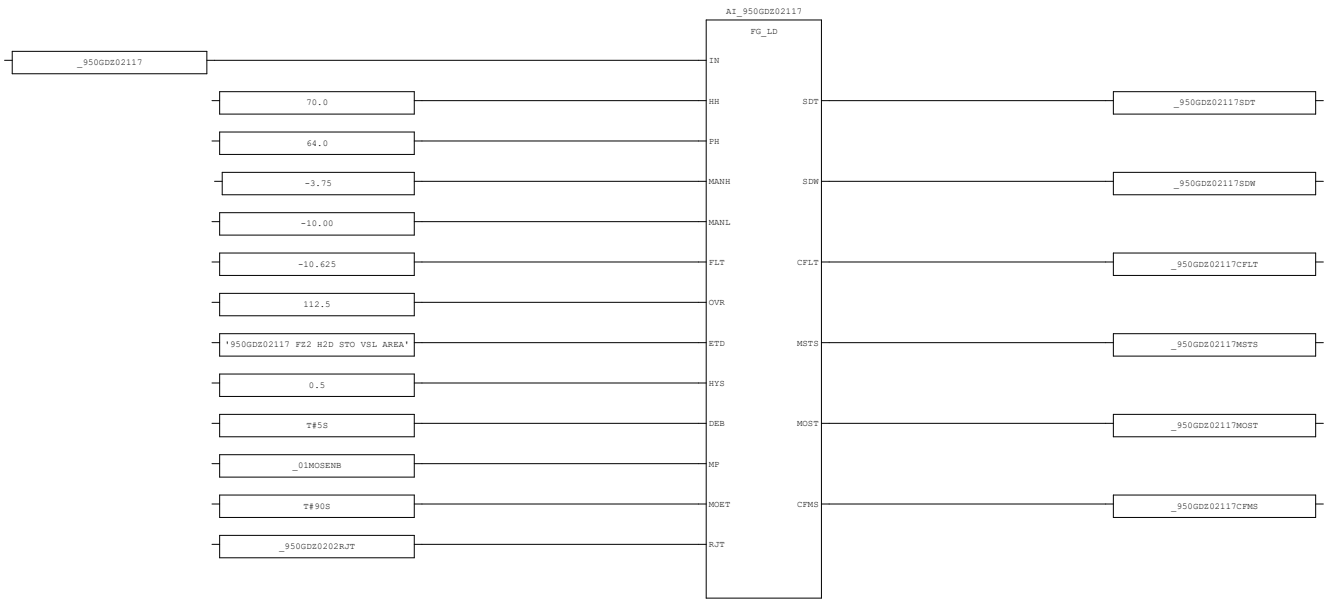
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 45
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.16. AI_LD_01 (* Analog Input Processing-Leak & Gas Detector *)

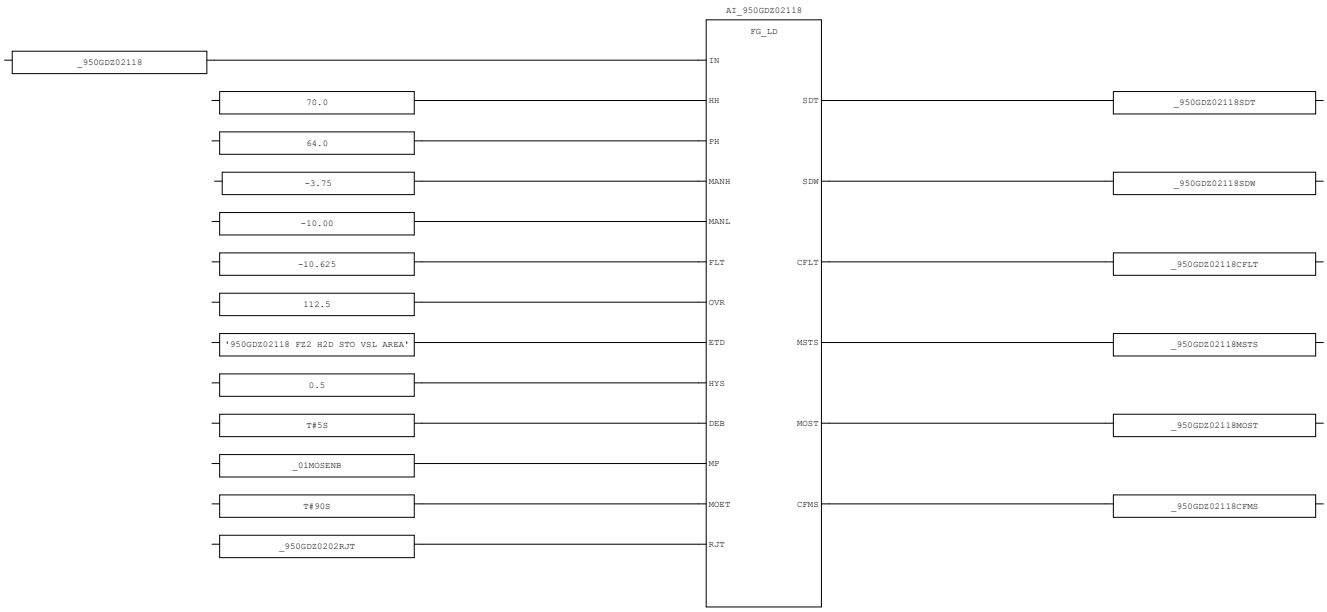


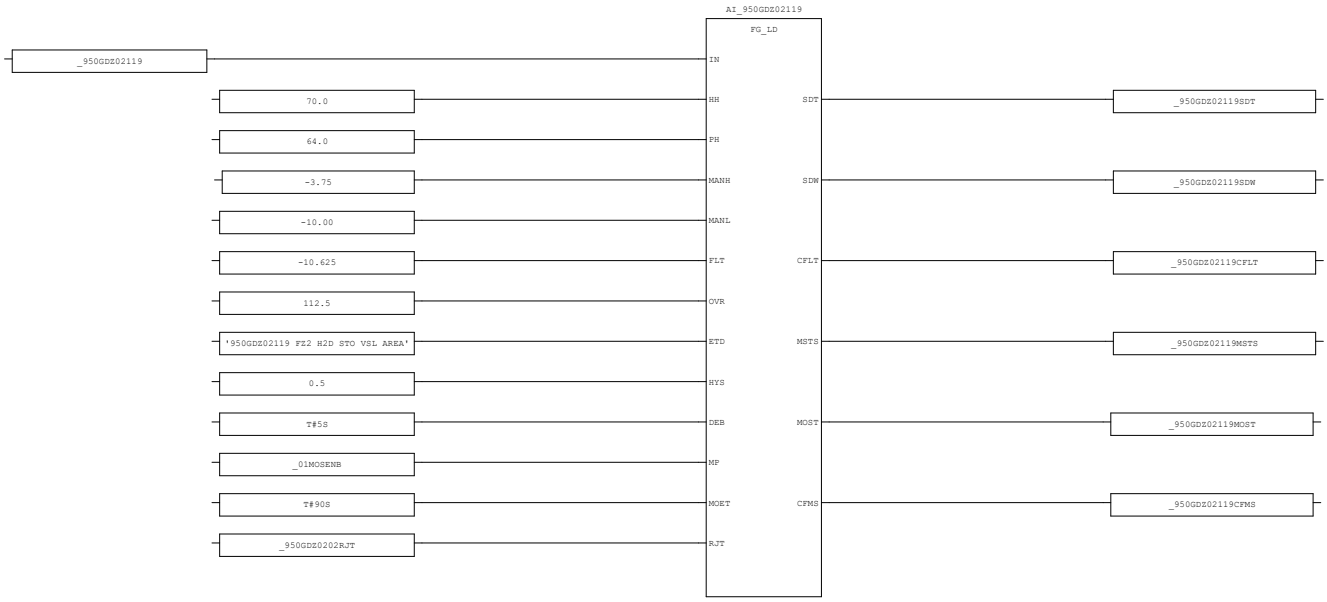






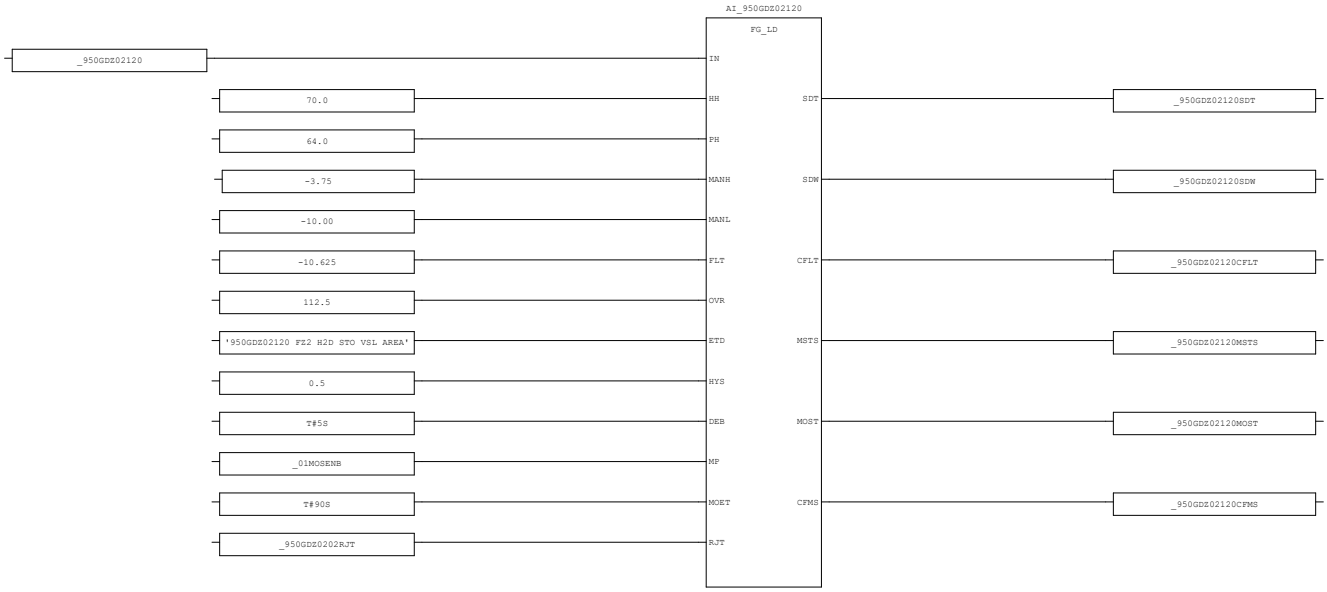
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 47
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

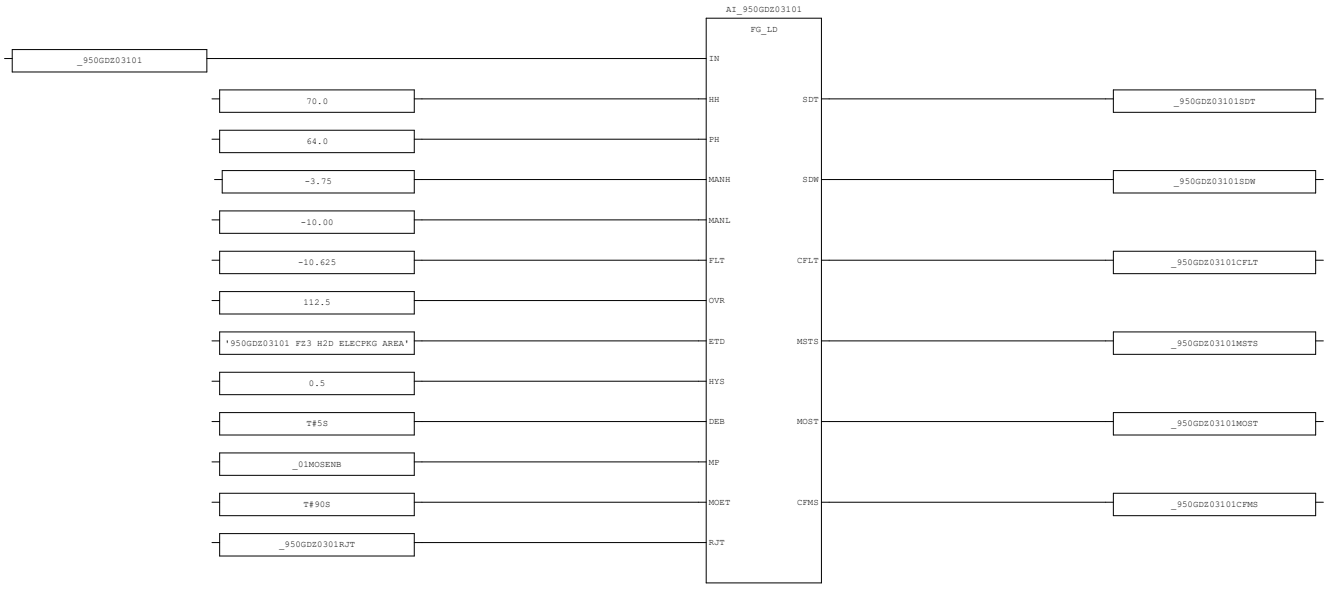


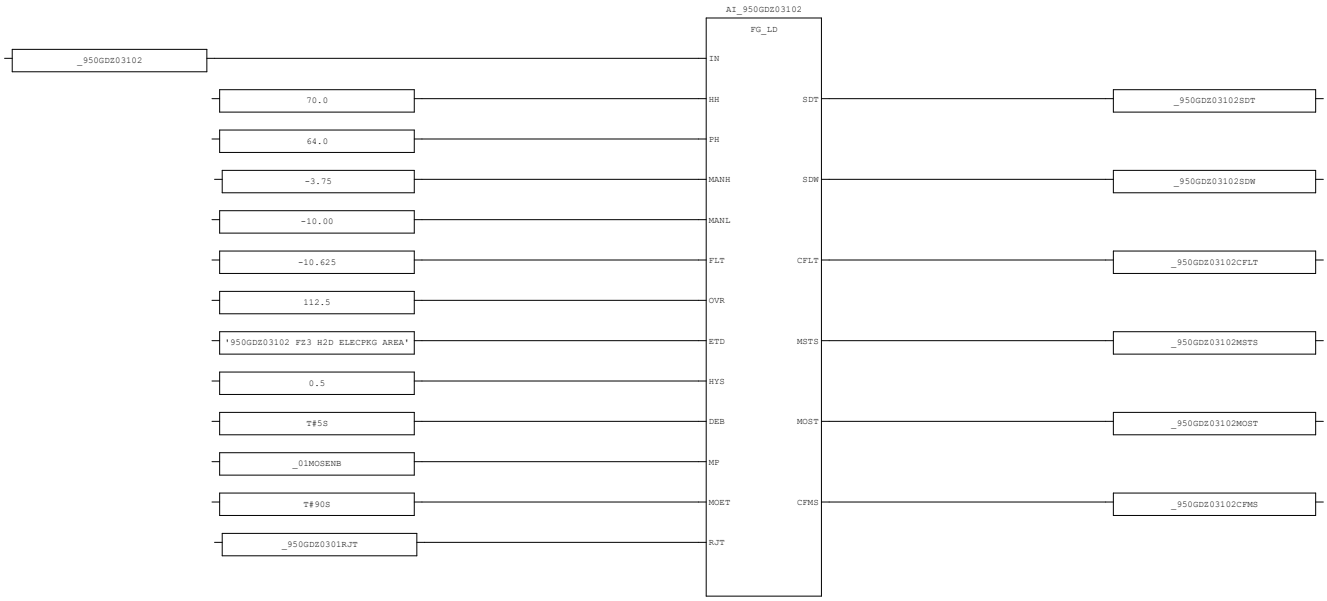


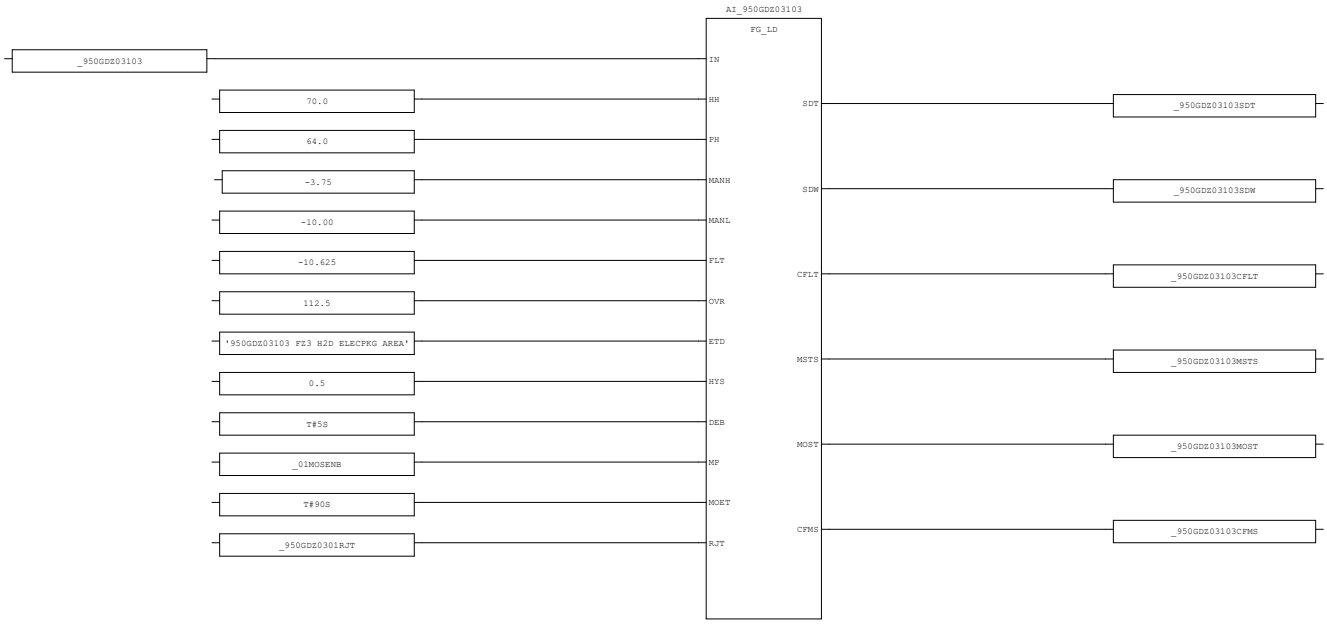
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 48
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.17. AI_LD_02 (* Analog Input Processing-Leak & Gas Detector *)

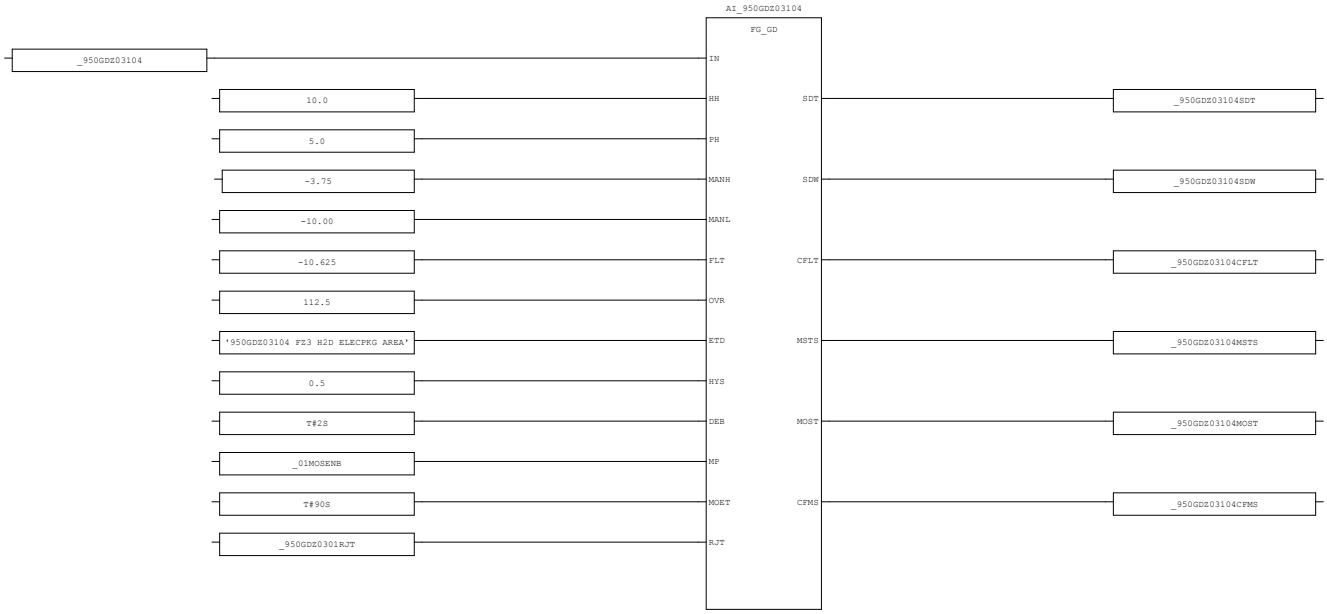


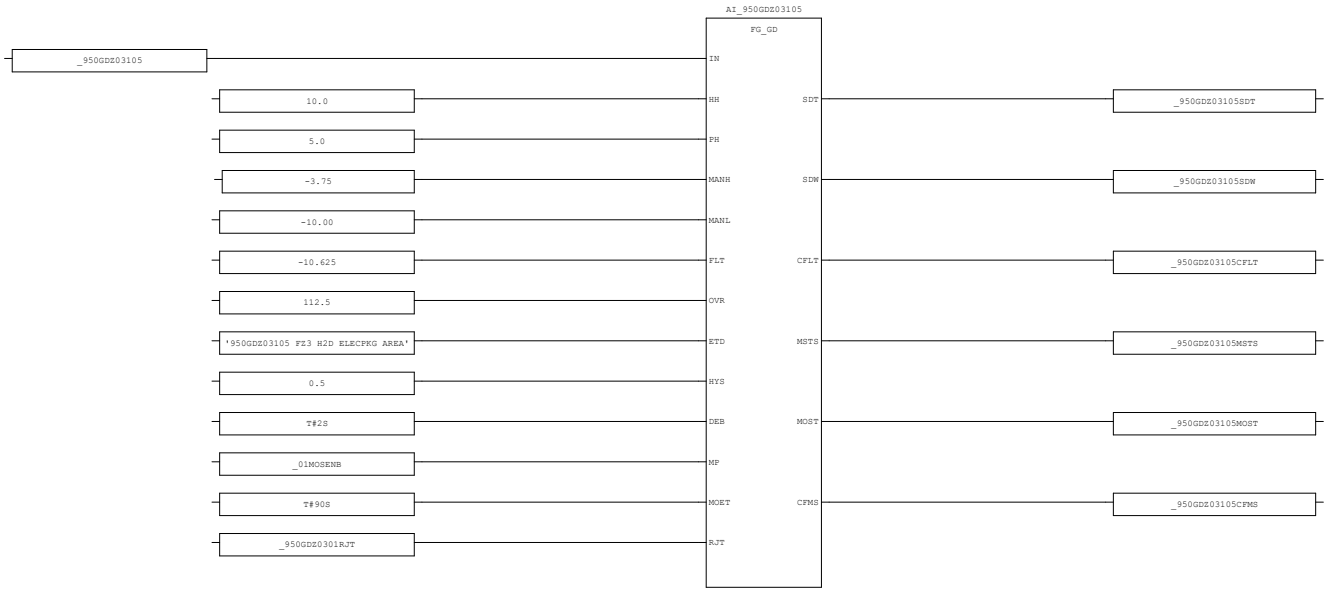






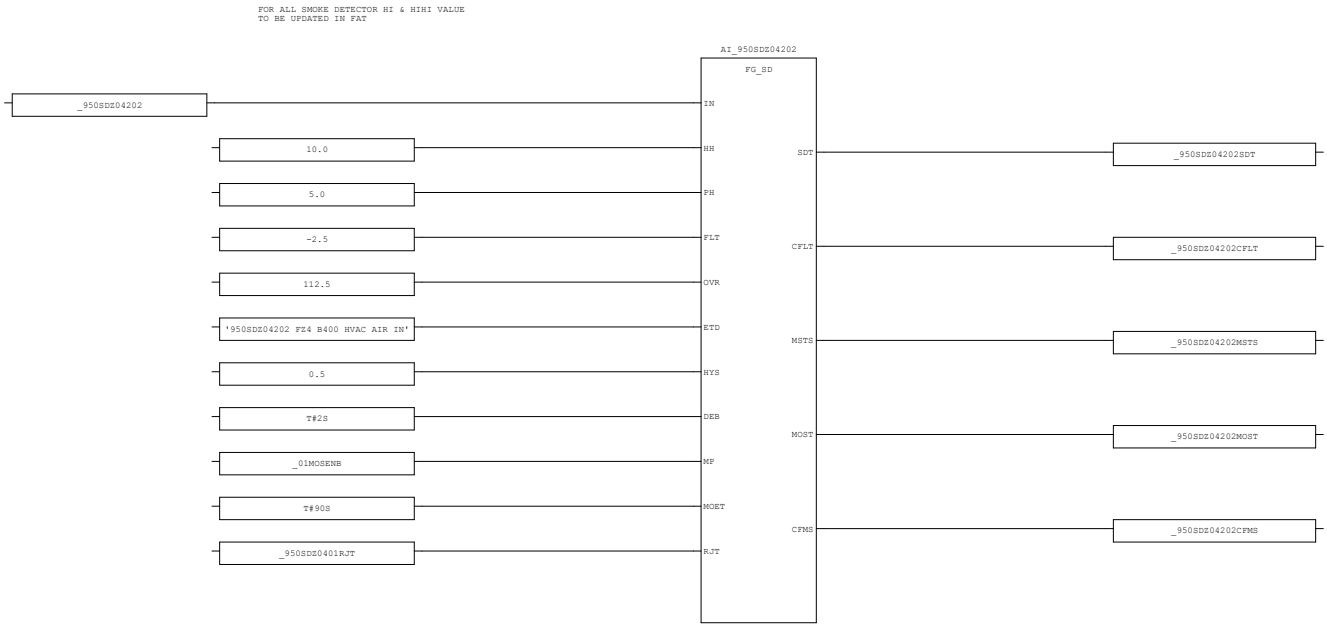
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 50
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

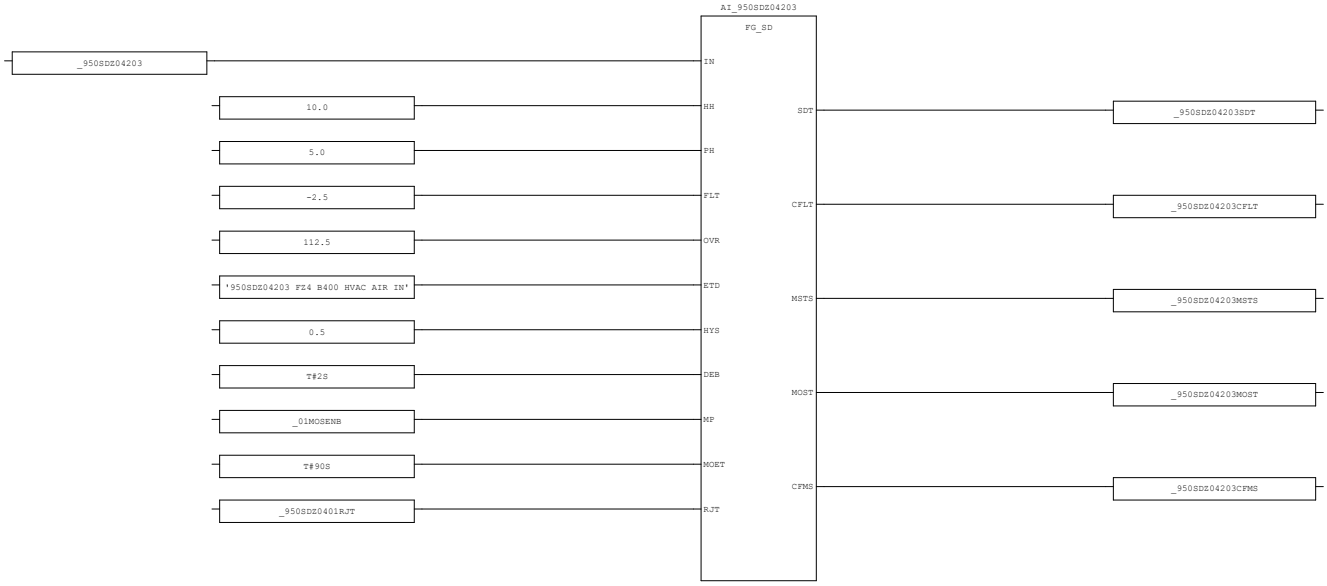


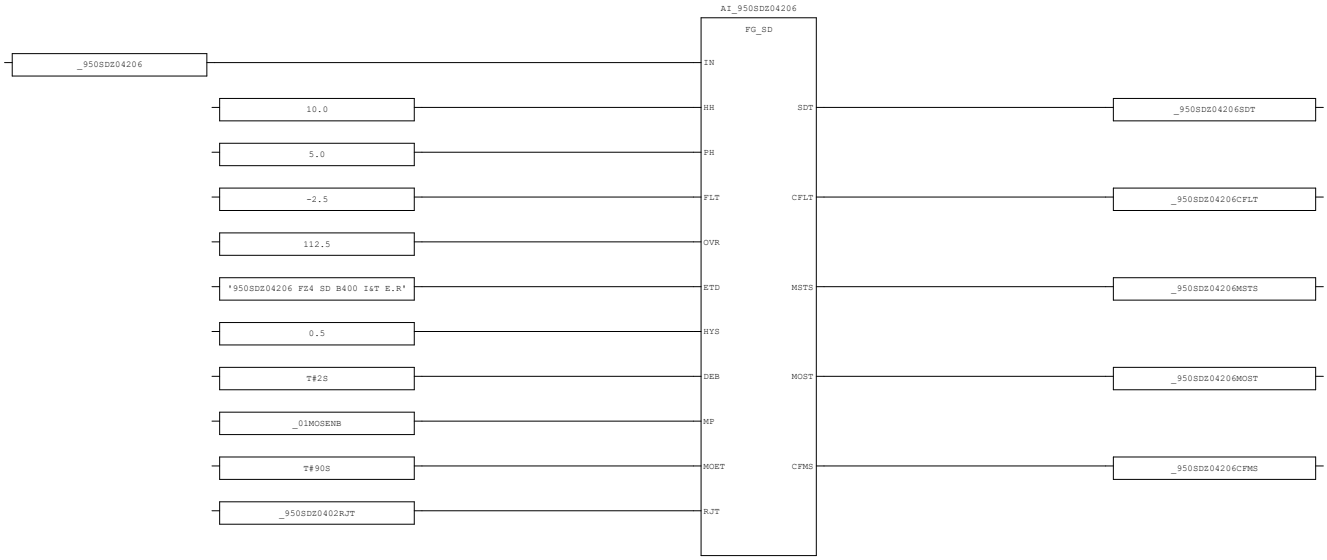


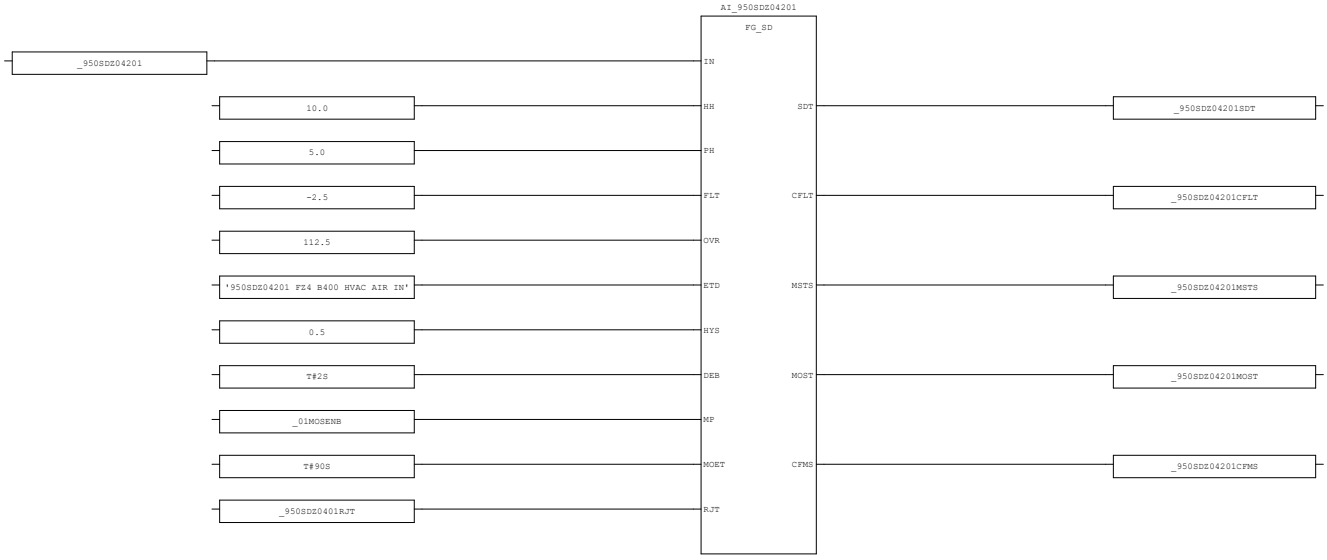
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 51
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

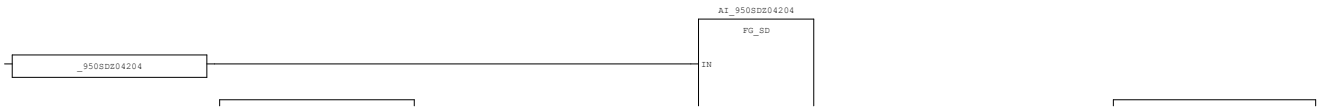
3.18. AI_SD_01 (* Analog Input Processing-Smoke Detector *)



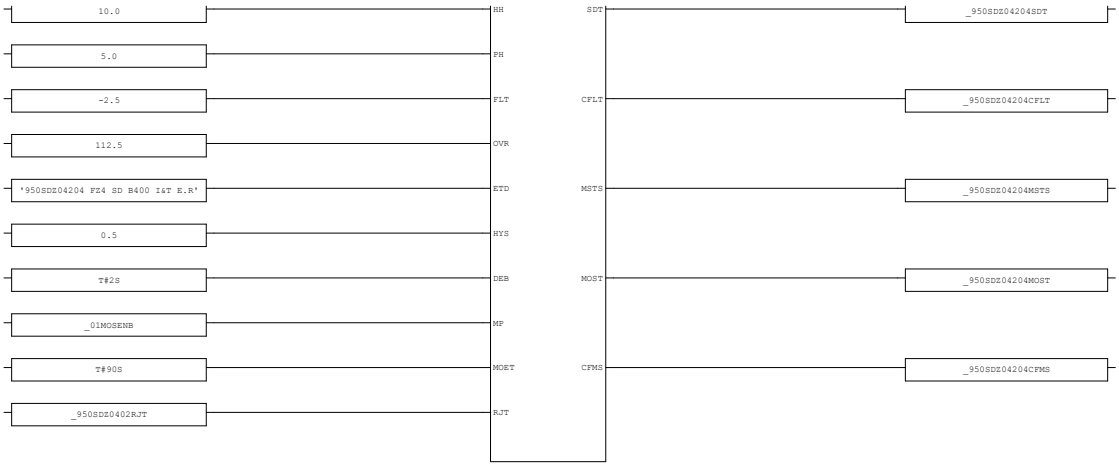


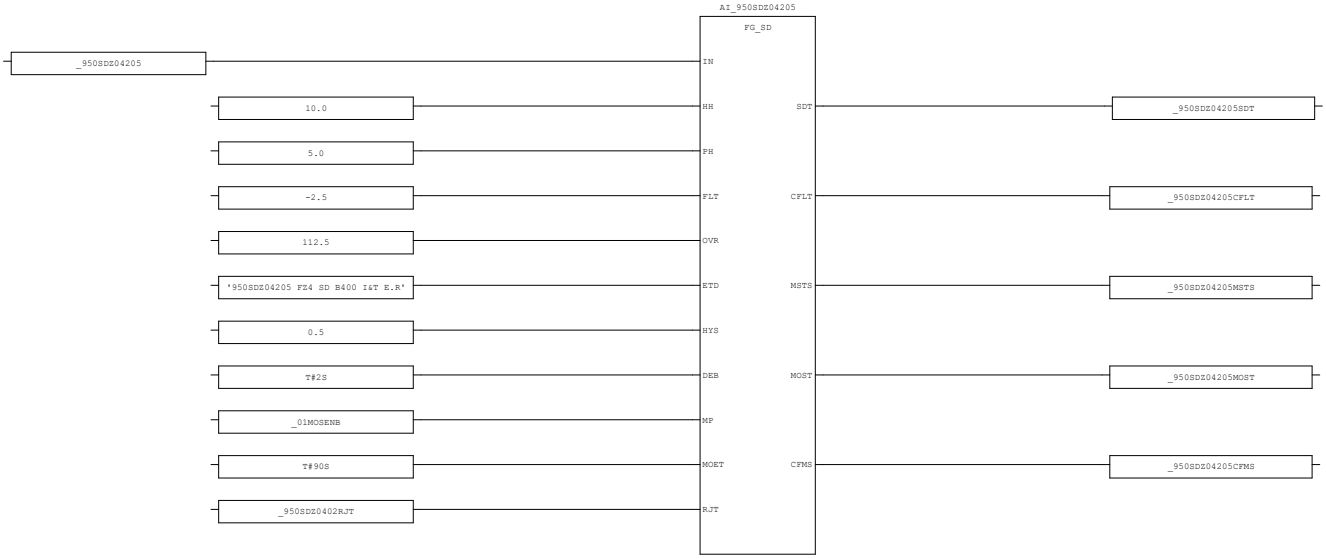






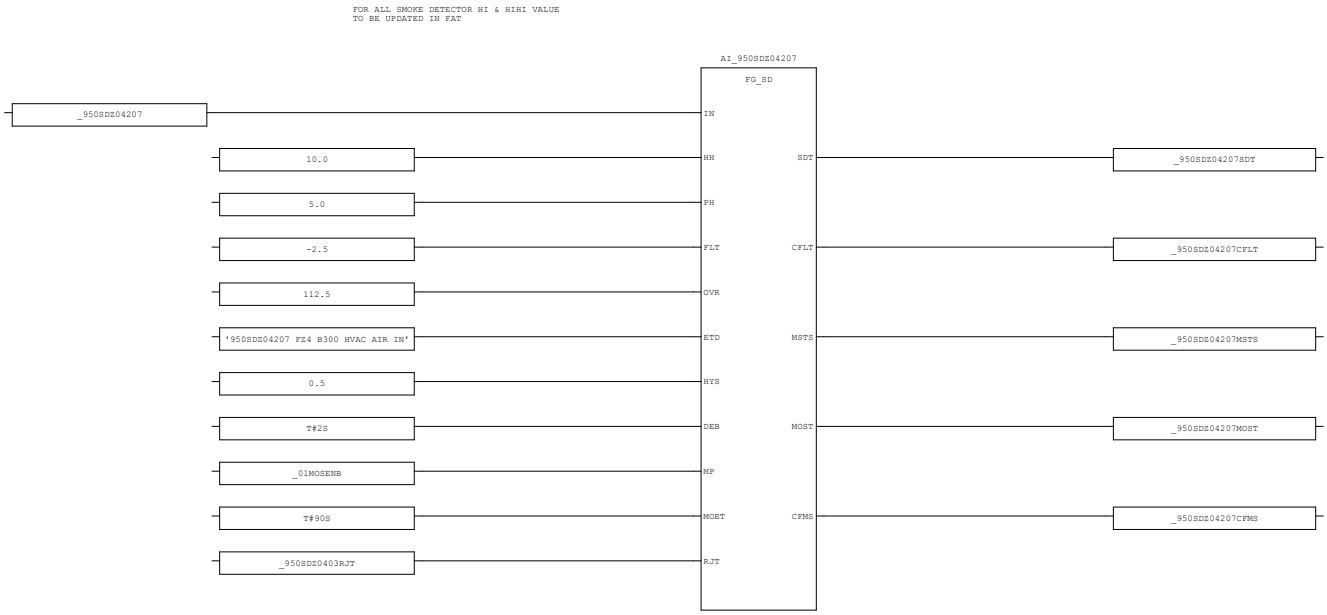
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 53
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

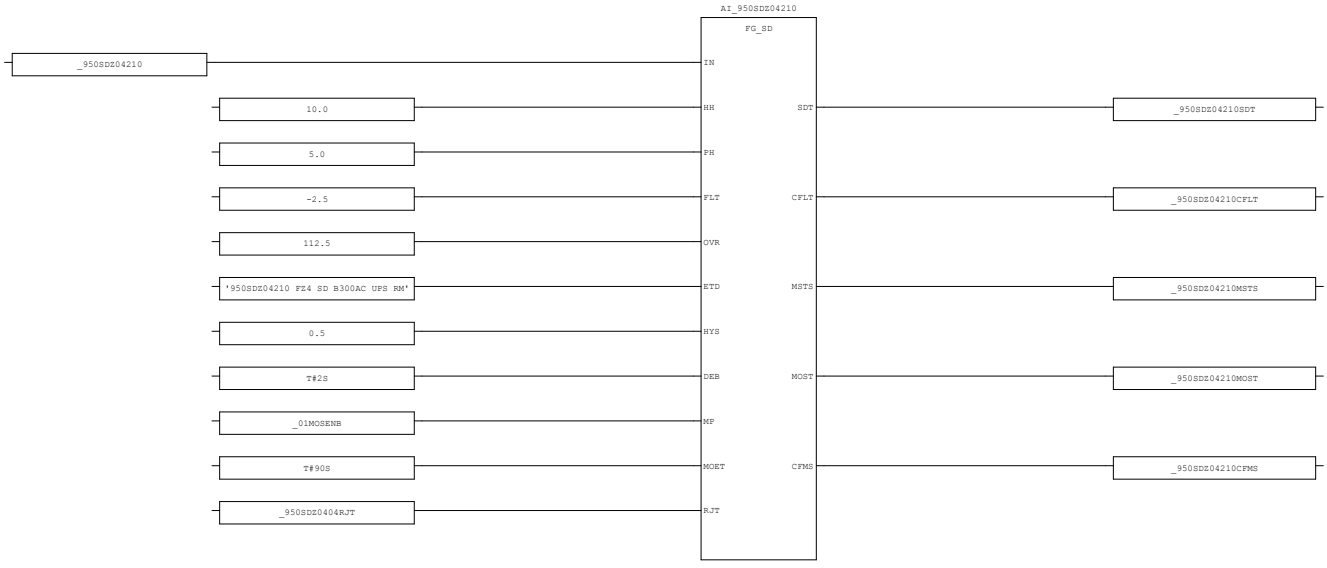




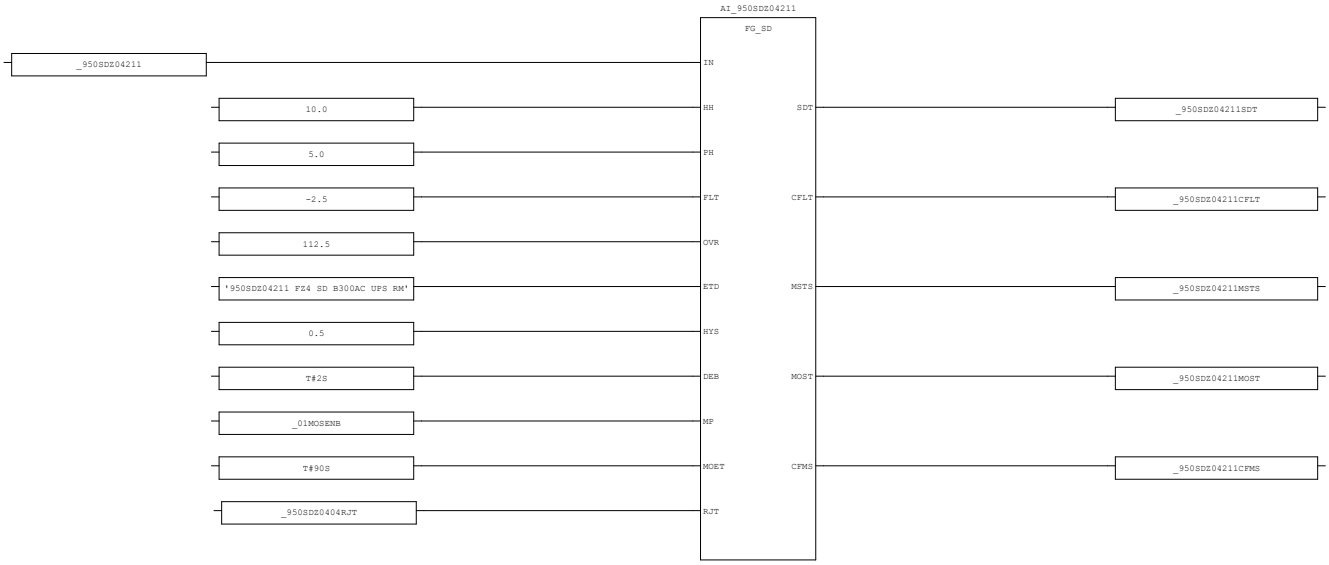
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 54
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

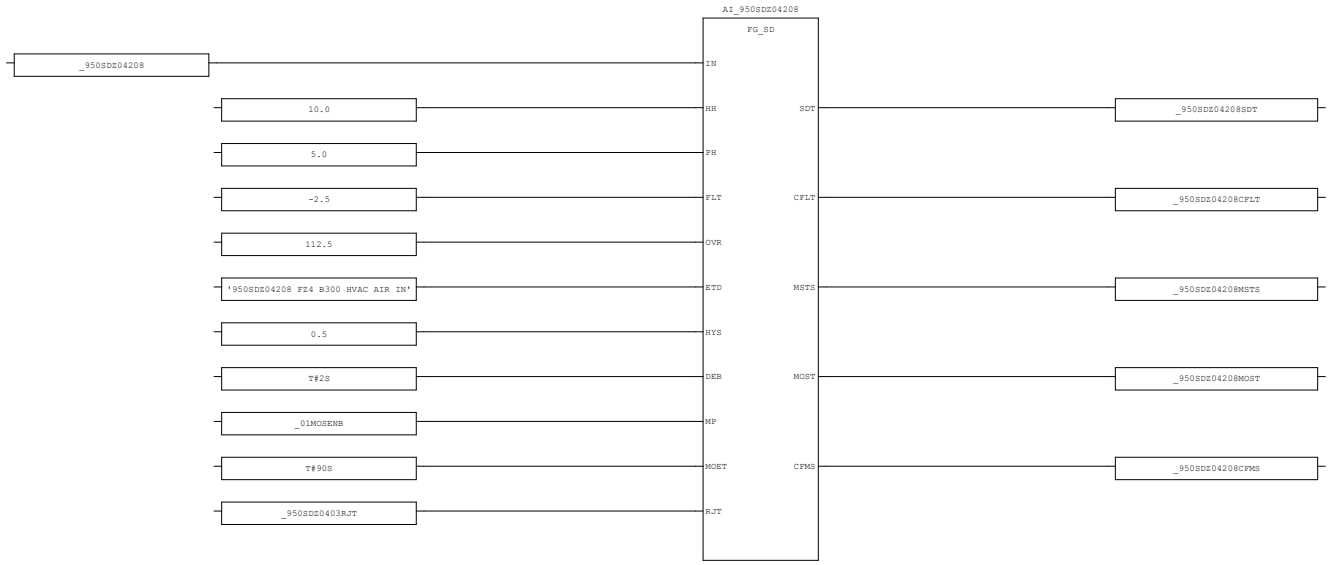
3.19. AI_SD_02 (* Analog Input Processing-Smoke Detector *)



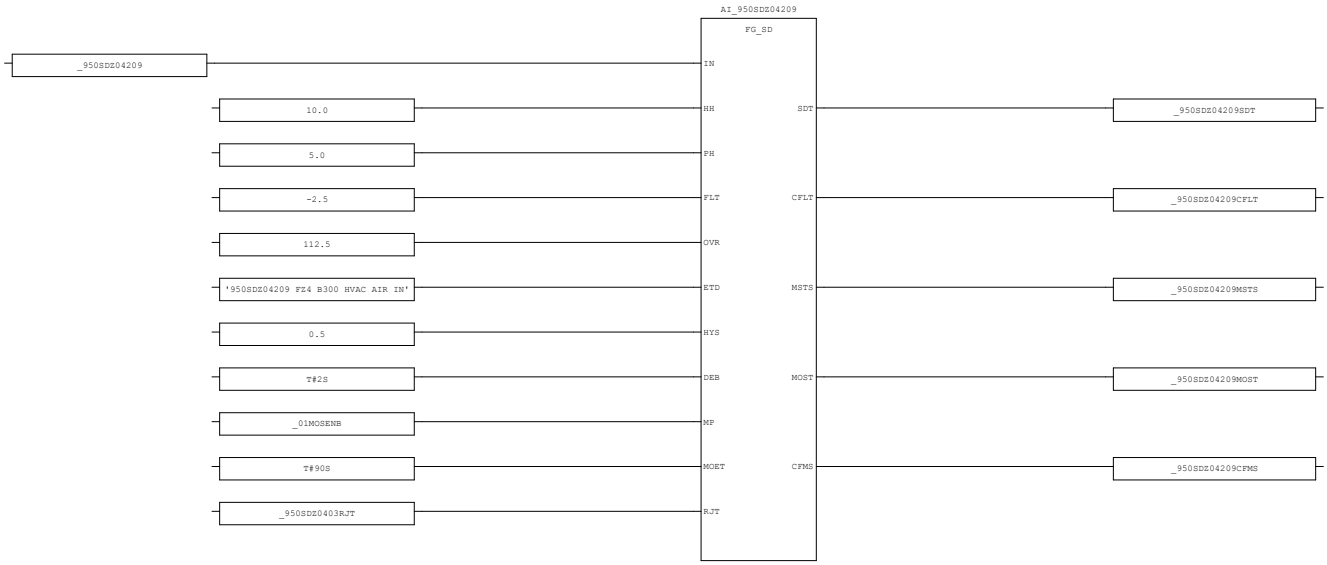


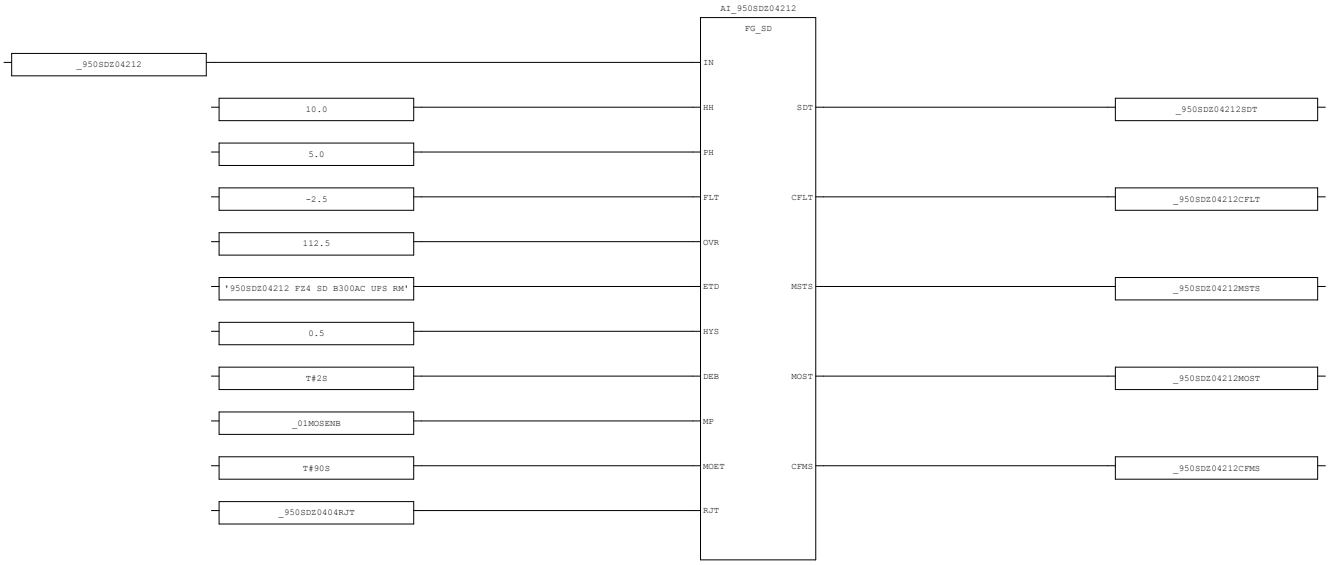
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 55
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		





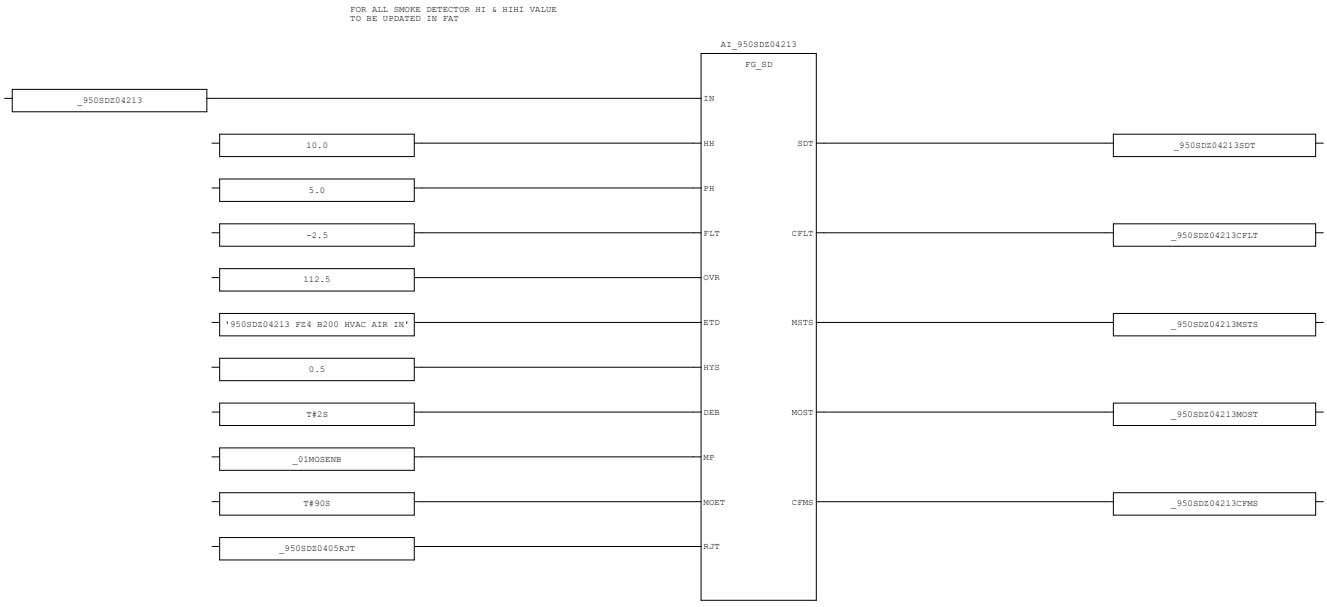
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 56
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

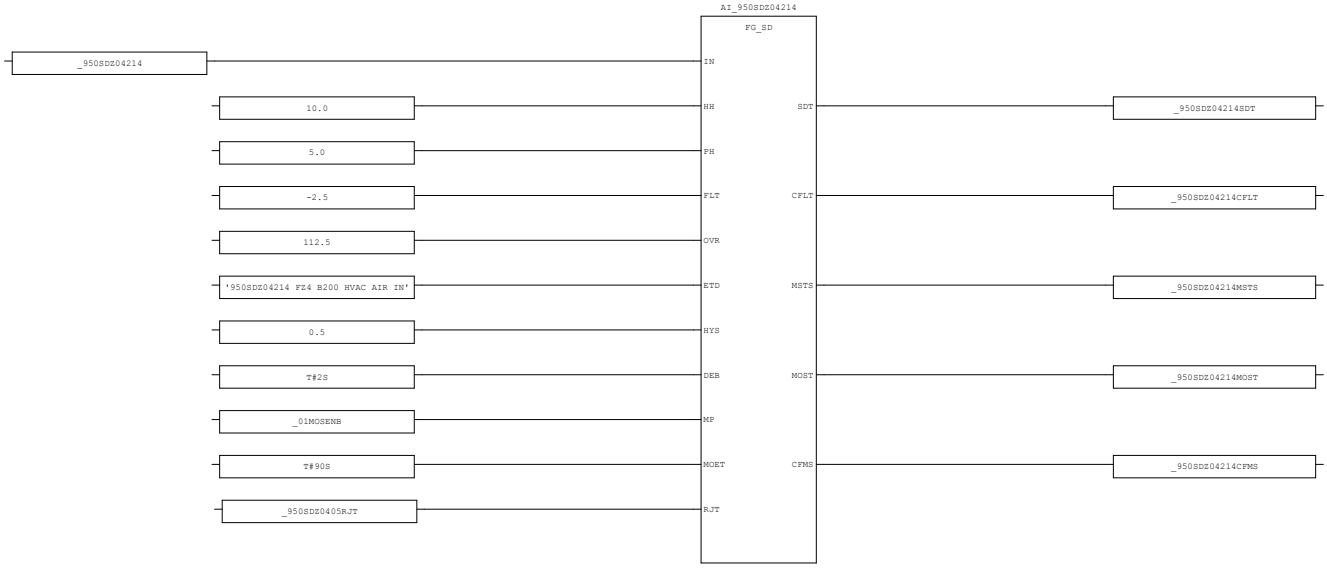


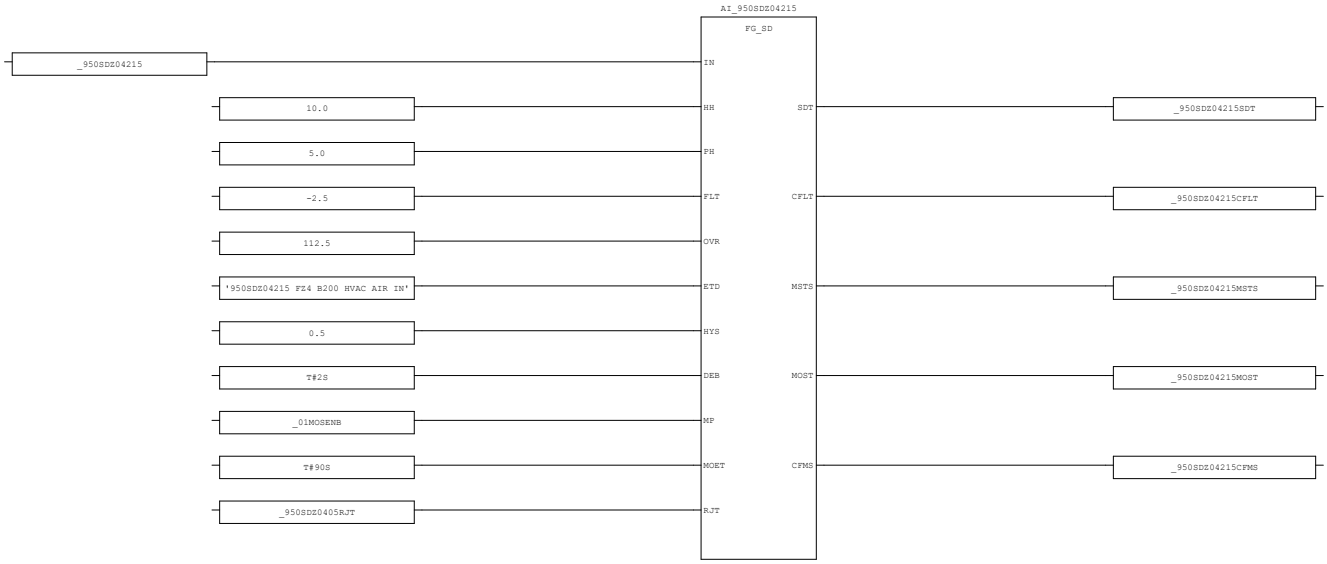


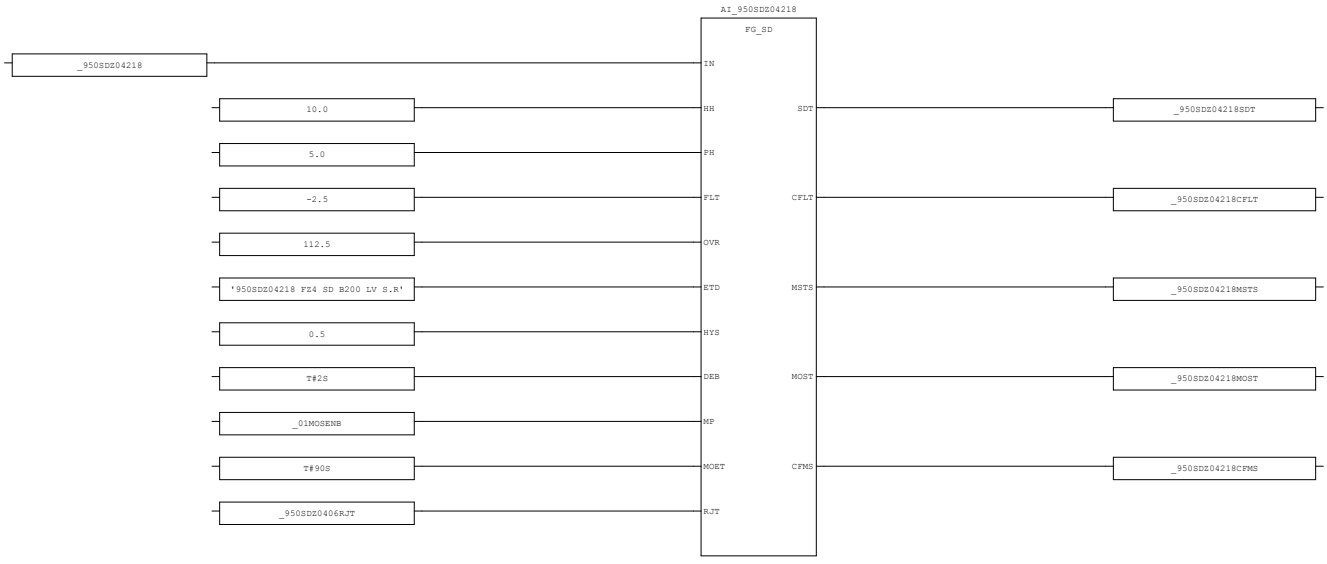
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 57
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.20. AI_SD_03 (* Analog Input Processing-Smoke Detector *)

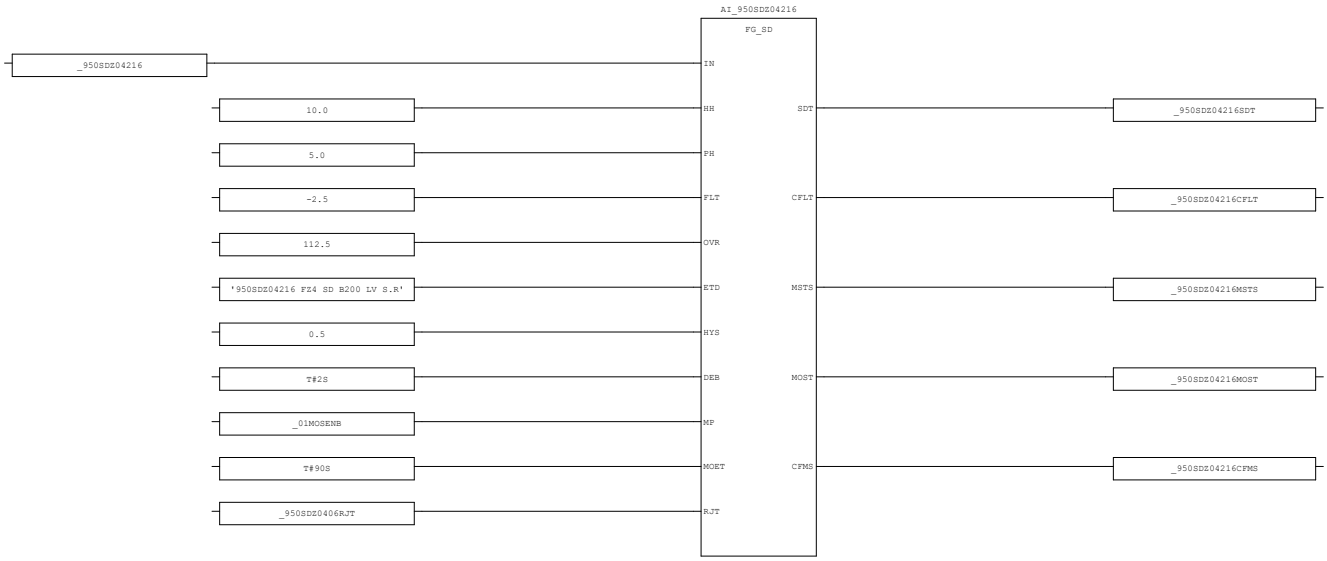


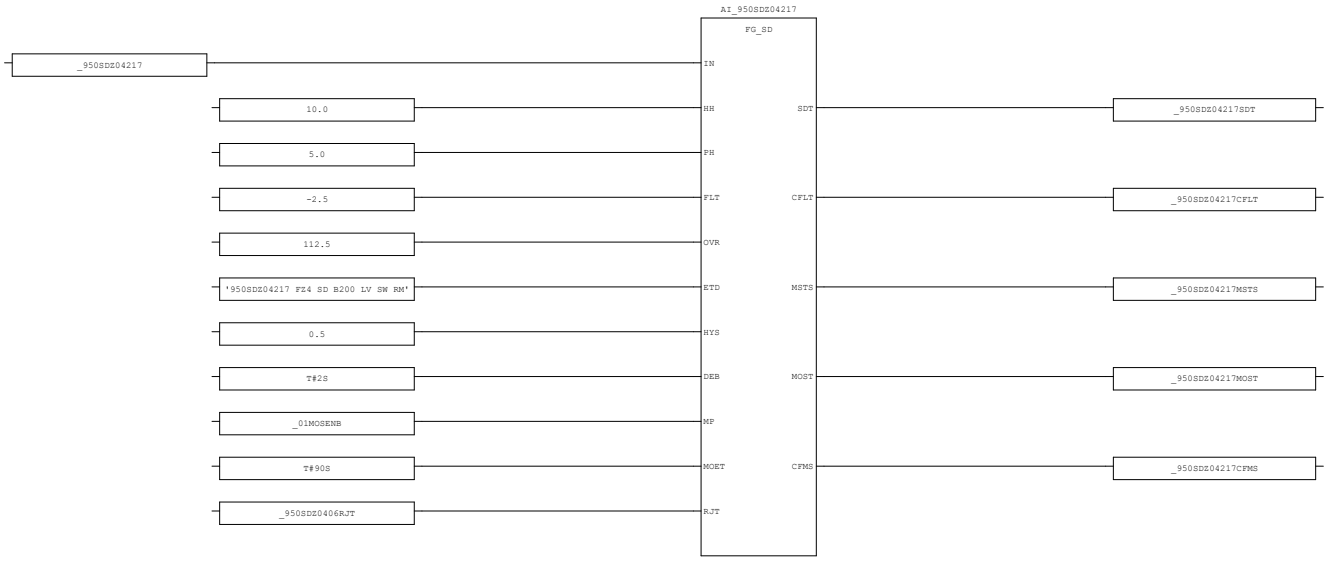






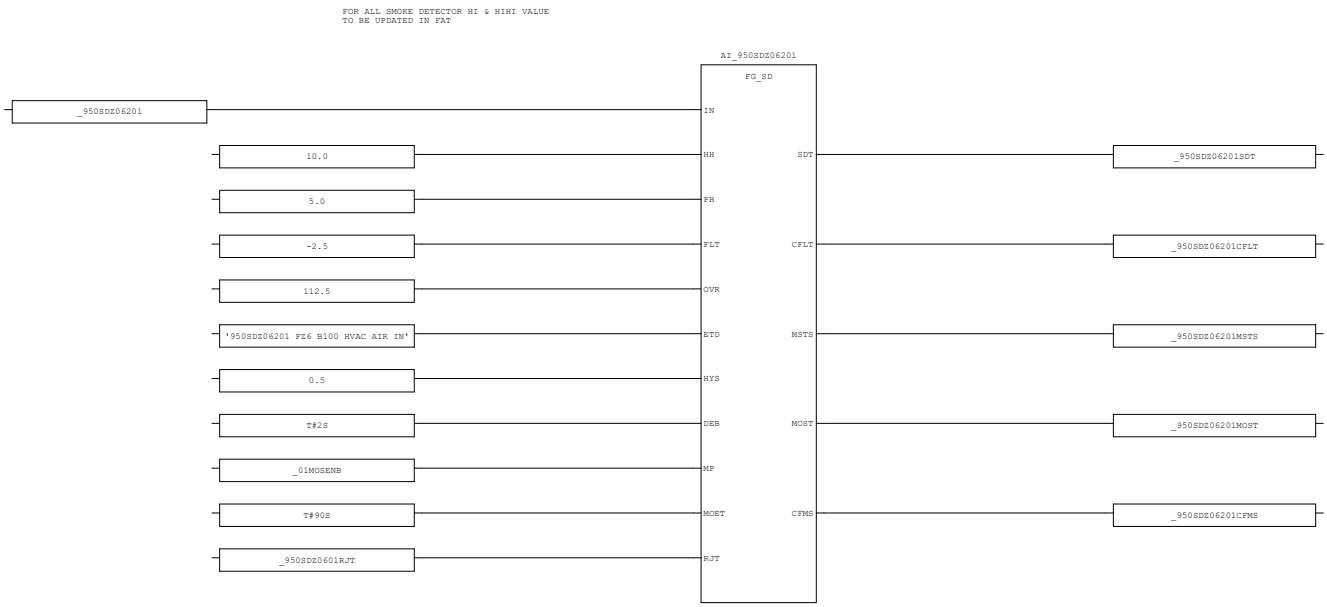
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 59
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

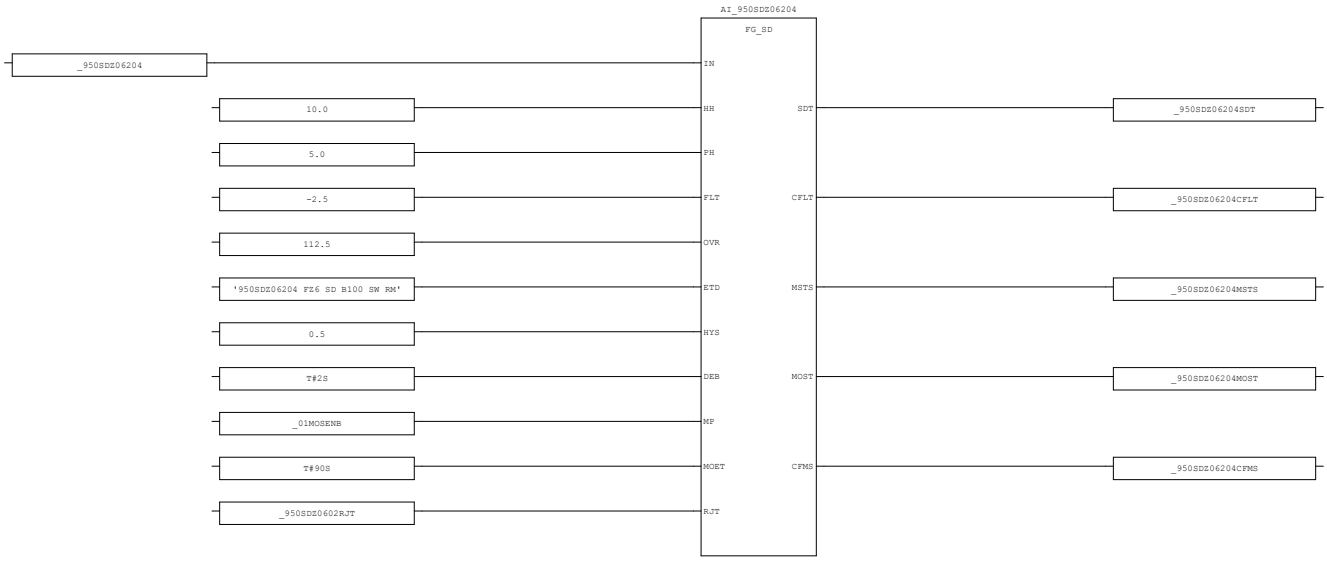




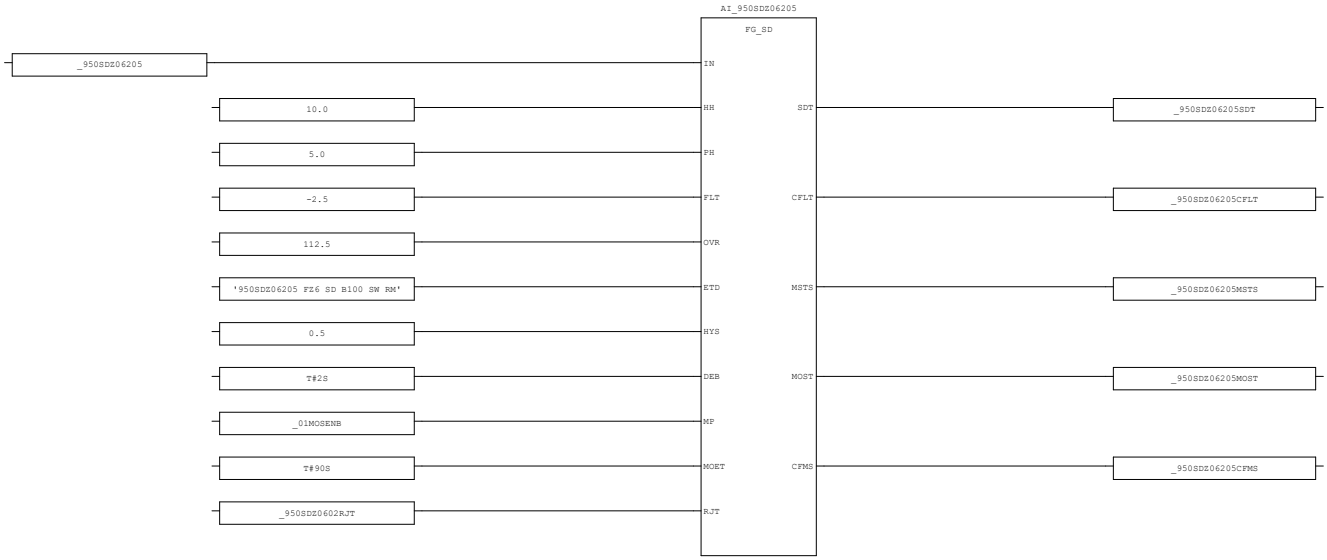
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 60
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

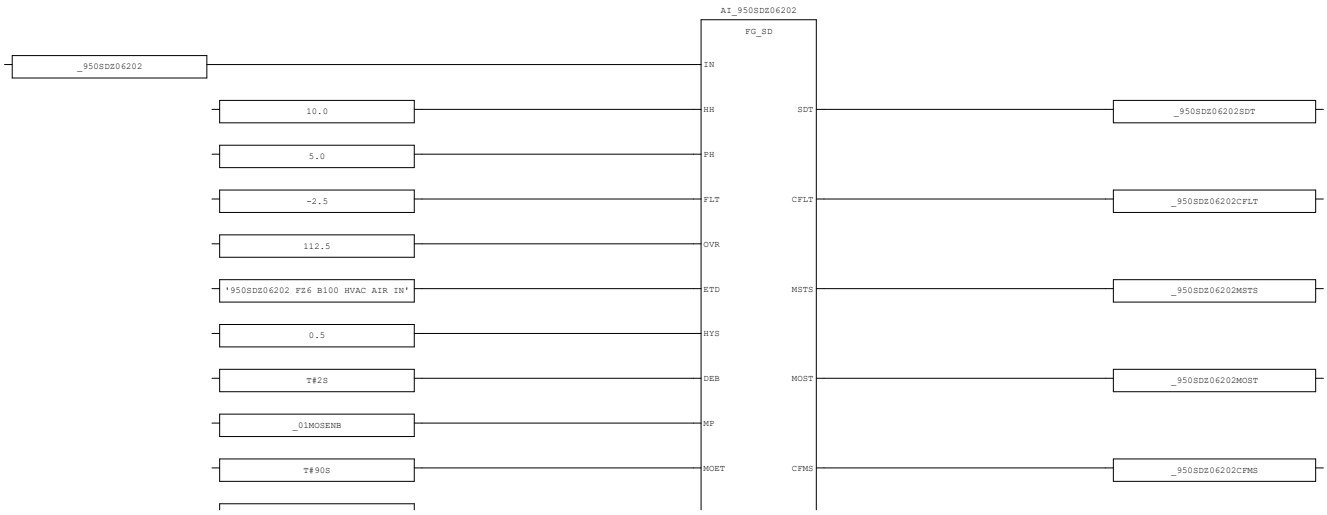
3.21. AI_SD_04 (* Analog Input Processing-Smoke Detector *)



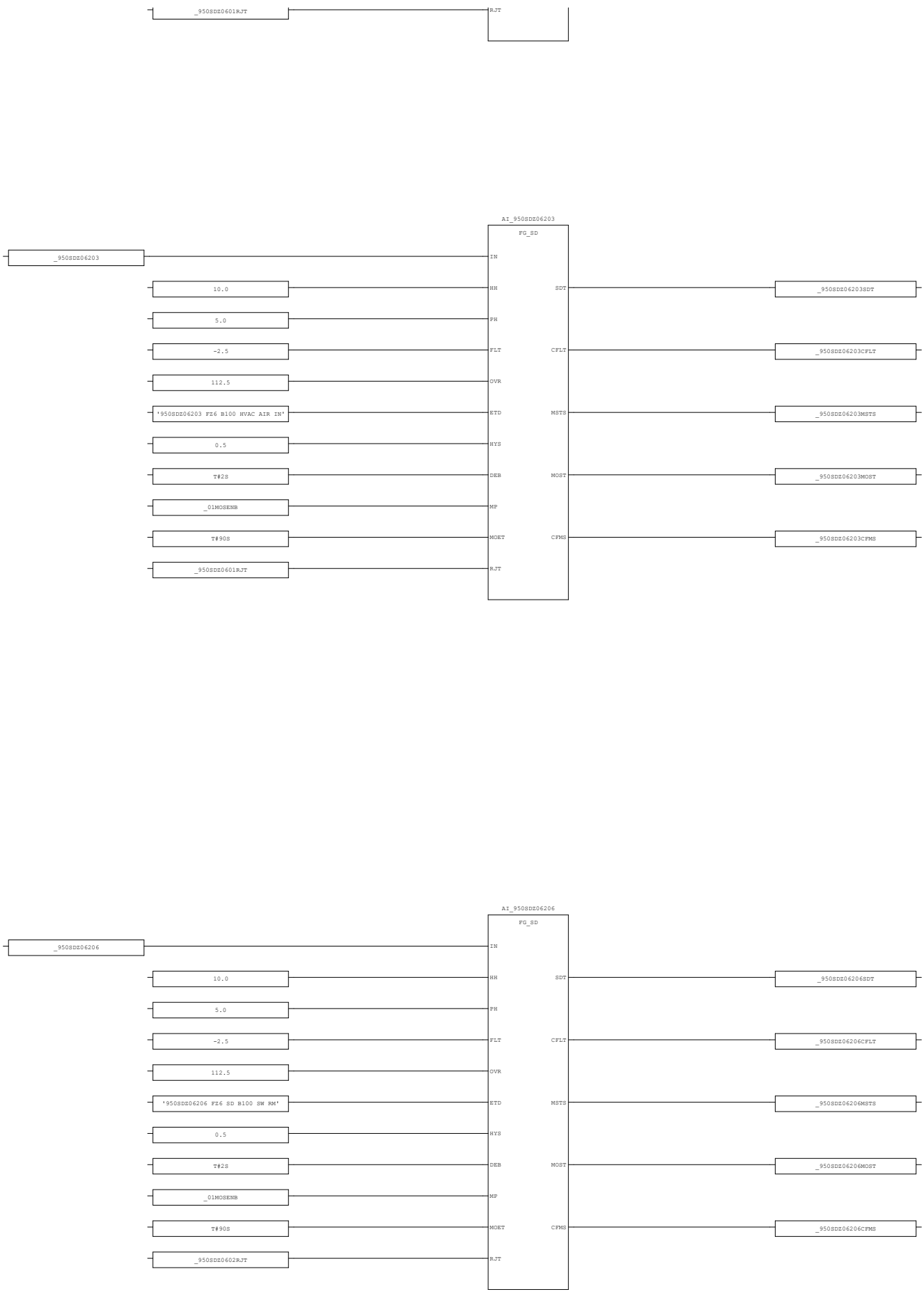


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 61
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



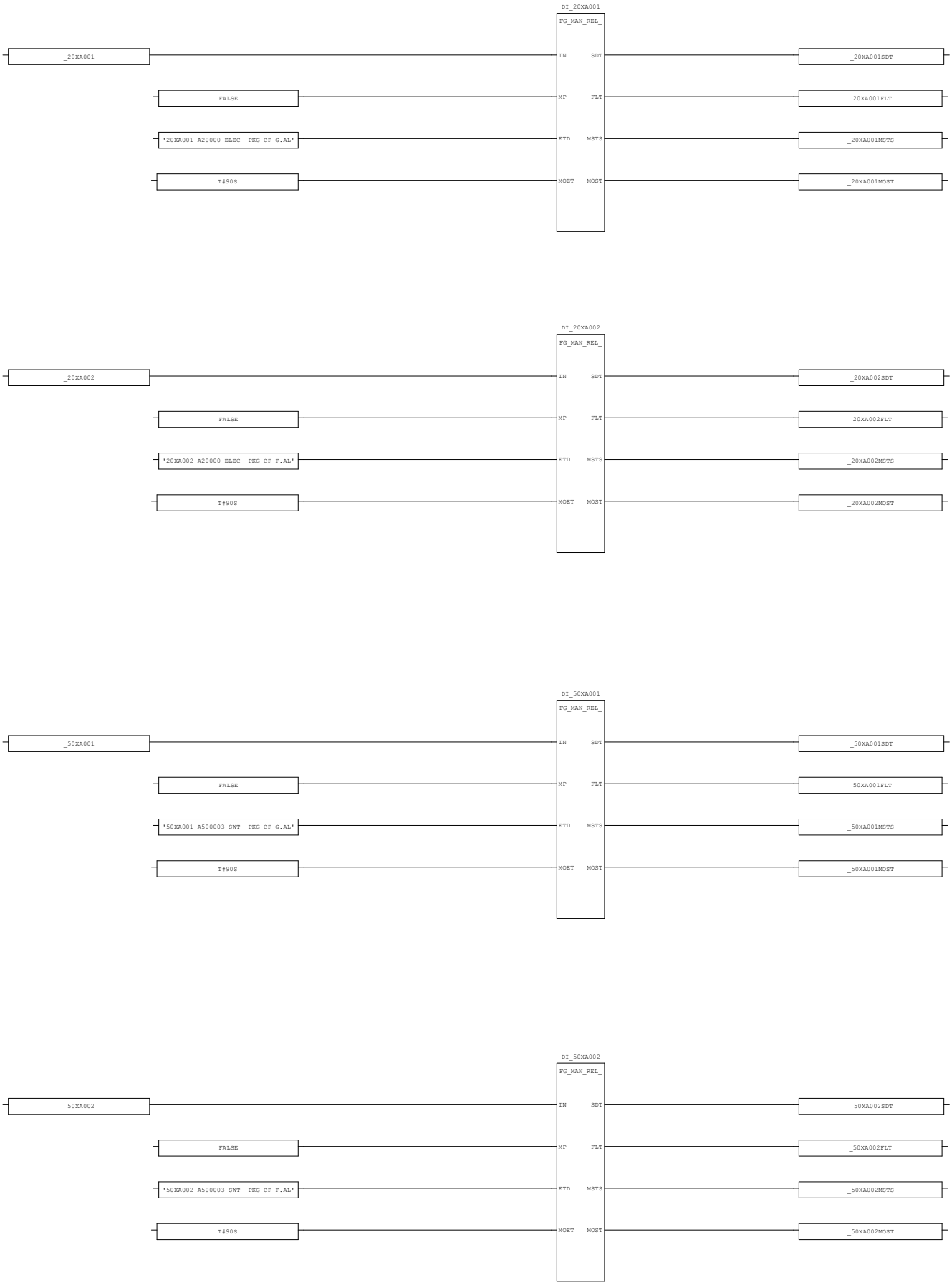


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 62
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

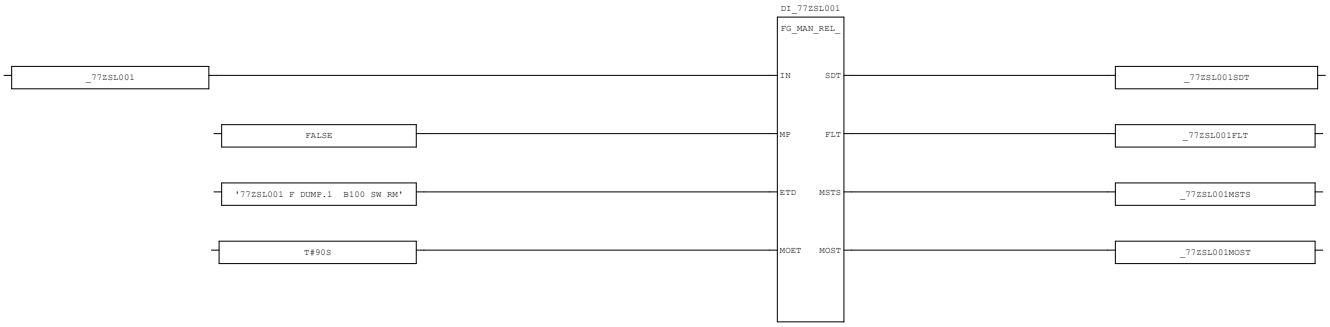


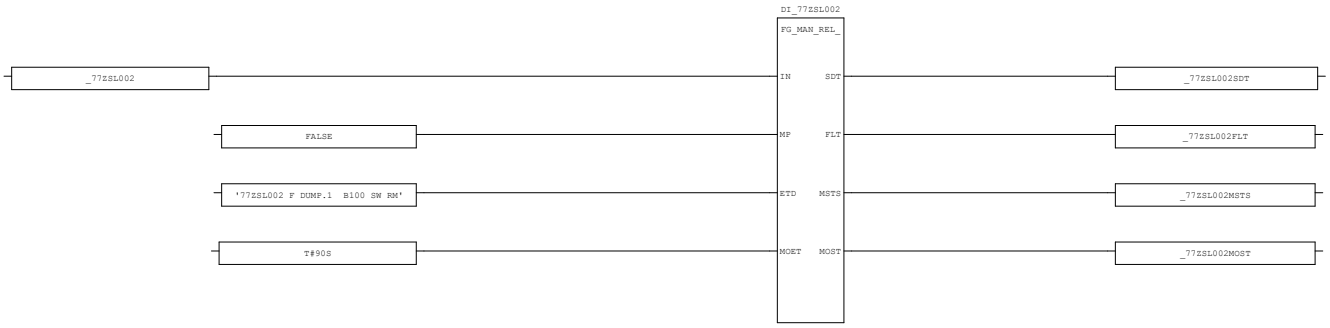
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 63
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

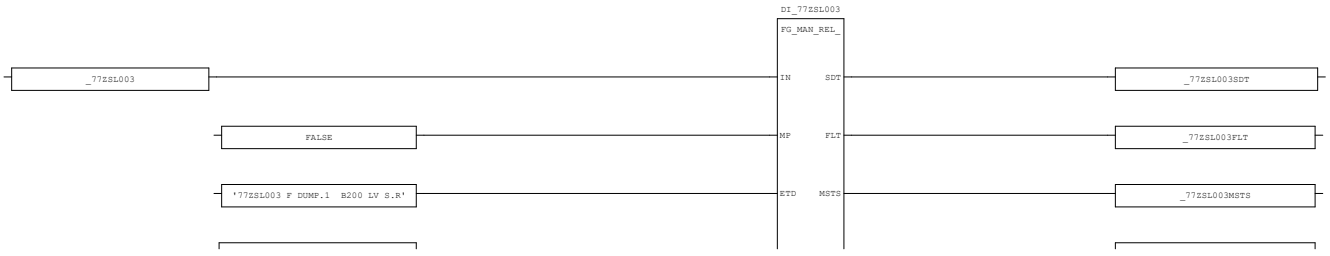
3.22. DI_01 (* Digital Input Processing *)



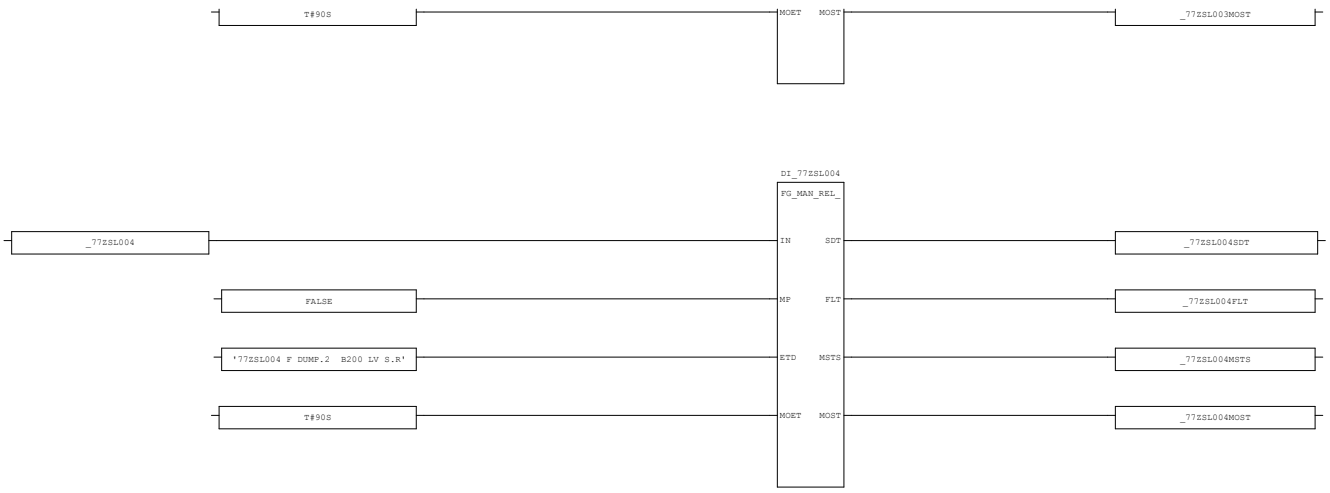






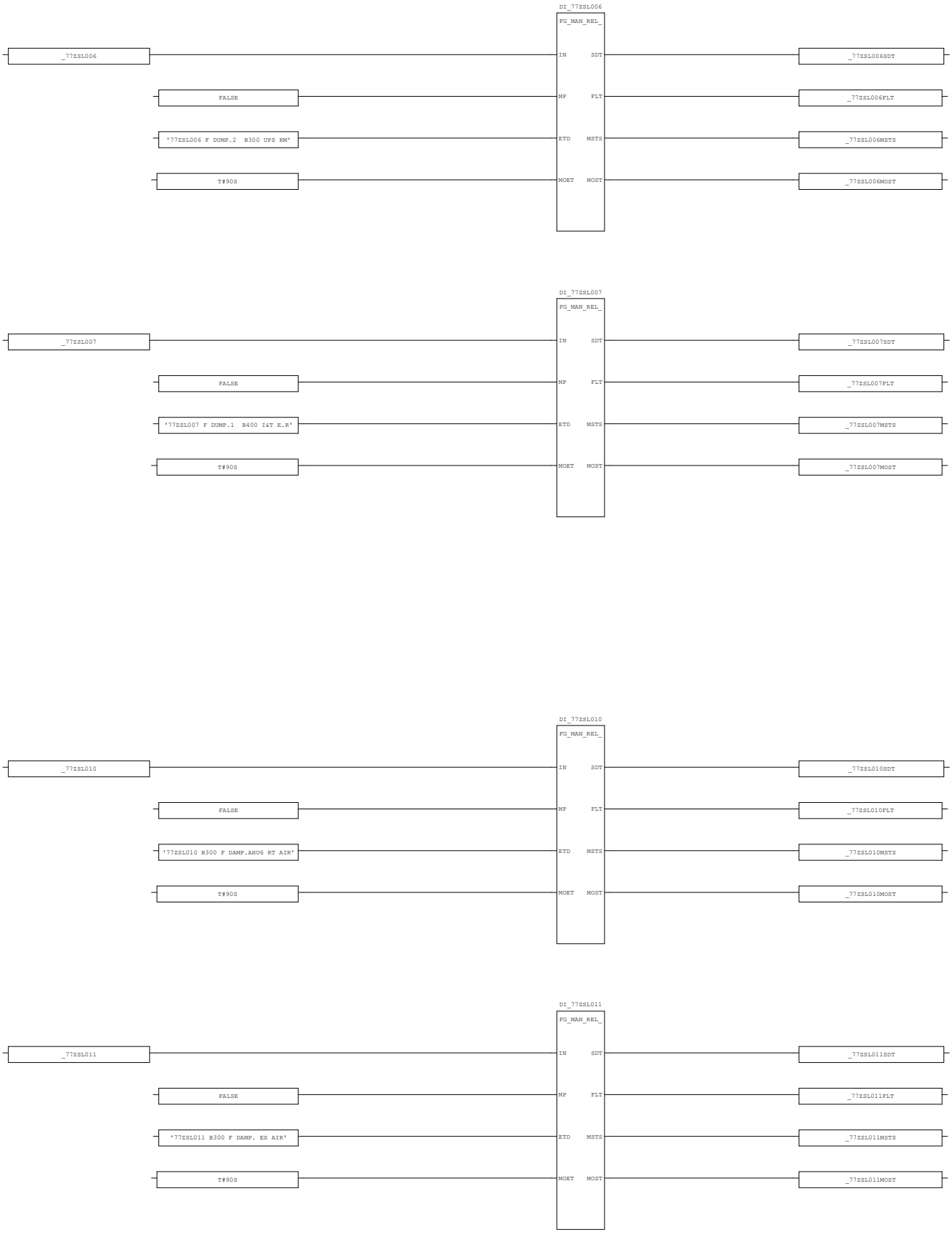


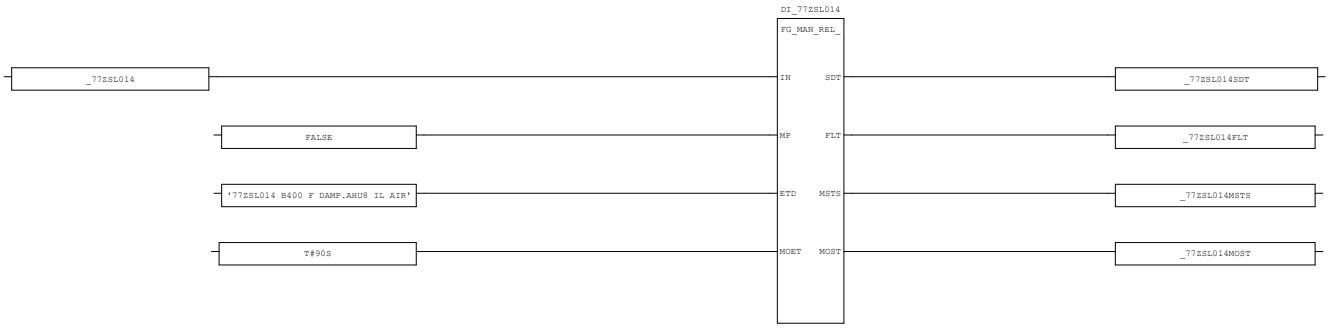
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 65
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

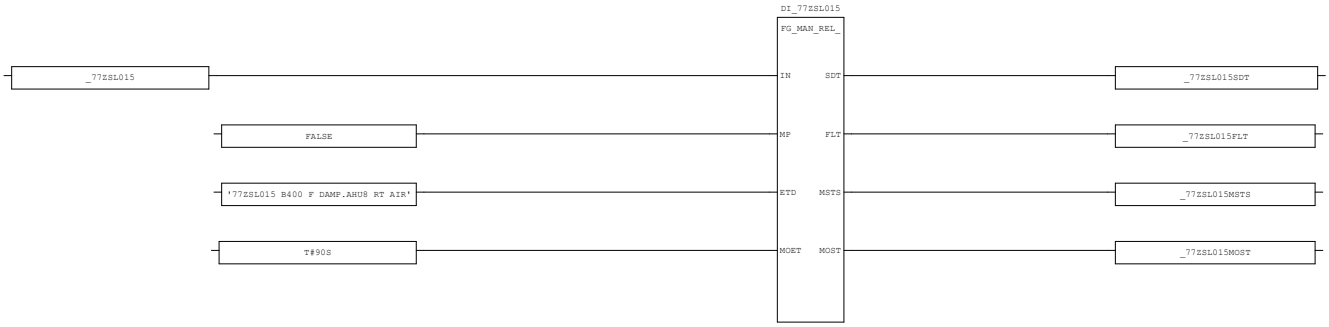


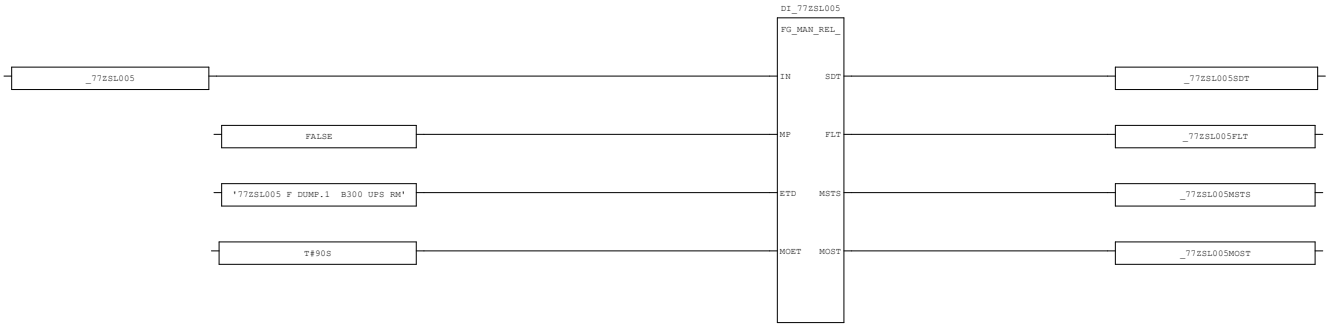
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 66
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

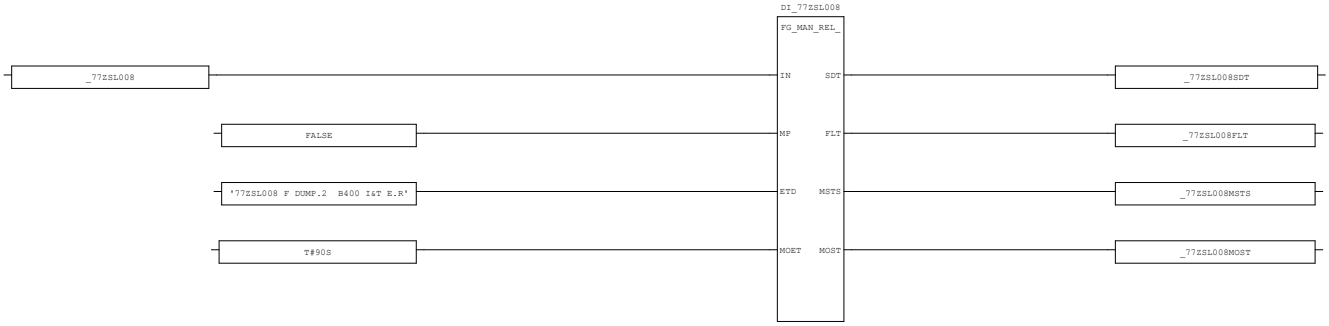
3.23. DI_02 (* Digital Input Processing *)



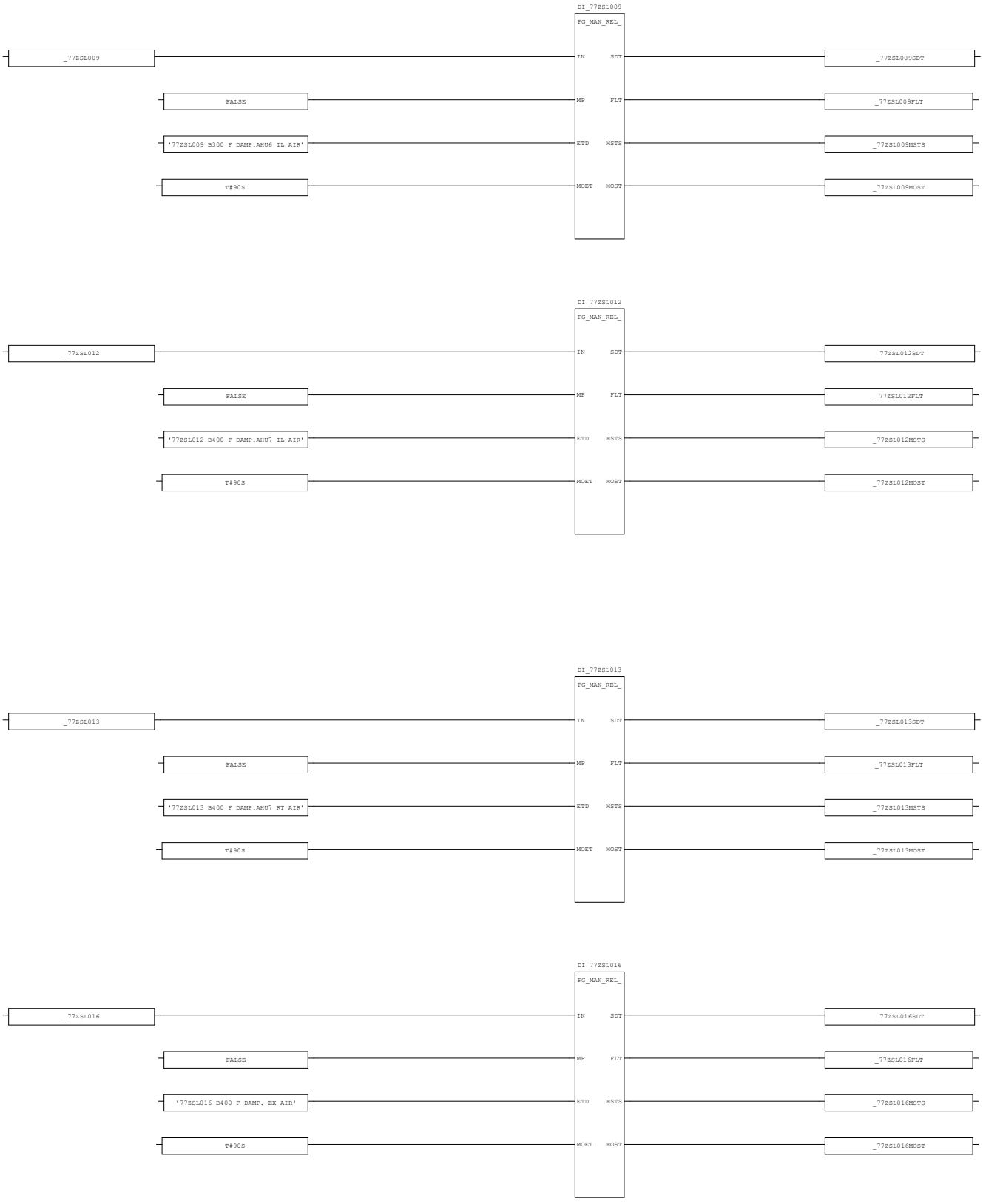






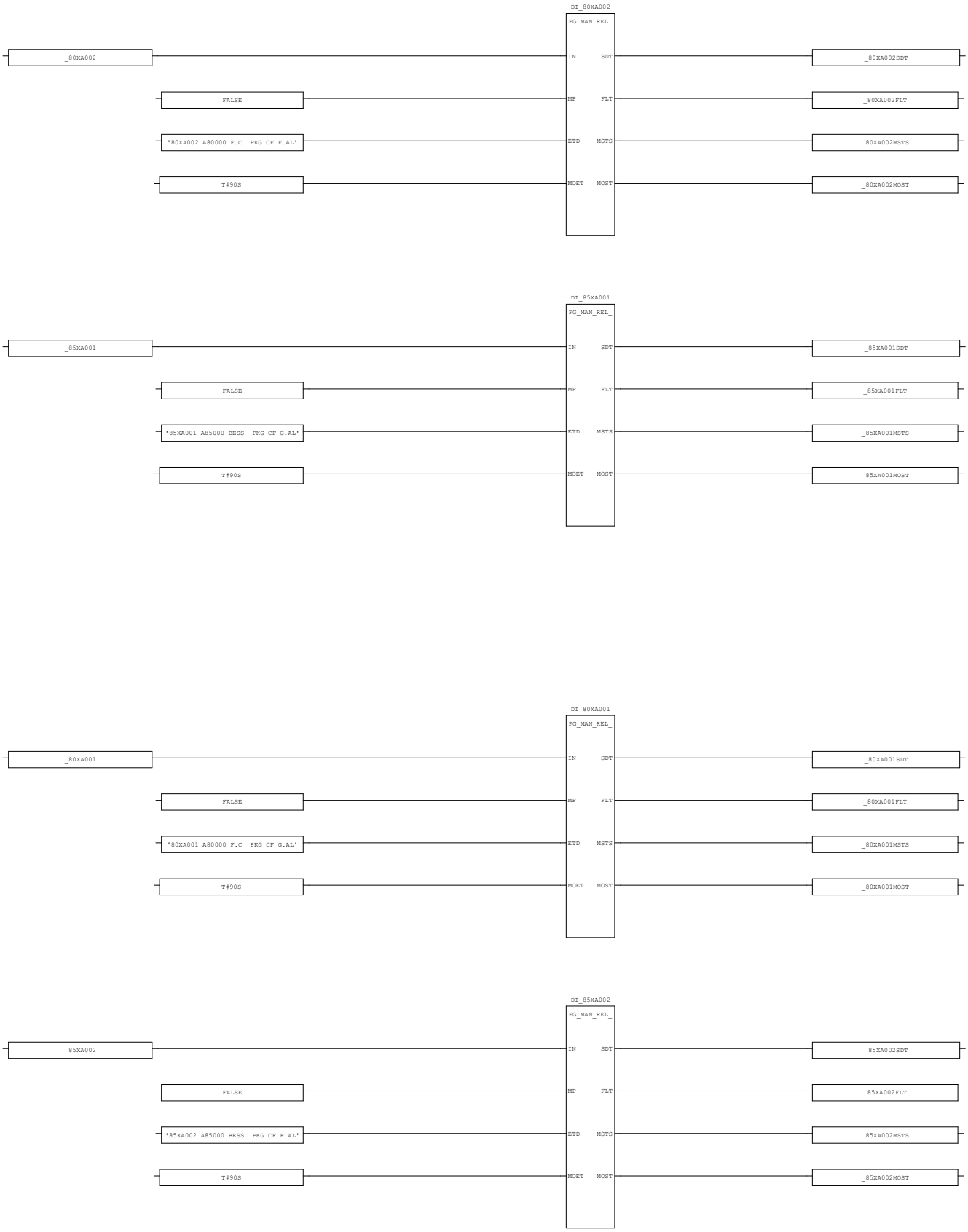


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 68
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



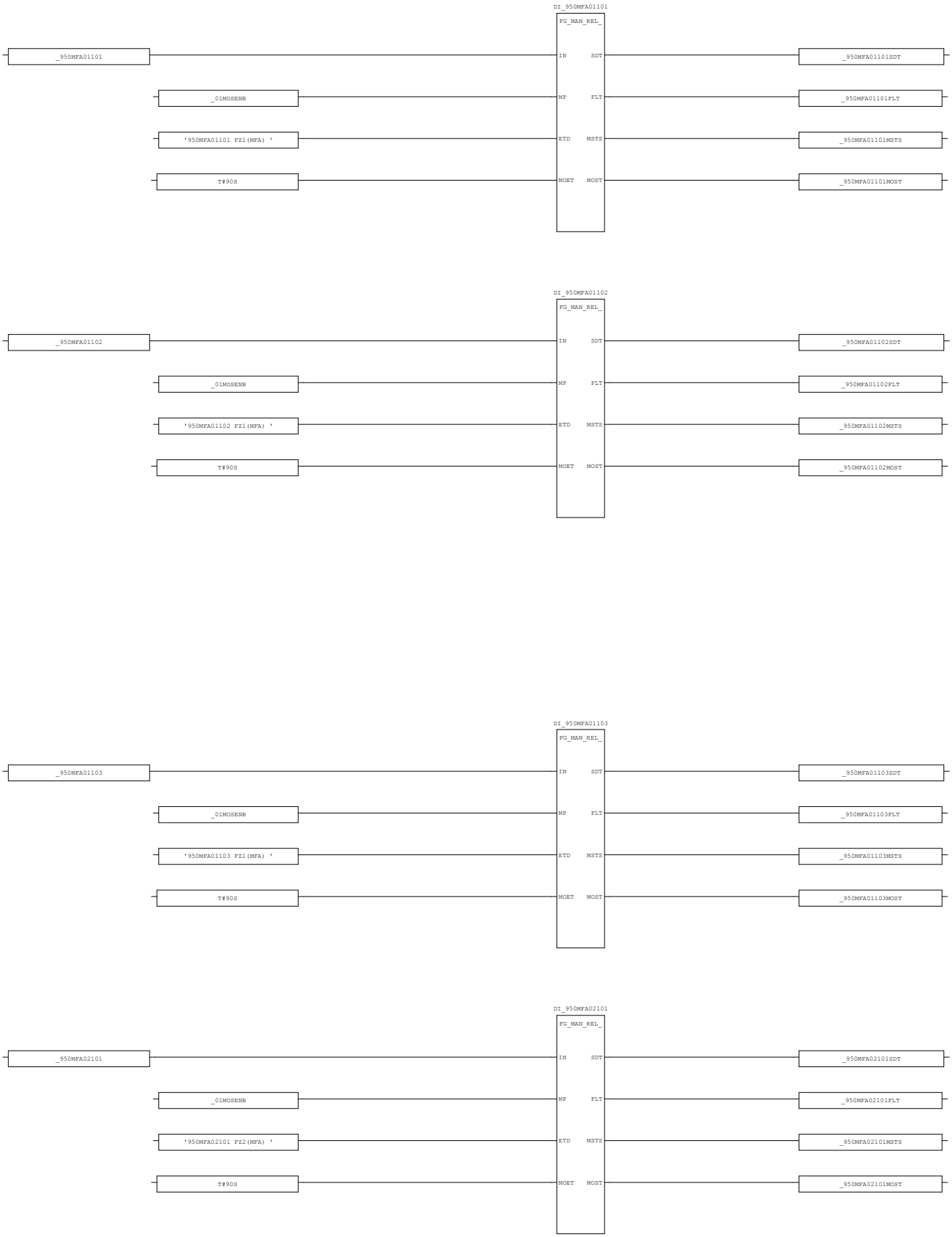
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 69
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

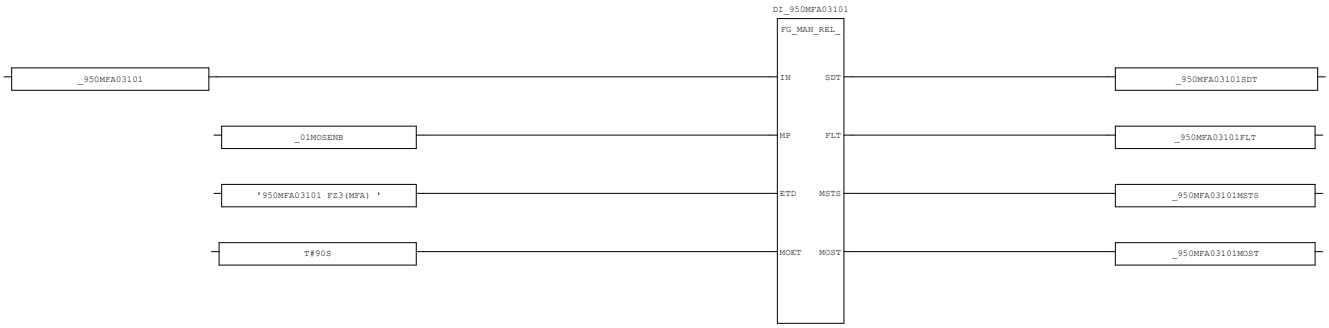
3.24. DI_03 (* Digital Input Processing *)

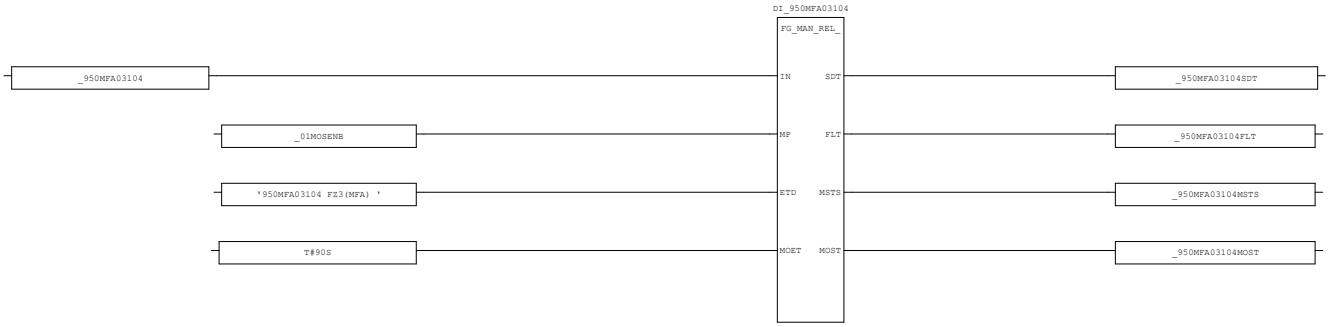


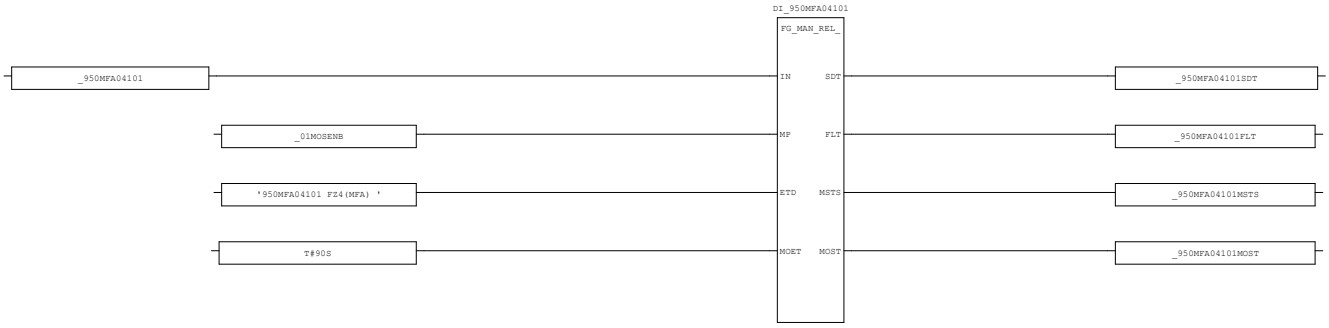
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 70
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

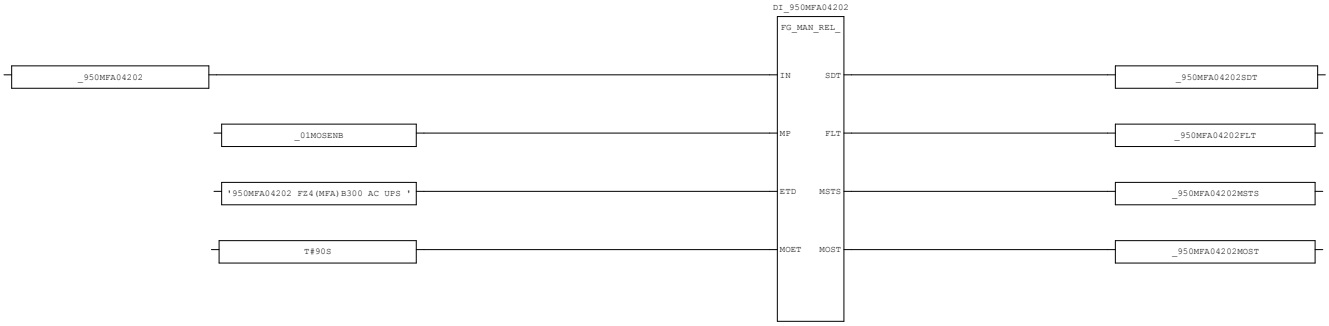
3.25. DI_04 (* Digital Input Processing *)



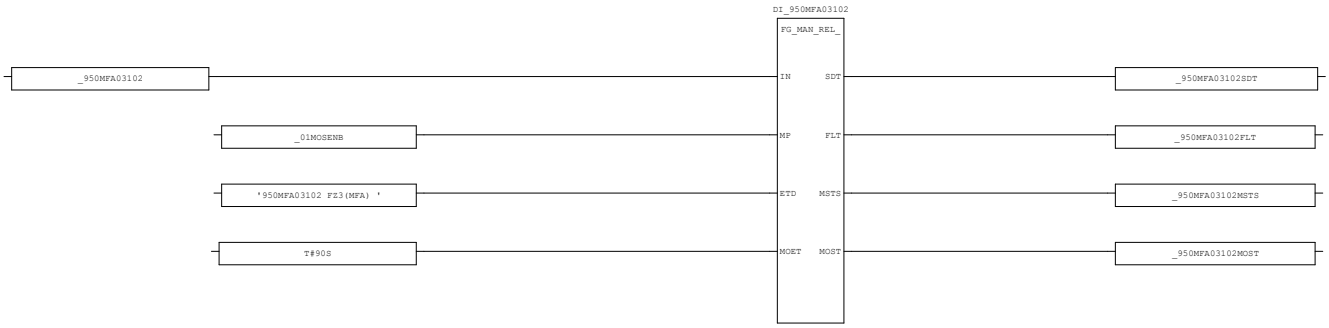


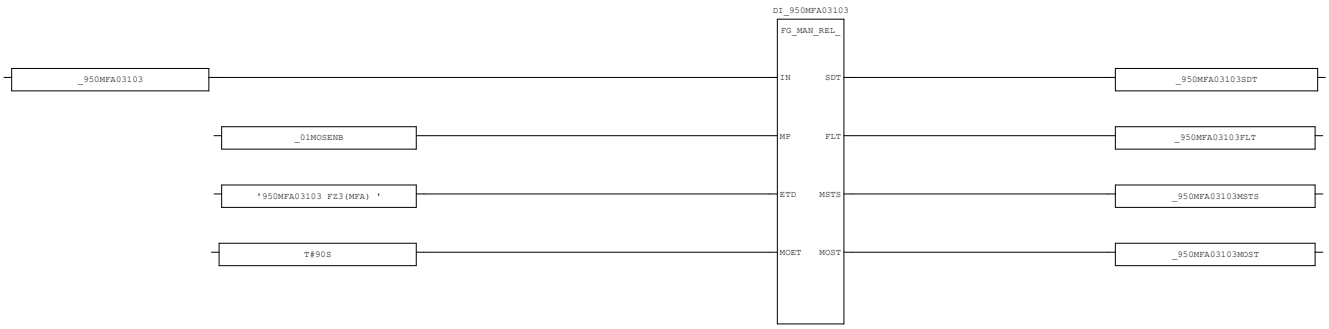


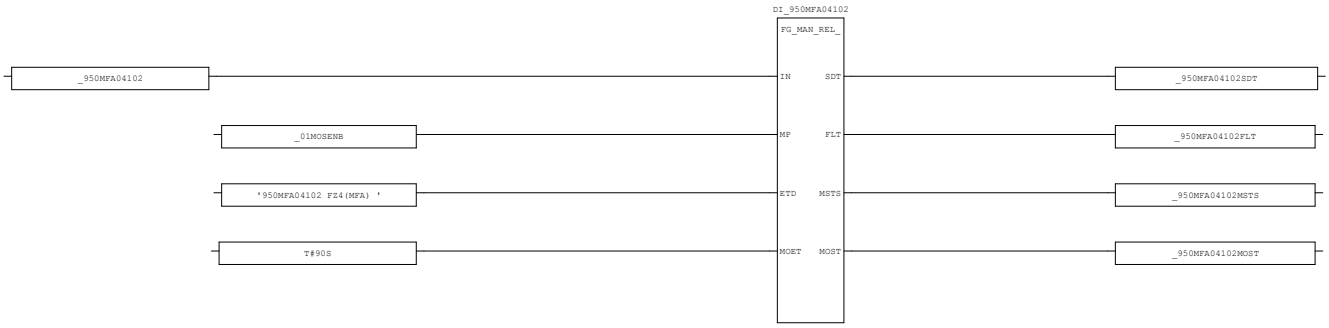


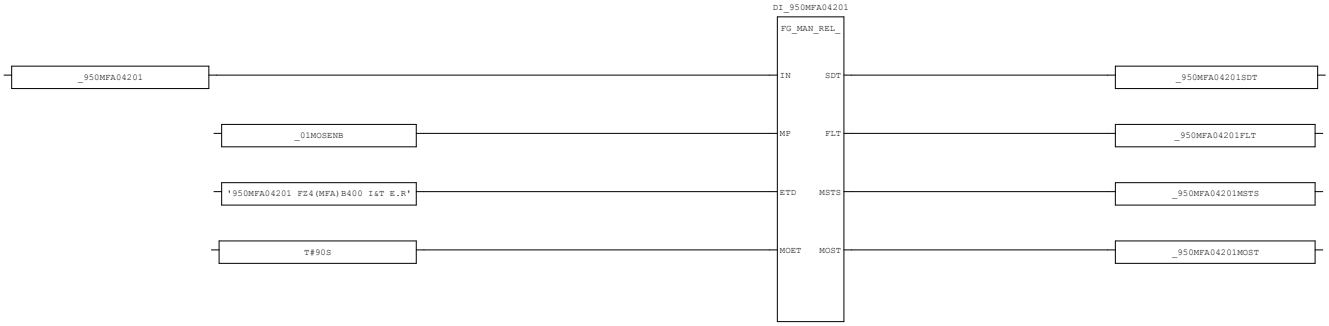


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 72
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



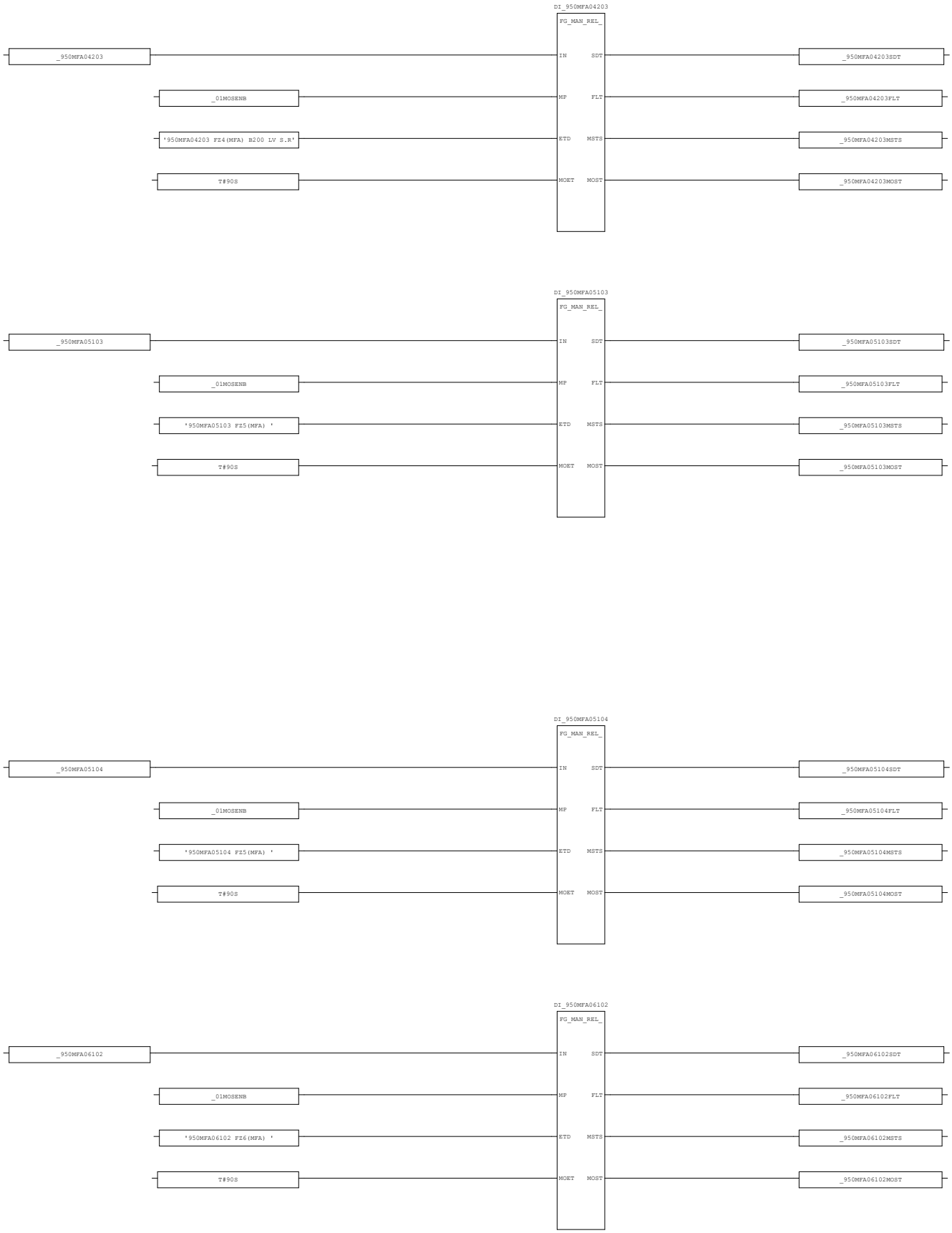


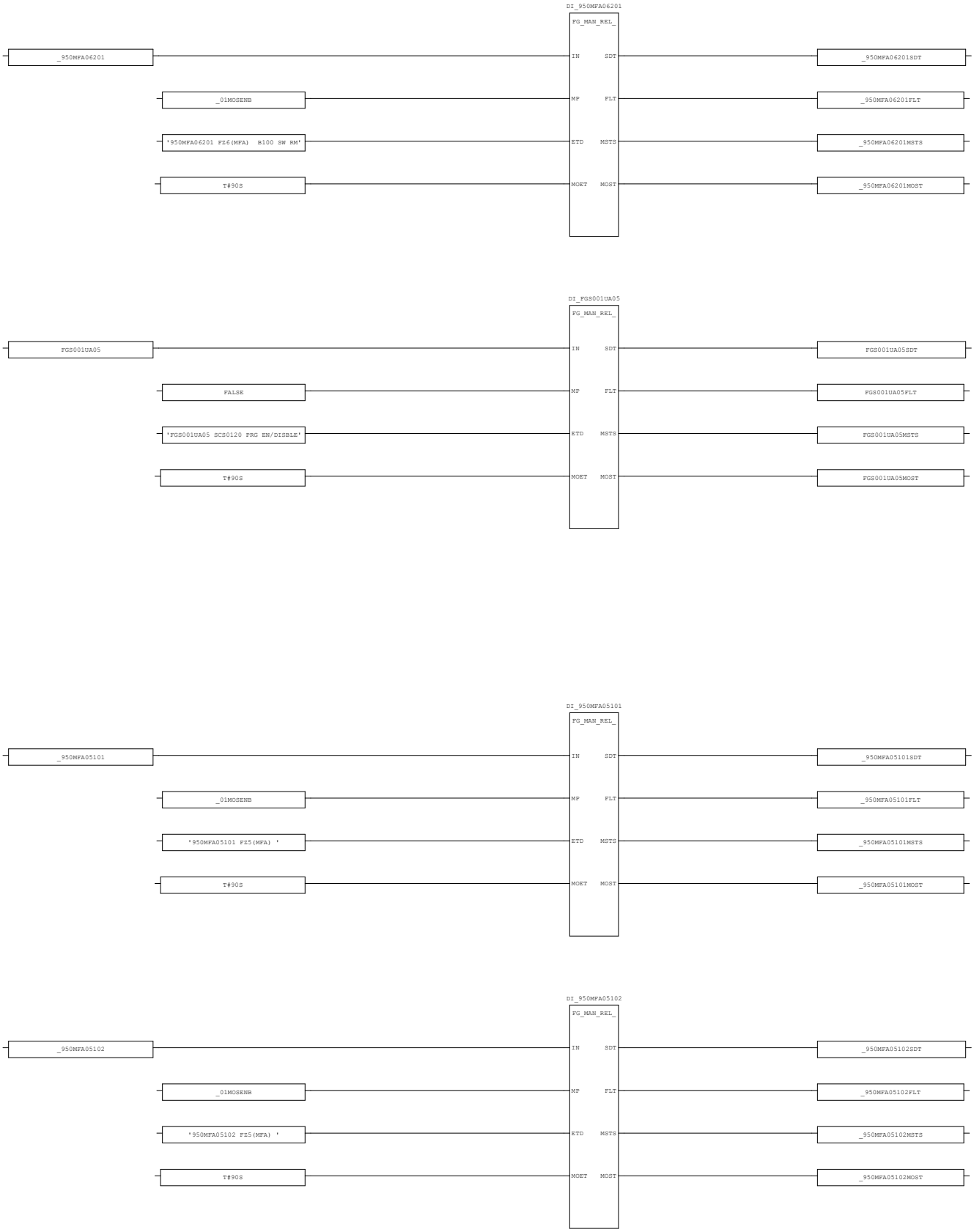




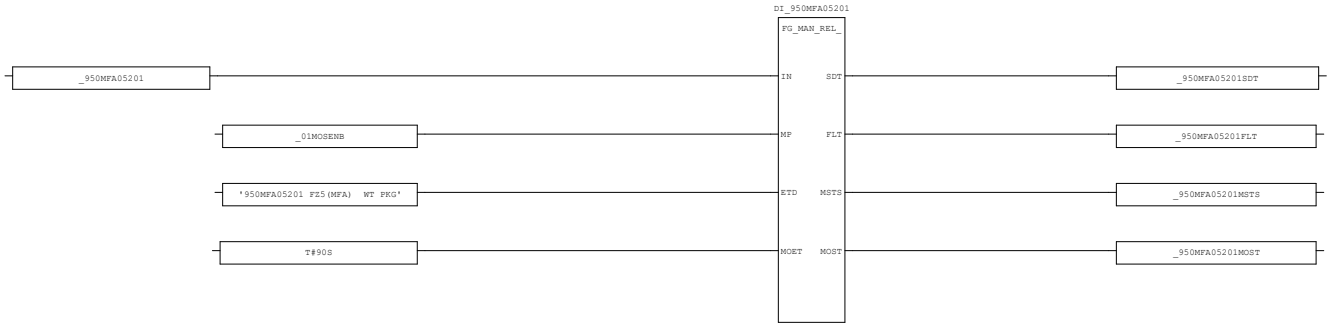
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 73
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

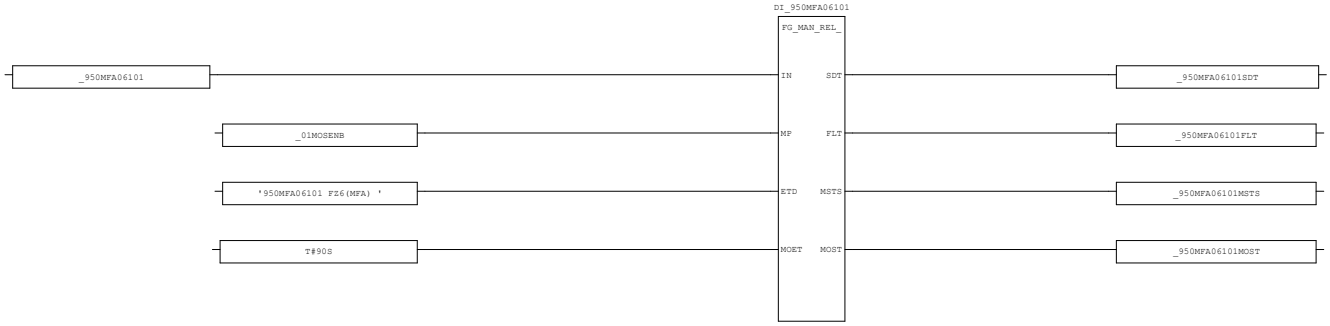
3.26. DI_05 (* Digital Input Processing *)

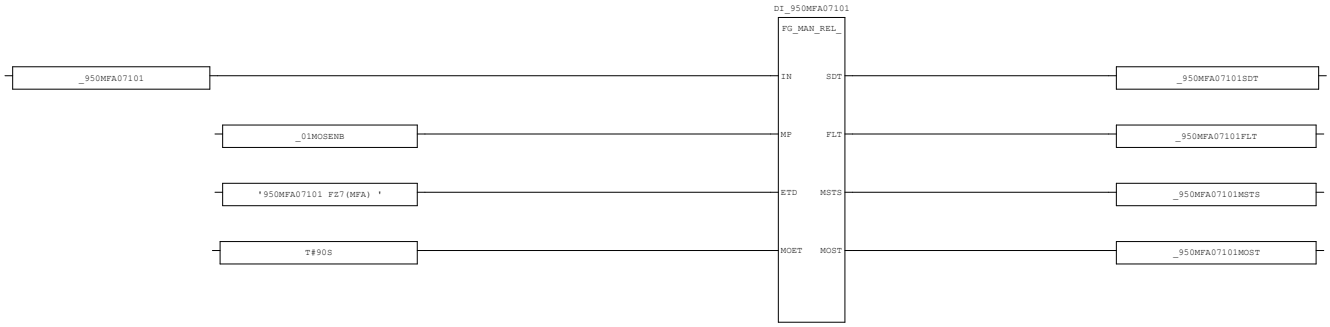




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 75
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

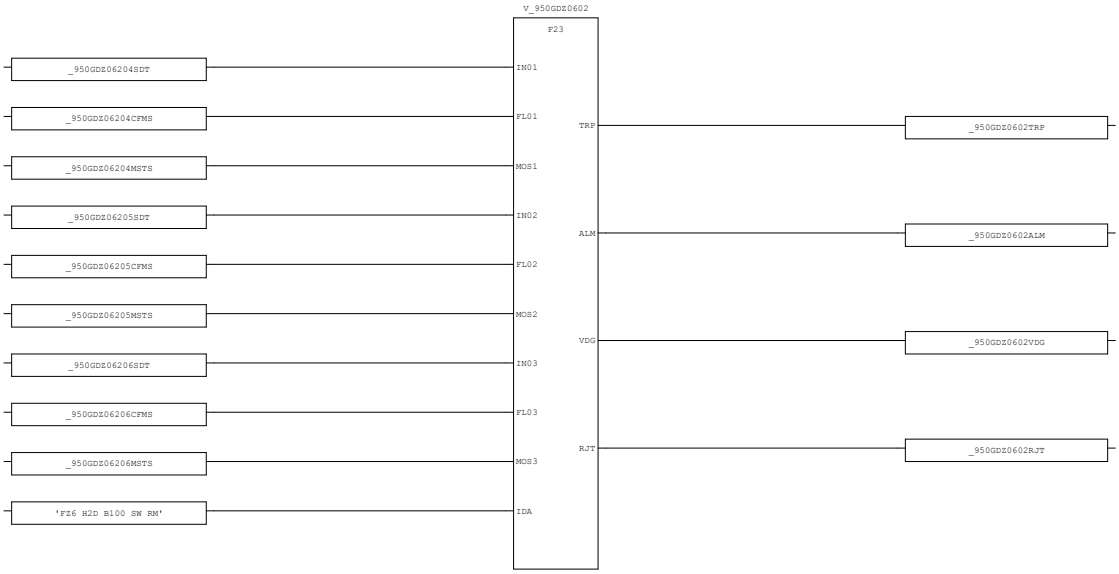


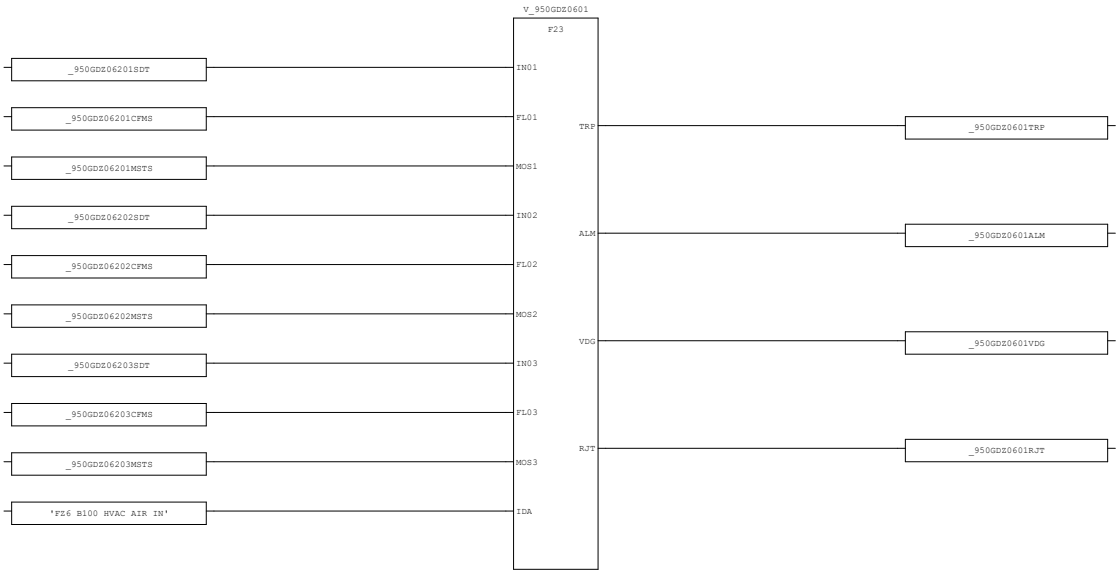




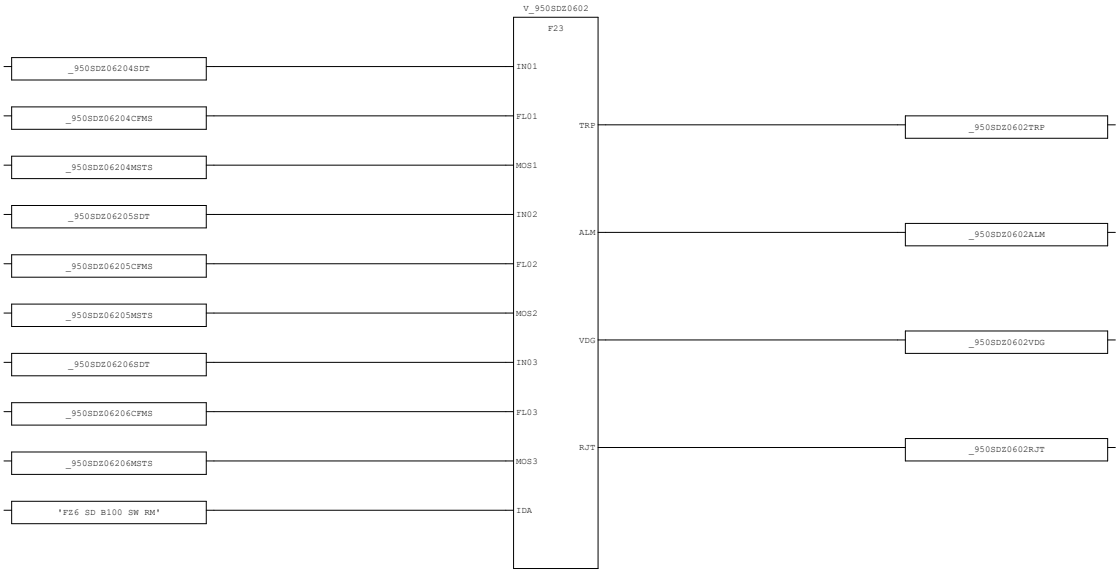
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 76
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

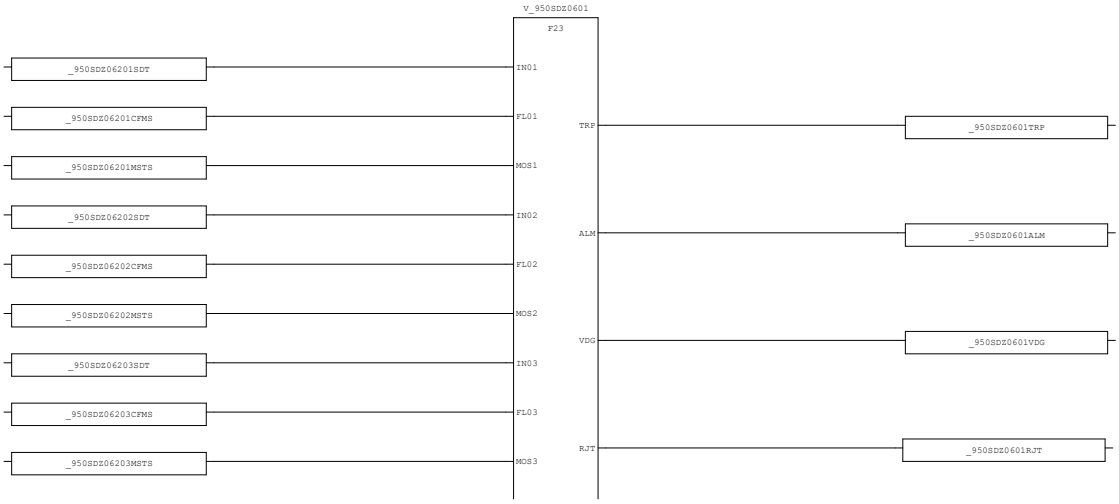
3.27. V2oo3_01 (* Analog Input-Voting 2oo3 *)





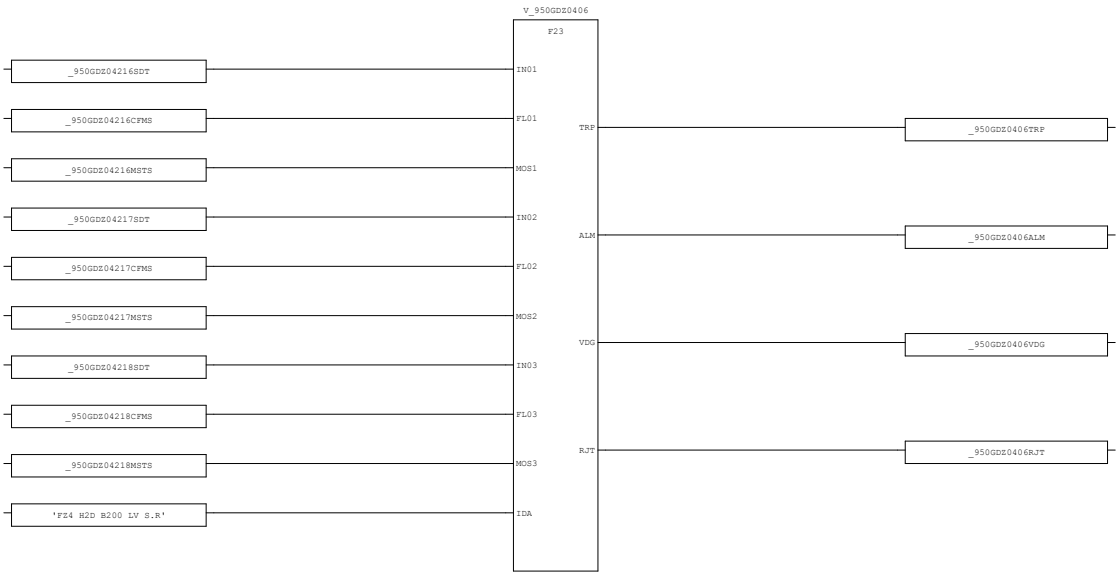
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 77
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

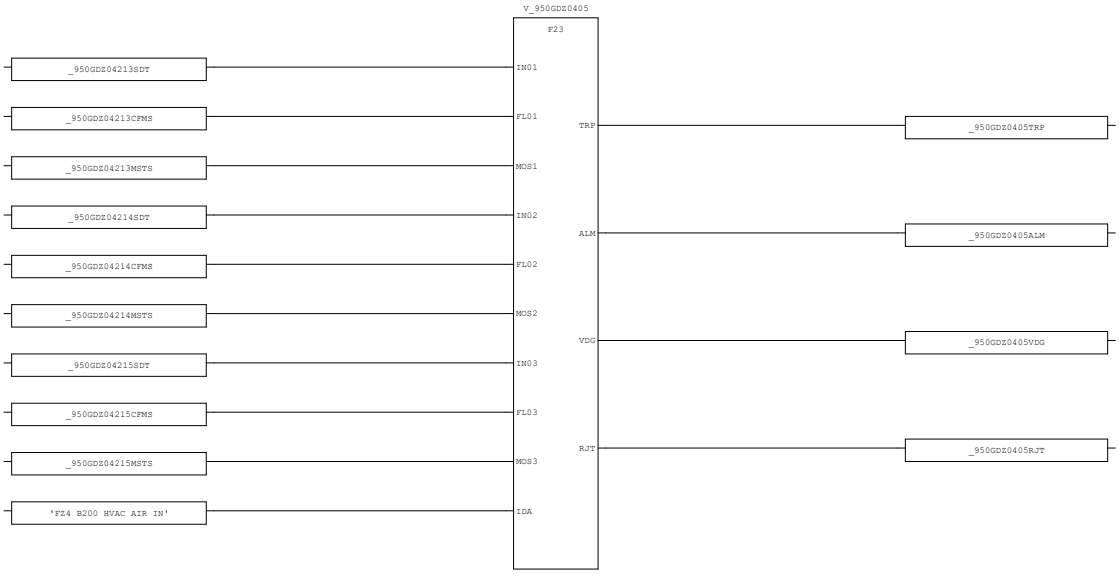




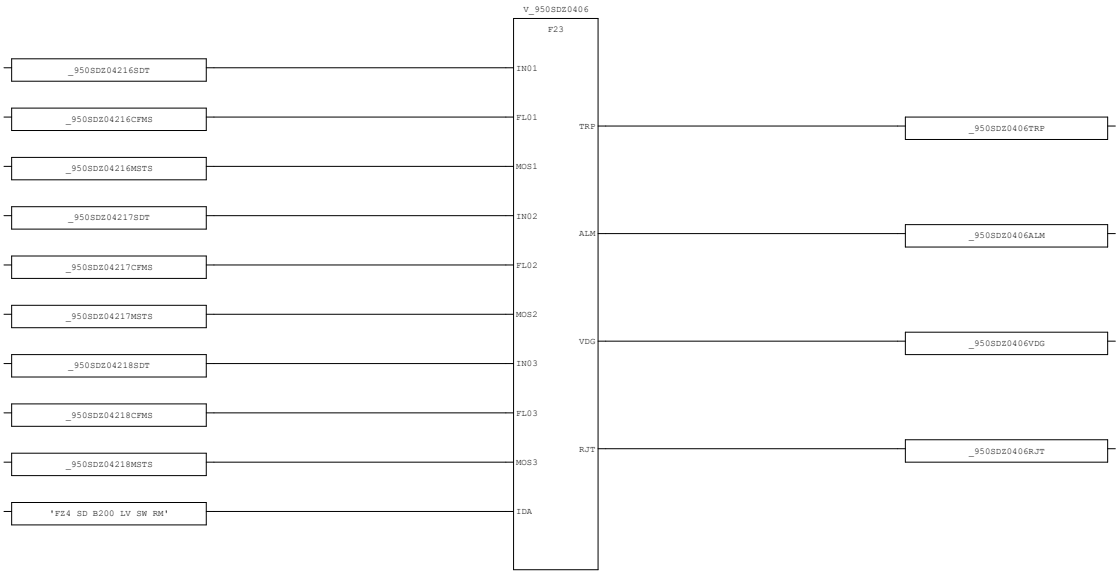
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 78
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

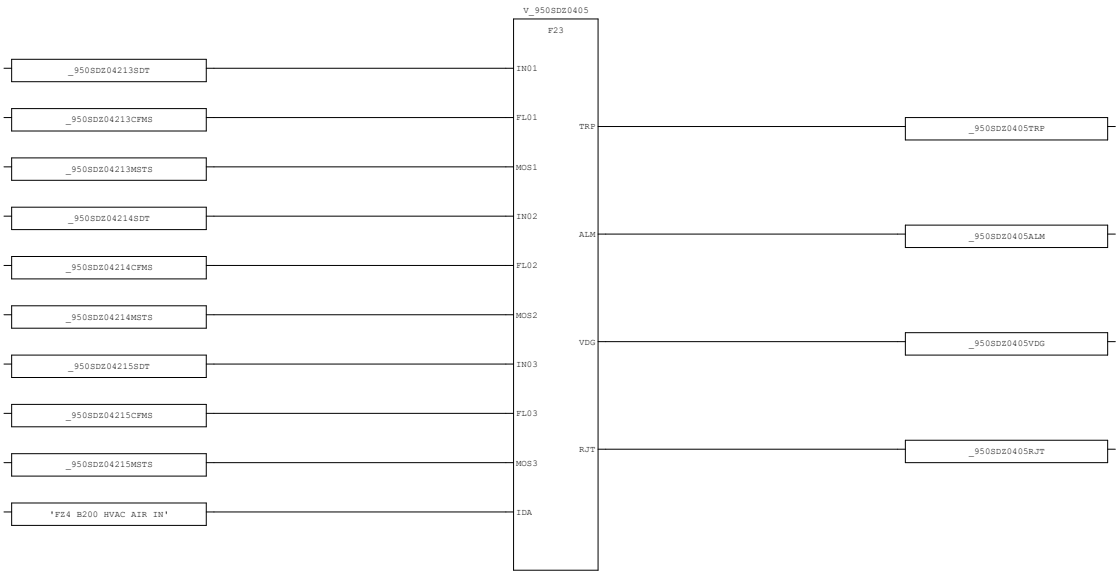




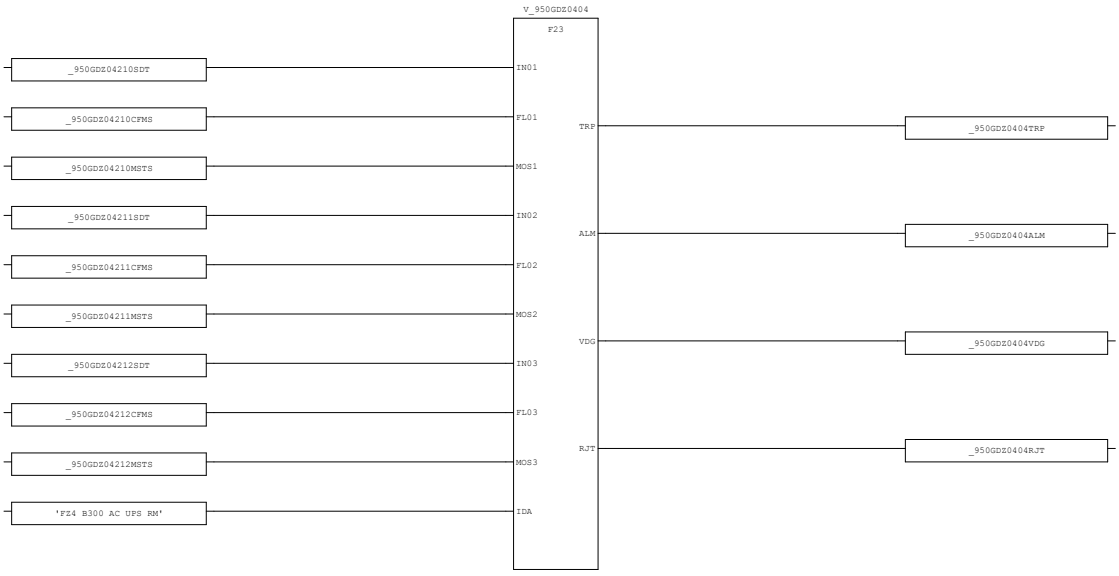


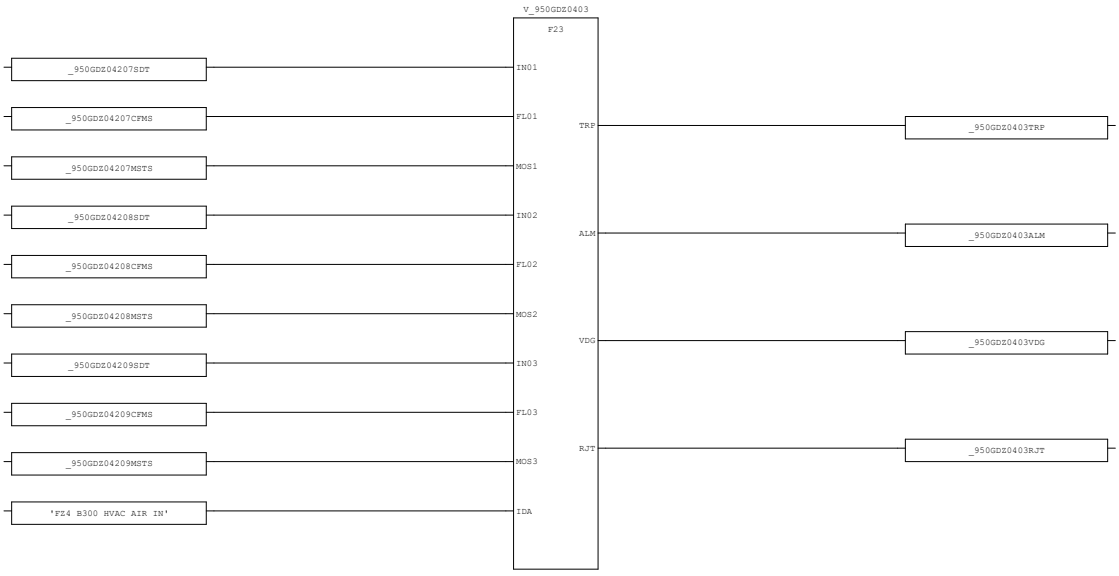
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 79
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		





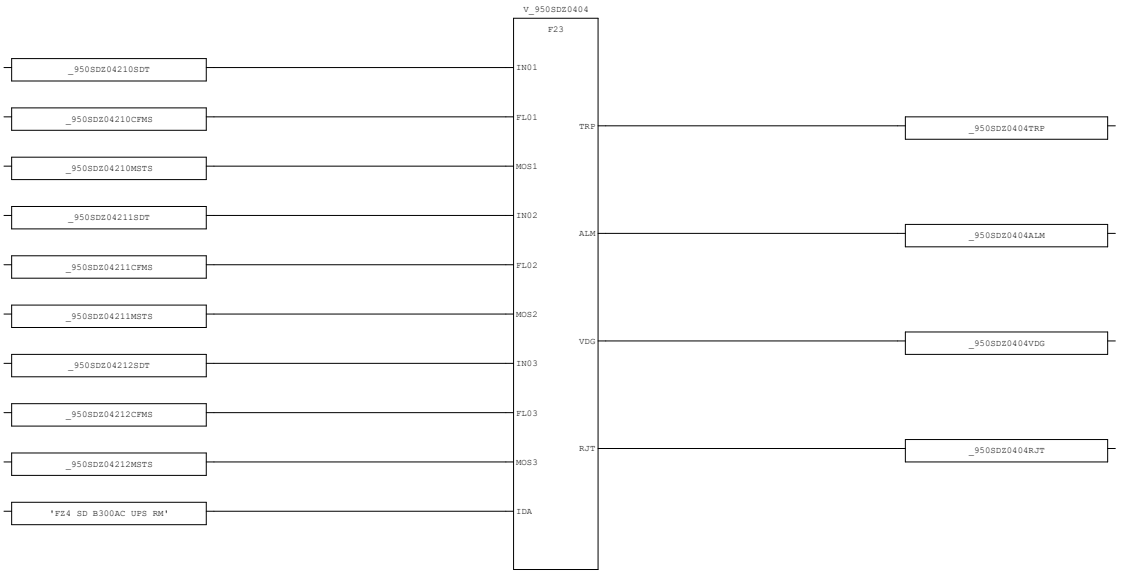
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 80
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

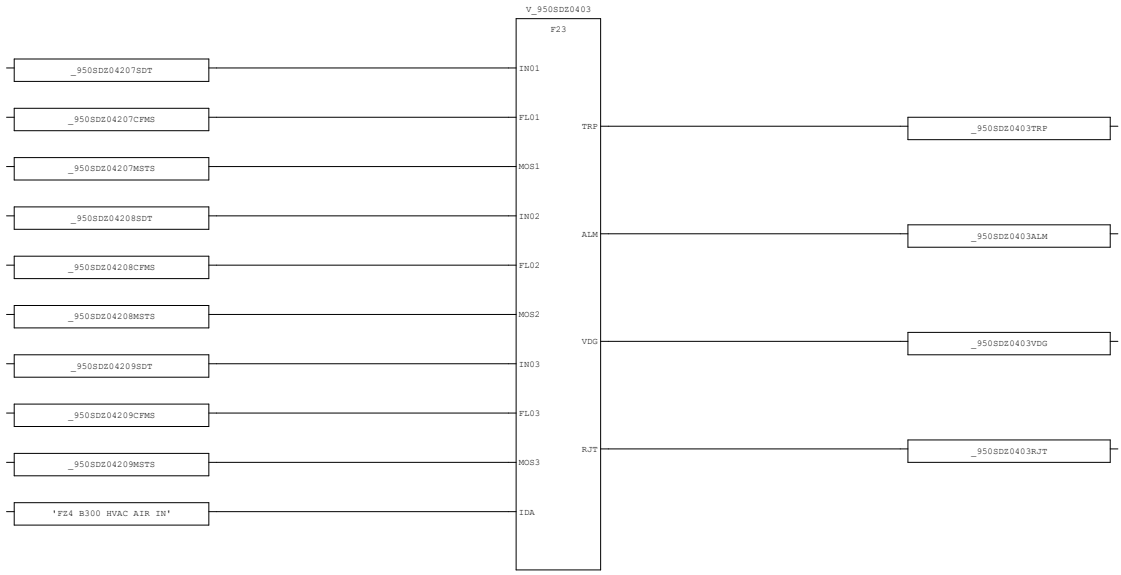


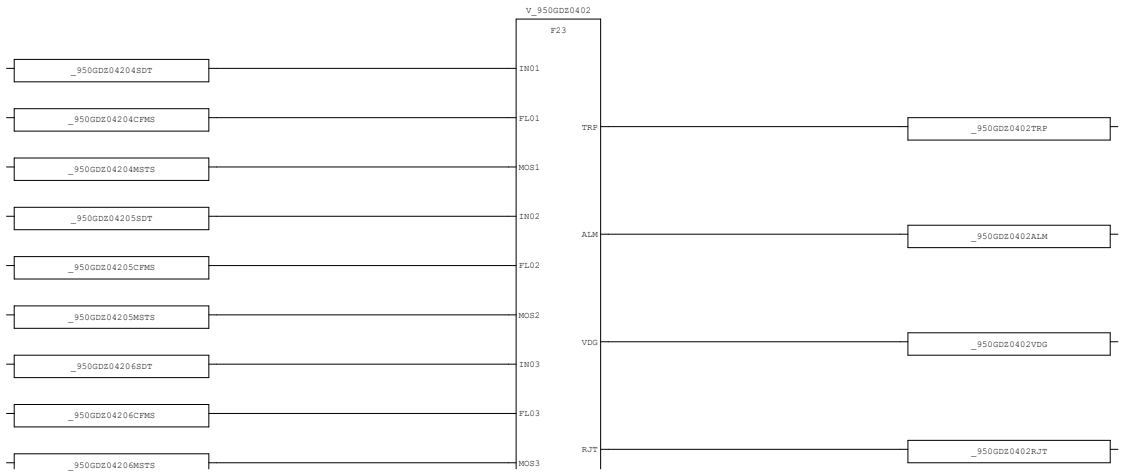


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 81
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

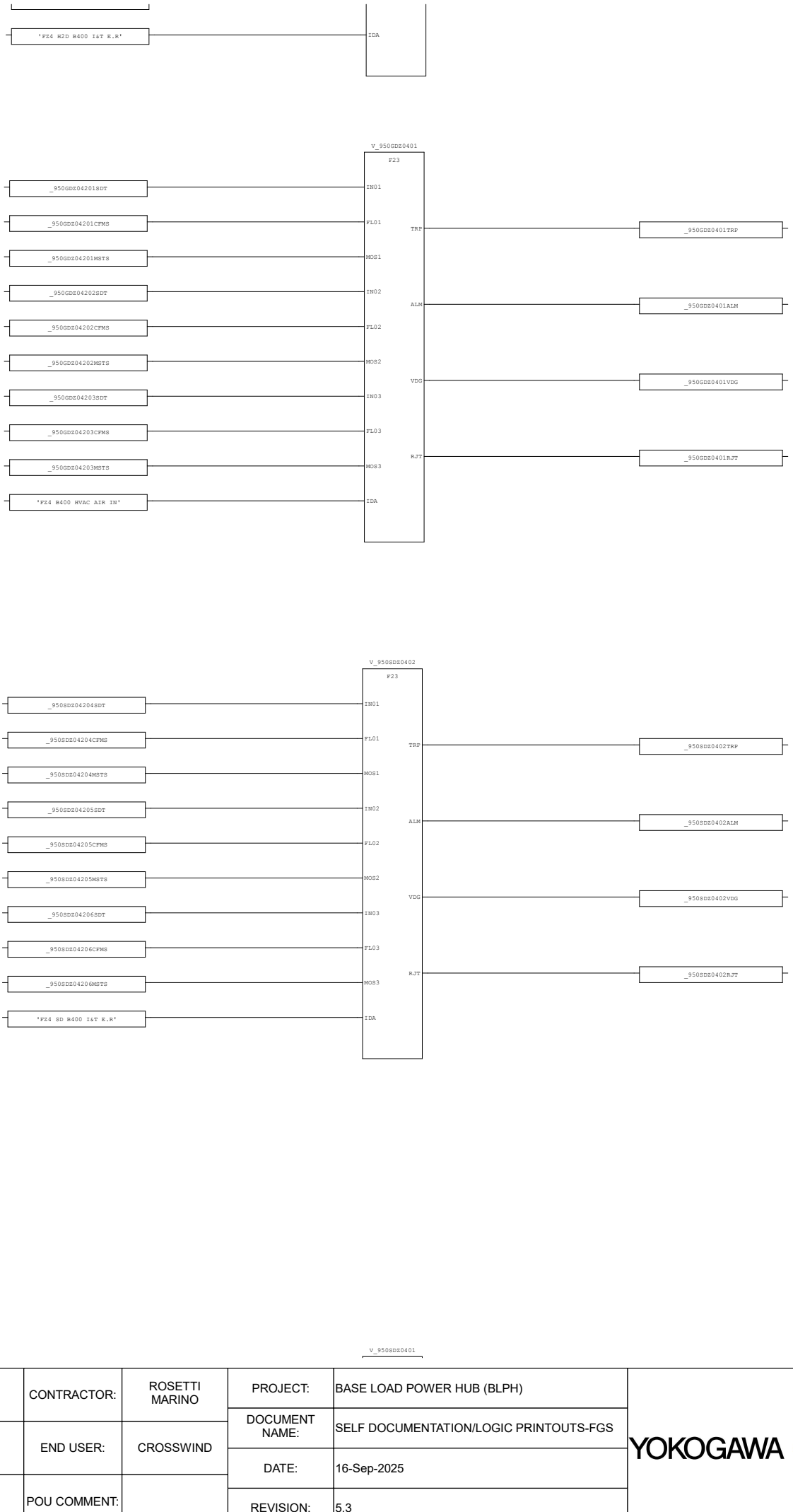
3.28. V2oo3_02 (* Analog Input-Voting 2oo3 *)



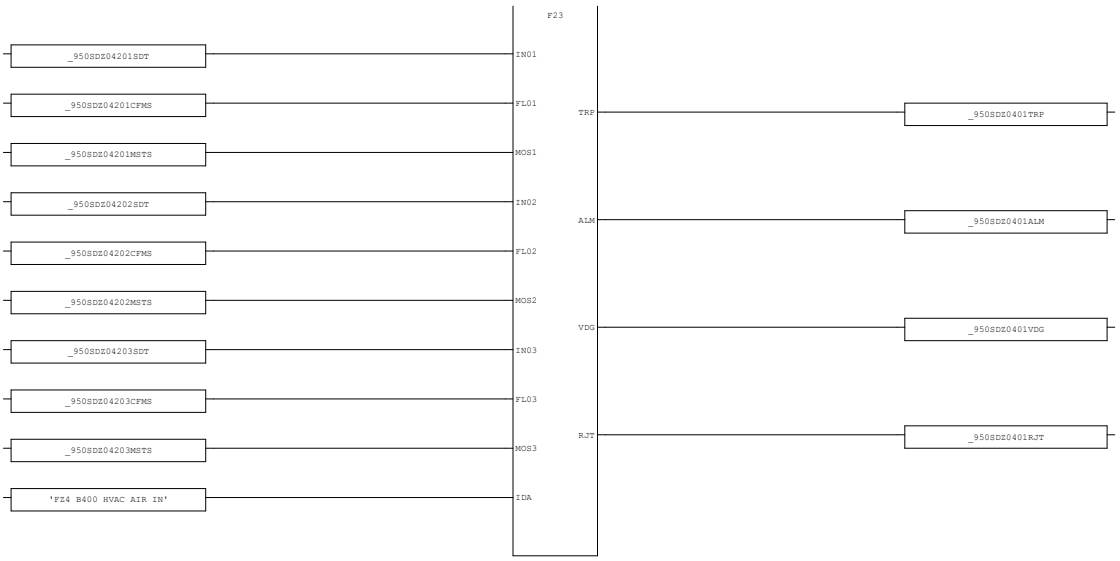


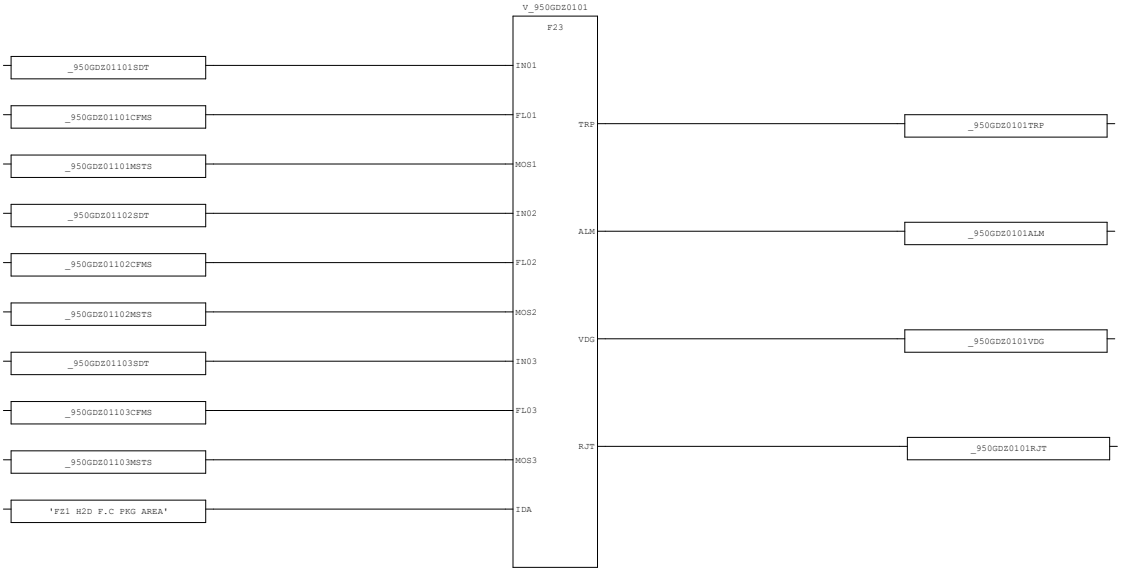


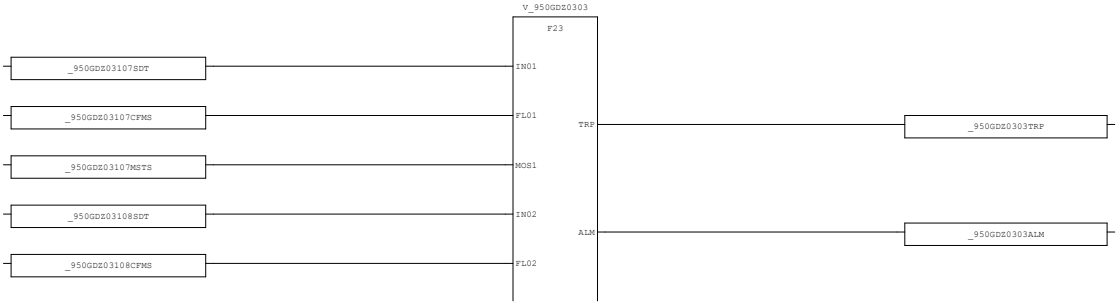
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 82
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



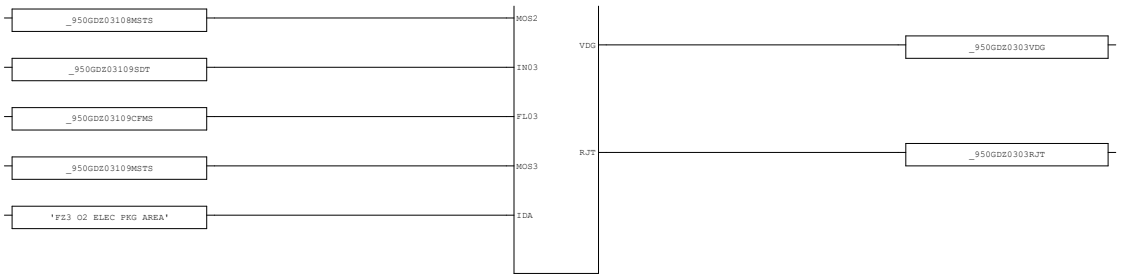
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 83
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

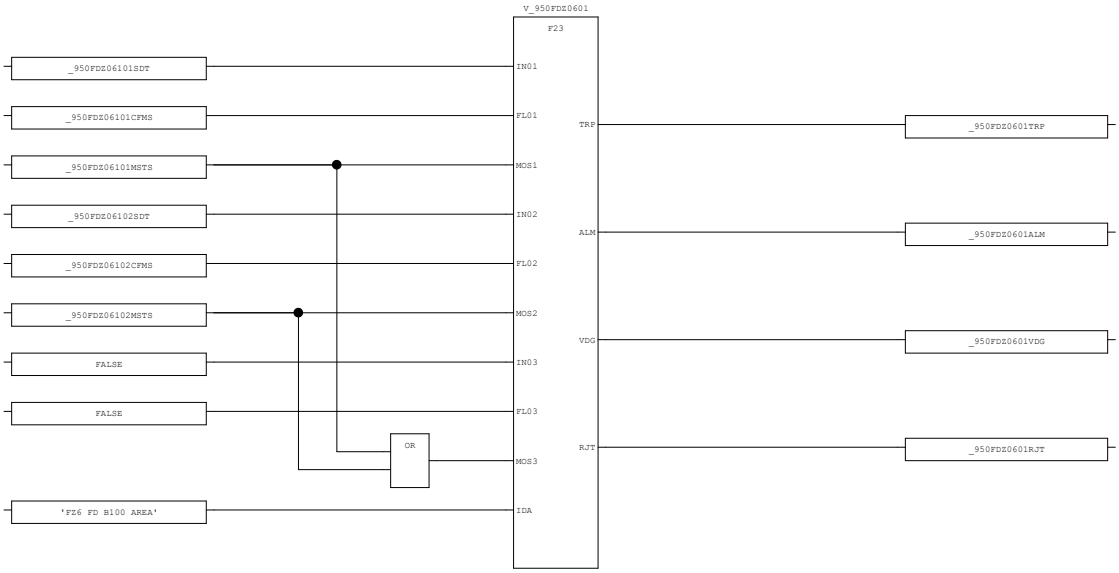






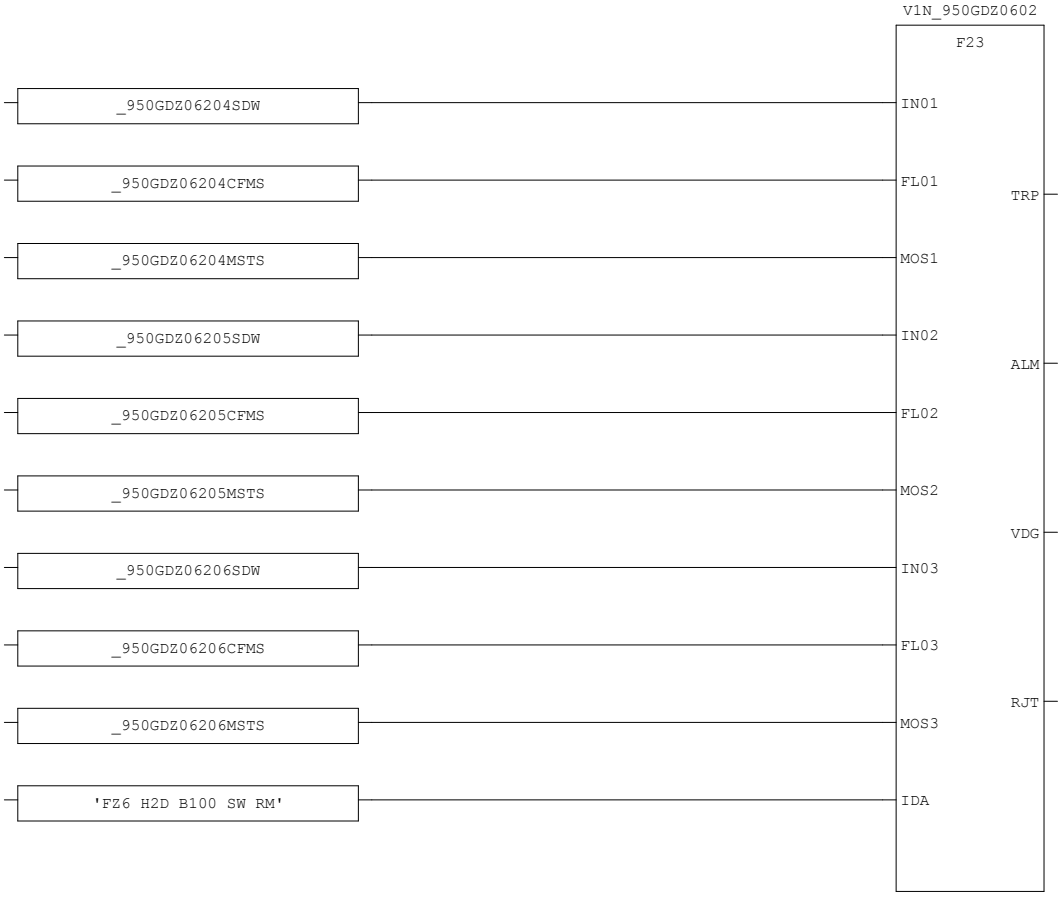
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 84
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		





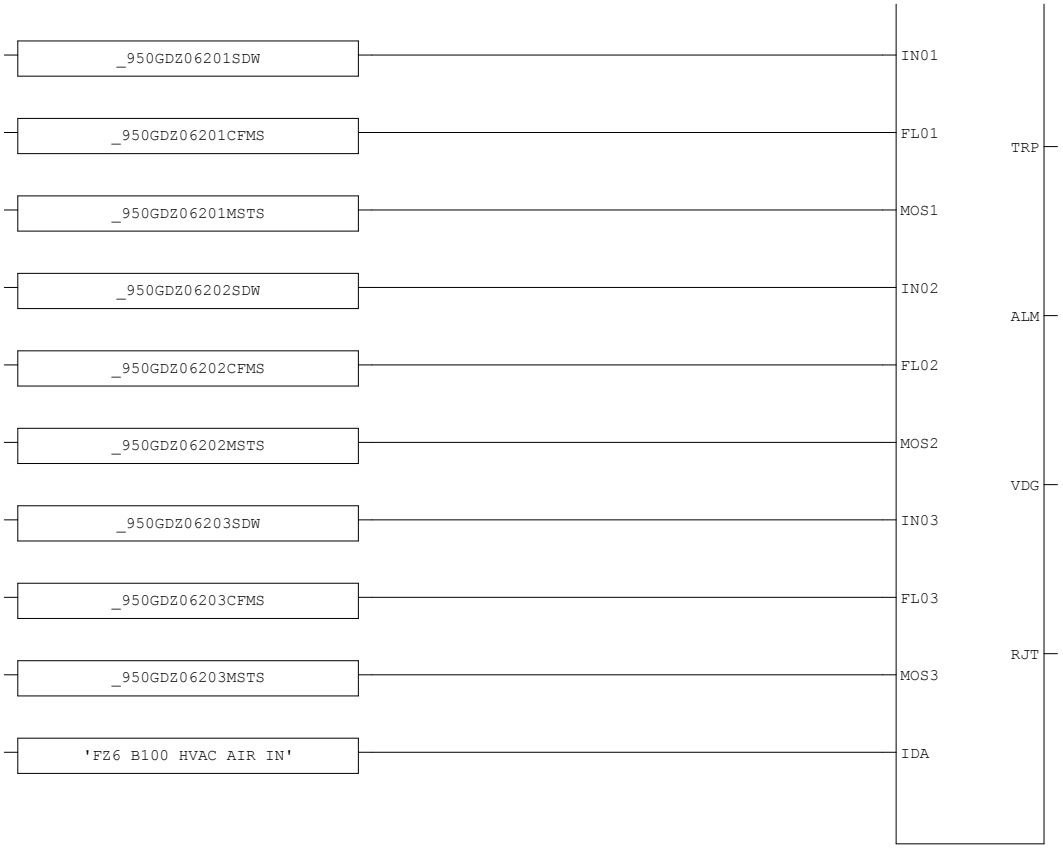
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 85
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

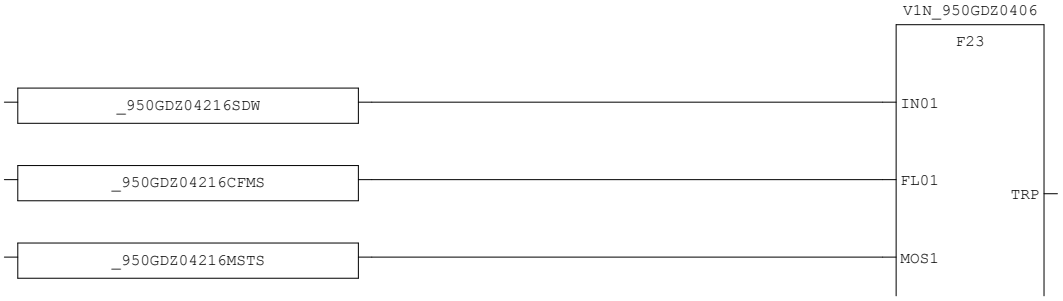
3.29. V1oo3_01 (* Analog Input-Voting 1oo3 *)



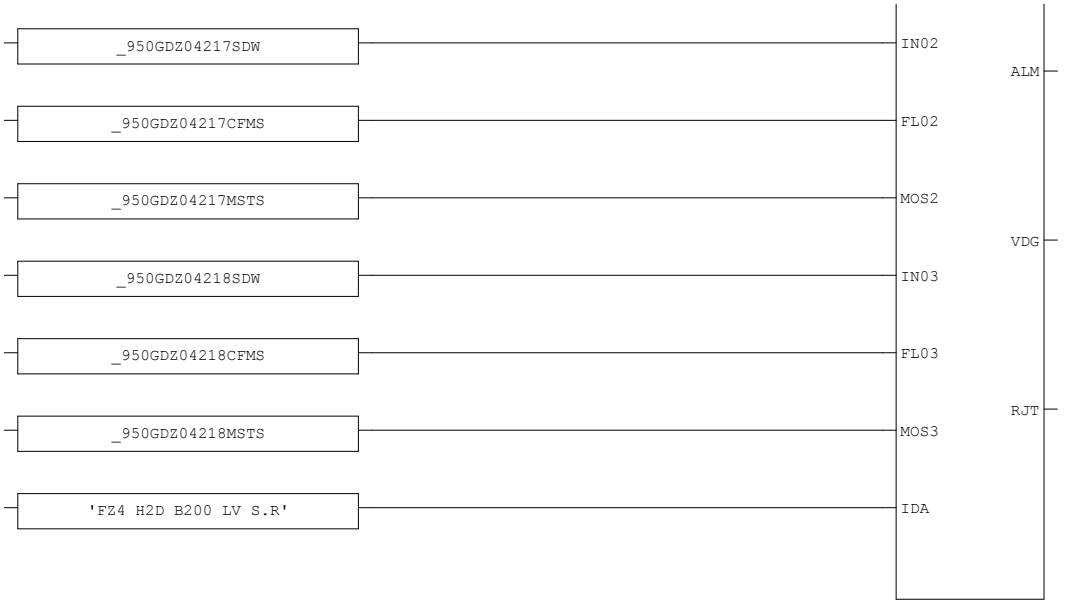
V1N_950GDZ0601
F23

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 86
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



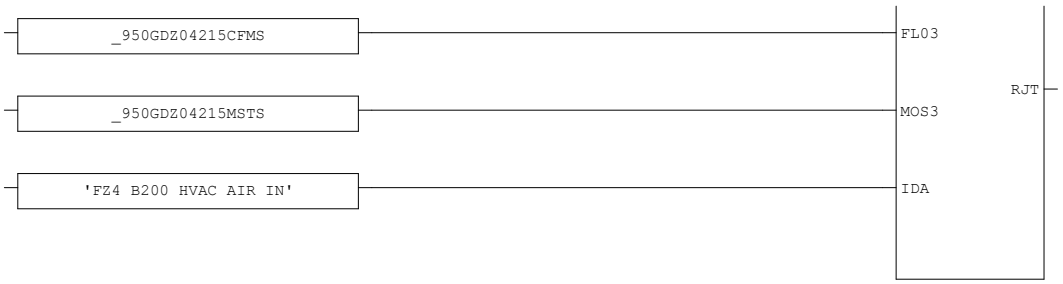


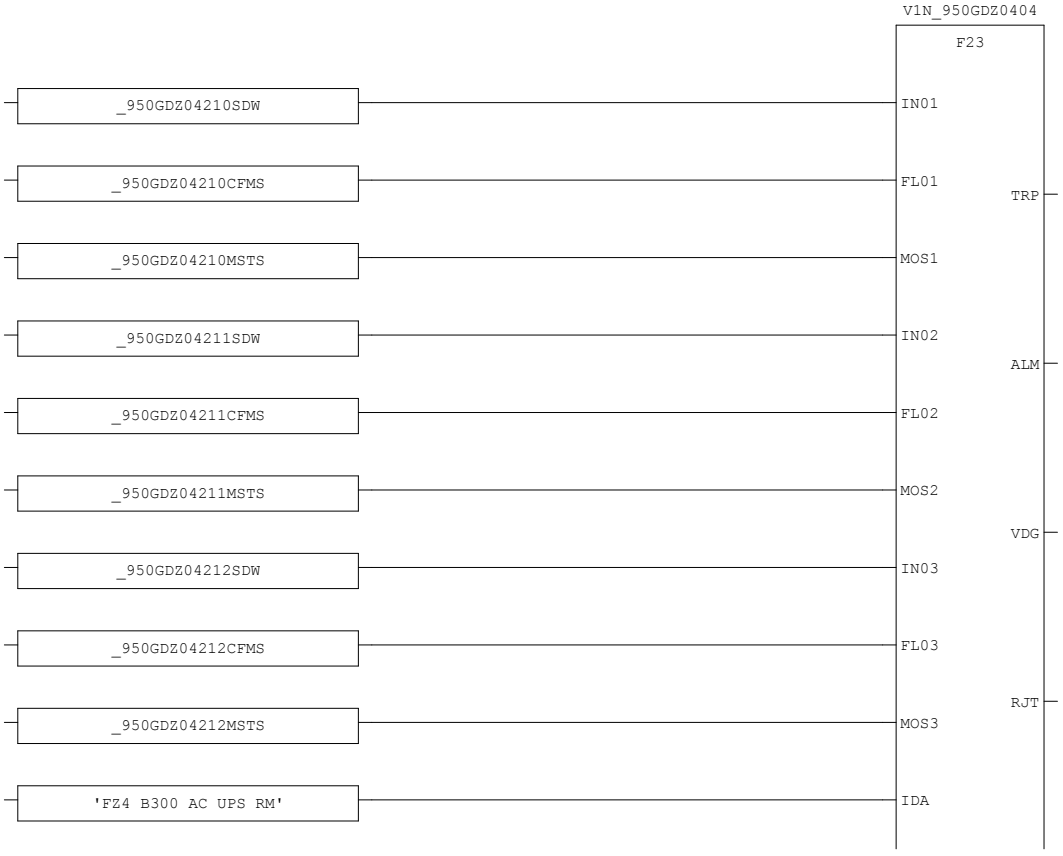
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 87
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



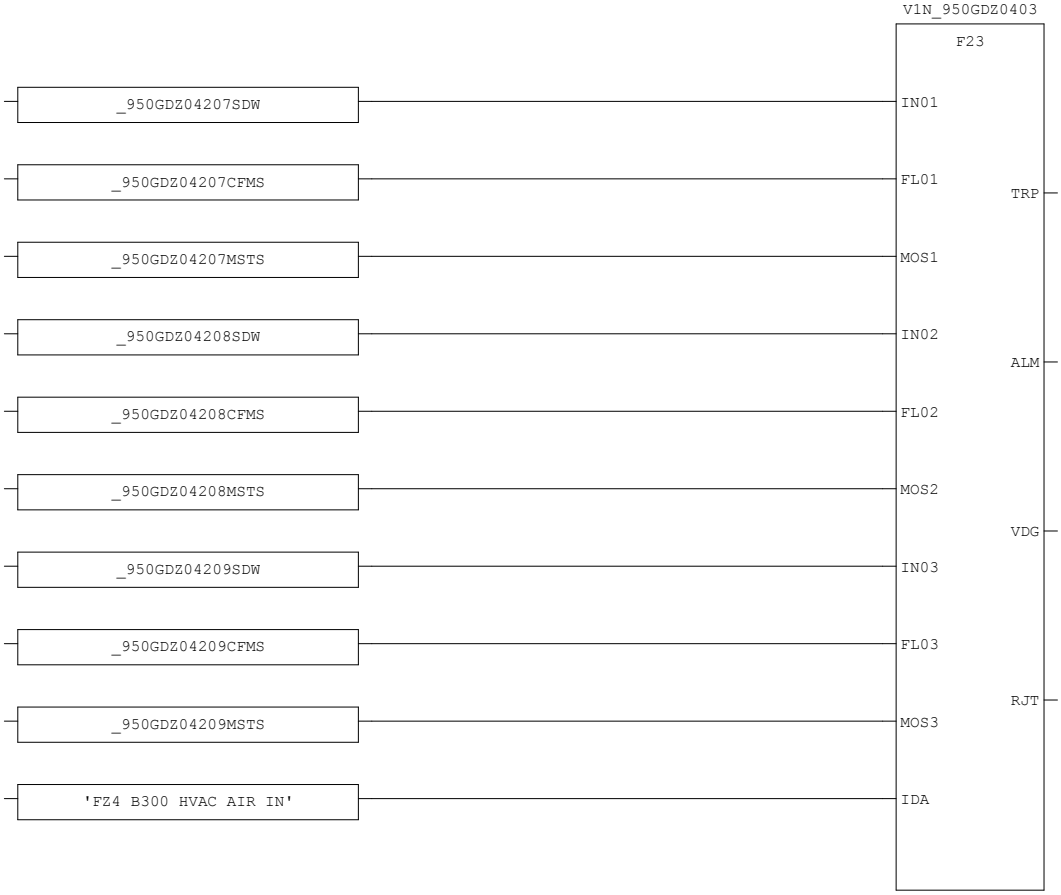


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 88
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



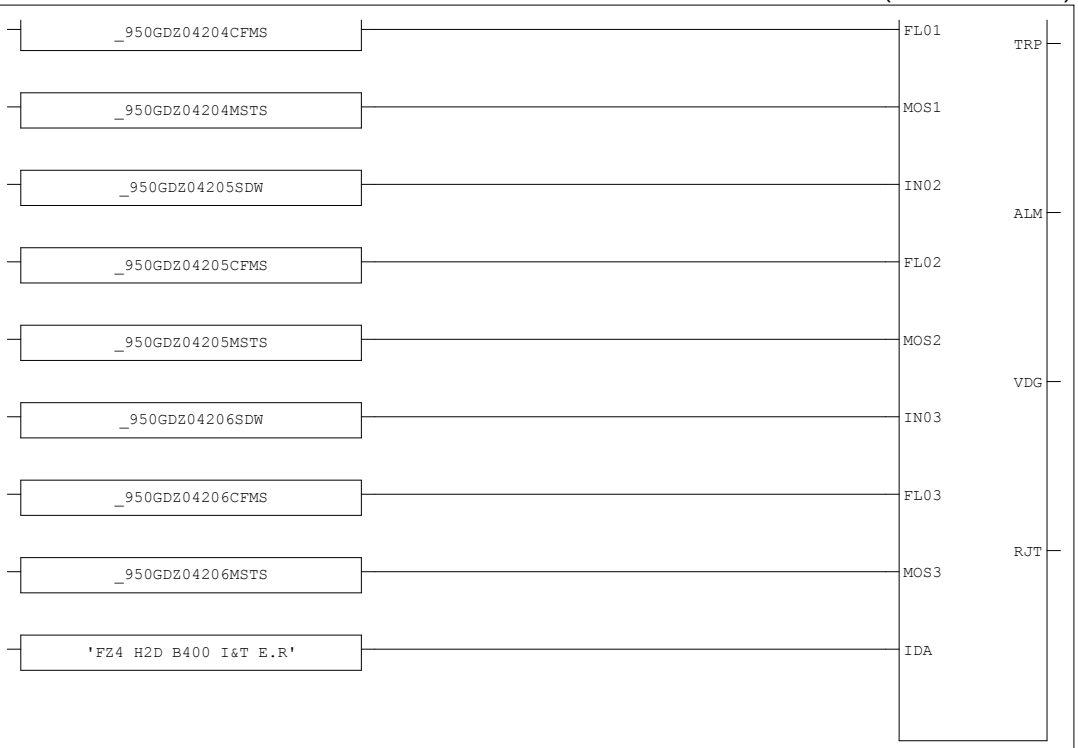


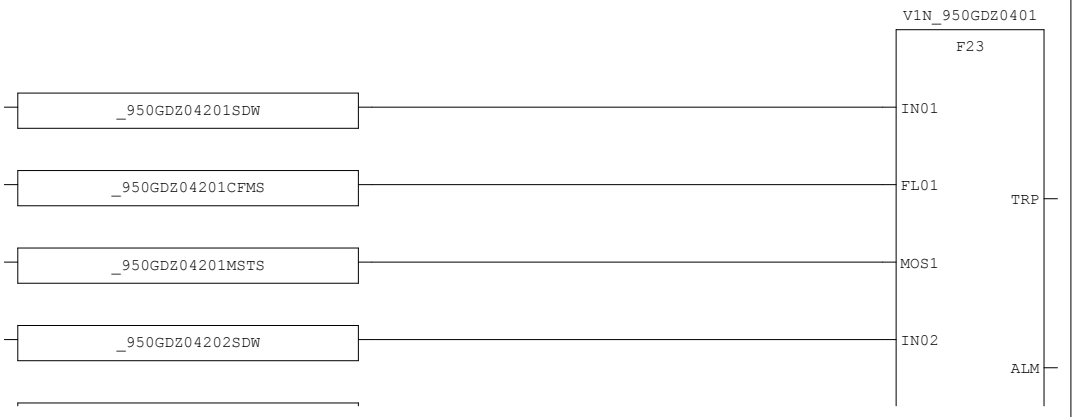
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 89
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



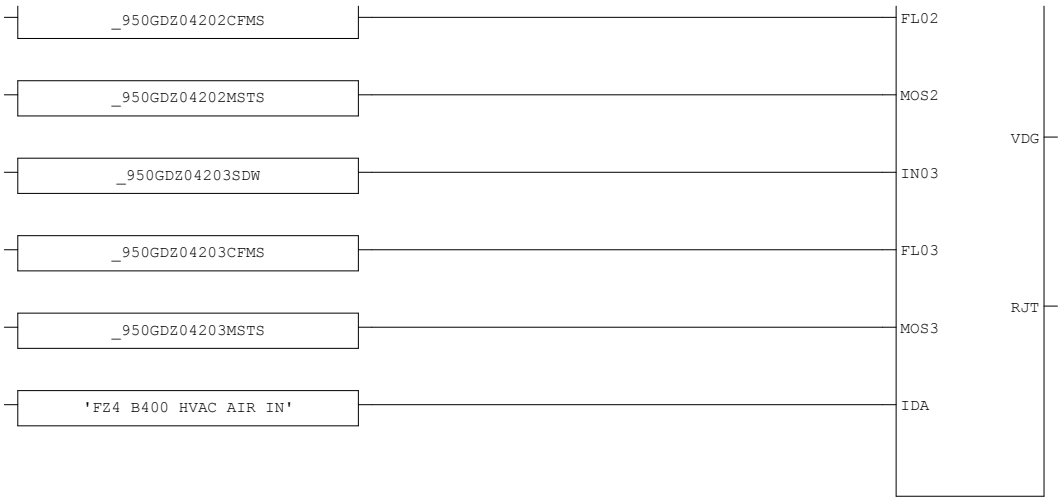


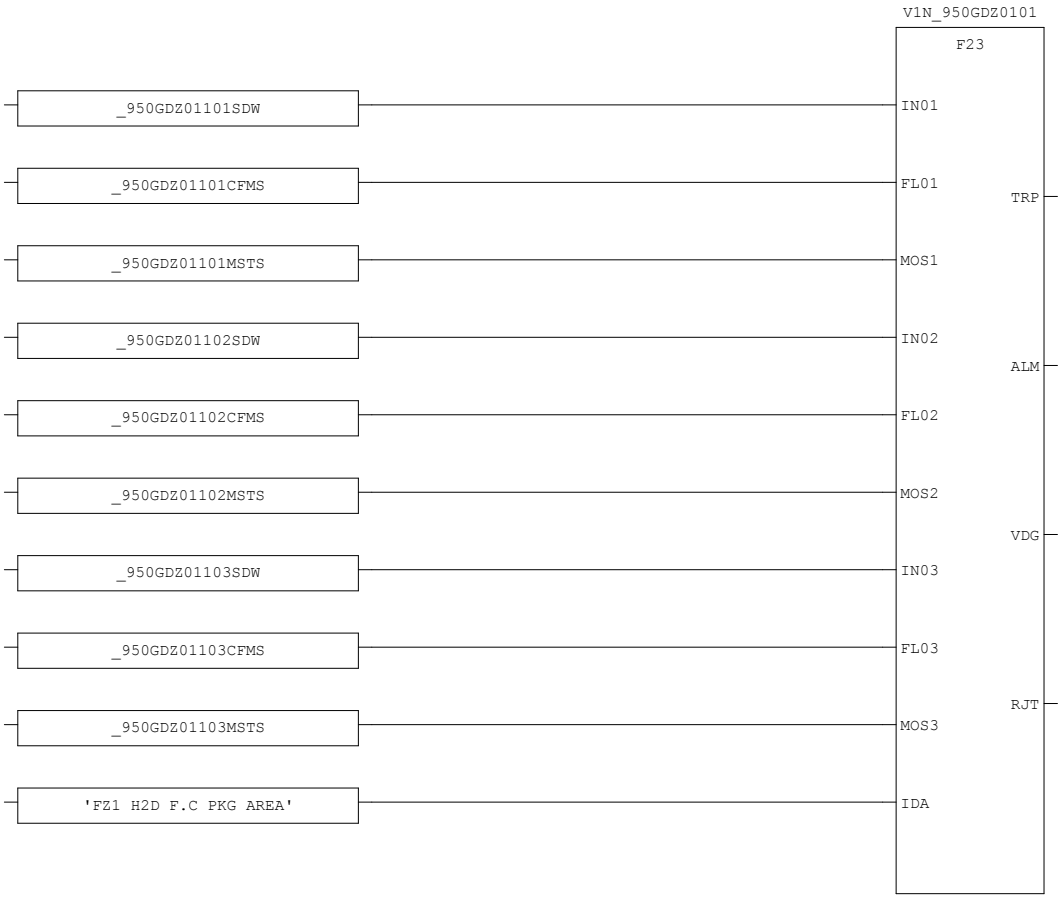
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 90
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



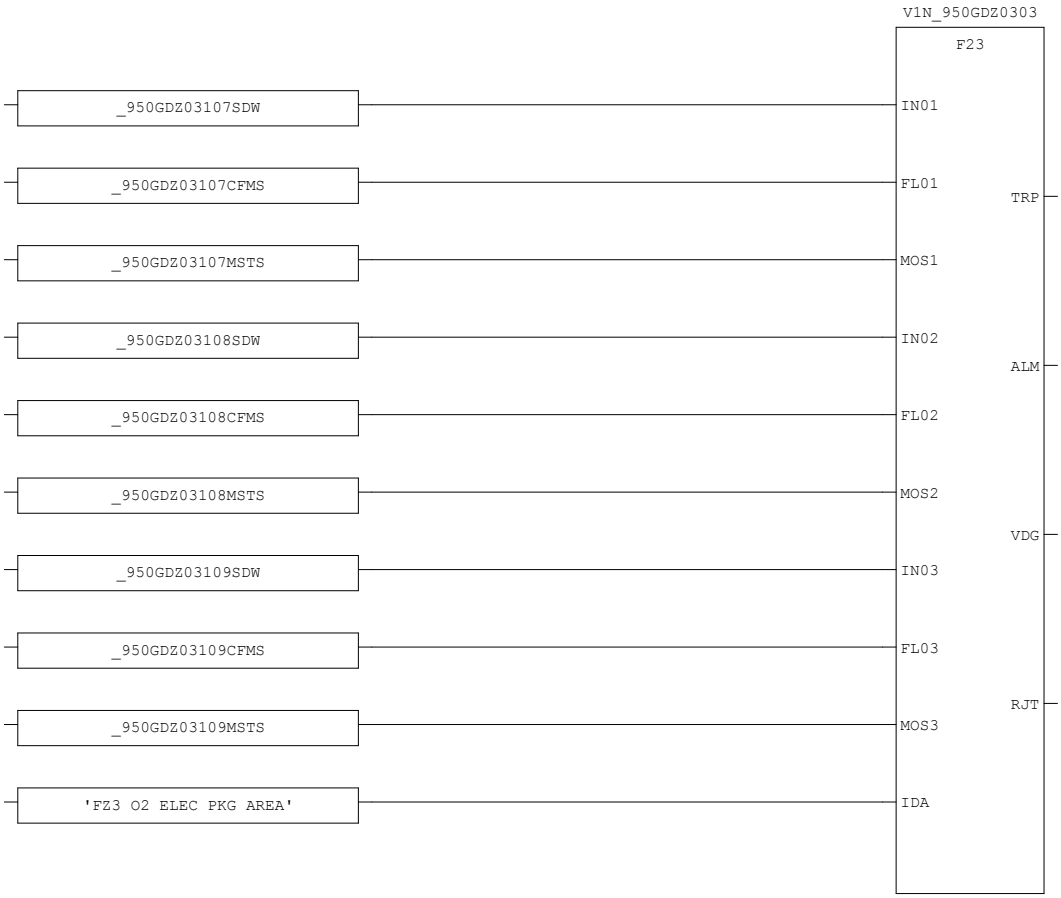


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 91
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		





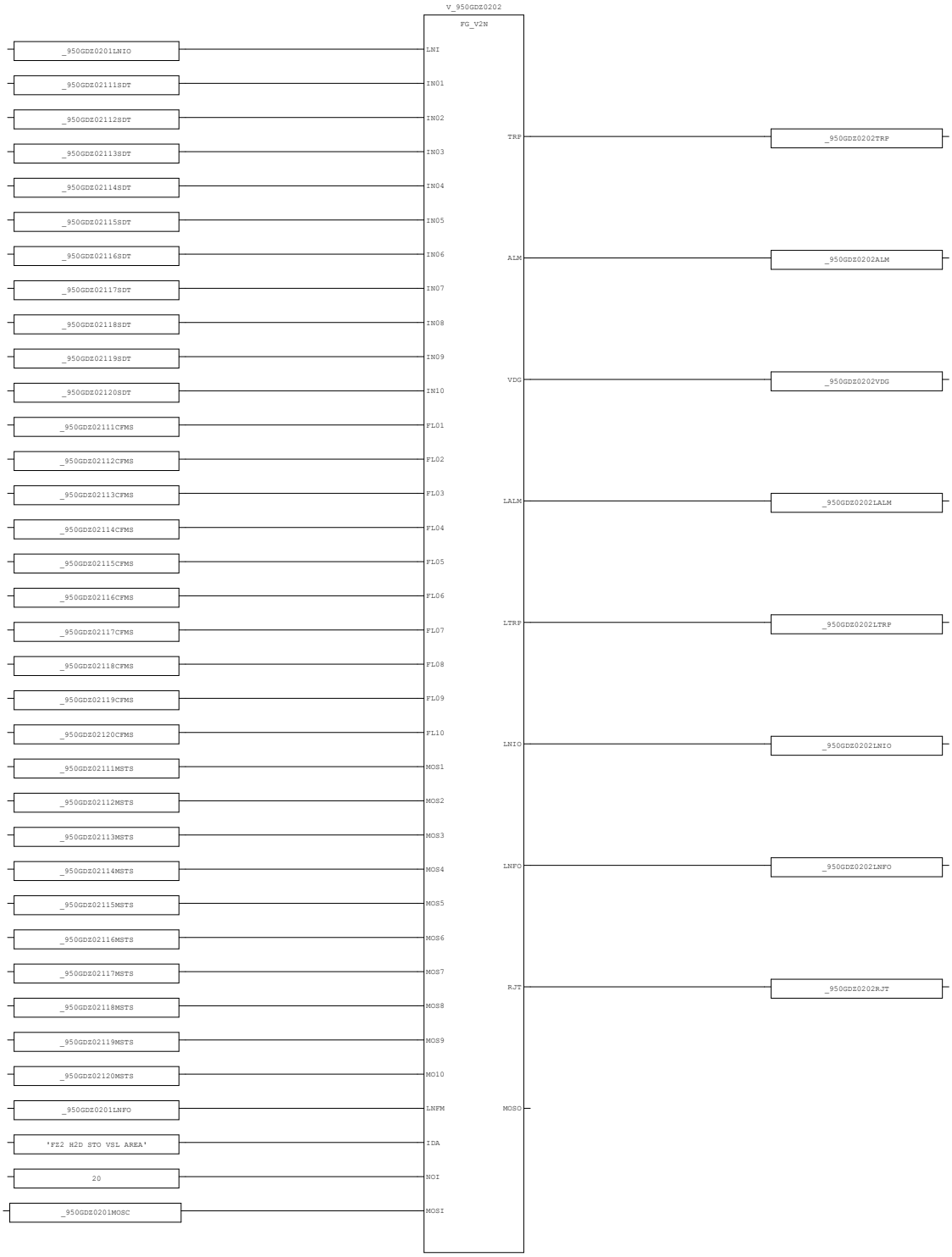
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 92
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 93
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

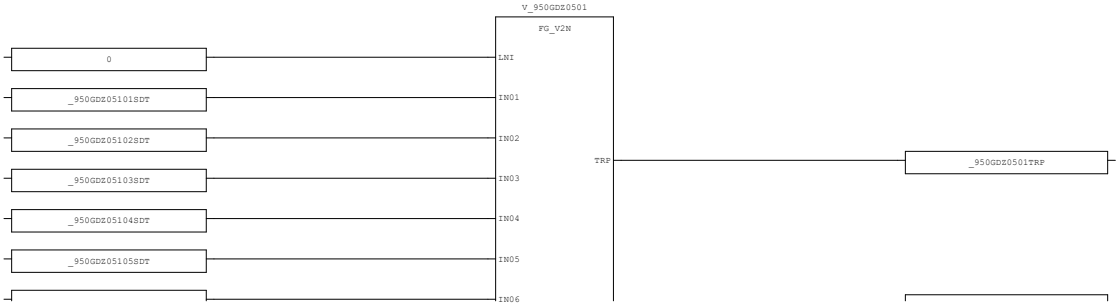
3.30. V2ooN_01 (* Analog Input-Voting 2ooN *)



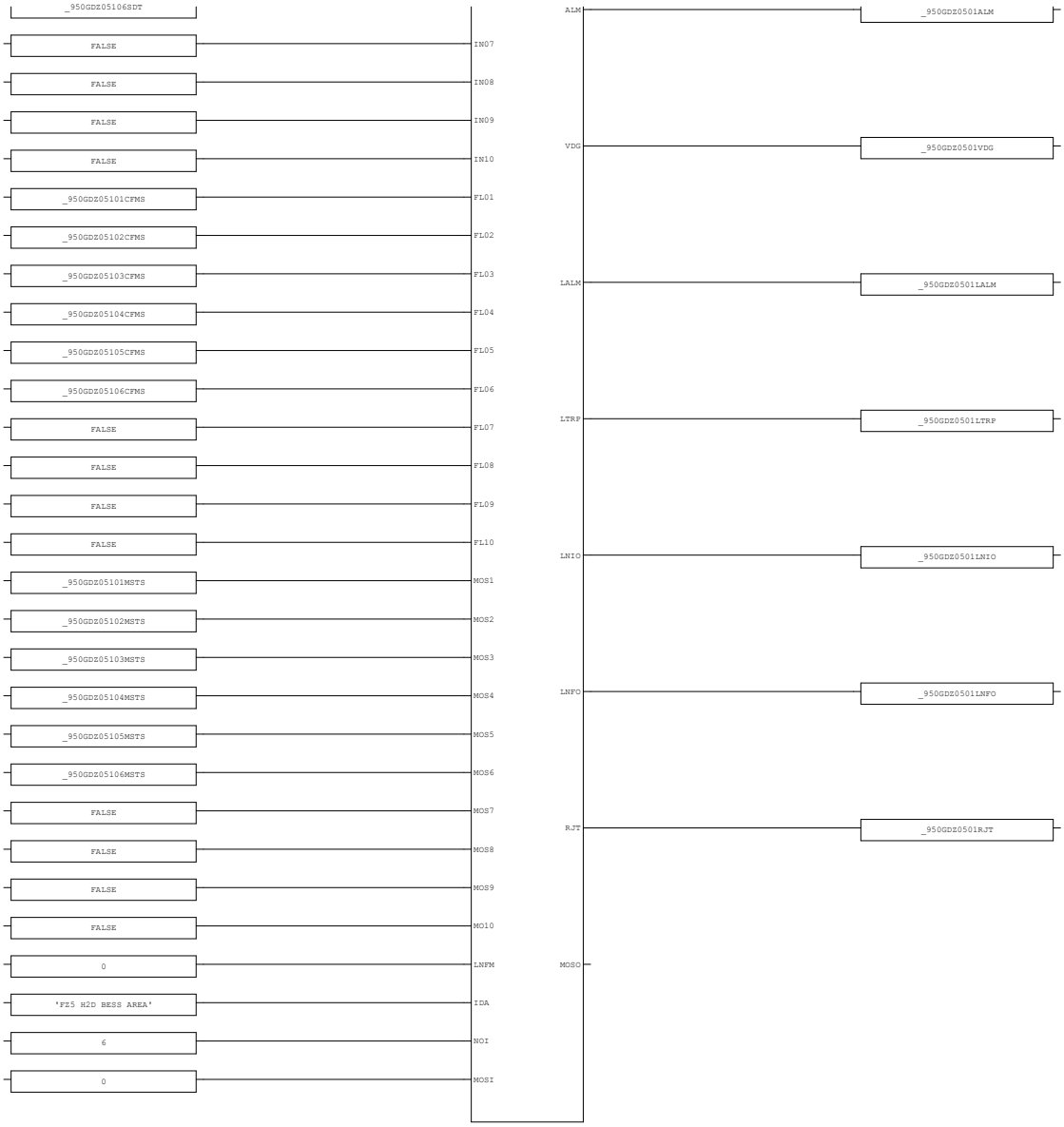


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 95
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



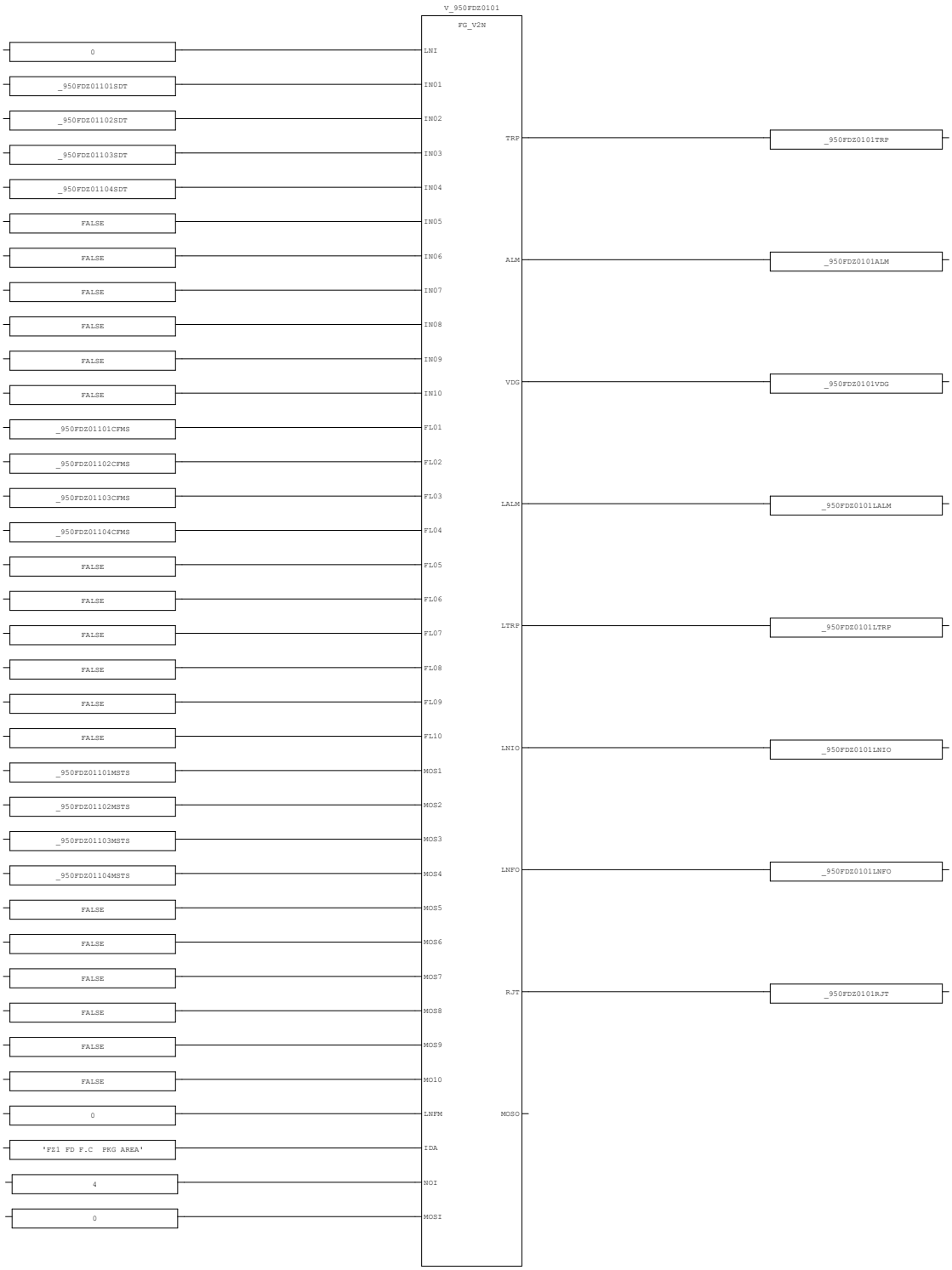


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 96
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 97
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.31. V2ooN_02 (* Analog Input-Voting 2ooN *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 98
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE: 99
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE100
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

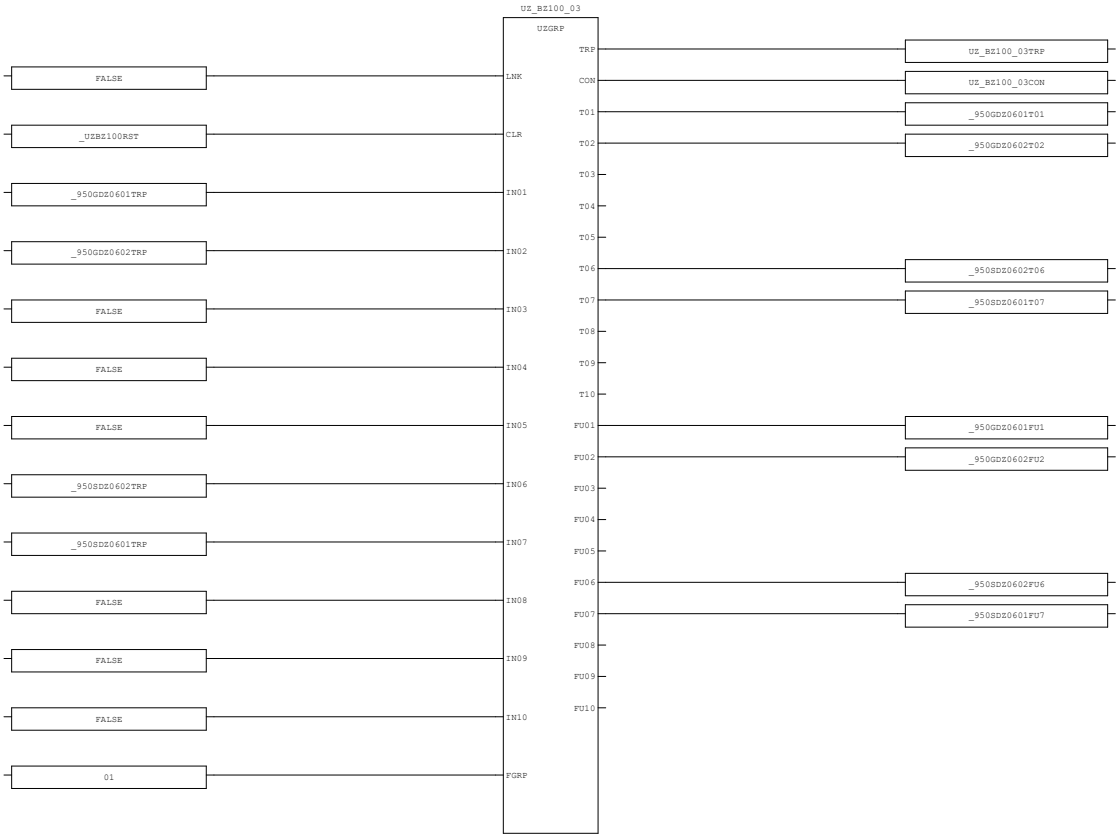


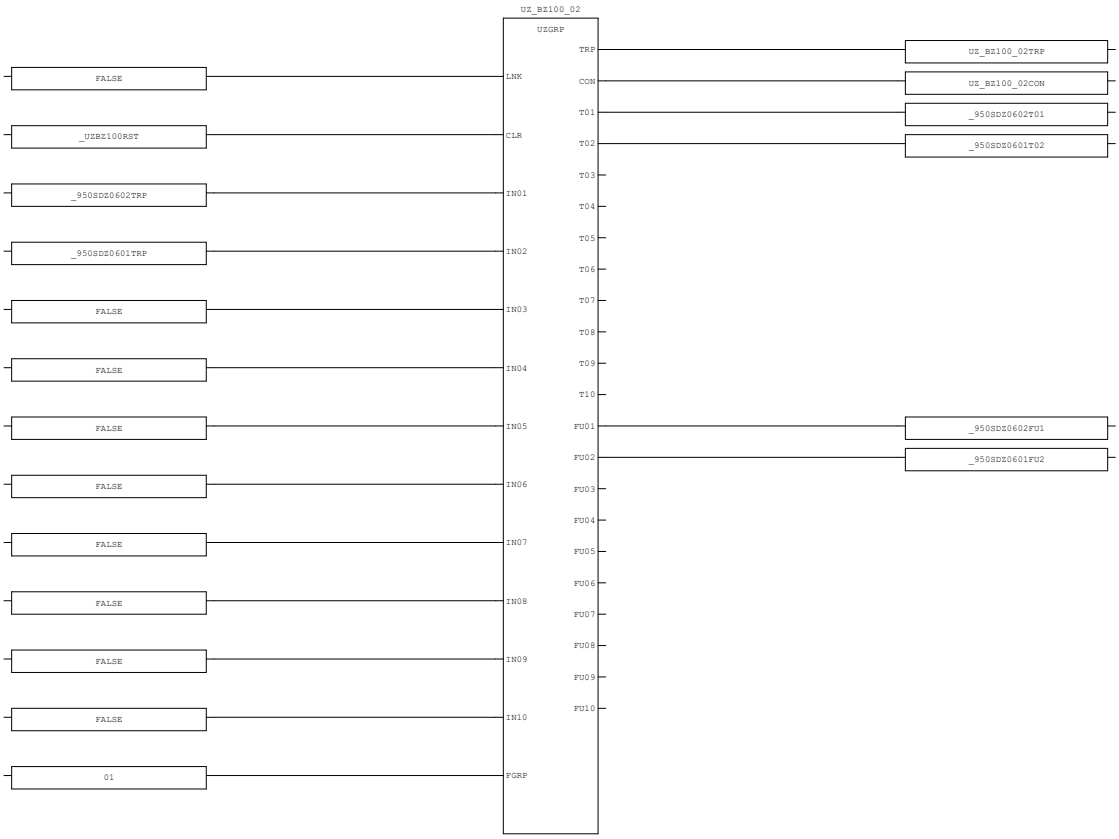
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE101
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



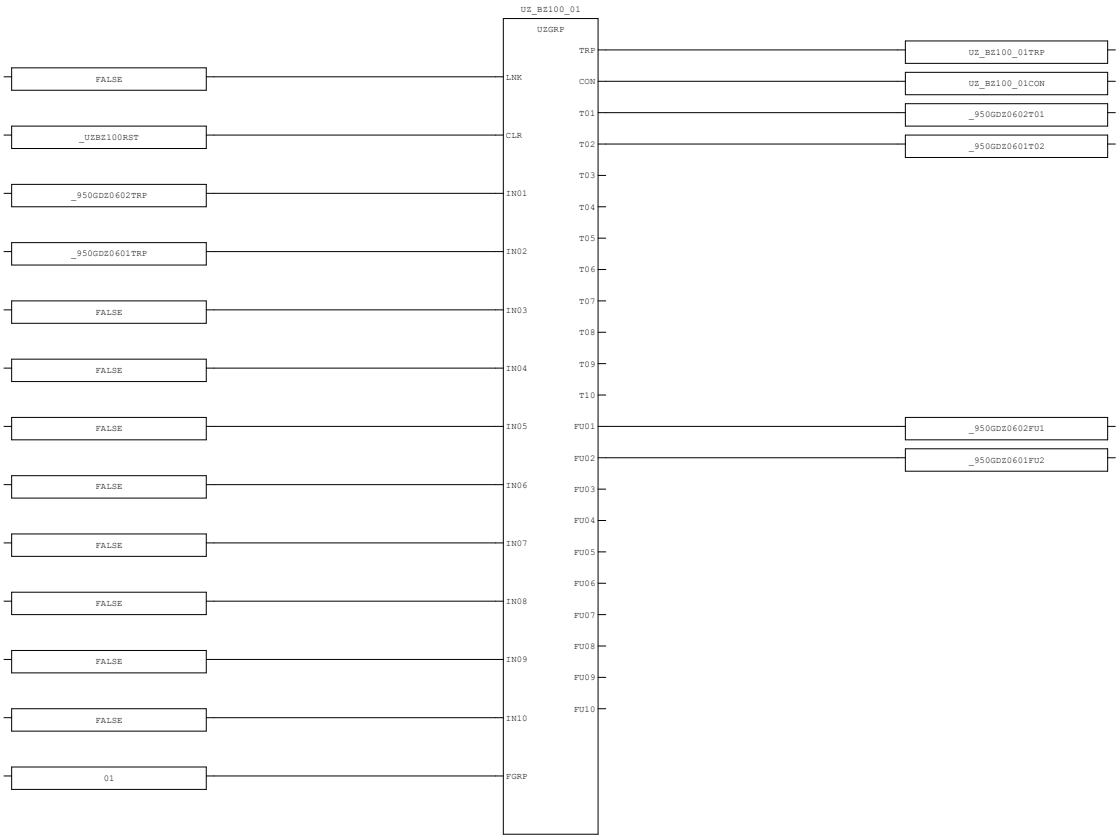
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE102
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

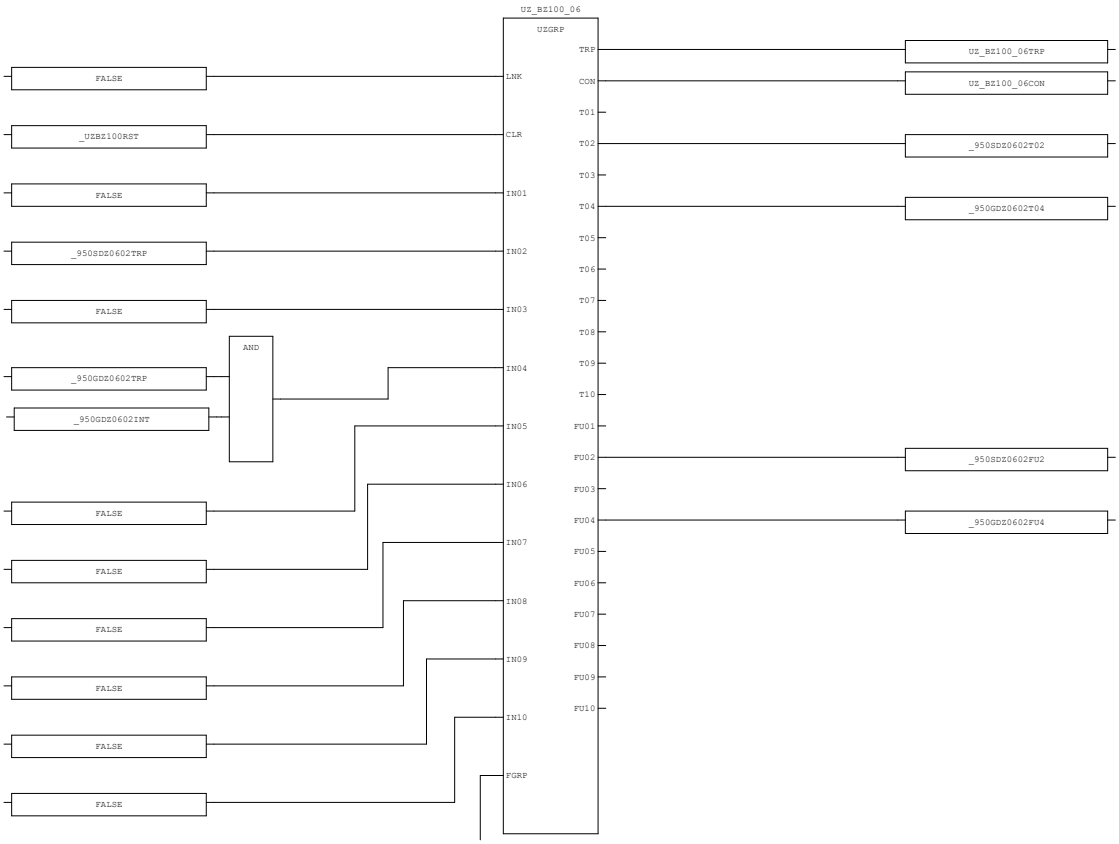
3.32. CE_LOGIC_01 (* C&E Interlock Logic *)



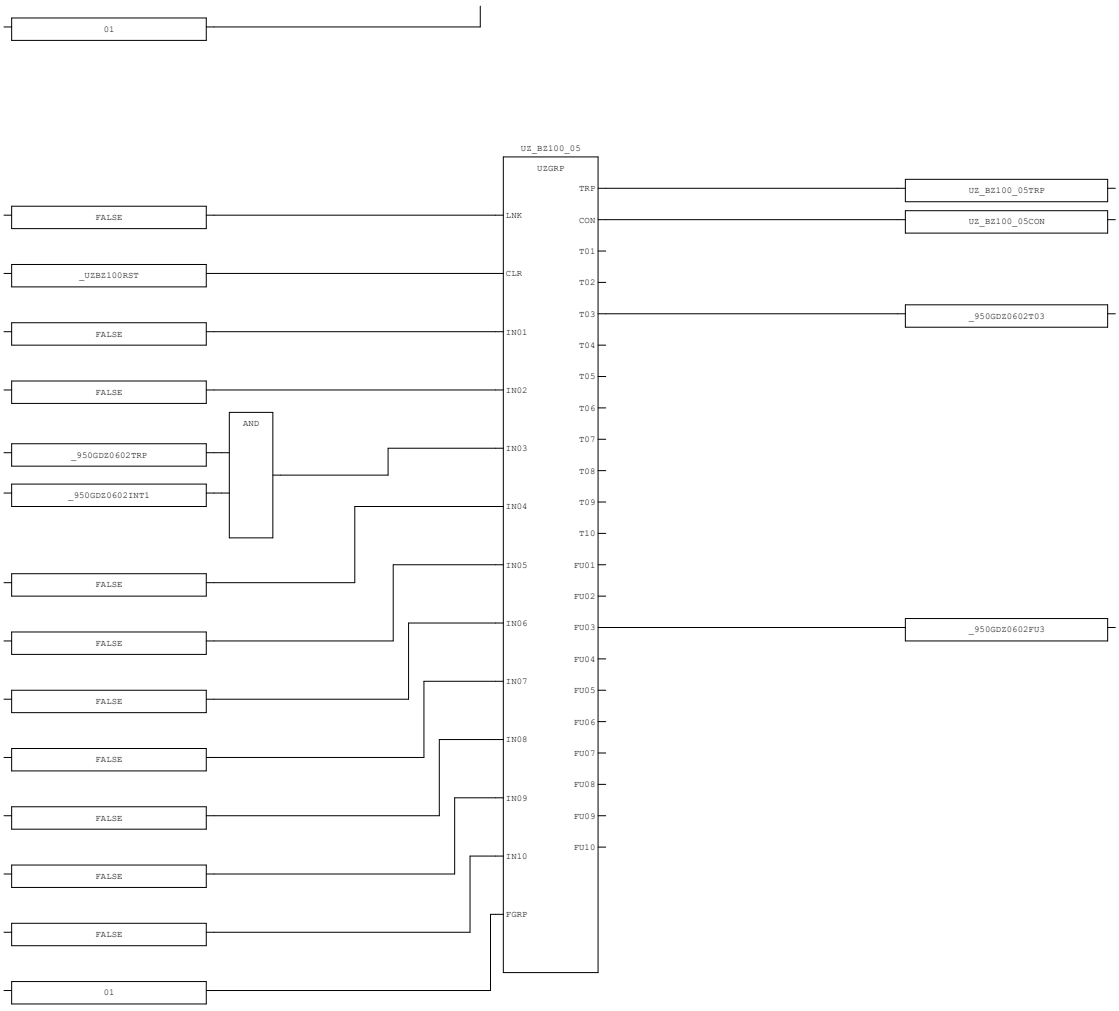


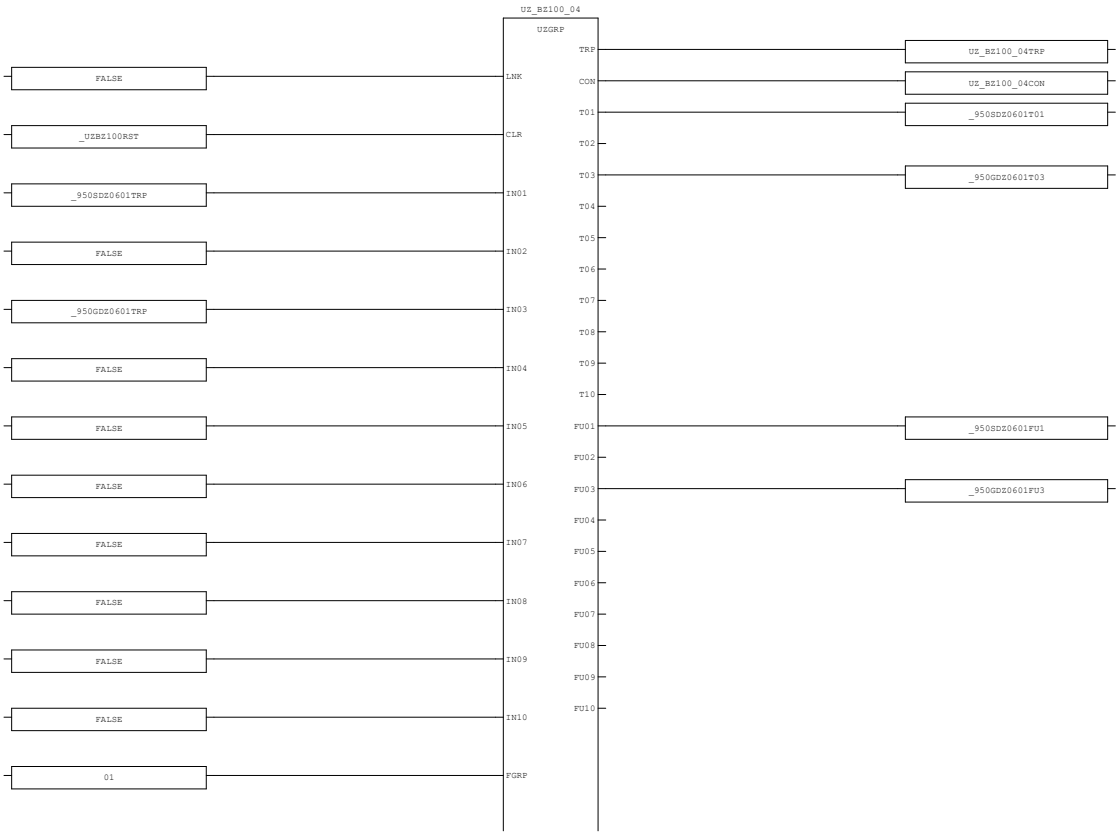
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE103
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



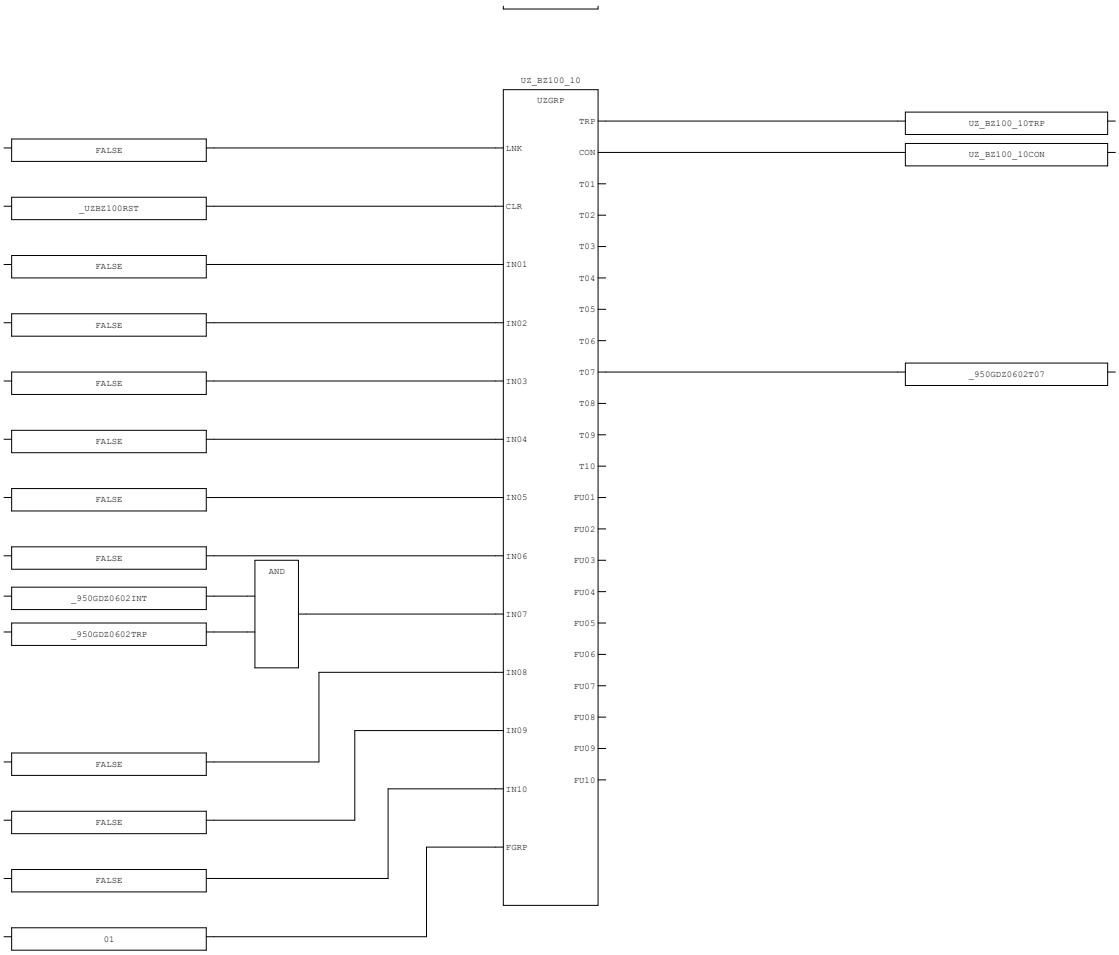


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE104
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



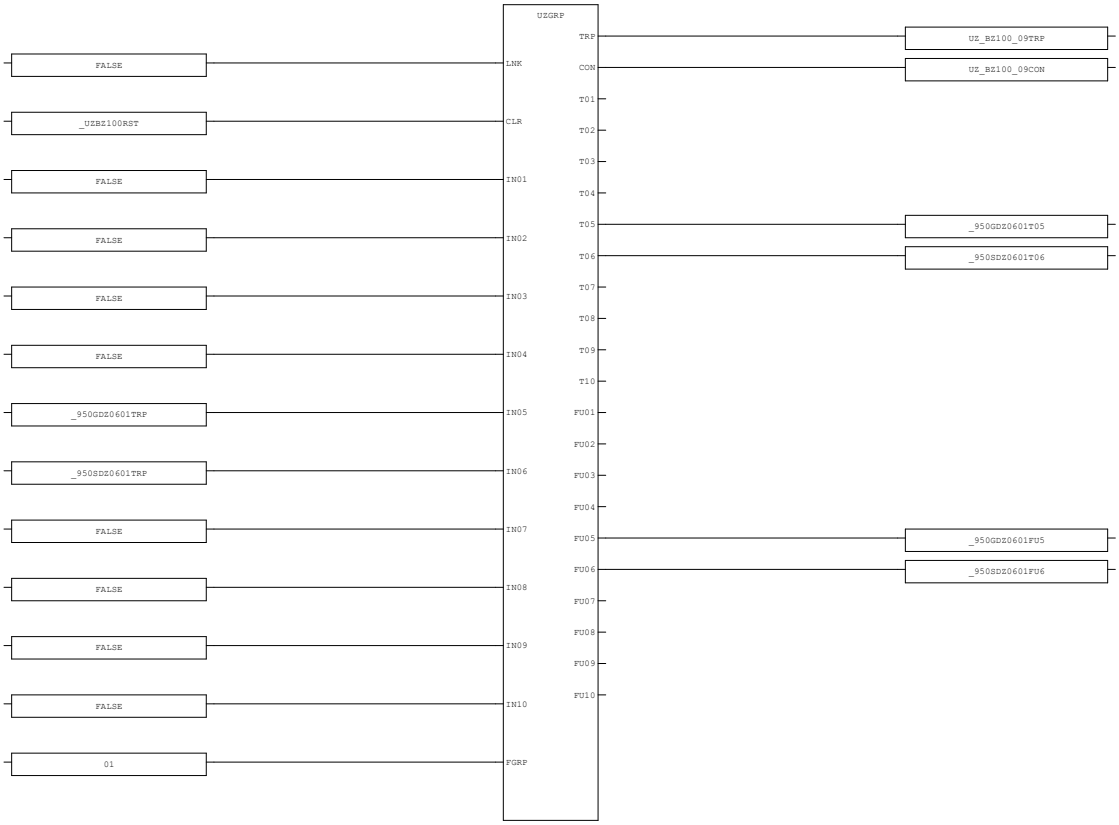


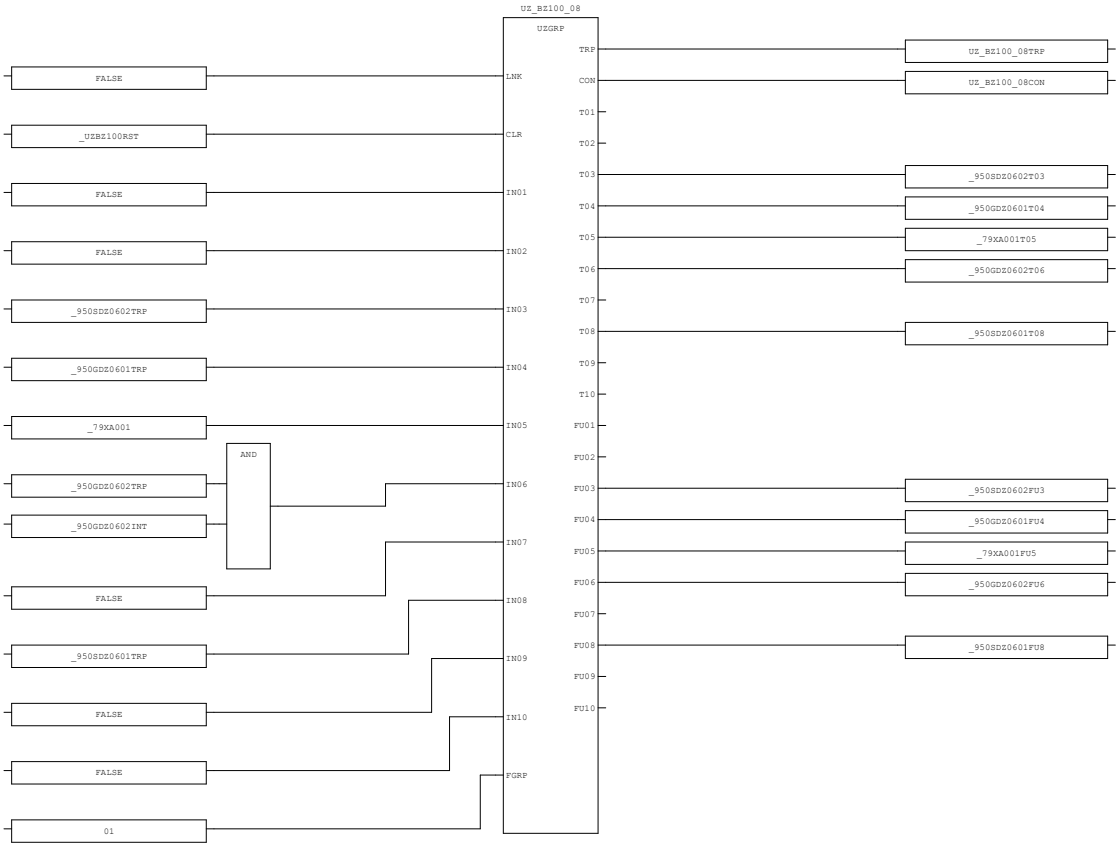
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE105
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



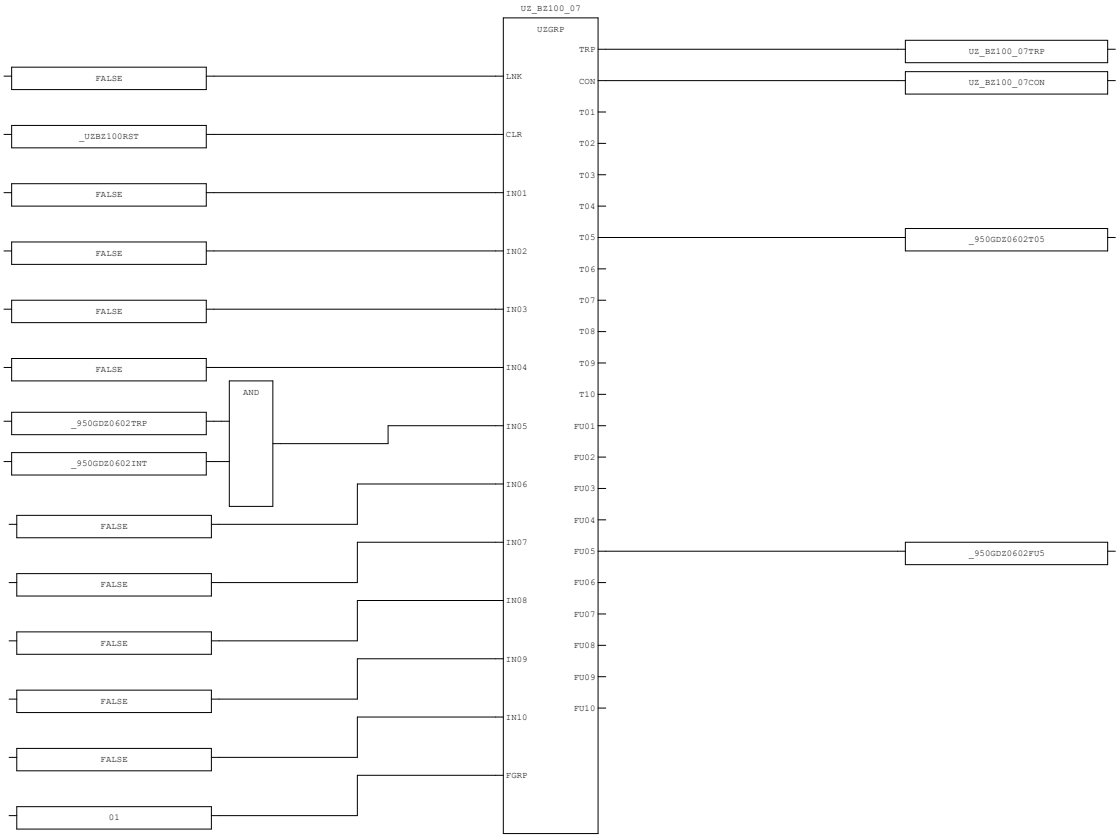
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE106
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

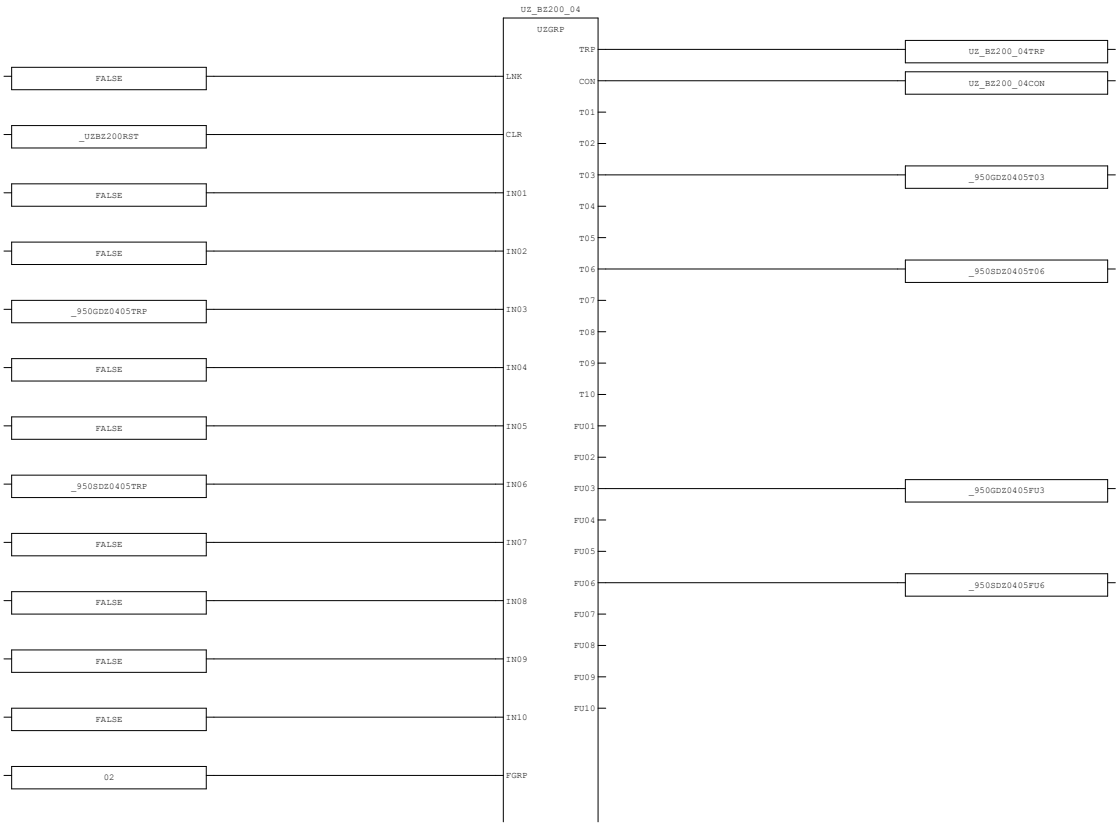
3.33. CE_LOGIC_02 (* C&E Interlock Logic *)



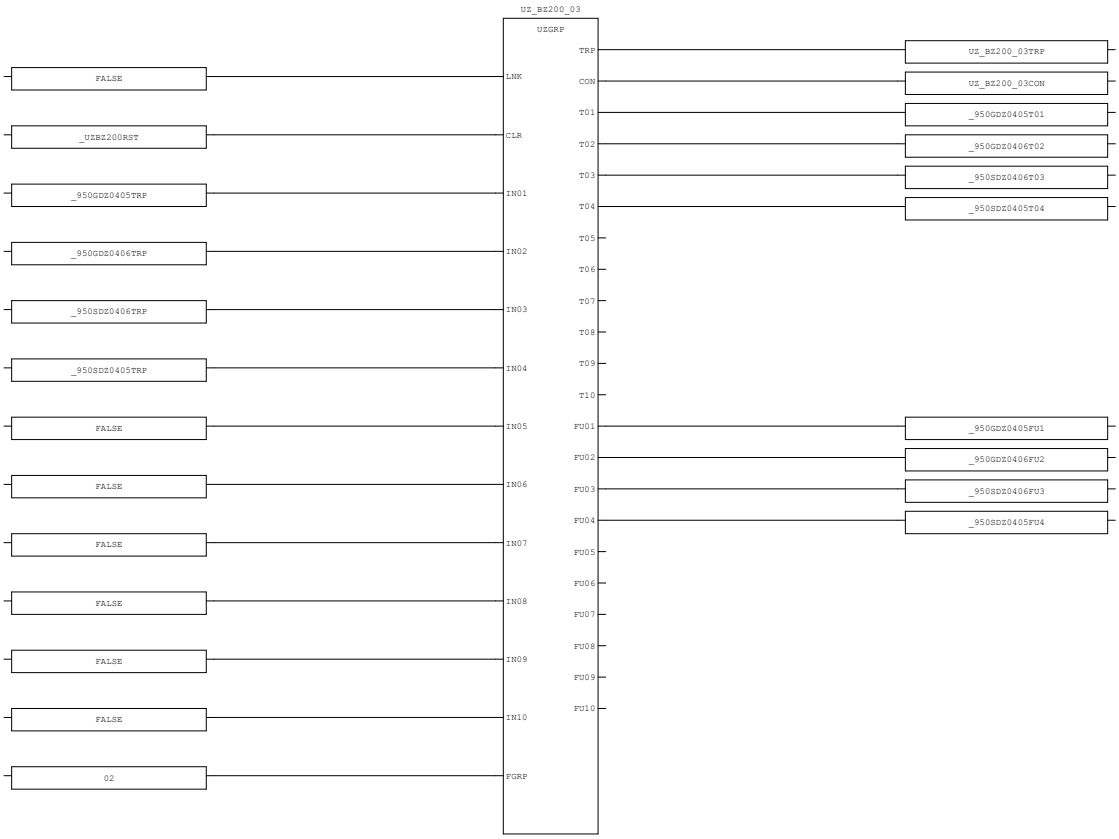


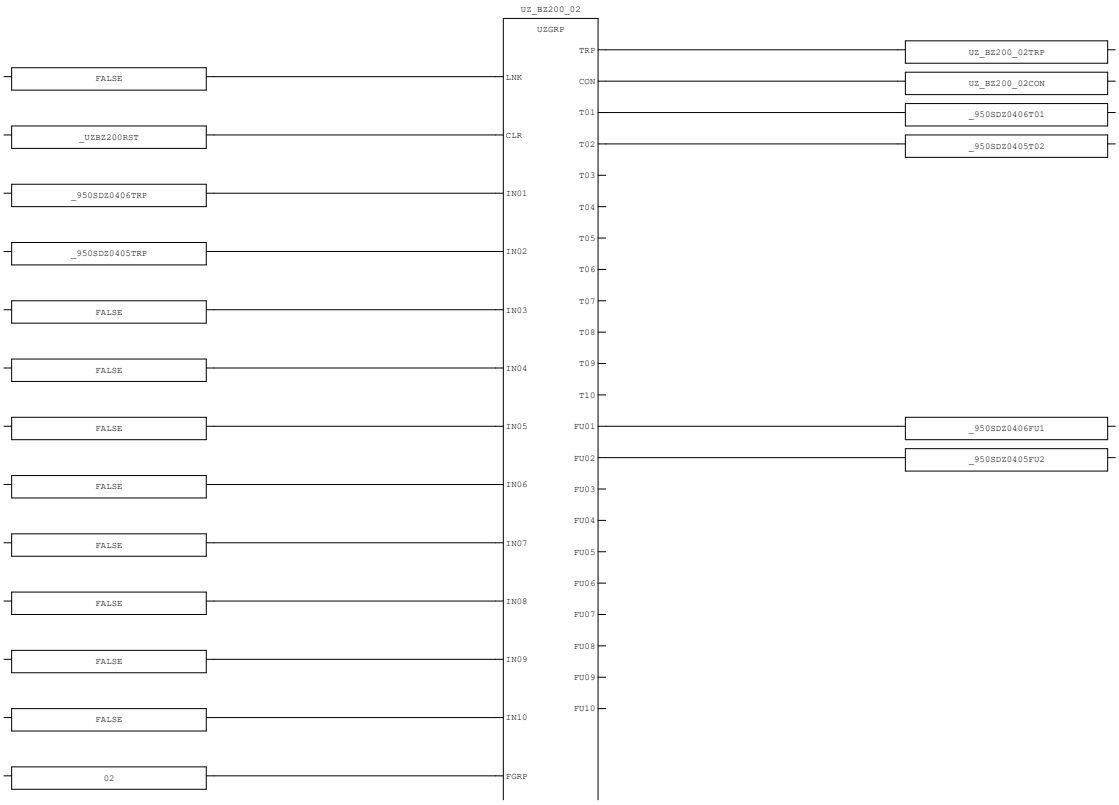
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE107
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



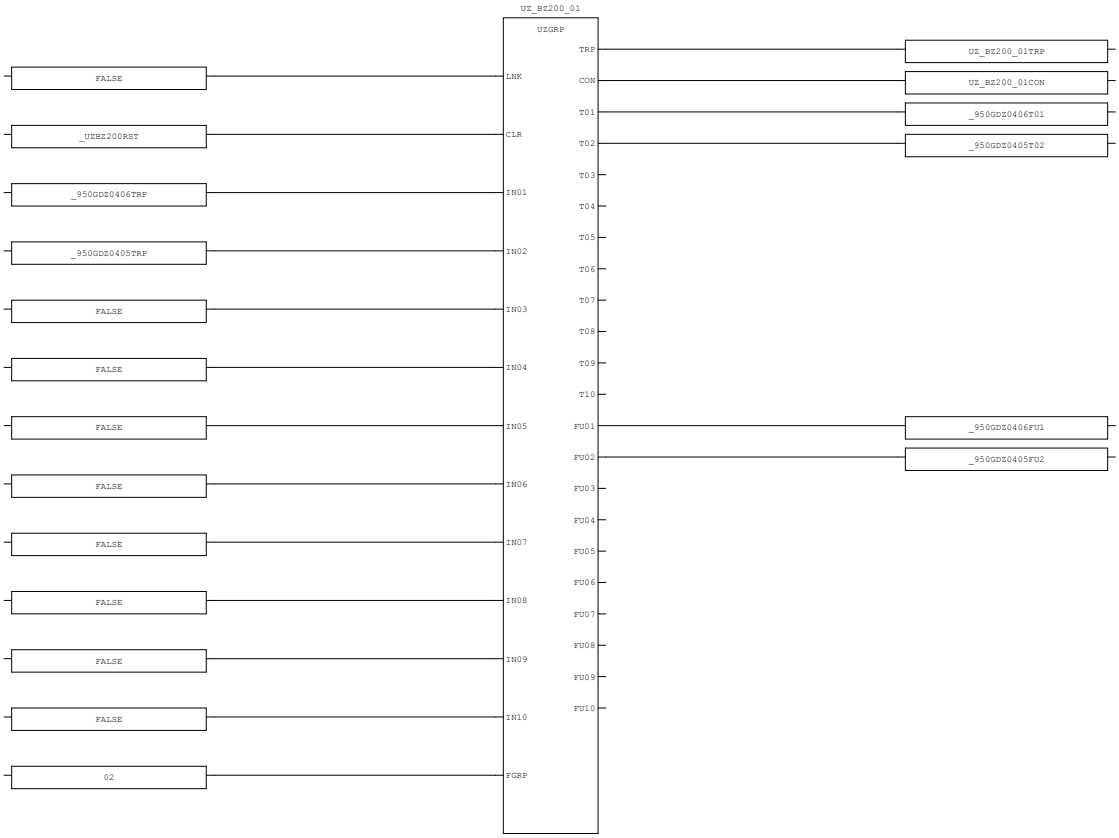


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE108
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



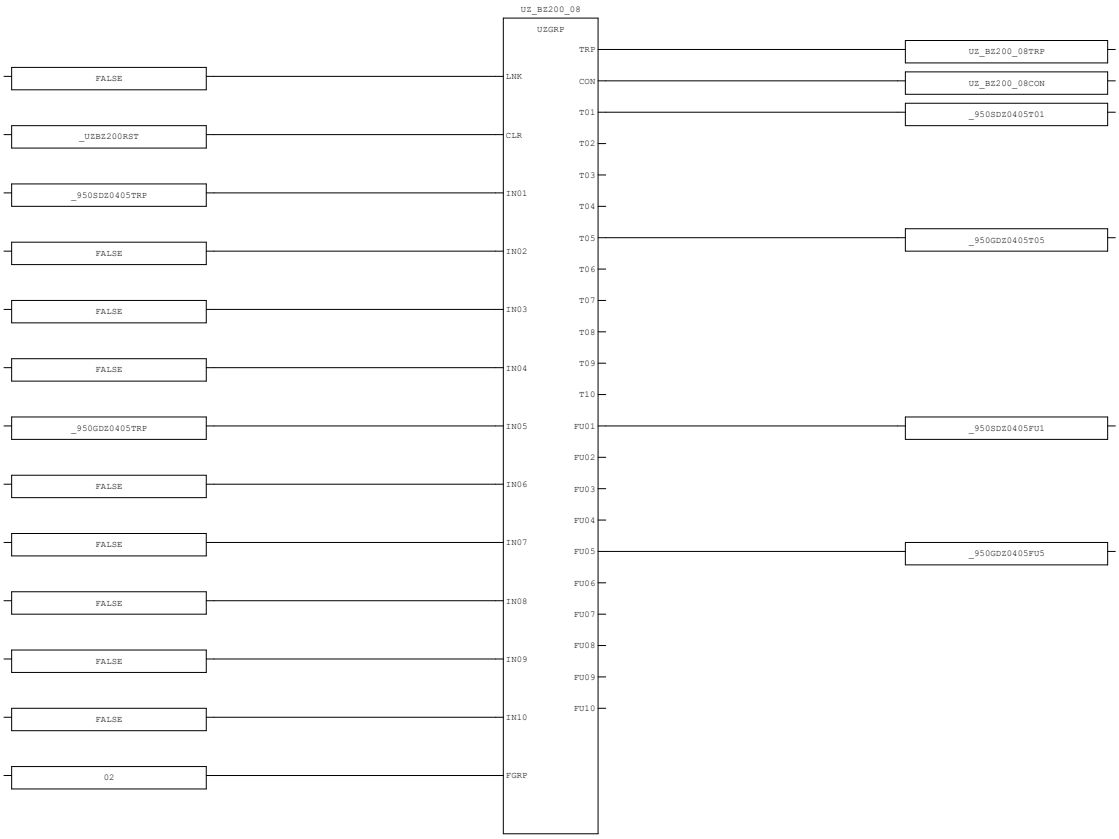


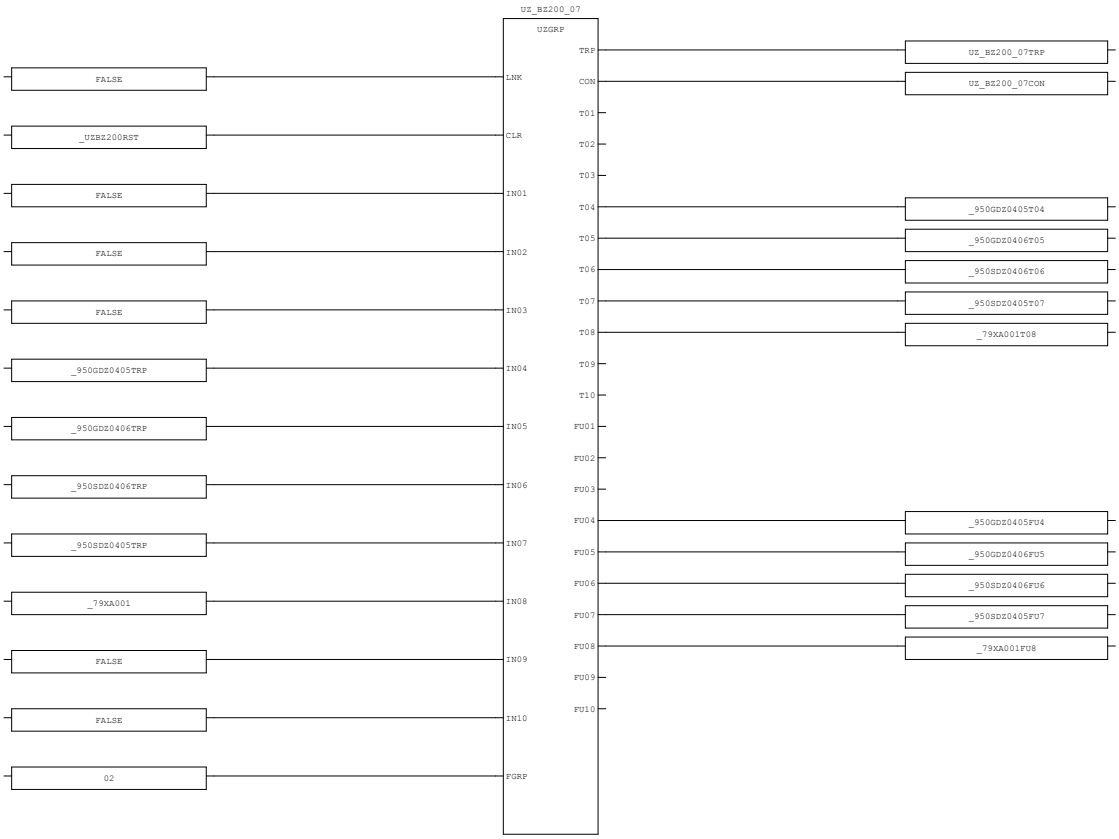
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE109
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



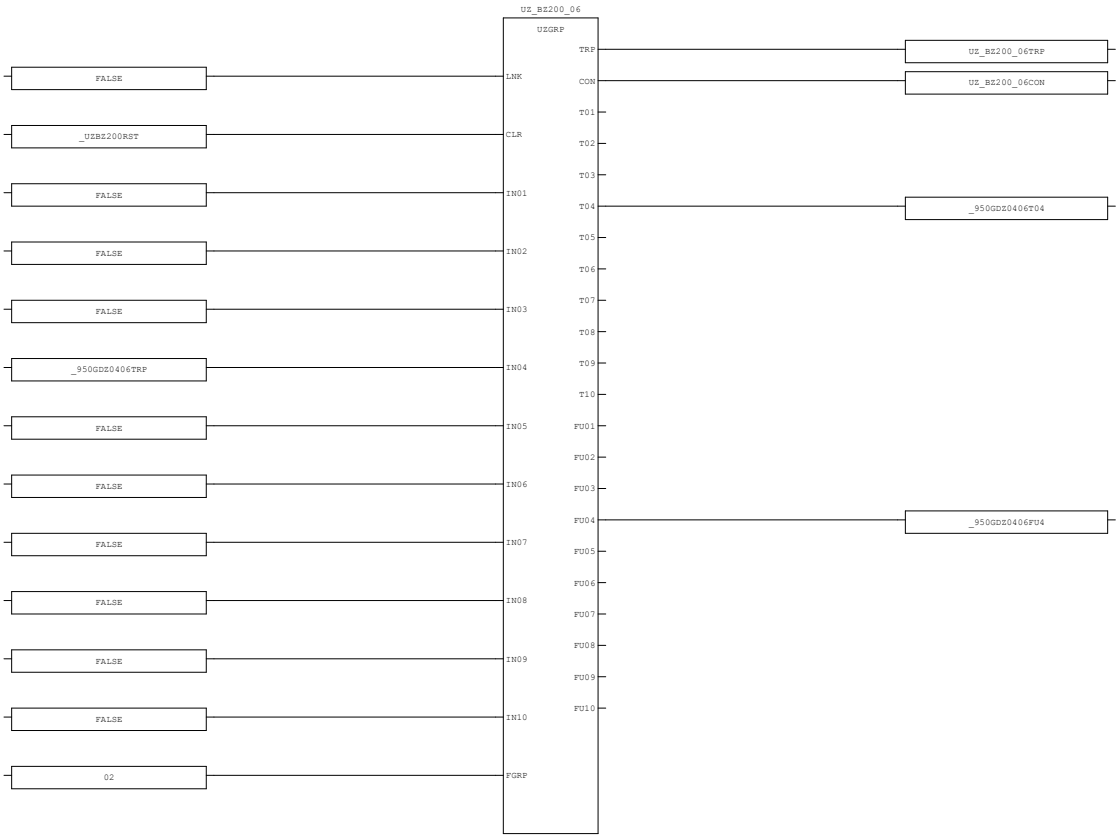
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE110
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

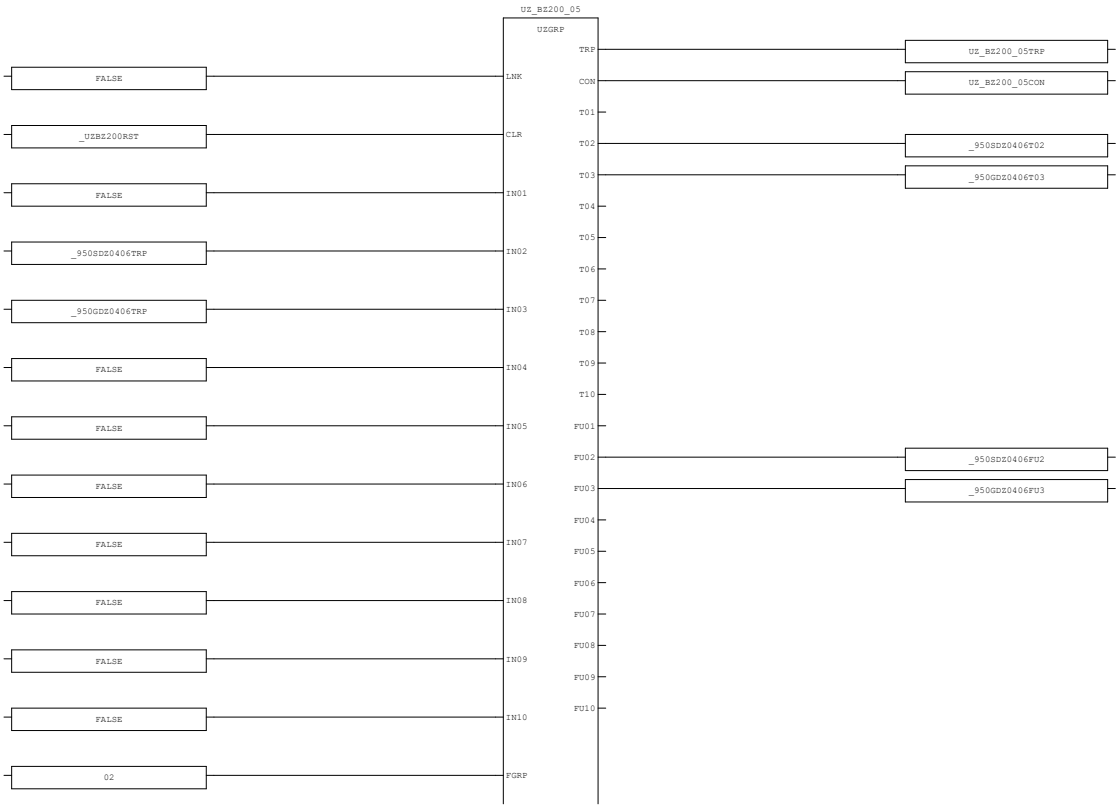
3.34. CE_LOGIC_03 (* C&E Interlock Logic *)



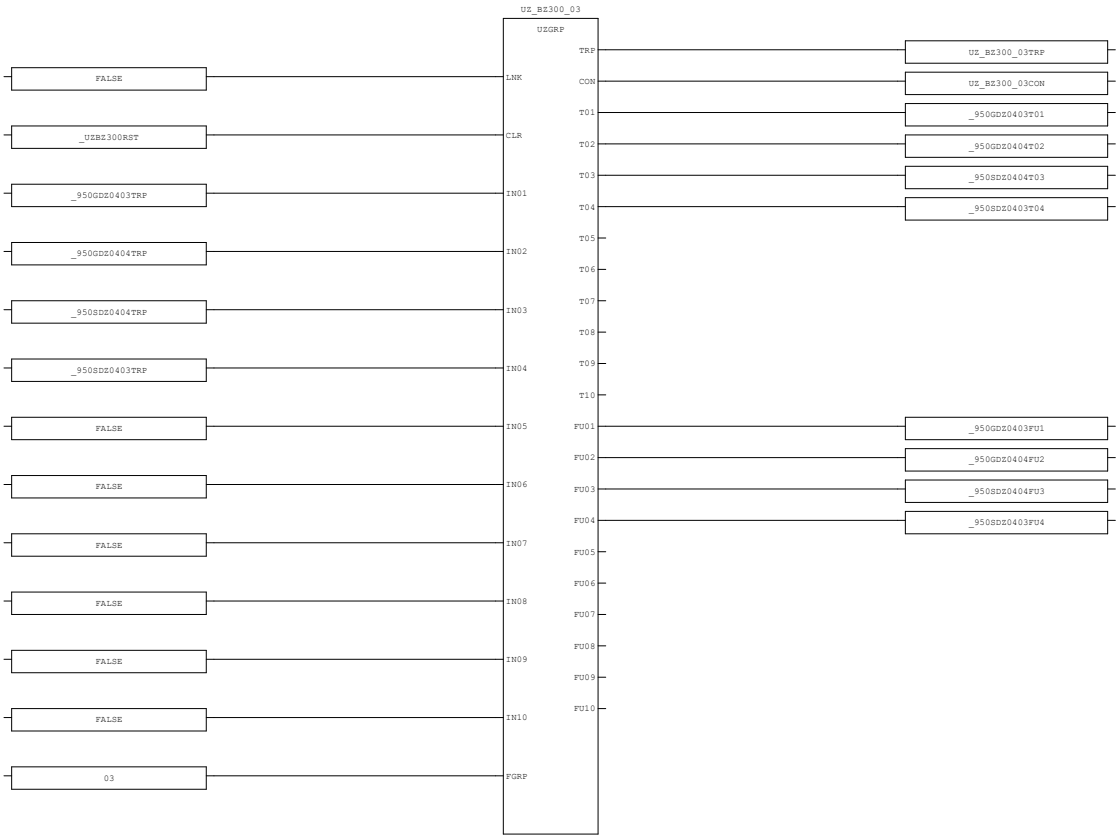


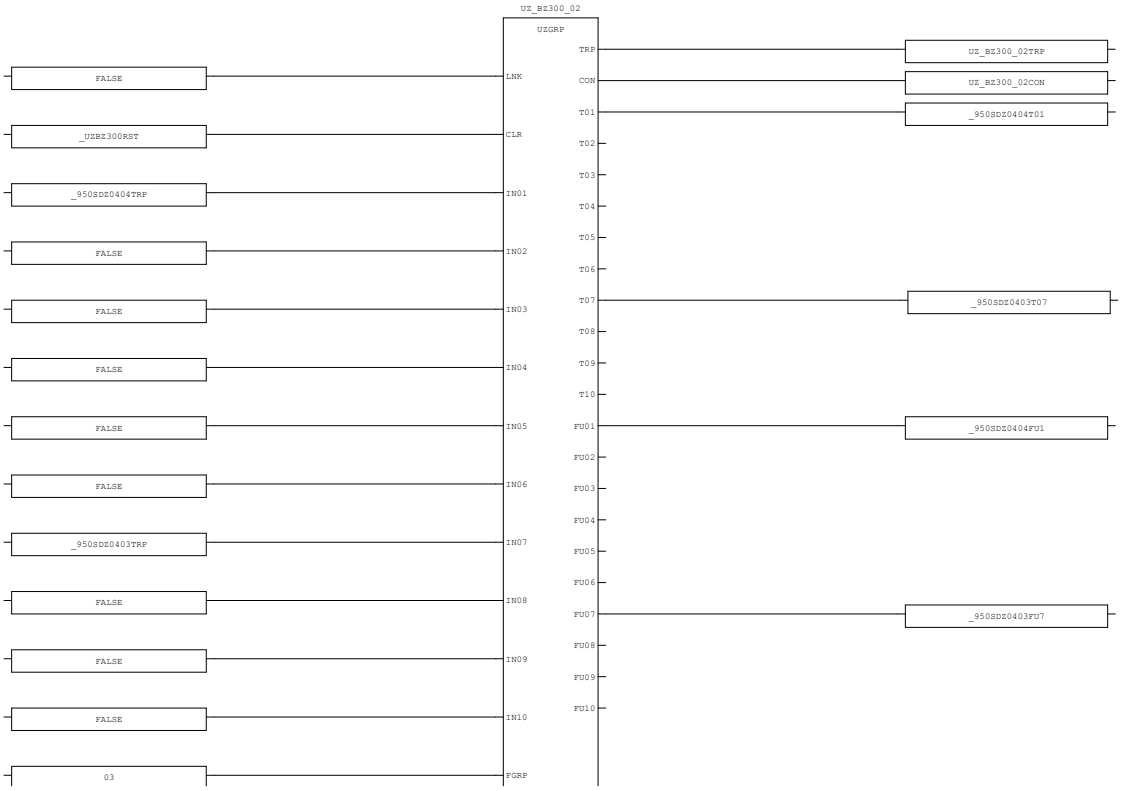
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE111
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



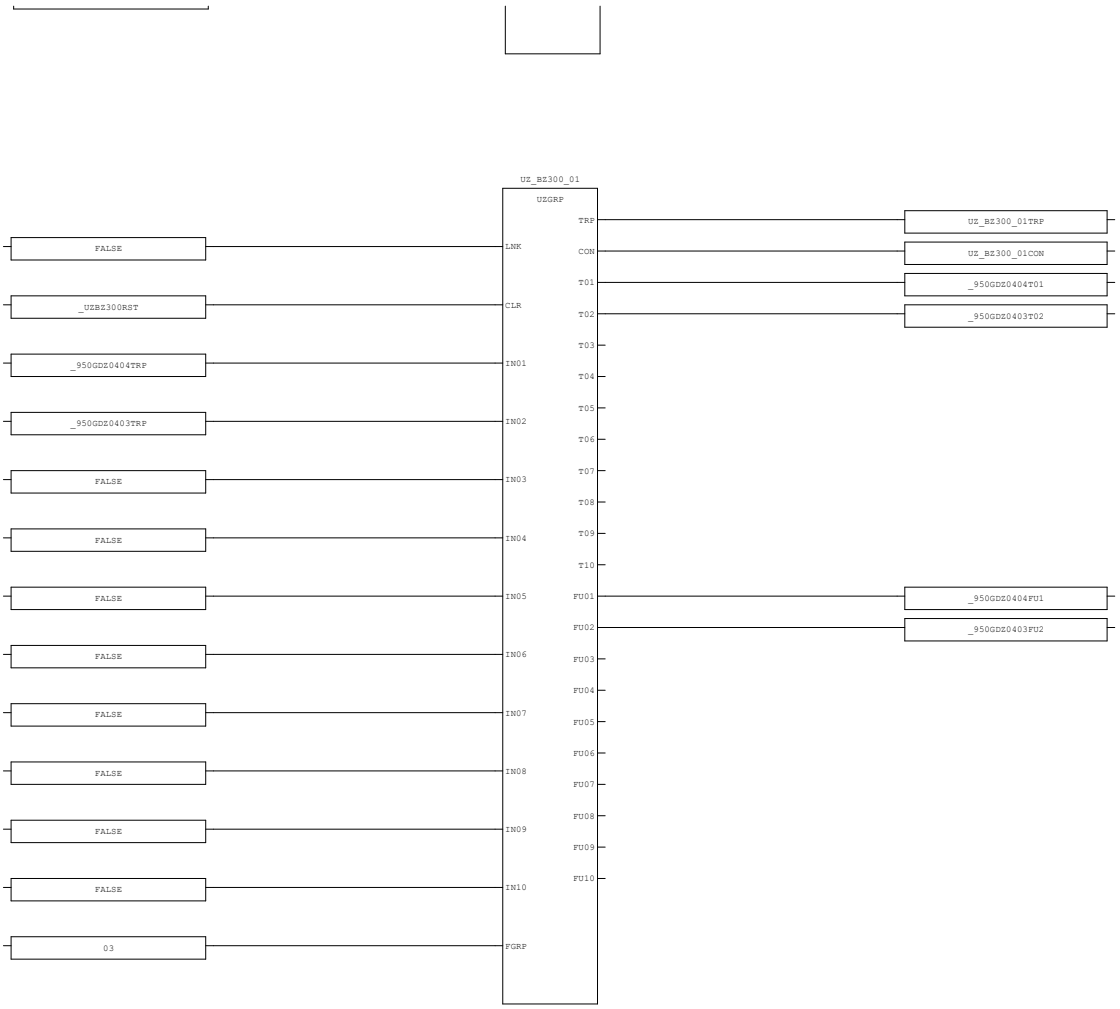


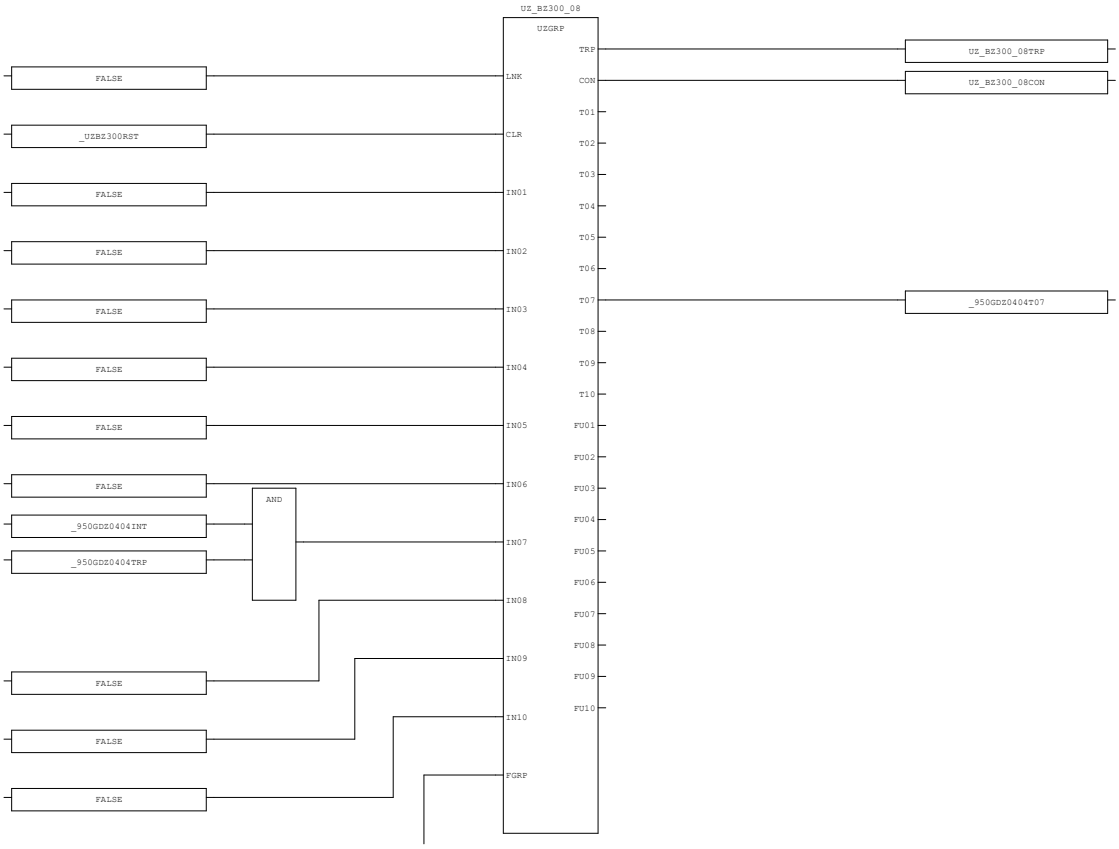
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE112
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE113
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



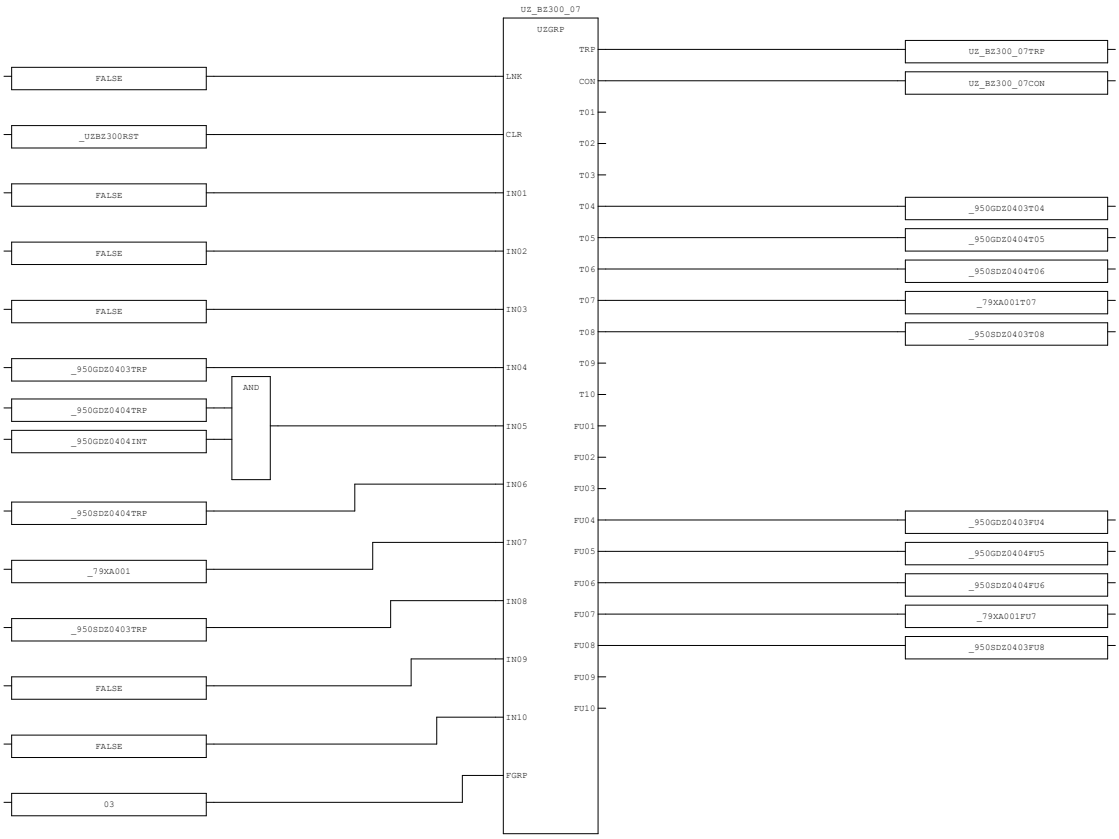


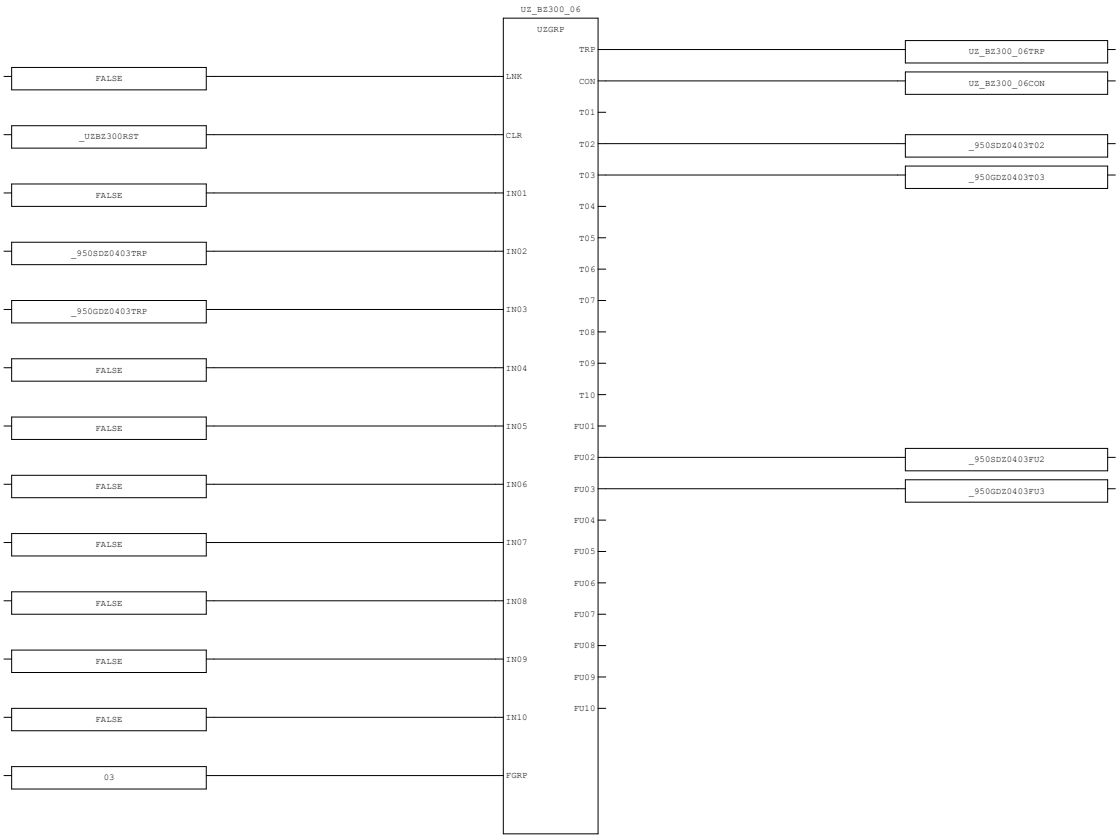
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE114
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



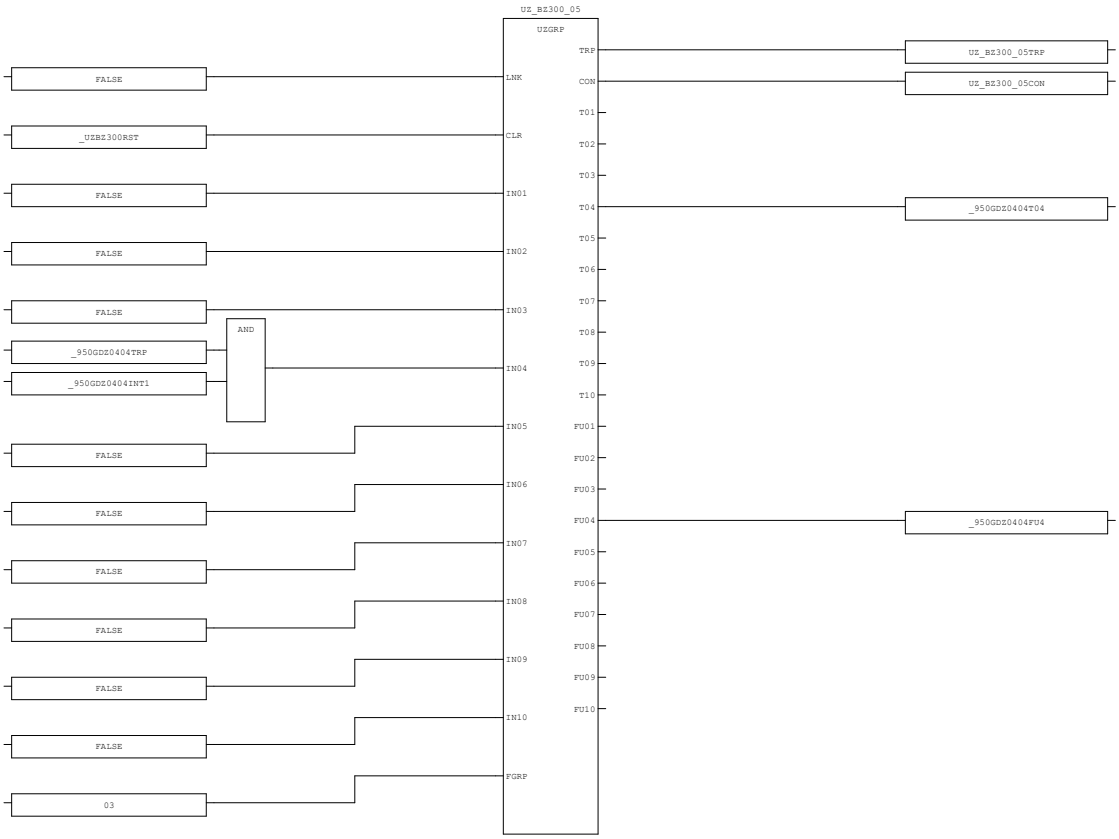
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE115
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

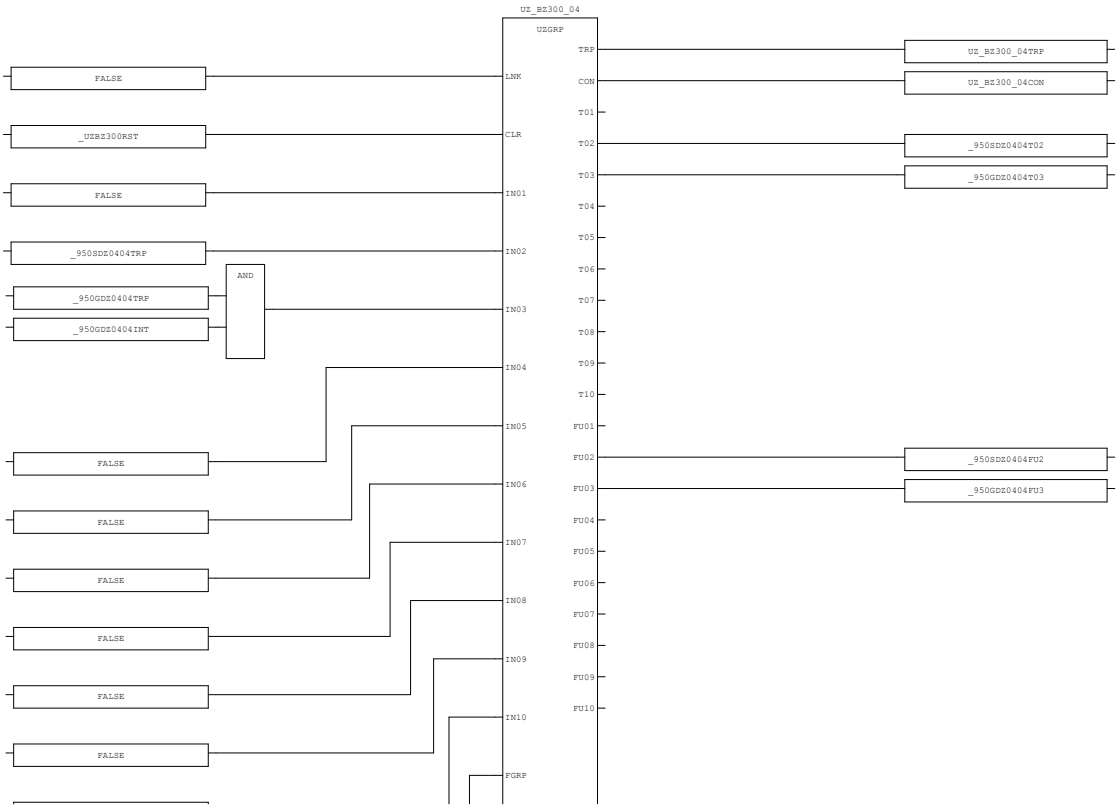
3.35. CE_LOGIC_04 (* C&E Interlock Logic *)



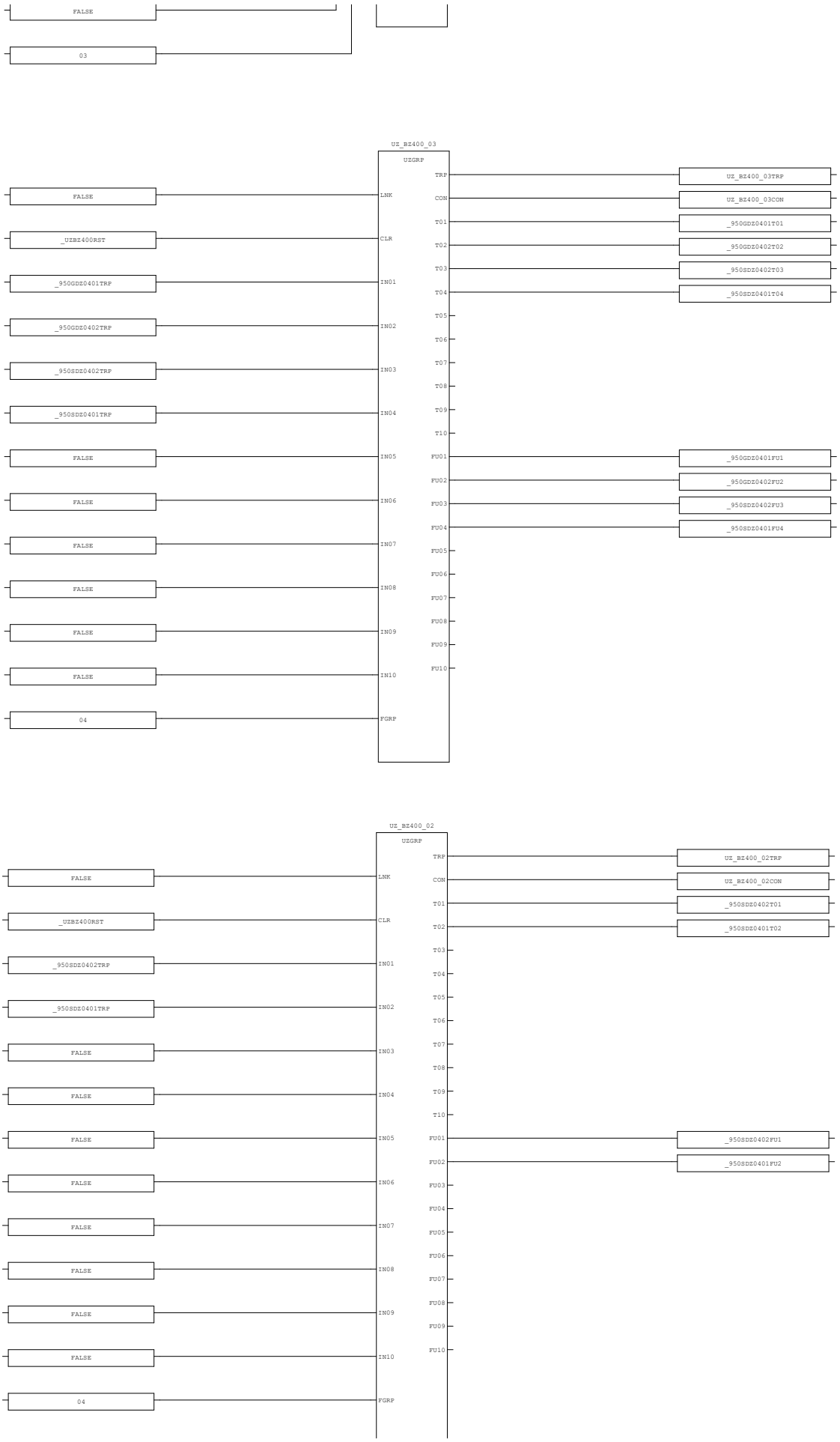


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE116
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

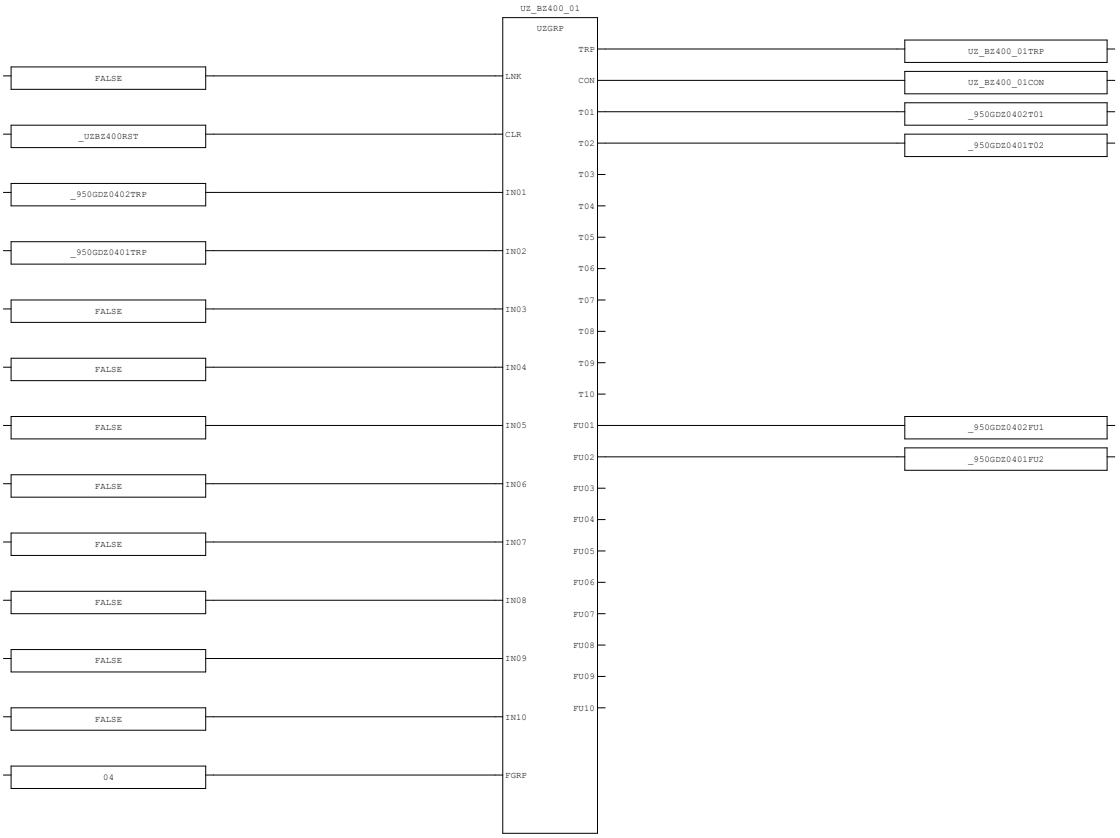




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE117
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

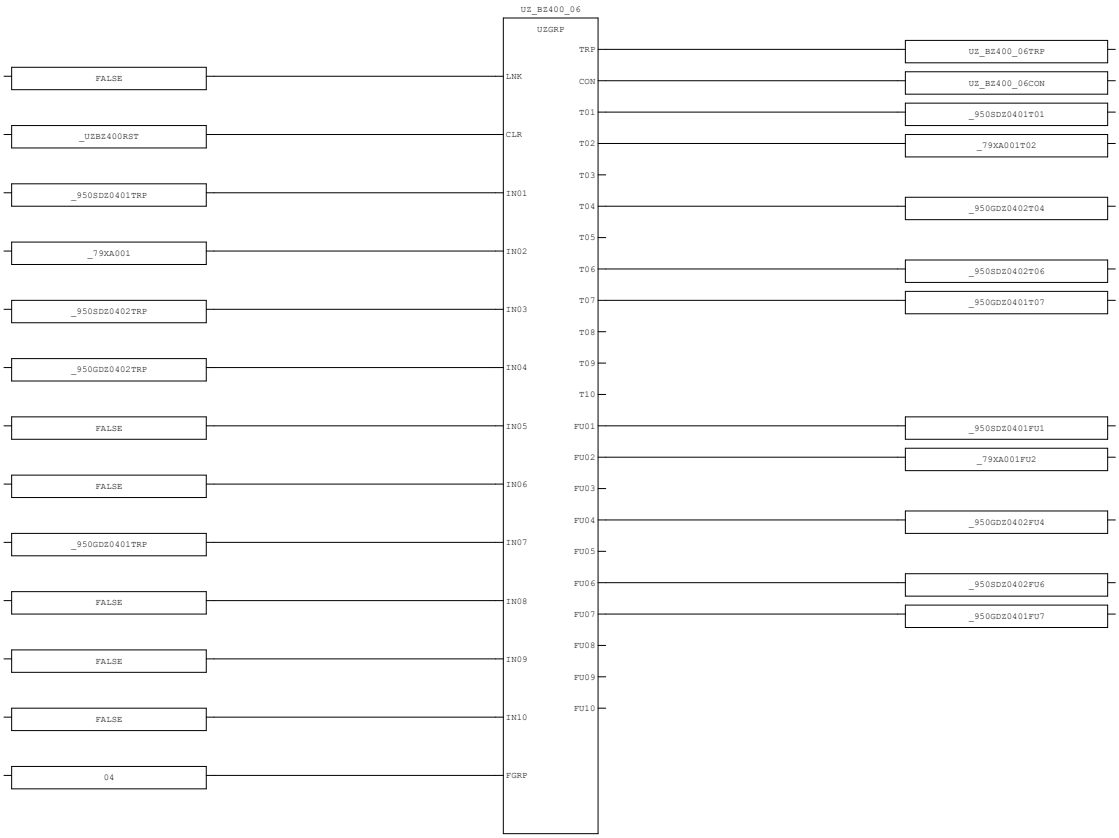


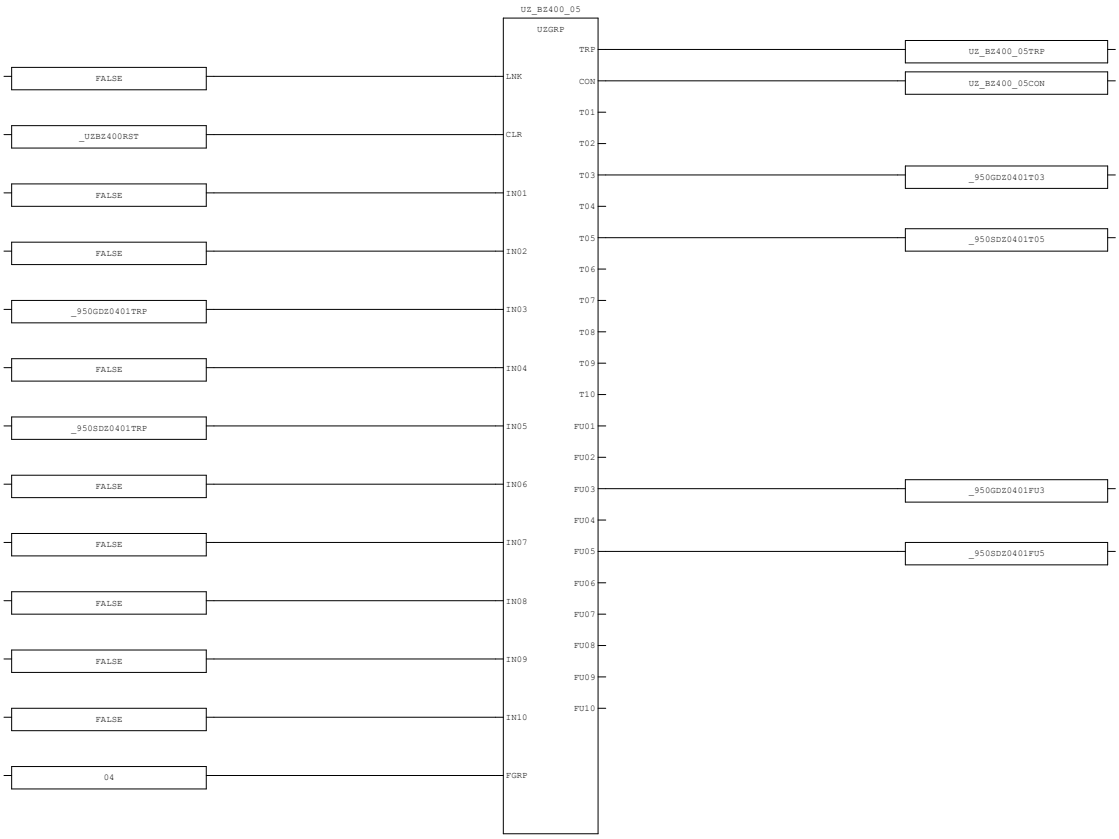
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE118
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



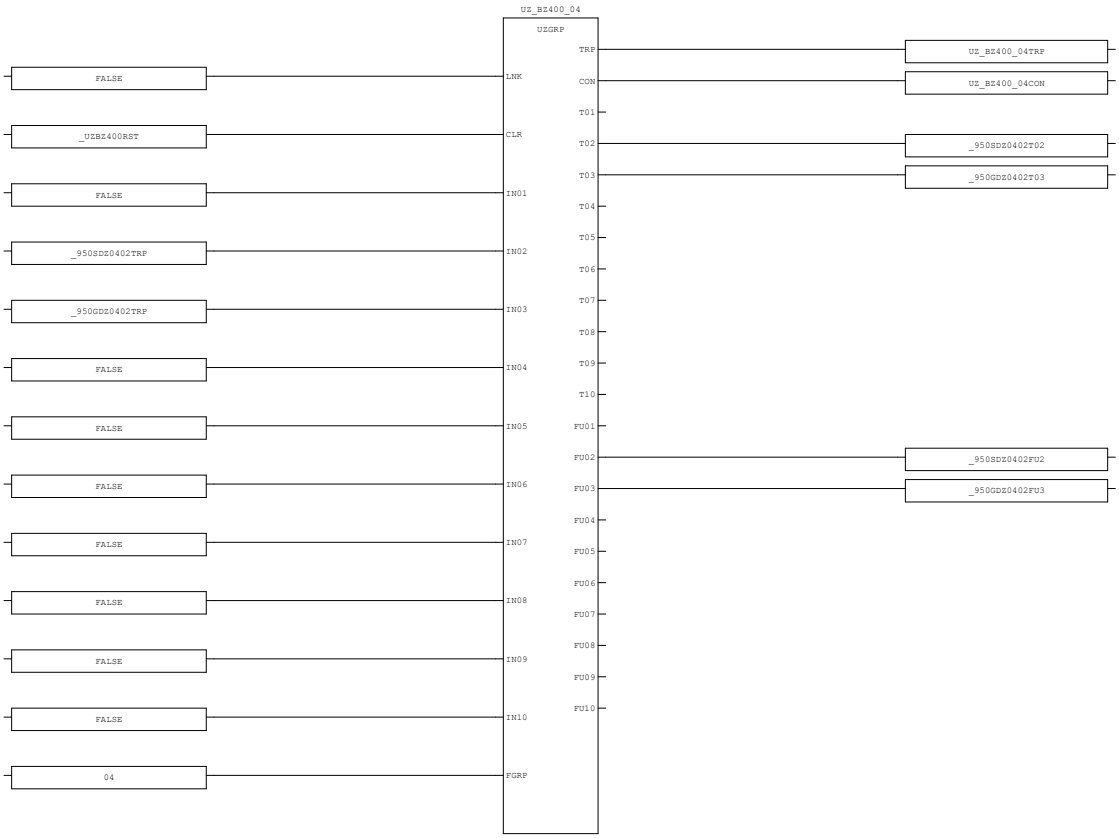
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE119
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

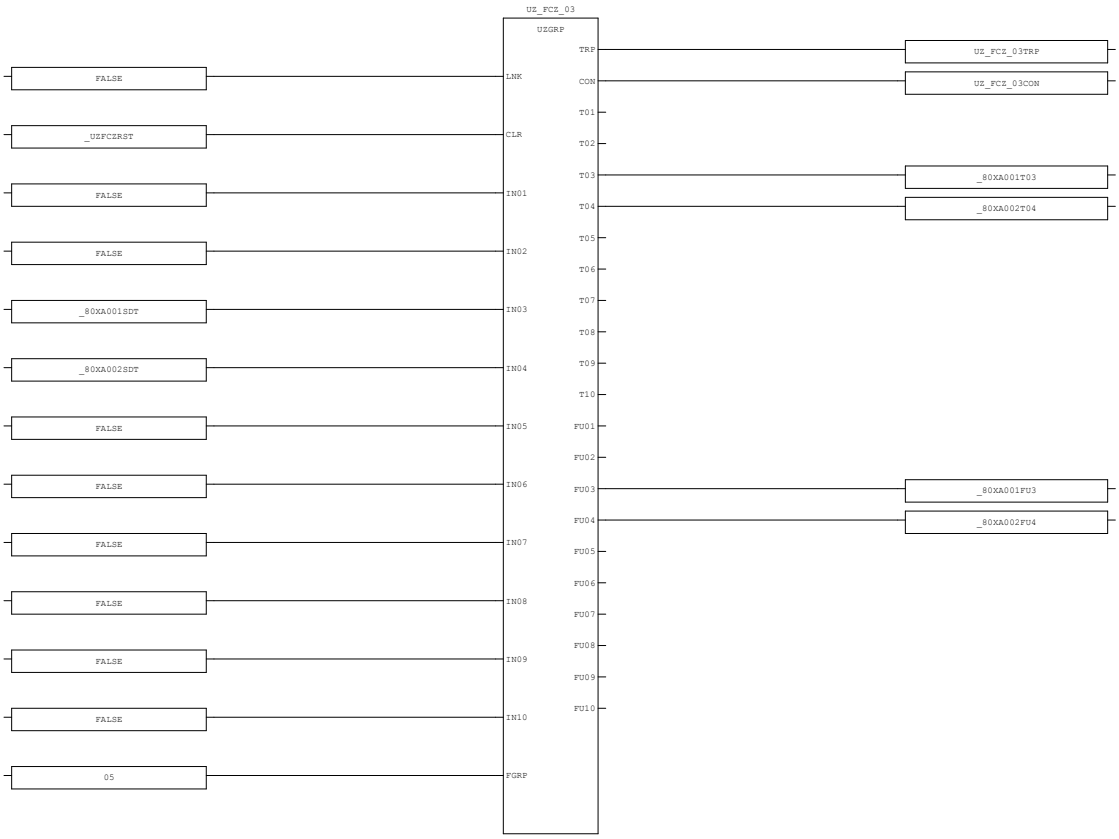
3.36. CE_LOGIC_05 (* C&E Interlock Logic *)



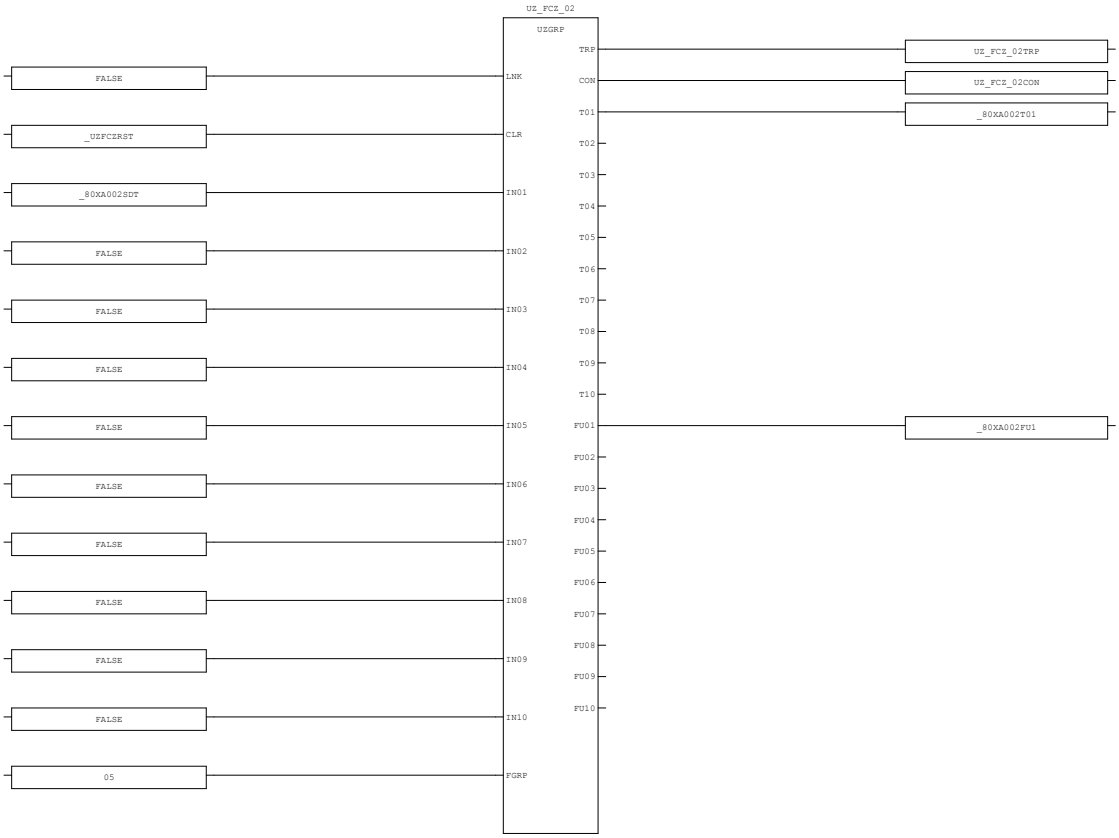


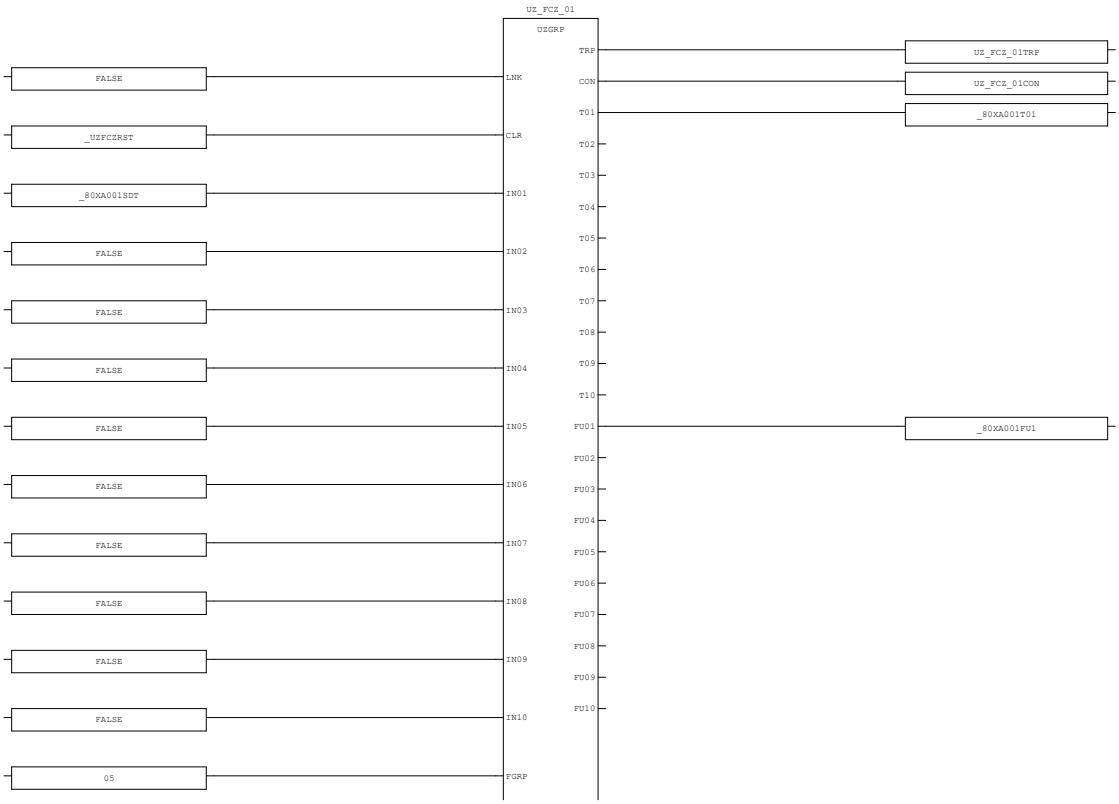
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE120
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		





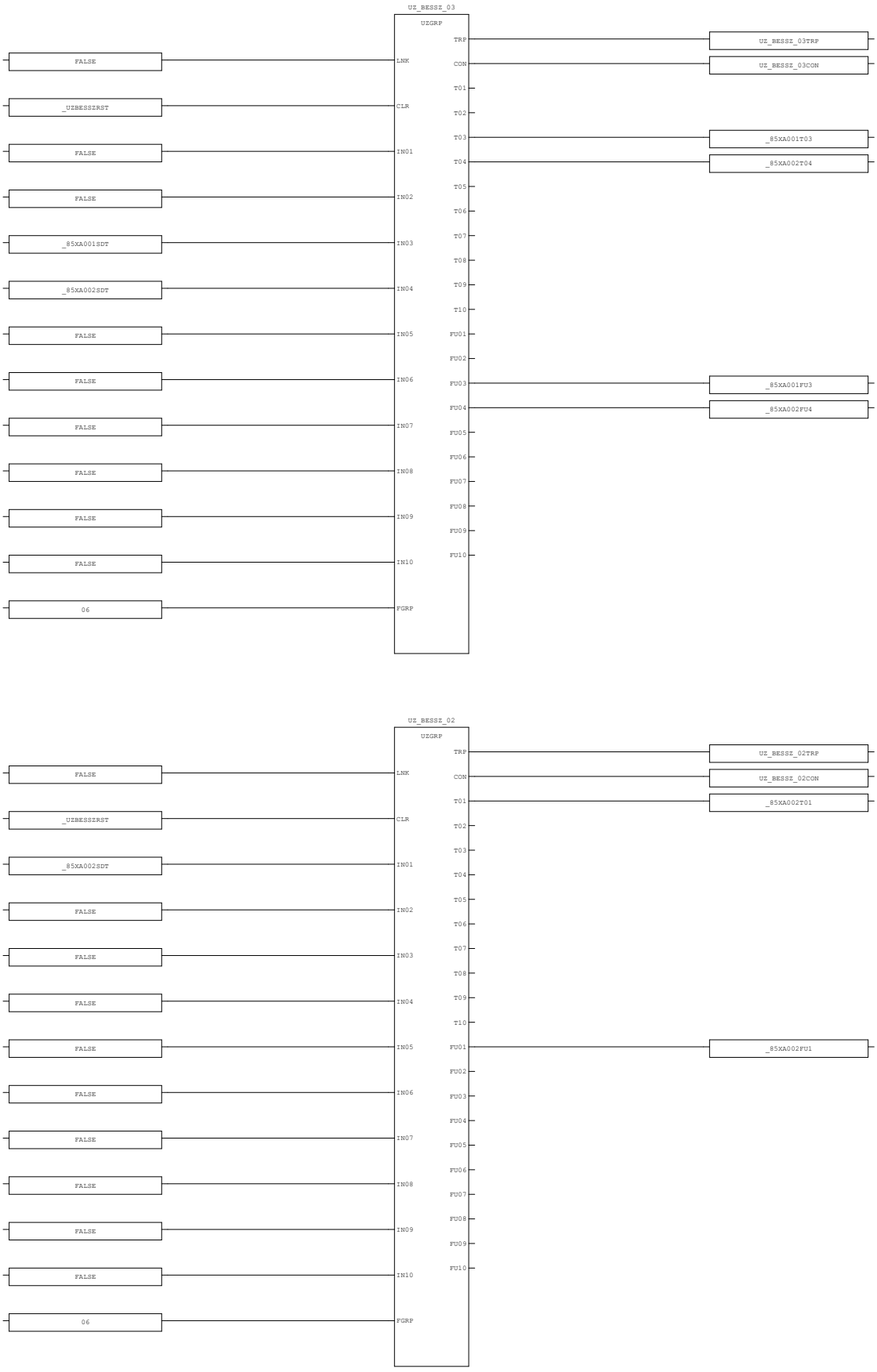
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE121
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



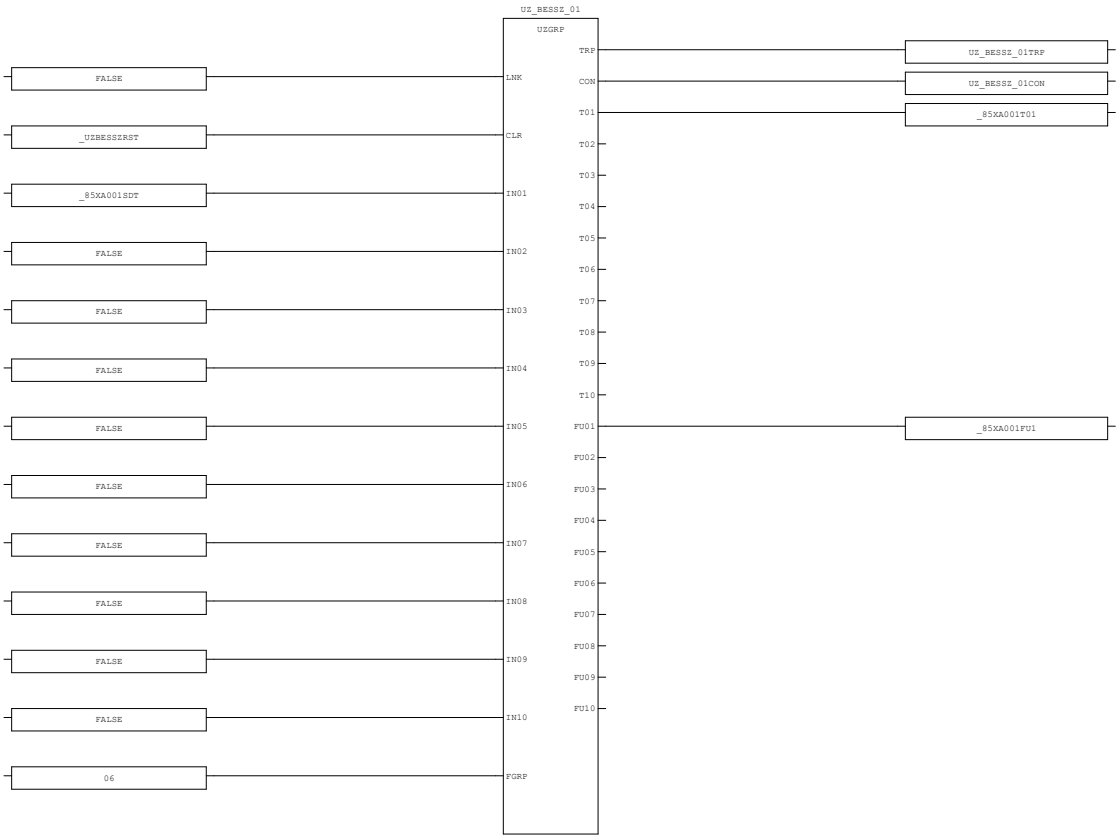


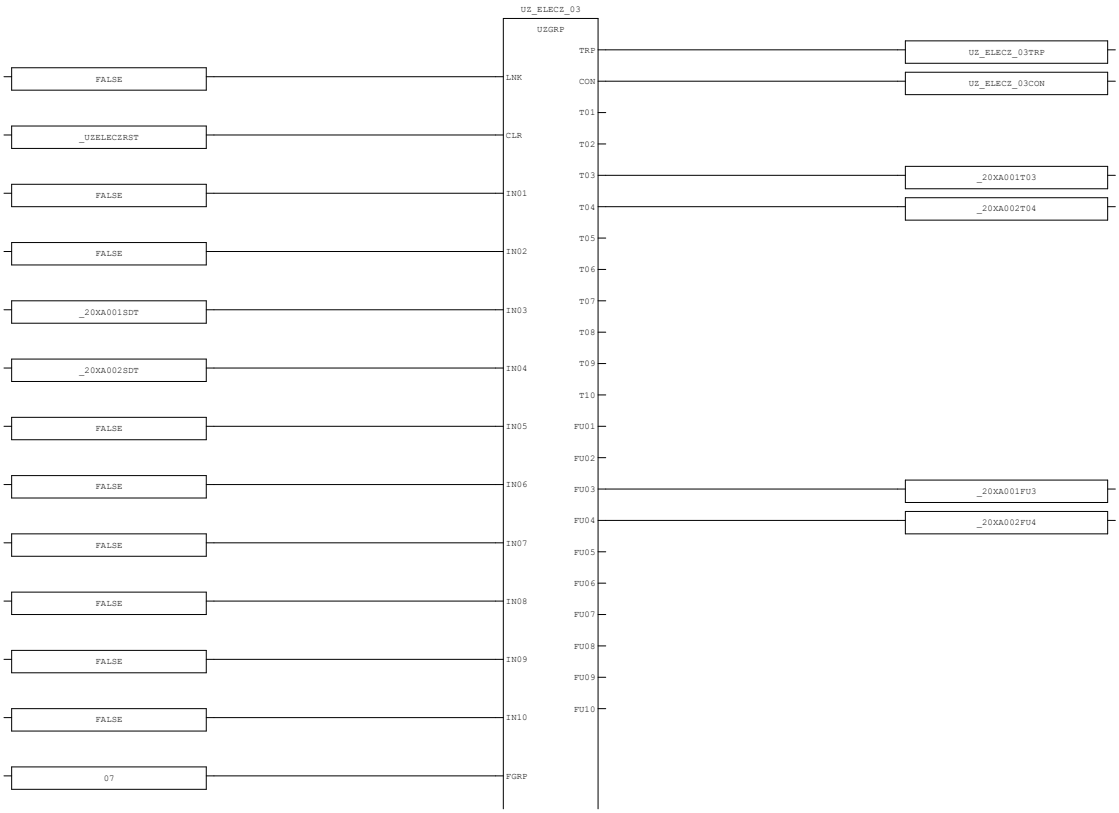
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE122
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.37. CE_LOGIC_06 (* C&E Interlock Logic *)

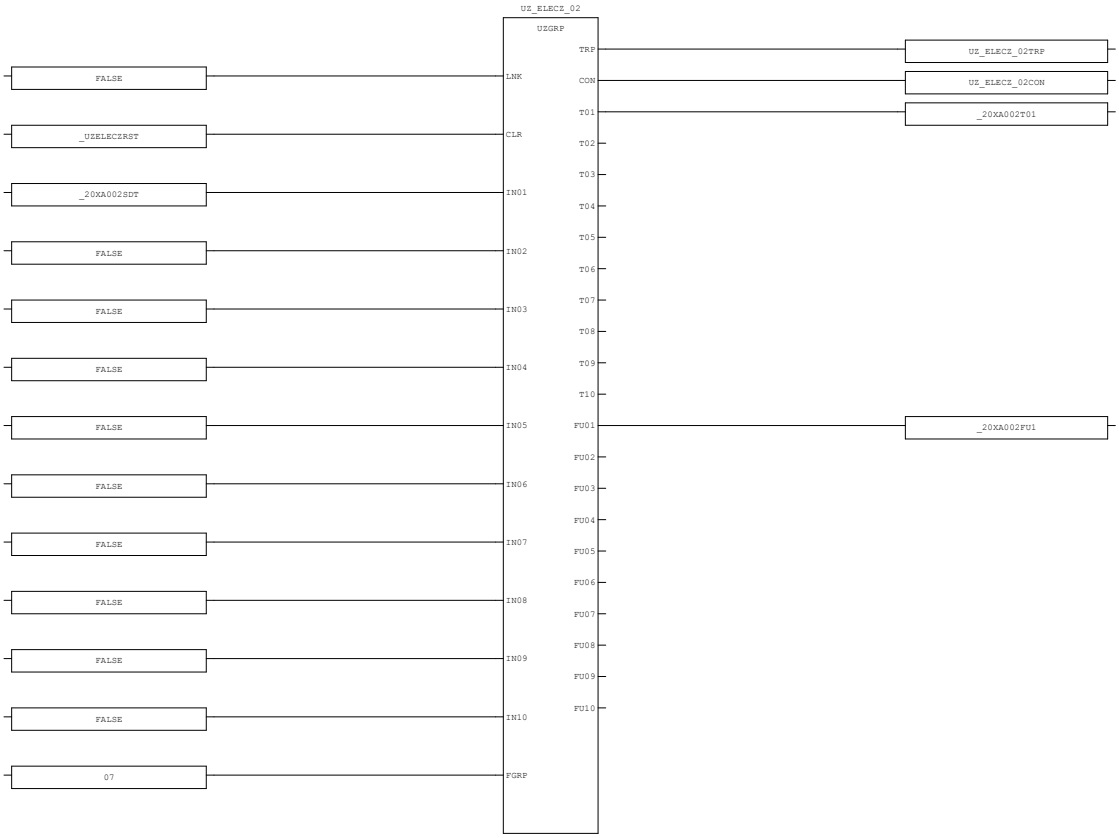


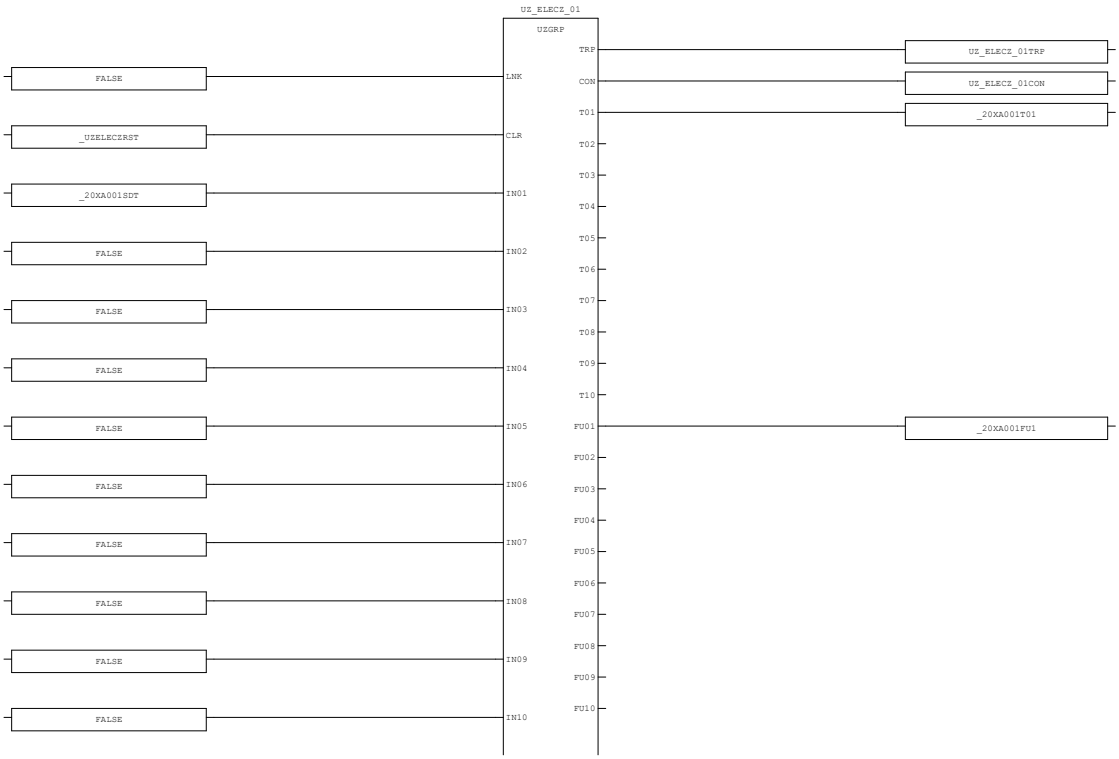
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE124
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		





AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE125
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



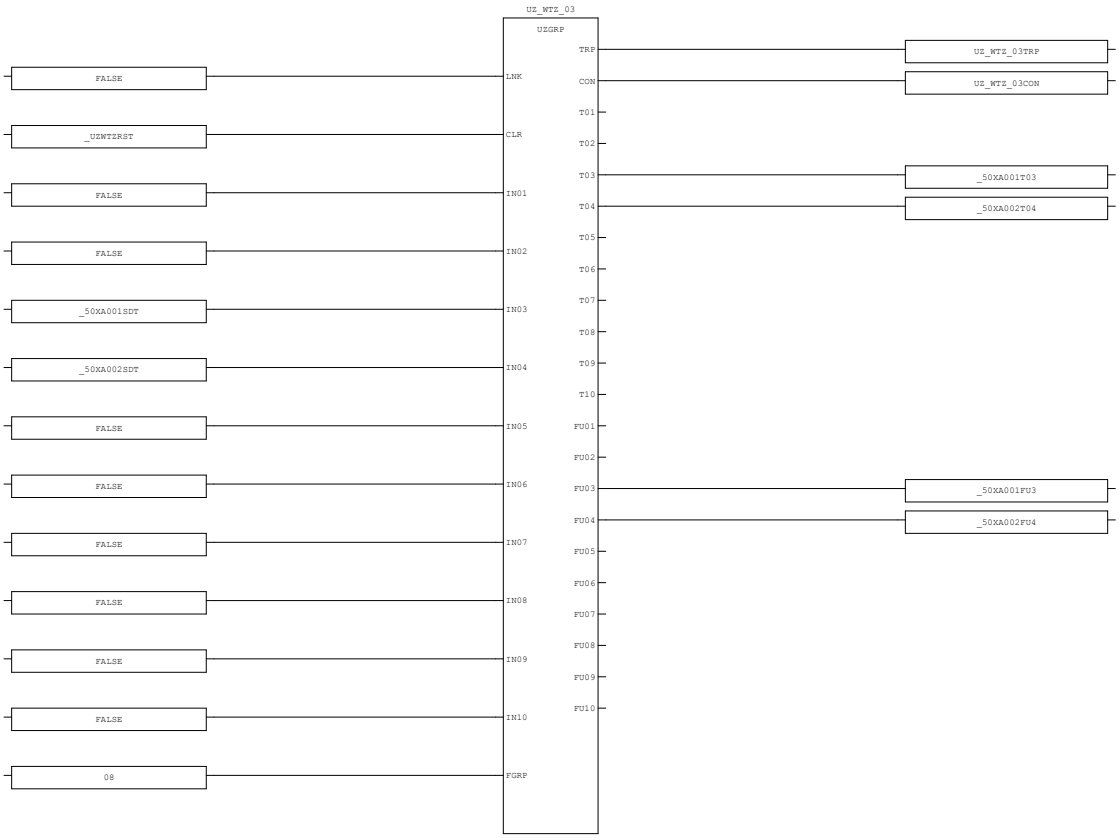


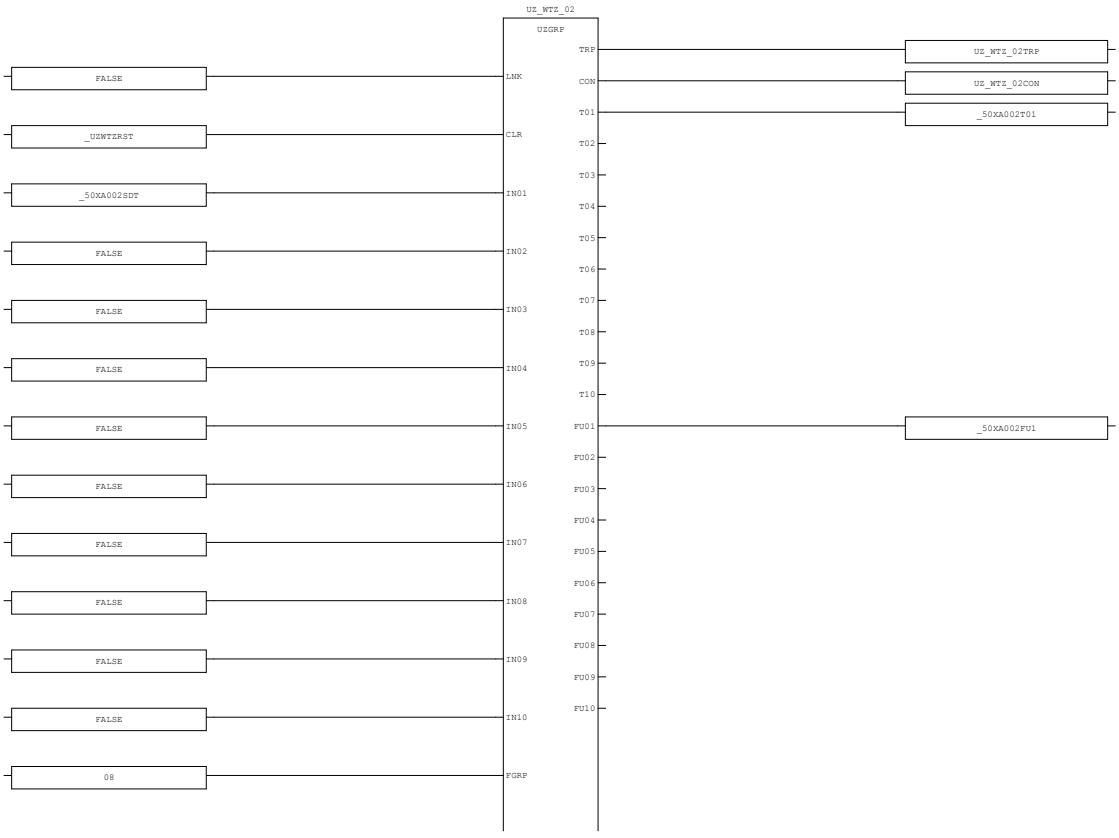
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE126
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



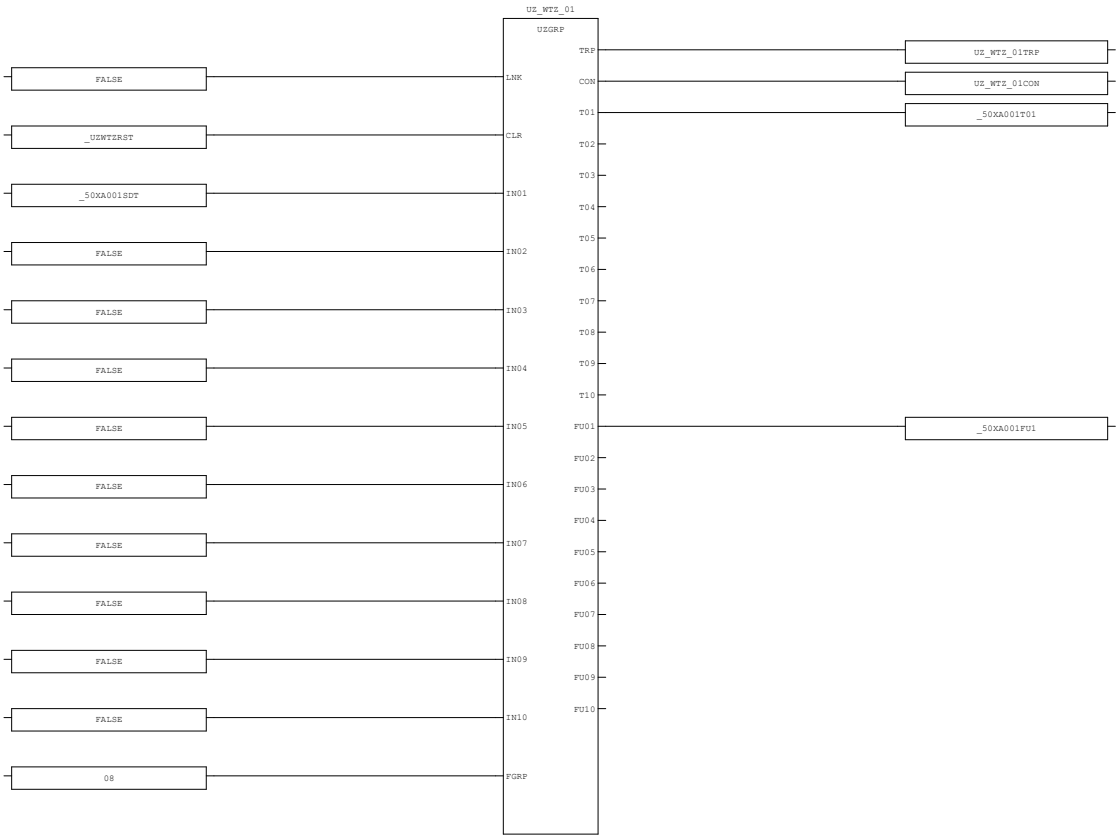
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE127
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

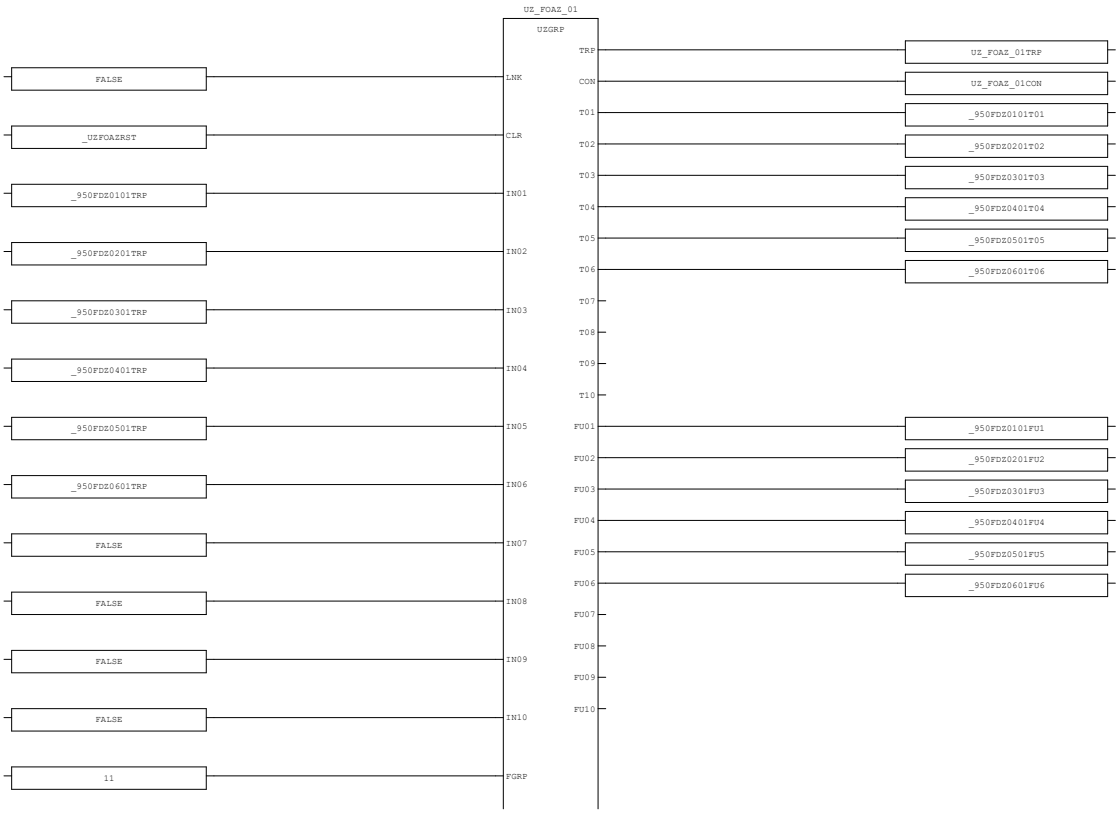
3.38. CE_LOGIC_07 (* C&E Interlock Logic *)





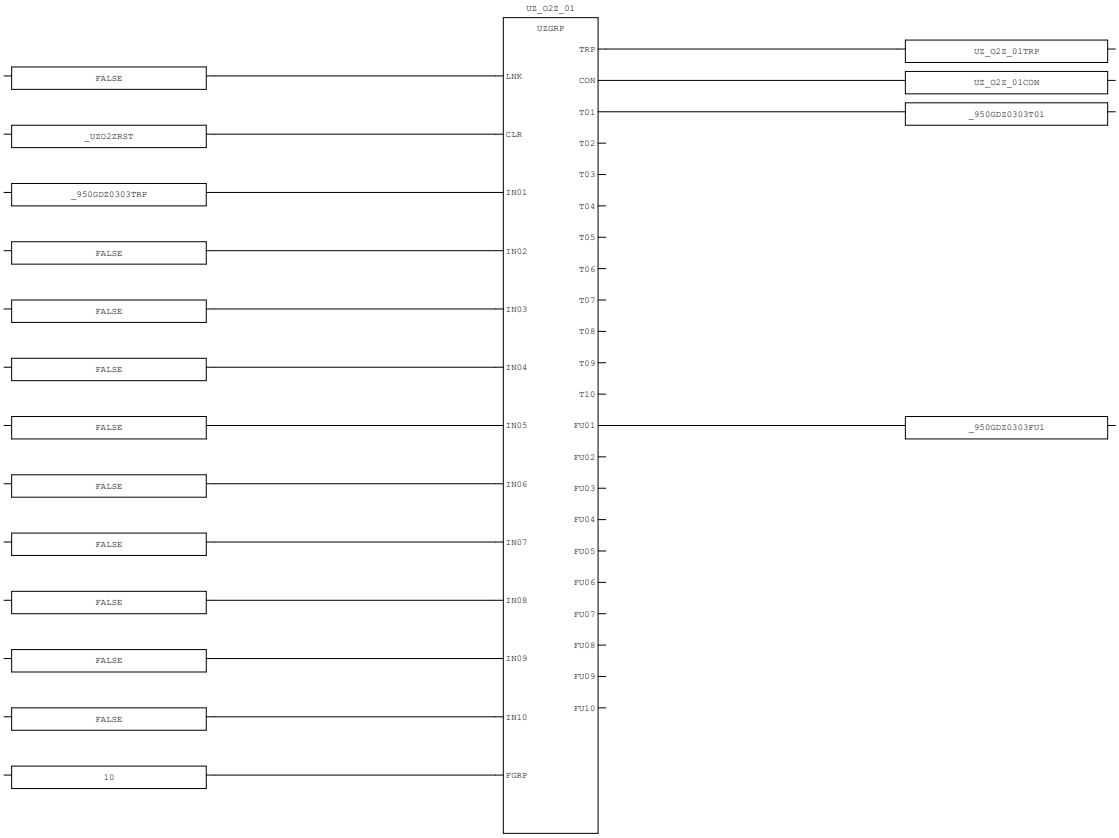
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE128
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

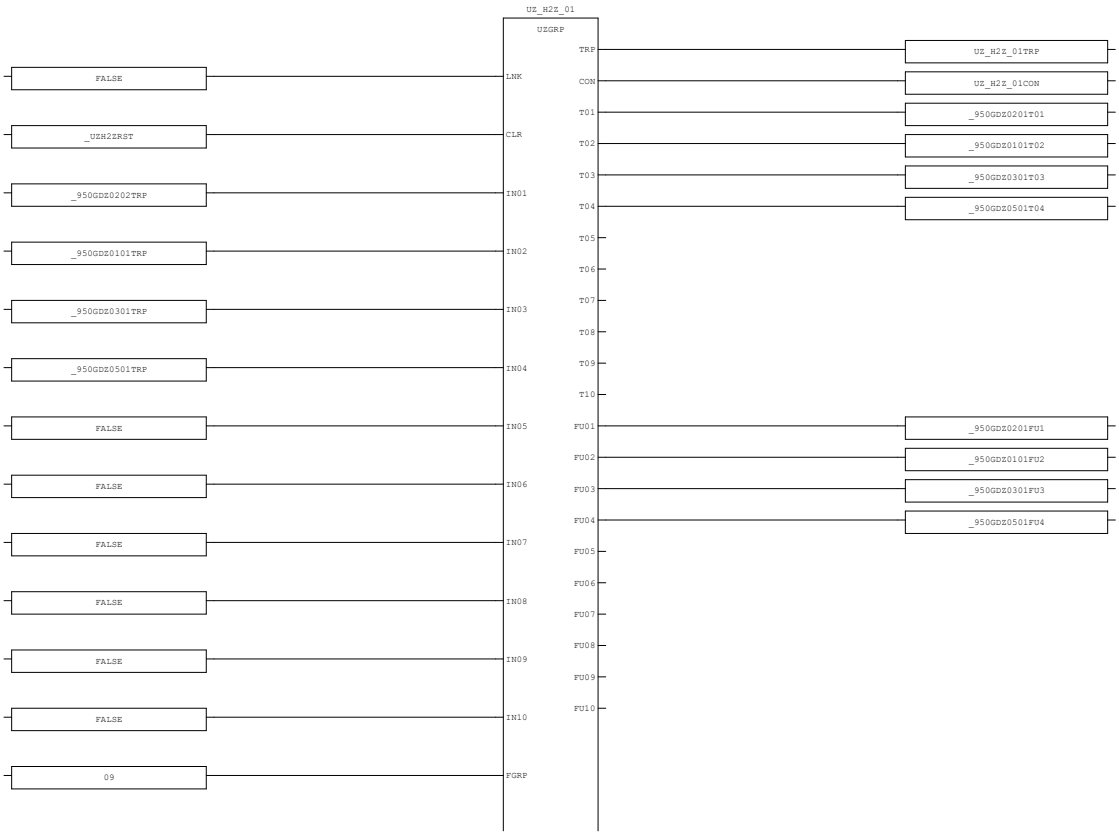




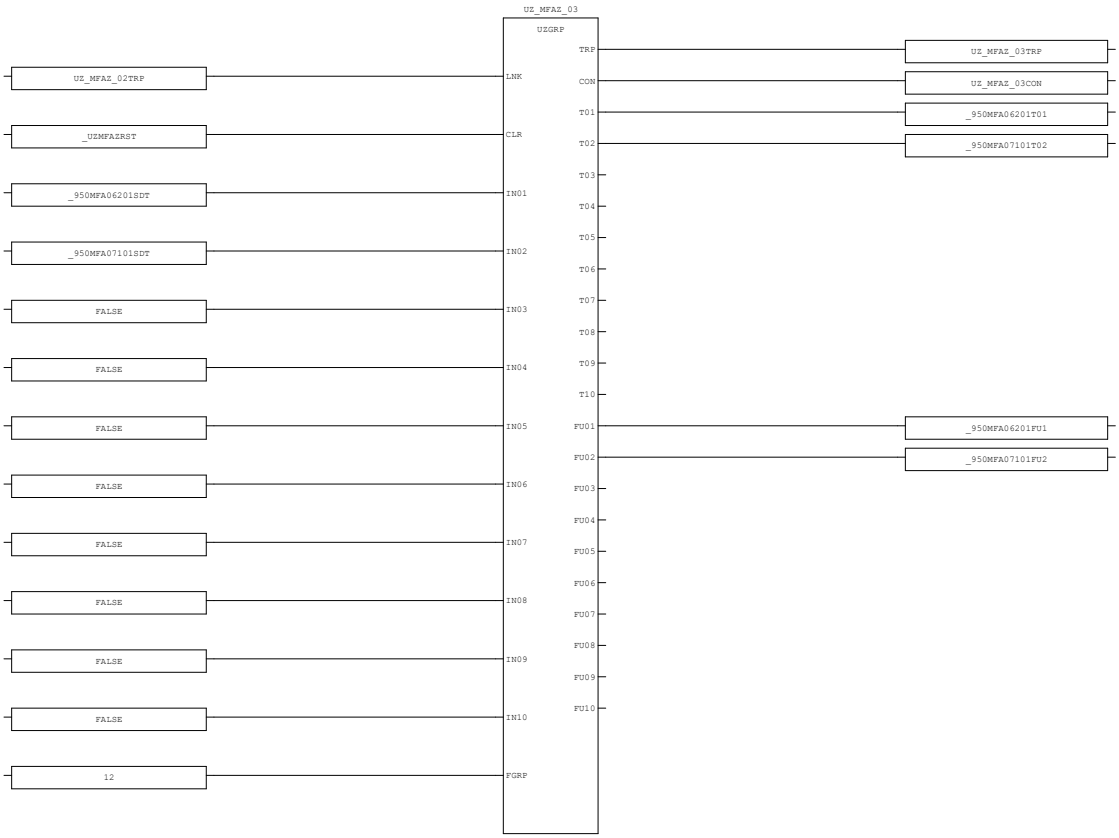
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE129
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

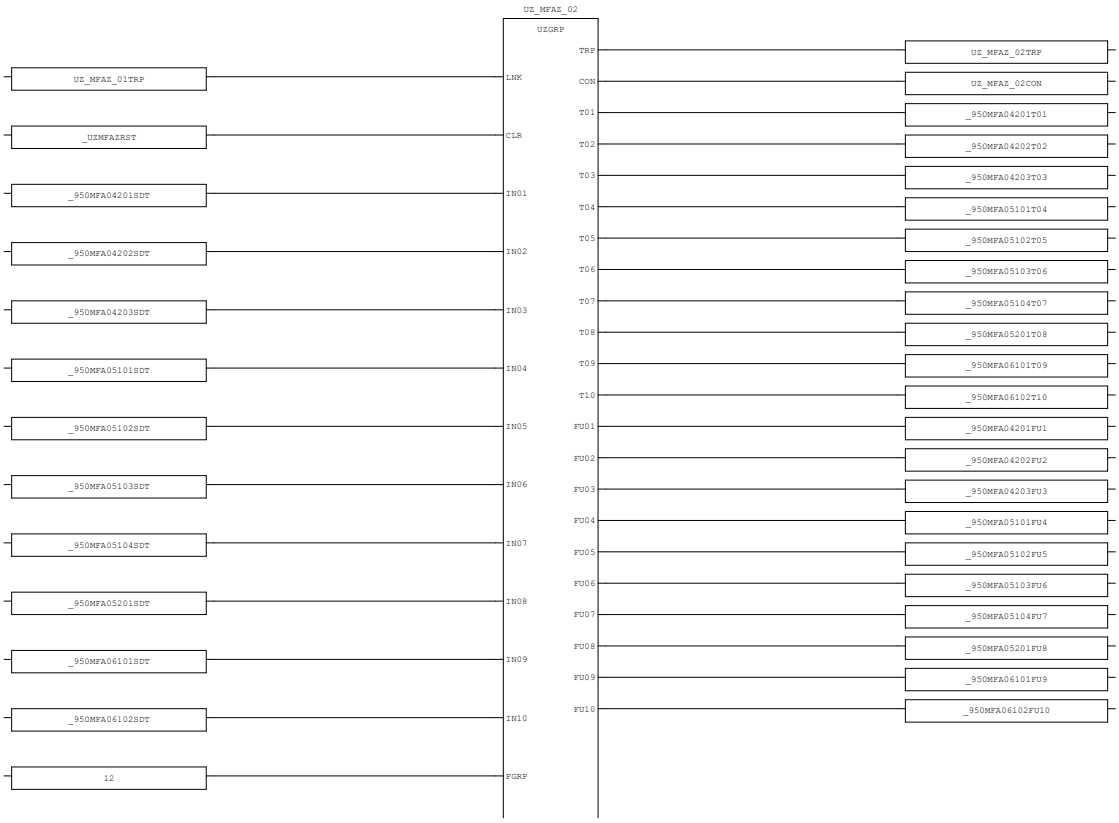
3.39. CE_LOGIC_08 (* C&E Interlock Logic *)



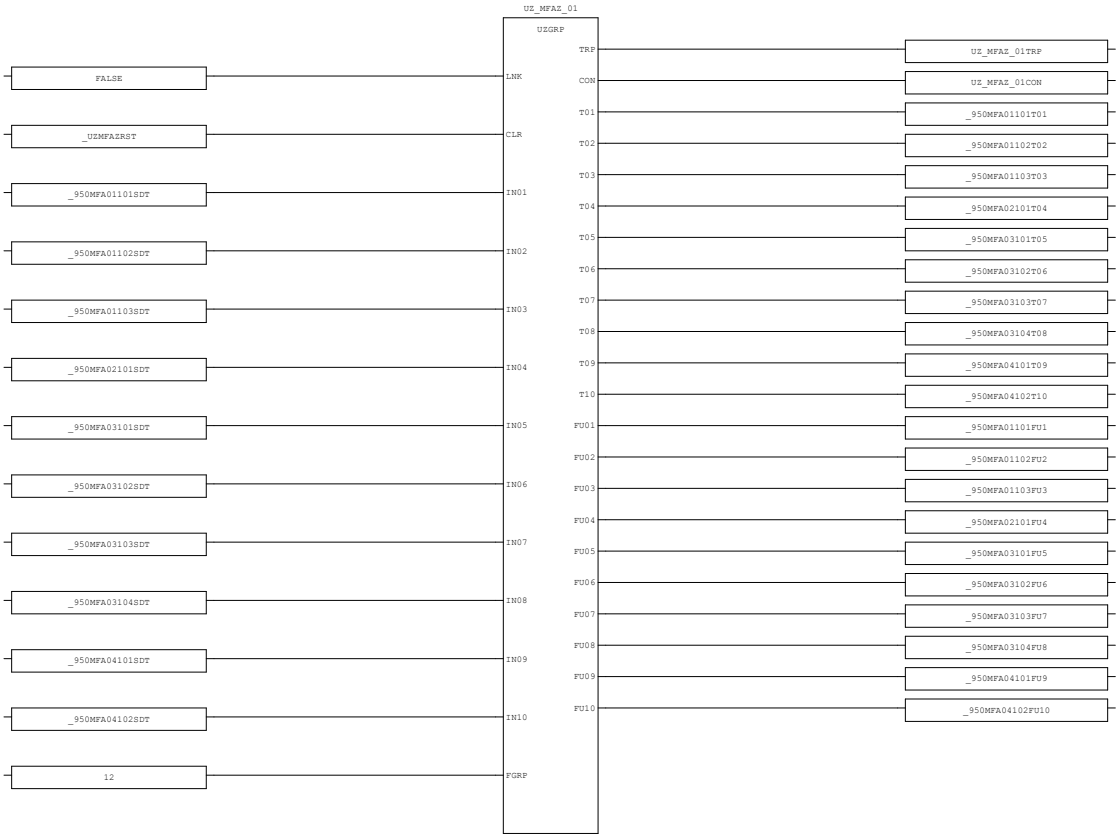


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE131
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



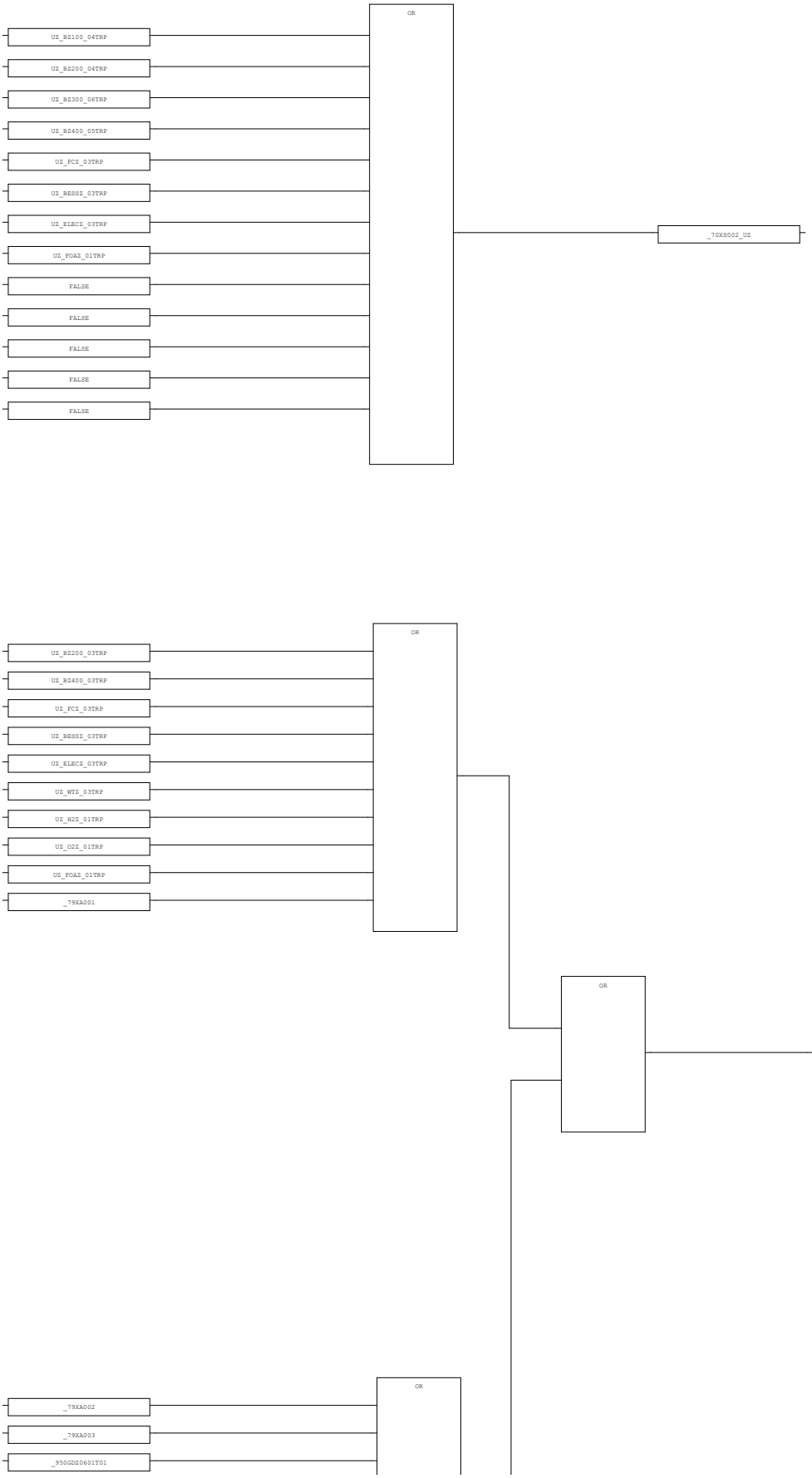


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE132
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

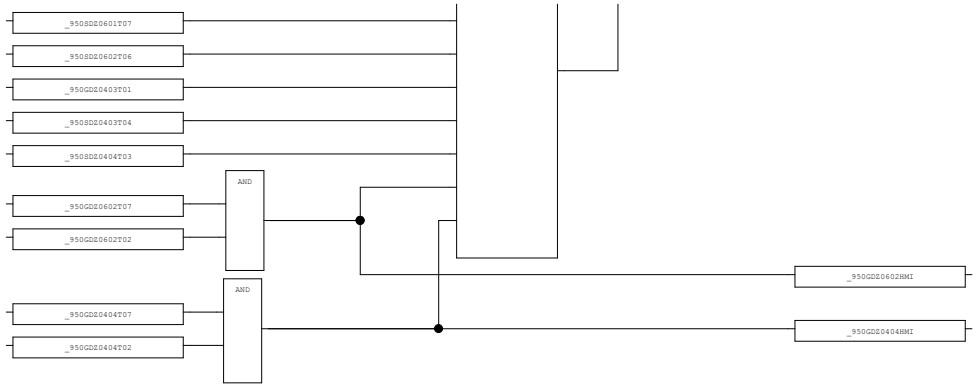


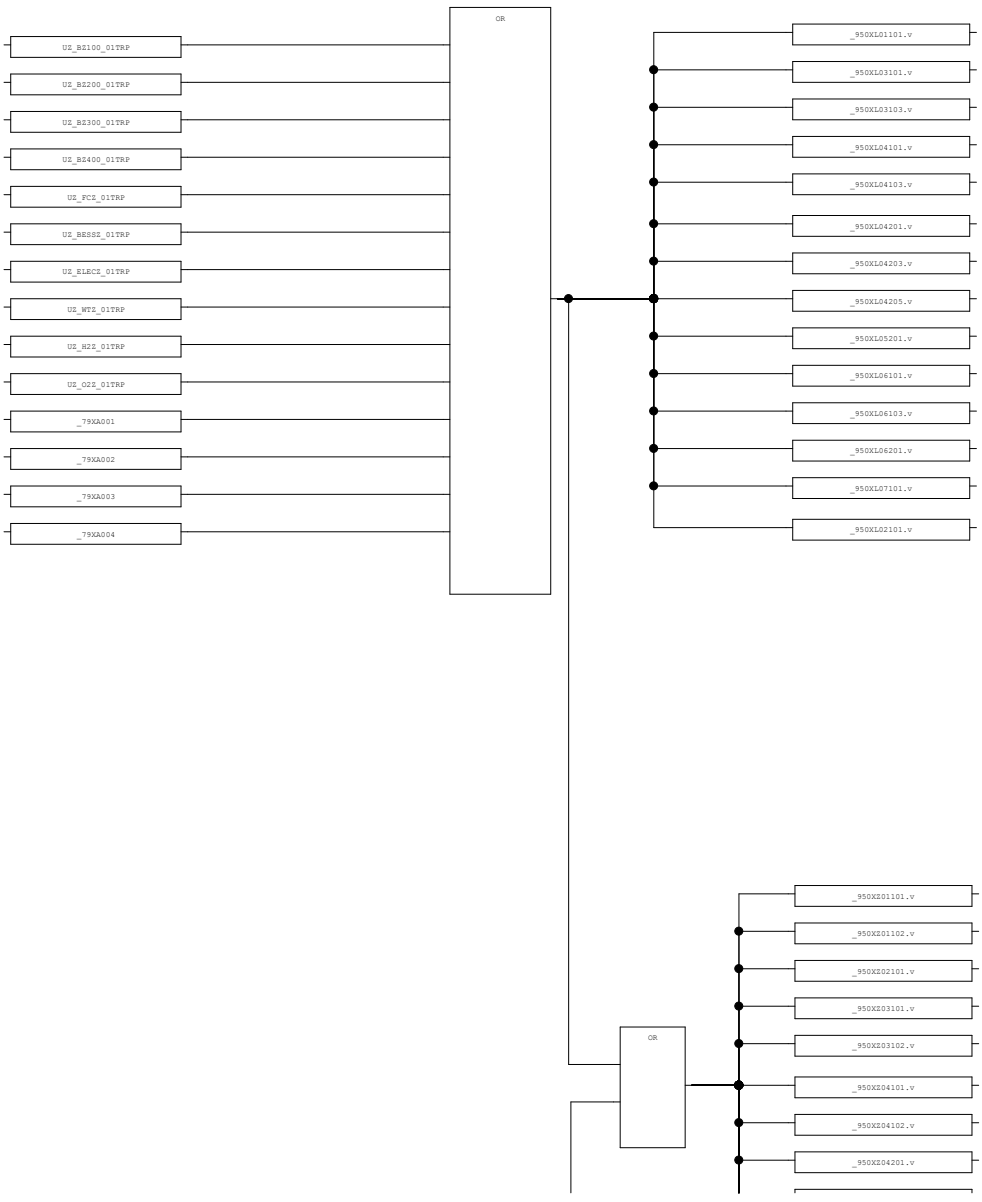
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE133
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.40. DO1 (* Digital Output Processing *)

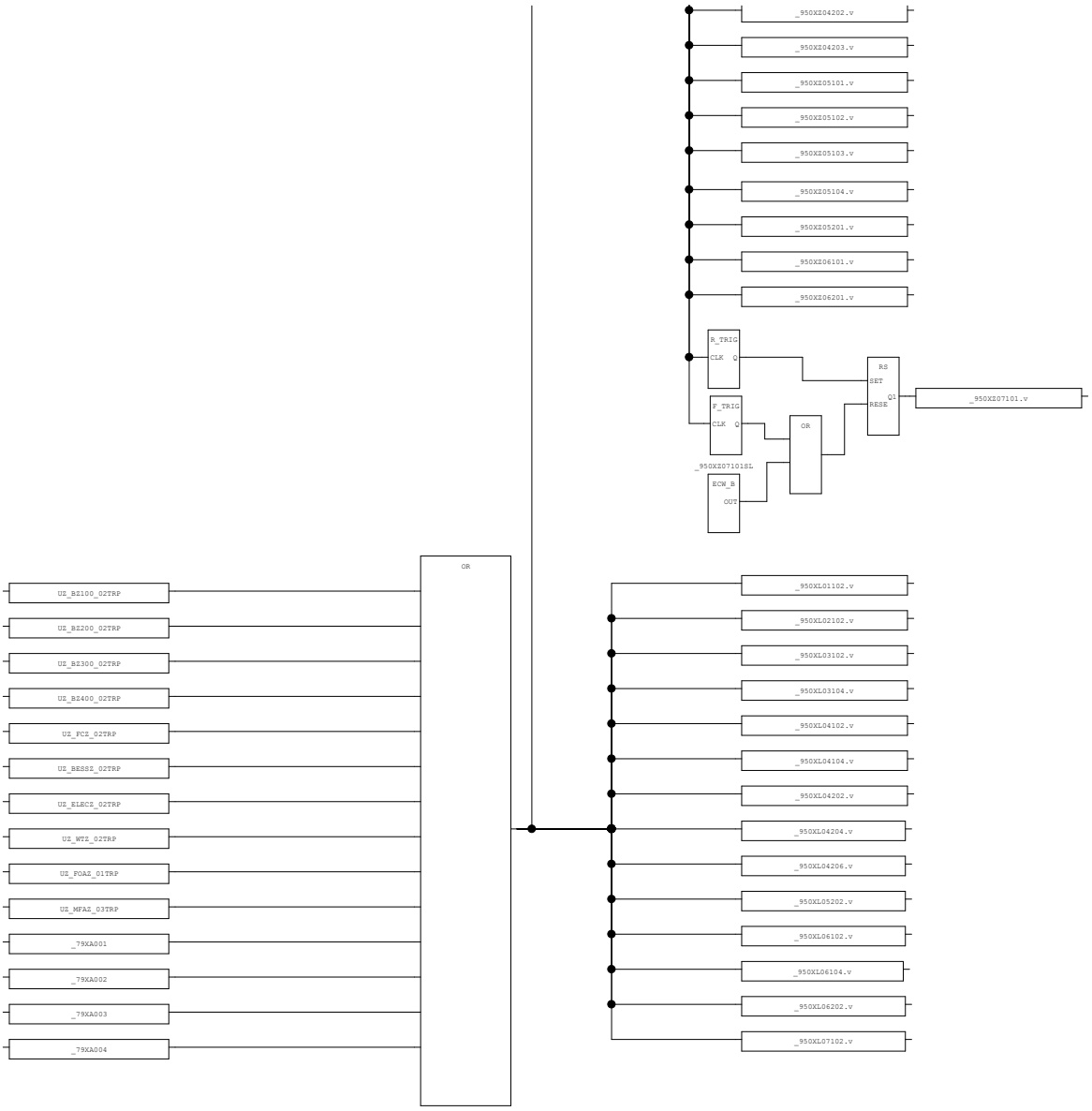


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE134
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



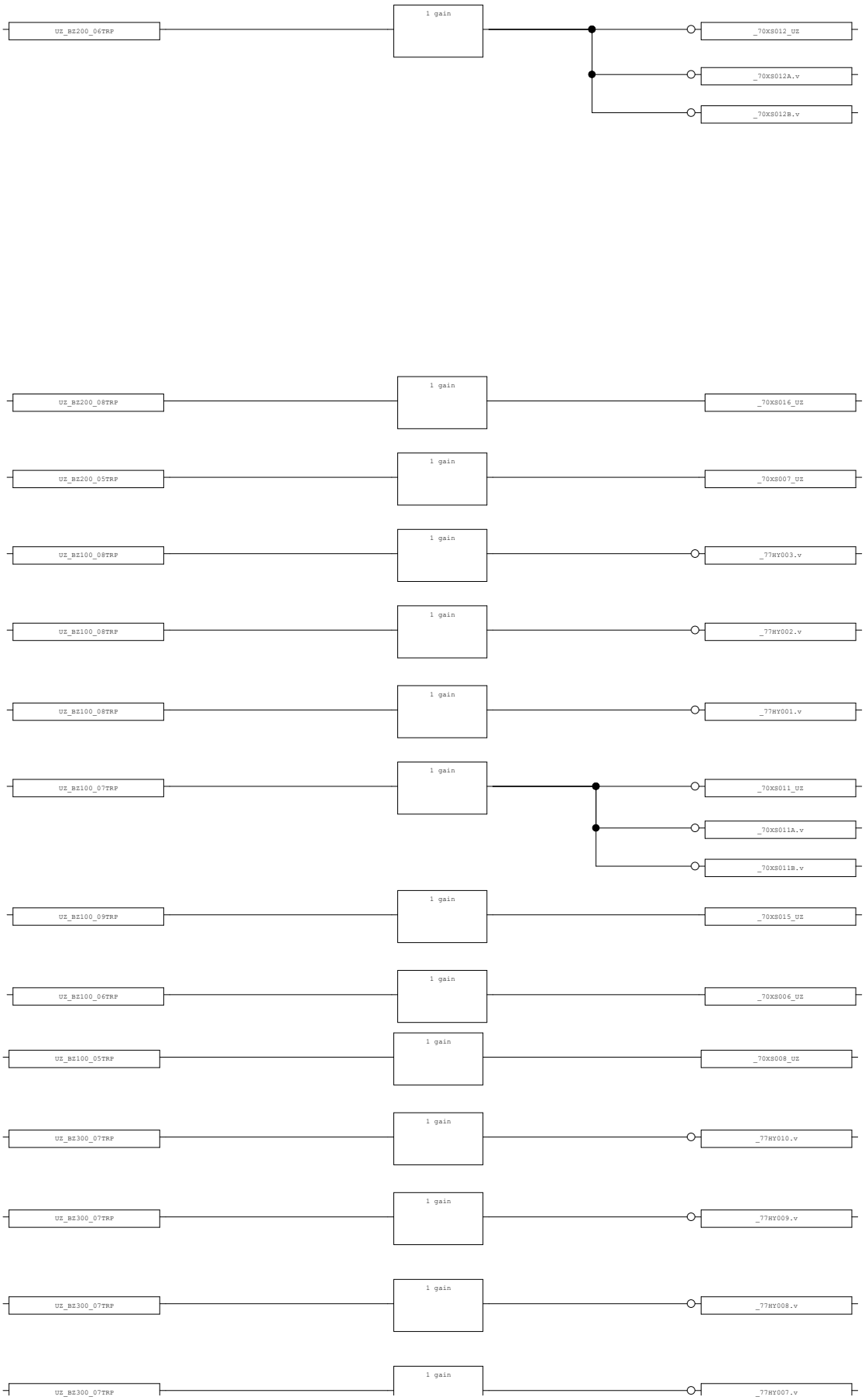


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE135
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

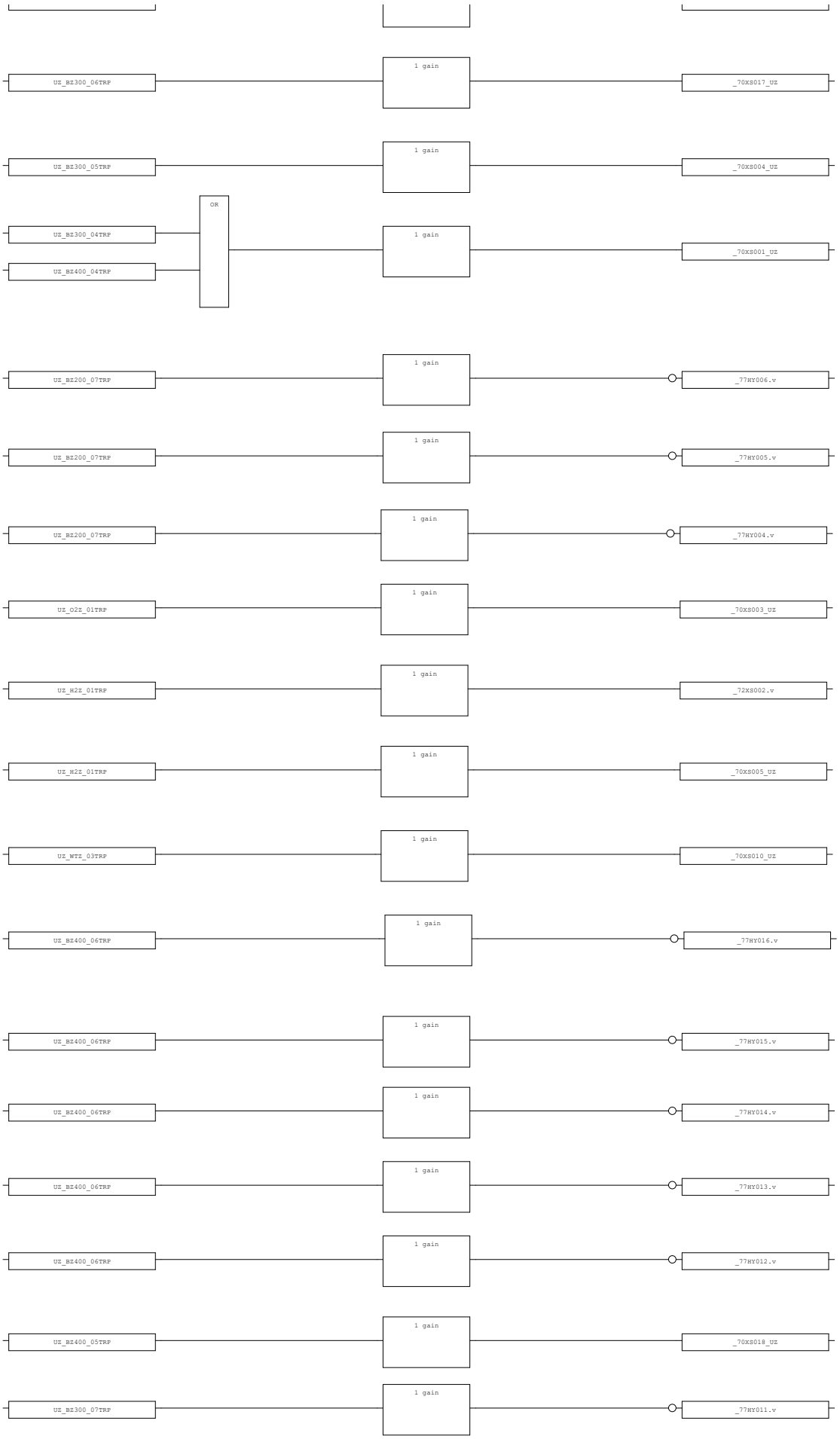


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE136
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

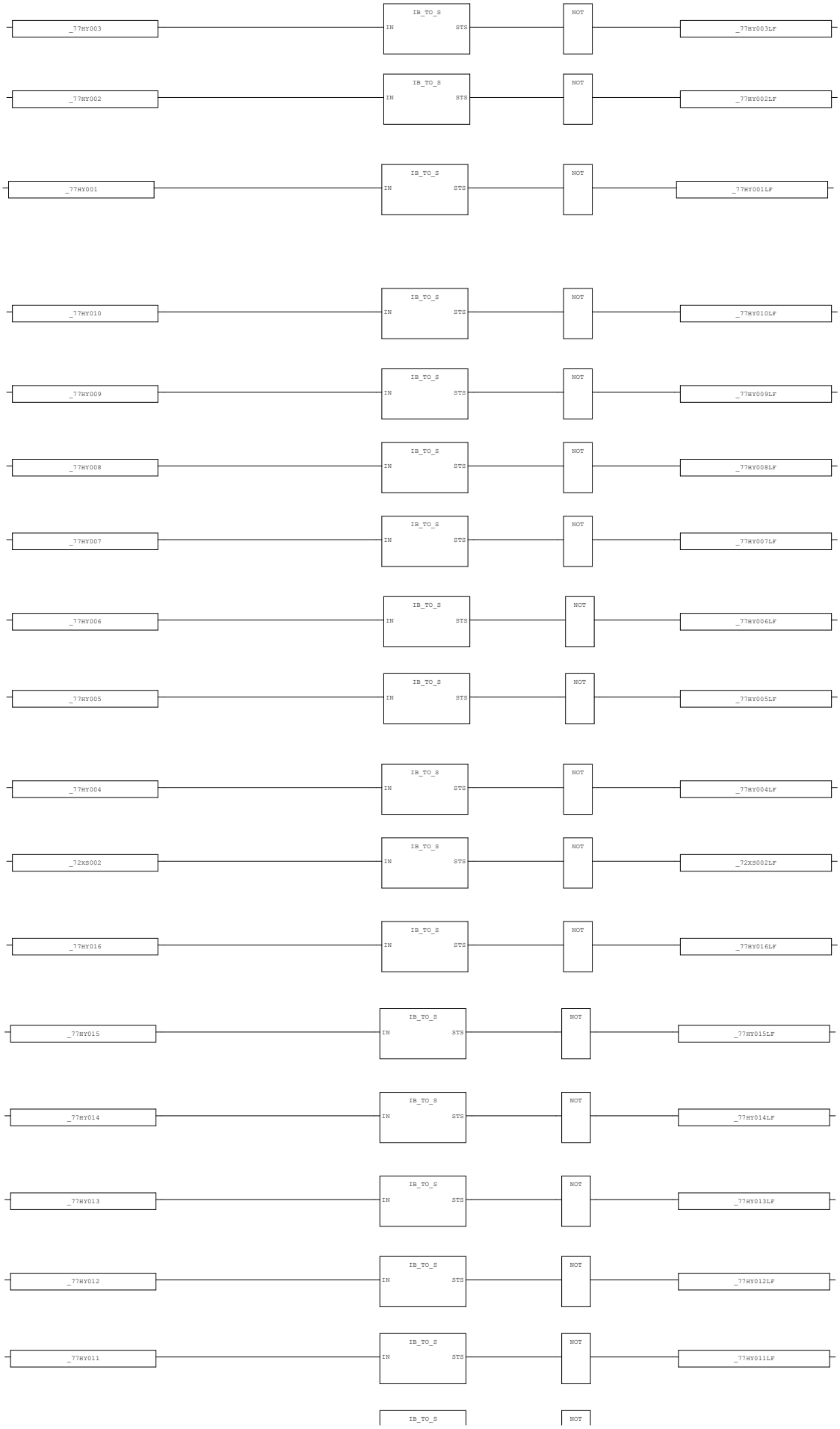
3.41. DO2 (* Digital Output Processing *)



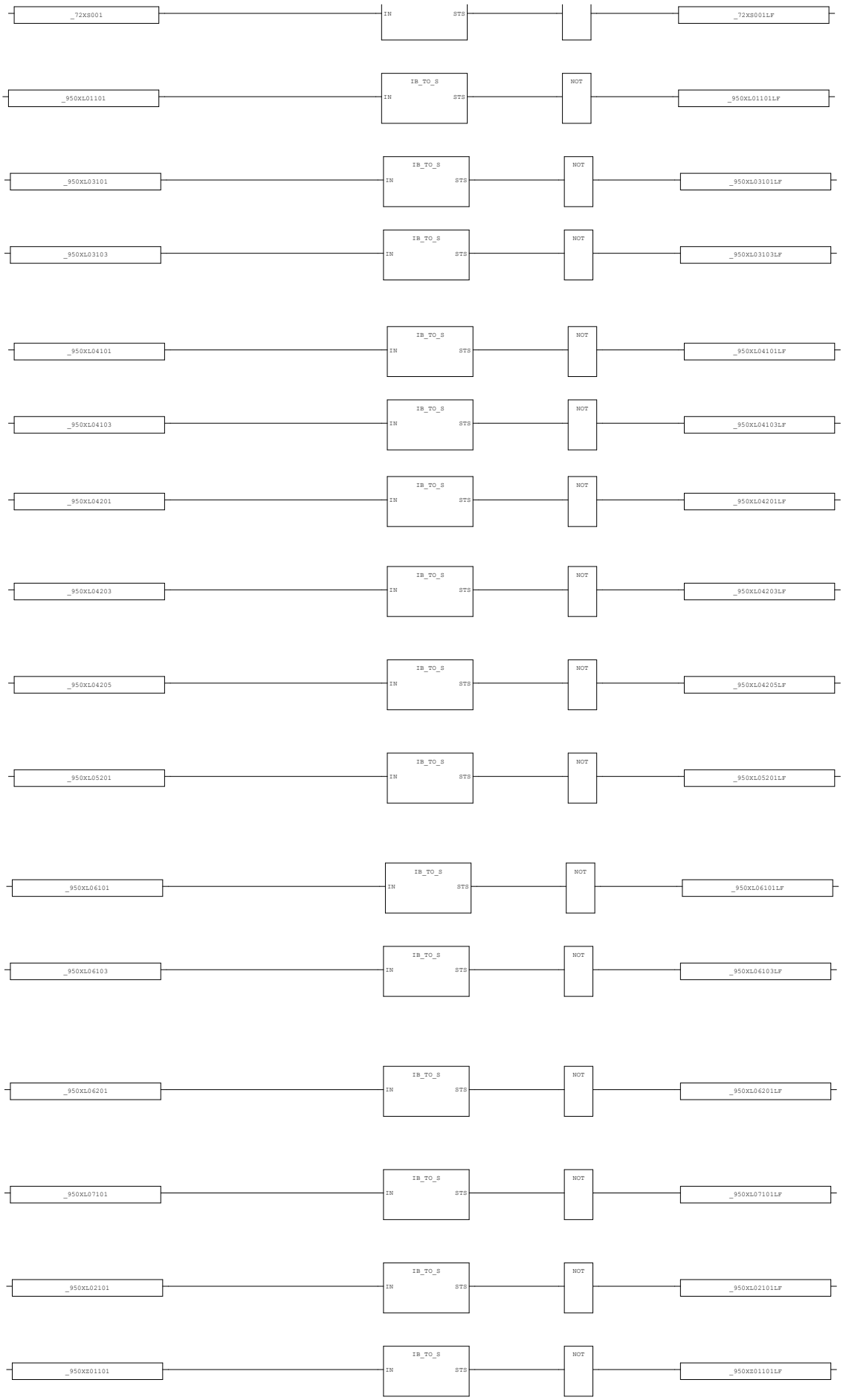
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE137
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



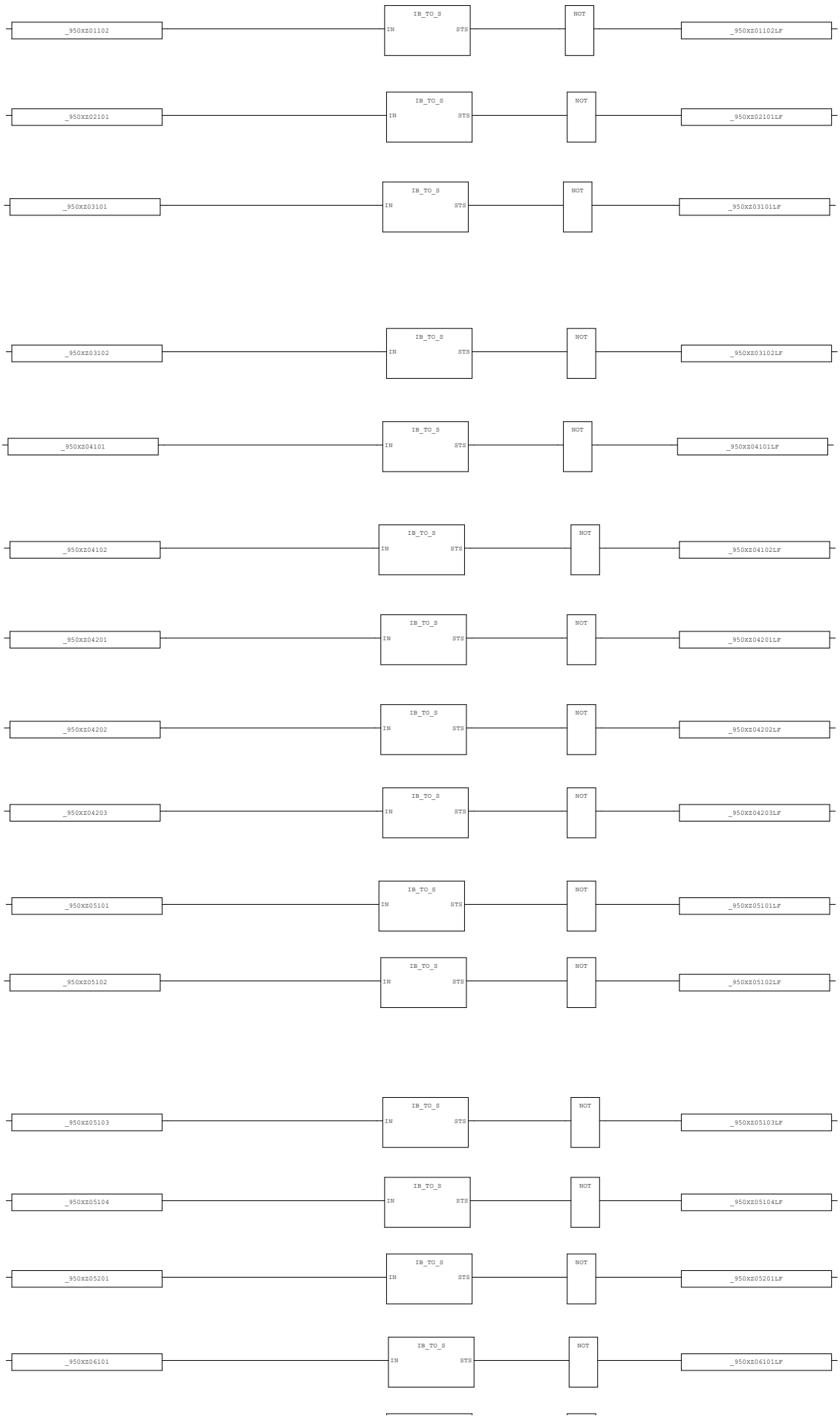
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE138
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		



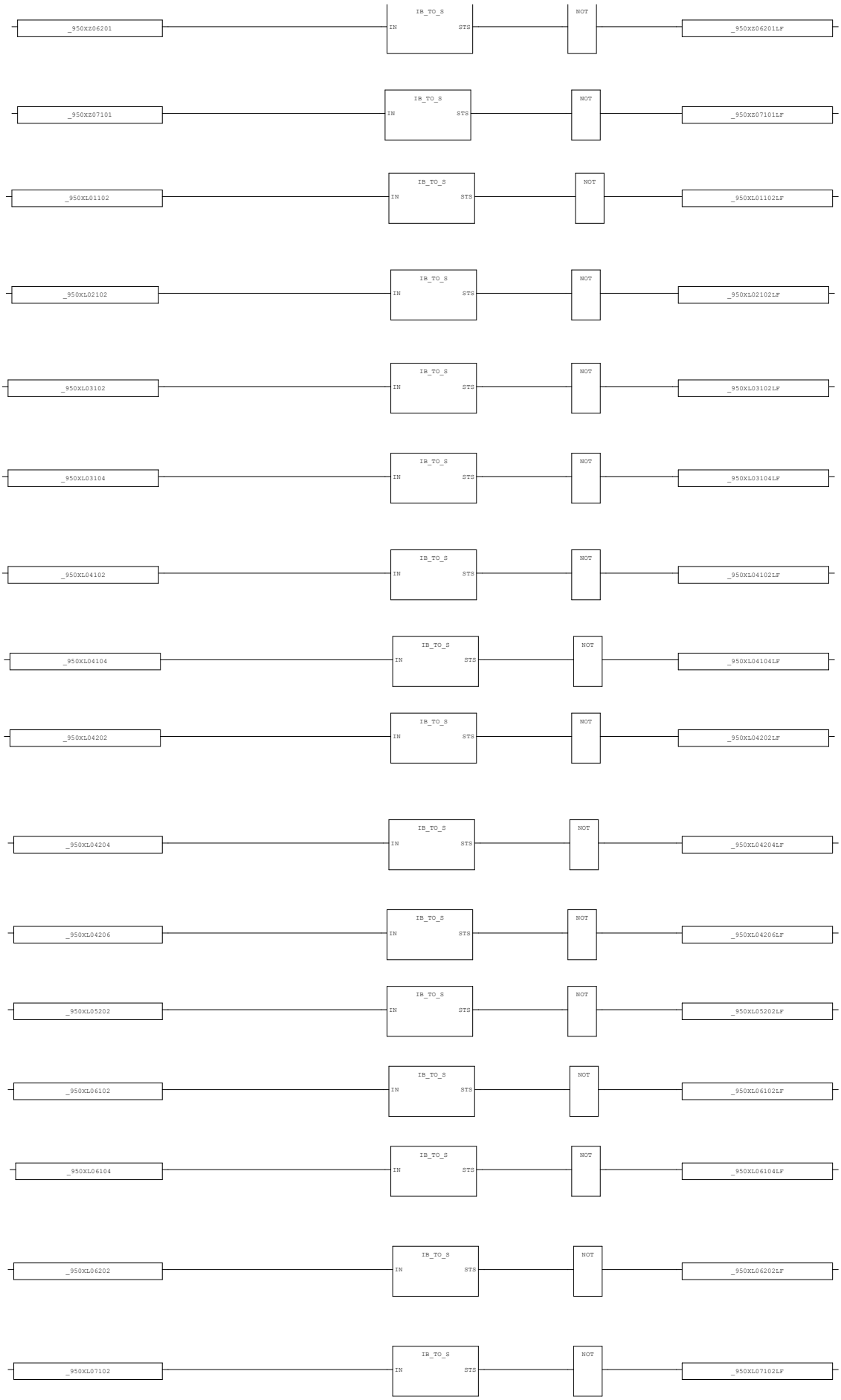
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE139
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE140
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

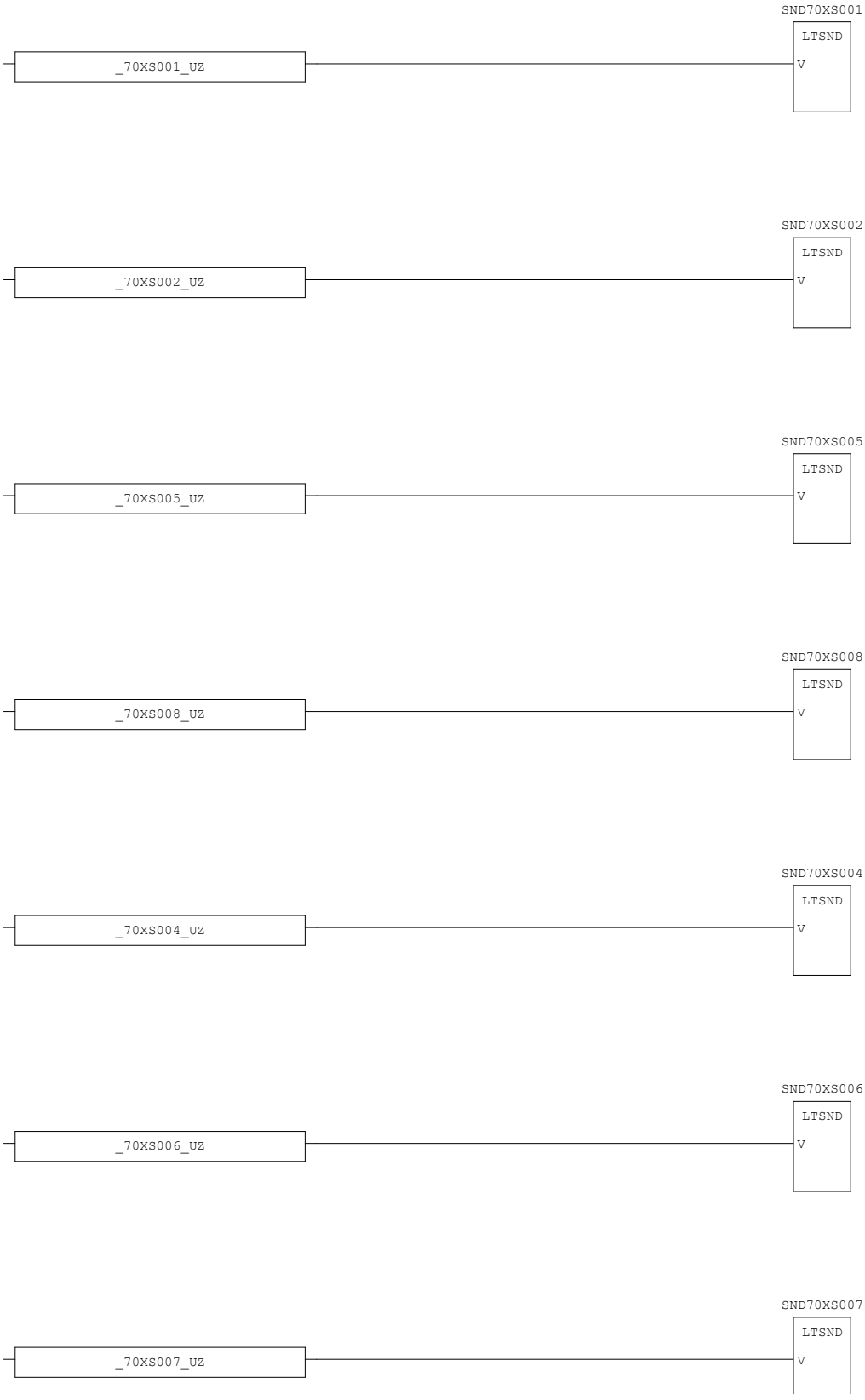


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE141
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

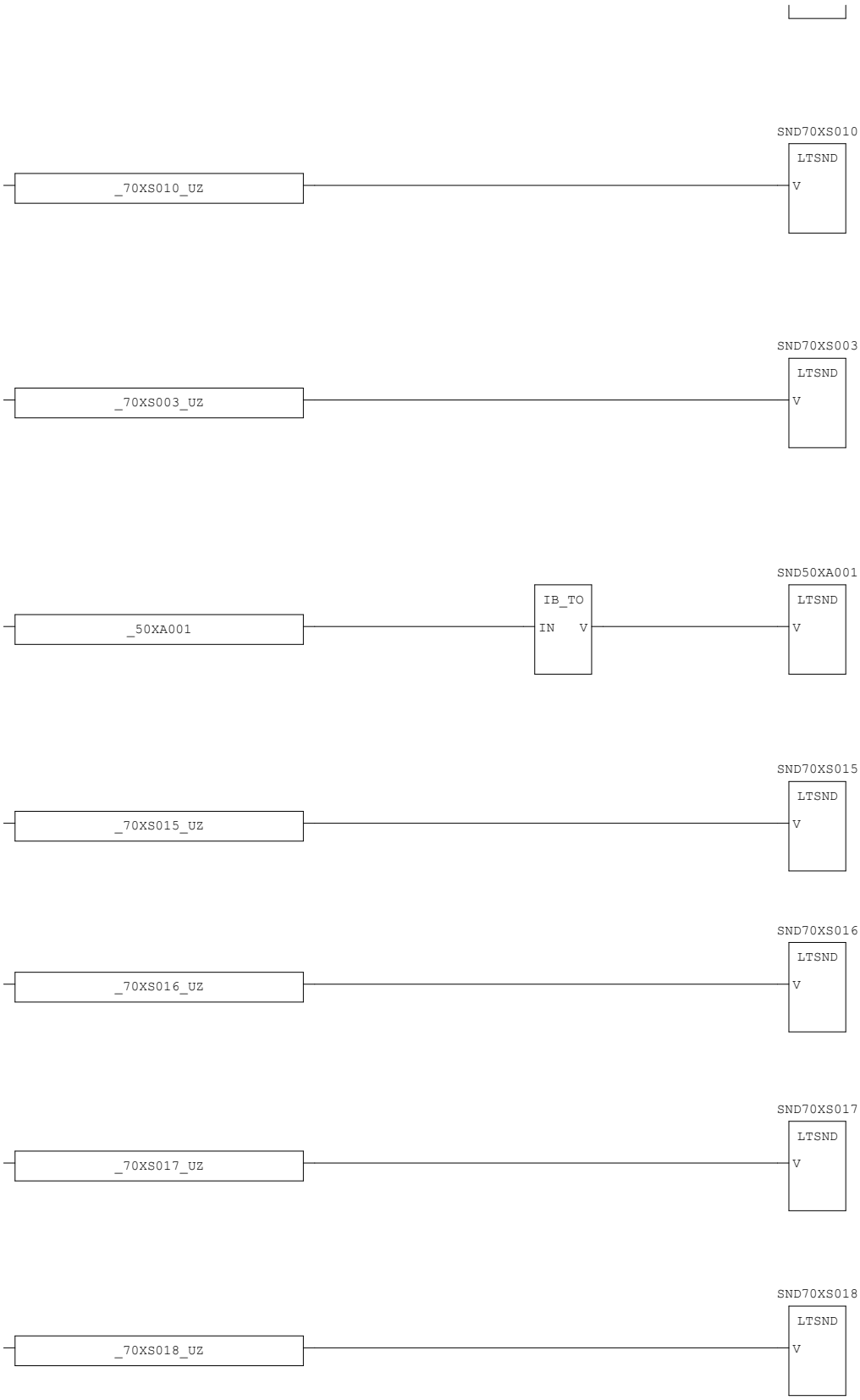


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE142
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.42. SEND (* Signal Transfer - Send *)

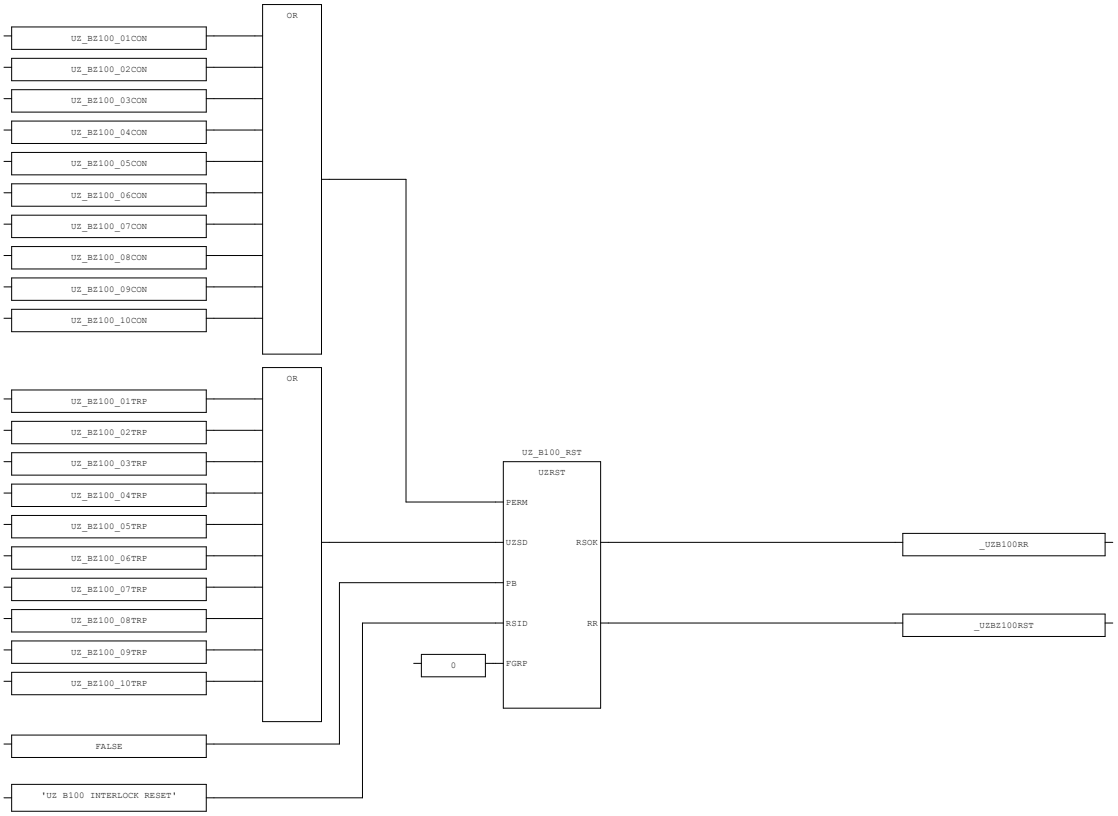


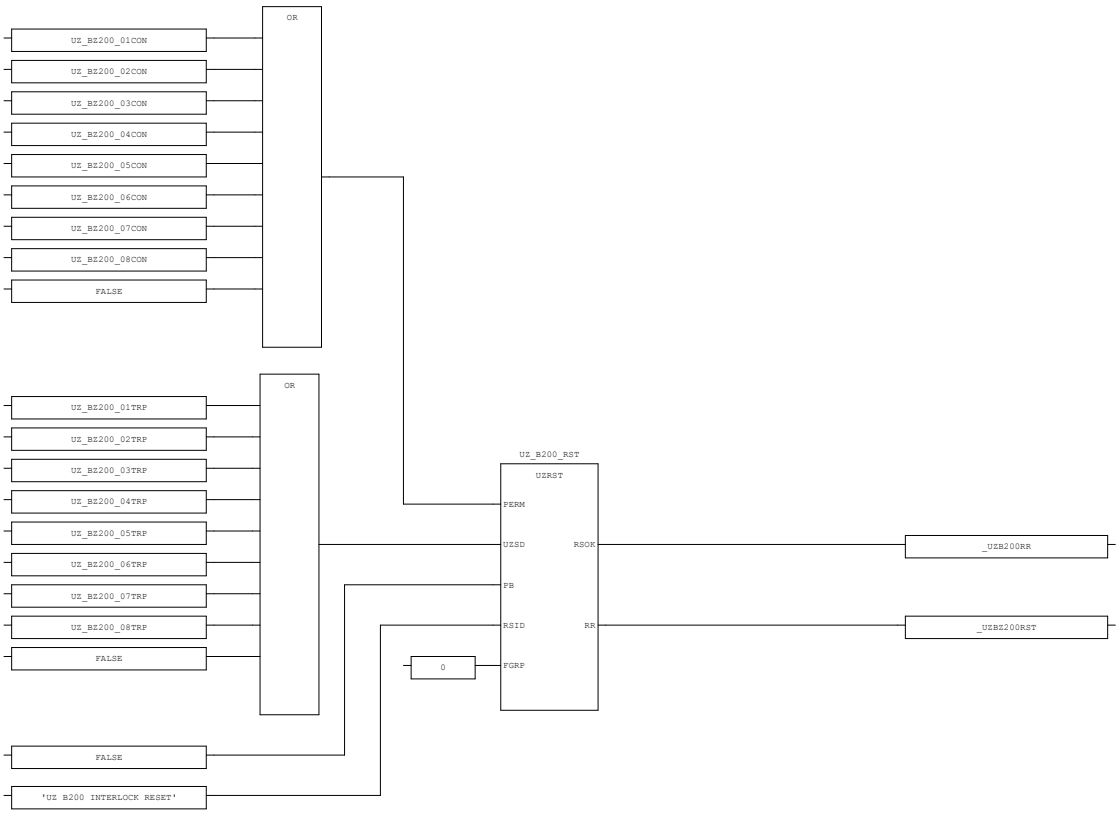
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE143
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



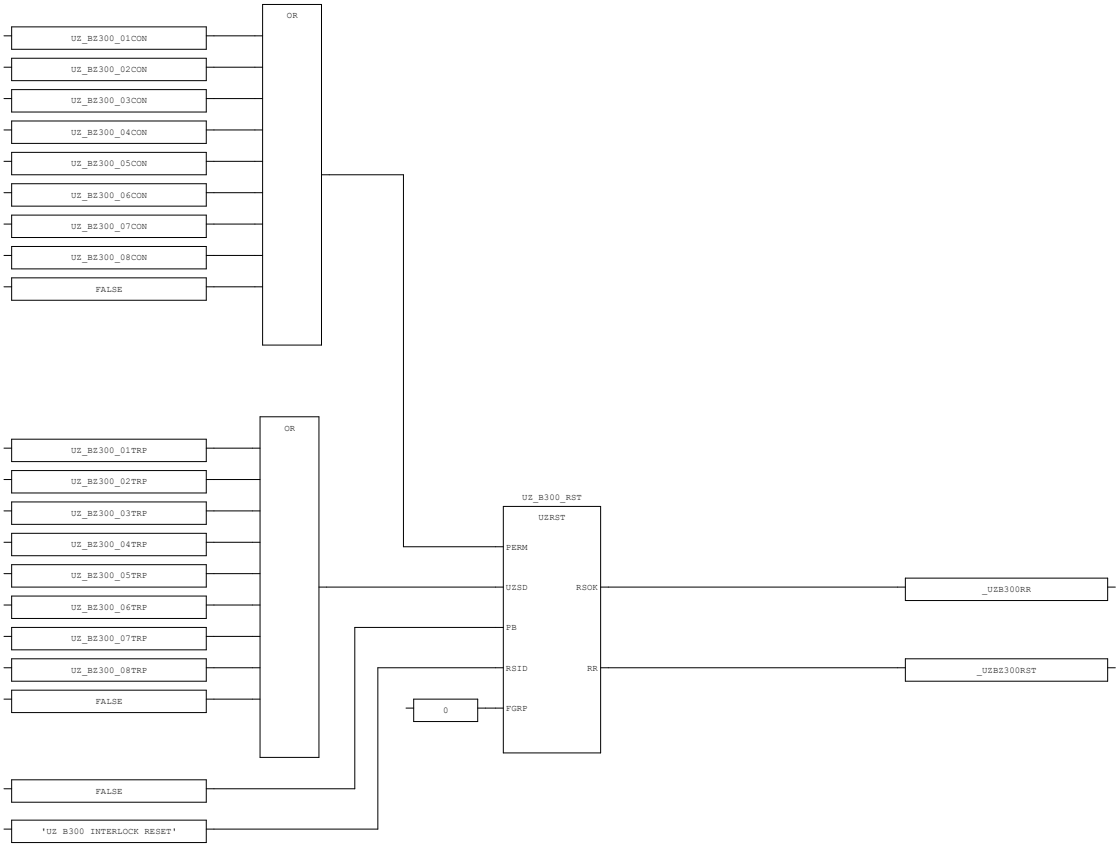
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE144
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

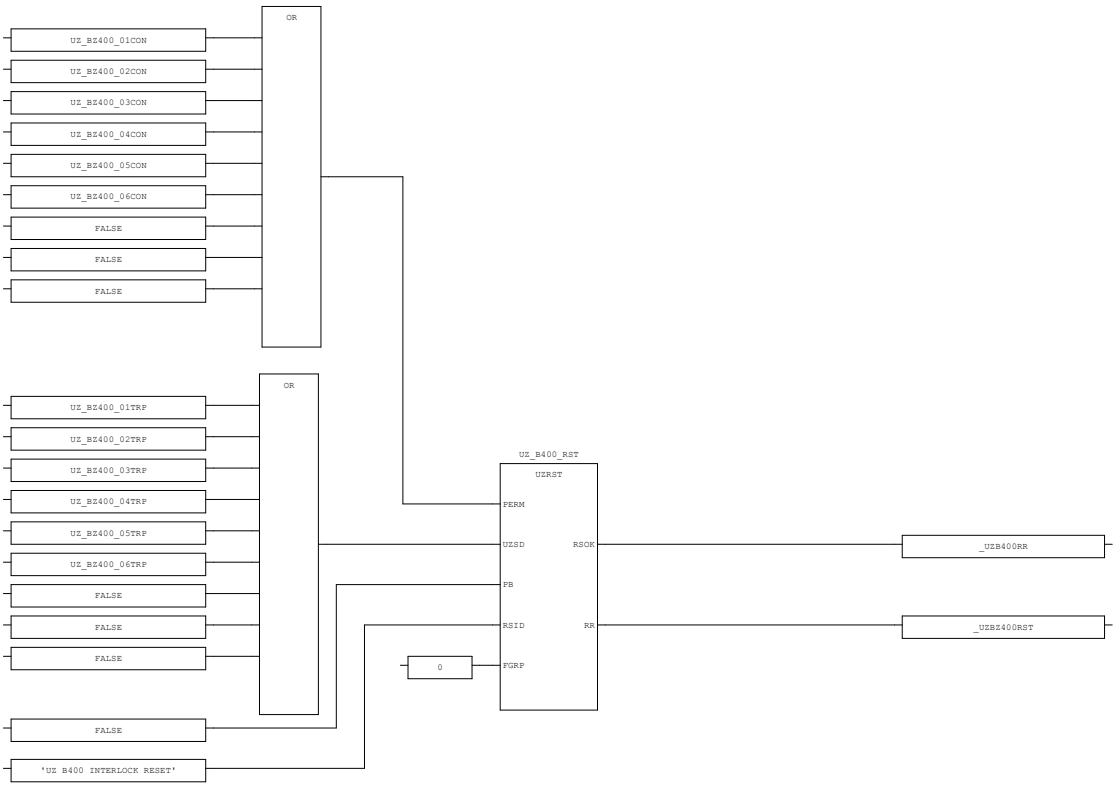
3.43. RESET_LOGIC_01 (* Interlock Reset Logic *)



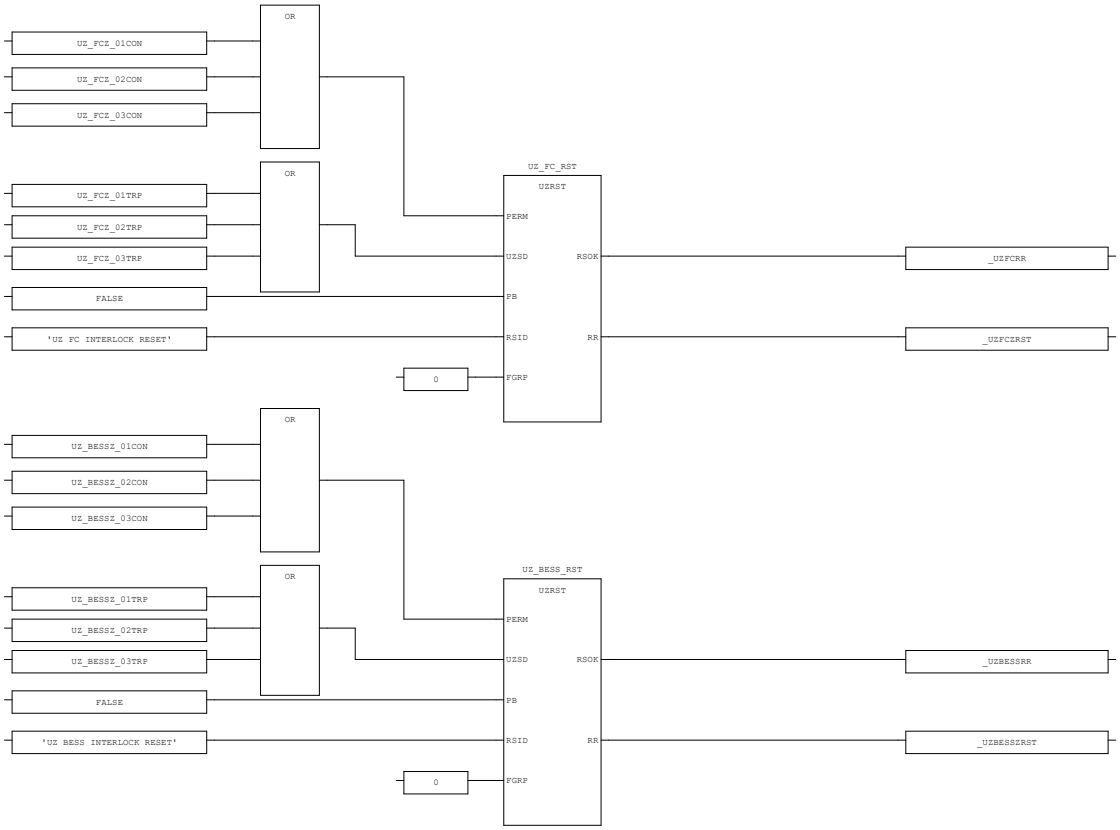


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE145
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



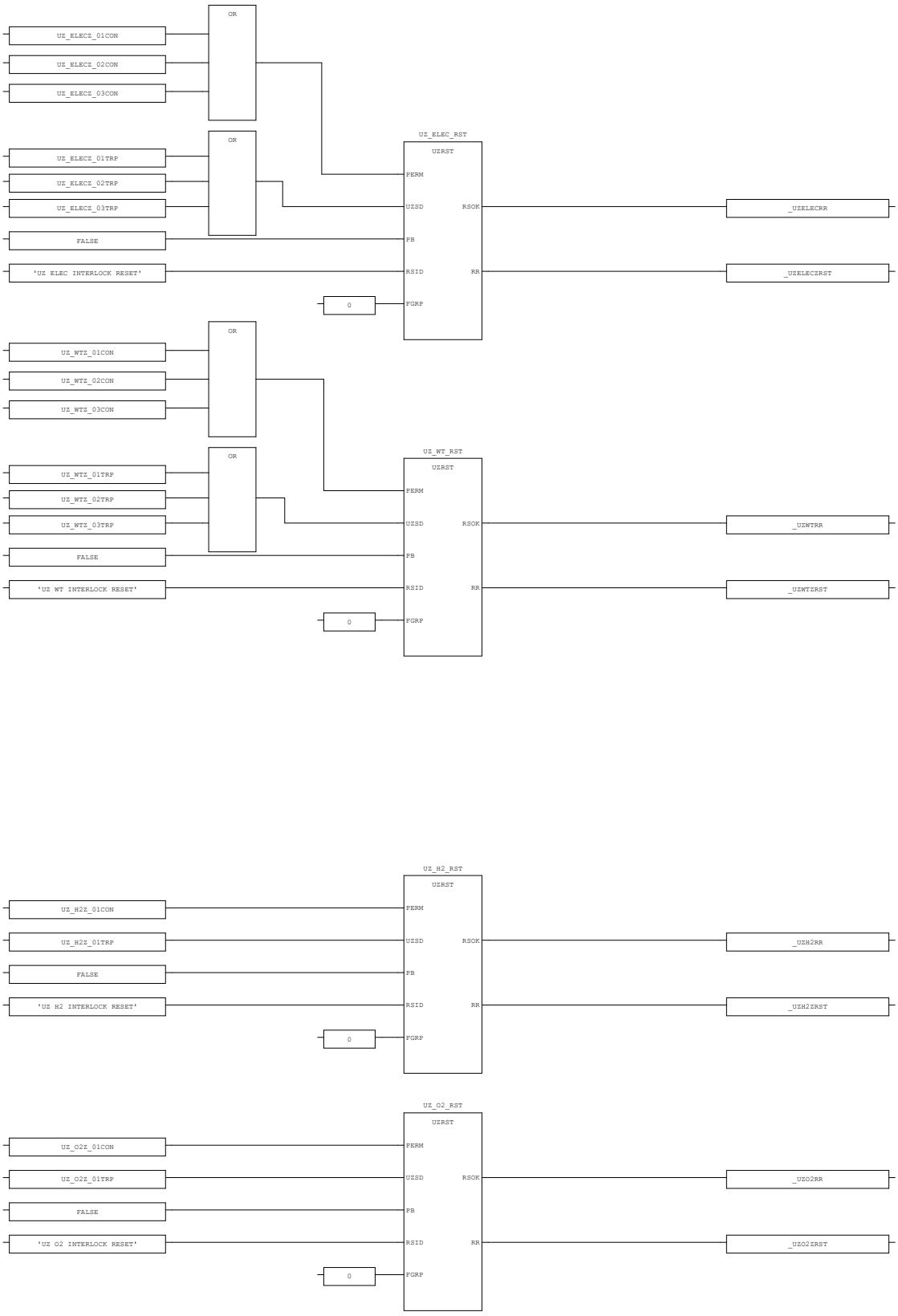


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE146
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

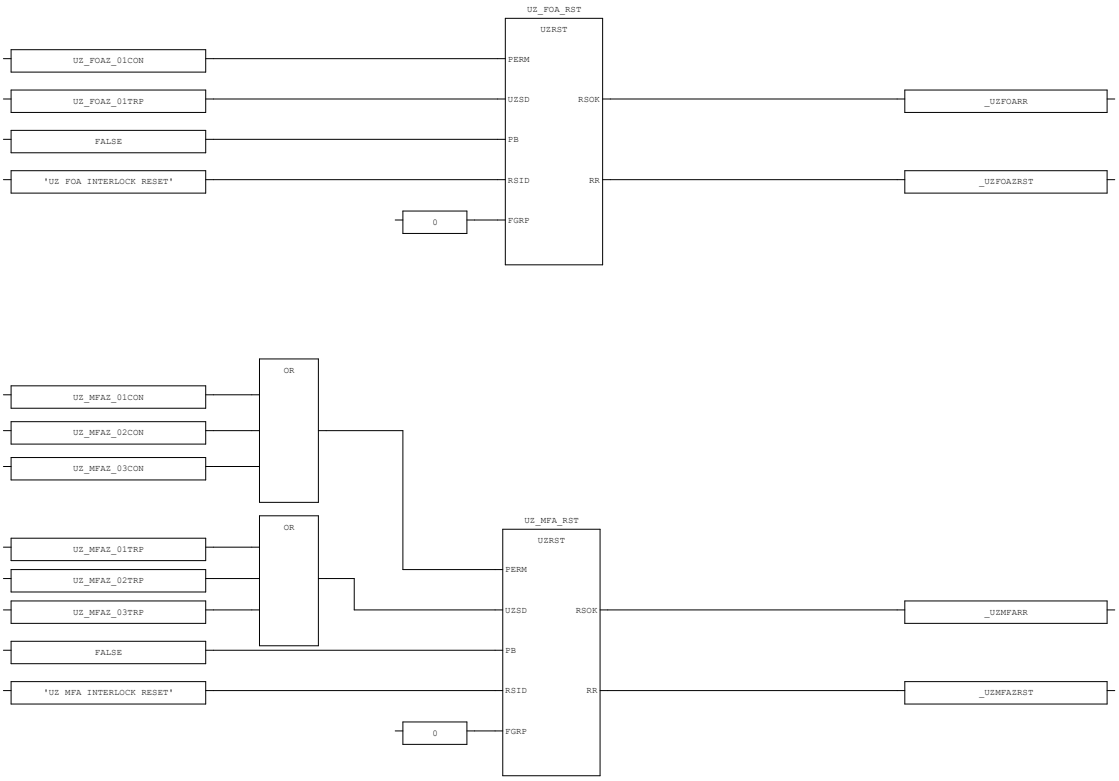


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE147
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.44. RESET_LOGIC_02 (* Interlock Reset & MOS-Enable Logic *)

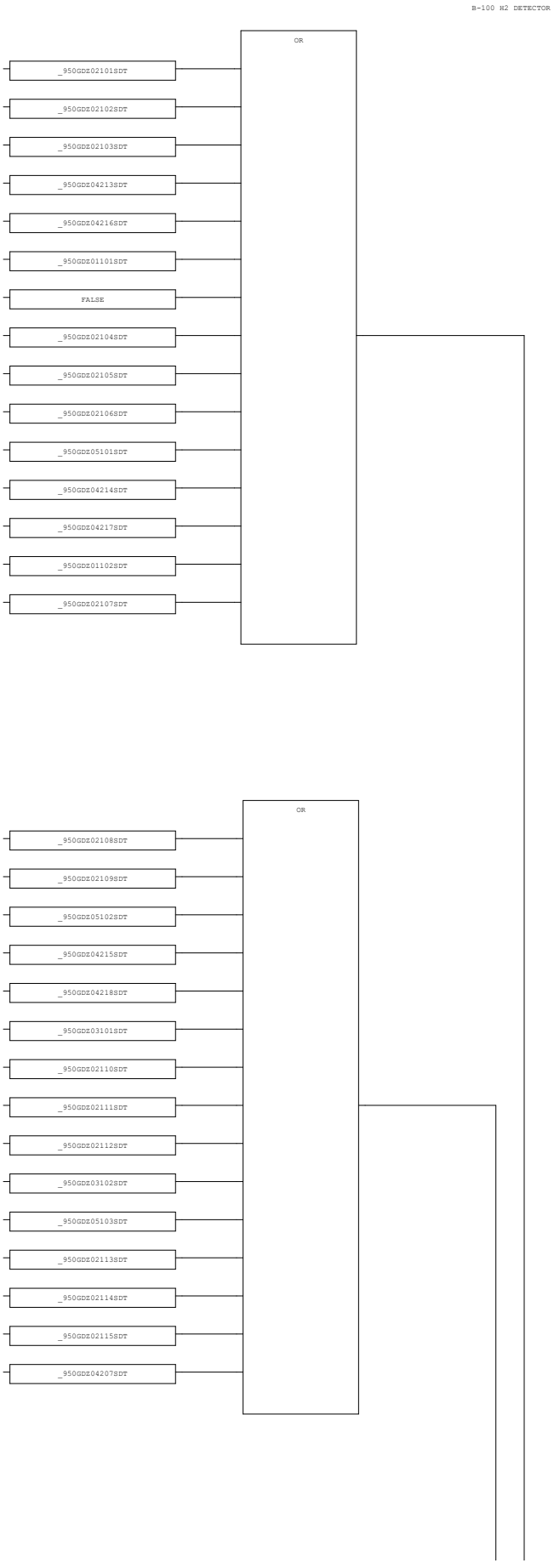


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE148
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

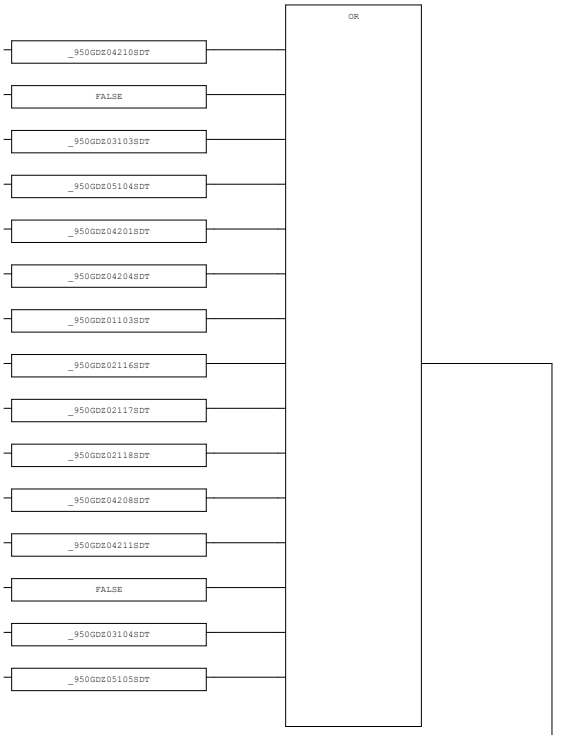


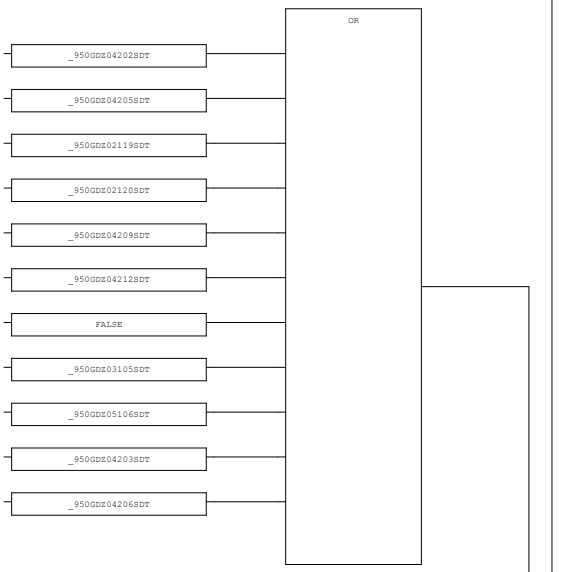
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE149
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.45. H2_DECT_LOGIC (* H2 Detector Interlock Logic *)



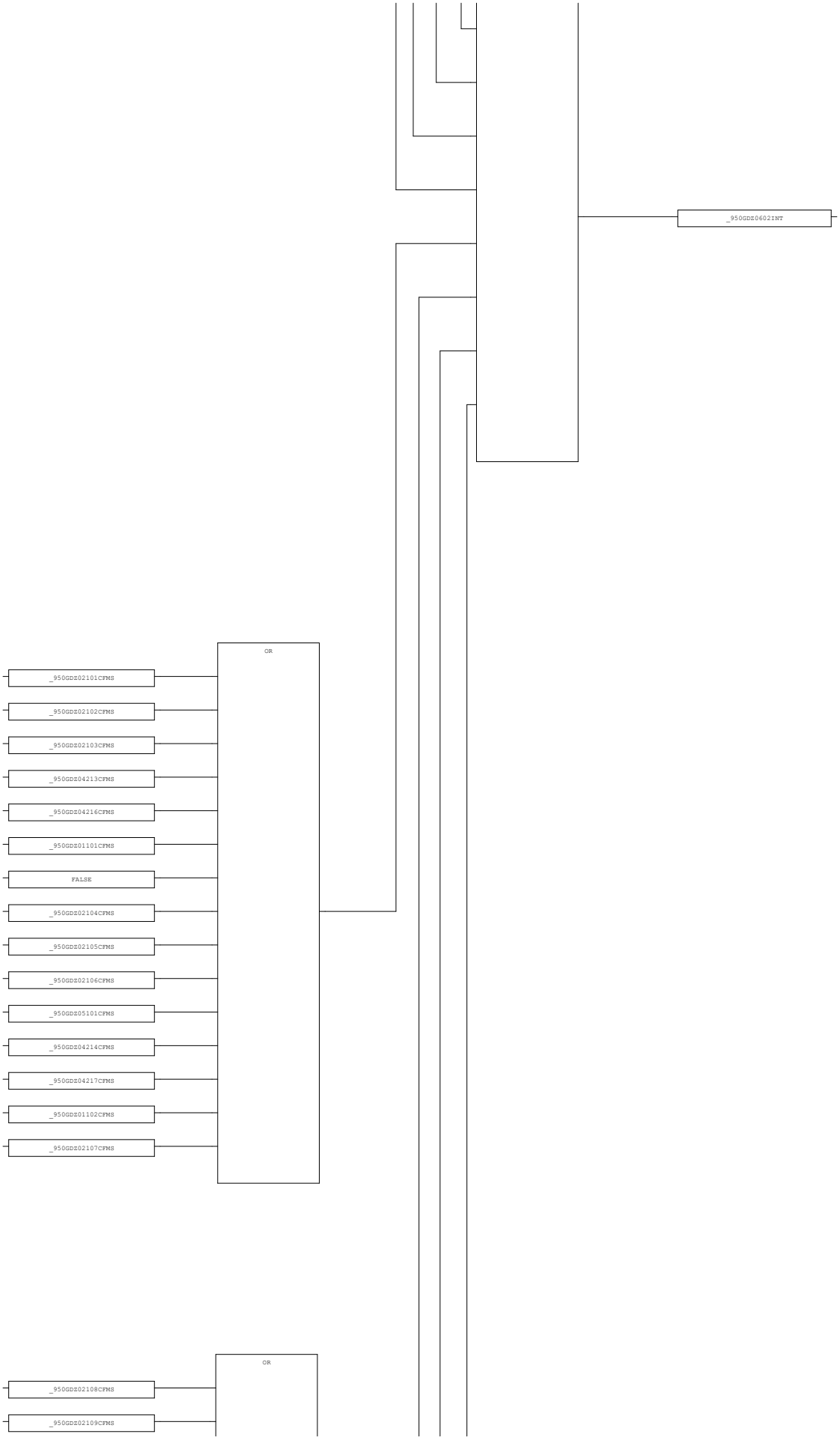
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE150
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



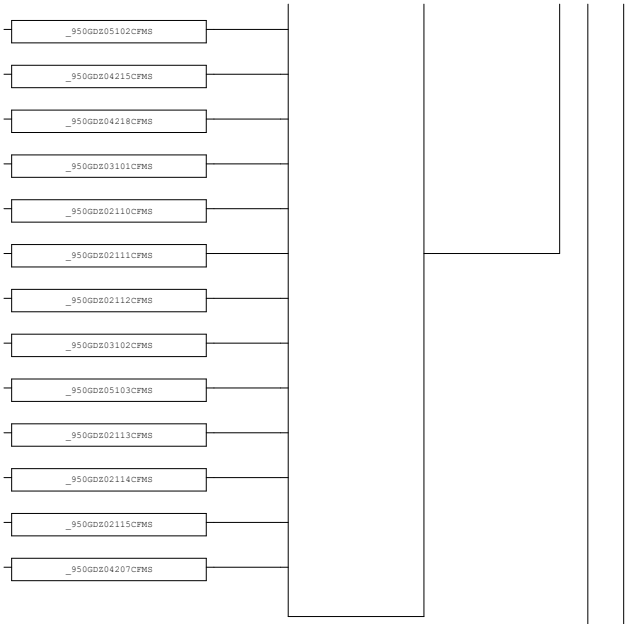


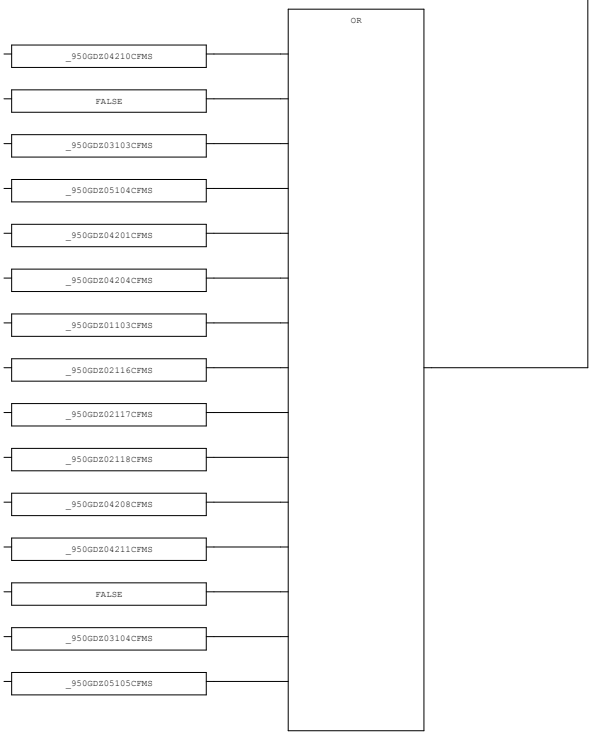


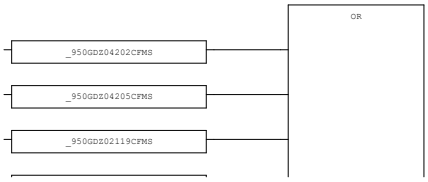
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE151
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



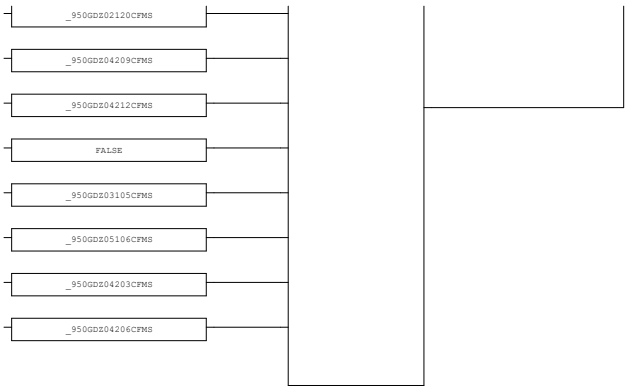
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE152
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

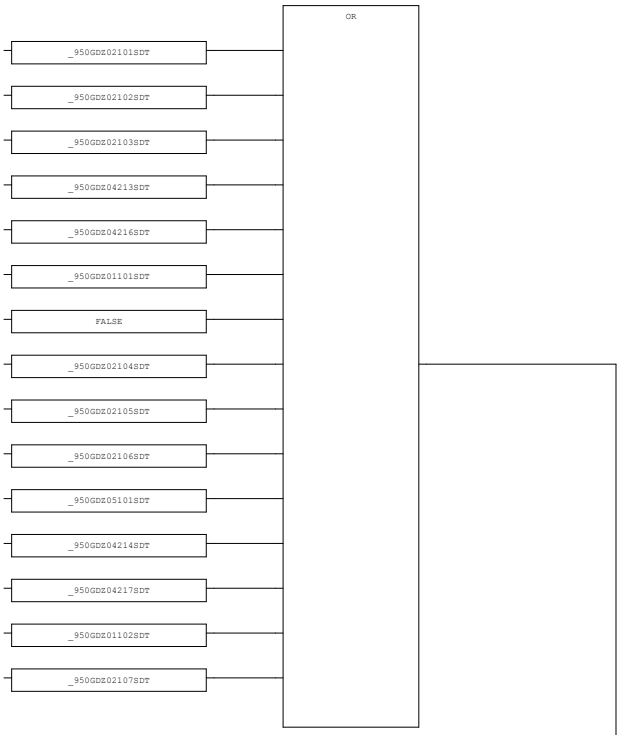


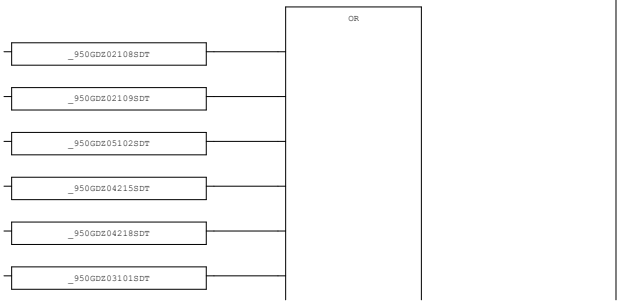




AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE153
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE154
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
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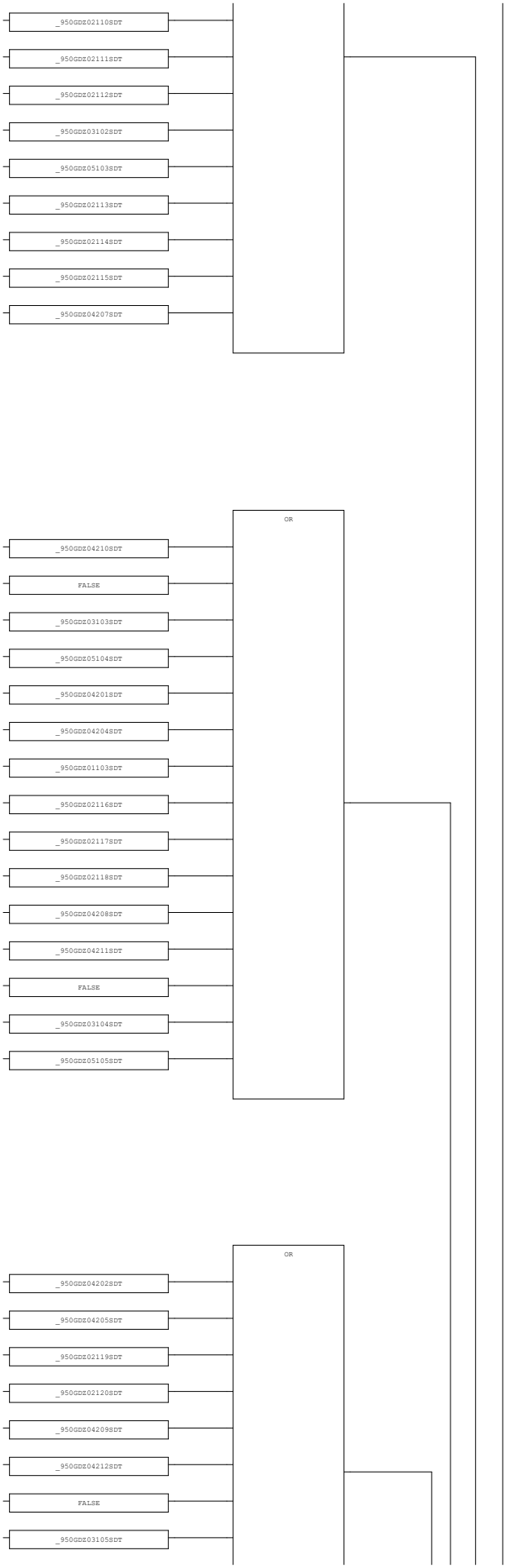
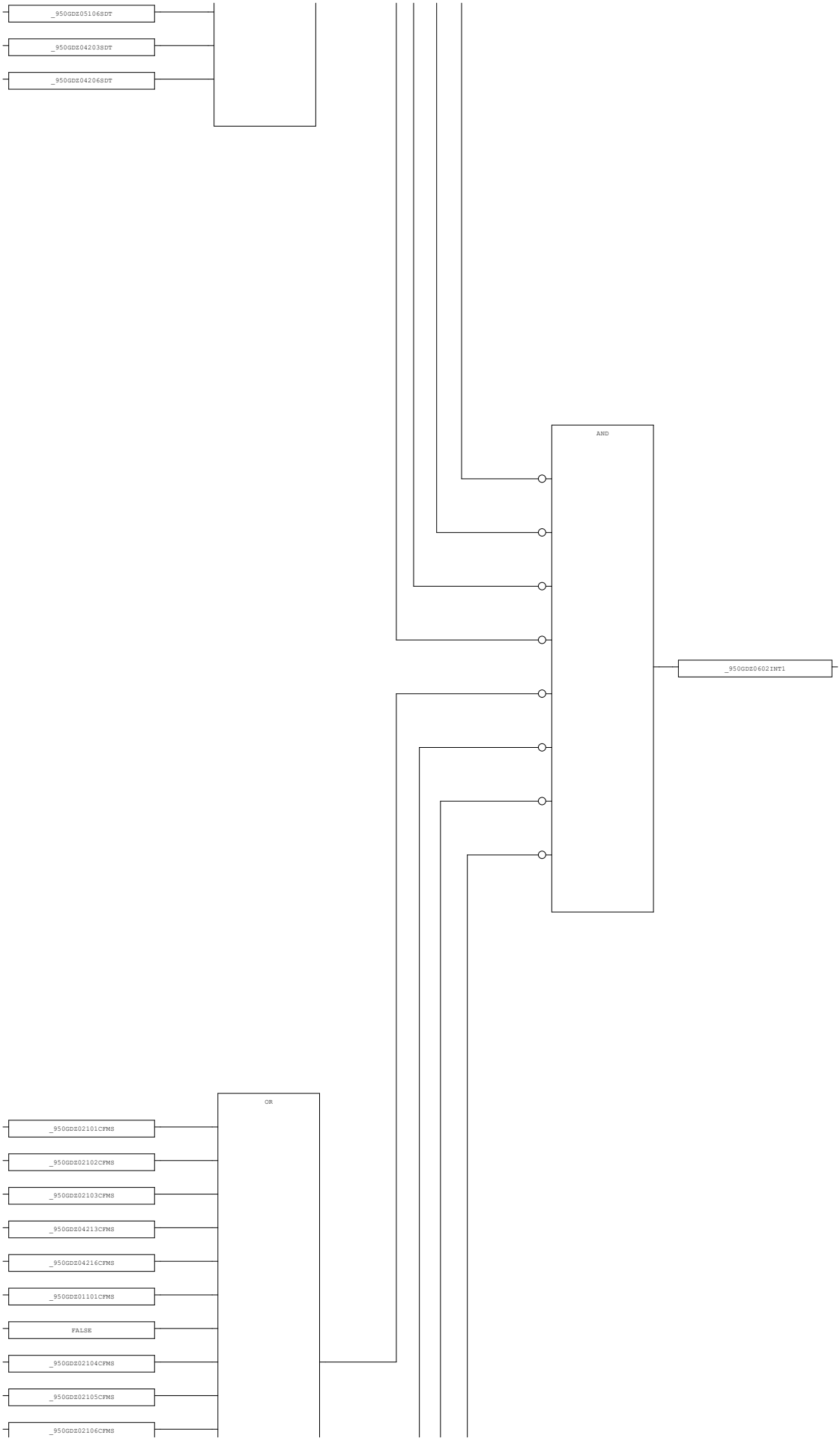
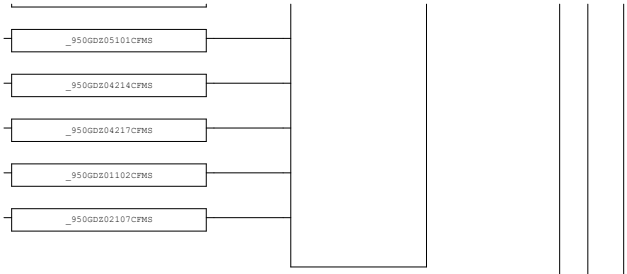
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

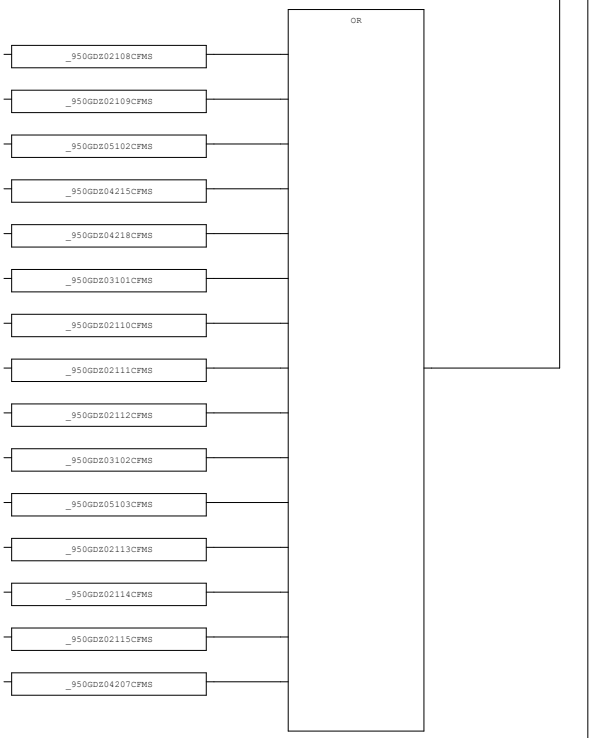


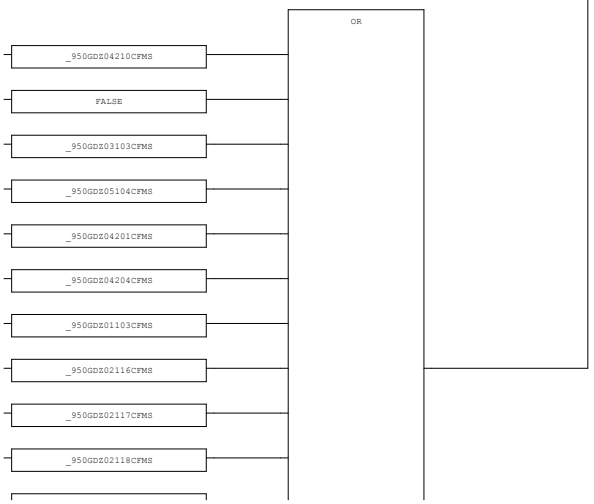
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE155
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE156
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE157
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
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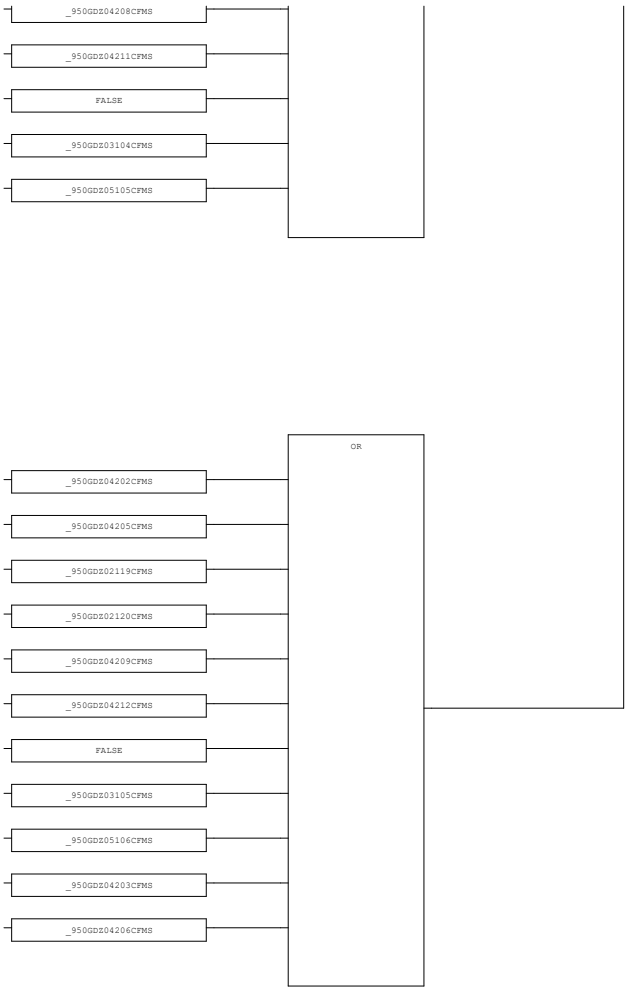
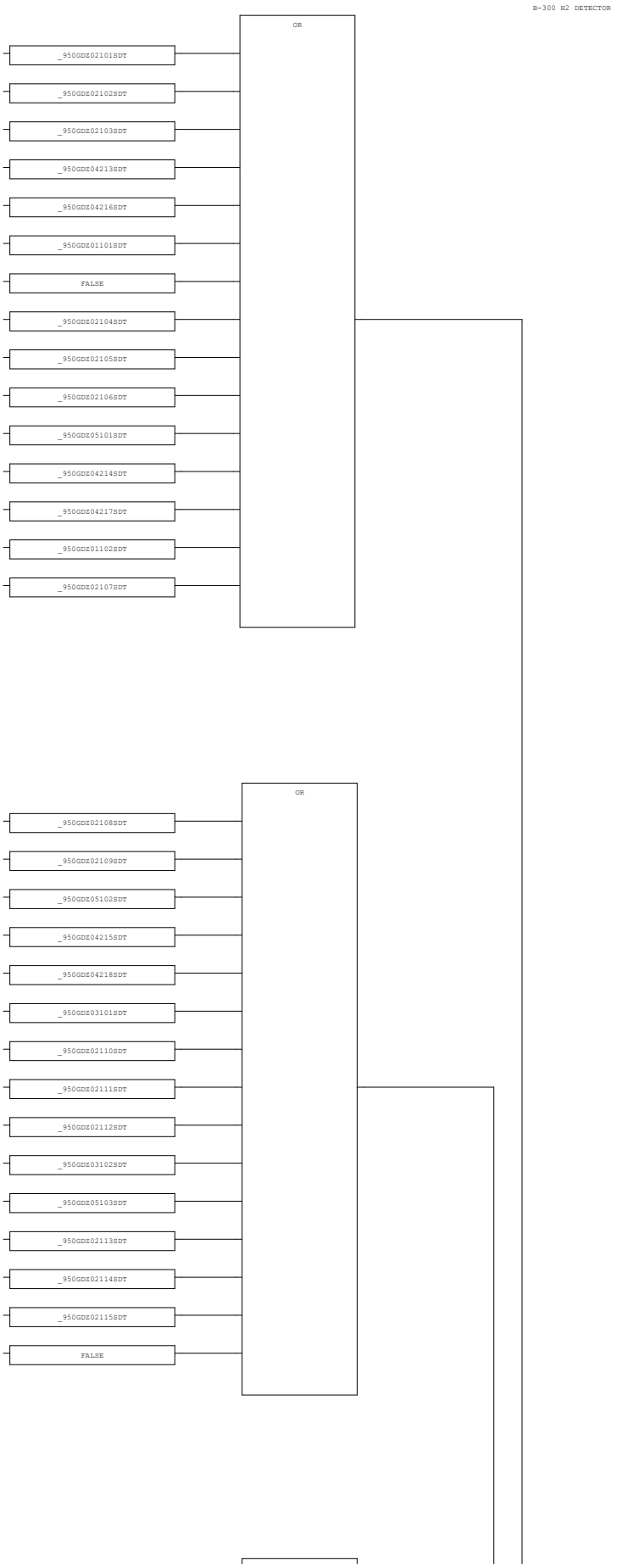
				REVISION:	5.3		

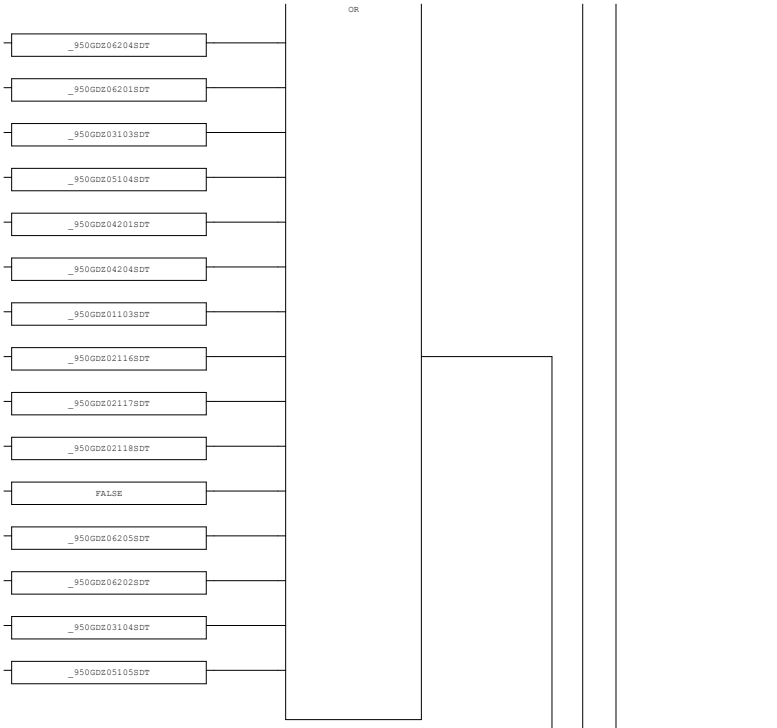


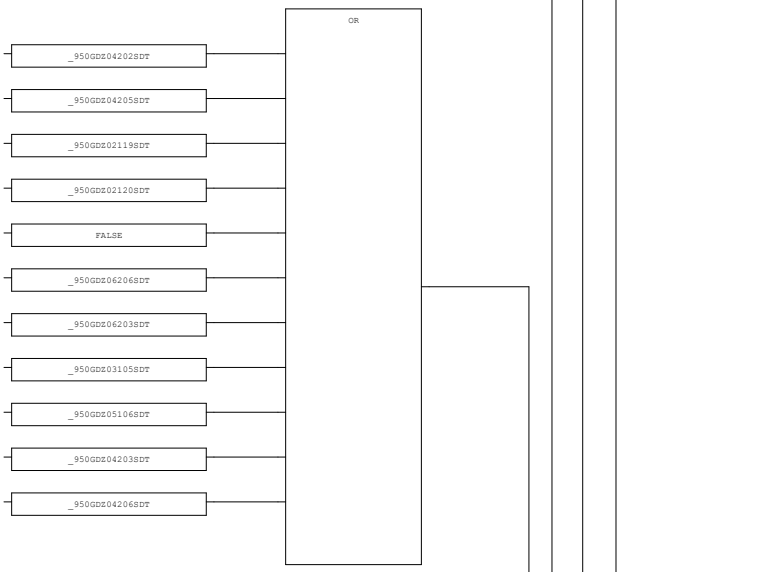
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE158
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

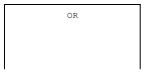
3.46. H2_DECT_LOGIC1 (* H2 Detector Interlock Logic *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE159
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE160
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
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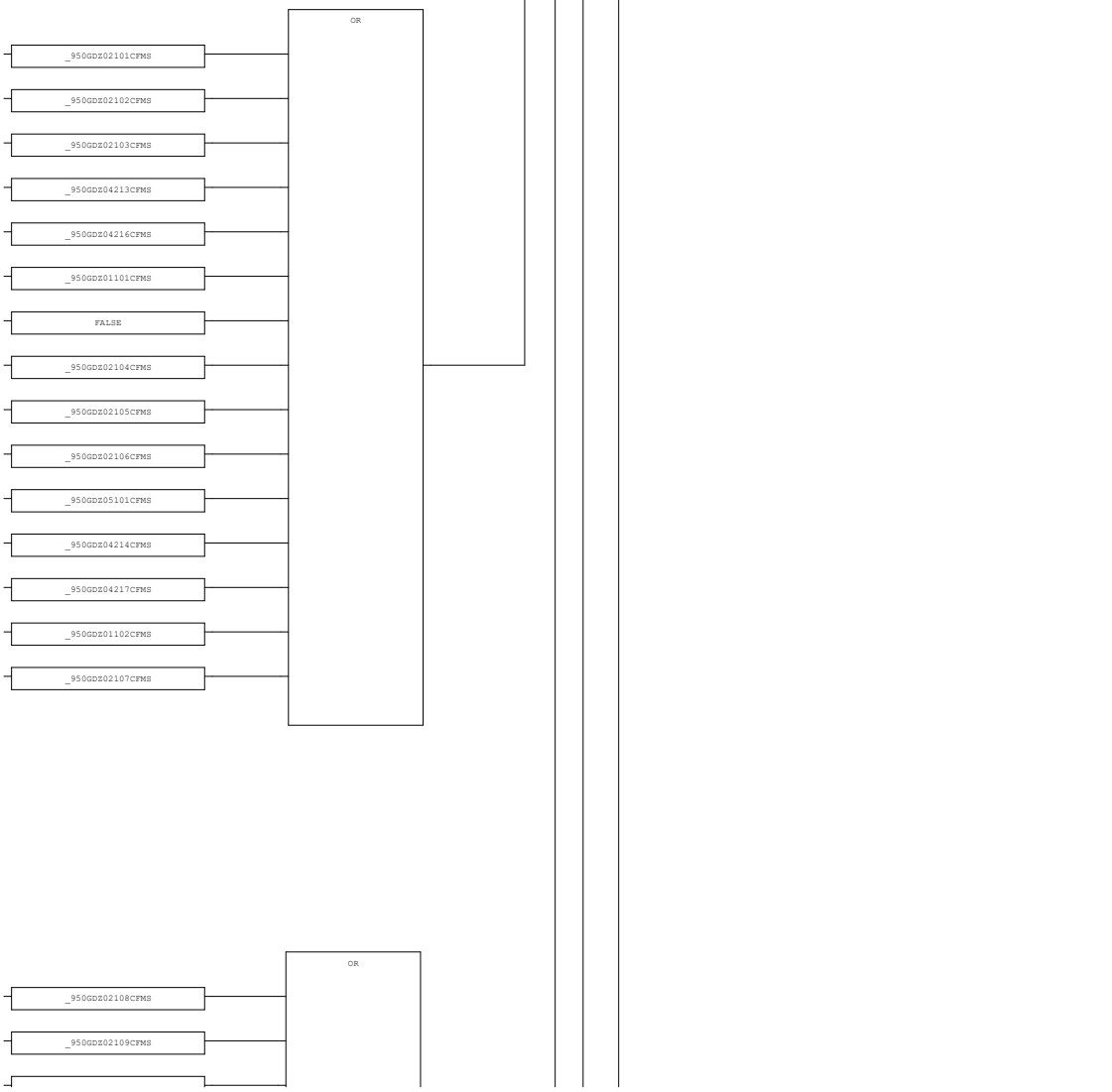

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE161
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
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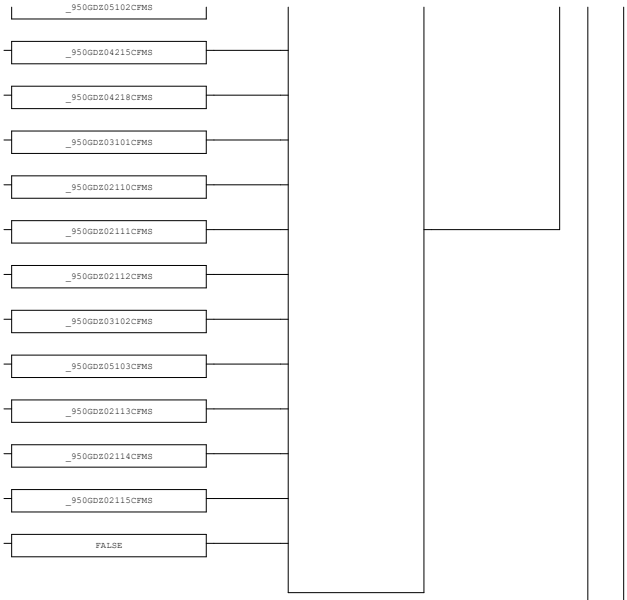

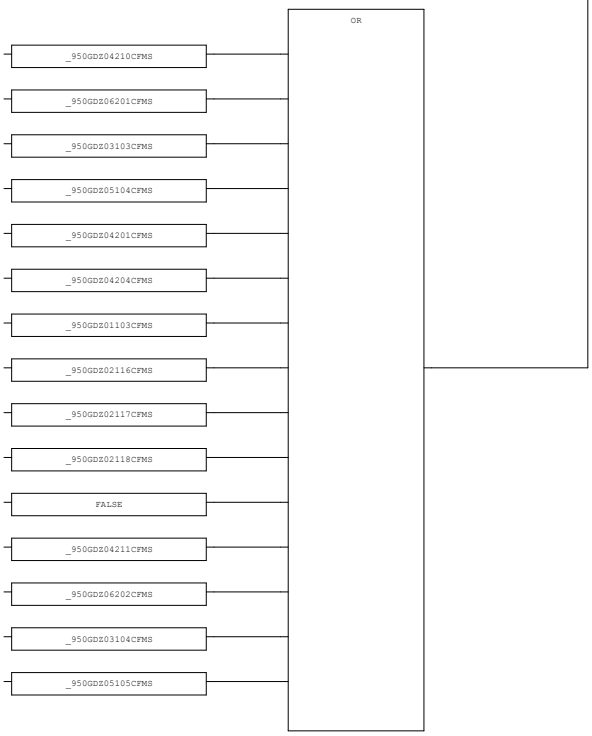

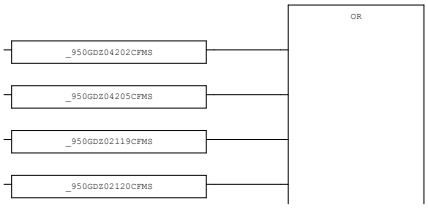

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE162
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
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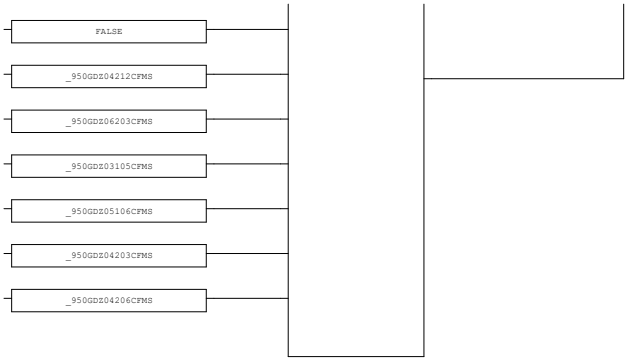
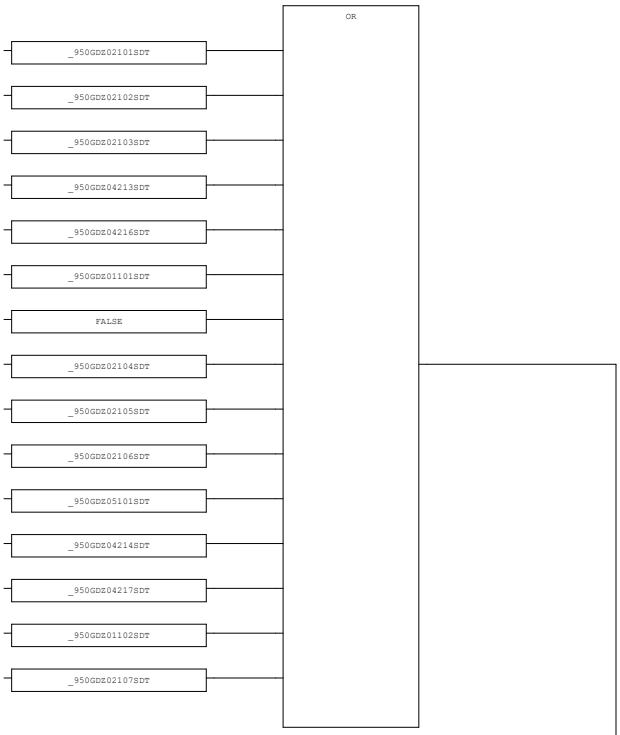
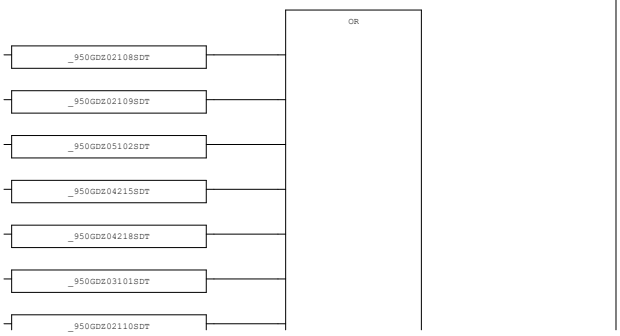
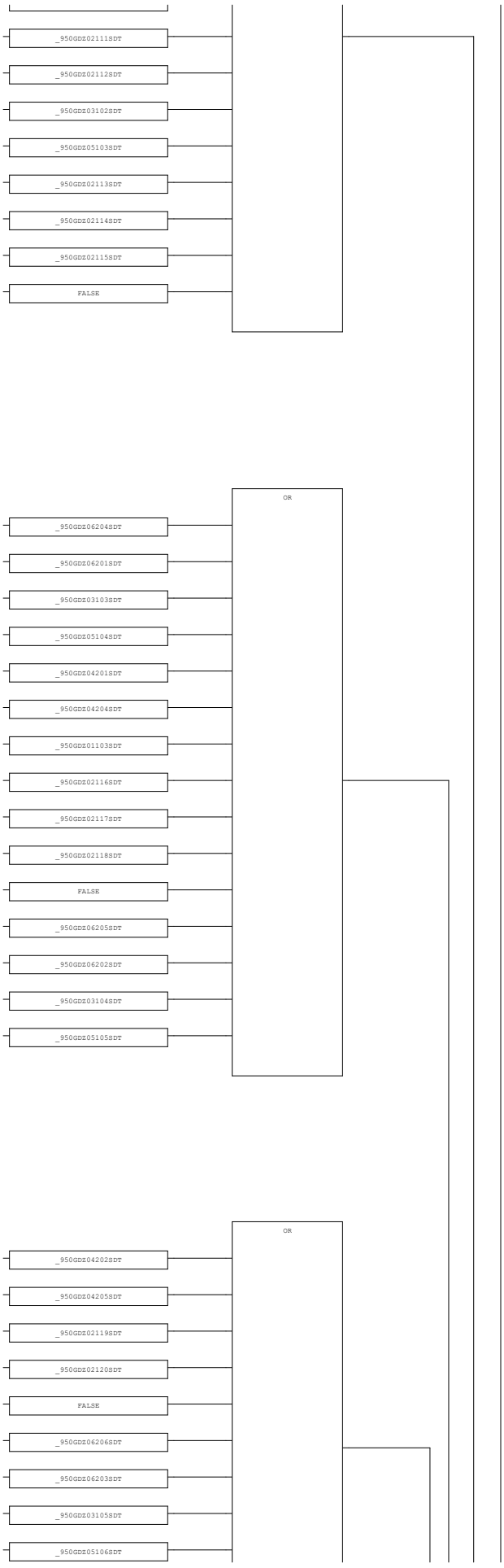
				REVISION:	5.3		







AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE163
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE164
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
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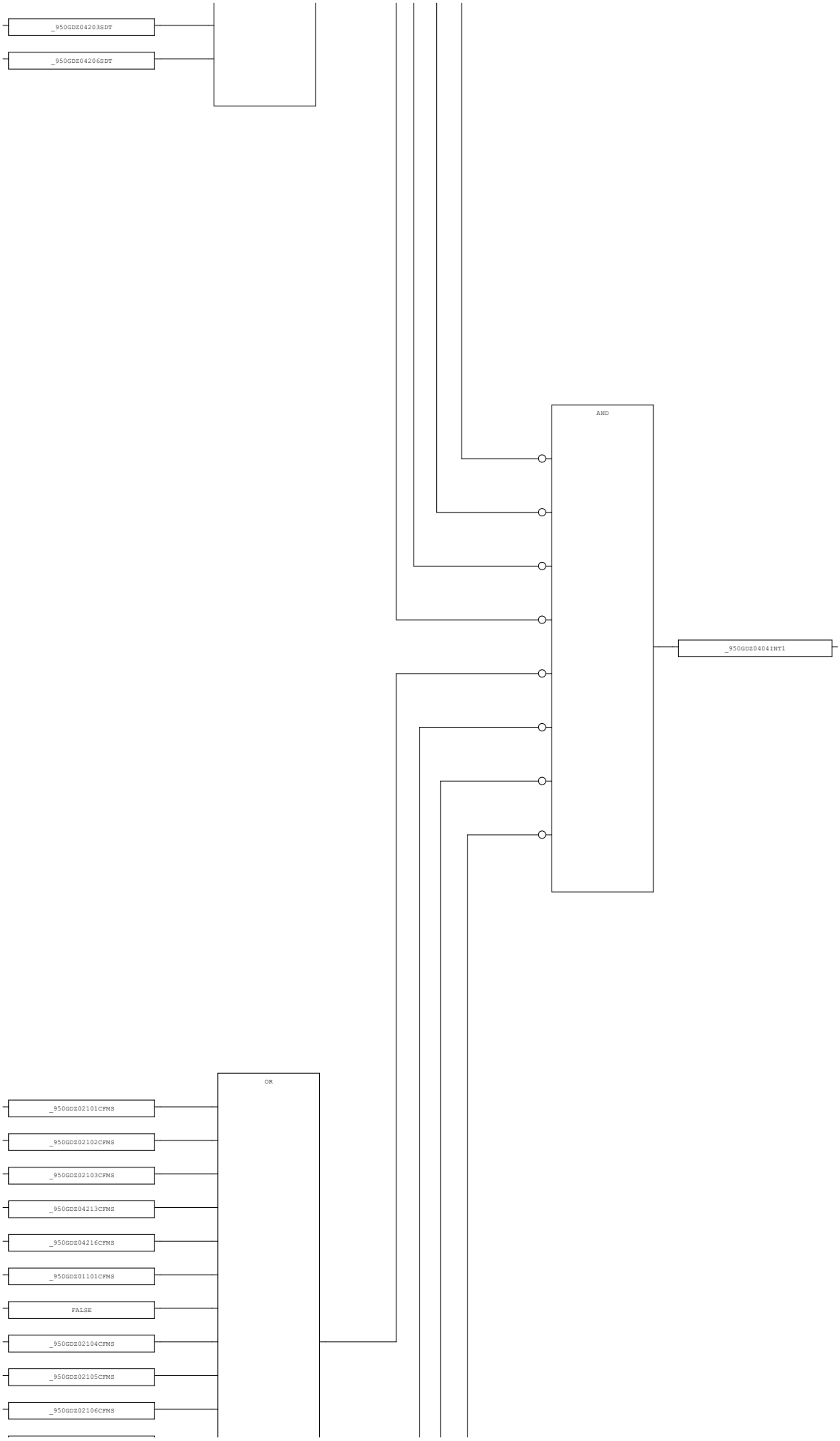
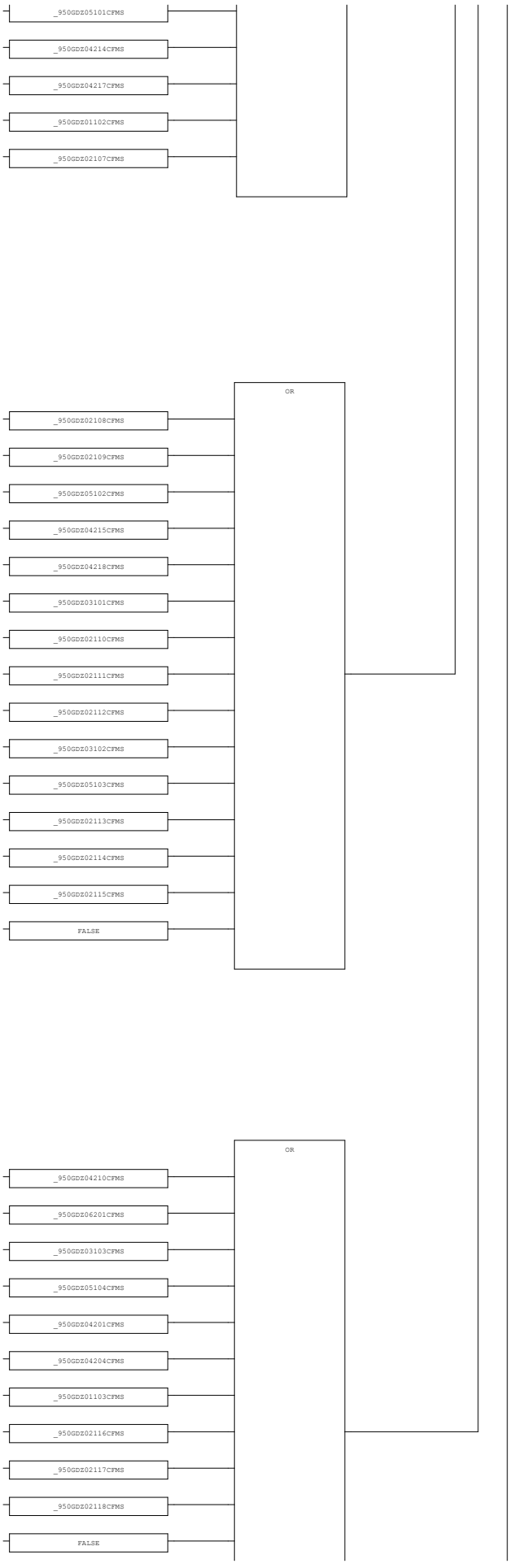
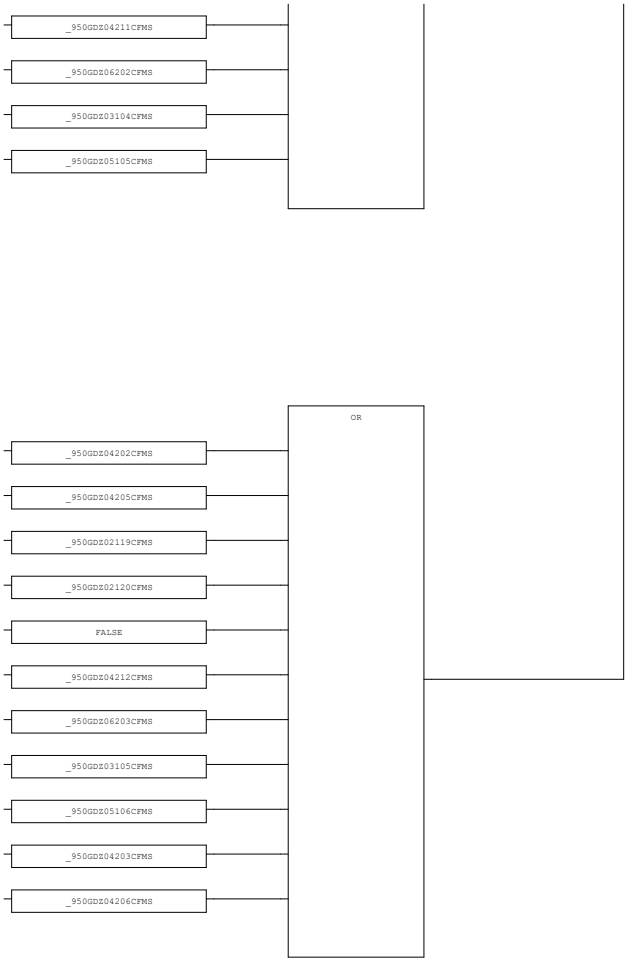


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE165
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

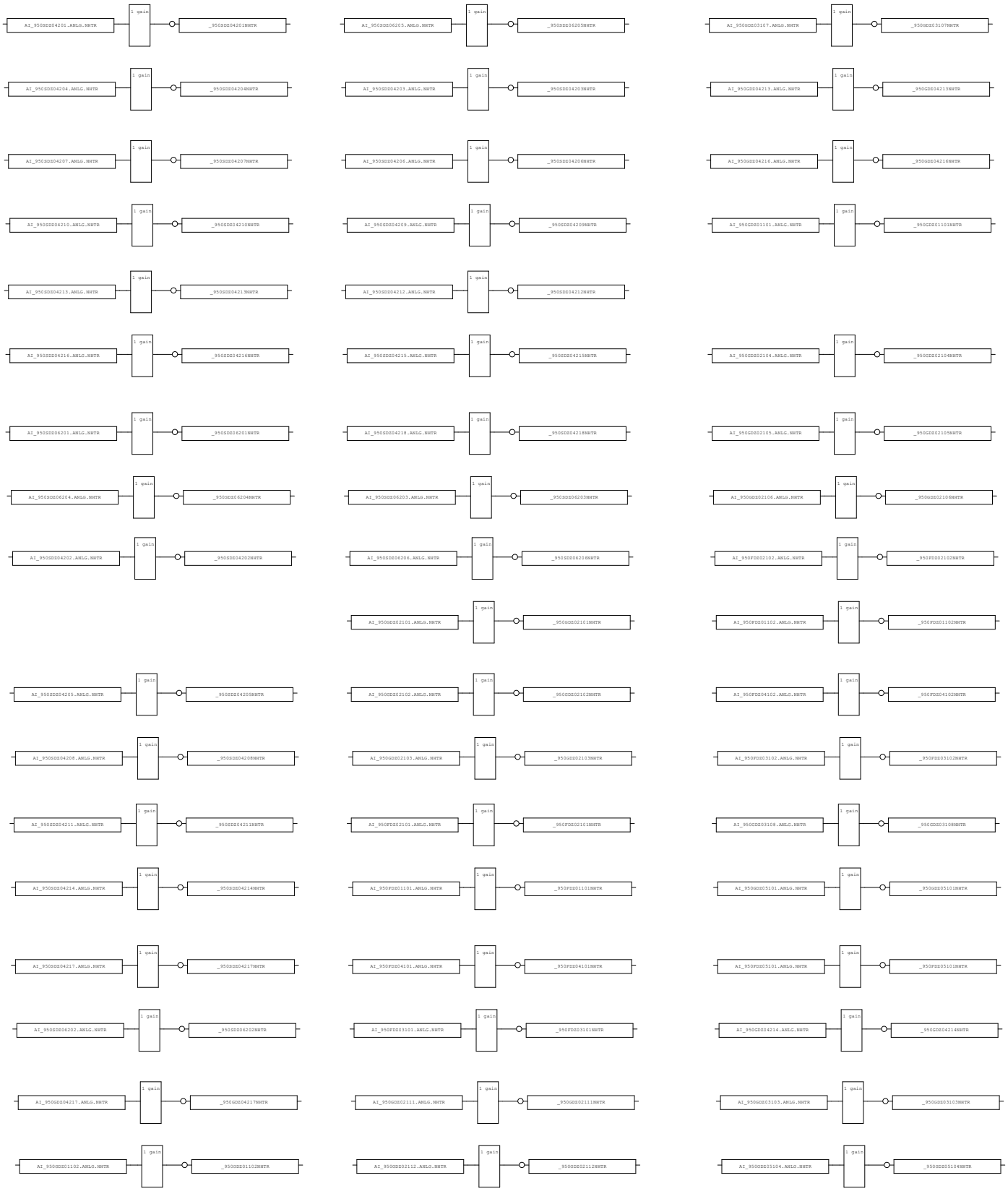


AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE166
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



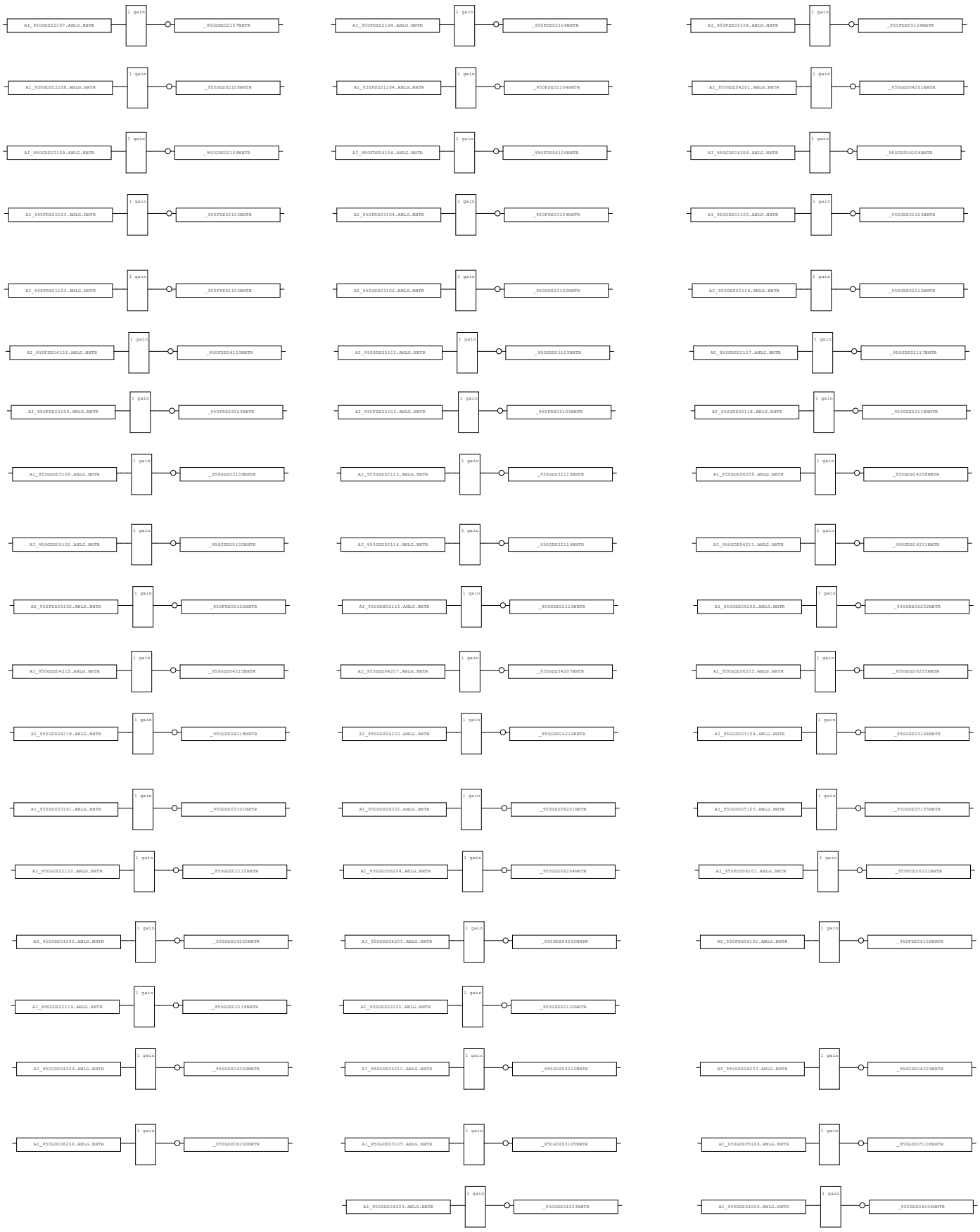
AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE167
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.47. TO_HMI (* ANLG Status *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE168
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.48. TO_HMI_1 (* ANLG Status *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE169
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.49. SPARE_1 (* SPARE POU *)

3.50. SPARE_2 (* SPARE POU *)

3.51. F23 (* FGS Voter 2oo3 *)

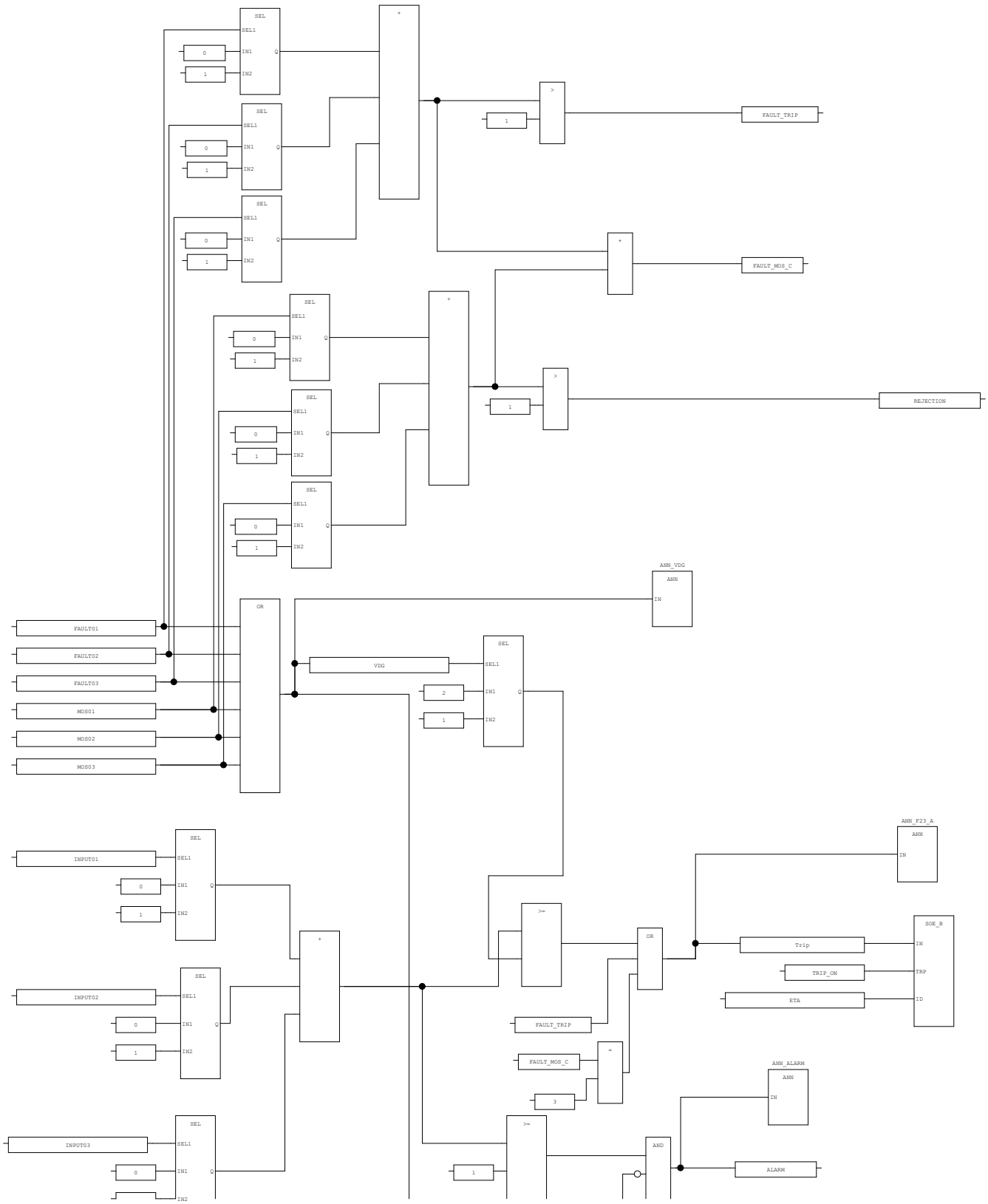
1.0.0

YOKOGAWA

TYPICAL : F23 (User Defined Function Block)

DESCRIPTION : 2oo3 voting for Fire & Gas applications.
Typical to handle:
Initiate a trip if two of the three inputs are in trip state.
Voting Degradation in cases of fault/override.

Rev 00
Rev 01
Rev 02



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE172
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE173
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.52. FG_DOUT (* FGS Delayed Action with Ackowledgement *)

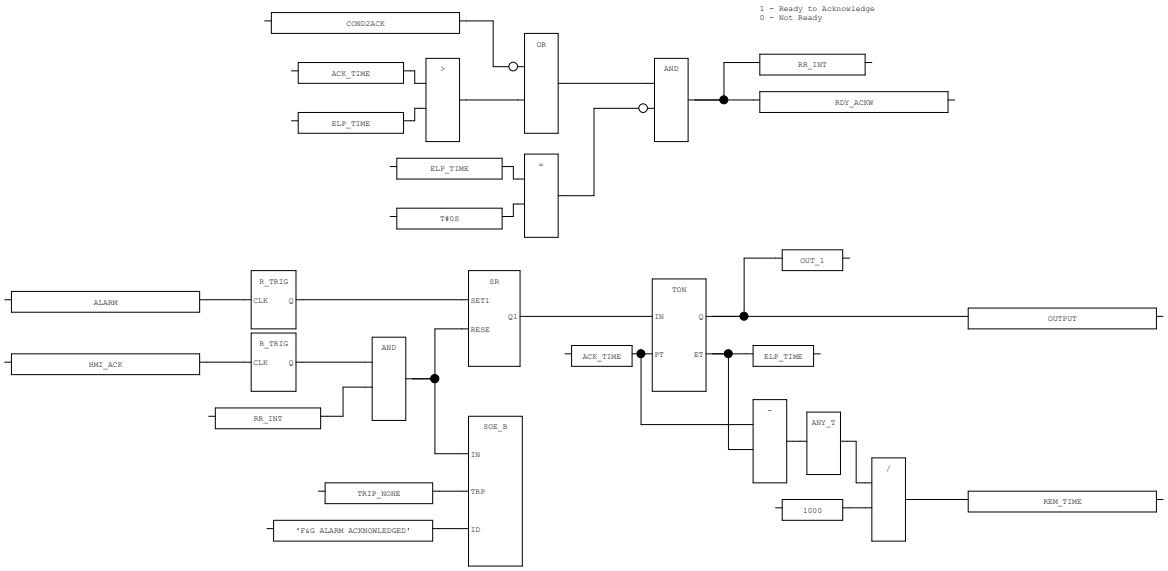
1.0.0

YOKOGAWA

TYPICAL : FG_DOUT (User Defined Function Block)

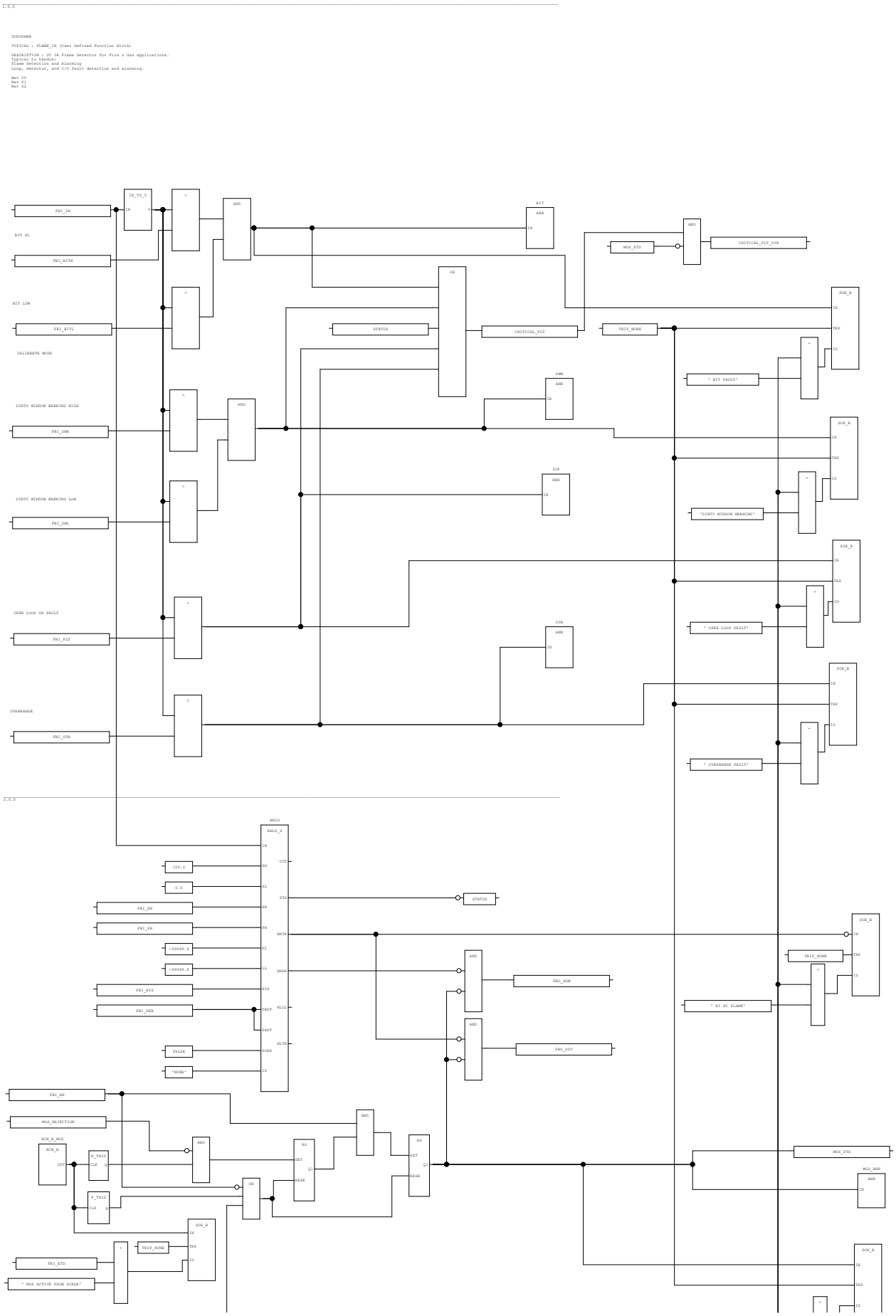
DESCRIPTION : Alarm activation for Fire & Gas applications.
Typical to handle:
Activate Sounders/Lamps based upon energize to action function.
Activate the output when the input alarm is not ackowledged by operarator within specified time

Rev 00



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE174
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.53. FG_FLAME_IR (* Flame Detector Analog Input *)



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE175
SCS PROJECT:	SCS0120	END USER:	CROSSWIND	DOCUMENT NAME:	SELF DOCUMENTATION/LOGIC PRINTOUTS-FGS		
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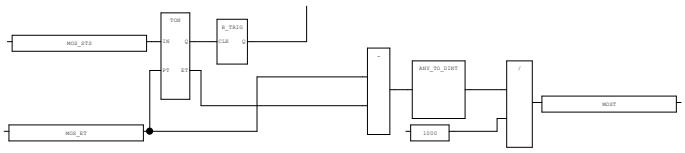
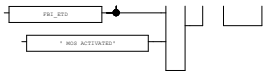
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		





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				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.54. FG_GD (* Gas Detector Analog Input *)

1.0.0

YOKOGAWA

TYPICAL : GAS DETECTOR (User Defined Function Block)

DESCRIPTION : GAS & Leakage Detector for Fire & Gas applications.
Typical to handle:
O2 & H2 GAS Detection, H2 Leakage detection and Alarming
Loop, detector, and I/O Fault detection and alarming.

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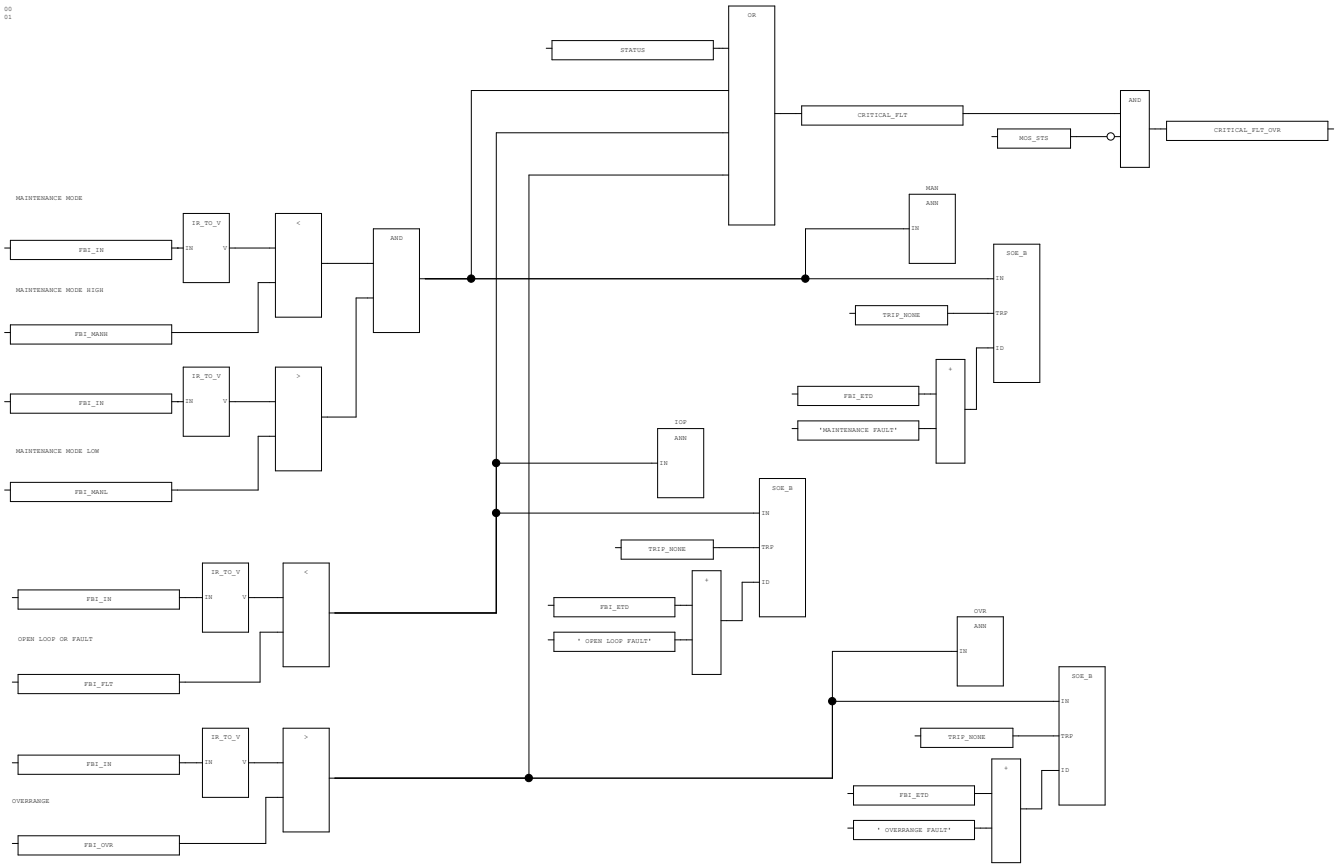

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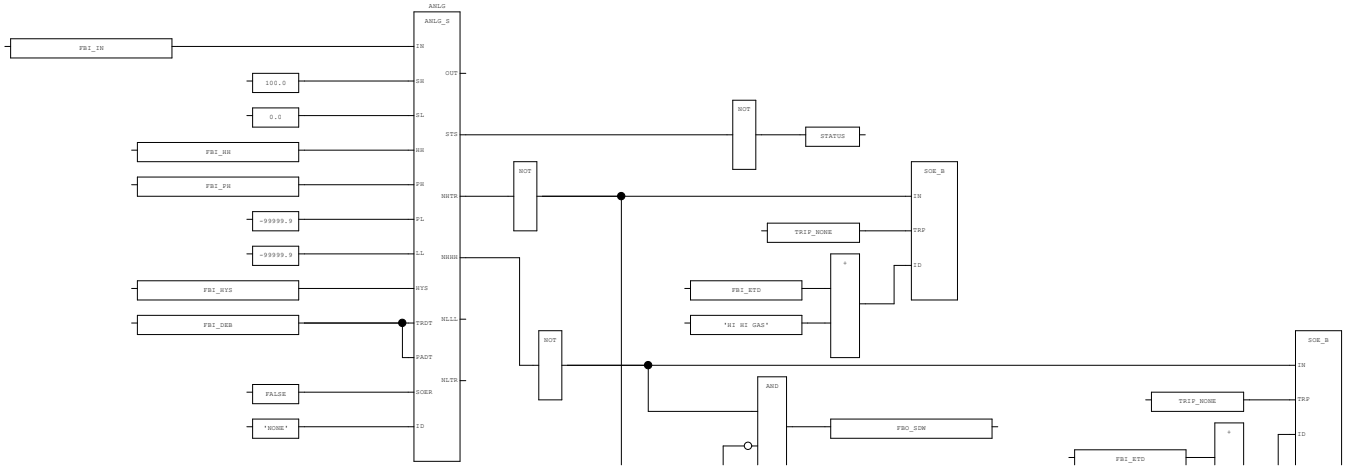

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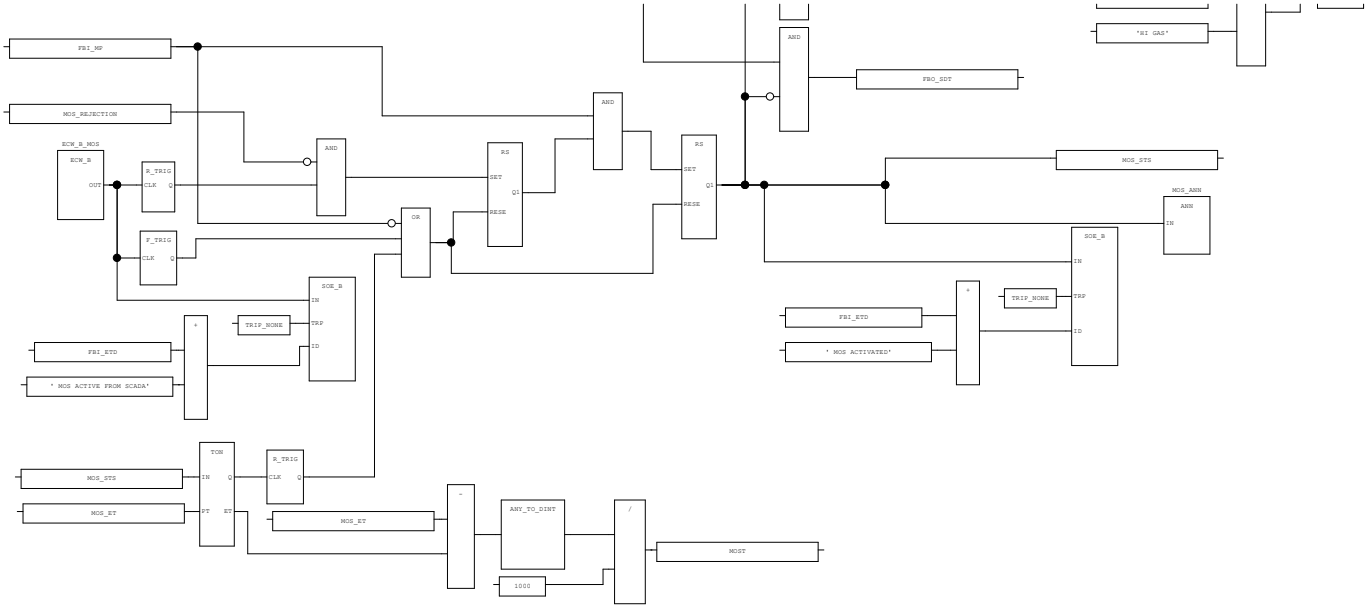

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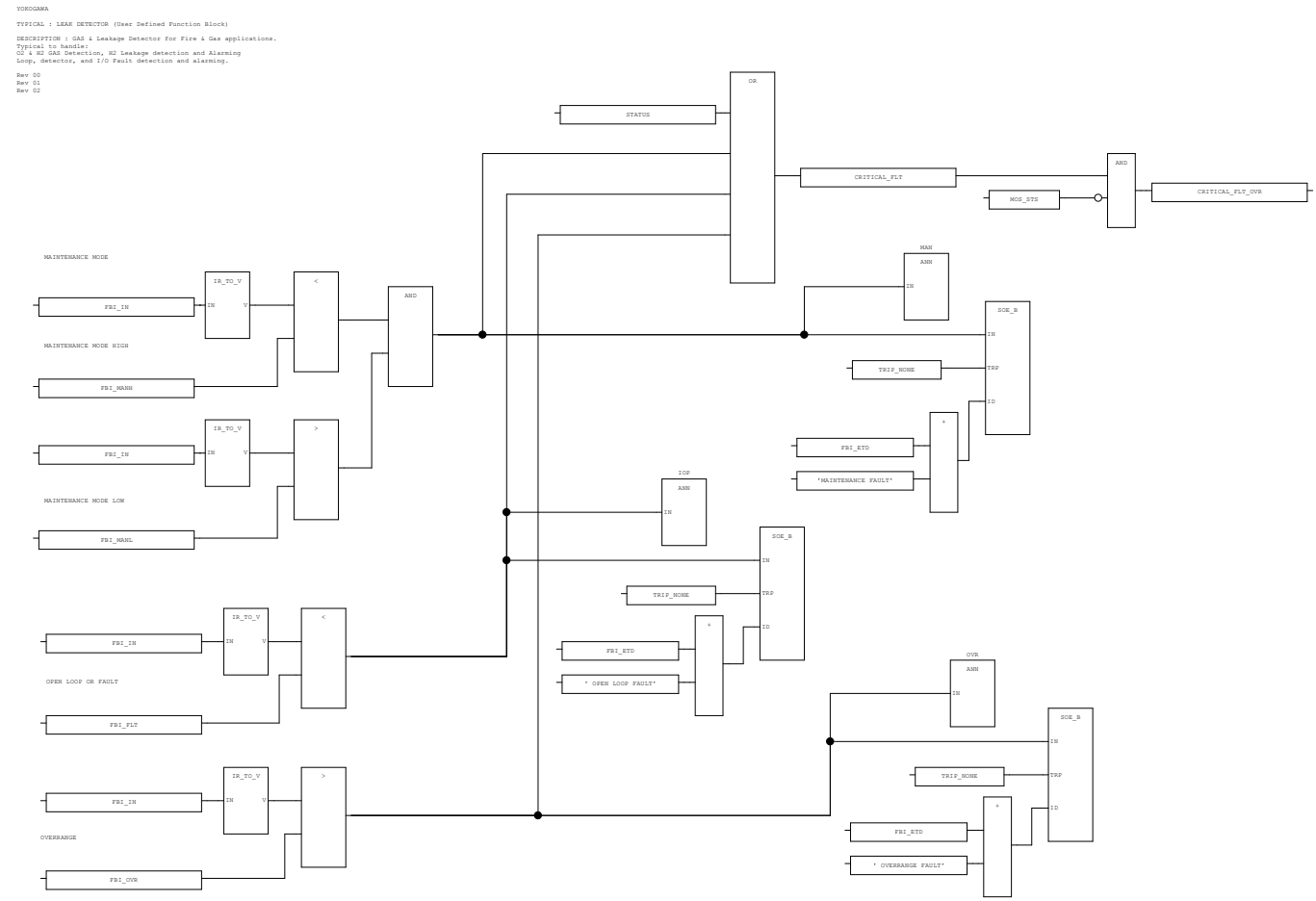
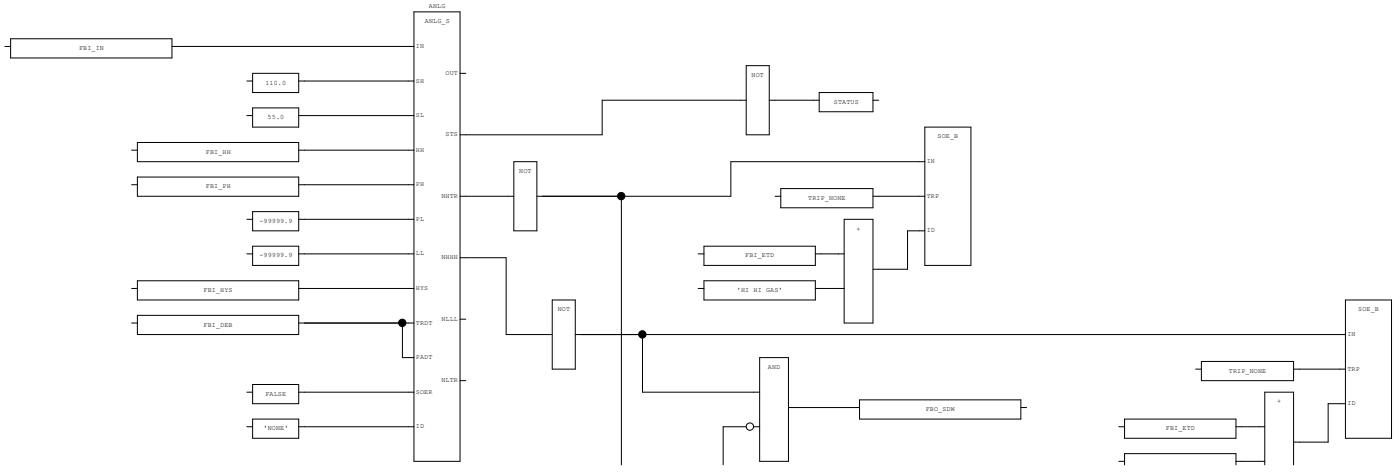
				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.55. FG_LD (* LeakDetector Analog Input *)

1.0.0



2.0.0



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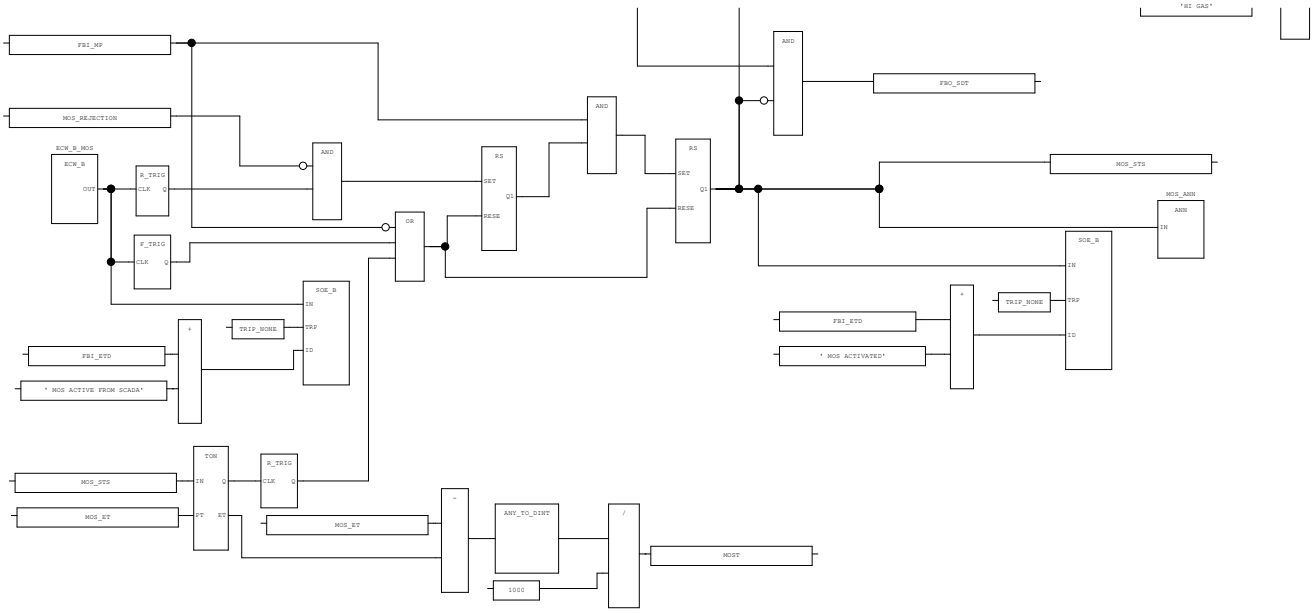

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				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.56. FG_MAN_REL_NC (* FGS NC Type Digital Input *)

1.0.0

YOKOGAWA

TYPICAL : MAN_RELEASE (User Defined Function Block)

DESCRIPTION : Manual Release for Fire & Gas applications.
Typical to handle:
Pressure Relase Detection, IO fault handling and Alarming

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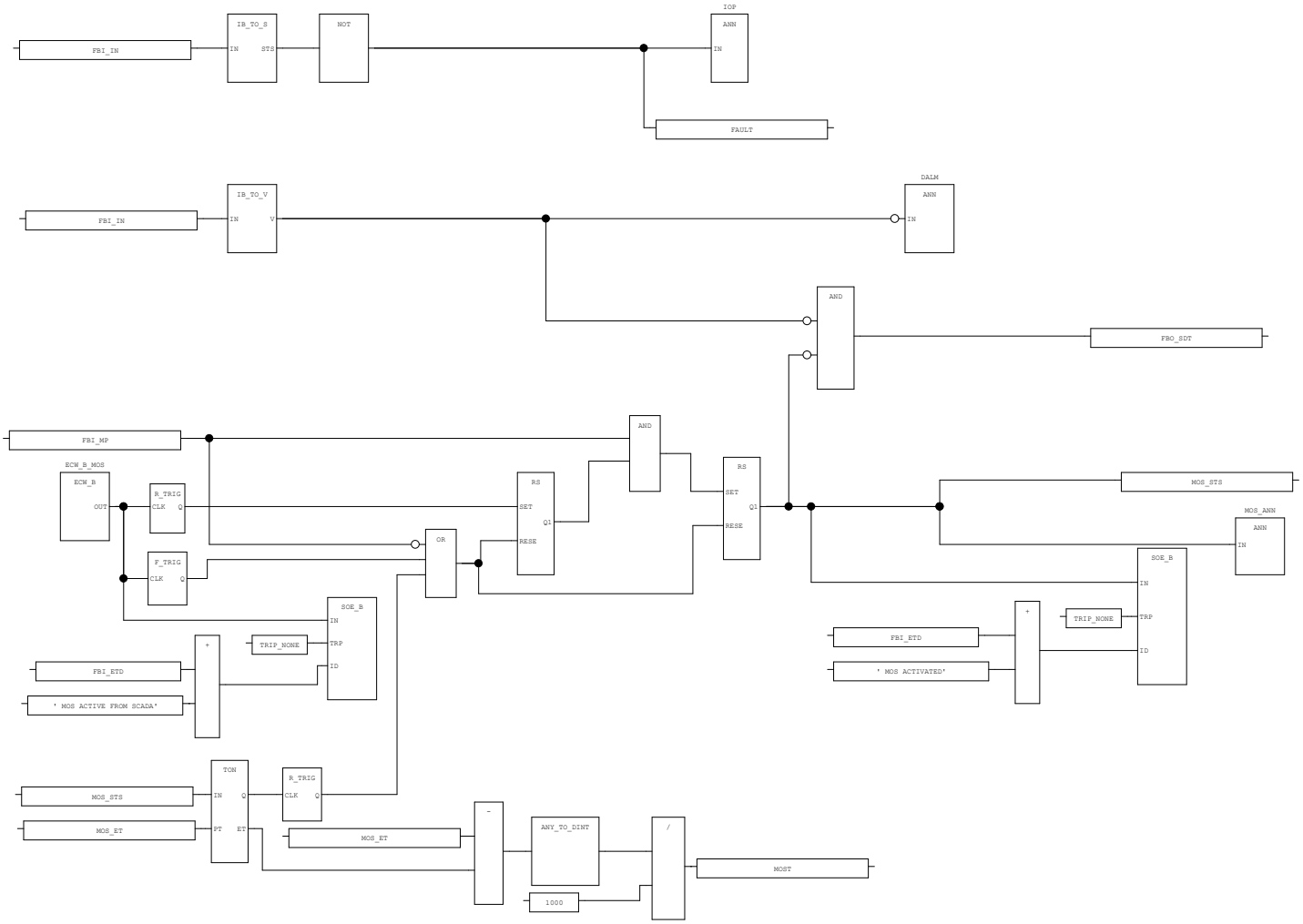

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE181
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				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.57. FG_MAN_REL_NO (* FGS NO Type Digital Input *)

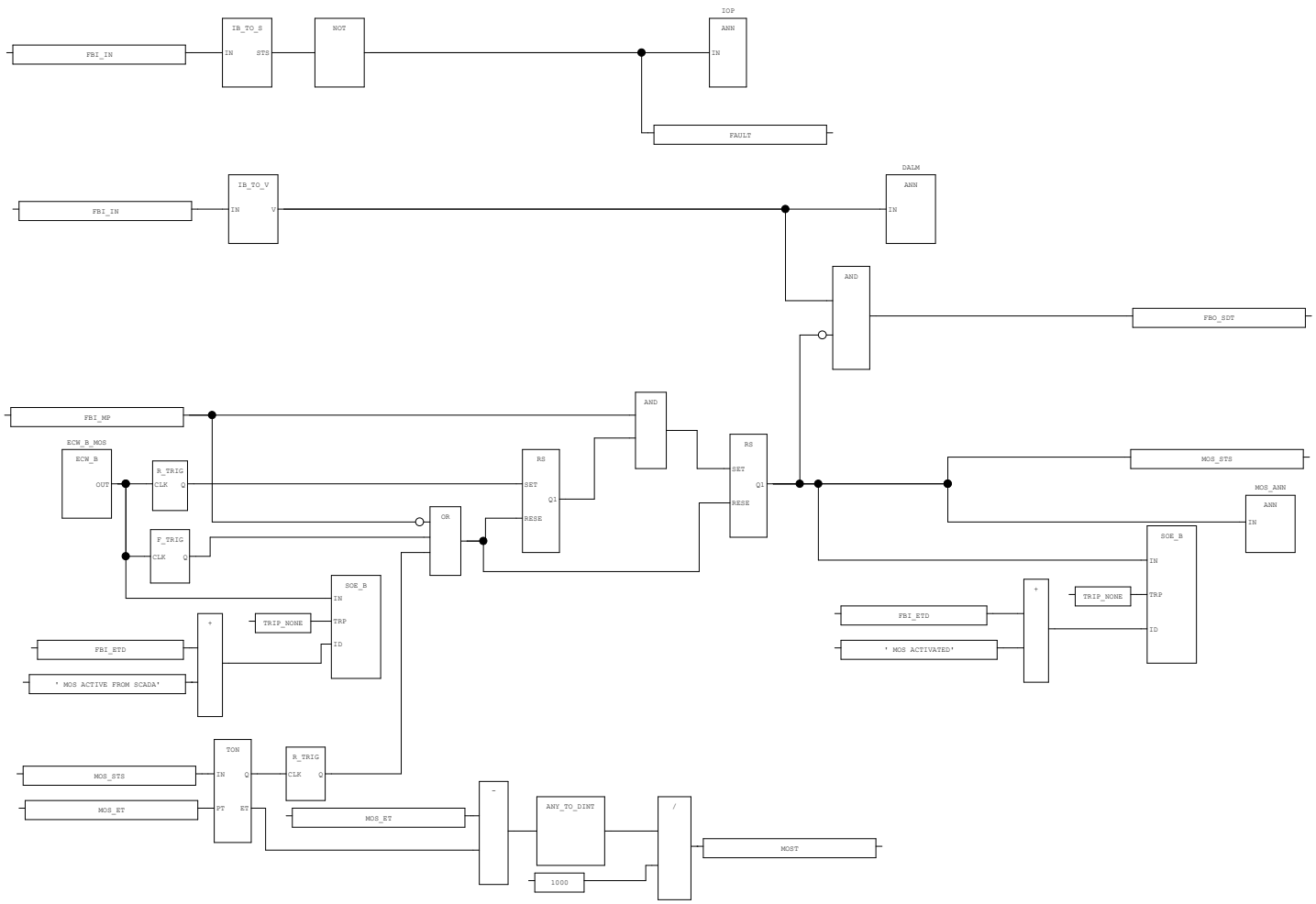
1.0.0

YOKOGAWA

TYPICAL : MAN_RELEASE (User Defined Function Block)

DESCRIPTION : Manual Release for Fire & Gas applications.
Typical to handle:
Pressure Release Detection, IO fault handling and Alarming

Rev 00



AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE182
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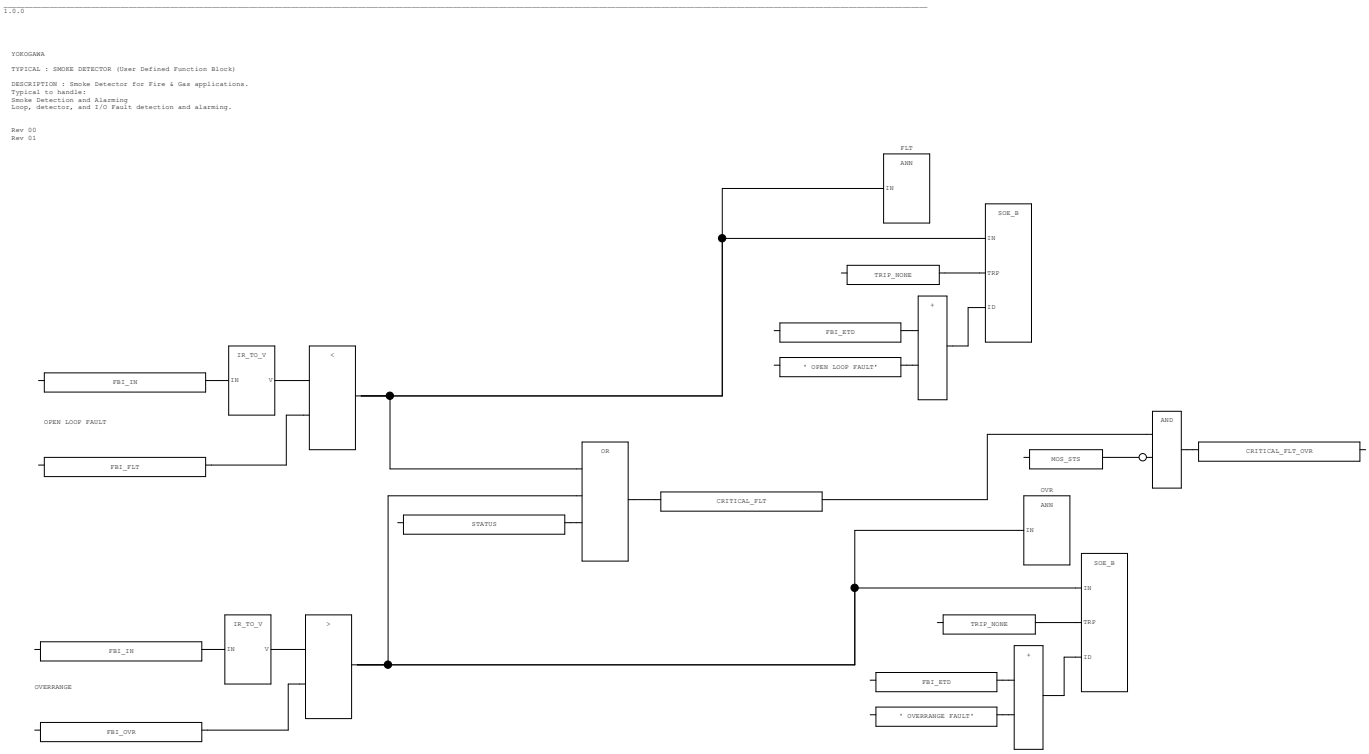
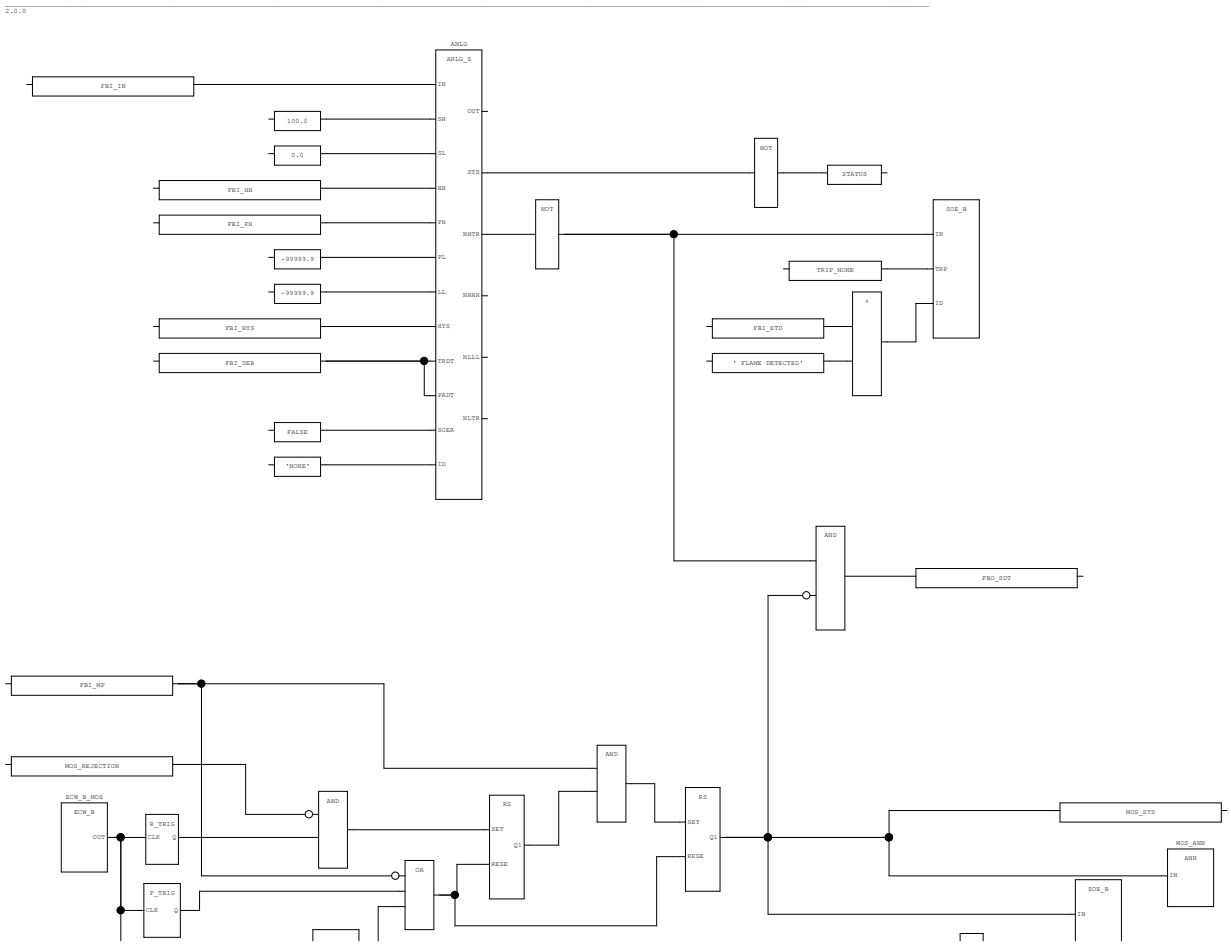
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.58. FG_SD (* Smoke Detector Analog Input *)





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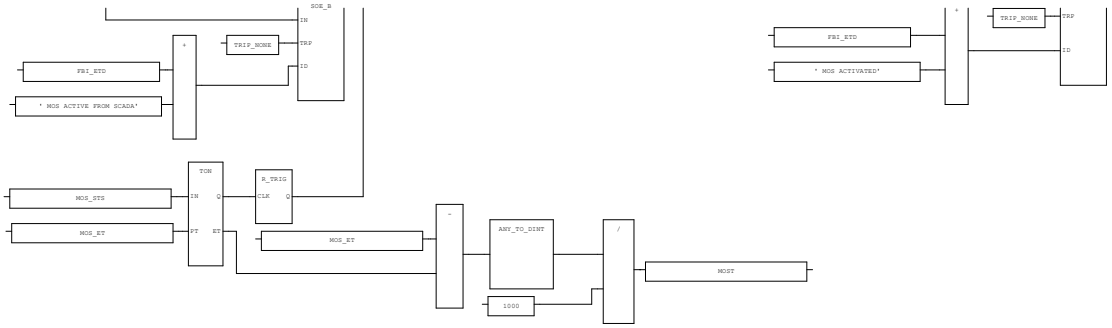

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				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

3.59. FG_V2N (* 2ooN Detectors Vote *)

1.0.0

Typical: FG_V2N (User Defined Function Block)

DESCRIPTION: 2OON FOR Detectors in Bypass or Fault Vote & Trip Vote logics for FGS applications.
Typical to handle: Count Boolean bits from Detectors Any in Bypass or Fault Vote & Trip to Vote.

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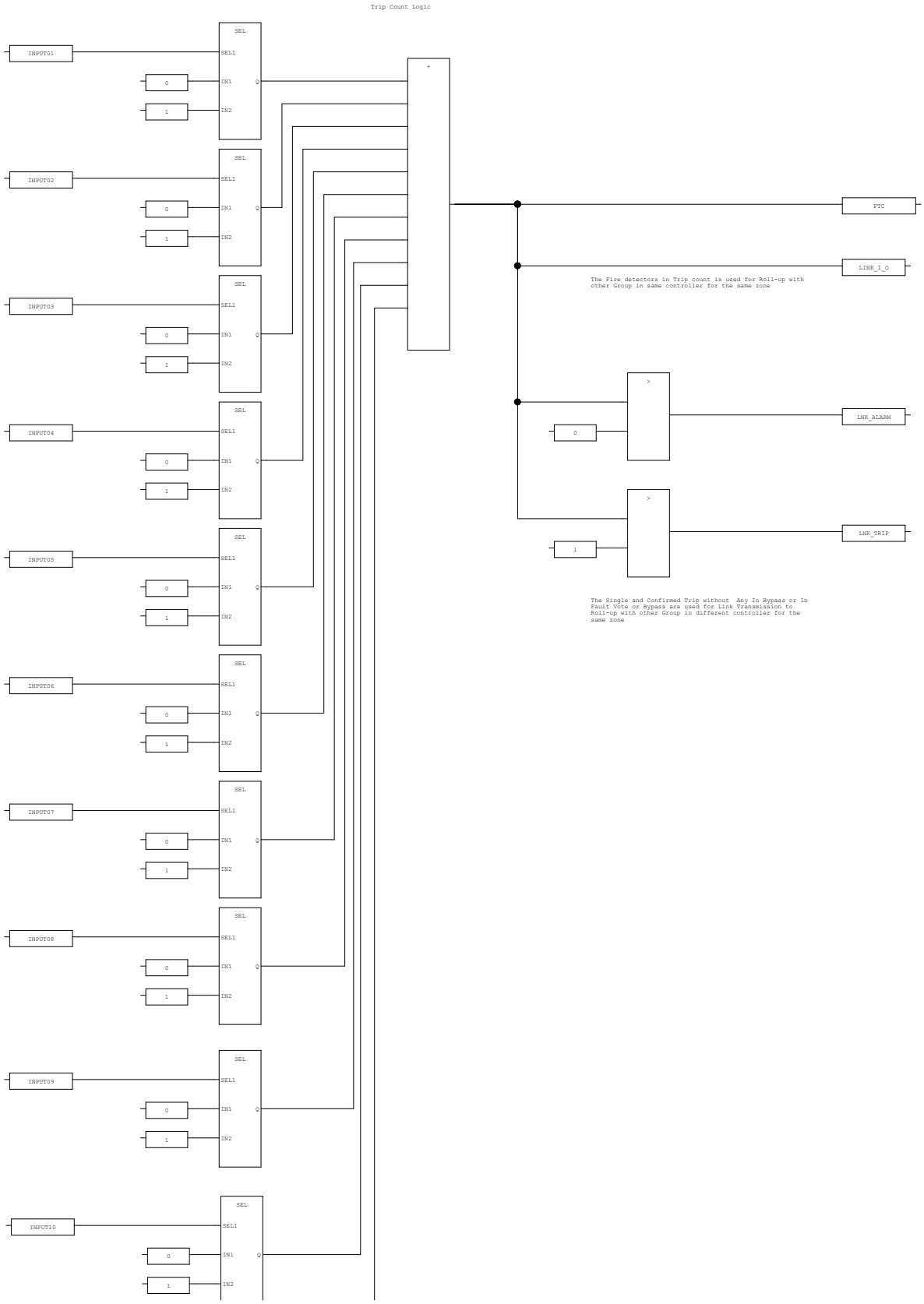

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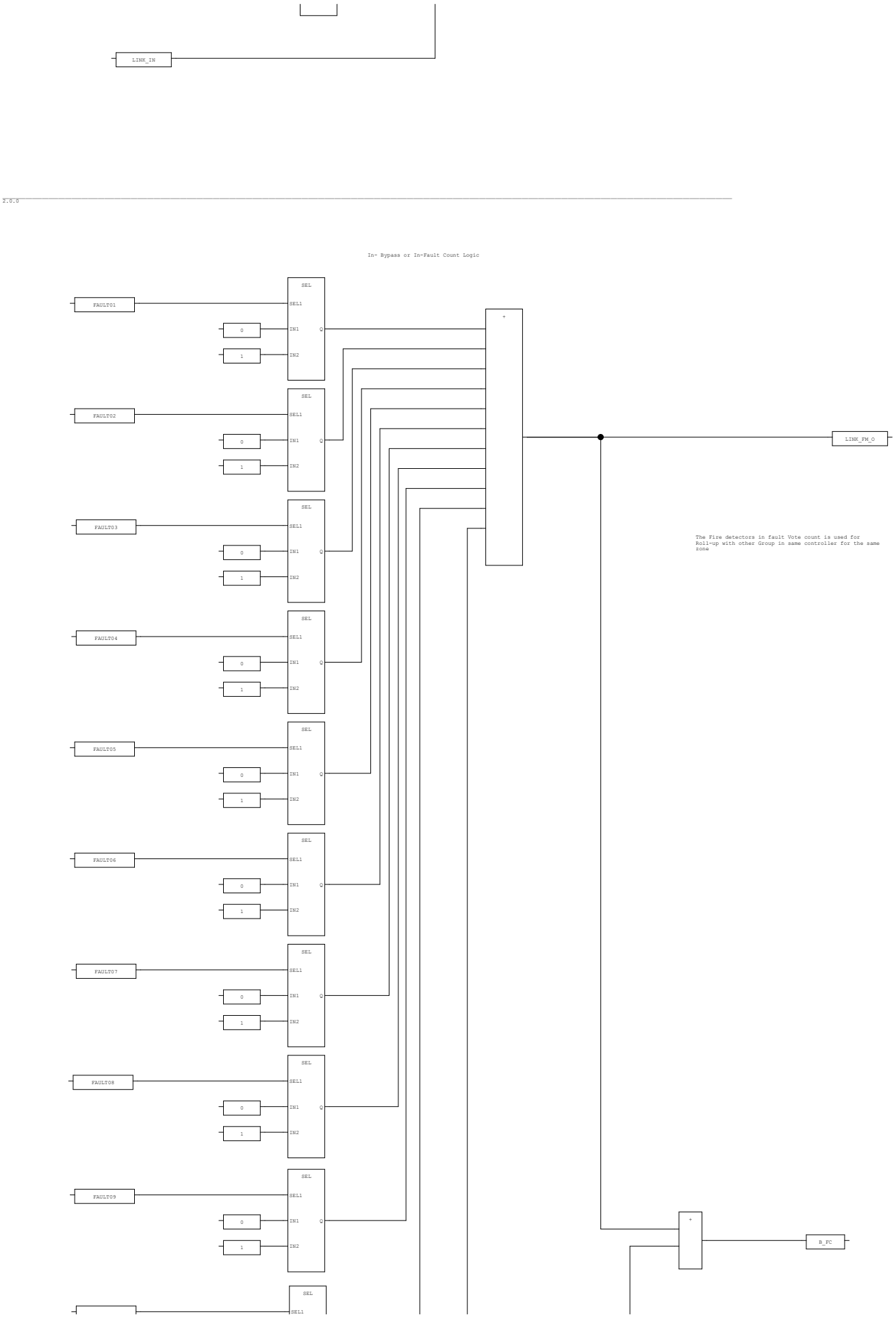

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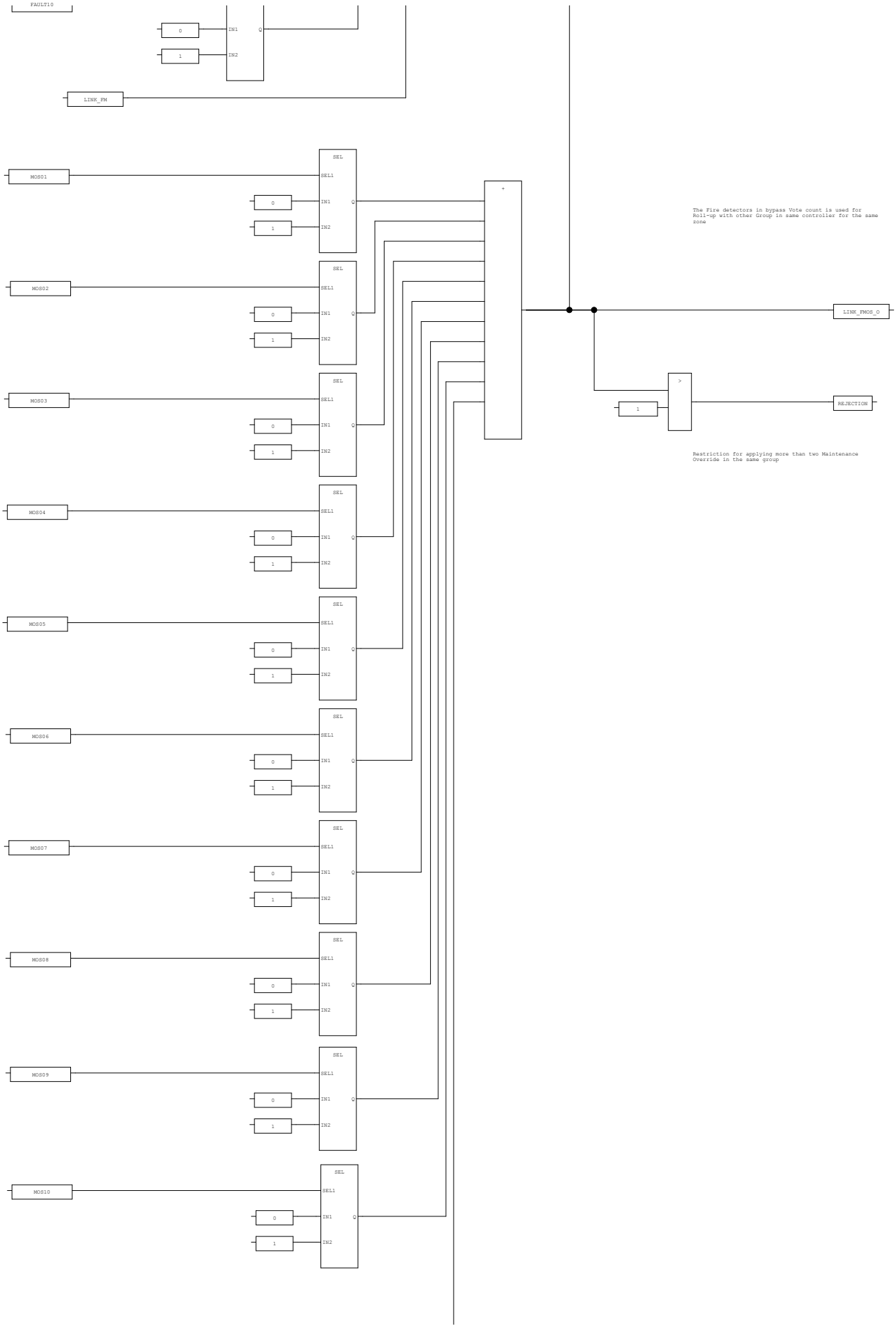

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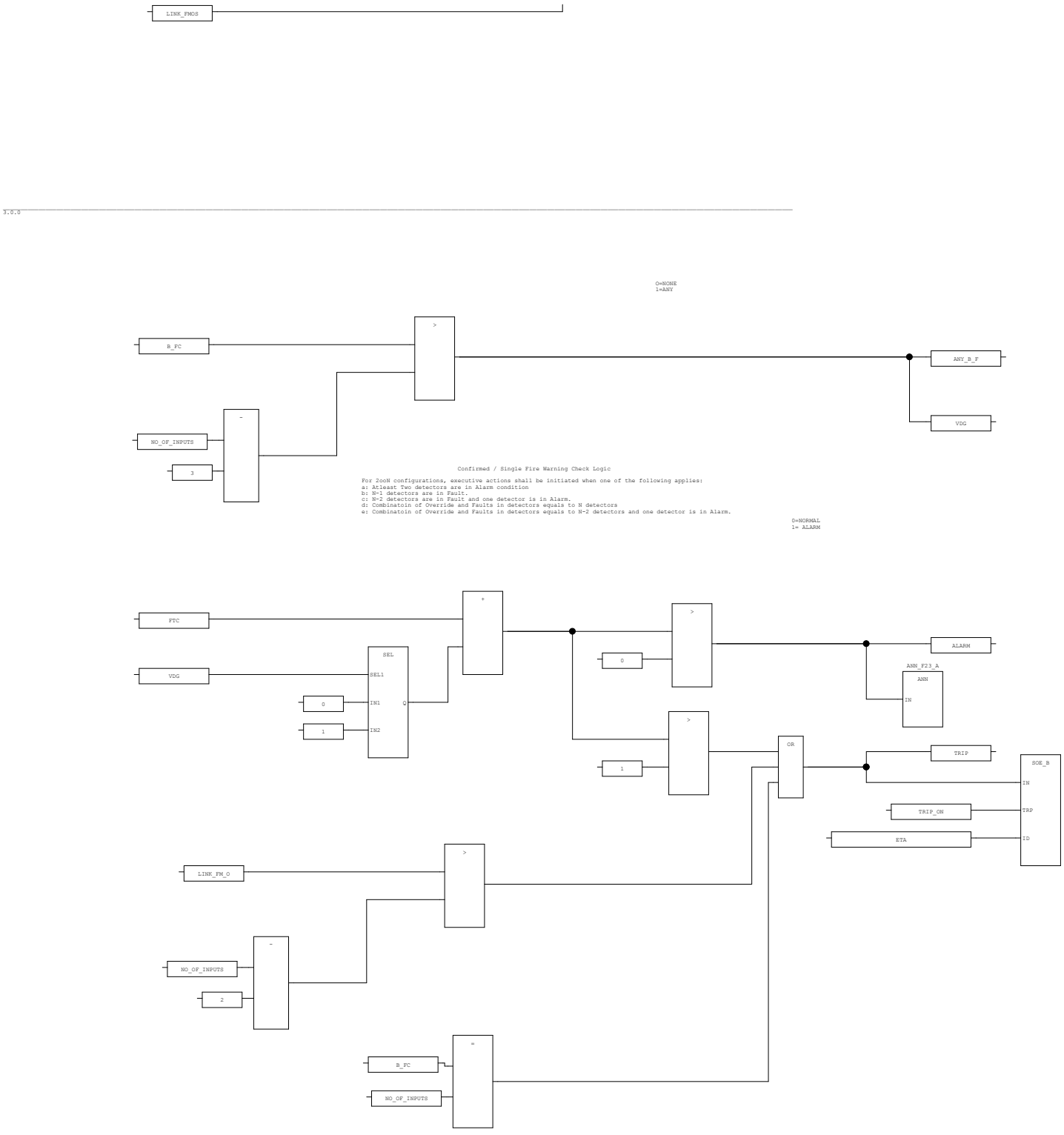

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SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.60. UZGRP (* IPS UZ group with 10 inputs *)

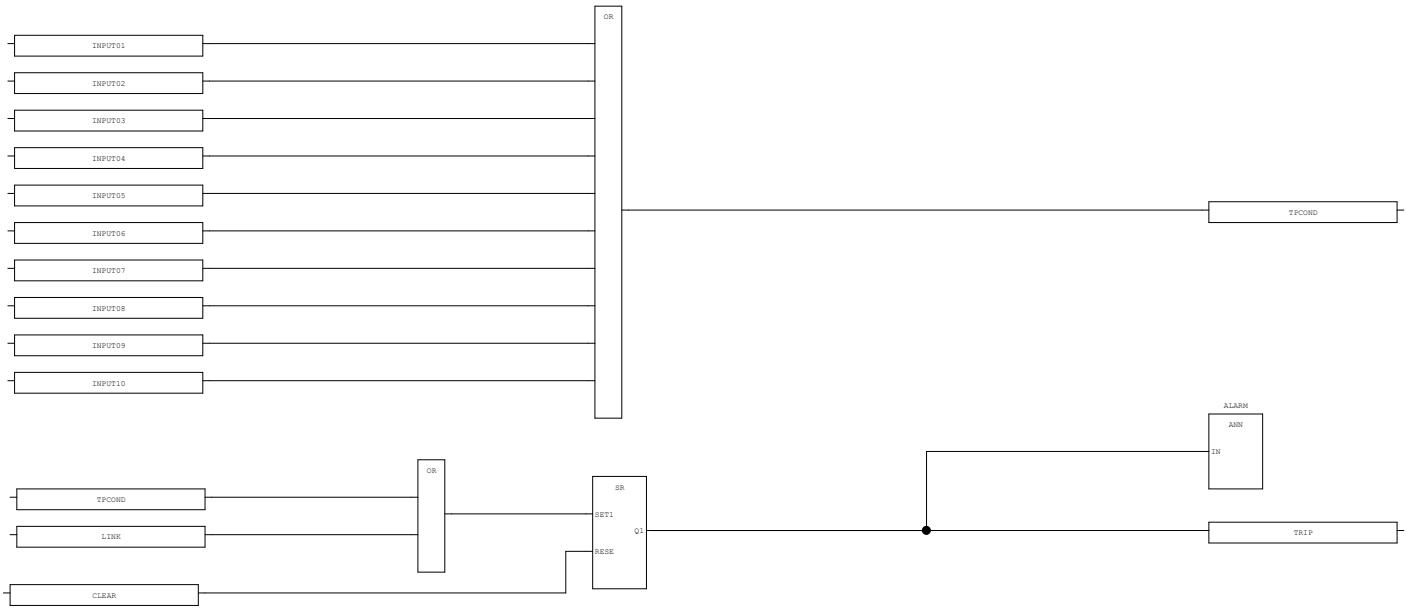
1.0.0

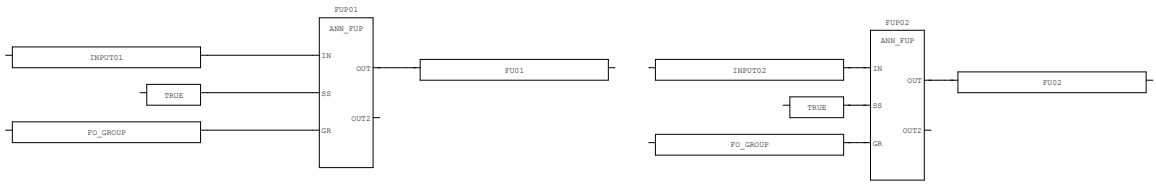
YOKOGAWA

TYPICAL : UZGRP (User Defined Function Block)

DESCRIPTION : This FB is used for the processing trip logic.
The UZGRP function block has the following main functions:
- Trip the UZ group if any of the input causes are in tripped state.
- Initiate a first out alarm.
- Latch the UZ trip until the causes have returned to normal state & no reset is activated.

Rev 00





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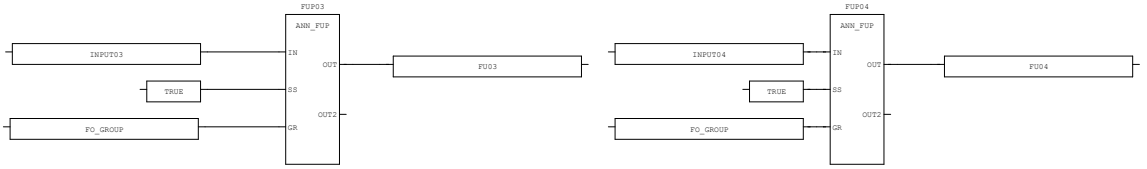

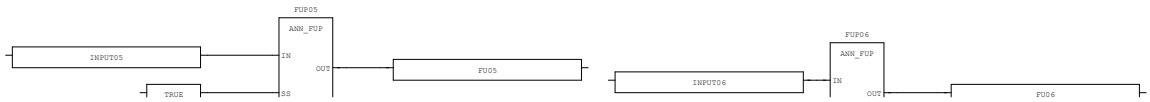

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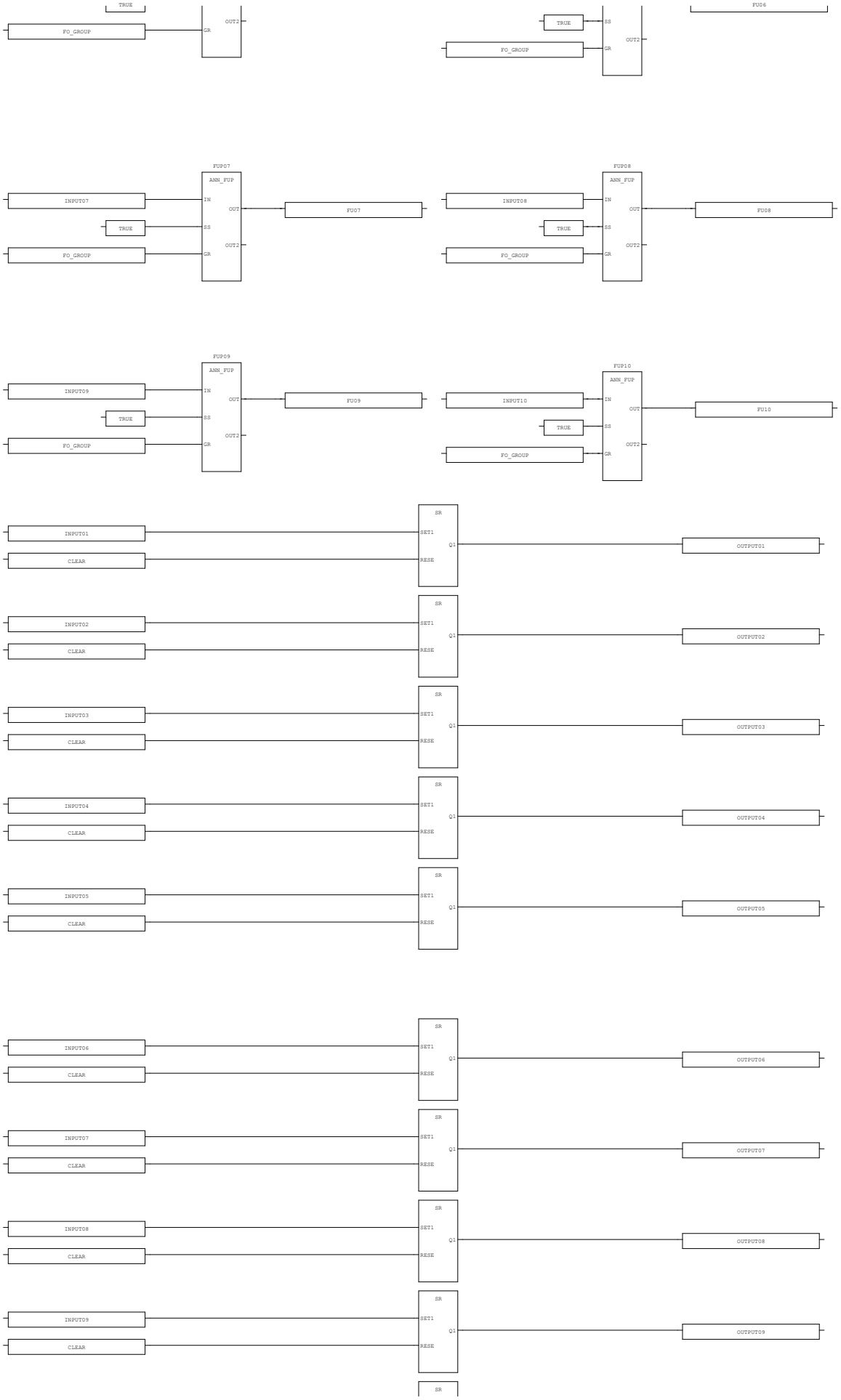

AREA:	-	CONTRACTOR:	ROSETTI MARINO	PROJECT:	BASE LOAD POWER HUB (BLPH)	YOKOGAWA	PAGE190
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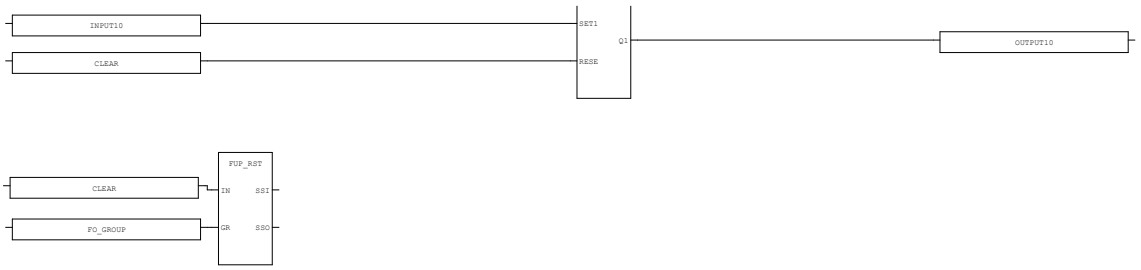

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SYSTEM:	FGS	POU COMMENT:		DATE:	16-Sep-2025		TOTAL 192
				REVISION:	5.3		

3.61. UZRST (* IPS Reset for UZ group *)

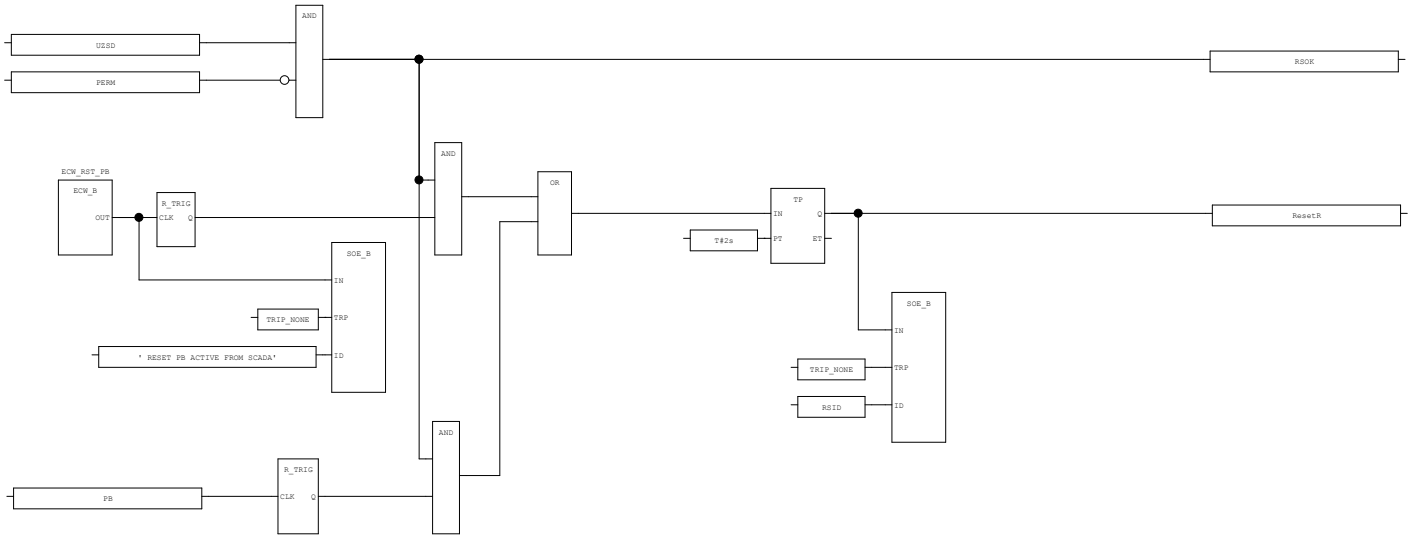
1.0.0

YOKOGAWA

TYPICAL : UZRST (User Defined Function Block)

DESCRIPTION : This FB is used for the UZ group reset.
The UZRST function block has the following main functions:
- Reset UZ groups only when SCS Reset operated from HIS has been applied
- Indicate that SCS reset is allowed
- Reset First out alarm

Rev 00



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				DATE:	16-Sep-2025		TOTAL 192
SYSTEM:	FGS	POU COMMENT:		REVISION:	5.3		

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-8.3 Logic diagram print out EMCS

1724000594-IN-DG-00027

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic Diagram Print Out EMCS	Sheet 1 of 92 Date: 30/07/2025 Rev: 01

Base Load Power Hub (BLPH)

Logic Diagram Print Out EMCS

Document Number: 1724000594-IN-DG-00027

Supplier Document Number: E366772C00-EMCS_LD

Document Class: 3

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	19/09/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
01	30/07/2025	Issue for Information (IFI)	CF	SA	VO
00	20/02/2025	Issue for Information (IFI)	CF	SA	VO

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File: 1724000594-IN-DG-00027_R01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic Diagram Print Out EMCS	Sheet 2 of 92 Date: 30/07/2025 Rev: 01

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)
02	Issue for Information (IFI)

HOLDS LIST

No.	Description
1	
2	
3	
4	
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7	

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic Diagram Print Out EMCS	Sheet 3 of 92 Date: 30/07/2025 Rev: 01

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

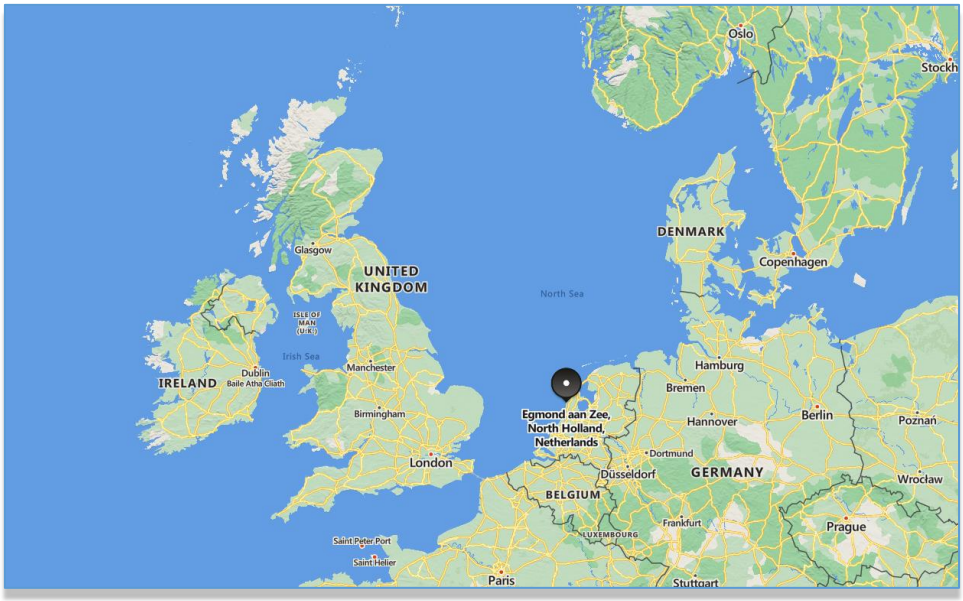

Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

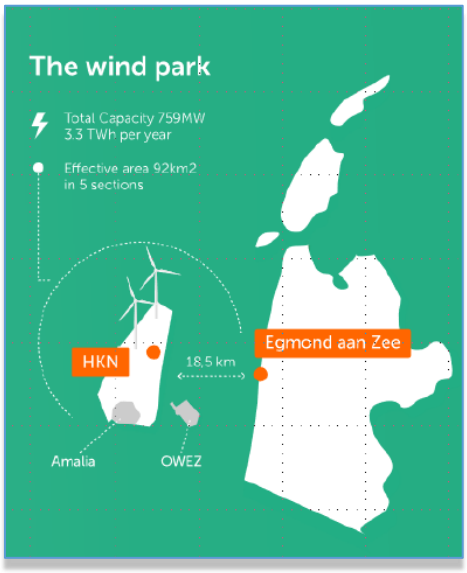

Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

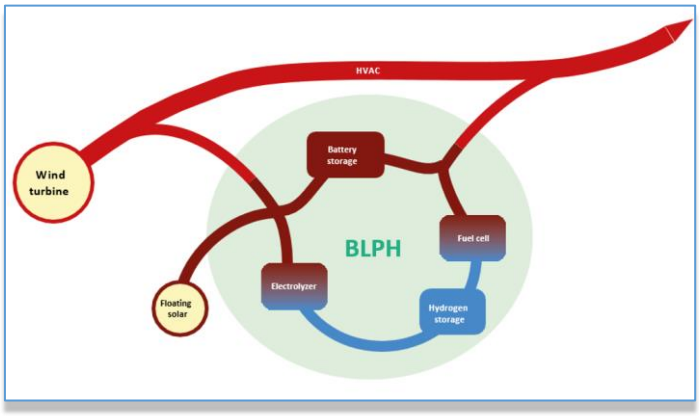

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Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

The purpose of this document is to provide a general description of the control logic implemented in the Energy Management and Control System (EMCS) of the CROSSWIND BLPH project.

2.1 REFERENCES

Document No.	Description
1724000594-IN-SP-00019	EMCS Software Functional Design Specification (FDS-SW)
123A90-DDL-IN-RE-40095	Process Control Logics Description
123A90-DDL-EL-SP-20141	Electrical System Description & Design Philosophy
123A90-DDL-IN-SP-40098	Control System (PCS) Specification
123A90-DDL-EL-RE-20176	Electrical System Study Report - Transient In-Rush
123A90-DDL-EL-RE-20171	Electrical System Study Report - Short Circuit
K559-2254-PM-PLN-003	Basic Design Engineering Package BLPH FEED
123A90-PML-PM-TQ-00050	Reactive power control requirement for BLPH
123A90-DDL-EL-DG-20158	Overall/Key Single Line Diagram
1724000594-IN-DD-00015	System Architecture
SRN – 04270	Operations Modes Review – Base Load Power Hub
123A90-DDL-IN-SP-40097	System Specification for Main Automation Contractor
123A90-DDL-IN-SP-40100	Safety System (ESD, Fire and Gas) Specification)
123A90-MOM-RM-STAT-CW-003	Minute of Meeting - Freqcon & Statron-Control Workshop with Rosetti's MAC
123A90-MOM-RM-STAT-CW-003	123A90 - Interface control workshop with Rosetti MAC-BESS-Point 9 and 10-Synchronization Procedure-Via Mail
123A90-PML-PM-TQ-00053	Technical Query – Interface with BESS
123A90-MOM-ELO-ROS-CW-003	Minute of Meeting- Electrolyzer- CPI Interface Meeting

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123A90-PML-PM-TQ-00052	Technical Query – Interface with Electrolyzer
123A90-PML-PM-TQ-00051	Technical Query – Interface with Fuel Cell
123A90-MOM-RM-BAL-CW-004	Minute of Meeting – Control Workshop with Rosetti's MAC.
123A90-PML-PM-TQ-00055	Technical Query – Interface with Solar Farm
123A90-PML-PM-TQ-00054	Technical Query – Interface with Windfarm and HNA5
123A90-MOM-ELE-ROS-CW-023	Minute of Meeting - Control Workshop with Rosetti's MAC
K559-2254-CWIWP4202201-C08-001	BESS - Control Philosophy & Block Logic Diagrams
C63-AUT-002	Electrolyzer – Communication Table
K559-2254-CWIWP4202202-C08-001	BALLARD- Control Philosophy & Block Logic Diagrams
CWHKN-INN-INP-SPC-00005	SCADA Functional Design Specification
123A90-DDL-EL-LIS-20016	Electrical Load List & Balance (CCS MODE 1 'IMPORT')
123A90-DDL-EL-LIS-20143	Electrical Load List & Balance (CCS MODE 2 'HOT STANDBY')
123A90-DDL-EL-LIS-20144	Electrical Load List & Balance (CCS MODE 3 'EXPORT')
123A90-DDL-EL-LIS-20145	Electrical Load List & Balance (CCS MODE 4 'COLD STANDBY')
123A90-DDL-EL-LIS-20146	Electrical Load List & Balance (CCS MODE 4A 'EMERGENCY MODE')
23A2007_240628_PROFINET_Register BESS_V1_0_0_3	BESS_PROFINET_SIGNAL LIST
K559-2254-CWIWP4202201-J10-001	FREQCON MSC - Product Description
MAN002 Integration Manual FCwave 2.2.0	FC Wave Marine Fuel Cell Integration Manual
CW-BALL-TQ-0008 - Fuel Cell - Rev B - BAL RESPONSE	Minute of Meeting Response
Crosswind Modbus Table - Main PLC - External Cut	Fuel Cell MODBUS Map
HKN1-02-REG-341	Manual for controlling the solar farm via the client connector REV A

Table 1 - Reference Documents

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2.2 DEFINITIONS AND ABBREVIATIONS

ALARP	As Low as Reasonably Possible
AVR/OLTC	Automatic Voltage Regulator/On Load Tap Changer
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
BPCS	Basic Process Control System
COMPANY or Client (CPY)	Crosswind
CCS	Central Control System (PCS + EMCS)
CPI	Company Provided Item
DCS	Distributed Control System
ESD	Emergency Shut down
EWS	Engineering Workstation
EMCS	Electrical Management Control System
FEED	Front-end Engineering Design
FGS	Fire & Gas System
FO	Fiber Optics
GUI	Graphical User Interface
HMI	Human Machine Interface
HKN	Hollandse Kust Noord
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA
HSE	Health, Safety & Environment
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
IACS	Industrial Automation & Control System
ITER	Instrument & Telecoms Equipment Room (located Offshore)
LV	Low Voltage
MV	Medium Voltage
OER	Onshore Equipment Room
PAS	Process Automation System
PFD	Process Flow Diagram
P&ID	Piping & Instrumentation Diagram
PSD	Process Shut Down
PV	Photo Voltaic
SCADA	Supervisory Control and Data Acquisition
SoC	State of Charge
SF	Solar Farm

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SS	Safety System (SIS+FGS)
TQ	Technical Query
UCP	Unit Control Panel
UFD	Utility Flow Diagram
UPS	Uninterrupted Power Supply
WTG	Wind Turbine Generator

Table 2 - Definitions and Abbreviations

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3 SOFTWARE ARCHITECTURE

The EMCS control logic is written using the set of language of IEC 61131-3 standard and run in SEL RTAC 3555 industrial computers (PLC).

The basic concept of the EMCS is that the system is in one of the modes defined in the

FDS (1724000594-IN-SP-00019) :

- IDLE
- IMPORT CHARGING
- IMPORT NOT ABLE TO CHARGE
- HOT STANDBY
- EXPORT
- COLD STANDBY
- EMERGENCY
- POWER OUT
- RESEARCH
- MAINTENANCE
- NONE

When a mode is selected, the EMCS execute a set of routines to perform the actions (start and stop packages, impose setpoint, open or close CBs, …) required by the execution logic defined for the mode.

The Figure 4 shows a diagram representing the software components involved in the mode selection:

- EMCS Mode Processor: responsible for evaluating the precondition and to select the current mode. Internally it contains two sub components: the Mode Selector and the Mode Activator.
- Real-Time Data Cache: responsible to store the snapshot of the field variables
- Protocol Drivers: a set of clients implementing a specific protocol (MODBUS, IEC 61850, OPC-UA) responsible to collects the data from the field devices
- Field Devices: are an abstraction of the field devices
- Mode[i]: software components responsible to execute the control logic of a specific mode.

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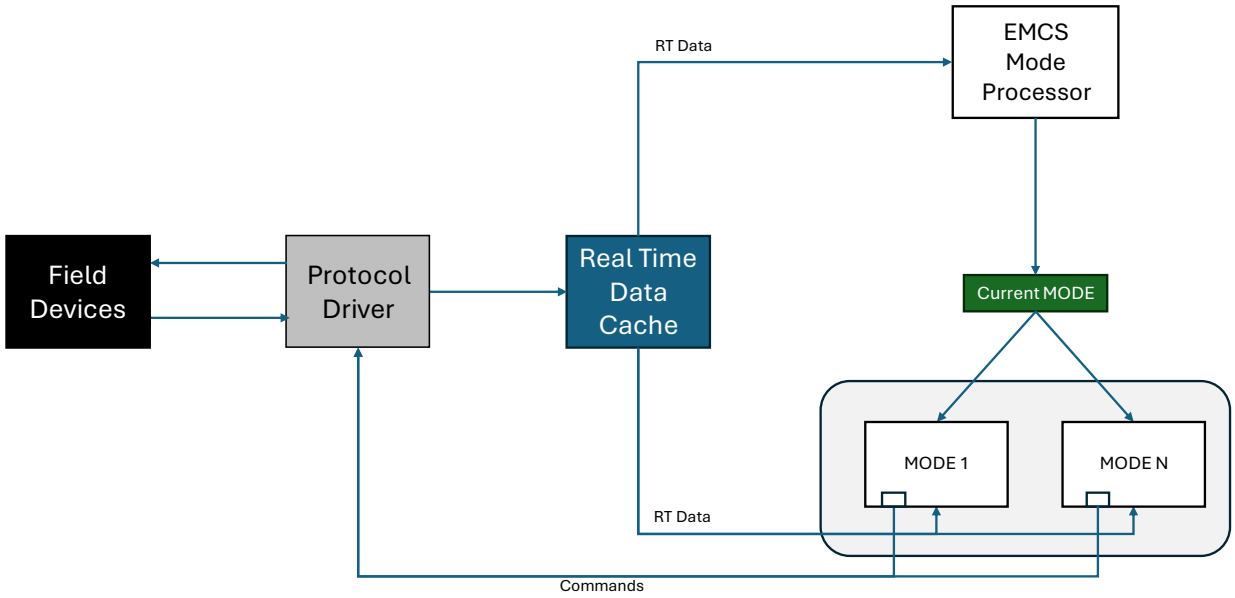

Figure 4 – EMCS Mode Selection

Each mode is implemented as an independent Function Block with its internal state machine. The picture Figure 5 shows the status of a mode and the process involved in the transition between one mode and another. The picture shows as an example the Research and Maintenance mode, but the concept can be extended to all modes.

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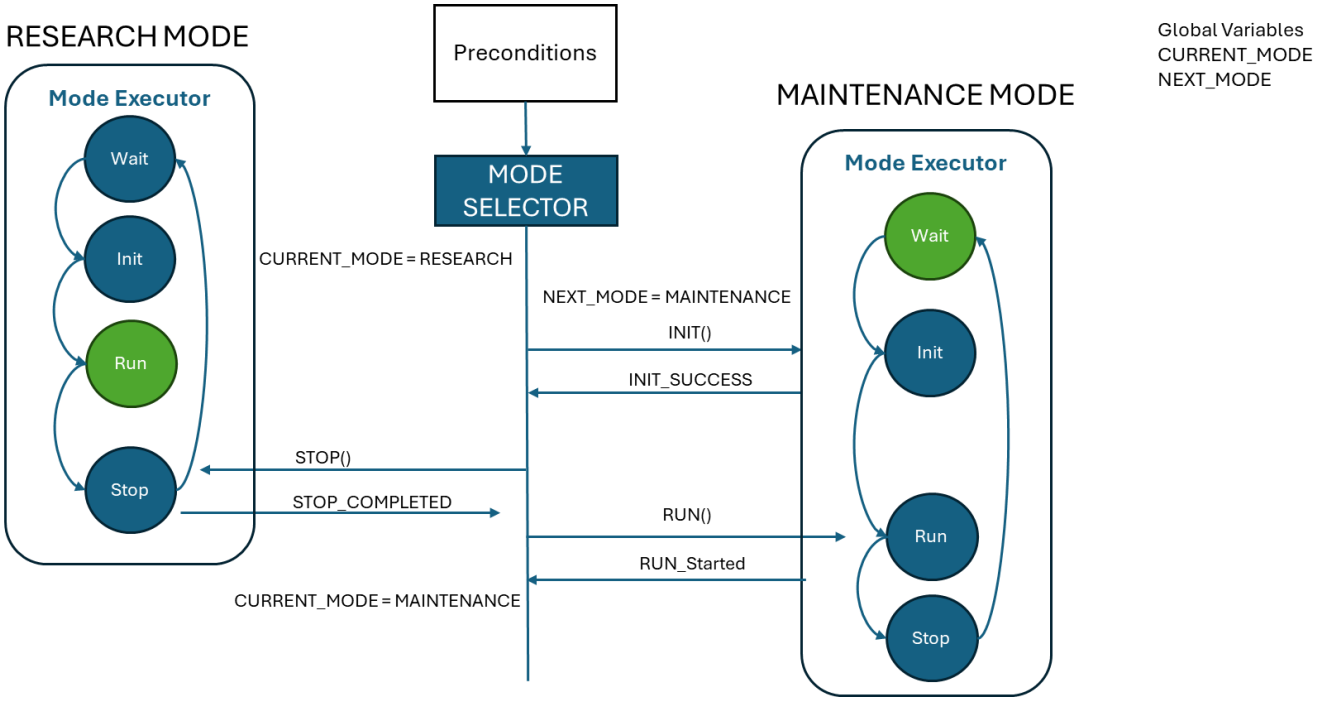

Figure 5 – Mode state machine and transitions

In the above example, the Mode Selector block continuously evaluates the preconditions received as input to establish if a MODE transition is required. The Mode Selector uses two global variables:

- CURRENT_MODE: reports on what is the current executing MODE
- NEXT_MODE: reports on what the next MODE to execute should be based on the status of the preconditions.

In the example, the precondition regarding the EMCS Manual-Automatic Mode is changing from Research to Maintenance. This happens when the SCADA operator switches manually the AUTO-MANUAL mode selector from Research to Maintenance MODE.

Whenever the NEXT_MODE differs from the CURRENT_MODE, a transition is initiated. During the transition, first it is evaluated if the transition to the NEXT MODE can be performed.

In the example, the Mode Selector calls the *init* function of the Maintenance Mode Executor to check if the transition can be done. If the *init* function returns success, the Mode Executor calls the stop function to the Research Mode executor and then calls the *run* function to the Maintenance Mode Executor. After the transition both CURRENT_MODE and NEXT_MODE variables report Maintenance MODE.

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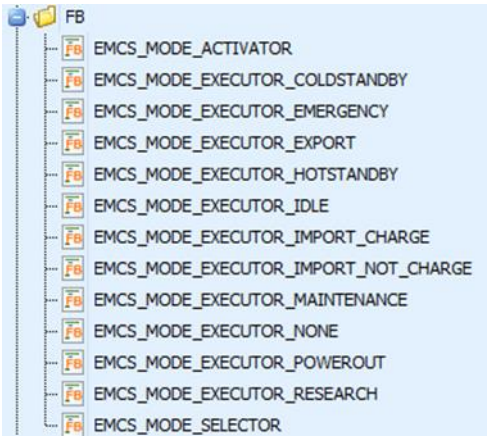
CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Logic Diagram Print Out EMCS	Sheet 15 of 92 Date: 30/07/2025 Rev: 01

From the RTAC project point of view, each mode logic is contained in a dedicated file.



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4 SOFTWARE CODE

In this chapter the code regarding the EMCS MODEs transition and execution is printed out.

4.1 EMCS MAIN VARIABLES

```
VAR_GLOBAL
      IsMaster : BOOL;
      NodeId : INT;
      PlatformSupplyGuarantee : BOOL;          // Formula
      AuxLoad : REAL;                          // SG100D1_A4_TR_200DE1_RealPower
      GridTied : BOOL;
      GridVoltageOK : BOOL;                    // Tell if the voltage above the MV breaker is OK and
                                               // the BLPH can be reconnetced
      AutoManualMode : UINT := EMCS_AUTOMANUAL_ENUM.MANUAL_RESEARCH;   //   EMCS_AUTOMANUAL_ENUM   =>
                                               0:AUTO; 1:Maintenance; 2:Research
      ResidualOperationTime : REAL;
      TotalActivePower : REAL;                 // Balance of the BLPH
      BessFuellCellActivePower: REAL;          // BESS + FUELL CELL active power
      OperatorSupplyGuarantee : UINT;          // EMCS_SUPPLY_GUARANTEE: Command from SCADA

      HV_SCADA_Connected : BOOL;
      HNA5_ActivePower : REAL :=500;           // kW
      HNA5_Fault : BOOL;                       // formula
      HNA5_SupplyGuarantee : BOOL;             // Tells if there is a disconnection
      HNA5_StatusCode : INT;                   // WindTurbine status. WindFarm.HNA5-AFA78.StatusCode
      HNA5_QA1CB_Status : UINT;                // Signal coming from HV-SCADA (WindFarm)=> 0: Opened,
                                               1: Closed, 2: Intermediate, 3: Disturbed

      BESS_Connected : BOOL;
      BESS_DisconnectionTimer: INT;
      BESS_ShutdownTimer: INT;
      BESS_ReconnectionTimer: INT;
      BESS_IsReconnecting :BOOL;               // Is reconnectiong to the electrical BUS
      BESS_OperatingStatus : BESS_OPERATING_STATUS_ENUM;
      BESS_OperatingStatusCmd : INT ;          // Stop=0; Start=8192
      BESS_ResetCmd : BOOL ;                   // Reset=TRUE. Impulsive command. It is autoreset
                                               // after 3 seconds
      BESS_FullyCharged : BOOL;
      BESS_Healthy : BOOL;
```

```
BESS_HasVoltage : BOOL;
BESS_GridVoltageOK : BOOL;
BESS_ActivePowerSetPointCmd :REAL;
BESS_ActivePowerSetPoint :REAL;
BESS_ActivePower :REAL;
BESS_SOC : REAL;                                // %
BESS_AvailableEnergyPerc : REAL;                // %
BESS_DischargeEnergy : REAL;                    // kWh
BESS_ChargeEnergy : REAL;                       // kWh
BESS_GridFormingPermissive : BOOL;
BESS_GridConnectPermissive : BOOL;              // Operator removes the grid forming permissive
                                                // to go back in grid following
BESS_StatusAvailable : BOOL;                    // Status3 // True: Started; False:Stopped
BESS_StatusWarning: BOOL;                       // Status1
BESS_StatusError: BOOL;                         // Status1
BESS_StatusPhreHeat: BOOL;                      // Status1
BESS_StatusStandBy: BOOL;                       // Status1
BESS_StatusPreCharge: BOOL;                     // Status1
BESS_StatusReady: BOOL;                         // Status1
BESS_StatusActiveInOperation: BOOL;             // Status1
BESS_StatusSafetyRelaisTriggered: BOOL;         // Status1
BESS_StatusSmokeDetectorTriggered: BOOL;        // Status1
BESS_StatusMainSwitchOn: BOOL;

BUS_6_6kV_HasVoltage : BOOL;

Electrolyzer_Connected : BOOL;
Electrolyzer_DisconnectionTimer: INT;
Electrolyzer_ShutdownTimer: INT;
Electrolyzer_ReconnectionTimer: INT;
Electrolyzer_IsReconnecting :BOOL;              // Is reconnectiong to the electrical BUS
Electrolyzer_ActivePowerConsumption : REAL;     // This is mapped to
                                                //SG100D1_A1_ELECTROLYZER_RealPower. Doesn't
                                                // come from the Electrolyzer
Electrolyzer_ActivePowerSetPointCmd : REAL;     // Command for the Active Power set Point
Electrolyzer_FlowSetPointCmd : REAL;            // Command for the Flow set Point
Electrolyzer_FlowSetPoint : REAL;               // Return Flow set Point (feedbsack)
Electrolyzer_SetPointChoiseCmd  : INT;          // Command for choosing the type of set point.
                                                // 0:Power, 1:Flow
```

```
Electrolyzer_OperatingStatus : ELECTROLYZER_OPERATING_STATUS_ENUM := -1;
Electrolyzer_OperatingStatusCmd : INT;              // 1:Stop: 4:Production
Electrolyzer_OperatingStatusCmd_Private : INT;
Electrolyzer_ActivationThreshold : REAL;
Electrolyzer_KeepRunning : BOOL;                    // Flag indicating that the Electrolyzer
                                                    // cannot be stopped until it finish to
                                                    // charge the vessels
Electrolyzer_CanRun : BOOL;                  // Flag calculated in function of external
                                             // conditions (see FORMULAS)

FuelCell_Connected : BOOL;
FuelCell_RemoteCtrl: BOOL;
FuelCell_DisconnectionTimer: INT;
FuelCell_ShutdownTimer: INT;
FuelCell_ReconnectionTimer: INT;
FuelCell_IsReconnecting :BOOL;               // Is reconnectiong to the electrical BUS
FuelCell_ActivePower : REAL;                 // Fuel Cell Actual Production
FuelCell_ActivePowerSetPointCmd : REAL;      // kW
FuelCell_ActivePowerChangeRate : REAL;       // kW/s
FuelCell_ActivePowerTarget : REAL;
FuelCell_ActivePowerTargetInt : REAL;
FuelCell_OperatingStatusCmd  : INT;
FuelCell_OperatingStatusCmd_Private  : INT;
FuelCell_ResetCmd : BOOL ;                   // Reset=TRUE. Impulsive command. It is
                                             // autoreset after 3 seconds
FuelCell_OperatingStatus  : FUEL_CELL_OPERATING_STATUS_ENUM;
FuelCell_ConversionEfficiency : REAL;
FuelCell_Efficiency : REAL;                  // Number in the range [0.0 ; 1.0]
FuelCell_ResidualEnergy :REAL;
FuelCell_CanRun : BOOL;                      // Flag calculated in function of external
                                             // conditions (see FORMULAS)
FuelCell_FC1_State : FUEL_CELL_MODULE_STATUS_ENUM;
FuelCell_FC2_State : FUEL_CELL_MODULE_STATUS_ENUM;
FuelCell_FC3_State : FUEL_CELL_MODULE_STATUS_ENUM;
FuelCell_FC4_State : FUEL_CELL_MODULE_STATUS_ENUM;
FuelCell_FC5_State : FUEL_CELL_MODULE_STATUS_ENUM;
FuelCell_FC6_State : FUEL_CELL_MODULE_STATUS_ENUM;
```

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```
SolarFarm_Connected : BOOL;
SolarFarm_DisconnectionTimer: INT;
SolarFarm_ShutdownTimer: INT;
SolarFarm_ReconnectionTimer: INT;
SolarFarm_IsReconnecting :BOOL;          // Is reconnectiong to the electrical BUS
SolarFarm_OperatingStatus : SOLAR_FARM_OPERATING_STATUS_ENUM;
SolarFarm_StartupCmd :BOOL;
SolarFarm_StartupCmd_Private :BOOL;
SolarFarm_ShutdownCmd :BOOL;
SolarFarm_ActivePower :REAL;
SolarFarm_ActivePowerSetPoint: REAL;
SolarFarm_ActivePowerSetPointCmd: REAL;
SolarFarm_Fault :BOOL;
SolarFarm_Maintenance :BOOL;
SolarFarm_CB_OpenRequest :BOOL;     //With this bit the solar farm requests the'EMCS to open a
                                    // CB
SolarFarm_CB_CloseRequest :BOOL;    //With this bit the sola farmr requests the'EMCS to close a
                                    // CB
SolarFarm_Healthy : BOOL;
SolarFarm_CanRun : BOOL;            // Flag calculated in function of external conditions (see
                                    FORMULAS)
SolarFarm_SendActivePowerSetPoint: SolarFarm_SendActivePowerSetPointFB;
SolarFarm_SetPointWaitTimer : TON;       // Timeout for the application of a set point

HNA5_P_GT_GUAR : PowerLevelStatus;
HNA5_P_LT_GUAR : PowerLevelStatus;
HNA5_P_GT_SURP : PowerLevelStatus;

// Switchgear of SOLAR FARM
SG200D2_Connected : BOOL;                // Connection Status. Mapped to the client of the
                                         // Switch Gear
SG200D2_CloseCmd  : BOOL;                // Command. Mapped to Solar Farm register. The Solar
                                         //  Farm uses this register to ask operation on CB

SG200D2_OpenCmd : BOOL;                  // Command. Mapped to Solar Farm register. The Solar
                                         // Farm uses this register to ask operation on CB
SG200D2_Closed  : BOOL;                  // Status

SG200D2_Open : BOOL;                     // Status
SG200D2_Alarm : BOOL;
```

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```
        //=====================================================
        // SG100D1 Switch Gear
        //=====================================================
        SG100D1_Connected : BOOL;

        SG100D1_A1_ELECTROLYZER_CloseCmd    : BOOL;          // ELECTROLYZER Command

        SG100D1_A1_ELECTROLYZER_OpenCmd     : BOOL;          // ELECTROLYZER Command
        SG100D1_A1_ELECTROLYZER_ResetCmd    : BOOL;          // ELECTROLYZER Command

        SG100D1_A1_ELECTROLYZER_Closed      : BOOL;          // ELECTROLYZER Status

        SG100D1_A1_ELECTROLYZER_Open        : BOOL;          // ELECTROLYZER Status
        SG100D1_A1_ELECTROLYZER_RealPower   : REAL;          // ELECTROLYZER Active Power kW
        SG100D1_A1_ELECTROLYZER_Alarm       : BOOL;          //  ELECTROLYZER  Alarm  for  inconsistent
status

        // Solar Farm SG
        SG100D1_A2_TR_200ED1_CloseCmd       : BOOL;          // Solar Farm Command
        SG100D1_A2_TR_200ED1_OpenCmd        : BOOL;          // Solar Farm Command
        SG100D1_A2_TR_200ED1_ResetCmd       : BOOL;          // Solar Farm Command
        SG100D1_A2_TR_200ED1_Closed         : BOOL;          // Solar Farm Status
        SG100D1_A2_TR_200ED1_Open           : BOOL;          // Solar Farm Status
        SG100D1_A2_TR_200ED1_RealPower      : REAL;          // Solar Farm Active Power kW. Solar Farm
                                                             // Transformer
        SG100D1_A2_TR_200ED1_Alarm          : BOOL;          // Solar Farm Alarm for inconsistent
                                                             // status

        SG100D1_A3_BESS_CloseCmd            : BOOL;          // BESS Command
        SG100D1_A3_BESS_OpenCmd             : BOOL;          // BESS Command
        SG100D1_A3_BESS_ResetCmd            : BOOL;          // BESS Command
        SG100D1_A3_BESS_Closed              : BOOL;          // BESS Status
        SG100D1_A3_BESS_Open                : BOOL;          // BESS Status
        SG100D1_A3_BESS_RealPower           : REAL;          // BESS Active Power kW
        SG100D1_A3_BESS_Alarm               : BOOL;          // BESS Alarm for inconsistent status

        // LV Incoming Transformer
        SG100D1_A4_TR_200DE1_CloseCmd       : BOOL;          // LV Incomer TRAFO Command
        SG100D1_A4_TR_200DE1_OpenCmd        : BOOL;          // LV Incomer TRAFO Command
```

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```
SG100D1_A4_TR_200DE1_ResetCmd       : BOOL;          // LV Incomer TRAFO Command
SG100D1_A4_TR_200DE1_Closed         : BOOL;          // LV Incomer TRAFO Status
SG100D1_A4_TR_200DE1_Open           : BOOL;          // LV Incomer TRAFO Status
SG100D1_A4_TR_200DE1_RealPower      : REAL;          // LV Incomer TRAFO Active Power kW. LV
                                                     // Incomer Transformer. It measure the
                                                     // AuxLoad
SG100D1_A4_TR_200DE1_Alarm              : BOOL;      // LV Incomer TRAFO Alarm for inconsistent
                                                     // status
// MV Incoming Transformer
SG100D1_A6_TR_100AD1_CloseCmd       : BOOL;          // MV Incomer TRAFO Command
SG100D1_A6_TR_100AD1_OpenCmd        : BOOL;          // MV Incomer TRAFO Command
SG100D1_A6_TR_100AD1_ResetCmd        : BOOL;         // MV Incomer TRAFO Command
SG100D1_A6_TR_100AD1_Closed         : BOOL;          // MV Incomer TRAFO Status
SG100D1_A6_TR_100AD1_Open           : BOOL;          // MV Incomer TRAFO Status
SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2    : REAL;
SG100D1_A6_TR_100AD1_RealPower      : REAL;          // MV Incomer TRAFO Active Power kW. MV
                                                     // Incomer Transformer
SG100D1_A6_TR_100AD1_Alarm          : BOOL;          // MV Incomer TRAFO Alarm for inconsistent
                                                     // status

SG100D1_A7_FUELL_CELL_CloseCmd      : BOOL;          // FUELL_CELL Command
SG100D1_A7_FUELL_CELL_OpenCmd       : BOOL;          // FUELL_CELL Command
SG100D1_A7_FUELL_CELL_ResetCmd      : BOOL;          // FUELL_CELL Command
SG100D1_A7_FUELL_CELL_Closed        : BOOL;          // FUELL_CELL Status
SG100D1_A7_FUELL_CELL_Open          : BOOL;          // FUELL_CELL Status
SG100D1_A7_FUELL_CELL_RealPower     : REAL;          // FUELL_CELL Active Power kW
SG100D1_A7_FUELL_CELL_Alarm         : BOOL;          //FUELL_CELL Alarm for inconsistent status

//=====================================================
// SG200N1 Switch Gear
//=====================================================
SG200N1_Connected                       : BOOL;
SG200N1_CloseCmd                        : BOOL;          // Command
SG200N1_OpenCmd                         : BOOL;          // Command
SG200N1_ResetCmd                        : BOOL;          // Command
SG200N1_Closed                          : BOOL;          // Status
SG200N1_Open                            : BOOL;          // Status
SG200N1_RealPower                       : REAL;          // Active Power
```

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```
        SG200N1_Alarm                       : BOOL;                 //  Alarm  for  inconsistent  status


        //=====================================================
        // GIS Circuit Breaker
        //=====================================================
        HNA6_QA1CB_Connected                : BOOL;
        HNA6_QA1CB_CloseCmd                 : BOOL;
        HNA6_QA1CB_OpenCmd                  : BOOL;
        HNA6_QA1CB_Status                   : DBPOS_T;
        HNA6_QA1CB_StatusInt                : SINT;           // To be used only for test purpose and it
                                                              // is written by the simulator. Remove the
                                                              // assignment in CircuitBreakers PROGRAM
        HNA6_QA1CB_Alarm                    : BOOL;

        HNA6_QA1_ReadyToClose : BOOL;             // This signal comes from the HV-SCADA
        HNA6_QA1CB_OpenCmd_InternalSim: BOOL;     // This signal must be replaced with the protocol
                                                  // signal
        HNA6_QA1CB_CloseCmd_InternalSim: BOOL;    // This signal must be replaced with the protocol
                                                  // signal

        //=====================================================
        // AVR Transformer
        //=====================================================
        AVR_Connected : BOOL;
        AVR_TapRaise : BOOL;
        AVR_TapLower : BOOL;
        AVR_TapPosition : INT;
        AVR_VoltageSetPoint : REAL;
        AVR_VoltageSetPointResearch : REAL;
        AVR_OutputVoltage : REAL;
        AVR_AutoManual : BOOL;                            // 0=Manual; 1=Automatic
        AVR_Status_OK: BOOL;                              // 0=Operational; 1=Fault
        AVR_VoltageDeviationPerc : REAL;
        AVR_IsResearchMode : BOOL;                        // flag indicating if the AVR is working
                                                          // in Research mode
END_VAR
```

4.2 MAIN_CODE

The main code is the entry point of the EMCS logic, and it is responsible to evaluate the MODEs preconditions and to orchestrate the transition between one mode and another.

```
PROGRAM MAIN_CODE
VAR
      modeSelector : EMCS_MODE_SELECTOR;

      PCS_PROCESS_FULLY_CHARGED : BOOL;
      HNA5_P : REAL;                                    // WindTurbine Active Power
      HoldTime : TIME;                                  // Parameter
      Auto : BOOL;
      SupplyGuarantee : BOOL;
      BESS_OK : BOOL;
      HNA5_OK : BOOL;
      Can_Stop_EL : BOOL;                               // Can stop electrolyzer

      //TIMER
      precond_TON_01_HNA5_P :BOOL;
      precond_TON_02_HNA5_P :BOOL;
      precond_TON_03_HNA5_P :BOOL;

      TON_01_HNA5_P_GT_GUAR :TON;
      TON_02_HNA5_P_LT_GUAR :TON;
      TON_03_HNA5_P_GT_SURP :TON;

      Power_Out_Exit: F_TRIG;

      SolarFarm_StartupCmd_Reset : AutoResetSignal;
      SolarFarm_ShutdownCmd_Reset : AutoResetSignal;

      MasterToSlaveTransition : F_TRIG;
      SlaveToMasterTransition : R_TRIG;

END_VAR
```

```
// Variable initializarion
HNA5_P := EMCS_Internal.HNA5_ActivePower;
SupplyGuarantee := EMCS_Internal.PlatformSupplyGuarantee;

HoldTime := T#1S * EMCS_Parameters.WINDFARM_POWER_COMPARE_HOLD_TIME;  // Default 60s
Auto := EMCS_Internal.AutoManualMode = EMCS_AUTOMANUAL_ENUM.AUTOMATIC;
BESS_OK := BESS_Healthy AND NOT PCS_Internal.BESSFault AND EMCS_Internal.SG100D1_A3_BESS_Closed;
HNA5_OK := NOT HNA5_Fault AND HV_SCADA_Connected;
Can_Stop_EL := NOT((EMCS_Internal.Electrolyzer_OperatingStatus =
      ELECTROLYZER_OPERATING_STATUS_ENUM.REMOTE_PRODUCTION OR
      EMCS_Internal.Electrolyzer_OperatingStatus =
      ELECTROLYZER_OPERATING_STATUS_ENUM.LOCAL_PRODUCTION )
      AND PCS_Internal.PermToStartEL AND NOT PCS_Internal.ProcessFullyCharged);

EMCS_Internal.Electrolyzer_KeepRunning := NOT Can_Stop_EL;

//Mapping EMCS_INTERNAL to EMCS_IN
EMCS_IN.ON_GRID := EMCS_INTERNAL.GridTied;
EMCS_IN.SUPPLY_GUA := SupplyGuarantee;

//TIMER
///////////////Precond Timer Valutation//////////////////
precond_TON_01_HNA5_P:= HNA5_P >= EMCS_Parameters.WINDFARM_SURPLUS_MIN_POWER; // Default 1 MW
precond_TON_02_HNA5_P:= HNA5_P <  EMCS_Parameters.WINDFARM_SURPLUS_MIN_POWER; // Default 1 MW
precond_TON_03_HNA5_P:= HNA5_P > EMCS_Parameters.WINDFARM_SURPLUS_MIN_POWER_ABLE_TO_CHARGE;
                                                                              // Default 2 MW
// Avvio dei timer
TON_01_HNA5_P_GT_GUAR(IN:=(precond_TON_01_HNA5_P)  ,PT:=HoldTime);
TON_02_HNA5_P_LT_GUAR(IN:=(precond_TON_02_HNA5_P ) ,PT:=HoldTime);
TON_03_HNA5_P_GT_SURP(IN:=(precond_TON_03_HNA5_P ) ,PT:=HoldTime);
```

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Document Title:	Logic Diagram Print Out EMCS	Sheet 25 of 92 Date: 30/07/2025 Rev: 01

```
//============================================================
// /////////////Precond Mode evalutation//////////////////
//============================================================
EMCS_IN.precond_EXPORT := NOT ESD_1D AND ((Auto AND EMCS_Internal.GridTied AND SupplyGuarantee AND
HNA5_OK AND  TON_02_HNA5_P_LT_GUAR.Q  AND BESS_OK AND BESS_IsSocOverMinimum() AND Can_Stop_EL) AND
NOT PCS_Private.PermRemovedExport);
EMCS_IN.precond_COLD_STANDBY := NOT ESD_1D AND ((Auto AND EMCS_Internal.GridTied AND SupplyGuarantee
AND HNA5_OK AND  TON_02_HNA5_P_LT_GUAR.Q  AND (NOT BESS_OK OR NOT BESS_IsSocOverMinimum())) OR
PCS_Private.PermRemovedHotStanby OR PCS_Private.PermRemovedExport);
EMCS_IN.precond_HOT_STANDBY := NOT ESD_1D AND  Auto AND EMCS_Internal.GridTied AND SupplyGuarantee
AND HNA5_OK AND  TON_01_HNA5_P_GT_GUAR.Q  AND PCS_INTERNAL.ProcessFullyCharged AND
BESS_IsFullyCharged() AND NOT PCS_Private.PermRemovedHotStanby;
EMCS_IN.precond_IMPORT := NOT ESD_1D AND Auto AND EMCS_Internal.GridTied AND SupplyGuarantee AND
HNA5_OK AND (TON_01_HNA5_P_GT_GUAR.Q OR NOT Can_Stop_EL) AND ( NOT PCS_INTERNAL.ProcessFullyCharged
OR NOT BESS_IsFullyCharged() ) ;
EMCS_IN.precond_IMPORT_ABLE_TO_CHARGE := NOT ESD_1D AND EMCS_IN.precond_IMPORT AND
(TON_03_HNA5_P_GT_SURP.Q OR NOT Can_Stop_EL) ;
EMCS_IN.precond_IMPORT_NOT_ABLE_TO_CHARGE := NOT ESD_1D AND EMCS_IN.precond_IMPORT AND NOT
TON_03_HNA5_P_GT_SURP.Q AND Can_Stop_EL;
EMCS_IN.precond_IDLE :=  NOT ESD_1D AND Auto AND EMCS_Internal.GridTied AND NOT HNA5_OK;
EMCS_IN.precond_EMERGENCY := NOT ESD_1D AND Auto AND (NOT EMCS_Internal.GridTied OR NOT
SupplyGuarantee) AND BESS_OK AND BESS_IsSocOverMinimum(); // AND EMCS_Internal.BESS_HasVoltage AND
EMCS_Internal.BUS_6_6kV_HasVoltage;
EMCS_IN.precond_POWER_OUT := (ESD_1D AND (EMCS_Internal.AutoManualMode <>
EMCS_AUTOMANUAL_ENUM.MANUAL_RESEARCH))  OR (Auto AND (NOT EMCS_Internal.GridTied OR NOT
SupplyGuarantee) AND (NOT BESS_OK OR NOT BESS_IsSocOverMinimum() OR NOT
EMCS_Internal.BESS_HasVoltage OR NOT EMCS_Internal.BUS_6_6kV_HasVoltage));
//AND (Current_Mode <> EMCS_MODE_ENUM.RESEARCH)

// MANUAL MODE
EMCS_IN.precond_MAINTENANCE := NOT ESD_1D AND EMCS_Internal.AutoManualMode =
EMCS_AUTOMANUAL_ENUM.MANUAL_MAINTENANCE ;
EMCS_IN.precond_RESEARCH := EMCS_Internal.AutoManualMode = EMCS_AUTOMANUAL_ENUM.MANUAL_RESEARCH;

// Ensure that on the exit of POWER OUT the new becames RESEARCH
Power_Out_Exit(CLK :=EMCS_IN.precond_POWER_OUT);
IF(Power_Out_Exit.Q AND Current_Mode = EMCS_MODE_ENUM.POWER_OUT) THEN
      AutoManualMode := EMCS_AUTOMANUAL_ENUM.MANUAL_RESEARCH;
END_IF

// ModeSelector FB receives in input EMCS_IN and write in the global variable
// EMCS_OUT the result of selection
modeSelector(EMCS_IN:=GVL_MAIN.EMCS_IN);
```

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```
// Expose publicily the status machine status
EMCS_StatusMachine.Current_Mode := EMCS_OUT.CURRENT_MODE;
EMCS_StatusMachine.Next_Mode := EMCS_OUT.NEXT_MODE;
EMCS_StatusMachine.Current_SubMode := EMCS_OUT.CURRENT_SUB_MODE;
EMCS_StatusMachine.Next_SubMode := EMCS_OUT.NEXT_SUB_MODE;

 PCS_Internal.CurrentMode := EMCS_OUT.CURRENT_MODE;

 EMCS_Internal.HNA5_P_GT_GUAR.Inertia := TO_INT(TON_01_HNA5_P_GT_GUAR.PT/1000);
 EMCS_Internal.HNA5_P_GT_GUAR.ActivationTime := HNA5_P_GT_GUAR.Inertia - (TO_INT
      (TON_01_HNA5_P_GT_GUAR.ET/1000));
 EMCS_Internal.HNA5_P_GT_GUAR.IsActive := TON_01_HNA5_P_GT_GUAR.Q;

 EMCS_Internal.HNA5_P_LT_GUAR.Inertia := TO_INT(TON_02_HNA5_P_LT_GUAR.PT/1000);
 EMCS_Internal.HNA5_P_LT_GUAR.ActivationTime := HNA5_P_LT_GUAR.Inertia - (TO_INT
      (TON_02_HNA5_P_LT_GUAR.ET/1000));
 EMCS_Internal.HNA5_P_LT_GUAR.IsActive := TON_02_HNA5_P_LT_GUAR.Q;

 EMCS_Internal.HNA5_P_GT_SURP.Inertia := TO_INT(TON_03_HNA5_P_GT_SURP.PT/1000);
 EMCS_Internal.HNA5_P_GT_SURP.ActivationTime := HNA5_P_GT_SURP.Inertia - (TO_INT
      (TON_03_HNA5_P_GT_SURP.ET/1000));
 EMCS_Internal.HNA5_P_GT_SURP.IsActive := TON_03_HNA5_P_GT_SURP.Q;

//=====================================================
// Ensure to Stop BESS
//=====================================================
IF (NOT BESS_OK OR Current_Mode = EMCS_MODE_ENUM.MAINTENANCE) THEN
      Bess_Ensure_Is_Stopped();
 END_IF

  // Ensure to block BESS soc stay within the allowed operating range
 IF ( (BESS_IsFullyCharged() AND EMCS_Internal.BESS_ActivePowerSetPointCmd < 0) OR
      NOT BESS_IsSocOverMinimum() AND EMCS_Internal.BESS_ActivePowerSetPointCmd > 0) THEN
      BESS_SendActPowerSetPoint(0);
 END_IF

//=====================================================
```

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```
// Ensure to Stop FUEL CELL
//=====================================================
IF(NOT PCS_Internal.PermToStartFC) THEN
      FuelCell_Ensure_Sleep();
END_IF

IF(Current_Mode <> EMCS_MODE_ENUM.MAINTENANCE) THEN
      IF(NOT EMCS_Internal.FuelCell_CanRun) THEN
            FuelCell_Ensure_Stop();
      END_IF
ELSE
      // In maintenance the Fuel Cell must be stopped and keep stopped (deny start)
      FuelCell_Ensure_Sleep();
END_IF

IF (Current_Mode <> EMCS_MODE_ENUM.RESEARCH OR NOT FuelCell_CanRun)  THEN
      EMCS_Internal.FuelCell_OperatingStatusCmd :=
            EMCS_Internal.FuelCell_OperatingStatusCmd_Private;
END_IF;

//=====================================================
// Ensure to Stop ELECTROLYZER
//=====================================================

 IF (ProcessFullyCharged OR NOT PCS_Internal.PermToStartEL OR Current_Mode =
            EMCS_MODE_ENUM.MAINTENANCE)  THEN
      Electrolyzer_Stop();
 END_IF;

 IF (Current_Mode <> EMCS_MODE_ENUM.RESEARCH OR NOT Electrolyzer_CanRun)  THEN
      // Override the OPC-UA tag with the private value
      EMCS_Internal.Electrolyzer_OperatingStatusCmd :=
            EMCS_Internal.Electrolyzer_OperatingStatusCmd_Private;
 END_IF;
```

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```
//=====================================================
// Solar Farm
//=====================================================
IF(   Current_Mode <> EMCS_MODE_ENUM.RESEARCH  AND
      Current_Mode <> EMCS_MODE_ENUM.MAINTENANCE AND
      Current_Mode <> EMCS_MODE_ENUM.EMERGENCY AND
      Current_Mode <> EMCS_MODE_ENUM.POWER_OUT) THEN
      SolarFarm_EnsureStart();
END_IF

// Remove Solar Farm curtailment in all mode except EMERGENCY RESEARCH MAINTENANCE
IF(Current_Mode <> EMCS_MODE_ENUM.EMERGENCY AND
      Current_Mode <> EMCS_MODE_ENUM.RESEARCH  AND Current_Mode <> EMCS_MODE_ENUM.MAINTENANCE AND
            Current_Mode <> EMCS_MODE_ENUM.POWER_OUT) THEN
      // No curtailment is request, so set maximum set poinr
      SolarFarm_SendActivePowerSetPoint(setPoint:= EMCS_Parameters.SOLAR_FARM_MAXIMUM_SETPOINT);
END_IF

// Add logic to open the CB if the Set Point is not followed
// If not healthy stop to send commands
IF(Current_Mode = EMCS_MODE_ENUM.EMERGENCY) THEN
      IF(NOT EMCS_Internal.SolarFarm_Healthy)THEN
            SolarFarm_EnsureStart();
      END_IF
END_IF

IF(NOT SolarFarm_CanRun) THEN
      SolarFarm_EnsureStop();
END_IF

// Autoreset SolaFarm start/shutdown commands
SolarFarm_StartupCmd_Reset(IN:=EMCS_Internal.SolarFarm_StartupCmd);
EMCS_Internal.SolarFarm_StartupCmd  := SolarFarm_StartupCmd_Reset.OUT;
SolarFarm_ShutdownCmd_Reset(IN:=EMCS_Internal.SolarFarm_ShutdownCmd);
EMCS_Internal.SolarFarm_ShutdownCmd  := SolarFarm_ShutdownCmd_Reset.OUT;
```

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```
//=====================================================
// PCS
//=====================================================
IF(   Current_Mode <> EMCS_MODE_ENUM.EMERGENCY AND
      Current_Mode <> EMCS_MODE_ENUM.POWER_OUT AND
      Current_Mode <> EMCS_MODE_ENUM.RESEARCH) THEN
      PCS_RemoveLoadShedRequest();
END_IF


TotalActivePower := BESS_ActivePower + FuelCell_ActivePower + SolarFarm_ActivePower -
      Electrolyzer_ActivePowerConsumption - AuxLoad;
BessFuellCellActivePower := BESS_ActivePower + FuelCell_ActivePower + 0;

Emergency_Mode_Remaining_Time();

// Start/Stop and send setpoint to Electrolyzer in RESEARCH MODE
IF(Current_Mode = EMCS_MODE_ENUM.RESEARCH)THEN
      IF(EMCS_Internal.Electrolyzer_OperatingStatusCmd =
            ELECTROLYZER_OPERATING_STATUS_CMD_ENUM.MODE_PRODUCTION)THEN// Start
            EMCS_Internal.Electrolyzer_SetPointChoiseCmd :=
                  ELECTROLYZER_SETPOINT_CHOISE_CMD_ENUM.FLOW_H2_SETPOINT;          //Flow
            EMCS_Internal.Electrolyzer_FlowSetPointCmd :=
                  EMCS_Parameters.ELECTROLYZER_MAX_FLOW_SET_POINT;
      ELSIF(EMCS_Internal.Electrolyzer_OperatingStatusCmd =
                  ELECTROLYZER_OPERATING_STATUS_CMD_ENUM.MODE_STOP)THEN      // Stop
            EMCS_Internal.Electrolyzer_SetPointChoiseCmd :=
                  ELECTROLYZER_SETPOINT_CHOISE_CMD_ENUM.FLOW_H2_SETPOINT;          //Flow
                  EMCS_Internal.Electrolyzer_FlowSetPointCmd := 0;
      END_IF
END_IF
```

```
// Start/Stop FUEL CELL in RESEARCH MODE and map setpoint
IF(Current_Mode = EMCS_MODE_ENUM.RESEARCH)THEN
      IF(EMCS_Internal.FuelCell_OperatingStatusCmd = FUEL_CELL_OPERATING_STATUS_CMD_ENUM.START)THEN

            FuelCell_Ensure_Start();
      ELSIF(EMCS_Internal.FuelCell_OperatingStatusCmd =
            FUEL_CELL_OPERATING_STATUS_CMD_ENUM.STOP)THEN  // Stop
                  FuelCell_Ensure_Stop();
      ELSIF(EMCS_Internal.FuelCell_OperatingStatusCmd =
            FUEL_CELL_OPERATING_STATUS_CMD_ENUM.SLEEP)THEN // Stop
                  FuelCell_Ensure_Sleep();
      END_IF

      EMCS_Internal.FuelCell_ActivePowerTarget := EMCS_Internal.FuelCell_ActivePowerSetPointCmd;
END_IF


MasterToSlaveTransition(CLK:=IsMaster);
SlaveToMasterTransition(CLK:=IsMaster);

IF(MasterToSlaveTransition.Q OR SlaveToMasterTransition.Q)THEN
      EMCS_Internal.AutoManualMode := EMCS_AUTOMANUAL_ENUM.MANUAL_RESEARCH;
END_IF
```

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4.3 FORMULAS

```
PROGRAM FORMULAS
VAR
      BESS_Reset_Timer: TON;
      FuelCell_Reset_Timer: TON;
      FuelCell_ResetFall : F_TRIG;
      BESS_ResetGridConnectPermissive : R_TRIG;
      MV_IncomerClosed : BOOL;
END_VAR

IF(EMCS_Private.startup) THEN

      EMCS_Internal.NodeId := RTAC_Redundancy_GVL.RTAC_NodeId;
      EMCS_Internal.AutoManualMode := EMCS_AUTOMANUAL_ENUM.MANUAL_RESEARCH;        // Research
      EMCS_Internal.OperatorSupplyGuarantee := EMCS_SUPPLY_GUARANTEE.AUTOMATIC;
                                        //WindFarm.HNA5-AFA78.StatusCode==0 AND MCS.SupplyGuarantee

      EMCS_Internal.BUS_6_6kV_HasVoltage := TRUE;

      //=================================================
      // Wind Farm
      //=================================================
      EMCS_Internal.HV_SCADA_Connected := TRUE;
      EMCS_Internal.HNA5_SupplyGuarantee := TRUE ;
      EMCS_Internal.HNA5_StatusCode := 0;
      EMCS_Internal.HNA5_QA1CB_Status := CB_STATUS_ENUM.Closed;
      //=================================================
      // BESS
      //=================================================
      //EMCS_INTERNAL.BESS_FullyCharged :=0;
                  //BESS.Status3.SOC + BESS-MAXIMUM-OPERATING-RESERVE >= 100% OR BESS.Status3.SOC >
                  // BESS-MINIMUM-CHARGE-START-RESERVE
      EMCS_Internal.BESS_Connected := TRUE;
      EMCS_Internal.BESS_OperatingStatus := BESS_OPERATING_STATUS_ENUM.STOP;
      EMCS_Internal.BESS_DischargeEnergy := 0.5 * EMCS_Parameters.BESS_ENERGY_CAPACITY;
      EMCS_Internal.BESS_HasVoltage := 1;  // SG-100D1 voltage measure on the BLPH 6.6kV
      EMCS_Internal.BESS_Healthy := TRUE;  // The real value is mapped in the program
                                          // PackagesSignalMap
```

```
//================================================
// Fuel Cell
//================================================
EMCS_Internal.FuelCell_ConversionEfficiency :=
      EMCS_Parameters.FUEL_CELL_CONVERSION_EFFICIENCY;
EMCS_Internal.FuelCell_Connected := TRUE;
EMCS_Internal.FuelCell_OperatingStatusCmd_Private :=
      FUEL_CELL_OPERATING_STATUS_CMD_ENUM.SLEEP;
EMCS_Internal.FuelCell_OperatingStatus := FUEL_CELL_OPERATING_STATUS_ENUM.Sleep;
EMCS_Internal.FuelCell_ActivePowerSetPointCmd := EMCS_Parameters.FUEL_CELL_MINIMUM_SETPOINT;
EMCS_Internal.FuelCell_Efficiency := 0.5; // This variable must be mappe to the FuelCell
                                          // Modbus signal: System Efficiency
                                          // (Input Register 1202)

//================================================
// Electrolyzer
//================================================
EMCS_Internal.Electrolyzer_Connected := TRUE;
EMCS_Internal.Electrolyzer_OperatingStatusCmd_Private :=
      ELECTROLYZER_OPERATING_STATUS_CMD_ENUM.MODE_STOP;
EMCS_Internal.Electrolyzer_OperatingStatus := ELECTROLYZER_OPERATING_STATUS_ENUM.REMOTE_STOP;
EMCS_Internal.Electrolyzer_ActivePowerSetPointCmd := 0;
EMCS_Internal.Electrolyzer_FlowSetPointCmd := 0;

//================================================
// Solar Farm
//================================================
EMCS_Internal.SolarFarm_Connected := TRUE;
EMCS_Internal.SolarFarm_Healthy :=1;
EMCS_Internal.SolarFarm_OperatingStatus := SOLAR_FARM_OPERATING_STATUS_ENUM.OPERATING;
SolarFarm_SendActivePowerSetPoint(setPoint:= 0);
```

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```
//=================================================
// SG200D2
//=================================================
SG200D2_Connected := TRUE;
SG200D2_Closed := 1; // CB of solarfarm. Initialized as CLOSED
SG200D2_Open := 0;       // CB of solarfarm

//=================================================
// SG100D1
//=================================================

SG100D1_Connected := TRUE;

SG100D1_A1_ELECTROLYZER_Closed      := 1;
SG100D1_A1_ELECTROLYZER_Open        := 0;
SG100D1_A1_ELECTROLYZER_RealPower   := 1;

SG100D1_A2_TR_200ED1_Closed         := 1;       // Solar Farm
SG100D1_A2_TR_200ED1_Open           := 0;       // Solar Farm
SG100D1_A2_TR_200ED1_RealPower      := 1;

SG100D1_A3_BESS_Closed              := 1;
SG100D1_A3_BESS_Open                := 0;
SG100D1_A3_BESS_RealPower           := 1;

SG100D1_A4_TR_200DE1_Closed         := 1;       // Auxiliaries
SG100D1_A4_TR_200DE1_Open           := 0;       // Auxiliaries

SG100D1_A6_TR_100AD1_Closed         := 1;       // Incomer
SG100D1_A6_TR_100AD1_Open           := 0;       // Incomer
SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2:= 6.6;

SG100D1_A7_FUELL_CELL_Closed        := 1;
SG100D1_A7_FUELL_CELL_Open          := 0;
SG100D1_A7_FUELL_CELL_RealPower     := 1;
```

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```
        //================================================
        // SG100D1
        //================================================
        SG200N1_Connected := TRUE;

        SG200N1_Closed          := 1;
        SG200N1_Open            := 0;
        SG200N1_RealPower       := 1;

        // ========================================
        // GIS
        // ========================================
        HNA6_QA1CB_StatusInt := DBPOS_T.dbpos_on;
        HNA6_QA1CB_Connected := TRUE;

        EMCS_Internal.AuxLoad := 100;            //kW

        //========================================
        // PCS Variables Initialization
        //========================================
        //PCS_Internal.HydrogenLevel := 100;     //Kg

        PCS_Internal.PermToStartFC := TRUE;
        PCS_Internal.PermToStartEL := TRUE;
        PCS_Internal.ProcessEmpty := FALSE;
        PCS_Internal.ProcessFullyCharged := FALSE;
        PCS_Internal.ESD_1D := FALSE;
        PCS_Internal.BESSFault := FALSE;
        PCS_Internal.HydrogenLevel := 500 + 0;

END_IF
//=============================================================================================
// End of initialization
//=============================================================================================
```

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```
//==================================
// Supply Guarantee
//==================================
EMCS_Internal.PlatformSupplyGuarantee := (EMCS_INTERNAL.OperatorSupplyGuarantee =
      EMCS_SUPPLY_GUARANTEE.AUTOMATIC  AND HNA5_SupplyGuarantee ) OR
      EMCS_INTERNAL.OperatorSupplyGuarantee = EMCS_SUPPLY_GUARANTEE.MANUAL_ACTIVE;

// ========================================
// BESS
// ========================================
EMCS_Internal.BESS_FullyCharged := BESS_IsFullyCharged();
EMCS_Internal.BESS_AvailableEnergyPerc := (EMCS_Internal.BESS_DischargeEnergy /
EMCS_Parameters.BESS_ENERGY_CAPACITY) * 100;
EMCS_Internal.BESS_ChargeEnergy :=  EMCS_Parameters.BESS_ENERGY_CAPACITY -
EMCS_Internal.BESS_DischargeEnergy;
EMCS_Internal.BESS_OperatingStatus := BESS_CalculateOperatingStatus();
EMCS_Internal.BESS_GridFormingPermissive :=
      (BESS_Healthy AND NOT PCS_Internal.BESSFault AND
      EMCS_Internal.SG100D1_A3_BESS_Closed) AND // BESS_HasVoltage AND
      EMCS_Internal.BESS_AvailableEnergyPerc > BESS_MINIMUM_OPERATING_RESERVE AND
      NOT EMCS_Internal.BESS_GridConnectPermissive;


// Reset the BESS_GridConnectPermissive when the MV INCOMER Breaker is closed.
MV_IncomerClosed := EMCS_Internal.SG100D1_A6_TR_100AD1_Closed AND NOT
EMCS_Internal.SG100D1_A6_TR_100AD1_Open;

BESS_ResetGridConnectPermissive(CLK := MV_IncomerClosed);
IF(BESS_ResetGridConnectPermissive.Q OR MV_IncomerClosed)THEN
      EMCS_Internal.BESS_GridConnectPermissive := FALSE;
END_IF

EMCS_Internal.GridVoltageOK := EMCS_Internal.SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2 > 6.0;

IF (EMCS_Internal.BESS_ResetCmd) THEN // Reset command is sent
      BESS_Reset_Timer(IN:=TRUE, PT:=T#3S);
      IF(BESS_Reset_Timer.Q = 1)THEN
            EMCS_Internal.BESS_ResetCmd := FALSE;
            BESS_Reset_Timer(IN:=FALSE, PT:=T#3S);
      END_IF
```

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```
END_IF
// ========================================
// GIS / GRID TIED
// ========================================
EMCS_Internal.GridTied := (HNA6_QA1CB_Status = dbpos_on) AND                    // GIS
      (SG100D1_A6_TR_100AD1_Closed AND NOT SG100D1_A6_TR_100AD1_Open);          // SG-100D1 MV
INCOMER

// Check if the CB of the wind farm must be added (consider connection status and tag quality)
EMCS_Internal.BESS_GridVoltageOK := EMCS_Internal.GridVoltageOK;

// ========================================
// Electrolyzer
// ========================================
EMCS_Internal.Electrolyzer_ActivePowerConsumption :=
EMCS_Internal.SG100D1_A1_ELECTROLYZER_RealPower;

EMCS_Internal.Electrolyzer_CanRun :=
      NOT PCS_Internal.ProcessFullyCharged AND
      PCS_Internal.PermToStartEL AND
      NOT Electrolyzer_IsReconnecting AND
      EMCS_Internal.SG100D1_A1_ELECTROLYZER_Closed;

IF (EMCS_StatusMachine.Current_Mode = EMCS_MODE_ENUM.RESEARCH) THEN
      IF( EMCS_Internal.Electrolyzer_CanRun) THEN
            EMCS_Internal.Electrolyzer_OperatingStatusCmd_Private :=
                  EMCS_Internal.Electrolyzer_OperatingStatusCmd;
      ELSE
            EMCS_Internal.Electrolyzer_OperatingStatusCmd_Private :=
                  ELECTROLYZER_OPERATING_STATUS_CMD_ENUM.MODE_STOP;
      END_IF
END_IF
```

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```
// ========================================
// FuelCell
// ========================================
FuelCell_CanRun :=
      PCS_Internal.PermToStartFC = TRUE AND
      NOT PCS_Internal.ProcessEmpty AND
      EMCS_Internal.SG100D1_A7_FUELL_CELL_Closed AND
      NOT FuelCell_IsReconnecting;

IF (EMCS_StatusMachine.Current_Mode = EMCS_MODE_ENUM.RESEARCH) THEN
      IF( EMCS_Internal.FuelCell_CanRun) THEN
            EMCS_Internal.FuelCell_OperatingStatusCmd_Private :=
                  EMCS_Internal.FuelCell_OperatingStatusCmd;
      END_IF
END_IF

// Autoreset of the FUEL_CELL ResetCmd
FuelCell_ResetFall(CLK:= EMCS_Internal.FuelCell_ResetCmd);
IF( EMCS_Internal.FuelCell_ResetCmd) THEN
      EMCS_Internal.FuelCell_OperatingStatusCmd_Private :=
            FUEL_CELL_OPERATING_STATUS_CMD_ENUM.RESET;
END_IF
IF(FuelCell_ResetFall.Q)THEN
      EMCS_Internal.FuelCell_OperatingStatusCmd_Private :=
            FUEL_CELL_OPERATING_STATUS_CMD_ENUM.FC_NONE;
END_IF;

IF (EMCS_Internal.FuelCell_ResetCmd) THEN // Reset command is sent
      FuelCell_Reset_Timer(IN:=TRUE, PT:=T#3S);
      IF(FuelCell_Reset_Timer.Q)THEN
            EMCS_Internal.FuelCell_ResetCmd := FALSE;
            FuelCell_Reset_Timer(IN:=FALSE, PT:=T#3S);
      END_IF
END_IF
```

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```
// ========================================
// SolarFarm
// ========================================
SolarFarm_CanRun := FALSE;    // OVERRIDE: EMCS_Internal.SG100D1_A2_TR_200ED1_Closed;

IF (EMCS_StatusMachine.Current_Mode = EMCS_MODE_ENUM.RESEARCH) THEN
      IF(EMCS_Internal.SolarFarm_CanRun) THEN
            EMCS_Internal.SolarFarm_StartupCmd_Private := EMCS_Internal.SolarFarm_StartupCmd;
      END_IF
END_IF

// ========================================
// WindFarm
// ========================================
EMCS_Internal.HNA5_Fault :=
      HNA5_StatusCode = HNA5_STATUS_CODE_ENUM.Stopped_GridError OR
      HNA5_StatusCode = HNA5_STATUS_CODE_ENUM.Stopped_ErrorWithAutoReset OR
      HNA5_StatusCode = HNA5_STATUS_CODE_ENUM.Stopped_ManualAlarmResetRequired OR
      HNA5_StatusCode = HNA5_STATUS_CODE_ENUM.SafetyStop OR
      HNA5_StatusCode = HNA5_STATUS_CODE_ENUM.RemoteStop OR
      HNA5_QA1CB_Status = CB_STATUS_ENUM.Opened;

EMCS_Internal.AuxLoad := SG100D1_A4_TR_200DE1_RealPower;
EMCS_Internal.IsMaster := RTAC_Redundancy_GVL.Master;

FuelCell_ActivePowerChangeRate := EMCS_Parameters.FUEL_CELL_ACTIVE_POWER_CHANGE_RATE;
```

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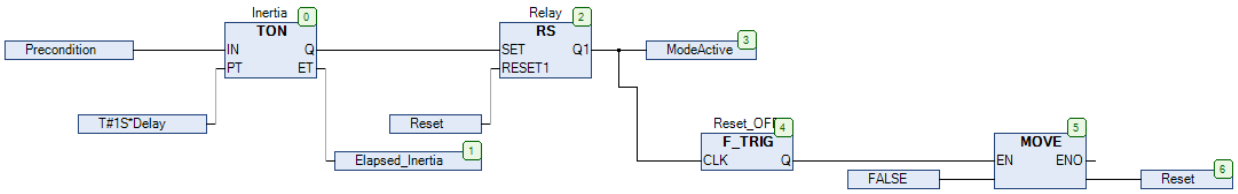
4.4 EMCS_MODE_ACTIVATOR

```
FUNCTION_BLOCK EMCS_MODE_ACTIVATOR
VAR
      Inertia: TON;
      Reset_OFF: F_TRIG;
      Relay: RS;

END_VAR
VAR_INPUT
      Precondition: BOOL;
      Reset : BOOL;
      Delay :INT :=30;
END_VAR
VAR_OUTPUT
      ModeActive : BOOL;
      Elapsed_Inertia : TIME;
END_VAR
```



4.5 EMCS_MODE_SELECTOR

```
FUNCTION_BLOCK EMCS_MODE_SELECTOR
VAR

      CurrentMode: INT;
      NextMode :INT;
      CurrentPrecond : ARRAY[0..11] OF BOOL;
      PreviousPrecond : ARRAY[0..11] OF BOOL;
      CURRENT_MODE_TO_STOP :INT;
      MAINTENANCE_RUN_REQ :R_TRIG;
      RESEARCH_RUN_REQ :R_TRIG;
```

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```
IMPORT_RUN_REQ :R_TRIG;
IMPORT_ABLE_RUN_REQ :R_TRIG;
IMPORT_NOT_ABLE_RUN_REQ :R_TRIG;
NONE_RUN_REQ :R_TRIG;
IDLE_RUN_REQ :R_TRIG;
HOT_STANDBY_RUN_REQ :R_TRIG;
EXPORT_RUN_REQ :R_TRIG;
COLD_STANDBY_RUN_REQ :R_TRIG;
EMERGENCY_RUN_REQ :R_TRIG;
POWEROUT_RUN_REQ :R_TRIG;

MAINTENANCE_STOP_REQ :R_TRIG;
RESEARCH_STOP_REQ :R_TRIG;
IMPORT_STOP_REQ :R_TRIG;
IMPORT_ABLE_STOP_REQ :R_TRIG;
IMPORT_NOT_ABLE_STOP_REQ :R_TRIG;
NONE_STOP_REQ :R_TRIG;
IDLE_STOP_REQ :R_TRIG;
HOT_STANDBY_STOP_REQ :R_TRIG;
EXPORT_STOP_REQ :R_TRIG;
COLD_STANDBY_STOP_REQ :R_TRIG;
EMERGENCY_STOP_REQ :R_TRIG;
POWEROUT_STOP_REQ :R_TRIG;

MAINTENANCE_IDLE_REQ :R_TRIG;
RESEARCH_IDLE_REQ :R_TRIG;
IMPORT_IDLE_REQ :R_TRIG;
IMPORT_ABLE_IDLE_REQ :R_TRIG;
IMPORT_NOT_ABLE_IDLE_REQ :R_TRIG;
NONE_IDLE_REQ :R_TRIG;
IDLE_IDLE_REQ :R_TRIG;
HOT_STANDBY_IDLE_REQ :R_TRIG;
EXPORT_IDLE_REQ :R_TRIG;
COLD_STANDBY_IDLE_REQ :R_TRIG;
EMERGENCY_IDLE_REQ :R_TRIG;
POWEROUT_IDLE_REQ :R_TRIG;

MAN_ON :R_TRIG;
```

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```
      WaitForExportPermissiveTimer : TON;
      WaitForHotStandbyPermissiveTimer : TON;

END_VAR
VAR_INPUT
      EMCS_IN : EMCS_MODE_PROCESSOR_IN;
END_VAR

VAR_OUTPUT

END_VAR


IF(EMCS_AUX_GVL.startup) THEN

PreviousPrecond[0]:=1;

END_IF;

CurrentPrecond[0] := EMCS_IN.precond_NONE;
CurrentPrecond[1] := EMCS_IN.precond_IDLE;
CurrentPrecond[3] := EMCS_IN.precond_IMPORT_ABLE_TO_CHARGE;
CurrentPrecond[4] := EMCS_IN.precond_IMPORT_NOT_ABLE_TO_CHARGE;
CurrentPrecond[5] := EMCS_IN.precond_HOT_STANDBY;
CurrentPrecond[6] := EMCS_IN.precond_EXPORT;
CurrentPrecond[7] := EMCS_IN.precond_COLD_STANDBY;
CurrentPrecond[8] := EMCS_IN.precond_EMERGENCY;
CurrentPrecond[9] := EMCS_IN.precond_POWER_OUT;
CurrentPrecond[10] := EMCS_IN.precond_MAINTENANCE;
CurrentPrecond[11] := EMCS_IN.precond_RESEARCH;

ModeActivatorNone(Precondition:= EMCS_IN.precond_NONE);
ModeActivatorIdle(Precondition:= EMCS_IN.precond_IDLE);
ModeActivatorImportAbleToCharge(Precondition:= EMCS_IN.precond_IMPORT_ABLE_TO_CHARGE);
ModeActivatorImportNotAbleToCharge(Precondition:= EMCS_IN.precond_IMPORT_NOT_ABLE_TO_CHARGE);
ModeActivatorHotStandBy(Precondition:= EMCS_IN.precond_HOT_STANDBY);
ModeActivatorExport(Precondition:= EMCS_IN.precond_EXPORT);
ModeActivatorColdStandBy(Precondition:= EMCS_IN.precond_COLD_STANDBY);
ModeActivatorEmergency(Precondition:= EMCS_IN.precond_EMERGENCY);
```

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```
ModeActivatorPowerOut(Precondition:= EMCS_IN.precond_POWER_OUT);
ModeActivatorMaintenance(Precondition:= EMCS_IN.precond_MAINTENANCE);
ModeActivatorResearch(Precondition:= EMCS_IN.precond_RESEARCH);

ModeActivatorNone.Delay := None_Mode_Delay ;
ModeActivatorPowerout.Delay := Powerout_Mode_Delay;
ModeActivatorEmergency.Delay := Emergency_Mode_Delay ;
ModeActivatorIdle.Delay :=    Idle_Mode_Delay;
ModeActivatorColdStandby.Delay :=   ColdStandBy_Mode_Delay  ;
ModeActivatorHotStandBy.Delay :=    HotStandBy_Mode_Delay ;
ModeActivatorImportAbleToCharge.Delay :=Import_Able_Mode_Delay ;
ModeActivatorImportNotAbleToCharge.Delay :=Import_Not_Able_Mode_Delay ;
ModeActivatorImport.Delay :=Import_Mode_Delay ;
ModeActivatorExport.Delay :=Export_Mode_Delay ;
ModeActivatorResearch.Delay :=Research_Mode_Delay  ;
ModeActivatorMaintenance.Delay :=Maintenance_Mode_Delay  ;

// Call to the executor
////////////////////////////////////////////////////////////////////////////////////////////////////
//////////
// MAINTENANCE
////////////////////////////////////////////////////////////////////////////////////////////////////
//////////
IF(ModeActivatorMaintenance.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = MAINTENANCE)) THEN

            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.MAINTENANCE;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorMaintenance(INIT_REQUEST:=TRUE);

      IF (ModeExecutorMaintenance.Init_State AND NOT GVL_MAIN.FirstScanPLC) THEN

            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
          Stop_SubMode(CURRENT_MODE_TO_STOP);

            IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
                  ModeExecutorMaintenance(RUN_REQUEST:=TRUE);
            END_IF;

      END_IF;
```

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```
      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorMaintenance.Init_State=FALSE  AND ModeActivatorMaintenance.Precondition=FALSE)
      THEN
                  Stop_SubMode(MAINTENANCE);
      END_IF


      IF (ModeExecutorMaintenance.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF


END_IF;
IF (ModeExecutorMaintenance.Run_State) THEN
ModeExecutorMaintenance(RUN_REQUEST:=TRUE); //test
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
//////////
// RESEARCH
////////////////////////////////////////////////////////////////////////////////////////////////////
//////////
IF(ModeActivatorResearch.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = RESEARCH)) THEN
            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.RESEARCH;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorResearch(INIT_REQUEST:=TRUE);
      IF (ModeExecutorResearch.Init_State  AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
            ModeExecutorResearch(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF


      //Stop the MODE blocked in init if the preconditions change
```

```
      IF (ModeExecutorResearch.Init_State=FALSE  AND ModeActivatorResearch.Precondition=FALSE) THEN

                  Stop_SubMode(RESEARCH);
      END_IF


      IF (ModeExecutorResearch.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:=GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF

END_IF;
IF (ModeExecutorResearch.Run_State) THEN
ModeExecutorResearch(RUN_REQUEST:=TRUE); //test
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
//////////
// NONE
////////////////////////////////////////////////////////////////////////////////////////////////////
//////////
IF((ModeActivatorNone.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = NONE)) OR GVL_MAIN. FirstScanPLC)
THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.NONE;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorNone(INIT_REQUEST:=TRUE);


      IF (ModeExecutorNone.Init_State AND NOT GVL_MAIN. FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorNone(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF

      //Stop the MODE blocked in init if the preconditions change
```

```
      IF (ModeExecutorNone.Init_State=FALSE  AND ModeActivatorNone.Precondition=FALSE) THEN

                  Stop_SubMode(NONE);
      END_IF

      IF (ModeExecutorNone.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF



END_IF;

(*
IF(ModeActivatorImport.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = IMPORT)) THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.IMPORT;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorImport(INIT_REQUEST:=TRUE);


      IF (ModeExecutorImport.Init_State  AND NOT GVL_MAIN. FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorImport(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF



      IF (ModeExecutorImport.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF
```

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```
END_IF;*)


////////////////////////////////////////////////////////////////////////////////////////////////////
//////////////////
// Import Not Able Charge
////////////////////////////////////////////////////////////////////////////////////////////////////
//////////////////
IF(ModeActivatorImportAbleToCharge.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE =
IMPORT_ABLE_TO_CHARGE)) THEN



            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.IMPORT_ABLE_TO_CHARGE;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorImportAbleToCharge(INIT_REQUEST:=TRUE);



      IF (ModeExecutorImportAbleToCharge.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN

            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorImportAbleToCharge(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF


//Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorImportAbleToCharge.Init_State=FALSE  AND
ModeActivatorImportAbleToCharge.Precondition=FALSE) THEN
                  Stop_SubMode(IMPORT_ABLE_TO_CHARGE);
      END_IF


      IF (ModeExecutorImportAbleToCharge.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF


END_IF;
IF (ModeExecutorImportAbleToCharge.Run_State) THEN
```

```
ModeExecutorImportAbleToCharge(RUN_REQUEST:=TRUE); //test
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
// Import Not Able To Charge
////////////////////////////////////////////////////////////////////////////////////////////////////
IF(ModeActivatorImportNotAbleToCharge.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE =
IMPORT_NOT_ABLE_TO_CHARGE)) THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.IMPORT_NOT_ABLE_TO_CHARGE;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorImportNotAbleToCharge(INIT_REQUEST:=TRUE);


      IF (ModeExecutorImportNotAbleToCharge.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN

            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorImportNotAbleToCharge(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF


//Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorImportNotAbleToCharge.Init_State=FALSE  AND
ModeActivatorImportNotAbleToCharge.Precondition=FALSE) THEN
                  Stop_SubMode(IMPORT_NOT_ABLE_TO_CHARGE);
      END_IF


      IF (ModeExecutorImportNotAbleToCharge.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF


END_IF;
IF (ModeExecutorImportNotAbleToCharge.Run_State) THEN
```

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```
ModeExecutorImportNotAbleToCharge(RUN_REQUEST:=TRUE); //test
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
// HOT STANDBY
////////////////////////////////////////////////////////////////////////////////////////////////////
IF(ModeActivatorHotStandBy.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = HOT_STANDBY)) THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.HOT_STANDBY;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorHotStandBy(INIT_REQUEST:=TRUE);


      IF (ModeExecutorHotStandBy.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorHotStandby(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF

      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorHotStandBy.Init_State=FALSE  AND ModeActivatorHotStandBy.Precondition=FALSE)
THEN
                  Stop_SubMode(HOT_STANDBY);
      END_IF

      IF (ModeExecutorHotStandBy.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF

END_IF;

// Remove the permissive to stay in HOT STANDBY due to change in preconditions or to PCS permission
remove
```

```
IF(ModeExecutorHotStandBy.Run_State AND (NOT PCS_Private.PermEnter_HotStandBy OR NOT BESS_Healthy OR
PCS_Internal.BESSFault)) THEN
      PCS_Private.PermRemovedHotStanby := TRUE;
END_IF

// Remove the permissive to stay in HOT STANDBY due to timeout in PCS permission receiving
WaitForHotStandbyPermissiveTimer(IN:=ModeExecutorHotStandBy.Init_WaitForPermissive,
PT:=PCS_PermissiveModeTimeout);

// Remove the permissive to stay in EXPORT due to timeout in PCS permission receiving
IF(WaitForHotStandbyPermissiveTimer.Q)THEN
      PCS_Private.PermRemovedHotStanby := TRUE;
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////
// EXPORT
////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////
IF(ModeActivatorExport.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = EXPORT)) THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.EXPORT;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorExport(INIT_REQUEST:=TRUE);


      IF (ModeExecutorExport.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
            ModeExecutorExport(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF

      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorExport.Init_State=FALSE  AND ModeActivatorExport.Precondition=FALSE) THEN

            Stop_SubMode(EXPORT);
      END_IF
```

```
      IF (ModeExecutorExport.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;

      END_IF

END_IF;

IF (ModeExecutorExport.Run_State) THEN
      ModeExecutorExport(RUN_REQUEST:=TRUE); //test
END_IF

// Remove the permissive to stay in HOT STANDBY due to PCS permission remove
IF (ModeExecutorExport.Run_State AND NOT PCS_Private.PermEnter_Export) THEN
      PCS_Private.PermRemovedExport := TRUE;
END_IF

WaitForExportPermissiveTimer(IN:=ModeExecutorExport.Init_WaitForPermissive,
PT:=PCS_PermissiveModeTimeout);

// Remove the permissive to stay in EXPORT due to timeout in PCS permission receiving
IF(WaitForExportPermissiveTimer.Q)THEN
      PCS_Private.PermRemovedExport := TRUE;
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////
// COLD STANDBY
////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////
IF(ModeActivatorCOLDStandBy.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = COLD_STANDBY)) THEN

            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.COLD_STANDBY;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorCOLDStandBy(INIT_REQUEST:=TRUE);

      IF (ModeExecutorCOLDStandBy.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
```

```
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorColdStandby(RUN_REQUEST:=TRUE);
      END_IF;
      END_IF

      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorColdStandby.Init_State=FALSE  AND ModeActivatorColdStandby.Precondition=FALSE)
THEN
                  Stop_SubMode(COLD_STANDBY);
      END_IF


      IF (ModeExecutorCOLDStandBy.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF

END_IF;

IF (ModeExecutorCOLDStandBy.Run_State) THEN
      ModeExecutorCOLDStandBy(RUN_REQUEST:=TRUE);
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
//////////////////
// EMERGENCY
////////////////////////////////////////////////////////////////////////////////////////////////////
//////////////////
IF(ModeActivatorEmergency.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = Emergency)) THEN
            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.Emergency;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorEmergency(INIT_REQUEST:=TRUE);

      IF (ModeExecutorEmergency.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorEmergency(RUN_REQUEST:=TRUE);
```

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```
      END_IF;
      END_IF

      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorEmergency.Init_State=FALSE  AND ModeActivatorEmergency.Precondition=FALSE)
THEN
                  Stop_SubMode(EMERGENCY);
      END_IF

      IF (ModeExecutorEmergency.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF

END_IF;

IF (ModeExecutorEmergency.Run_State) THEN
      ModeExecutorEmergency(RUN_REQUEST:=TRUE);
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////
// POWER OUT
////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////
IF(ModeActivatorPowerout.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = POWER_OUT)) THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.POWER_OUT;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorPowerOut(INIT_REQUEST:=TRUE);


      IF (ModeExecutorPowerOut.Init_State   AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
            ModeExecutorPowerout(RUN_REQUEST:=TRUE);
      END_IF;
```

```
      END_IF

      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorPowerOut.Init_State=FALSE  AND ModeActivatorPowerOut.Precondition=FALSE) THEN

                  Stop_SubMode(POWER_OUT);
      END_IF

      IF (ModeExecutorPowerOut.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF

END_IF;

IF (ModeExecutorPowerout.Run_State) THEN
      ModeExecutorPowerout(RUN_REQUEST:=TRUE);
END_IF

////////////////////////////////////////////////////////////////////////////////////////////////////
// IDLE
////////////////////////////////////////////////////////////////////////////////////////////////////
IF(ModeActivatorIdle.ModeActive AND NOT (EMCS_OUT.CURRENT_MODE = IDLE)) THEN


            EMCS_OUT.NEXT_MODE:=EMCS_MODE_ENUM.IDLE;
            EMCS_OUT.NEXT_SUB_MODE:=INIT;
            ModeExecutorIdle(INIT_REQUEST:=TRUE);



      IF (ModeExecutorIdle.Init_State    AND NOT GVL_MAIN.FirstScanPLC) THEN
            CURRENT_MODE_TO_STOP:=EMCS_OUT.CURRENT_MODE;
            Stop_SubMode(CURRENT_MODE_TO_STOP);
      IF(CheckSubState(CURRENT_MODE_TO_STOP))THEN
      ModeExecutorIdle(RUN_REQUEST:=TRUE);
      END_IF;
```

```
      END_IF

      //Stop the MODE blocked in init if the preconditions change
      IF (ModeExecutorIdle.Init_State=FALSE  AND ModeActivatorIdle.Precondition=FALSE) THEN

                  Stop_SubMode(IDLE);
      END_IF

      IF (ModeExecutorIdle.Run_State) THEN
            EMCS_OUT.CURRENT_MODE:= GVL_MAIN.EMCS_OUT.CURRENT_MODE;
            EMCS_OUT.NEXT_SUB_MODE:=RUNNING;
            EMCS_OUT.CURRENT_SUB_MODE:=RUNNING;
      END_IF

END_IF;

IF (ModeExecutorIdle.Run_State) THEN
      ModeExecutorIdle(RUN_REQUEST:=TRUE);
END_IF

//////////////////////////////////////////////////////////////////
PreviousPrecond := CurrentPrecond;
```

4.6 IDLE MODE_EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_IDLE
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
```

```
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

IDLE_RUN_REQ :R_TRIG;
IDLE_IDLE_REQ :R_TRIG;
IDLE_INIT_REQ :R_TRIG;
IDLE_STOP_REQ :R_TRIG;



END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


IDLE_INIT_REQ(CLK:=INIT_REQUEST);
IDLE_IDLE_REQ(CLK:=IDLE_REQUEST);
IDLE_RUN_REQ(CLK:=RUN_REQUEST);
IDLE_STOP_REQ(CLK:=STOP_REQUEST);

IF IDLE_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF IDLE_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF IDLE_RUN_REQ.Q THEN
```

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```
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF IDLE_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Init *)

            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

            PCS_EMCS_IDLE_REQUEST();

        Azioni_INIT := TRUE;  (* Esegue delle azioni preliminari per avviare la modalità *)
            Azioni_Idle := FALSE;
            INIT_REQUEST:=FALSE;

            IF (TRUE) THEN
            Init_State:=1;

             (*ricevuto il consenso dopo le azioni preliminari si avvia effettivamente la modalità*)
            END_IF;

    2: (* Run *)
      Azioni_RUN := TRUE;
        Init_State:=0;
        Azioni_INIT := FALSE;
        Init_State:=0;
        RUN_REQUEST:=FALSE;

        IF (TRUE) THEN  (*ricevuto il consenso dopo le azioni di run *)

             Run_State:=1;
```

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```
            CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
            EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.IDLE;

            FuelCell_Ensure_Stop();
            BESS_Charge_IdleMode();

           IF NOT ProcessFullyCharged THEN
                Electrolyzer_Start_IdleMode();
           END_IF;
       END_IF;


    3: (* Stop *)

           Run_State:=0;
           Mode_State :=3;
         Azioni_STOP := TRUE;
           CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;


           IF (TRUE) THEN
           Stop_state:=1;
           Mode_state :=0; (*ricevuto conferma che tutto sia in stop*)
           END_IF;

      0: (* Idle *)

            Stop_State :=FALSE;
            Run_State :=FALSE;
            Init_State :=FALSE;
            Azioni_run := FALSE;
            Azioni_STOP := FALSE;
            Azioni_INIT := FALSE;

         Azioni_Idle := TRUE;
            CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE
```

4.7 IMPORT CHARGING MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_IMPORT_CHARGE
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

IMPORT_CHARGE_RUN_REQ :R_TRIG;
IMPORT_CHARGE_IDLE_REQ :R_TRIG;
IMPORT_CHARGE_INIT_REQ :R_TRIG;
IMPORT_CHARGE_STOP_REQ :R_TRIG;



END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR

IMPORT_CHARGE_INIT_REQ(CLK:=INIT_REQUEST);
IMPORT_CHARGE_IDLE_REQ(CLK:=IDLE_REQUEST);
```

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```
IMPORT_CHARGE_RUN_REQ(CLK:=RUN_REQUEST);
IMPORT_CHARGE_STOP_REQ(CLK:=STOP_REQUEST);

IF IMPORT_CHARGE_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF IMPORT_CHARGE_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF IMPORT_CHARGE_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF IMPORT_CHARGE_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Stato Init *)

           currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;
           Azioni_Idle := FALSE;

       PCS_EMCS_IMPORT_CHARGE_REQUEST();
         INIT_REQUEST:=FALSE;

           IF (PCS_Private.PermEnter_ImportAbleToCharge) THEN
                 IF (BESS_Can_Stop() AND FuelCell_Can_Stop()) THEN
                       Init_State:=1;
                 END_IF;
```

```
        END_IF;

2: (* Run *)
  Azioni_RUN := TRUE;
    Init_State:=0;
    Azioni_INIT := FALSE;
    RUN_REQUEST :=FALSE;

    BESS_Charge_ImportMode();

    IF (TRUE) THEN

         Run_State:=1;
         CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
         EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.IMPORT_ABLE_TO_CHARGE;

         FuelCell_Ensure_Stop();

        IF NOT ProcessFullyCharged THEN
              Electrolyzer_Start_ImportMode();
        END_IF;
    END_IF;

3: (* Stato Stop *)

        Run_State:=0;
        Mode_State :=3;
      Azioni_STOP := TRUE;
        CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

        IF (TRUE) THEN
        Stop_state:=1;
        Mode_state :=0;
        END_IF;

  0: (* Idle *)

         Stop_State :=FALSE;
```

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```
            Run_State :=FALSE;
            Init_State :=FALSE;
            Azioni_run := FALSE;
            Azioni_STOP := FALSE;
            Azioni_INIT := FALSE;

             INIT_REQUEST:=FALSE;
             STOP_REQUEST:=FALSE;
             RUN_REQUEST:=FALSE;

         Azioni_Idle := TRUE;
            CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE
```

4.8 IMPORT NOT ABLE TO CHARGE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_IMPORT_NOT_CHARGE
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

IMPORT_NOT_CHARGE_RUN_REQ :R_TRIG;
IMPORT_NOT_CHARGE_IDLE_REQ :R_TRIG;
IMPORT_NOT_CHARGE_INIT_REQ :R_TRIG;
IMPORT_NOT_CHARGE_STOP_REQ :R_TRIG;
```

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```
END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


IMPORT_NOT_CHARGE_INIT_REQ(CLK:=INIT_REQUEST);
IMPORT_NOT_CHARGE_IDLE_REQ(CLK:=IDLE_REQUEST);
IMPORT_NOT_CHARGE_RUN_REQ(CLK:=RUN_REQUEST);
IMPORT_NOT_CHARGE_STOP_REQ(CLK:=STOP_REQUEST);

IF IMPORT_NOT_CHARGE_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF IMPORT_NOT_CHARGE_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF IMPORT_NOT_CHARGE_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF IMPORT_NOT_CHARGE_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
```

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```
 END_IF;


CASE Mode_State OF

    1: (* Stato Init *)

            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;
            Azioni_Idle := FALSE;
            INIT_REQUEST:=FALSE;

        PCS_EMCS_IMPORT_NOT_CHARGE_REQUEST();


            IF (PCS_Private.PermEnter_ImportNotAbleToCharge) THEN
                  IF (BESS_Can_Stop() AND FuelCell_Can_Stop()) THEN
                  Init_State:=1;
                  END_IF;

            END_IF;

    2: (* Stato Run *)
      Azioni_RUN := TRUE;
        Init_State:=0;
        Azioni_INIT := FALSE;
        RUN_REQUEST:=FALSE;

        IF (TRUE) THEN

             Run_State:=1;
             CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
             EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.IMPORT_NOT_ABLE_TO_CHARGE;

            BESS_Set_Idle();
            Electrolyzer_Stop();
            FuelCell_Ensure_Stop();
        END_IF;
```

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```
    3: (* Stato Stop *)

          Run_State:=0;
          Mode_State :=3;
        Azioni_STOP := TRUE;
          CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

          IF (TRUE) THEN
          Stop_state:=1;
          Mode_state :=0;
          END_IF;

      0: (* Stato Idle *)

           Stop_State :=FALSE;
           Run_State :=FALSE;
           Init_State :=FALSE;
           Azioni_run := FALSE;
           Azioni_STOP := FALSE;
           Azioni_INIT := FALSE;

           INIT_REQUEST:=FALSE;
           STOP_REQUEST:=FALSE;
           RUN_REQUEST:=FALSE;

        Azioni_Idle := TRUE;
           CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE
```

4.9 HOTSTANDBY MODE_EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_HOTSTANDBY
VAR
      Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)
      Azioni_INIT : BOOL := FALSE;
      Azioni_RUN : BOOL := FALSE;
```

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```
      Azioni_STOP : BOOL := FALSE;
      Azioni_Idle : BOOL := FALSE;
END_VAR
VAR_INPUT
      IDLE_REQUEST :BOOL;
      INIT_REQUEST :BOOL;
      RUN_REQUEST :BOOL;
      STOP_REQUEST :BOOL;

      HOTSTANDBY_RUN_REQ :R_TRIG;
      HOTSTANDBY_IDLE_REQ :R_TRIG;
      HOTSTANDBY_INIT_REQ :R_TRIG;
      HOTSTANDBY_STOP_REQ :R_TRIG;
END_VAR
VAR_OUTPUT
      CurrentSubState :EMCS_SUB_MODE;
      Init_WaitForPermissive :BOOL;
      Init_State :BOOL;
      Run_State :BOOL;
      Stop_State :BOOL;
END_VAR


HOTSTANDBY_INIT_REQ(CLK:=INIT_REQUEST);
HOTSTANDBY_IDLE_REQ(CLK:=IDLE_REQUEST);
HOTSTANDBY_RUN_REQ(CLK:=RUN_REQUEST);
HOTSTANDBY_STOP_REQ(CLK:=STOP_REQUEST);

IF HOTSTANDBY_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF HOTSTANDBY_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF HOTSTANDBY_RUN_REQ.Q THEN
```

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```
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF HOTSTANDBY_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Stato Init *)

            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

            PCS_EMCS_HOT_STANDBY_REQUEST();

        Azioni_INIT := TRUE;
            Azioni_Idle := FALSE;

            INIT_REQUEST:=FALSE;

            Init_WaitForPermissive := TRUE;
            IF (PCS_Private.PermEnter_HotStandBy) THEN
                  Init_State:=1;
                  Init_WaitForPermissive := FALSE;
            END_IF;

    2: (* Run *)
      Azioni_RUN := TRUE;
        Init_State:=0;
        Azioni_INIT := FALSE;

        IF (TRUE) THEN

             Run_State:=1;
             CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
```

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```
            EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.HOT_STANDBY;

            FuelCell_Ensure_Stop();
        END_IF;

    3: (* Stop *)

            Run_State:=0;
            Mode_State :=3;
          Azioni_STOP := TRUE;
            CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

            IF (TRUE) THEN
            Stop_state:=1;
            Mode_state :=0;
            END_IF;

      0: (* Idle *)

             Stop_State :=FALSE;
             Run_State :=FALSE;
             Init_State :=FALSE;
             Azioni_run := FALSE;
             Azioni_STOP := FALSE;
             Azioni_INIT := FALSE;

             Init_WaitForPermissive := FALSE;

         Azioni_Idle := TRUE;
             CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;
        END_CASE
```

4.10 EXPORT MODE_EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_EXPORT
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
```

```
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

EXPORT_RUN_REQ :R_TRIG;
EXPORT_IDLE_REQ :R_TRIG;
EXPORT_INIT_REQ :R_TRIG;
EXPORT_STOP_REQ :R_TRIG;



END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_WaitForPermissive :BOOL;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


EXPORT_INIT_REQ(CLK:=INIT_REQUEST);
EXPORT_IDLE_REQ(CLK:=IDLE_REQUEST);
EXPORT_RUN_REQ(CLK:=RUN_REQUEST);
EXPORT_STOP_REQ(CLK:=STOP_REQUEST);

IF EXPORT_IDLE_REQ.Q THEN
 Mode_State:=0;
```

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```
 IDLE_REQUEST:=FALSE;

 END_IF;

IF EXPORT_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF EXPORT_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF EXPORT_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Init *)

            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;
            EXPORT_TEXT1 := "Stopping Electrloyzer";//test


            IF (Electrolyzer_Stop()) THEN

                  PCS_EMCS_EXPORT_REQUEST();
                  EXPORT_TEXT1 := "Waiting for PCS Response";//test
            END_IF

            INIT_REQUEST:=FALSE;

            Init_WaitForPermissive := TRUE;
            IF (PCS_Private.PermEnter_Export) THEN
```

```
            Init_State:=1;    effettivamente la modalità*)
            Init_WaitForPermissive := FALSE;
        END_IF;

2: (*Run *)

  BESS_Discharge_ExportMode();

    PCS_EMCS_FC_START_REQUEST();

    Init_State:=0;
    RUN_REQUEST:=FALSE;

    EXPORT_TEXT1 := "Waiting for PCS Response to Start request";
    IF (PCS_Internal.PermToStartFC) THEN

         FuelCell_START_EXPORT_MODE();
    END_IF;

   Run_State:=1;
  CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
  EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.EXPORT;


3: (* Stop *)

        Run_State:=0;
        Mode_State :=3;
      Azioni_STOP := TRUE;
        STOP_REQUEST:=FALSE;
        CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;
        Stop_Fuel_Cell();

        IF (FuelCell_Stopped) THEN
        Stop_state:=1;
        Mode_state :=0;
        END_IF;

  0: (* Idle *)
```

```
            Stop_State :=FALSE;
            Run_State :=FALSE;
            Init_State :=FALSE;
            Azioni_run := FALSE;
            Azioni_STOP := FALSE;
            Azioni_INIT := FALSE;

            INIT_REQUEST:=FALSE;
            RUN_REQUEST:=FALSE;
            STOP_REQUEST:=FALSE;

           Init_WaitForPermissive := FALSE;

        Azioni_Idle := TRUE;
            CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;
END_CASE
```

4.11 COLDSTANDBY MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_COLDSTANDBY
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

COLDSTANDBY_RUN_REQ :R_TRIG;
COLDSTANDBY_IDLE_REQ :R_TRIG;
```

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```
COLDSTANDBY_INIT_REQ :R_TRIG;
COLDSTANDBY_STOP_REQ :R_TRIG;



END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


COLDSTANDBY_INIT_REQ(CLK:=INIT_REQUEST);
COLDSTANDBY_IDLE_REQ(CLK:=IDLE_REQUEST);
COLDSTANDBY_RUN_REQ(CLK:=RUN_REQUEST);
COLDSTANDBY_STOP_REQ(CLK:=STOP_REQUEST);

IF COLDSTANDBY_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF COLDSTANDBY_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF COLDSTANDBY_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF COLDSTANDBY_STOP_REQ.Q THEN
```

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```
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Stato Init *)

            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

        Azioni_INIT := TRUE;
            Azioni_Idle := FALSE;

            PCS_EMCS_COLD_STANDBY_REQUEST();

            INIT_REQUEST:=FALSE;

            IF (TRUE) THEN
                  Init_State:=1;
            END_IF;

    2: (* Run *)
      Azioni_RUN := TRUE;
        Init_State:=0;
        Azioni_INIT := FALSE;
        RUN_REQUEST :=FALSE;

        // Reset the events of permission removing that causes to move in ColdeStandBy (this mode)
        PCS_Private.PermRemovedHotStanby := FALSE;
        PCS_Private.PermRemovedExport := FALSE;

        IF (TRUE) THEN  (*ricevuto il consenso dopo le azioni di run *)

             Run_State:=1;
             CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
             EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.COLD_STANDBY;

             FuelCell_Ensure_Sleep();
```

```
        END_IF;



    3: (* Stop *)

          Run_State:=0;
          Mode_State :=3;
        Azioni_STOP := TRUE;
          CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

          IF (TRUE) THEN
                Stop_state:=1;
                Mode_state :=0; (*ricevuto conferma che tutto sia in stop*)
          END_IF;

      0: (* Idle *)

           Stop_State :=FALSE;
           Run_State :=FALSE;
           Init_State :=FALSE;
           Azioni_run := FALSE;
           Azioni_STOP := FALSE;
           Azioni_INIT := FALSE;

           INIT_REQUEST:=FALSE;
           RUN_REQUEST:=FALSE;
           STOP_REQUEST:=FALSE;

        Azioni_Idle := TRUE;
           CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE
```

4.12 EMERGENCY MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_EMERGENCY
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)
```

```
Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

EMERGENCY_RUN_REQ :R_TRIG;
EMERGENCY_IDLE_REQ :R_TRIG;
EMERGENCY_INIT_REQ :R_TRIG;
EMERGENCY_STOP_REQ :R_TRIG;



END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


EMERGENCY_INIT_REQ(CLK:=INIT_REQUEST);
EMERGENCY_IDLE_REQ(CLK:=IDLE_REQUEST);
EMERGENCY_RUN_REQ(CLK:=RUN_REQUEST);
EMERGENCY_STOP_REQ(CLK:=STOP_REQUEST);
```

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```
IF EMERGENCY_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF EMERGENCY_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF EMERGENCY_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF EMERGENCY_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (*Init *)

           currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

        Azioni_INIT := TRUE;
           Azioni_Idle := FALSE;

           PCS_EMCS_EMERGENCY_REQUEST();

           INIT_REQUEST:=FALSE;

           IF (PCS_Private.PermEnter_Emergency) THEN
                 Init_State:=1;
           END_IF;
```

```
2: (* Run *)
  Azioni_RUN := TRUE;
    Init_State:=0;
    Azioni_INIT := FALSE;
    RUN_REQUEST:=FALSE;

    IF (SolarFarm_Healthy) THEN

         Run_State:=1;
         Electrolyzer_ForceStop();
         BESS_Ensure_Is_Started();
         // Load Shed Stage 1
         PCS_LoadShedStage1();

         IF(BESS_SocAboveLow() AND BESS_SocBelowHi()) THEN
              Emergency_BESS_MEDIUM_SOC();
         ELSIF(NOT BESS_SocBelowHi()) THEN  // Above High level
              Emergency_BESS_HIGH_SOC();
         ELSE                                          // Below High level
              Emergency_BESS_LOW_SOC();
         END_IF;

         IF(BESS_AvailableEnergyPerc <= BESS_LIMIT_FOR_ADV_LOAD_SHEDDING) THEN
              PCS_LoadShedStage2();
         END_IF;

         CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
         EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.EMERGENCY;

    END_IF;

3: (* Stato Stop *)

        Run_State:=0;
        Mode_State :=3;
      Azioni_STOP := TRUE;
        STOP_REQUEST:=FALSE;
        CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;
```

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```
            IF (TRUE) THEN
            Stop_state:=1;
            Mode_state :=0;
            END_IF;

      0: (* Stato Idle *)

             Stop_State :=FALSE;
             Run_State :=FALSE;
             Init_State :=FALSE;
             Azioni_run := FALSE;
             Azioni_STOP := FALSE;
             Azioni_INIT := FALSE;

         Azioni_Idle := TRUE;
             CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE

IF ((Mode_State<>2) AND ModeActivatorEmergency.Precondition=FALSE) THEN
      Mode_State:=0;
      //Stop_SubMode(8);
END_IF
```

4.13 POWEROUT MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_POWEROUT
VAR
Mode_State :INT :=0;    (*  0= Idle 1 = Init, 2 = Run, 3 = Stop *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR
```

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```
VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

POWEROUT_RUN_REQ :R_TRIG;
POWEROUT_IDLE_REQ :R_TRIG;
POWEROUT_INIT_REQ :R_TRIG;
POWEROUT_STOP_REQ :R_TRIG;

END_VAR

VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


POWEROUT_INIT_REQ(CLK:=INIT_REQUEST);
POWEROUT_IDLE_REQ(CLK:=IDLE_REQUEST);
POWEROUT_RUN_REQ(CLK:=RUN_REQUEST);
POWEROUT_STOP_REQ(CLK:=STOP_REQUEST);

IF POWEROUT_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF POWEROUT_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;
```

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```
IF POWEROUT_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF POWEROUT_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Init *)

            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

            PCS_EMCS_POWEROUT_REQUEST();

        Azioni_INIT := TRUE;
            Azioni_Idle := FALSE;
            INIT_REQUEST:=FALSE;

            IF (TRUE) THEN
            Init_State:=1;

            END_IF;

    2: (* Stato Run *)
      Azioni_RUN := TRUE;
        Init_State:=0;
        Azioni_INIT := FALSE;
        RUN_REQUEST:=FALSE;

      IF (TRUE) THEN

            Run_State:=1;
            OpenAllCircuitBreakersBusMV();
```

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```
        FuelCell_Ensure_Sleep();
        SolarFarm_EnsureStop();
        Electrolyzer_Stop();
        BESS_Ensure_Is_Stopped();

        CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
        EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.POWER_OUT;
    END_IF;



3: (* Stop *)

        Run_State:=0;
        Mode_State :=3;
       Azioni_STOP := TRUE;
        STOP_REQUEST:=FALSE;
        CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

        IF (TRUE) THEN

        //EMCS_Internal.AutoManualMode:=2; //Research
        //CloseAllCircuitBreakersBusMV();


        Stop_state:=1;
        Mode_state :=0; (*ricevuto conferma che tutto sia in stop*)
        END_IF;

  0: (* Idle *)

         Stop_State :=FALSE;
         Run_State :=FALSE;
         Init_State :=FALSE;
         Azioni_run := FALSE;
         Azioni_STOP := FALSE;
         Azioni_INIT := FALSE;
```

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```
        Azioni_Idle := TRUE;
            CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE
```

4.14 MAINTENANCE MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_MAINTENANCE
VAR
Mode_State :INT :=0;    (* 1 = Init, 2 = Run, 3 = Stop  0= Idle*)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

FirstRunExecution : R_TRIG;
FUEL_CELL_STOPPPED : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

MAINTENANCE_RUN_REQ :R_TRIG;
MAINTENANCE_IDLE_REQ :R_TRIG;
MAINTENANCE_INIT_REQ :R_TRIG;
MAINTENANCE_STOP_REQ :R_TRIG;



END_VAR

VAR_OUTPUT
```

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```
 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR


MAINTENANCE_INIT_REQ(CLK:=INIT_REQUEST);
MAINTENANCE_IDLE_REQ(CLK:=IDLE_REQUEST);
MAINTENANCE_RUN_REQ(CLK:=RUN_REQUEST);
MAINTENANCE_STOP_REQ(CLK:=STOP_REQUEST);

IF MAINTENANCE_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF MAINTENANCE_INIT_REQ.Q THEN
 Mode_State:=1;
 INIT_REQUEST:=FALSE;
 END_IF;

IF MAINTENANCE_RUN_REQ.Q THEN
 Mode_State:=2;
 RUN_REQUEST:=FALSE;
 END_IF;


IF MAINTENANCE_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;


CASE Mode_State OF

    1: (* Init *)
```

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```
            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

            PCS_EMCS_MAINTENANCE_REQUEST();

        Azioni_INIT := TRUE;  (* Esegue delle azioni preliminari per avviare la modalità *)
            Azioni_Idle := FALSE;
            FUEL_CELL_STOPPPED := FALSE;

            IF (TRUE) THEN
                  Init_State:=TRUE;        (*ricevuto il consenso dopo le azioni preliminari si avvia
effettivamente la modalità*)
            END_IF;

    2: (* Run *)
      Azioni_RUN := TRUE;
        Init_State:=0;
        Azioni_INIT := FALSE;
        RUN_REQUEST :=FALSE;

        IF (TRUE) THEN  (*ricevuto il consenso dopo le azioni di run *)

            Run_State:=1;
            CurrentSubState.CURRENT_SUB_MODE_STATE := Running;
            EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.MAINTENANCE;

            FirstRunExecution(CLK:=Run_State);

            IF(FirstRunExecution.Q) THEN
                  BESS_Ensure_Is_Stopped();
                  Electrolyzer_Stop();

              PCS_Private.PermRemovedHotStanby := FALSE;
              PCS_Private.PermRemovedExport := FALSE;

            END_IF;

            IF(NOT FUEL_CELL_STOPPPED) THEN
                  FUEL_CELL_STOPPPED := FuelCEll_Ensure_Sleep();
            END_IF
```

```
        END_IF;

    3: (* Stop *)

          Run_State:=0;
          Mode_State :=3;
         Azioni_STOP := TRUE;
          CurrentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

          IF (TRUE) THEN
          Stop_state:=1;
          Mode_state :=0; (*ricevuto conferma che tutto sia in stop*)
          END_IF;

      0: (* Idle *)

           Stop_State :=FALSE;
           Run_State :=FALSE;
           Init_State :=FALSE;
           Azioni_run := FALSE;
           Azioni_STOP := FALSE;
           Azioni_INIT := FALSE;

        Azioni_Idle := TRUE;
           CurrentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;

END_CASE
```

4.15 RESEARCH MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_RESEARCH
VAR
Mode_State :INT :=0;    (* 1 = Init, 2 = Run, 3 = Stop  0= Idle*)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
```

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```
Azioni_Idle : BOOL := FALSE;
FirstRunExecution : R_TRIG;
END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

RESEARCH_RUN_REQ :R_TRIG;
RESEARCH_INIT_REQ :R_TRIG;
RESEARCH_STOP_REQ :R_TRIG;
RESEARCH_IDLE_REQ :R_TRIG;

FUEL_CELL_STOPPPED : BOOL := FALSE;

END_VAR


VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR

RESEARCH_INIT_REQ(CLK:=INIT_REQUEST);
RESEARCH_RUN_REQ(CLK:=RUN_REQUEST);
RESEARCH_STOP_REQ(CLK:=STOP_REQUEST);
RESEARCH_IDLE_REQ(CLK:=IDLE_REQUEST);

IF RESEARCH_INIT_REQ.Q THEN
  Mode_State:=1;
  INIT_REQUEST:=FALSE;
 END_IF;
```

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```
 IF RESEARCH_IDLE_REQ.Q THEN
  Mode_State:=0;
  IDLE_REQUEST:=FALSE;
 END_IF;

IF RESEARCH_RUN_REQ.Q THEN
  Mode_State:=2;
  RUN_REQUEST:=FALSE;
 END_IF;


IF RESEARCH_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;

CASE Mode_State OF
    1: (* Init *)
            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

            PCS_EMCS_RESEARCH_REQUEST();

        Azioni_INIT := TRUE;
            Azioni_Idle := FALSE;
            FUEL_CELL_STOPPPED := FALSE;
            IF (TRUE) THEN
                  Init_State:=TRUE;
            END_IF;

    2: (* Run *)
      Azioni_RUN := TRUE;
        Init_State :=FALSE;
        Azioni_INIT := FALSE;
        RUN_REQUEST :=FALSE;

            FirstRunExecution(CLK:=Run_State);
            IF(FirstRunExecution.Q) THEN
                  // Stop all CPI (Company Provided Items)
```

```
            BESS_Ensure_Is_Stopped();
            Electrolyzer_Stop();
            SolarFarm_EnsureStop();

            PCS_Private.PermRemovedHotStanby := FALSE;
            PCS_Private.PermRemovedExport := FALSE;
        END_IF;

        IF(NOT FUEL_CELL_STOPPPED) THEN
            FUEL_CELL_STOPPPED := FuelCEll_Ensure_Sleep();
        END_IF

    IF (TRUE) THEN  (*ricevuto il consenso dopo le azioni di run *)
         Run_State :=TRUE;
          currentSubState.CURRENT_SUB_MODE_STATE := Running;
         EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.RESEARCH;
   END_IF;



3: (* Stop *)

        Mode_state :=3;
         Run_State :=FALSE;
        Azioni_STOP := TRUE;
        currentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

        IF (TRUE) THEN
        Stop_State :=TRUE;
        Mode_state :=0; (*ricevuto conferma che tutto sia in stop*)
        END_IF;

  0: (* Idle *)

      Stop_State :=FALSE;
         Run_State :=FALSE;
         Init_State :=FALSE;
         Azioni_run := FALSE;
          Azioni_STOP := FALSE;
```

```
            Azioni_INIT := FALSE;

        Azioni_Idle := TRUE;
           currentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;


END_CASE
```

4.16 NONE MODE EXECUTOR

```
FUNCTION_BLOCK EMCS_MODE_EXECUTOR_NONE
VAR
Mode_State :INT :=0;    (* 1 = Init, 2 = Run, 3 = Stop  0= Idle *)

Azioni_INIT : BOOL := FALSE;
Azioni_RUN : BOOL := FALSE;
Azioni_STOP : BOOL := FALSE;
Azioni_Idle : BOOL := FALSE;

END_VAR

VAR_INPUT

IDLE_REQUEST :BOOL;
INIT_REQUEST :BOOL;
RUN_REQUEST :BOOL;
STOP_REQUEST :BOOL;

NONE_RUN_REQ :R_TRIG;
NONE_IDLE_REQ :R_TRIG;
NONE_INIT_REQ :R_TRIG;
NONE_STOP_REQ :R_TRIG;

END_VAR


VAR_OUTPUT

 CurrentSubState :EMCS_SUB_MODE;
```

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```
 Init_State :BOOL;
 Run_State :BOOL;
 Stop_State :BOOL;

END_VAR



NONE_INIT_REQ(CLK:=INIT_REQUEST);
NONE_IDLE_REQ(CLK:=IDLE_REQUEST);
NONE_RUN_REQ(CLK:=RUN_REQUEST);
NONE_STOP_REQ(CLK:=STOP_REQUEST);

IF NONE_INIT_REQ.Q THEN
  Mode_State:=1;
  INIT_REQUEST:=FALSE;
 END_IF;

 IF NONE_IDLE_REQ.Q THEN
 Mode_State:=0;
 IDLE_REQUEST:=FALSE;
 END_IF;

IF NONE_RUN_REQ.Q THEN
  Mode_State:=2;
  RUN_REQUEST:=FALSE;
 END_IF;


IF NONE_STOP_REQ.Q THEN
 Mode_State:=3;
 STOP_REQUEST:=FALSE;
 END_IF;

CASE Mode_State OF
    1: (* Init *)
            currentSubState.CURRENT_SUB_MODE_STATE :=Mode_State;

        Azioni_INIT := TRUE;  (* Esegue delle azioni preliminari per avviare la modalità *)
```

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```
        Azioni_Idle := FALSE;
        IF (TRUE) THEN
              Init_State :=TRUE;
         (*ricevuto il consenso dopo le azioni preliminari si avvia effettivamente la modalità*)
        END_IF;

2: (* Run *)
  Azioni_RUN := TRUE;
    Init_State :=FALSE;
    Azioni_INIT := FALSE;

    IF (TRUE) THEN
         Run_State :=TRUE;
          currentSubState.CURRENT_SUB_MODE_STATE := Running;
         EMCS_OUT.CURRENT_MODE:= EMCS_MODE_ENUM.NONE;
   END_IF;


3: (* Stop *)
        Mode_state :=3;
         Run_State :=FALSE;
        Azioni_STOP := TRUE;
        currentSubState.CURRENT_SUB_MODE_STATE :=Stopping;

        IF (TRUE) THEN
        Stop_State :=TRUE;
        Mode_state :=0; (*ricevuto conferma che tutto sia in stop*)
        END_IF;
  0: (* Idle *)

         Stop_State :=FALSE;
         Run_State :=FALSE;
         Init_State :=FALSE;
         Azioni_run := FALSE;
          Azioni_STOP := FALSE;
          Azioni_INIT := FALSE;

      Azioni_Idle := TRUE;
        currentSubState.CURRENT_SUB_MODE_STATE :=Idle_SUB;
```

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```
END_CASE
```

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-9 Instrumentation / Instrumental Panels Construction Drawings

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-9.1 PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1724000594-IN-DA-00009

BASE LOAD POWER HUB (BLPH)
PCS CABINETS
GENERAL ARRANGEMENT
DRAWINGS AND
INTERNAL LAYOUT

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	29/09/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00009 | SHEET 001 | REV. 3

Page 3441 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X						BASE LOAD POWER HUB (BLPH) INDEX
003	X	X		X						BASE LOAD POWER HUB (BLPH) DATA SHEET
004	X			X						BASE LOAD POWER HUB (BLPH) INTERNAL WIRING INFORMATION
005	X	X		X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X	X	X	X						BASE LOAD POWER HUB (BLPH) EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW
007	X		X	X						BASE LOAD POWER HUB (BLPH) EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
008	X	X	X	X						BASE LOAD POWER HUB (BLPH) EXTERNAL REAR VIEW
009	X	X	X	X						BASE LOAD POWER HUB (BLPH) BASEPLATE DETAILS
010	X	X	X	X						BASE LOAD POWER HUB (BLPH) EXTERNAL & INTERNAL TOP VIEW
011	X	X	X	X						BASE LOAD POWER HUB (BLPH) EXTERNAL TOP VIEW DOOR OPEN & MCT TABLE LIST
012	X	X	X	X						BASE LOAD POWER HUB (BLPH) LIFTING DETAILS
013	X	X	X	X						BASE LOAD POWER HUB (BLPH) FRONT DOOR CUT-OUT DETAILS
014	X	X	X	X						BASE LOAD POWER HUB (BLPH) FRONT SIDE INTERNAL VIEWS
015	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
016	X			X						BASE LOAD POWER HUB (BLPH) MANUFACTURER LABEL DETAILS
017	X	X	X	X						BASE LOAD POWER HUB (BLPH) SECTION IDENTIFIER NAMEPLATE DETAILS
018	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
019	X		X	X						BASE LOAD POWER HUB (BLPH) CERTIFICATION LABEL
020	X	X	X	X						BASE LOAD POWER HUB (BLPH) MAIN COMPONENT LIST

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X	X	X	X						BASE LOAD POWER HUB (BLPH) MAIN COMPONENT LIST
022	X	X	X	X						BASE LOAD POWER HUB (BLPH) MAIN COMPONENT LIST
023			X	X						BASE LOAD POWER HUB (BLPH) MAIN COMPONENT LIST

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
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1	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 002

REV. 3

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP	■ MIRROR OF JUNCTION BOX	☐ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

B - MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 800 mm x 2100 mm (L x D x H) (NOTE B1)		
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55	
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm	
B4	CABLE ENTRY	■ TOP	☐ BOTTOM	
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS	■ MCT
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR	
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE	
B8	BASE PLINTH	■ SEPARATE PIECES		
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP		
B10	APPROXIMATIVE WEIGHT	500 Kg		

NOTE B1 : ALLOWED TOLERANCE FOR PANEL HEIGHT/DEPTH: +/-5mm;
ALLOWED TOLERANCE FOR PANEL STRUCTURES AND SUPPORTS: +/-2mm;
ALLOWED TOLERANCE FOR TOTAL PANEL LENGTH : +/-2% OF TOTAL PANEL LENGTH;
(IN ANY CASE, MAXIMUM LENGTH TOLERANCE ALLOWED FOR PANEL WITH 2 OR MORE COLUMNS IS +/-50mm)
REMOVABLE BOTTOM PLATES SHALL BE PROVIDED

C - PAINTING

C1	REFERENCE SPECIFICATIONS		■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR	TYPE	☐ SMOOTH	■ PEEL TYPE	
		COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH		■ AS EXTERIOR		
C4	INTERIOR		■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES		■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	1,2kW	1,2kW	0,6kW
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION		■ LED (230Vac - 50Hz)	
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT		■ YES	
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT		■ YES	
D7	SERVICE SOCKET		■ YES	

E - NAMEPLATES

.	.	EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
DATA SHEET

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 003

REV. 3

A - PANEL CONTROL CABLES

CABLE FUNCTION	CONDUCTOR SIZE	CONDUCTOR COLORS	OUTER SHEATH COLOR NON Intrinsically Safe Circuit	OUTER SHEATH COLOR Intrinsically Safe Circuit
BIPOLAR ANALOG SIGNALS (NOTE A1)	(2x0.5) + Shield	BLACK (BK) - WHITE (WH)	GREY (GR)	BLUE (BL)
TRIPOLAR ANALOG SIGNALS (NOTE A1)	(3x0.5) + Shield	BLACK (BK) - WHITE (WH) RED (RD)	GREY (GR)	BLUE (BL)

NOTE A1 : FOR THE ABOVE MENTIONED ANALOG SIGNALS, PAIRS OR TRIADS SHIELDED SPIRAL CABLES SHALL BE USED, WITH THE EXCEPTION OF THOSE "SINK" INPUTS OR OUTPUTS OF THE CONTROLLER WHERE AN EXTERNAL FEED IS NEEDED. ONLY FOR THIS SPECIFIC CASE, SINGLE WIRE CABLE SHALL BE USED.

C-GROUNDING CONNECTIONS

EARTH TYPE	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR	ID RING COLOR
P.E. (PROTECTIVE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	YELLOW/GREEN (YG)	-
I.E. (INSTRUMENT EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	GREEN (GN)	-
I.S.E. (INTRINSICALLY SAFE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	WHITE (WH)	-

B -PANEL SINGLE-CORE CABLES

SINGLE-CORE CABLE FUNCTION	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR NON Intrinsically Safe Circuit	WIRE COLOR Intrinsically Safe Circuit
AC LINE	(1x2.5) - (1x4) - (1x6)	BROWN (BR)	N/A
AC NEUTRAL	(1x2.5) - (1x4) - (1x6)	LIGHT BLUE (LB)	N/A
DC 24Vdc (POSITIVE)	(1x2.5) - (1x4) - (1x6)	RED (RD)	N/A
DC 24Vdc (NEGATIVE)	(1x2.5) - (1x4) - (1x6)	BLUE (BU)	N/A
DIGITAL SIGNALS (POSITIVE)	(1x0.5)	BLACK (BK)	N/A
DIGITAL SIGNALS (NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (2 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (2 WIRE NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (3 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (3 WIRE NEGATIVE)	(1x0.5)	RED (RD)	N/A
ANALOG SIGNALS (3 WIRE SIGNAL)	(1x0.5)	WHITE (WH)	N/A

GENERAL NOTE : MINIMUM SECTION 1.5 mm² FOR CPU PANEL INTERNAL LAMPS, LIMIT SWITCHES, FANS, THERMOSTATS, ISOLATORS POWER SUPPLY

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
INTERNAL WIRING INFORMATION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

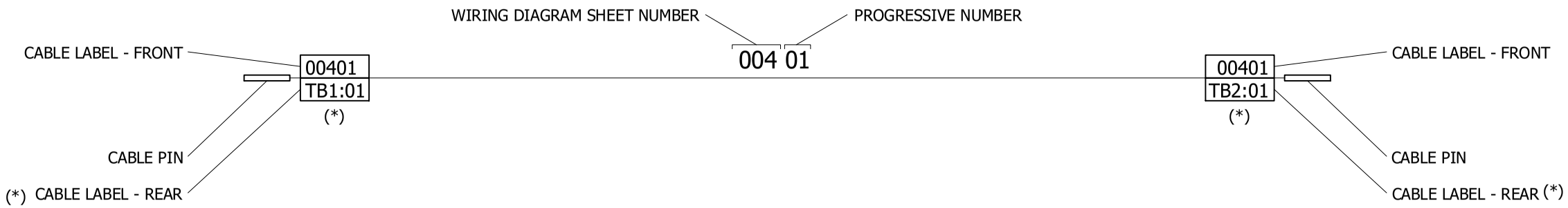
SHEET 004

REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	○○○○○○○○○○○○○○○
I.E. EARTH	○○○○○○○○○○○○○○○
I.S.E. EARTH	○○○○○○○○○○○○○○○

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH
I.S. (I.S.E.) - INTRINSICALLY SAFE EARTH

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

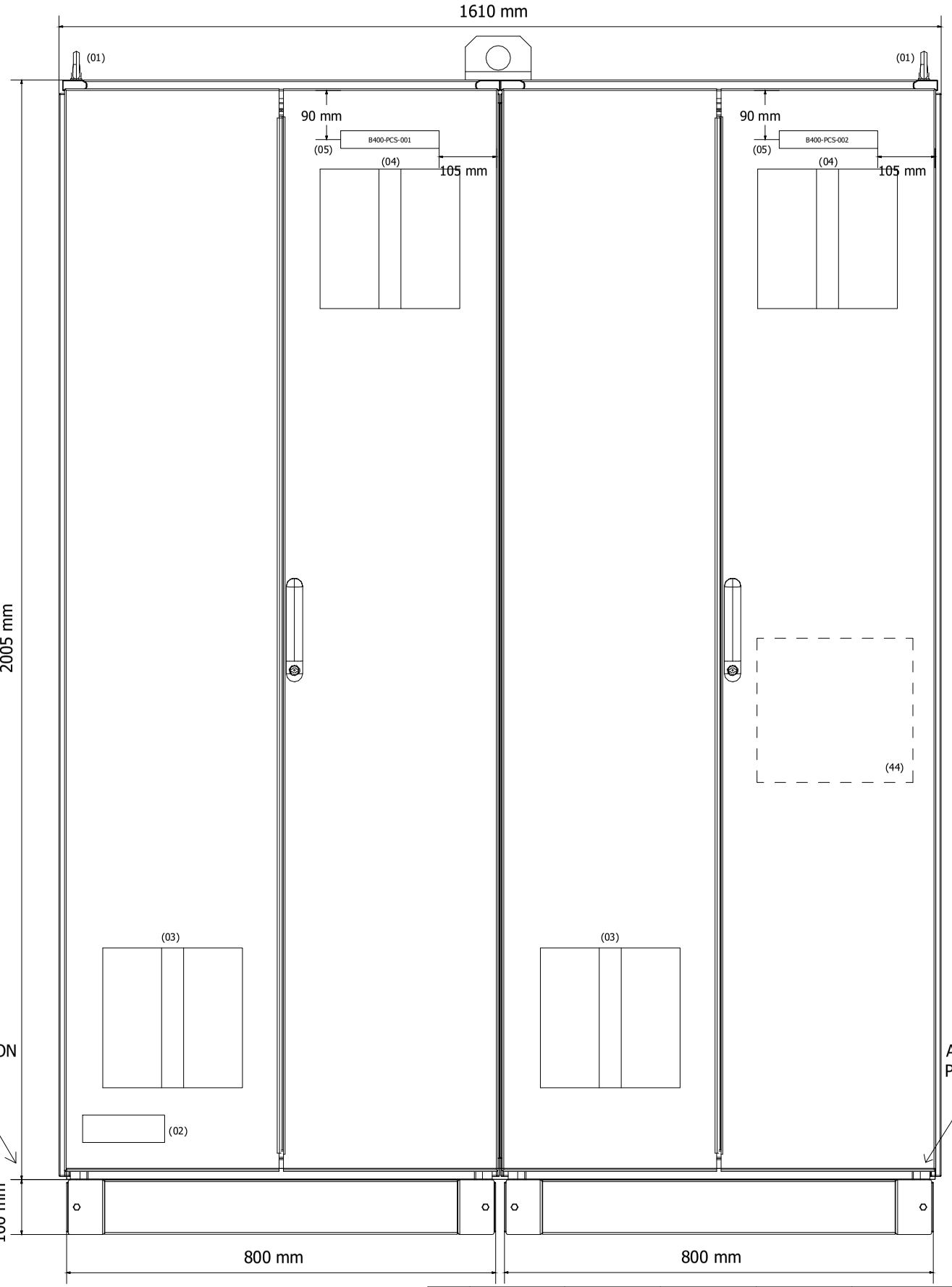
A3

DRAWING NO. 1724000594-IN-DA-00009

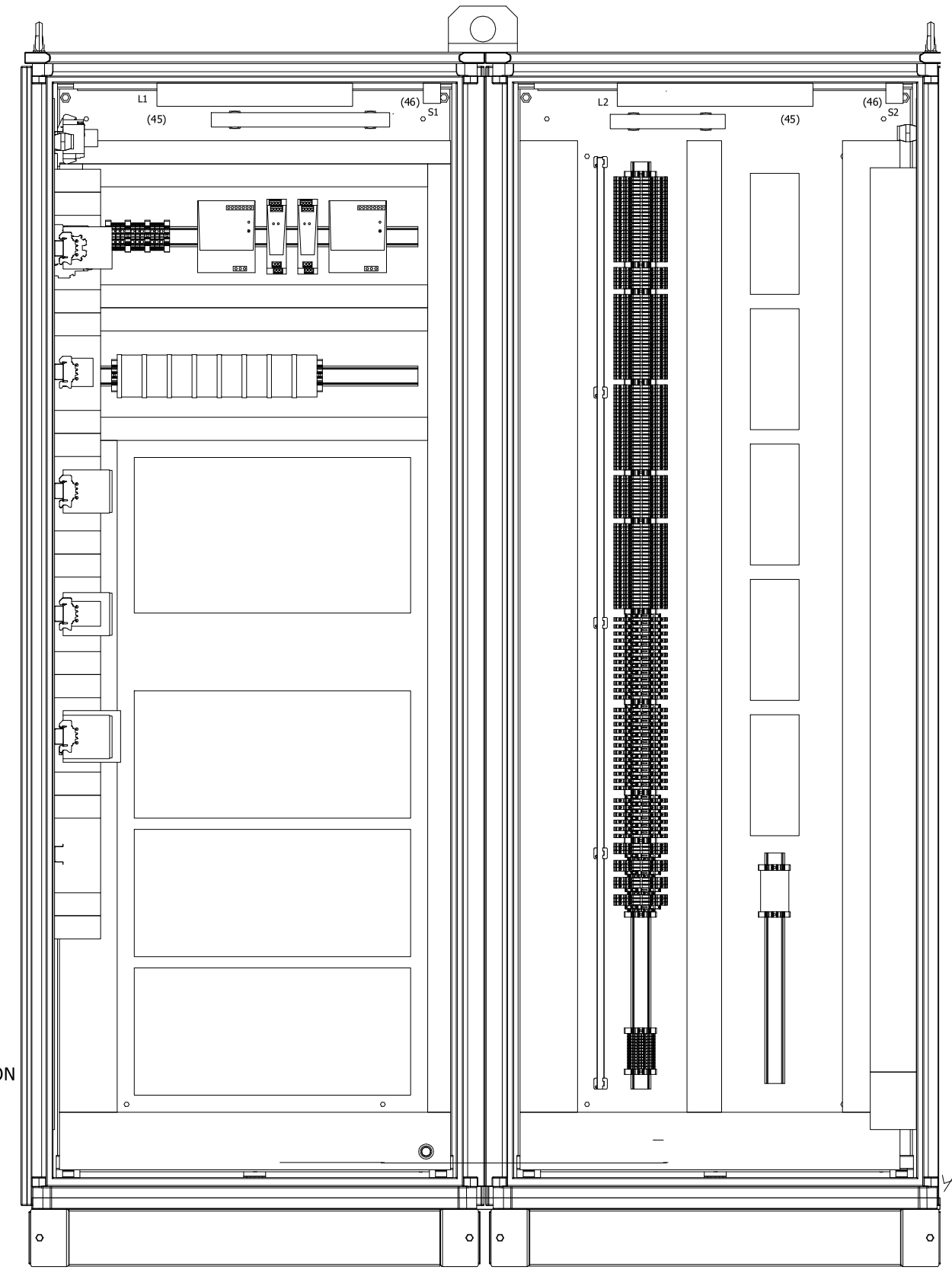
SHEET 005

REV. 3

PCS PANEL - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW



DRAWING SCALE 1:10



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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 006

REV. 3

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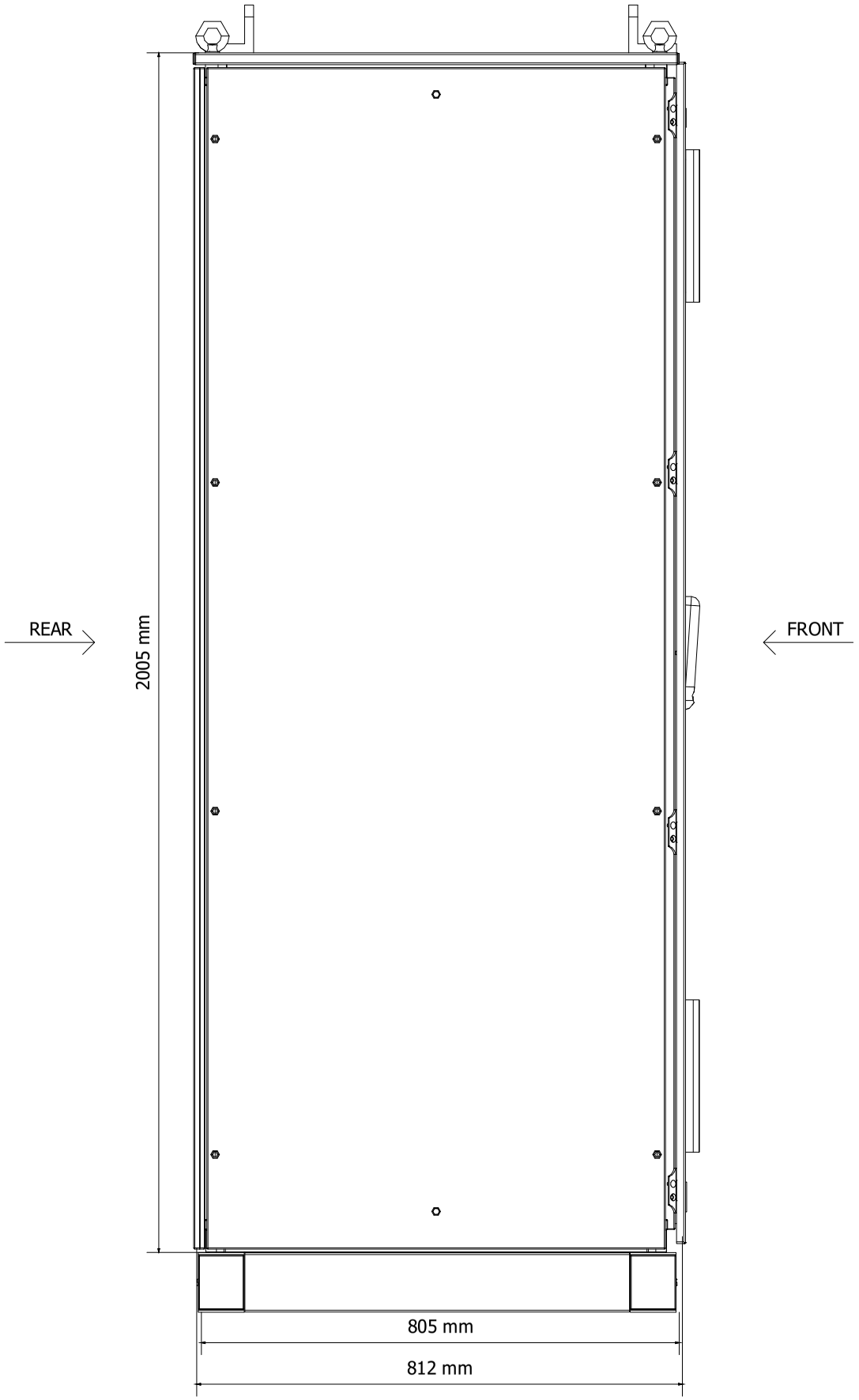
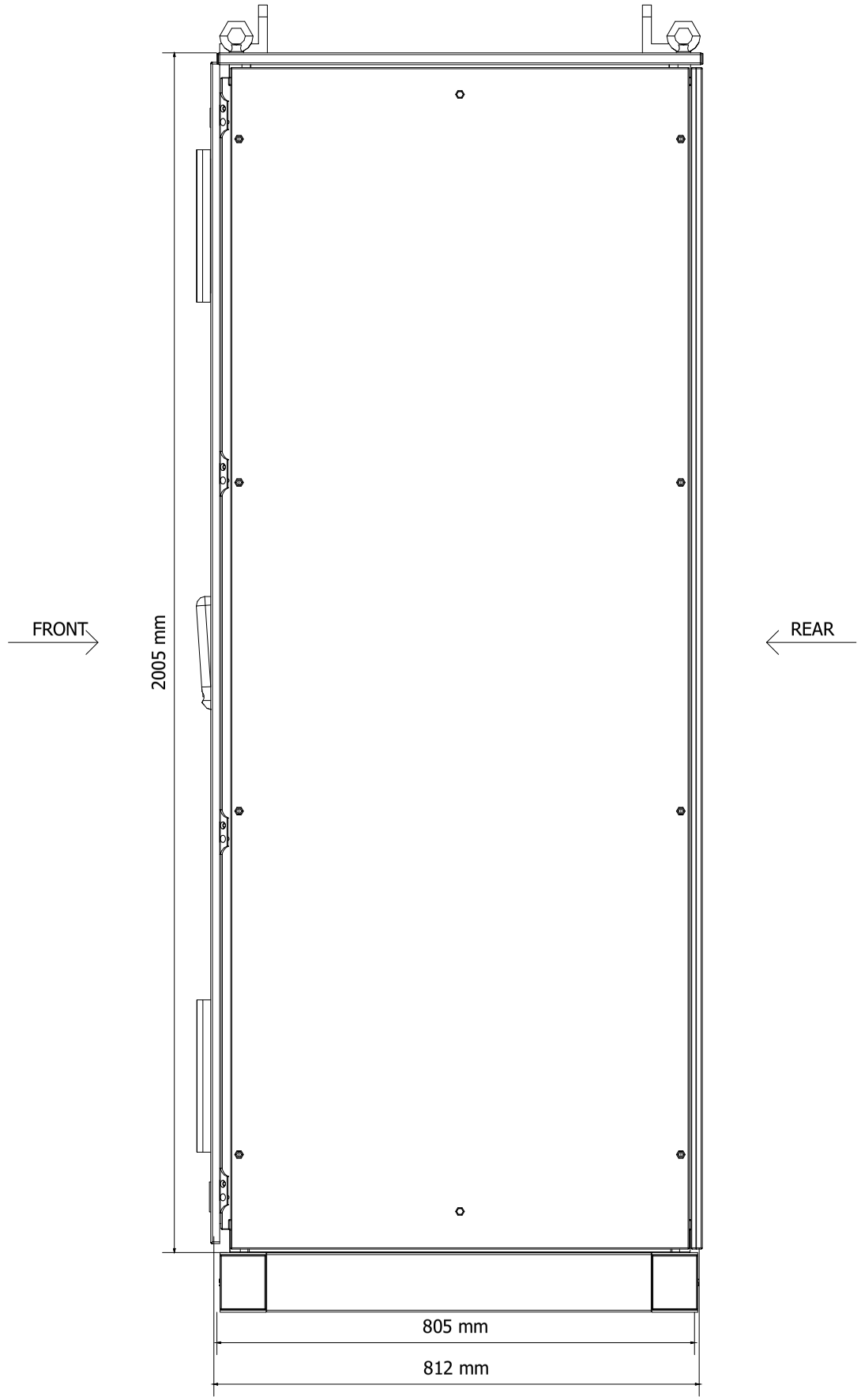
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PCS PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

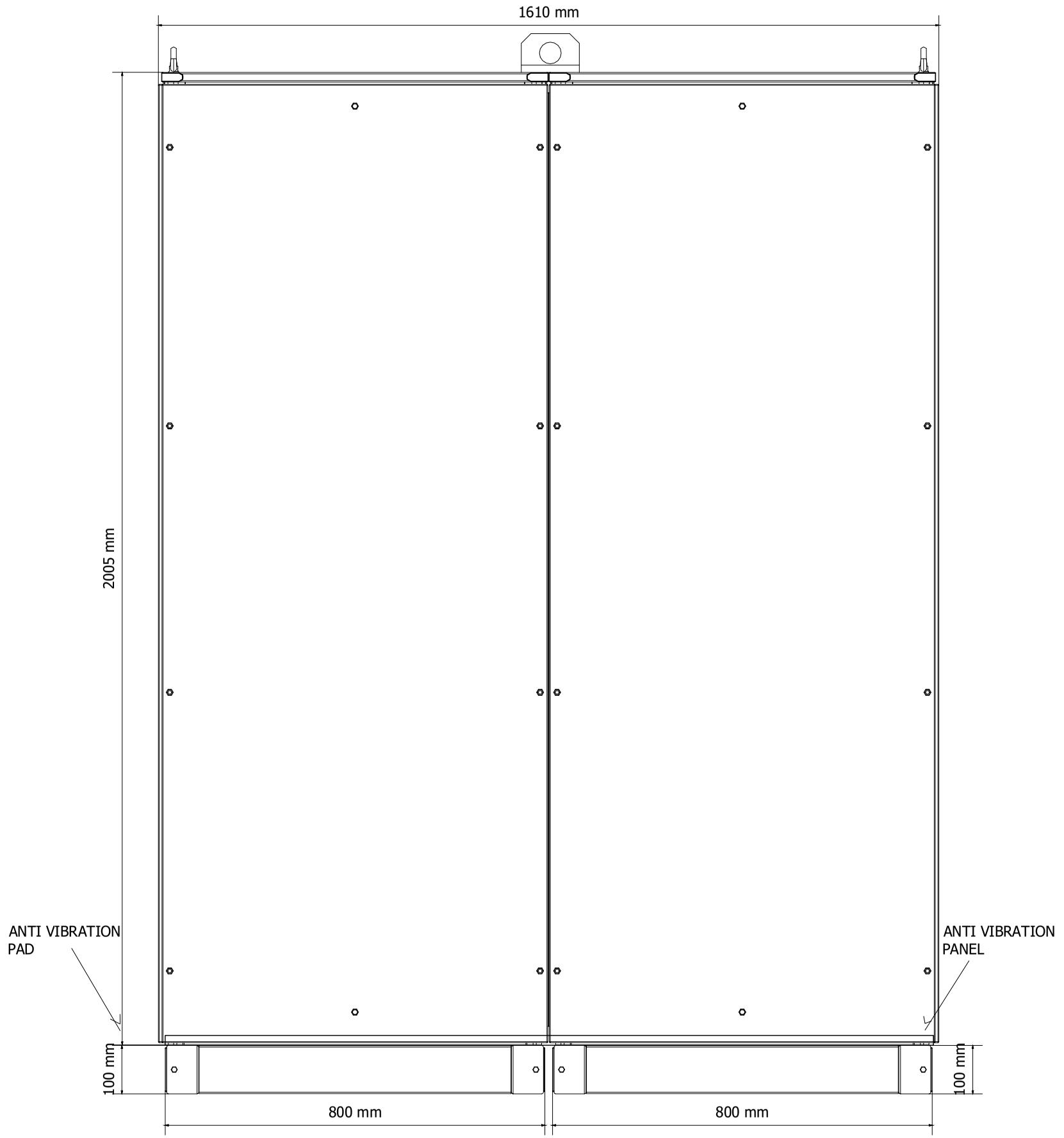
A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 007

REV. 3

PCS PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 008

REV. 3

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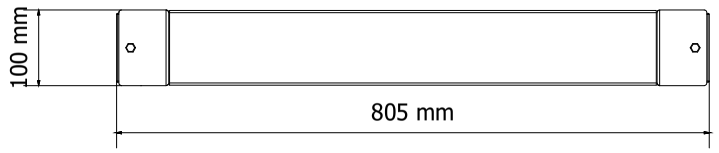
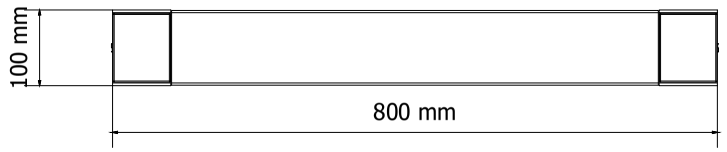
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PCS PANEL - BASEPLATE DETAILS

BASEPLATE SIDE VIEW

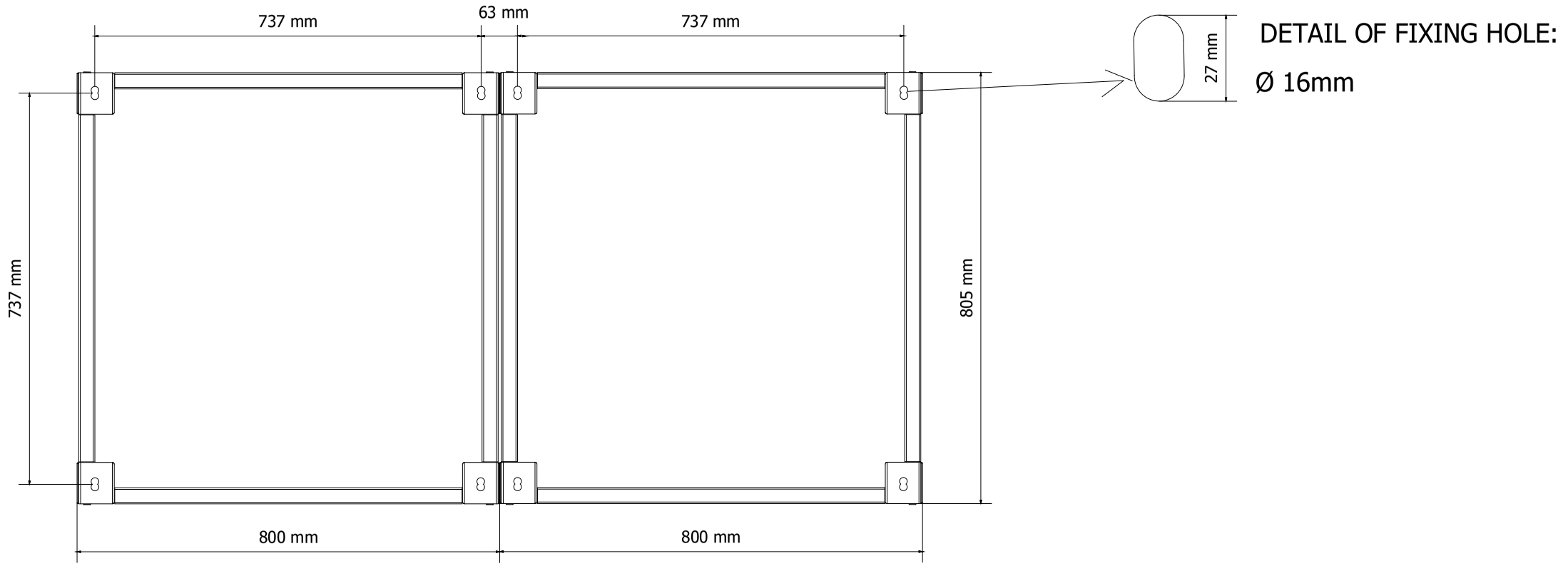


BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW

REAR SIDE



FRONT SIDE

NOTE:
TO BE CONSIDERED FOR EACH COLUMN
DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 009

REV. 3

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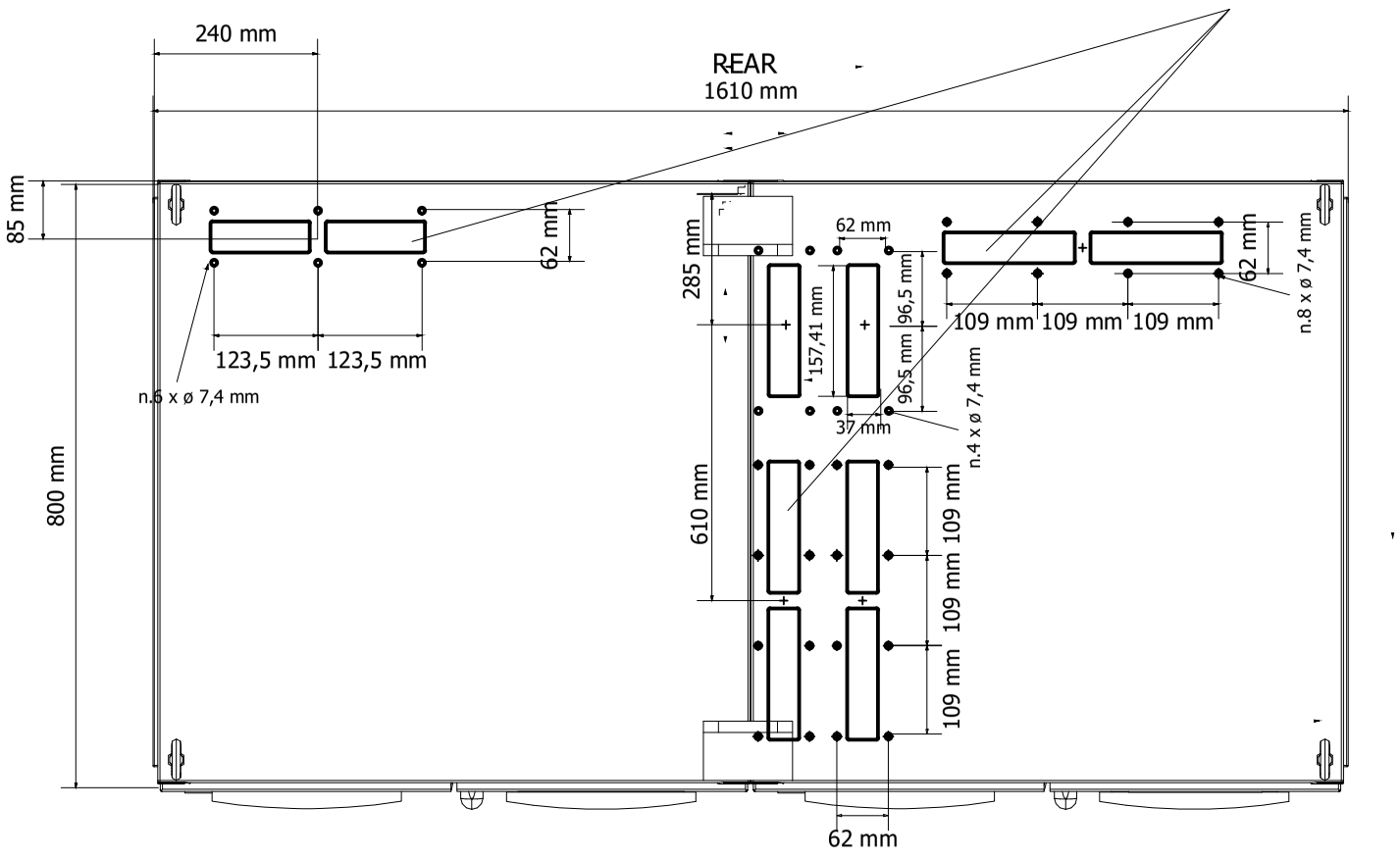
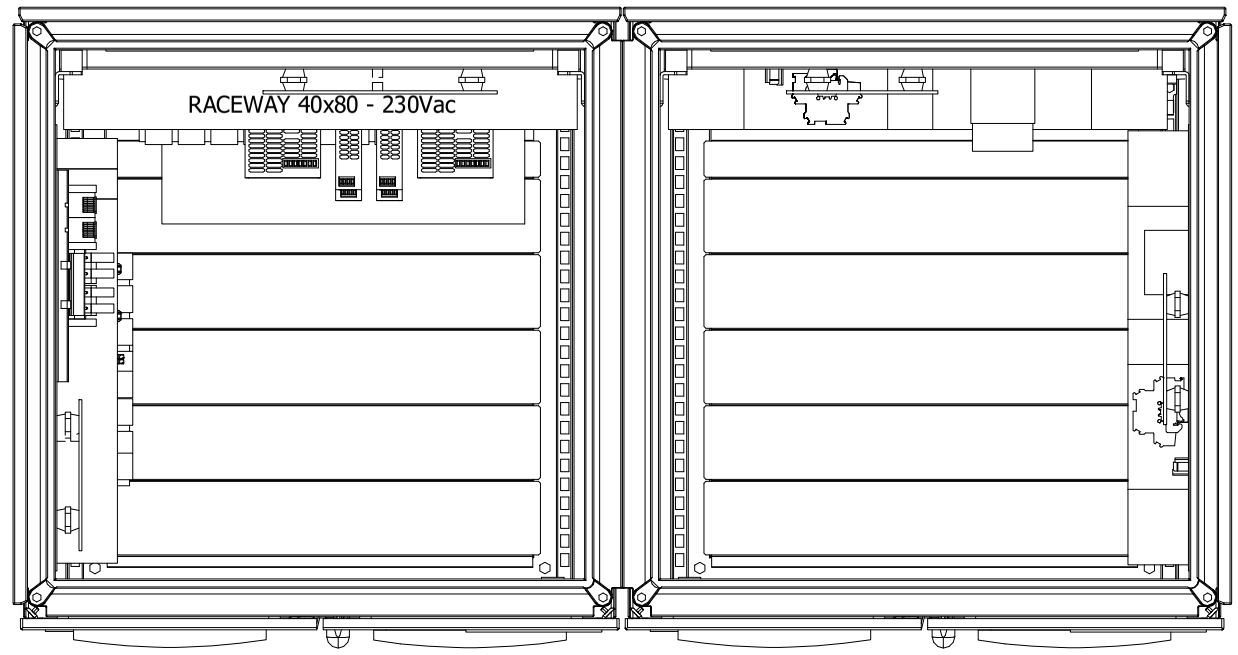
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PCS PANEL - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW



INTERNAL TOP VIEW



DRAWING SCALE 1:10

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CROSSWIND

ROSETTI MARINO

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PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

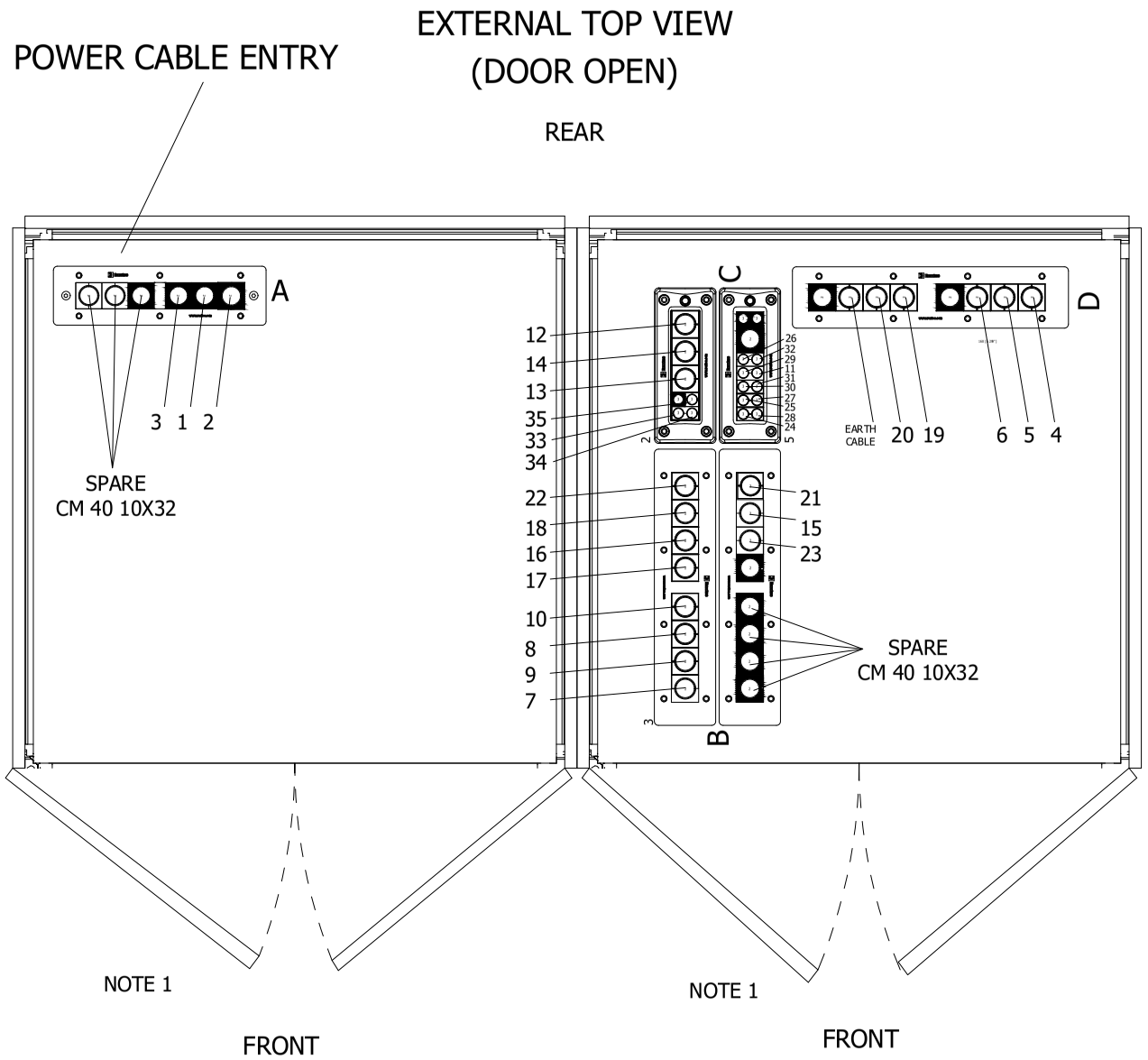
A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 010

REV. 3

PCS PANEL - EXTERNAL TOP VIEW DOOR OPEN & MCT TABLE LIST



CABLE TAG	CABLE TYPE	OUTER CABLE DIAMETER (mm)	MCT SIZE	LOCATION	POSITION
00-JE-11001_1/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	EM 40 10X32	C	4
00-JE-11001_2/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	EM 40 10X32	C	5
00-JE-11002/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	EM 40 10X32	C	6
00-JE-11003_1/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	EM 40 10X32	C	7
00-JE-11003_2/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	EM 40 10X32	C	8
00-JE-11004/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	EM 40 10X32	C	9
00-JE-11005/B400-PCS-002	6x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	19.4	EM 40 10X32	C	10
C-63-PT-003/B400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	EM 40 10X32	C	11
00-JE-12001_1/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	12
00-JE-12001_2/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	13
00-JE-12002/B400-PCS-002	6x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	19.4	CM 40 10X32	B	14
00-JE-12003/B400-PCS-002	6x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	19.4	CM 40 10X32	B	15
00-JE-12004_1/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	16
00-JE-12004_2/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	17
00-JE-12005/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	18
00-JE-12006_1/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	19
00-JE-12006_2/B400-PCS-002	12x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	24.8	CM 40	B	20
00-JE-13001/B400-PCS-002	24x2.5mm2,ShT+ARM,F.Ret,GREY,NIS	27.8	CM 40	B	21
00-JE-13002/B400-PCS-002	24x2.5mm2,ShT+ARM,F.Ret,GREY,NIS	27.8	CM 40 10X32	B	22
00-JE-13003/B400-PCS-002	12x2.5mm2,ShT+ARM,F.Ret,GREY,NIS	20.8	CM 40 10X32	B	23
C-B100-TDC-001/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	24
C-B100-TDC-002/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	25
C-B100-TIR-001/B-400-PCS-002	2x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	15.2	CM 20W40	D	26
C-B200-TDC-001/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	27
C-B200-TDC-002/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	28
C-B200-TIR-001/B-400-PCS-002	2x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	15.2	CM 20W40	D	29
C-B300-TDC-001/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	30
C-B300-TDC-002/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	31
C-B300-TIR-001/B-400-PCS-002	2x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	15.2	CM 20W40	D	32
C-B400-TDC-001/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	33
C-B400-TDC-002/B-400-PCS-002	1x2x0.75mm2,ShT+ARM,F.Ret,GREY,NIS	9.5	CM 20W40	D	34
C-B400-TIR-001/B-400-PCS-002	2x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	15.2	CM 20W40	D	35
84303-CEL	1x3x2.5mm2,ARM,ORANGE,NIS	12~15	CM 40 10X32	A	1
84304-CEL	1x3x2.5mm2,ARM,ORANGE,NIS	12~15	CM 40 10X32	A	2
83105-CEL	1x3x2.5mm2,ARM,GRAY,NIS	12~15	CM 40 10X32	A	3
B400-NET1-B1	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREY, NIS	10.7	CM 20W40	B	NOTE 2
B400-NET1-A1	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREY, NIS	10.7	CM 20W40	B	NOTE 2
B400-NET1-A2	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREY, NIS	10.7	CM 20W40	B	NOTE 2
B400-NET1-B2	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREY, NIS	10.7	CM 20W40	B	NOTE 2
B400-FLT-NET/B400-PCS-002	6x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	19.4	CM 40 10X32	D	NOTE 2

NOTES :

NOTE 1: DOORS LOCK AT 90°

NOTE 2: BOTTOM ENTRY

DRAWING SCALE 1:10

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
EXTERNAL TOP VIEW DOOR OPEN & MCT TABLE LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

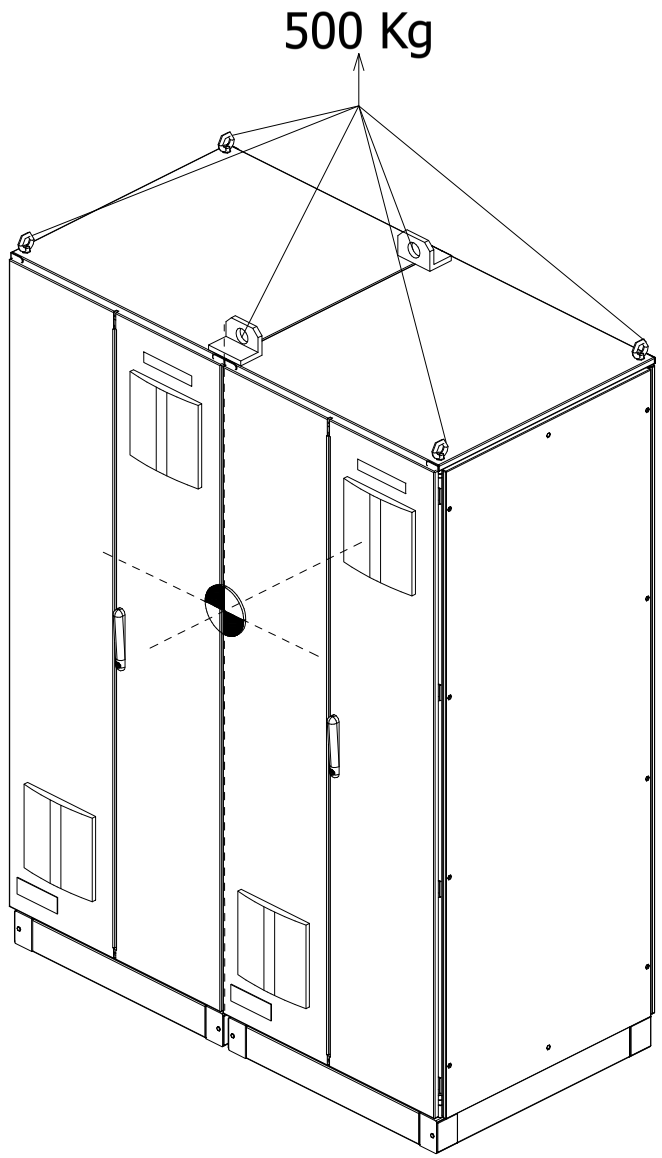
A3

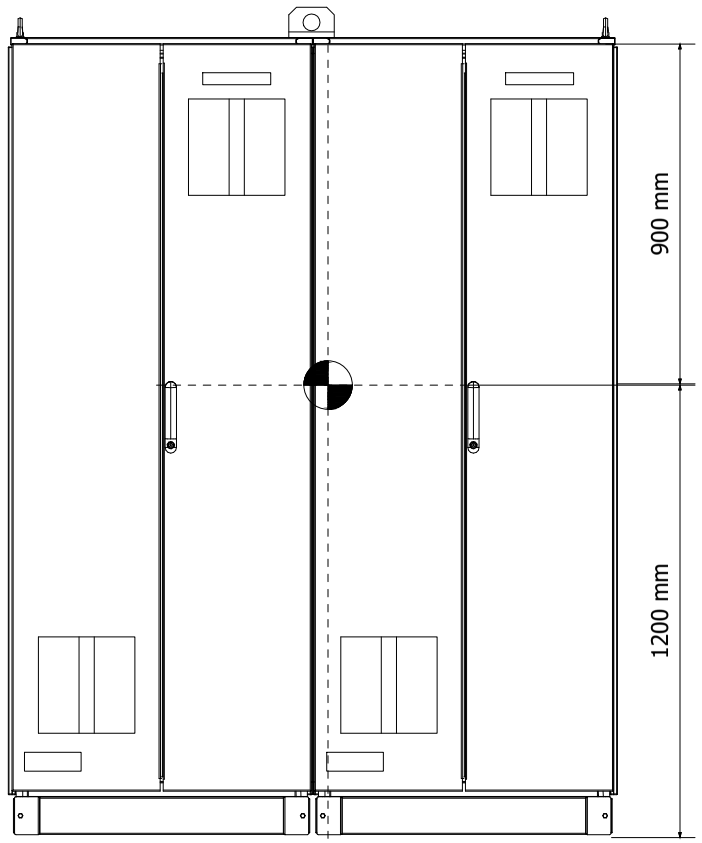
DRAWING NO. 1724000594-IN-DA-00009

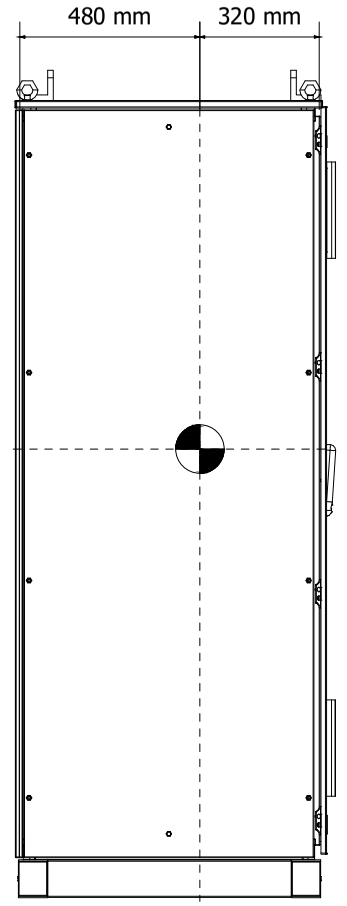
SHEET 011

REV. 3

PCS PANEL - LIFTING DETAILS







= CENTER OF GRAVITY

DRAWING SCALE 1:20
ALL QUOTES SHOWN ARE APPROXIMATE VALUE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
LIFTING DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

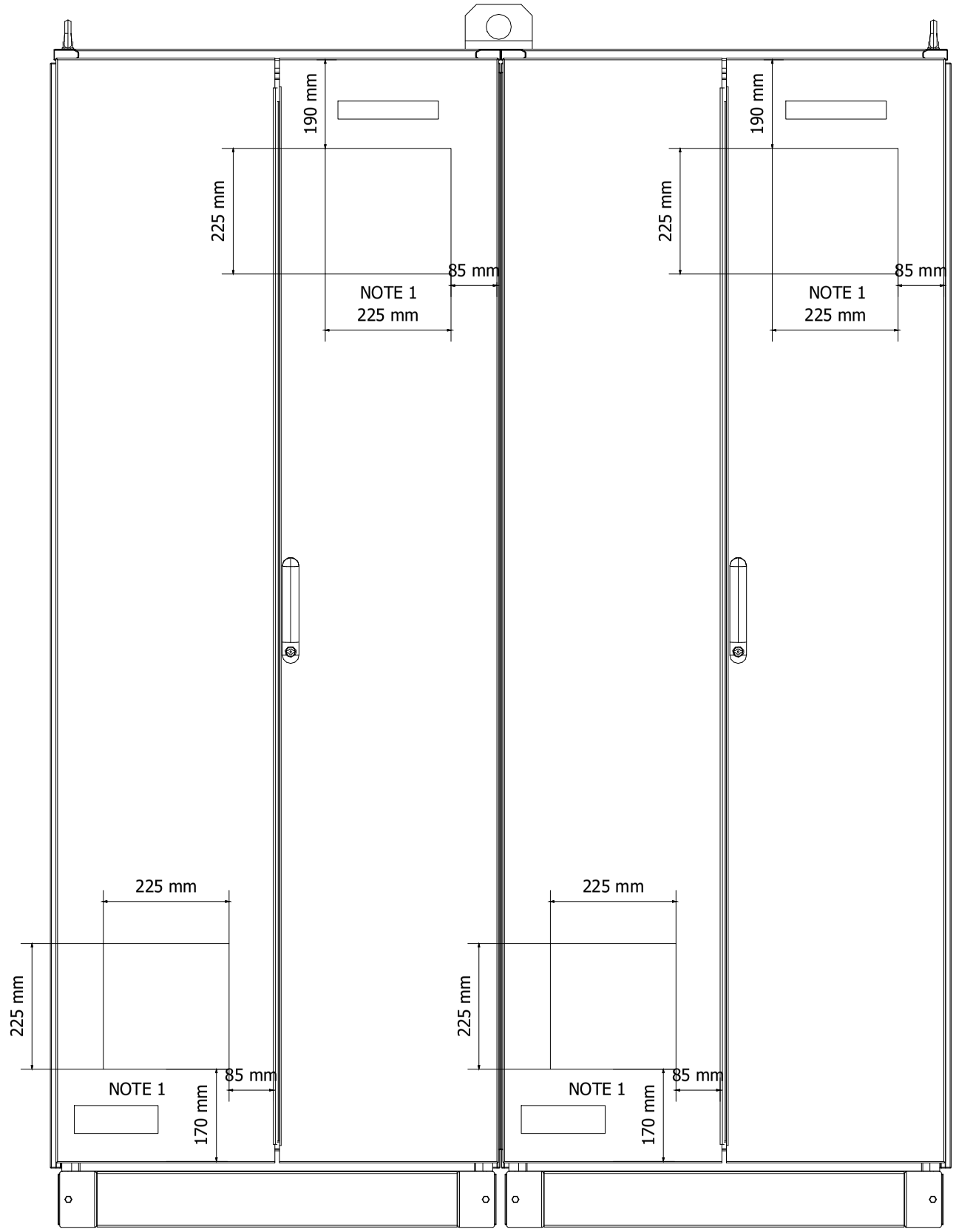
A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 012

REV. 3

PCS PANEL - FRONT DOOR CUT-OUT DETAILS



NOTE 1 : CUT-OUT FOR AIR VENTILATION FILTER

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
FRONT DOOR CUT-OUT DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

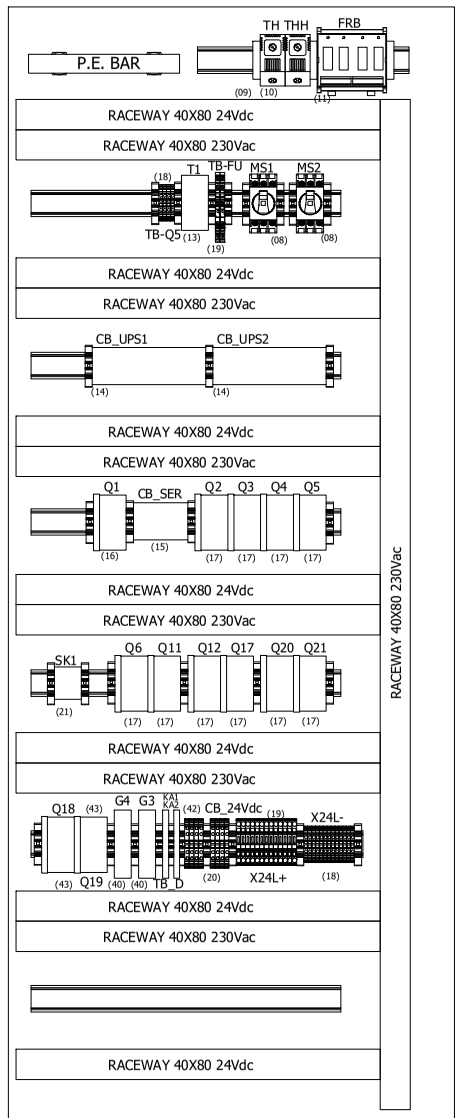
SHEET 013

REV. 3

Page 3453 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PCS PANEL - FRONT SIDE INTERNAL VIEWS

LEFT SIDE



DEVICE "1"
(22) -AFV30D-A41262
(23) -N: 4: AAI143-H53
(29) -N: 2: ADV151-P63
(24) -N: 2: EC401-51
(25) -N: 2: CP471-01
(26) -N: 2: PW482-51

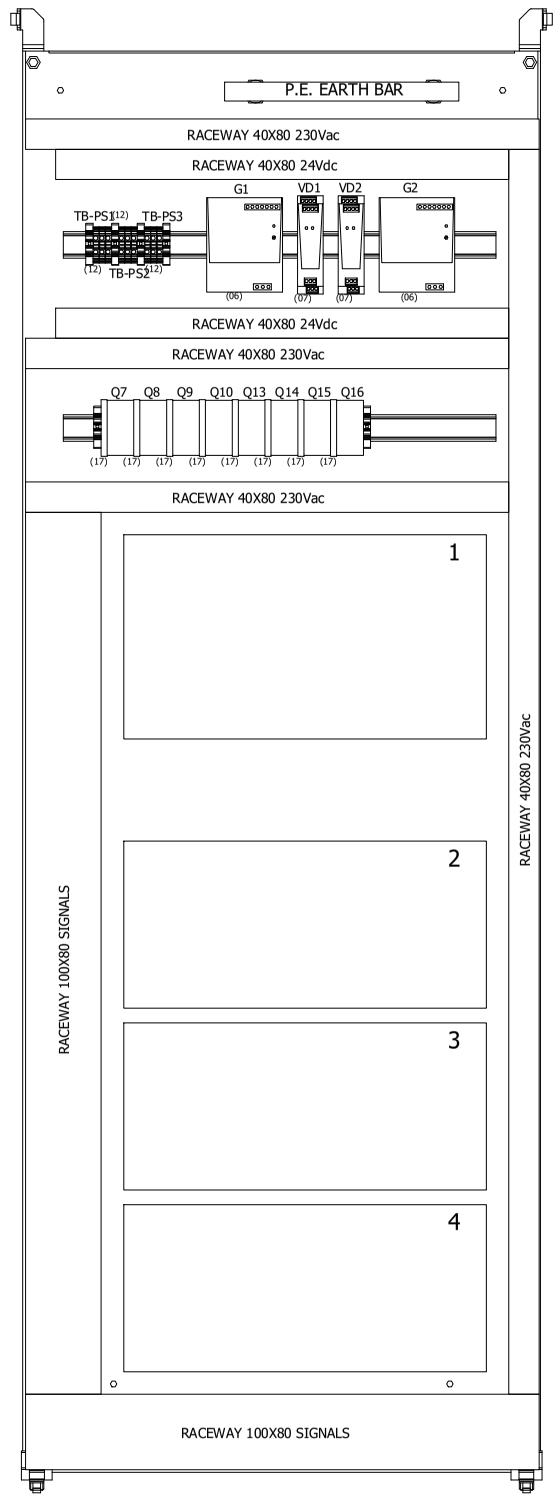
DEVICE "2"
(27) -ANB10D-426/CU2N
(23) -N: 2: AAI143-H53
(28) -N: 2: AAI543-H61
(29) -N: 2: ADV151-P63
-N: 2: SPARE
(41) -N: 2: SB401-53
(26) -N: 2: PW482-51

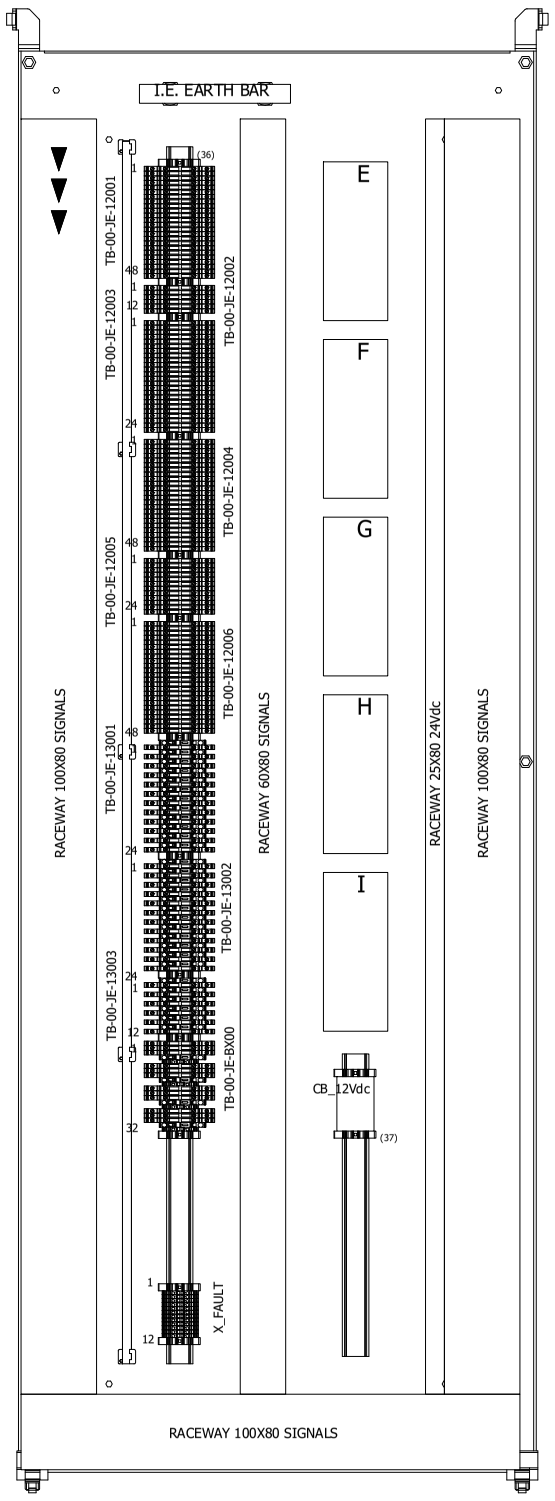
DEVICE "3"
(27) -ANB10D-426/CU2N
(23) -N: 2: AAI143-H53
(28) -N: 2: AAI543-H61
(29) -N: 2: ADV151-P63
-N: 2: SPARE
(41) -N: 2: SB401-53
(26) -N: 2: PW482-51

DEVICE "4"
(30) -ANB10D-426/CU2T
(32) -N: 3: ALE111-S51
(33) -N: 1: A2LP131-S01

(29) -N: 2: ADV151-P63
(31) -N: 2: ADV551-P63
(41) -N: 2: SB401-53
(26) -N: 2: PW482-51

FRONT PLATE





DEVICE "E"
(34) A1BD5D-06
TB-01-05

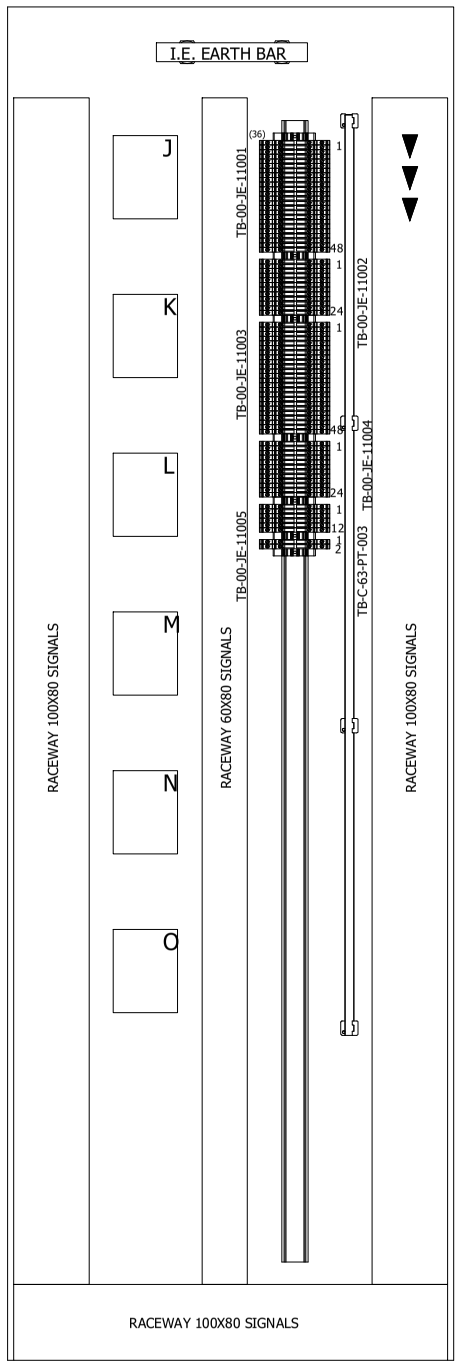
DEVICE "F"
(34) A1BD5D-06
TB-02-05

DEVICE "G"
(34) A1BD5D-06
TB-03-05

DEVICE "H"
(34) A1BD5D-06
TB-04-05

DEVICE "I"
(34) A1BD5D-06
TB-04-07

RIGHT SIDE



DEVICE "J"
(35) A1BA4D-06
TB-01-01

DEVICE "K"
(35) A1BA4D-06
TB-01-03

DEVICE "L"
(35) A1BA4D-06
TB-02-01

DEVICE "M"
(35) A1BA4D-06
TB-02-03

DEVICE "N"
(35) A1BA4D-06
TB-03-01

DEVICE "O"
(35) A1BA4D-06
TB-03-03

▼▼▼ = CABLE ENTRY

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 014

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 015

REV. 3

TYPICAL 01



TYPICAL 01

MANUFACTURER LABEL ITEM (02)

MATERIAL	:	ALUMINIUM
DIMENSION	:	150mm x 50mm (lxh)
BACKGROUND COLOUR	:	ALUMINIUM
TEXT COLOUR	:	BLACK & GREEN
FIXING	:	BY STAINLESS STEEL SCREWS

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND | ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
MANUFACTURER LABEL DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00009 | SHEET 016 | REV. 3

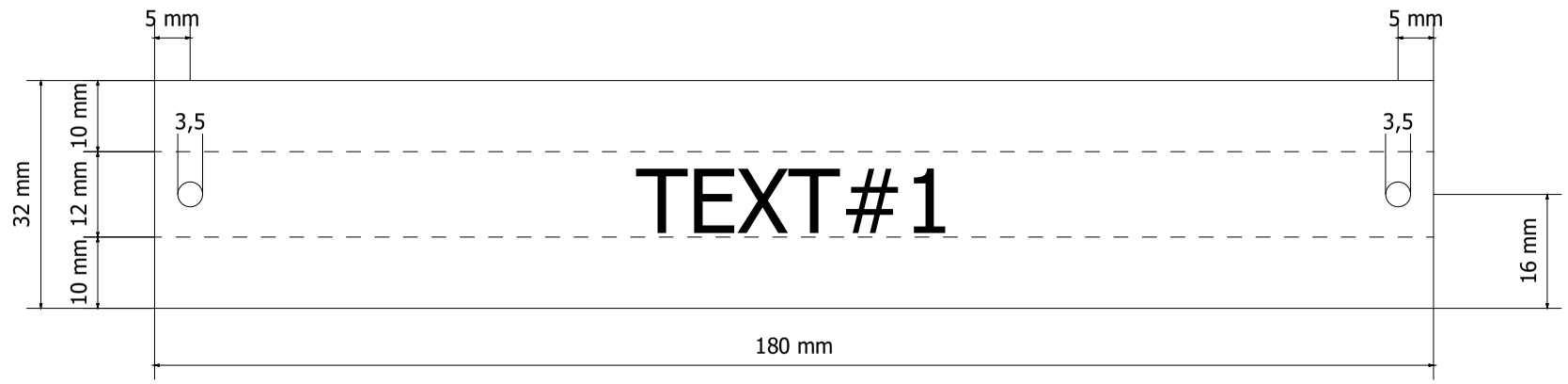
PCS PANEL - SECTION IDENTIFIER NAMEPLATE DETAILS

TYPICAL 02

LABEL FOR SECTION IDENTIFIER ITEM (05)

MATERIAL	:	TRAFOLYTE
DIMENSION	:	180mm x 32mm (lxh)
BACKGROUND COLOUR	:	TRAFOLYTE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	12 mm
TEXT FONT	:	ARIAL
FIXING	:	BY STAINLESS STEEL SCREWS

TYPICAL 02



CABINET	TEXT#1
PCS SYSTEM CABINET	B400-PCS-001
PCS MARSHALLING CABINET	B400-PCS-002

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
SECTION IDENTIFIER NAMEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 017

REV. 3

SHEET LEFT INTENTIONALLY BLANK

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND | ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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0	20.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00009 | SHEET 018 | REV. 3

CERTIFICATION LABELS DETAILS

TYPICAL 05

LABEL FOR ITEM IDENTIFIER : ITEM (38)

MATERIAL	:	TRAFFOLYTE
DIMENSION	:	150mm x 150mm (lxh)
BACKGROUND COLOUR	:	WHITE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	4 mm
TEXT FONT	:	ARIAL
FIXING	:	SS316L SCREWS OR RIVETS

PROGETTAZIONE E
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INDUSTRIALI

CE

22040 ALZATE BRIANZA (CO) ITALY Via Pascoli 150 Ph. +39031631875 website : www.prei.it

PREI JOB/SN: C\5529 CONSTRUCTION YEAR: 2024

CUSTOMER PURCHASE ORDER: 4511988955

CUSTOMER JOB N°: E366772C00

REFERENCE DRAWINGS : 1724000594-IN-DA-00009 - OUTLINE DRAWING

1724000594-IN-DG-00020 - SCHEMATIC DRAWING

Line 1: VOLTAGE 230 Vac / 50 Hz Line 1: CURRENT 5,2A

Line 1: SHORT CIRCUIT CURRENT RATING: 10kA

Line 2: VOLTAGE 230 Vac / 50 Hz Line 2: CURRENT 5,2A

Line 2: SHORT CIRCUIT CURRENT RATING: 10kA

Line 3: VOLTAGE 230 Vac / 50 Hz Line 3: CURRENT 2,6A

Line 3: SHORT CIRCUIT CURRENT RATING: 10kA

PANEL PROTECTION DEGREE IP43

PANEL OPERATING TEMPERATURE RANGE: 5-45°C

DRAWING SCALE 1:1
ALL QUOTES SHOWN ARE IN MILLIMETERS

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
CERTIFICATION LABEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 019

REV. 3

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	1	DETAILS ON SHEET 017 TYPICAL 02
03	AIR INLET FILTER -	AUGER STANDAR	NA001_03	2	MECHANICAL PART NAMEPLATE NOT REQUIRED
04	FRONT-MOUNTED AIR EXTRACTOR FAN (SUPPLIED WITH AIR FILTER) -	AUGER STANDARD	NA001_04	2	EV1 - EV2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
05	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_05	2	DETAILS ON SHEET 017 TYPICAL 03
06	POWER SUPPLY FEEDER MODULE INPUT 230Vac (AUTO-RANGING) - OUTPUT 24Vdc-20a	WEIDMULLER PRO-ECO-480W-24V-20A WDM.1469510000	NA001_06	2	G1 ÷ G2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
07	DECOUPLING & PROTECTIVE DIODE FOR REDUNDANCY - 24Vdc -	WEIDMULLER PRO DM 20 WDM.2486080000	NA001_07	2	VD1 - VD2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
08	ROTATIVE MAIN SWITCH - 115Vac / 240Vac 32A -	LOVATO GA032A	NA001_08	2	MS1 - MS2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	THERMOSTAT FOR FAN ON/OFF CIRCUIT -	MANUFACTURER STANDAR	NA001_09	1	TH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	THERMOSTAT FOR HIGH TEMPERATURE ALARM -	MANUFACTURER STANDARD	NA001_10	1	THH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
11	PRE-ASSEMBLED RELAY BOARD FOR FAN FAULT CIRCUIT -	PREI	NA001_11	1	FRB (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
12	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_12	9	TB-PS1 ÷ TB-PS3 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
13	TRASFORMER 240Vac / 24Vac - 50Hz -	ABB TM10 EA2616	NA001_13	1	T1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
14	2 POLES COMMON BOX - 15 CONNECTION EACH POLE -	CABUR QBLOK2P125A15	NA001_14	2	CB_UPS1 - CB_UPS2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
15	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK2P100A7	NA001_15	3	CB_SER (INTERNAL LABEL) CB_24VDC - CB_12VDC EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 020

REV. 3

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
16	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_16	1	Q1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
17	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAJER - 115Vac / 240Vac WHIT AUXILIARY CONTACT	EATON FAZ SERIES	NA001_17	18	Q2 ÷ Q17 - Q20 ÷ Q21 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
18	DISTRIBUTION TERMINALS - SCREW TYPE - SECTION 2.5mm² FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 PXC.3044076	NA001_18	52	TB-Q5, X24L-, X12L- (INTERNAL LABEL) TB-EV1, TB-EV2, TB-LAMP, XFAULT, TB-00-JE-BX00 EXTERNAL LABEL NOT REQUIRED
19	TERMINALS - SPRING TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4 HESILED PXC.3214366	NA001_19	47	TB-FU - X24L+ (INTERNAL LABEL) TB-00-JE-13001, TB-00-JE-13002, TB-00-JB-13003 EXTERNAL LABEL NOT REQUIRED
20					
21	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_21	1	SK1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
22	FIELD CONTROL STATION (REDUNDANT) -	YOKOGAWA AFV30D-A41262	NA001_22	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
23	ANALOG INPUT MODULE, 16 CHANNEL -	YOKOGAWA AAI143-H53/K4A00	NA001_23	8	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
24	ESB BUS COUPLER MASTER MODULE -	YOKOGAWA EC401-51	NA001_24	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
25	PROCESSOR MODULE -	YOKOGAWA CP471-01	NA001_25	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
26	220-240V AC INPUT POWER SUPPLY MODULE -	YOKOGAWA PW482-51	NA001_26	8	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
27	NODE INTERFACE UNIT -	YOKOGAWA ANB10D-426/CU2N	NA001_27	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
28	ANALOG OUTPUT MODULE, 16 CHANNEL -	YOKOGAWA AAI543-H61/K4A00	NA001_28	4	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
29	DIGITAL INPUT MODULE, 32 CHANNEL -	YOKOGAWA ADV151-P63/D5A00	NA001_29	8	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
30	NODE INTERFACE UNIT -	YOKOGAWA ANB10D-426/CU2T	NA001_30	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	29.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
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1	05.08.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 021

REV. 3

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
31	DIGITAL OUTPUT MODULE, 32 CHANNEL -	YOKOGAWA ADV551-P63/D5A00	NA001_31	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
32	MODBUS TCP/IP COMMUNICATION MODULE -	YOKOGAWA ALE111-S51	NA001_32	3	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
33	PROFINET COMMUNICATION MODULE -	YOKOGAWA A2LP131-S01	NA001_33	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
34	TB FOR DIGITAL DIN MOUNT TYPE -	YOKOGAWA A1BD5D-06	NA001_34	5	REFER TO SHEET 014 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
35	TB FOR ANALOG DIN MOUNT TYPE -	YOKOGAWA A1BA4D-06	NA001_35	6	REFER TO SHEET 014 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
36	SCREW TYPE TERMINALS - SECTION 4 KNIFE DISCONNECT TYPE - GREY COLOUR	PHOENIX CONTACT UDMTK 5 PXC.3048467	NA001_36	193	TB-00-JE-11001 / TB-00-JE-11002 / TB-00-JE-11003 / TB-00-JE-11004 / TB-00-JE-11005 / TB-00-JE-12001 / TB-00-JE-12002 / TB-00-JE-12003 / TB-00-JE-12004 / TB-00-JE-12005 / TB-00-JE-12006 / TB-00-JE-BX00 EXTERNAL LABEL NOT REQUIRED
37	RELAY 12Vdc - 1 NO+NC -	FINDER 34.51.71012.0010	NA001_37	2	KA1÷KA2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
38	PREI CE LABEL -	MANUFACTURER STANDARD	NA001_38	1	DETAILS ON SHEET 019 TYPICAL 05
39	TERMINALS - SPRING TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4-HESI PXC.3046032	NA001_39	4	JB-00-JE-BX00 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
40	POWER SUPPLY FEEDER MODULE INPUT 24Vdc - OUTPUT 12Vdc	MEANWELL HDR-15-12	NA001_40	2	G3 - G4 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
41	ESB BUS COUPLER SLAVE MODULE -	YOKOGAWA SB401-53	NA001_41	6	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
42	SCREW TYPE TERMINALS - SECTION 2.5mm² WITH DIODE	PHOENIX CONTACT PT 2,5-DIO/L-R	NA001_42	4	TB_D (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
43	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAJER - 24Vdc WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_43	2	Q18 ÷ Q19 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
44	DRAWING POCKET - GREY COLOUR -	MANUFACTURER STANDARD	NA001_44	1	EXTERNAL LABEL NOT REQUIRED -
45	INTERNAL LIGHT -	MANUFACTURER STANDARD	NA001_45	2	L1 ÷ L2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-PCS_CLO
CROSSWIND
ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DA-00009
SHEET 022
REV. 3

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
46	INTERNAL LIGHT SWITCH -	MANUFACTURER STANDARD	NA001_34	2	S1 ÷ S2 (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
47	TERMINALS - SECTION 2.5mm² - SCREW TYPE KNIFE DISCONNECT TYPE - GREY COLOR	PHOENIX CONTACT UT 2.5	-	30	TB-00-JE-13001, TB-00-JE-13002, TB-00-JE-13003 -
48	- -	-	-	-	- -
49	- -	-	-	-	- -
50	- -	-	-	-	- -
51	- -	-	-	-	- -
52	- -	-	-	-	- -
53	- -	-	-	-	- -
54	- -	-	-	-	- -
55	- -	-	-	-	- -
56	- -	-	-	-	- -
57	- -	-	-	-	- -
58	- -	-	-	-	- -
59	- -	-	-	-	- -
60	- -	-	-	-	- -

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YOKOGAWA ◆ PROJECT Nr. E36672C00
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CROSSWIND

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PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00009

SHEET 023

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-9.2 SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1724000594-IN-DA-00010

BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET
(SIS & FGS)
GEN. ARR. DRW AND INT. LAYOUT

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	13/11/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.11.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 001

REV. 4

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) INDEX
003	X	X		X	X					BASE LOAD POWER HUB (BLPH) DATA SHEET
004	X			X						BASE LOAD POWER HUB (BLPH) INTERNAL WIRING INFORMATION
005	X	X		X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) FGS - EXTERNAL FRONT VIEW
007	X		X	X						BASE LOAD POWER HUB (BLPH) FGS - EXTERNAL FRONT DOOR OPENED VIEW
008	X		X	X						BASE LOAD POWER HUB (BLPH) FGS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
009	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS - EXTERNAL REAR VIEW
010	X	X		X						BASE LOAD POWER HUB (BLPH) FGS - BASEPLATE DETAILS
011	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS - EXTERNAL & INTERNAL TOP VIEW
012	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS - EXTERNAL TOP VIEW DOOR OPEN & MCT TABLE LIST
013	X		X	X	X					BASE LOAD POWER HUB (BLPH) FGS - LIFTING DETAILS
014	X		X	X	X					BASE LOAD POWER HUB (BLPH) FGS - FRONT DOOR CUT-OUT DETAILS
015	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS - FRONT SIDE INTERNAL VIEW
016	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS - RIGHT/LEFT SIDE INTERNAL VIEWS
017	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
018	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW
019	X			X						BASE LOAD POWER HUB (BLPH) SIS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
020	X	X		X						BASE LOAD POWER HUB (BLPH) SIS - EXTERNAL REAR VIEW

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X	X		X						BASE LOAD POWER HUB (BLPH) SIS - BASEPLATE DETAILS
022	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS - EXTERNAL & INTERNAL TOP VIEW
023	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS - LIFTING DETAILS
024	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS - FRONT DOOR CUT-OUT DETAILS
025	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS - FRONT SIDE INTERNAL VIEWS
026	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
027	X			X						BASE LOAD POWER HUB (BLPH) MANUFACTURER LABEL DETAILS
028	X	X	X	X						BASE LOAD POWER HUB (BLPH) SECTION IDENTIFIER NAMEPLATE DETAILS
029	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
030	X		X	X						BASE LOAD POWER HUB (BLPH) CERTIFICATION LABEL
30A			X	X						BASE LOAD POWER HUB (BLPH) CERTIFICATION LABEL
031	X		X	X	X					BASE LOAD POWER HUB (BLPH) FGS MAIN COMPONENT LIST
032	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS MAIN COMPONENT LIST
033	X	X	X	X						BASE LOAD POWER HUB (BLPH) FGS MAIN COMPONENT LIST
33A			X	X						BASE LOAD POWER HUB (BLPH) FGS MAIN COMPONENT LIST
034	X		X	X						BASE LOAD POWER HUB (BLPH) SIS MAIN COMPONENT LIST
035	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS MAIN COMPONENT LIST
036	X	X	X	X						BASE LOAD POWER HUB (BLPH) SIS MAIN COMPONENT LIST

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 002

REV. 4

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP	■ MIRROR OF JUNCTION BOX	☐ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

B - MECHANICAL DATA

B1	OVERALL DIMENSION	SIS 800 mm x 800 mm x 2100 mm (L x D x H) (NOTE B1) FGS 2400 mm x 800 mm x 2100mm (L x D x H)		
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55	
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm	
B4	CABLE ENTRY	■ TOP	☐ BOTTOM	
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS	■ MCT
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR	
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE	
B8	BASE PLINTH	■ SEPARATE PIECES		
B9	DOOR LOCKS	■ KEY LOCKED		
B10	APPROXIMATIVE WEIGHT	SIS 250Kg FGS 800 Kg		

NOTE B1 : ALLOWED TOLERANCE FOR PANEL HEIGHT/DEPTH: +/-5mm;
ALLOWED TOLERANCE FOR PANEL STRUCTURES AND SUPPORTS: +/-2mm;
ALLOWED TOLERANCE FOR TOTAL PANEL LENGTH : +/-2% OF TOTAL PANEL LENGTH;
(IN ANY CASE, MAXIMUM LENGTH TOLERANCE ALLOWED FOR PANEL WITH 2 OR MORE COLUMNS IS +/-50mm)
REMOVABLE BOTTOM PLATES SHALL BE PROVIDED
<1>

C - PAINTING

C1	REFERENCE SPECIFICATIONS		■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR	TYPE	☐ SMOOTH	■ PEEL TYPE	
		COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH		■ AS EXTERIOR		
C4	INTERIOR		■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES		■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	1,5Kw	1,5Kw	0,7Kw
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION	■ LED (230Vac - 50Hz)		
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT	■ YES		
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT	■ YES		
D7	SERVICE SOCKET	■ YES		

E - NAMEPLATES

.	.	EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
DATA SHEET

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00010 | SHEET 003 | REV. 4

A - PANEL CONTROL CABLES

CABLE FUNCTION	CONDUCTOR SIZE	CONDUCTOR COLORS	OUTER SHEATH COLOR NON Intrinsically Safe Circuit	OUTER SHEATH COLOR Intrinsically Safe Circuit
BIPOLAR ANALOG SIGNALS (NOTE A1)	(2x0.5) + Shield	BLACK (BK) - WHITE (WH)	GREY (GR)	BLUE (BL)
TRIPOLAR ANALOG SIGNALS (NOTE A1)	(3x0.5) + Shield	BLACK (BK) - WHITE (WH) RED (RD)	GREY (GR)	BLUE (BL)

NOTE A1 : FOR THE ABOVE MENTIONED ANALOG SIGNALS, PAIRS OR TRIADS SHIELDED SPIRAL CABLES SHALL BE USED, WITH THE EXCEPTION OF THOSE "SINK" INPUTS OR OUTPUTS OF THE CONTROLLER WHERE AN EXTERNAL FEED IS NEEDED. ONLY FOR THIS SPECIFIC CASE, SINGLE WIRE CABLE SHALL BE USED.

C-GROUNDING CONNECTIONS

EARTH TYPE	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR	ID RING COLOR
P.E. (PROTECTIVE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	YELLOW/GREEN (YG)	-
I.E. (INSTRUMENT EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	GREEN (GN)	-
I.S.E. (INTRINSICALLY SAFE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	WHITE (WH)	-

B -PANEL SINGLE-CORE CABLES

SINGLE-CORE CABLE FUNCTION	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR NON Intrinsically Safe Circuit	WIRE COLOR Intrinsically Safe Circuit
AC LINE	(1x2.5) - (1x4) - (1x6)	BROWN (BR)	N/A
AC NEUTRAL	(1x2.5) - (1x4) - (1x6)	LIGHT BLUE (LB)	N/A
DC 24Vdc (POSITIVE)	(1x2.5) - (1x4) - (1x6)	RED (RD)	N/A
DC 24Vdc (NEGATIVE)	(1x2.5) - (1x4) - (1x6)	BLUE (BU)	N/A
DIGITAL SIGNALS (POSITIVE)	(1x0.5)	BLACK (BK)	N/A
DIGITAL SIGNALS (NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (2 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (2 WIRE NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (3 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (3 WIRE NEGATIVE)	(1x0.5)	RED (RD)	N/A
ANALOG SIGNALS (3 WIRE SIGNAL)	(1x0.5)	WHITE (WH)	N/A

GENERAL NOTE : MINIMUM SECTION 1.5 mm² FOR CPU PANEL INTERNAL LAMPS, LIMIT SWITCHES, FANS, THERMOSTATS, ISOLATORS POWER SUPPLY

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
INTERNAL WIRING INFORMATION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

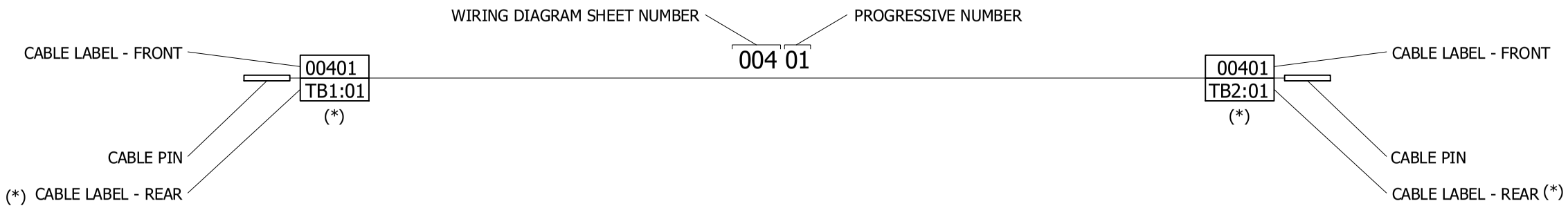
SHEET 004

REV. 2

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

		CABINET
<1>	P.E. EARTH	○○○○○○○○○○○○○○○
	I.E. EARTH	○○○○○○○○○○○○○○○
	I.S.E. EARTH	○○○○○○○○○○○○○○○

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH
I.S. (I.S.E.) - INTRINSICALLY SAFE EARTH

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 005

REV. 3

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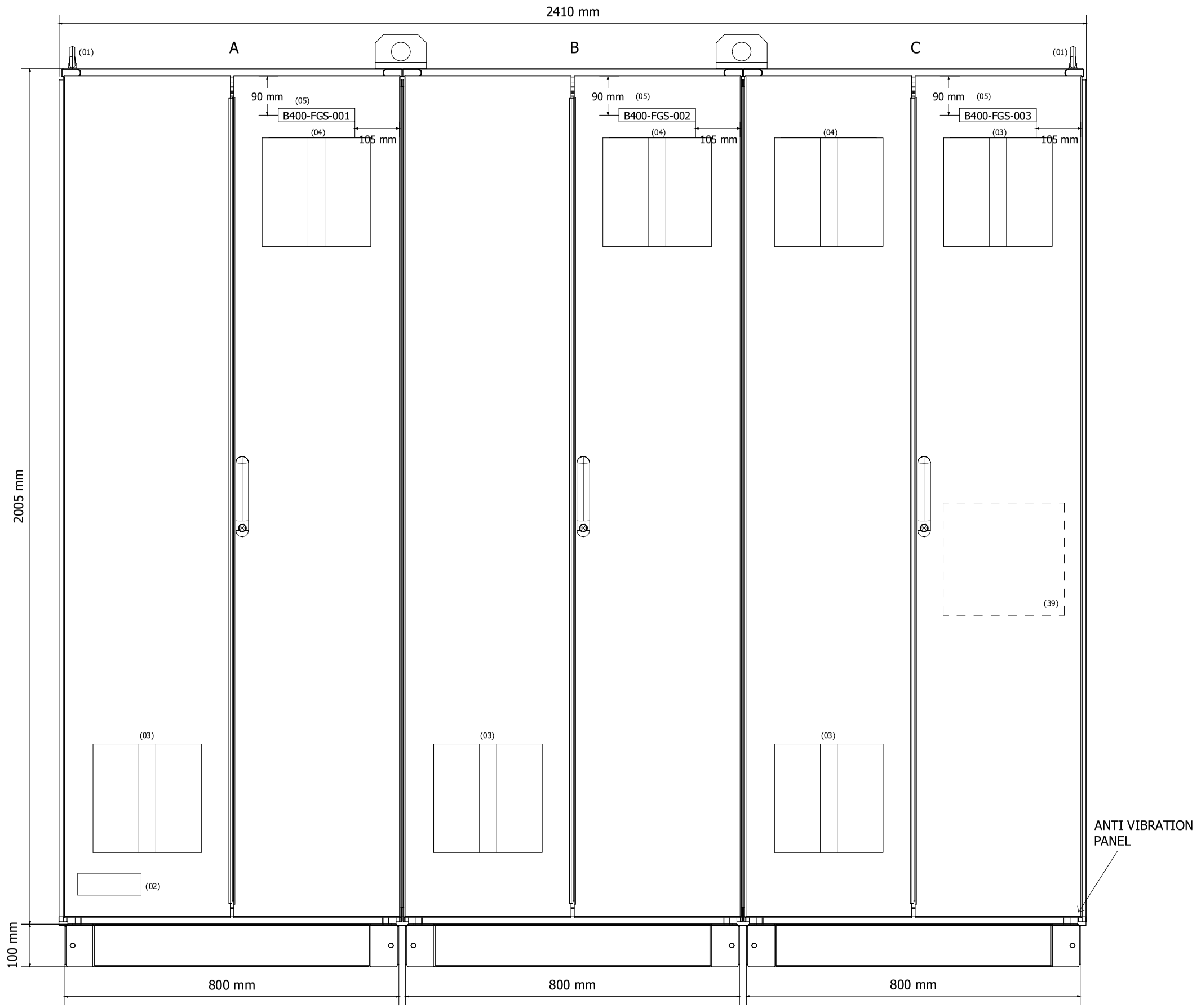
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FGS PANEL - EXTERNAL FRONT VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.11.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - EXTERNAL FRONT VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

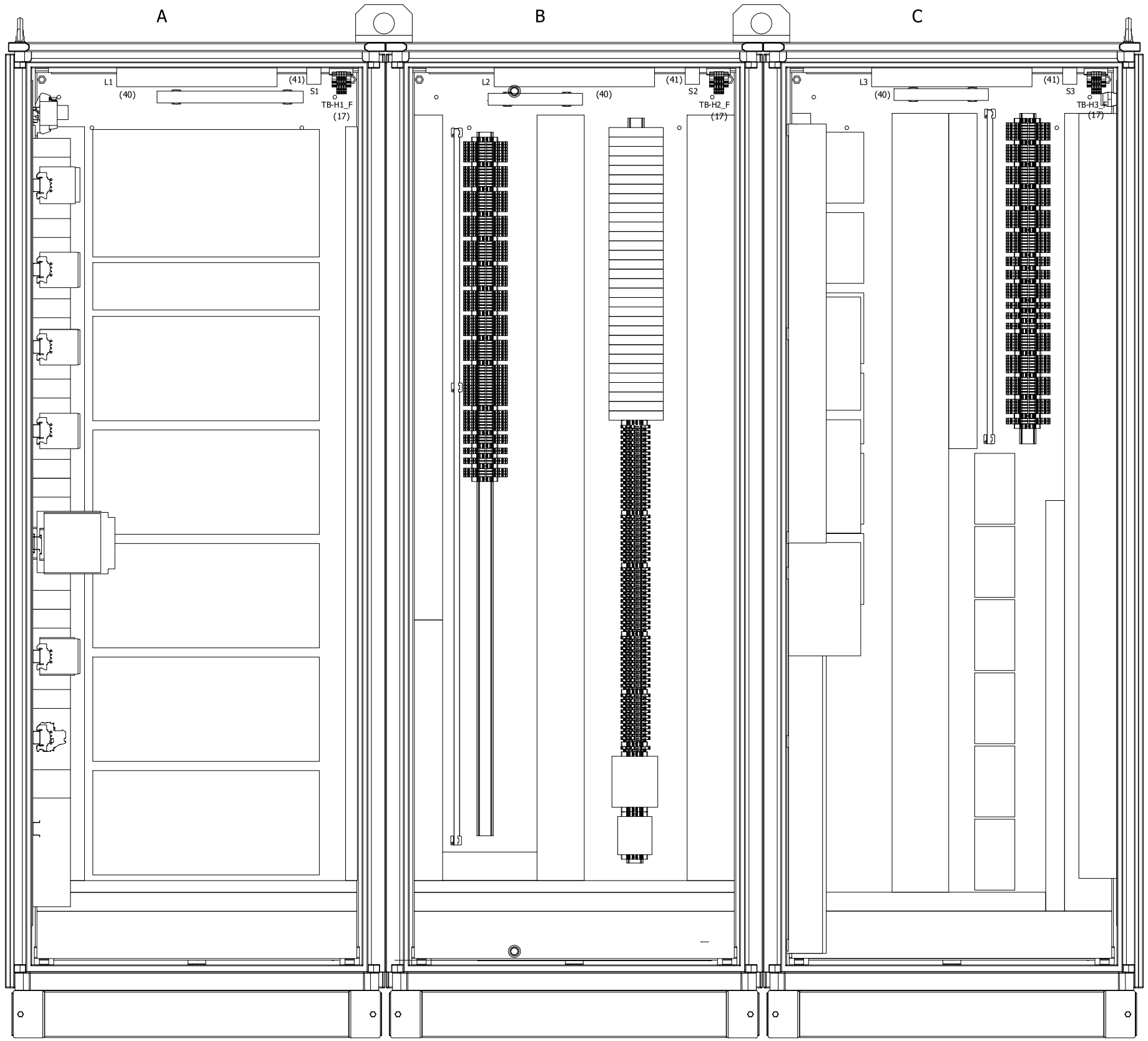
A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 006

REV. 04

FGS PANEL - EXTERNAL FRONT DOOR OPENED VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - EXTERNAL FRONT DOOR OPENED VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

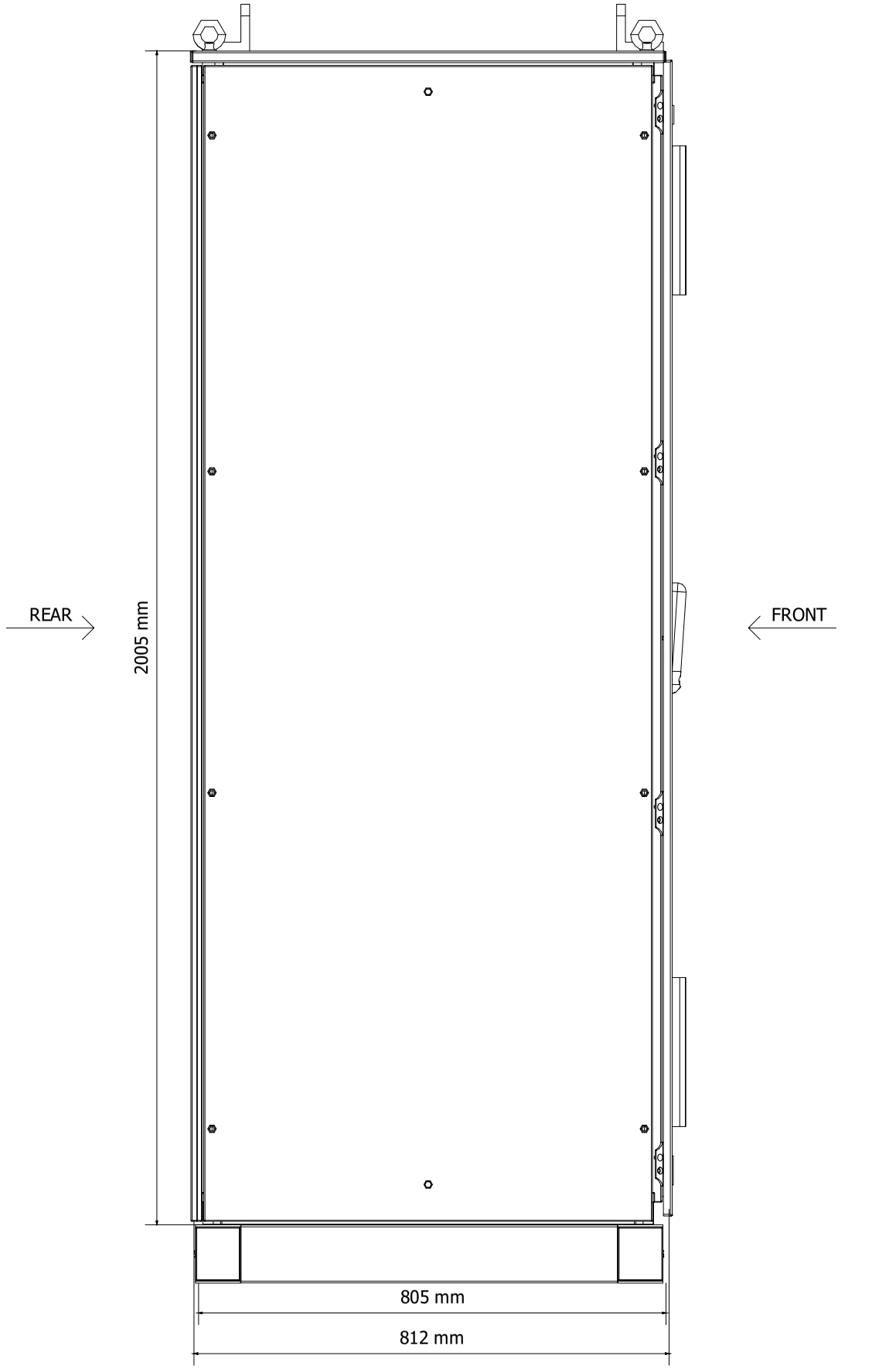
A3

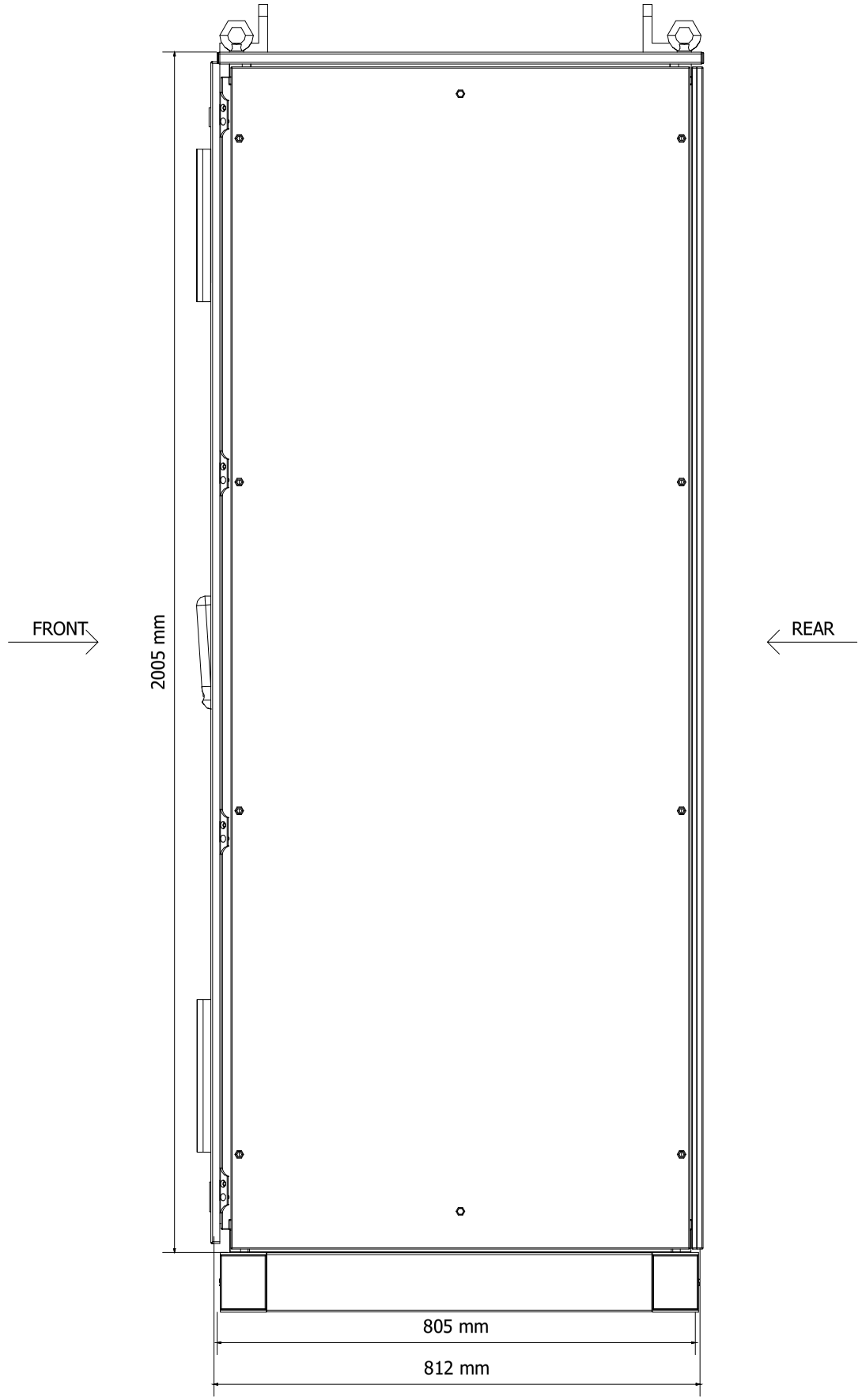
DRAWING NO.
1724000594-IN-DA-00010

SHEET 007

REV. 3

FGS PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.08.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

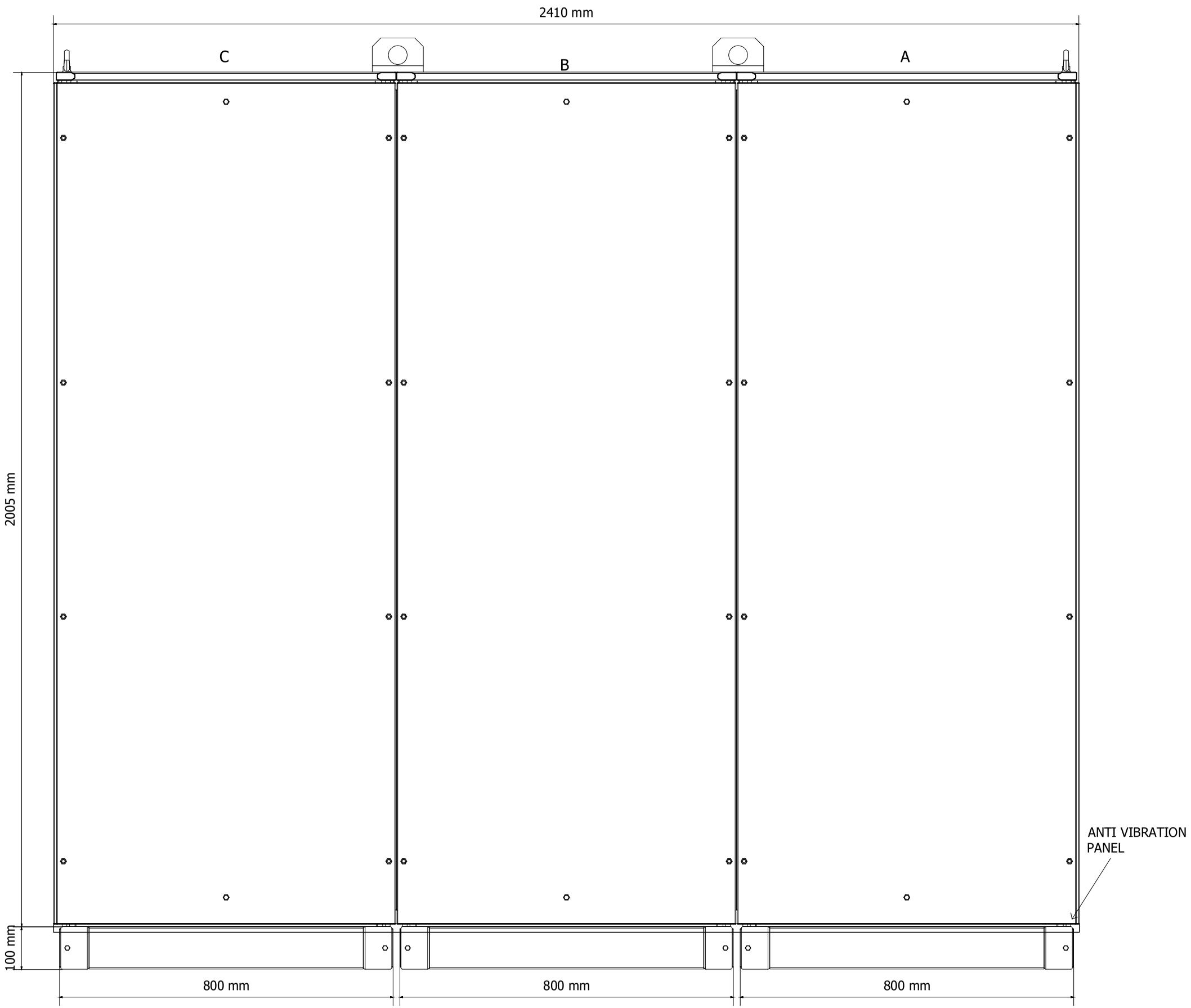
DRAWING NO.
1724000594-IN-DA-00010

SHEET 008

REV. 3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FGS PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 009

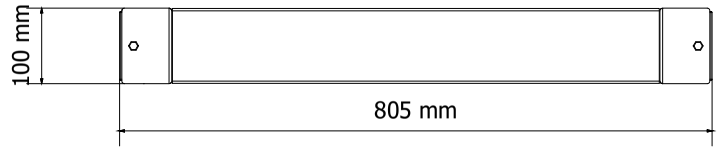
REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01

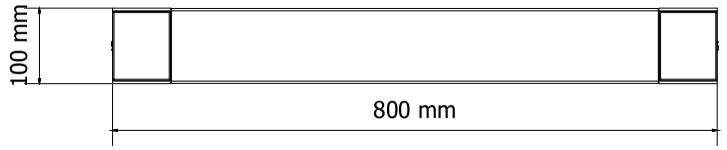
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FGS PANEL - BASEPLATE DETAILS

BASEPLATE SIDE VIEW

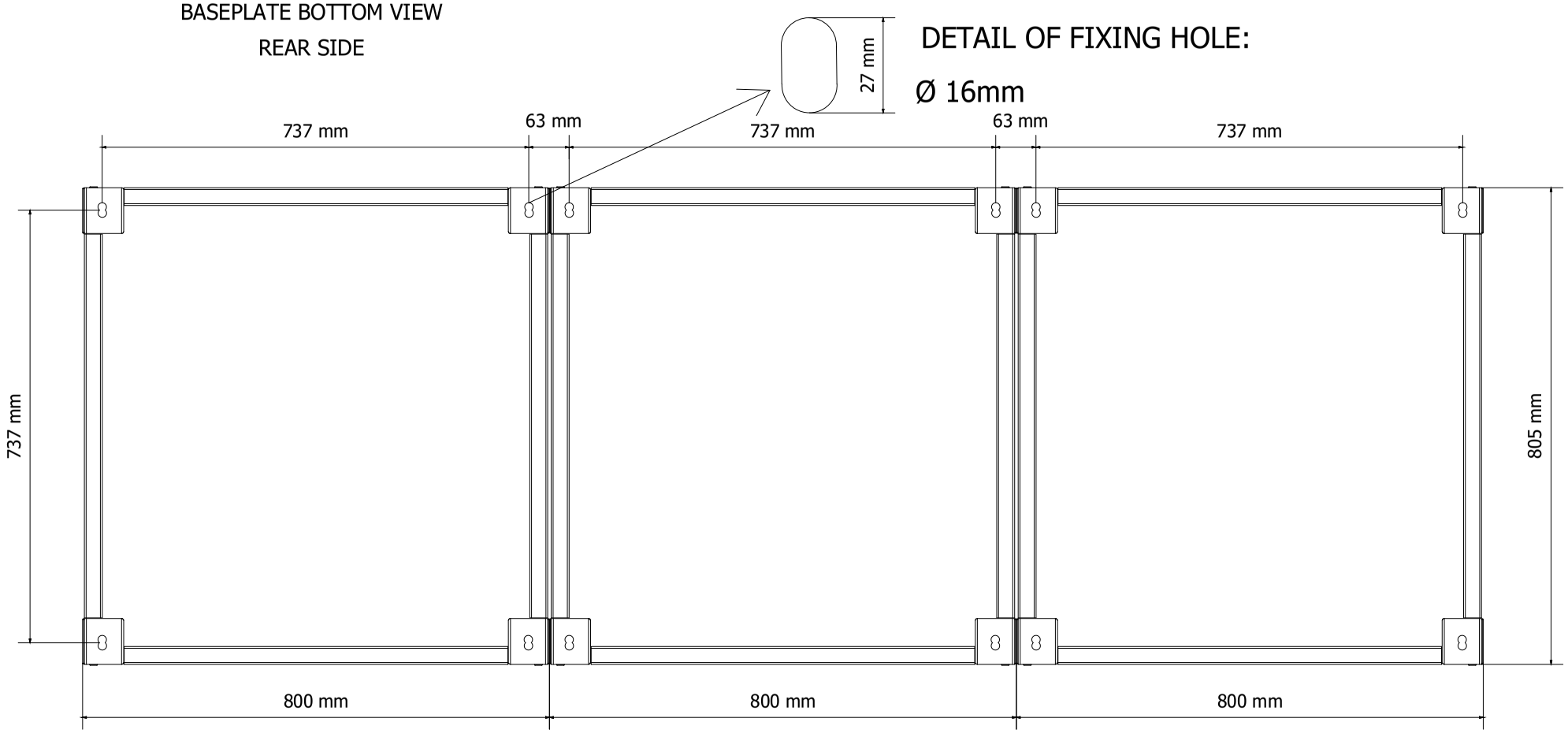


BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW
REAR SIDE

DETAIL OF FIXING HOLE:
Ø 16mm



FRONT SIDE

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 010

REV. 3

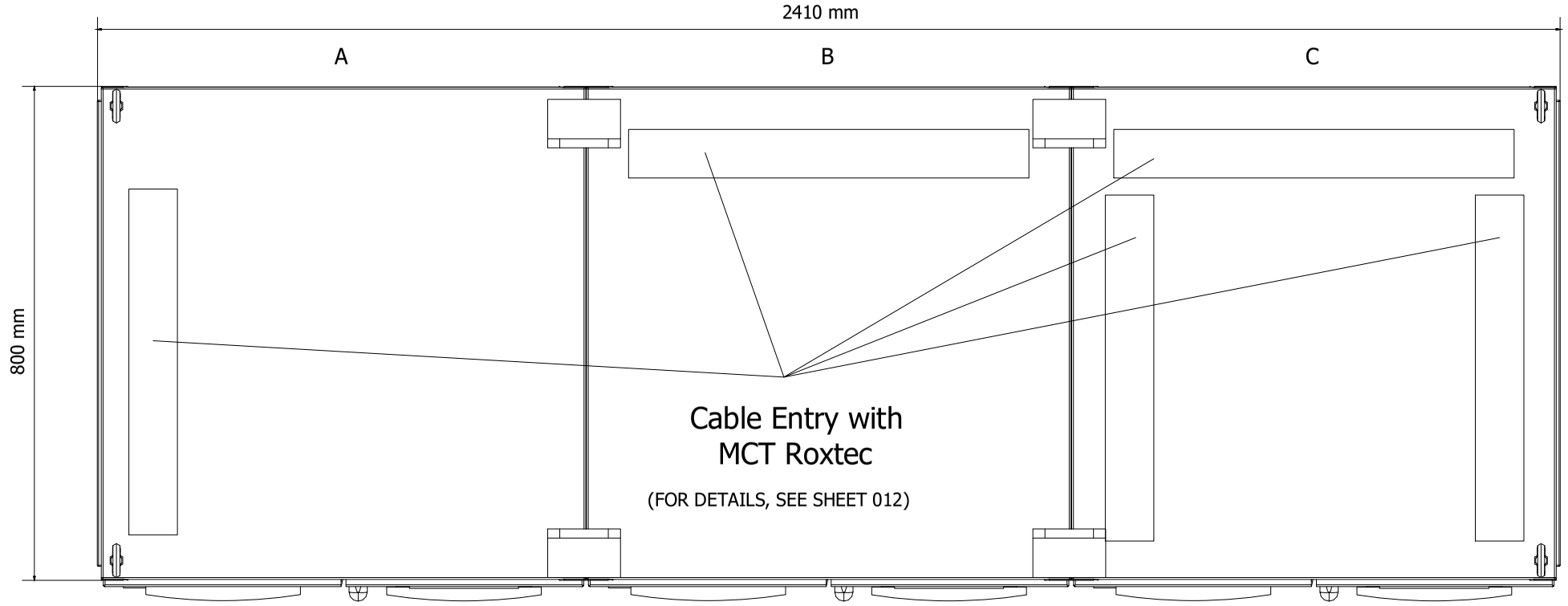
Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FGS PANEL - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW

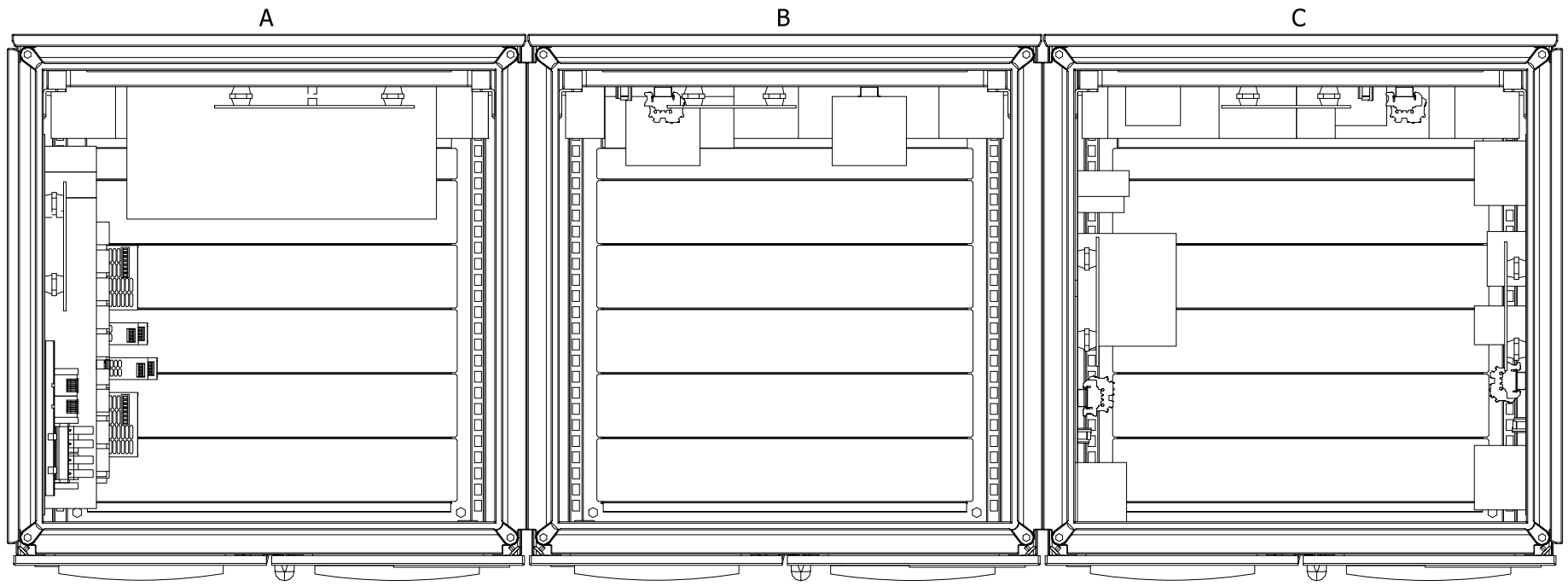
REAR



FRONT

INTERNAL TOP VIEW

REAR



FRONT

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

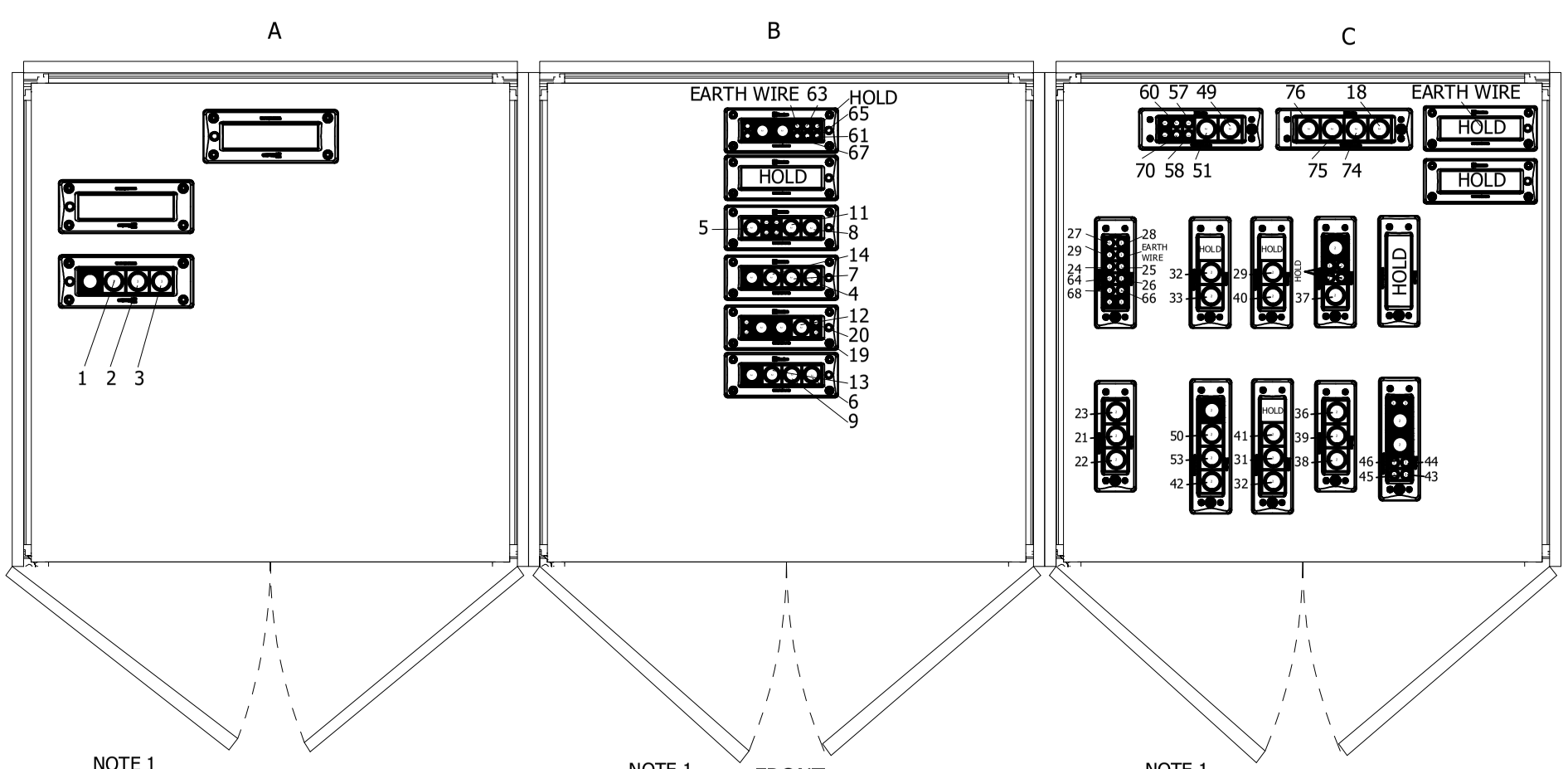
DRAWING NO.
1724000594-IN-DA-00010

SHEET 011

REV. 3

FGS PANEL - EXTERNAL TOP VIEW DOOR OPEN & MCT TABLE LIST

EXTERNAL TOP VIEW
(DOOR OPEN)



CABLE TAG	CABLE TYPE	OUTER CABLE DIAM. (mm)	MCT SIZE	LOC.	POS.
C-77-HS-012B/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	D	61
C-77-ZSL-012/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	62
C-77-HS-013B/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	D	63
C-77-ZSL-013/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	64
C-77-HS-014B/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	D	65
C-77-ZSL-014/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	66
C-77-HS-015B/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	D	67
C-77-ZSL-015/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	68
C-77-HS-016B/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	D	69
C-77-ZSL-016/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	70
20-UCP-001/B400-FGS-003	2x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	19.3	CM40 10-32	D	71
80-UCP-001/B400-FGS-003	2x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	19.3	CM40 10-32	D	72
50-LP-002/B400-FGS-003	2x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	19.3	CM40 10-32	D	73
B100-HSB-001/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	74
B200-HSB-001/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	75
B300-HSB-001/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	76
84401-CEL	3G2.5, ORANGE, NIS	15.5	EM40 10x32	A	1
84402-CEL	3G2.5, ORANGE, NIS	15.5	EM40 10x32	A	2
83107-CEL	3G2.5, ORANGE, NIS	13	EM20W40	A	3

CABLE TAG	CABLE TYPE	OUTER CABLE DIAM (mm)	MCT SIZE	LOC.	POS.
950-JE-06204/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM,F.Res,LIGHT BLUE,IS	25.2	CM40	C	21
950-JE-04204/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM,F.Res,LIGHT BLUE,IS	25.2	CM40	C	22
950-JE-04208/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM,F.Res,LIGHT BLUE,IS	25.2	CM40	C	23
C-950-SDZ-04201/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, LIGHT BLUE, IS	11.7	CM20W40	C	24
C-950-SDZ-04202/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, LIGHT BLUE, IS	11.7	CM20W40	C	25
C-950-SDZ-04203/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, LIGHT BLUE, IS	11.7	CM20W40	C	26
C-950-SDZ-04204/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, LIGHT BLUE, IS	11.7	CM20W40	C	27
C-950-SDZ-04205/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, LIGHT BLUE, IS	11.7	CM20W40	C	28
C-950-SDZ-04206/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, LIGHT BLUE, IS	11.7	CM20W40	C	29
950-JE-01101/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM 50	E	30
950-JE-02101/B400-FGS-003	12x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	43.7	CM50	E	31
950-JE-02102/B400-FGS-003	12x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	43.7	CM50	E	32
950-JE-03101/B400-FGS-003	12x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	43.7	CM50	E	33
950-JE-04101/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	34
950-JE-05101/B400-FGS-003	12x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	43.7	CM50	E	35
950-JE-06101/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	36
950-JE-06201/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	37
950-JE-04201/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	38
950-JE-04205/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	39
950-JE-01102/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	40
950-JE-02103/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	41
950-JE-03102/B400-FGS-003	6x3x2.5 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	E	42
C-950-GDZ-04201/B400-FGS-003	3x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.7	CM40 10X32	E	43
C-950-GDZ-04202/B400-FGS-003	3x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.7	CM40 10X32	E	44
C-950-GDZ-04203/B400-FGS-003	3x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.7	CM40 10X32	E	45
C-950-GDZ-04204/B400-FGS-003	3x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.7	CM40 10X32	E	46
C-950-GDZ-04205/B400-FGS-003	3x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.7	CM40 10X32	E	47
C-950-GDZ-04206/B400-FGS-003	3x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.7	CM40 10X32	E	48
950-JE-01104/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	4
950-JE-02104/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	5
950-JE-03104/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	6
950-JE-04103/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	7
950-JE-05103/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	8
950-JE-06103/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	9
950-JE-07101/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	10
950-JE-06203/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	11
950-JE-04203/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	12
950-JE-04207/B400-FGS-002	24x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	32.8	EM40 10x32	B	13
950-JE-05104/B400-FGS-002	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10x32	B	14
C-950-XZ-04201/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10x32	B	15
C-950-XL-04201/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10x32	B	16
C-950-XL-04202/B400-FGS-002	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10x32	B	17
P320PLC/B400-FGS-003	2x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	19.3	EM40 10x32	B	18
C-NC-200F2/B400-FGS-002.01	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10x32	B	19
C-NC-200F2/B400-FGS-002.02	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10x32	B	20
950-JE-01103/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	49
950-JE-03103/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	50
950-JE-04102/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	51
950-JE-05102/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	52
950-JE-06102/B400-FGS-003	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	D	53
C-950-MFA-02101/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	54
C-950-MFA-07101/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	55
C-950-MFA-06201/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	56
C-950-MFA-04203/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	57
C-950-MFA-04202/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	58
C-950-MFA-05201/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	59
C-950-MFA-04201/B400-FGS-003	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	D	60
B100-NET1-A9	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	B	NOTE 2
B100-NET1-B9	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	B	NOTE 2
B100-NET1-A10	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	B	NOTE 2
B100-NET1-B10	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	B	NOTE 2

NOTES :

NOTE 1: DOORS LOCK AT 90°
NOTE 2: BOTTOM ENTRY

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - EXTERNAL TOP VIEW DOOR OPEN & MCT TABLE LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

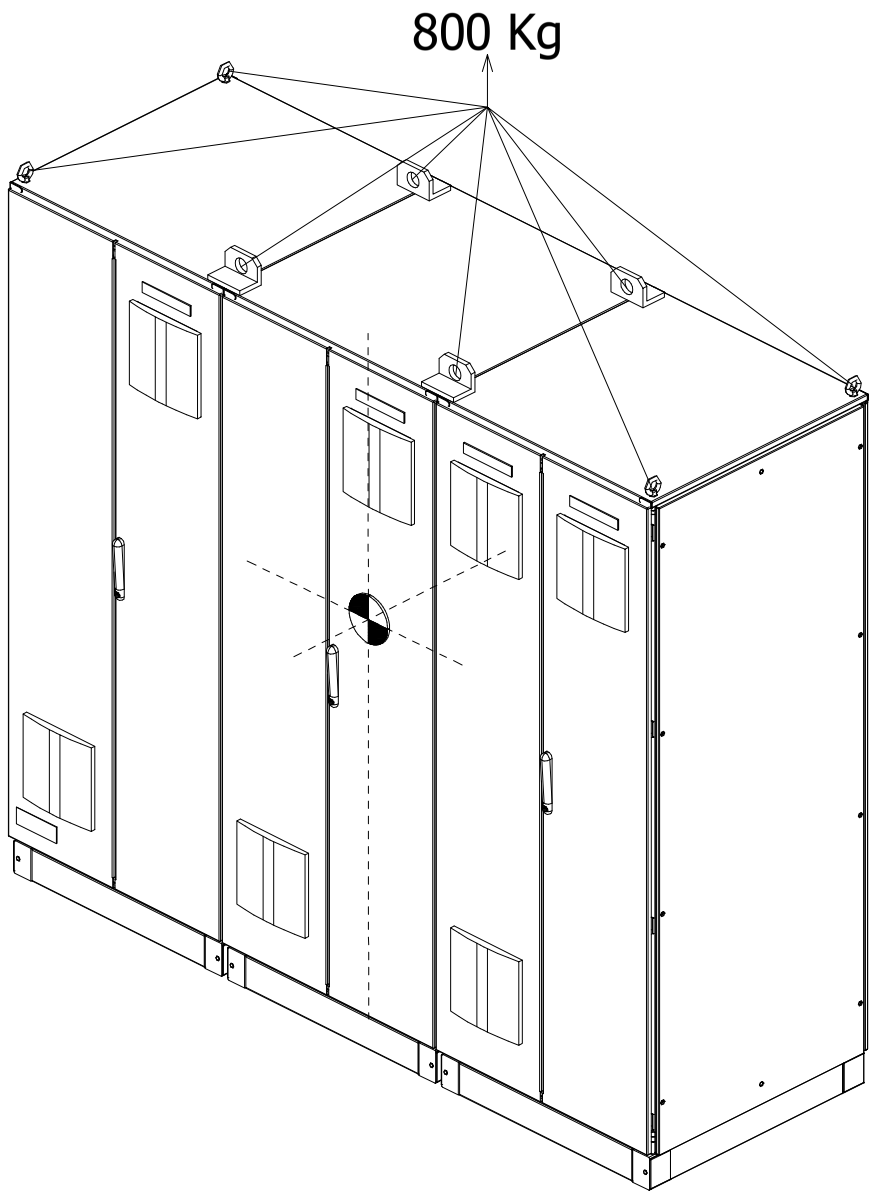
A3

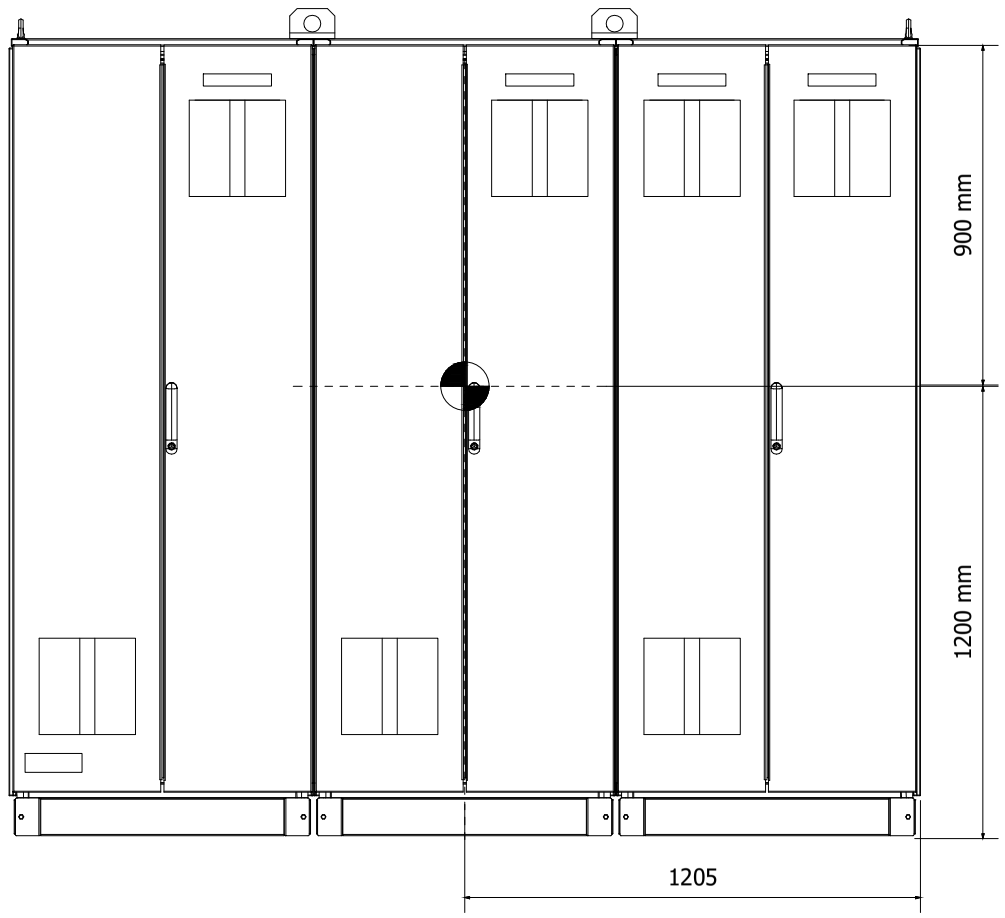
DRAWING NO. 1724000594-IN-DA-00010

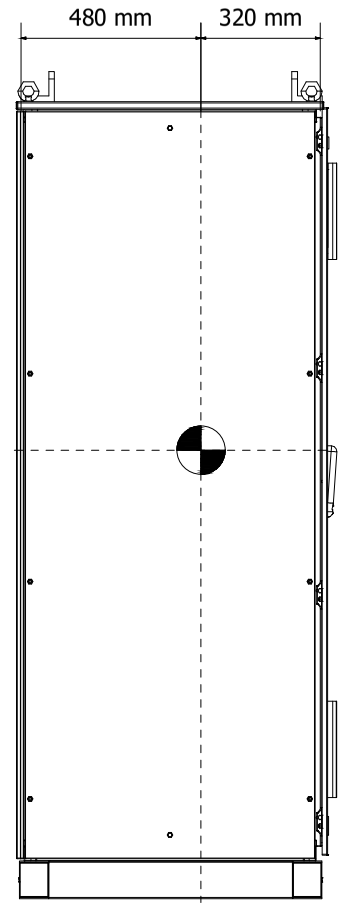
SHEET 012

REV. 3

FGS PANEL - LIFTING DETAILS







= CENTER OF GRAVITY

DRAWING SCALE 1:20
ALL QUOTES SHOWN ARE APPROXIMATE VALUE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.11.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - LIFTING DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 013

REV. 4

FGS PANEL - FRONT DOOR CUT-OUT DETAILS



NOTE 1 : CUT-OUT FOR AIR VENTILATION FILTER

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.11.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - FRONT DOOR CUT-OUT DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 014

REV. 4

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

FGS PANEL - FRONT SIDE INTERNAL VIEW

DEVICE "1"
(26) -S2SC70D-FA12010
(22) -N: 6: SAI143-H63
(23) -N: 2: SEC401-51
(24) -N: 2: S2CP471-01
(25) -N: 2: SPW482-53

DEVICE "7"
(37) -AIP-602

DEVICE "2"
(27) -SNB10D-425/CU2N
(22) -N: 4: SAI143-H63
(28) -N: 2: SDV144-S63
(29) -N: 2: SDV541-S63
(36) -N: 2: SSB401-53
(25) -N: 2: SPW482-53

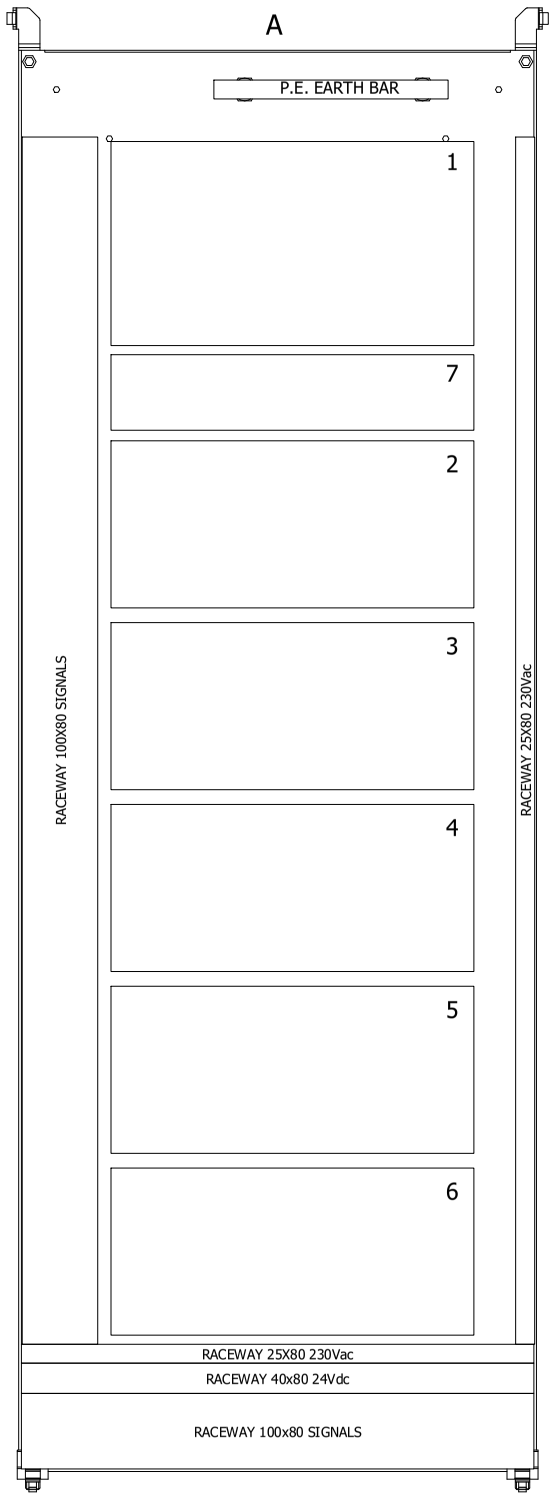
DEVICE "3"
(27) -SNB10D-425/CU2N
(22) -N: 4: SAI143-H63
(28) -N: 2: SDV144-S63
(29) -N: 2: SDV541-S63
(36) -N: 2: SSB401-53
(25) -N: 2: SPW482-53

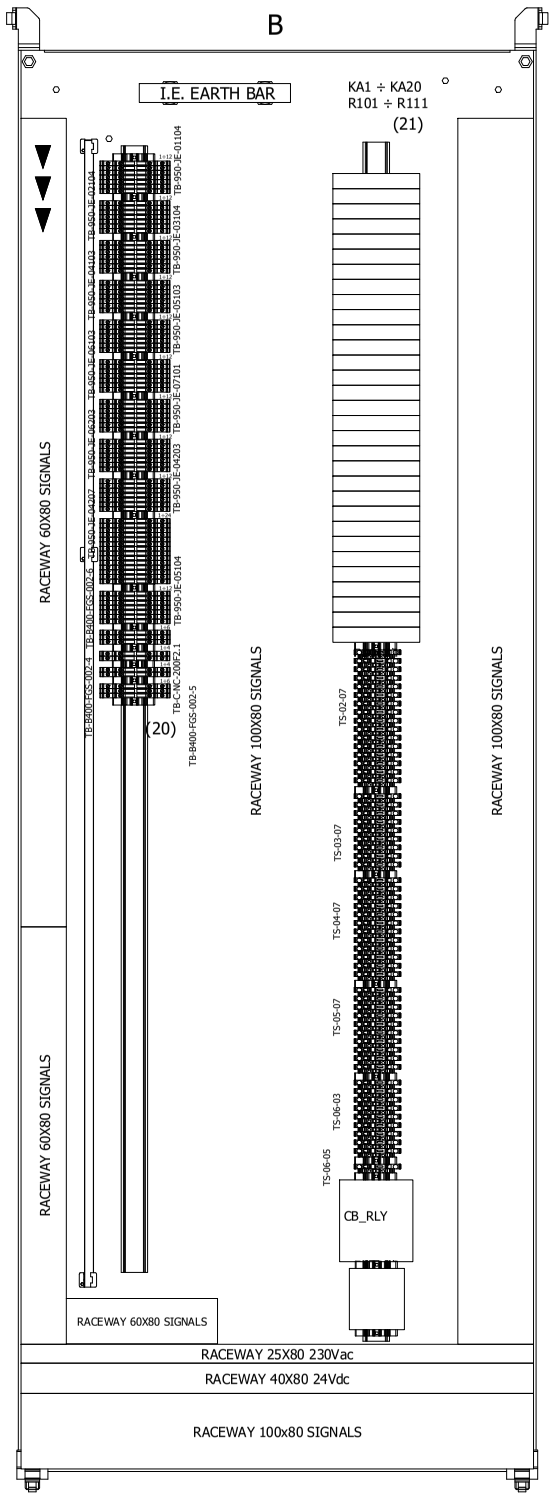
DEVICE "4"
(27) -SNB10D-425/CU2N
(22) -N: 4: SAI143-H63
(28) -N: 2: SDV144-S63
(29) -N: 2: SDV541-S63
(36) -N: 2: SSB401-53
(25) -N: 2: SPW482-53

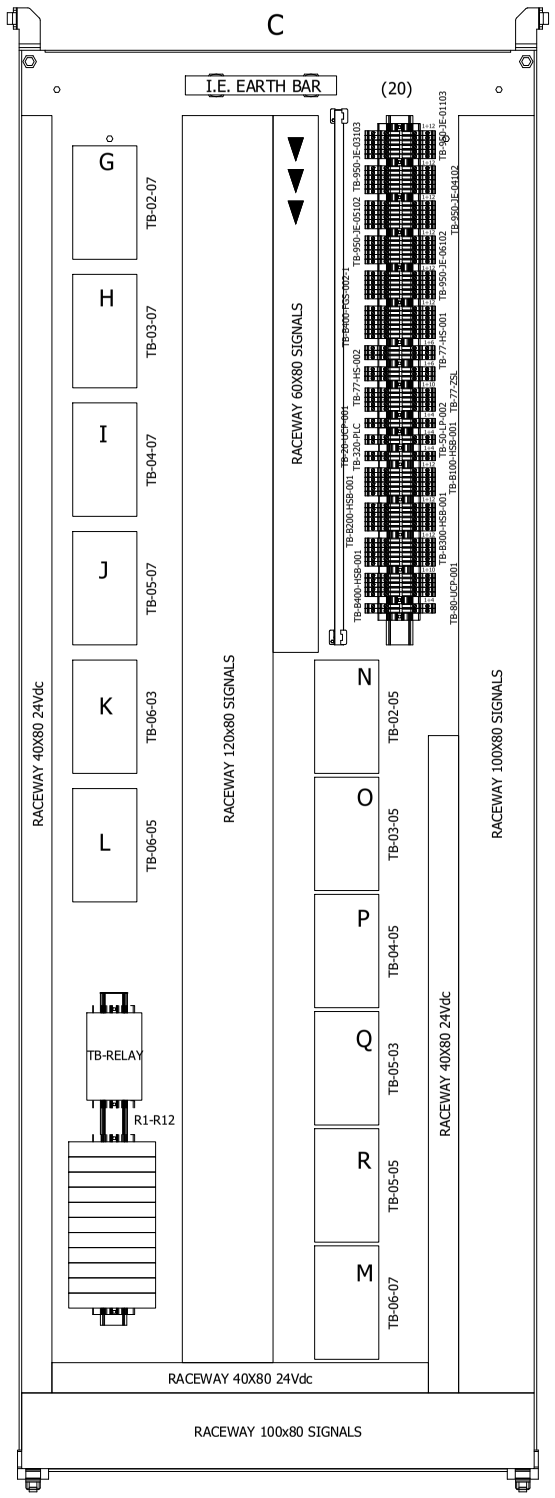
DEVICE "5"
(27) -SNB10D-425/CU2N
(22) -N: 2: SAI143-H63
(28) -N: 4: SDV144-S63
(29) -N: 2: SDV541-S63
(36) -N: 2: SSB401-53
(25) -N: 2: SPW482-53

DEVICE "6"
(30) -SNB10D-425/CU2T
-N: 2: SPARE
(29) -N: 4: SDV541-S63
(28) -N: 2: SDV144-S63
(36) -N: 2: SSB401-53
(25) -N: 2: SPW482-53

FRONT SIDE







DEVICE "G" ÷ "R"
SBD4D-06 (31)

= CABLE ENTRY

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - FRONT SIDE INTERNAL VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

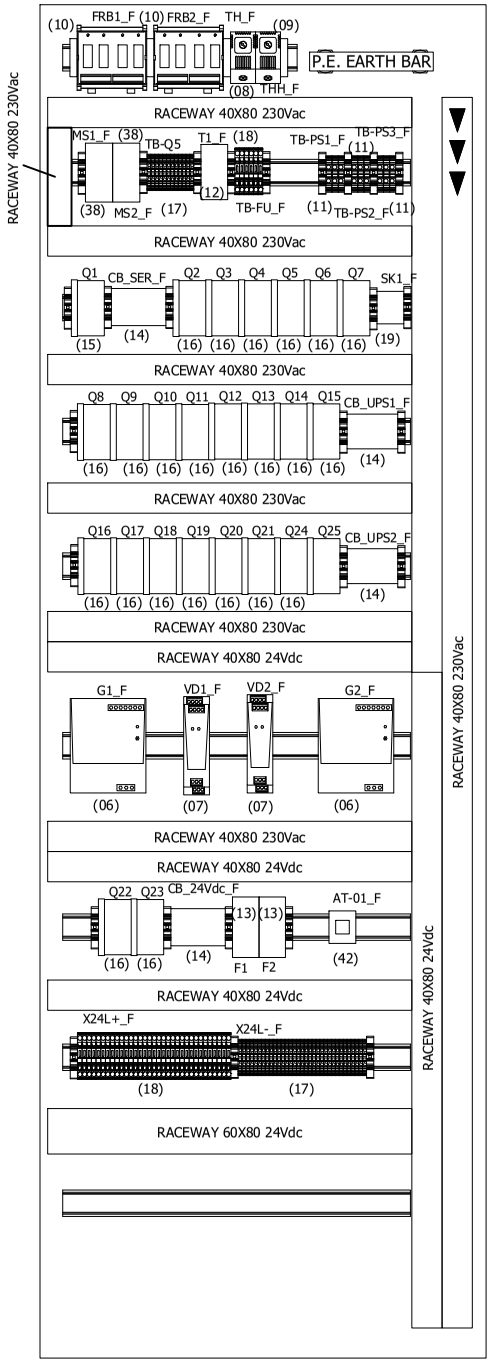
DRAWING NO.
1724000594-IN-DA-00010

SHEET 015

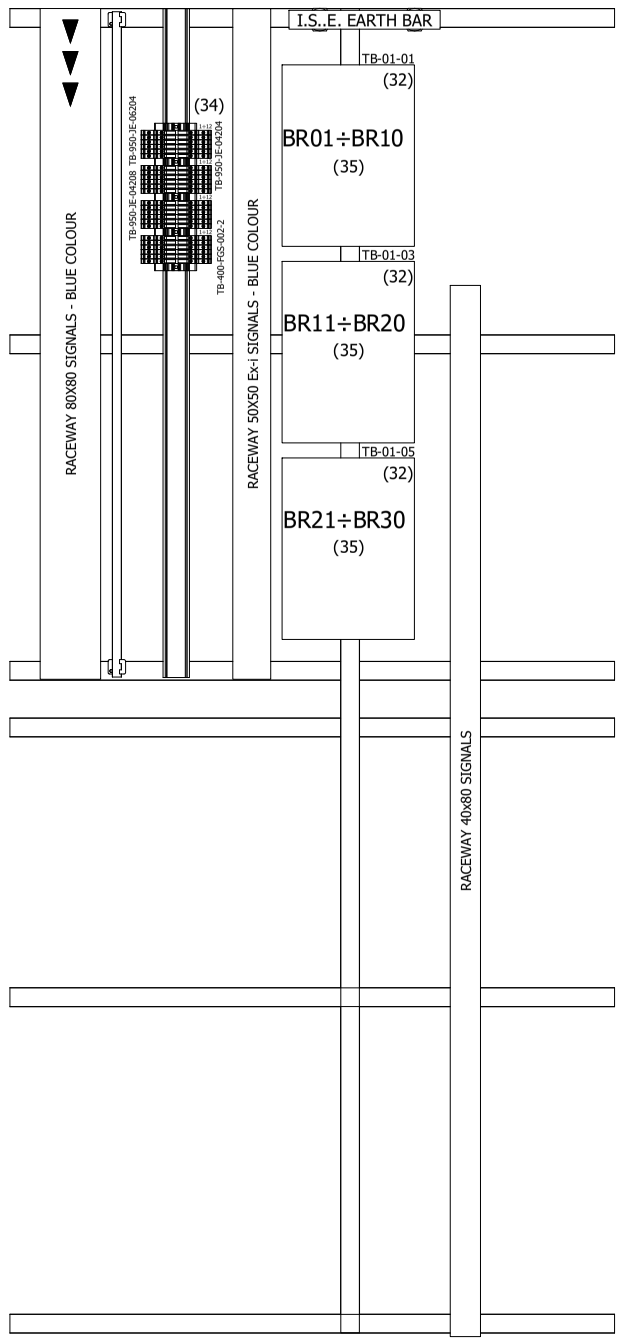
REV. 3

FGS PANEL - RIGHT/LEFT SIDE INTERNAL VIEWS

LEFT SIDE (A)

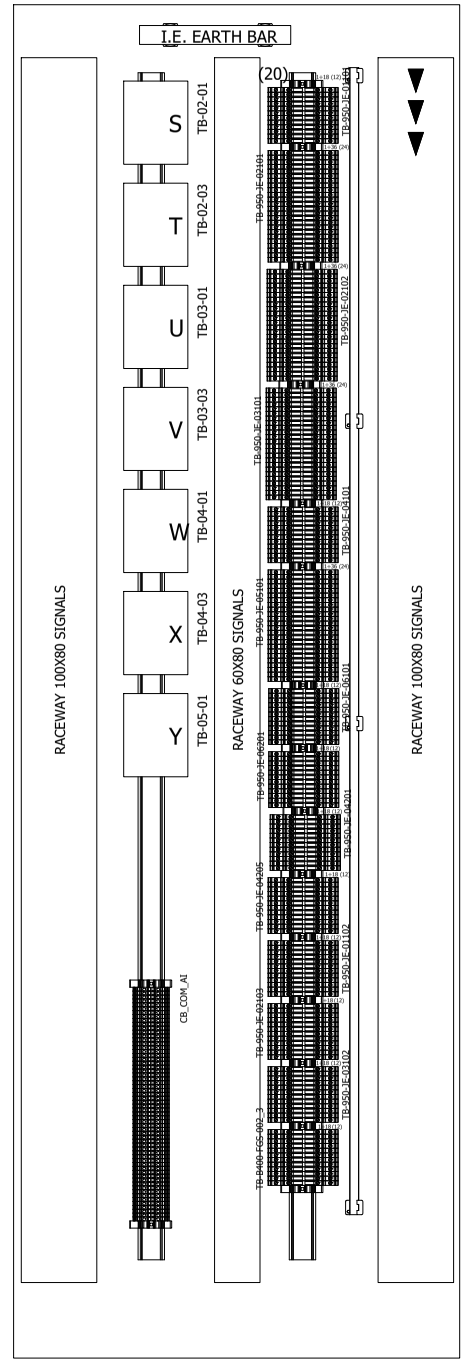


LEFT SIDE (C)



DEVICE "S" ÷ "Y"
SBA4D-06 (33)

RIGHT SIDE (C)



= CABLE ENTRY

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS - RIGHT/LEFT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 016

REV. 3

SHEET LEFT INTENTIONALLY BLANK

DRAWING SCALE 1:1

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

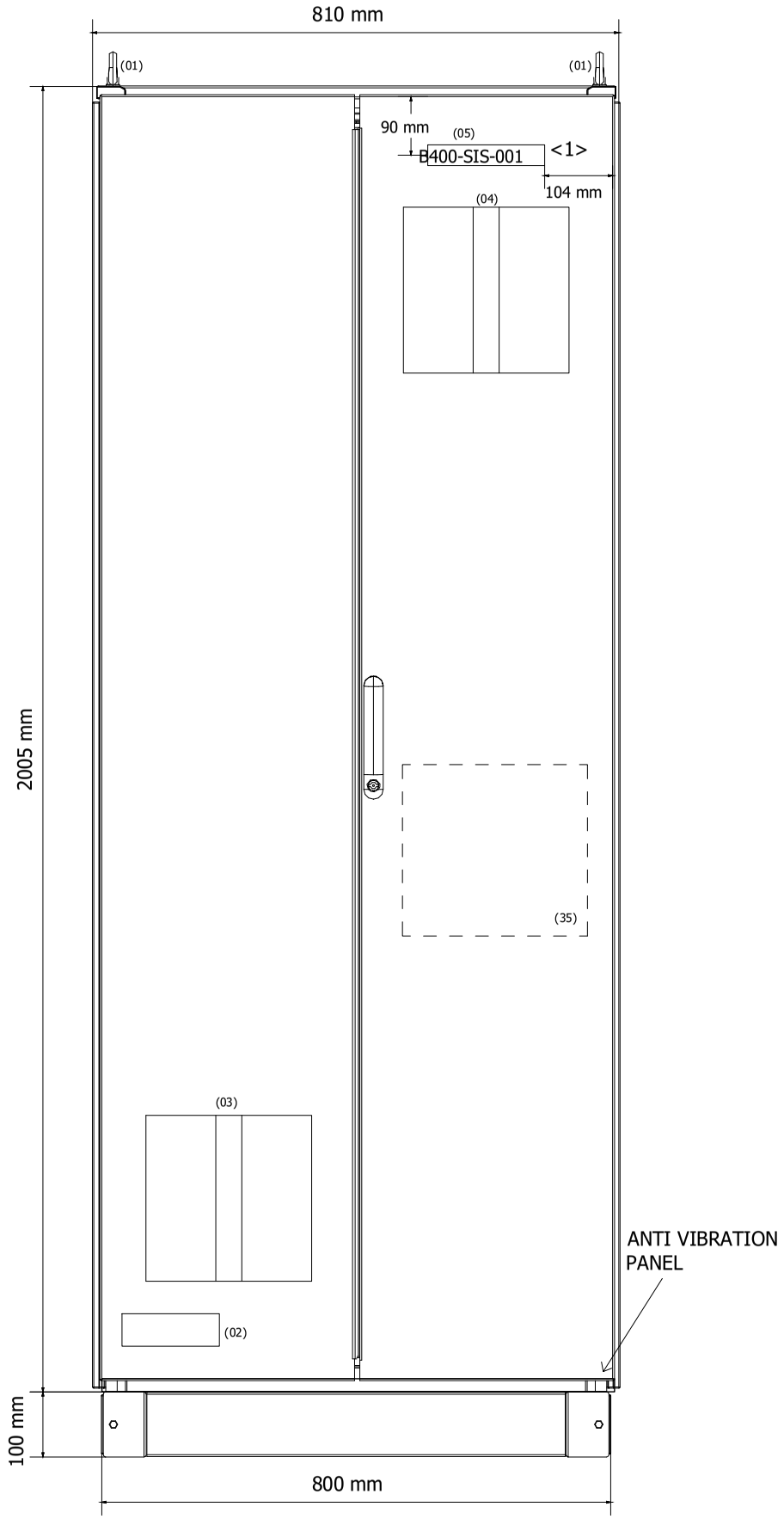
A3

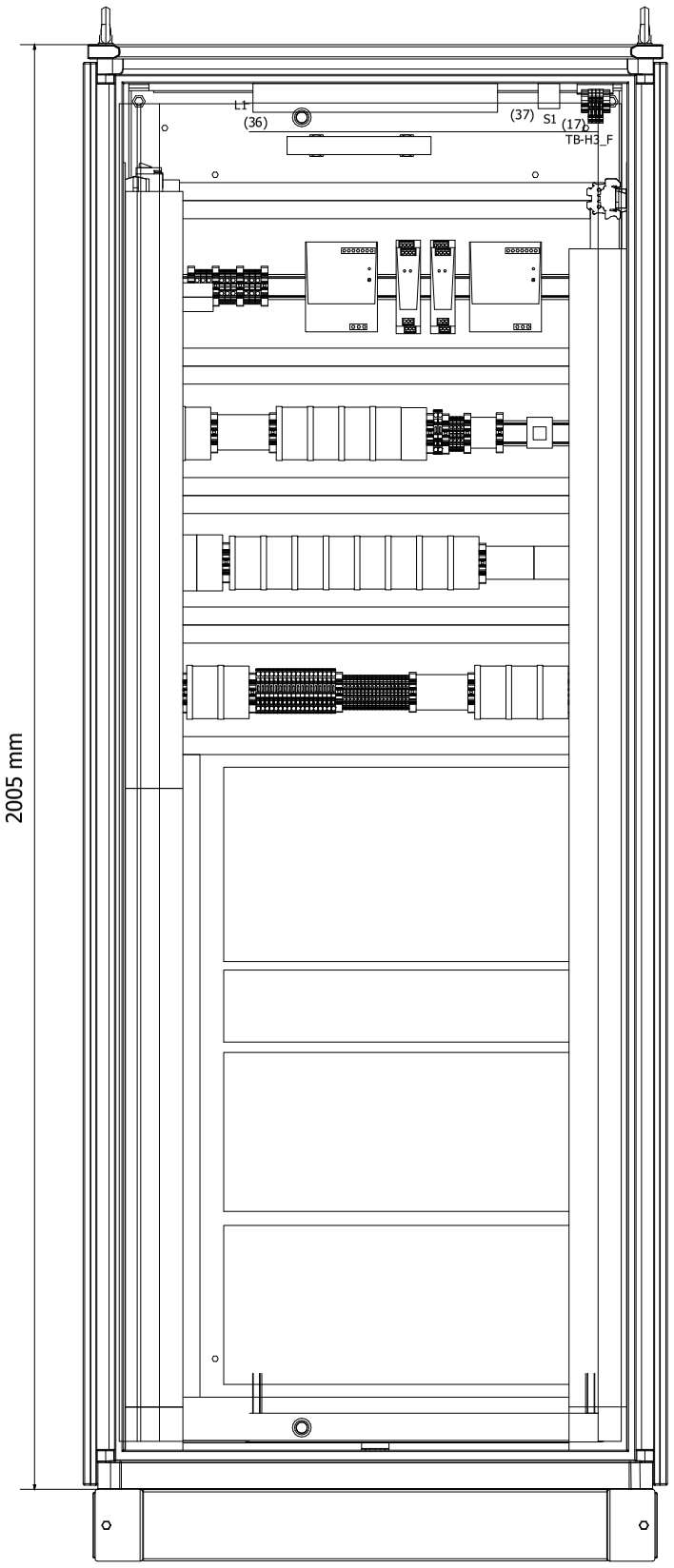
DRAWING NO.
1724000594-IN-DA-00010

SHEET 017

REV. 3

SIS PANEL - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 018

REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01
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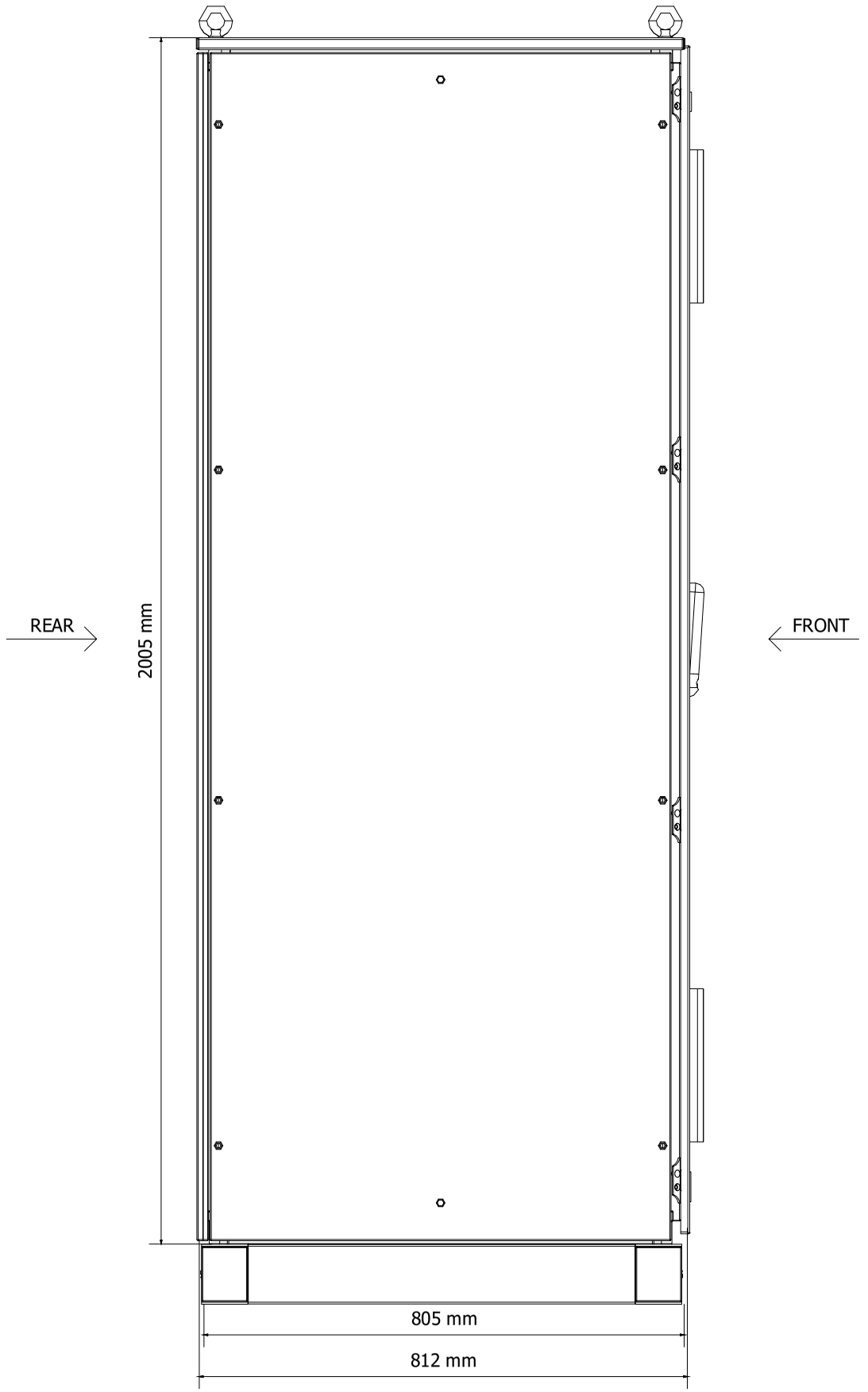
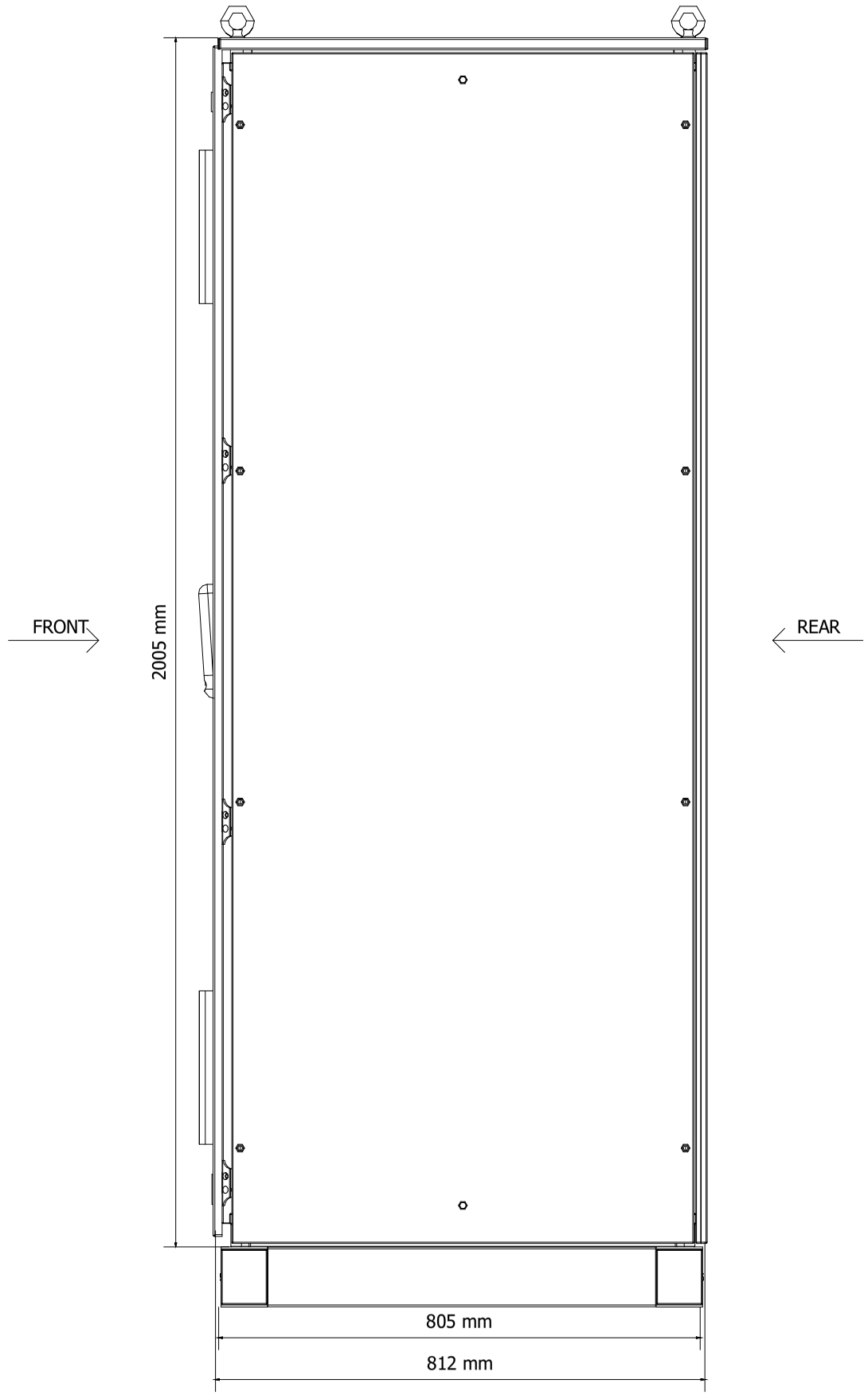
SIS PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

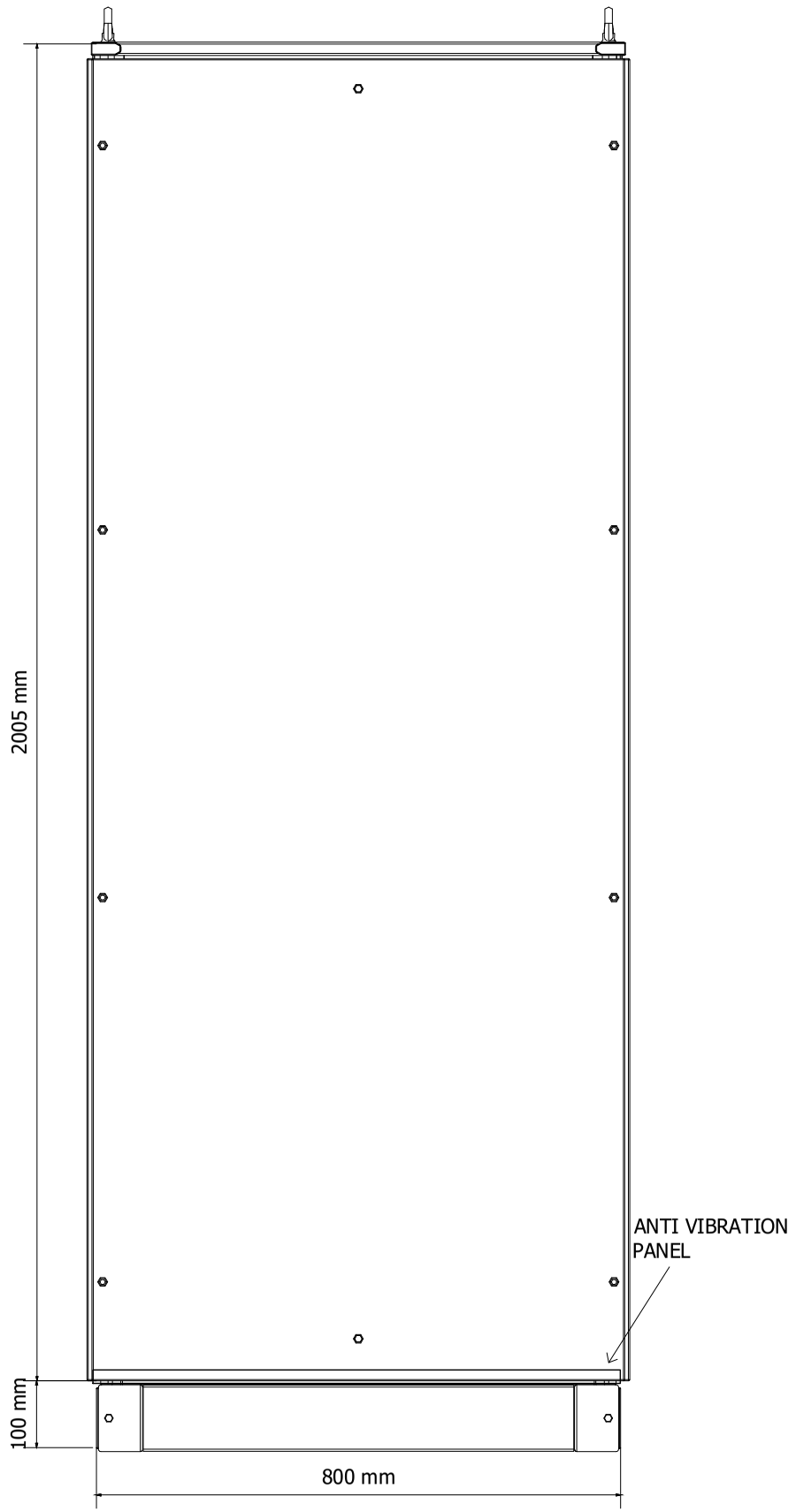
DRAWING NO.
1724000594-IN-DA-00010

SHEET 019

REV. 3

Page 3483 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SIS PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 020

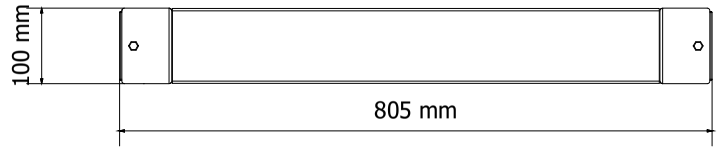
REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01

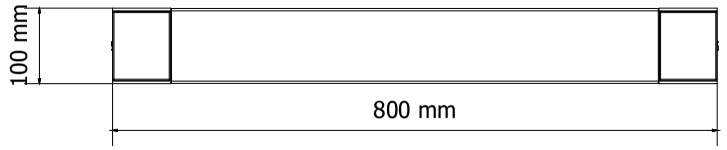
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SIS PANEL - BASEPLATE DETAILS

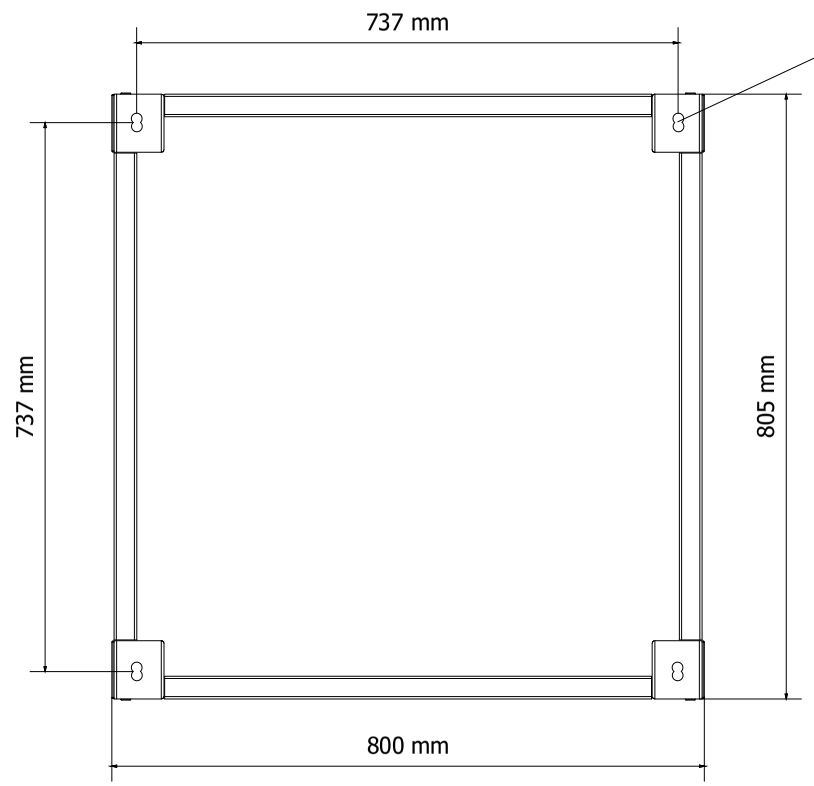
BASEPLATE SIDE VIEW



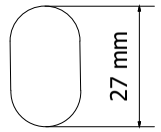
BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW
REAR SIDE



FRONT SIDE



DETAIL OF FIXING HOLE:

Ø 16mm

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

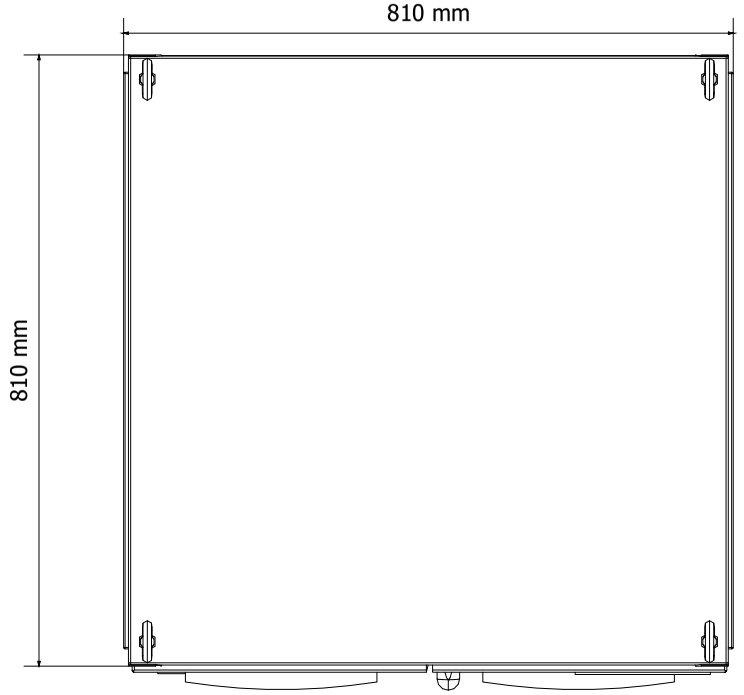
SHEET 021

REV. 3

SIS PANEL - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW

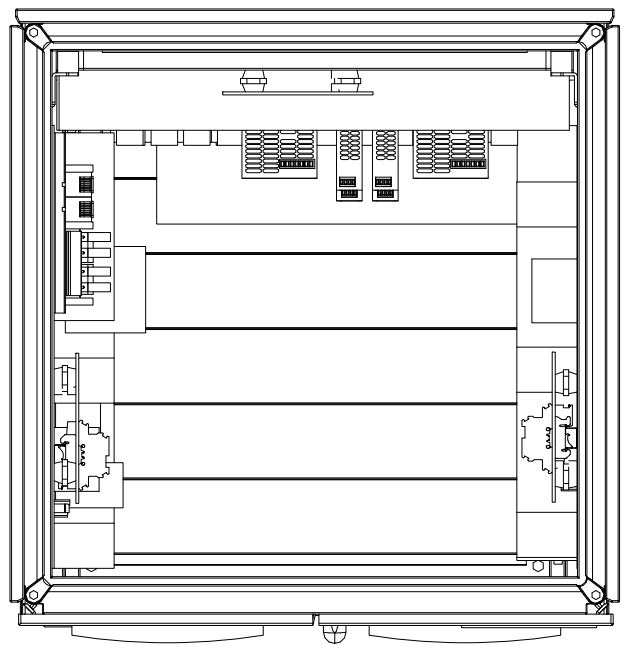
REAR



FRONT

INTERNAL TOP VIEW

REAR

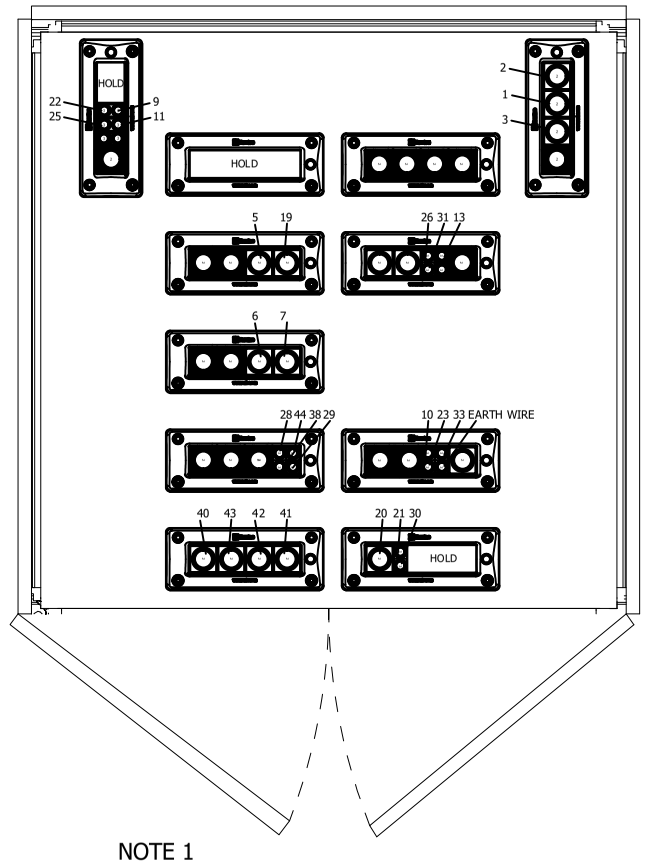


FRONT

NOTE 1: DOOR LOCK AT 90°
NOTE 2: BOTTOM ENTRY
DRAWING SCALE 1:10

EXTERNAL TOP VIEW (DOOR OPEN)

REAR



NOTE 1

FRONT

Cable Entry with MCT Roxtec

CABLE TAG	CABLE TYPE	OUTER CABLE DIAMETER (mm)	MCT SIZE	LOC.	POSITION
00-JE-21001/B400-SIS-001	12x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM40	C	49
00-JE-21002/B400-SIS-001	6x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	25.2	CM40	C	50
C-63-PT-004/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	CM20W40	C	51
00-JE-22001_1/B400-SIS-001	12x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM 40	A	4
00-JE-22001_2/B400-SIS-001	12x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM 40	A	5
00-JE-22002_1/B400-SIS-001	12x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM 40	A	6
00-JE-22002_2 / B400-SIS-001	12x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	32.9	CM 40	A	7
P320PLC/B400-SIS-001	2x2x0.75 mm2, Sh+ShT+ARM, F.Res, ORANGE, NIS	19.3	EM40 10-32	A	8
C-20-XA-003/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	9
C-80-XA-003/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	10
C-50-XA-003/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	11
C-63-XA-003/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	12
C-64-XA-003/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	13
C-77-XA-001/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	14
C-77-XA-002/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	15
C-77-XA-003/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	16
C-77-XA-004/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	17
C-NC-200F2/B400-SIS-001	1x2x0.75 mm2, ShT+ARM, F.Res, ORANGE, NIS	11.7	EM20W40	A	18
00-JE-23001/B400-SIS-001	24x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	32.9	EM40 10-32	A	19
00-JE-23002/B400-SIS-001	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10-32	A	20
C-85-XS-001/B-400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	21
C-20-XS-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	22
C-80-XS-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	23
C-50-XS-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	24
C-63-XS-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	25
C-64-XS-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	26
C-77-XS-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	27
C-77-XS-002/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	28
C-77-XS-003/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	29
C-77-XS-004/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	30
C-CP-100E1/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	31
C-SG-100D1-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	32
C-SG-100D1-002/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	33
C-SG-100D1-003/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	34
C-CB-200F1/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	35
C-UP-200F1/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	36
C-SG-200N1-001/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	37
C-SG-200N1-002/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	38
C-UP-200F3/B400-SIS-001	12x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	24.2	EM40 10-32	A	39
C-CB-200F3A/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	40
C-CB-200F3B/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	EM40 10-32	A	41
C-CB-200F4A/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	A	42
C-CB-200F4B/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	A	43
C-UP-200F4/B400-SIS-001	2x2.5 mm2, ShT+ARM, F.Res, ORANGE, NIS	14.1	CM40 10-32	A	44
B100-NET1-A9	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	A	NOTE 2
B100-NET1-B9	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	A	NOTE 2
B100-NET1-A10	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	A	NOTE 2
B100-NET1-B10	CAT.6A 4x2xAWG23. Sh+Sht+ARM, F Ret, GREY, NIS	10.7	EM20W40	A	NOTE 2
84301-CEL	3G2.5, ORANGE, NIS	15.5	EM40 10-32	B	1
84302-CEL	3G2.5, ORANGE, NIS	15.5	EM40 10-32	B	2
83104-CEL	3G2.5, GREY, NIS	13	EM20W40	B	3

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

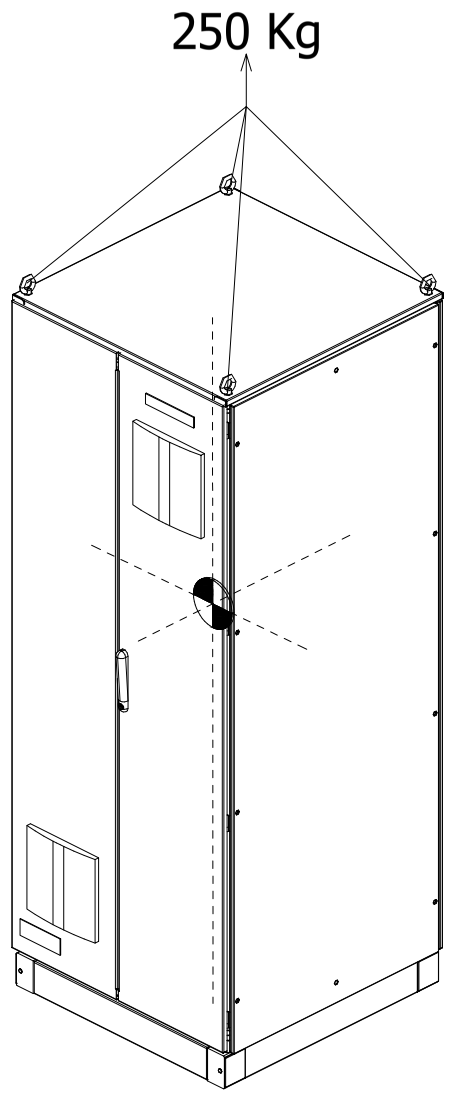
A3

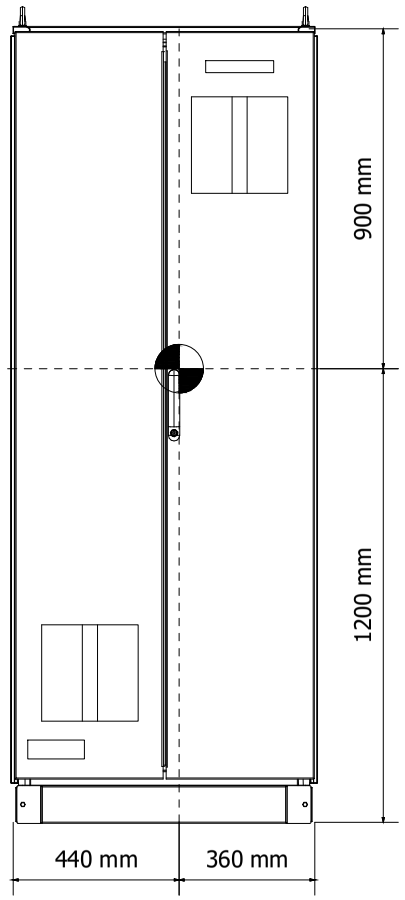
DRAWING NO. 1724000594-IN-DA-00010

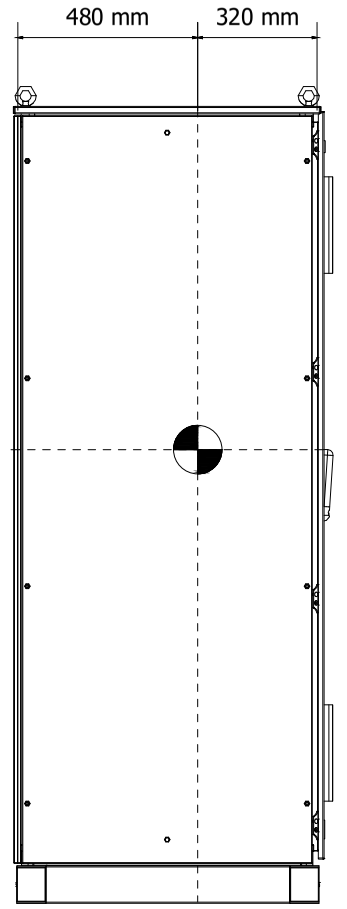
SHEET 022

REV. 3

SIS PANEL - LIFTING DETAILS







= CENTER OF GRAVITY

DRAWING SCALE 1:20
ALL QUOTES SHOWN ARE APPROXIMATE VALUE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - LIFTING DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

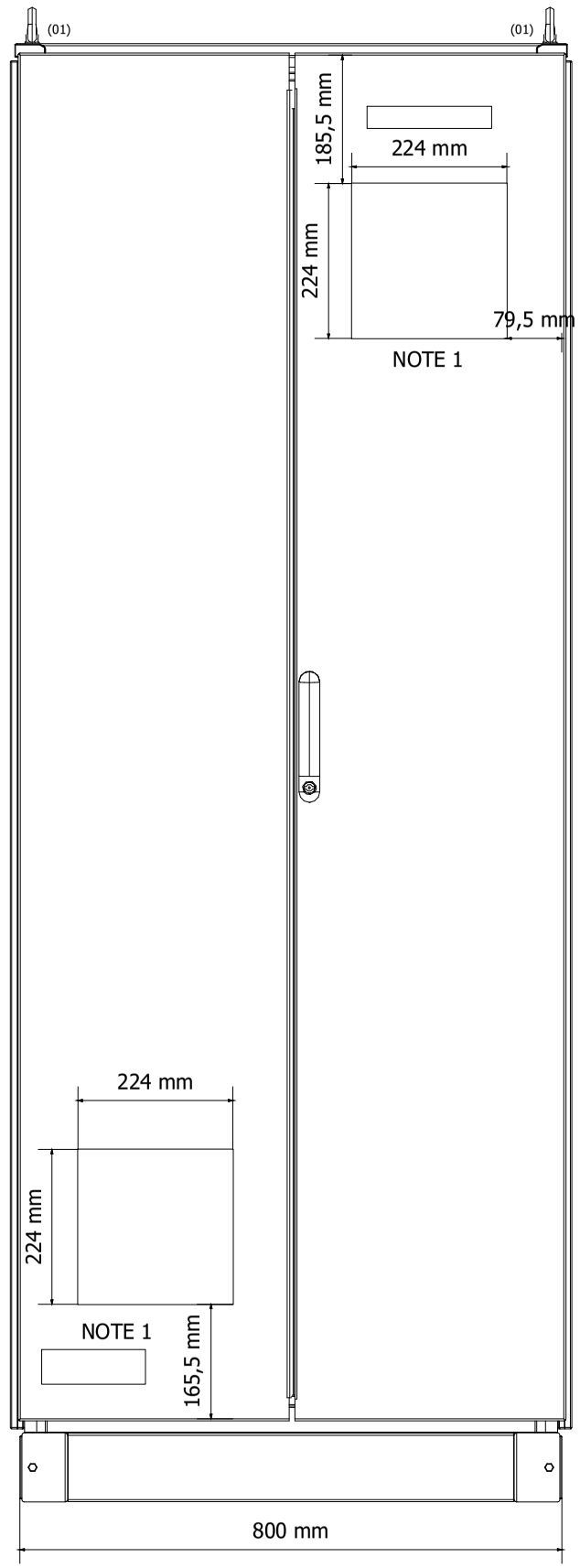
A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 023

REV. 3

SIS PANEL - FRONT DOOR CUT-OUT DETAILS



NOTE 1 : CUT-OUT FOR AIR VENTILATION FILTER

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - FRONT DOOR CUT-OUT DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 024

REV. 3

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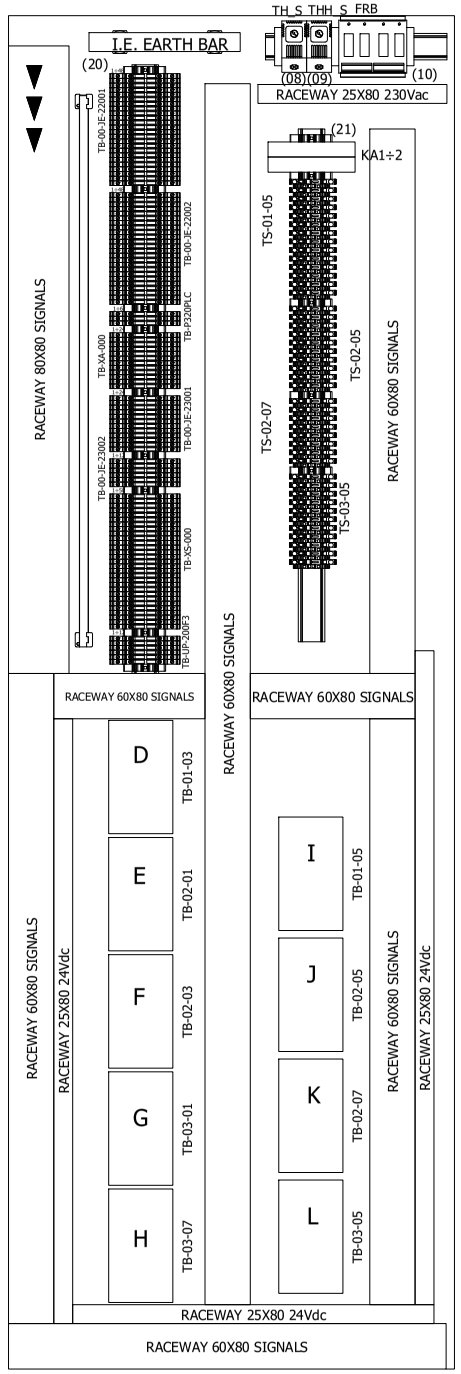
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SIS PANEL - FRONT SIDE INTERNAL VIEWS

LEFT SIDE



DEVICE "D" ÷ "L"
SBD4D-06 (22)

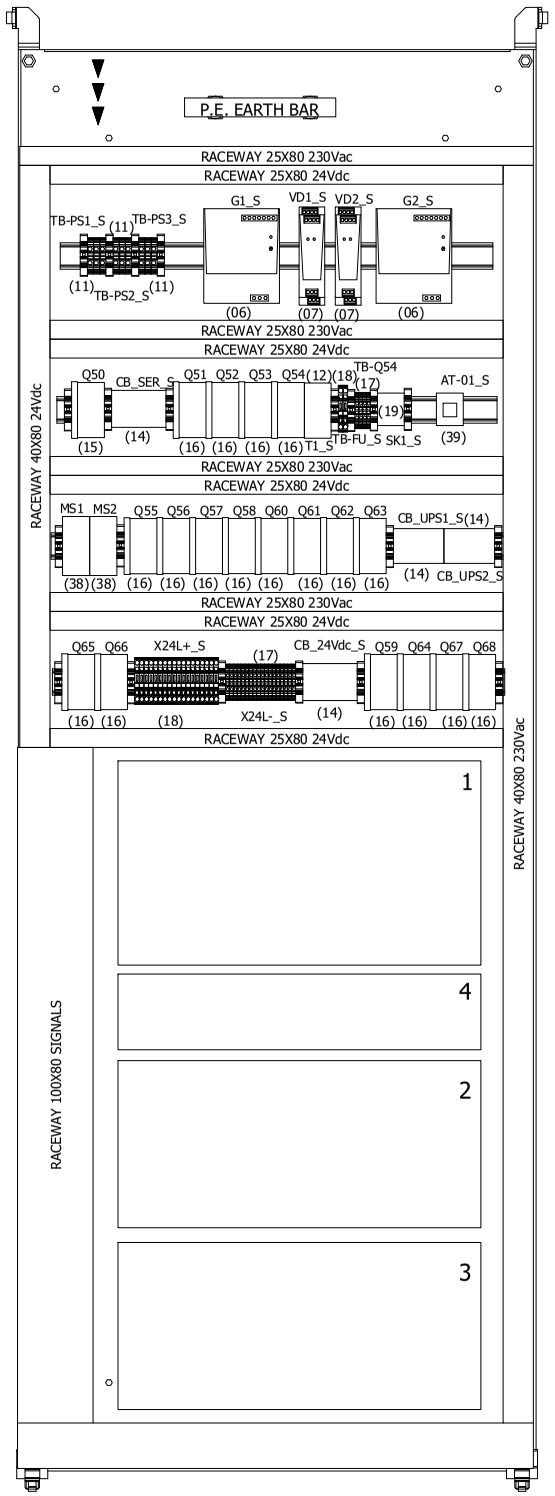
DEVICE "1"
(24) -S2SC70D-FA12010
(25) -N: 2: SAI143-H63
(26) -N: 2: SDV144-S63
(27) -N: 2: SDV541-S63
(28) -N: 2: SEC401-51
(29) -N: 2: S2CP471-01
(30) -N: 2: SPW482-53

DEVICE "4"
(34) -AIP-602

DEVICE "2"
(31) -SNB10D-425/CU2N
(26) -N: 4: SDV144-S63
(27) -N: 4: SDV541-S63
(33) -N: 2: SSB401-53
(30) -N: 2: SPW482-53

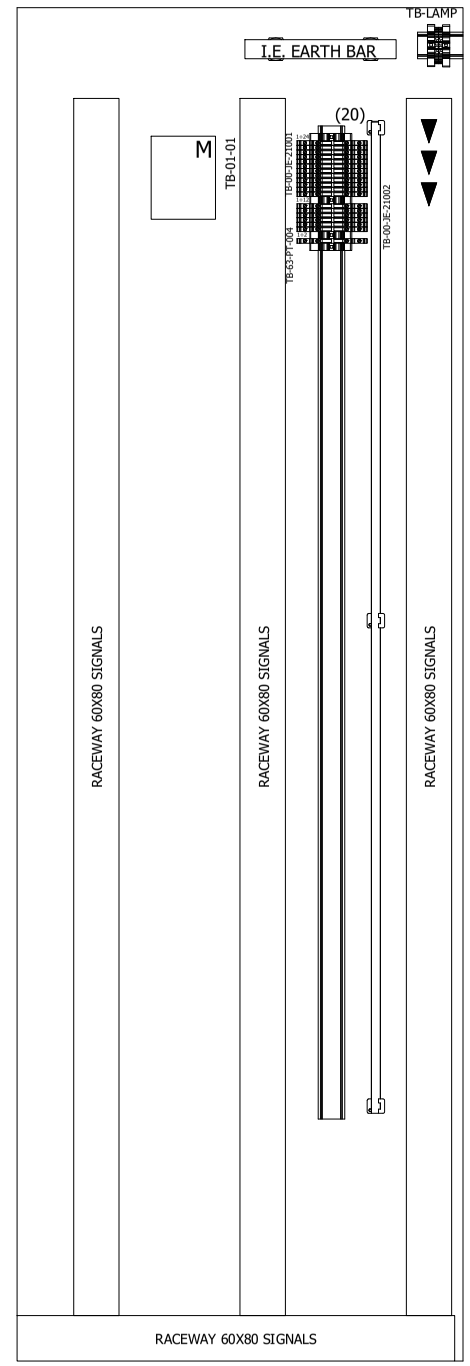
DEVICE "3"
(32) N: 1: SNB10D-425/CU2T
(26) N: 2: SDV144-S63
N: 2: SPARE
(27) N: 2: SDV541-S63
(26) N: 2: SDV144-S63
(33) N: 2: SSB401-53
(30) N: 2: SPW482-53

FRONT PLATE



RIGHT SIDE

DEVICE "M"
SBA4D-06 (23)



DRAWING SCALE 1:10

▼ = CABLE ENTRY

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

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TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 025

REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 026

REV. 3

TYPICAL 01



TYPICAL 01

MANUFACTURER LABEL ITEM (02)

MATERIAL	:	ALUMINIUM
DIMENSION	:	150mm x 50mm (lxh)
BACKGROUND COLOUR	:	ALUMINIUM
TEXT COLOUR	:	BLACK & GREEN
FIXING	:	BY STAINLESS STEEL SCREWS

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND | ROSETTI MARINO

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TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
MANUFACTURER LABEL DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00010 | SHEET 027 | REV. 3

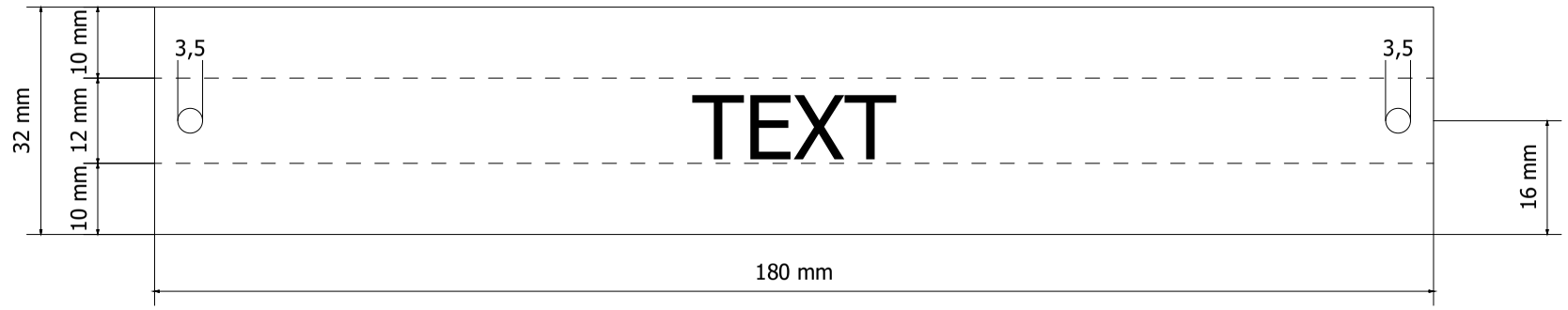
SIS & FGS PANELS - SECTION IDENTIFIER NAMEPLATE DETAILS

TYPICAL 02

LABEL FOR SECTION IDENTIFIER ITEM (05)

MATERIAL	:	TRAFOLYTE
DIMENSION	:	180mm x 32mm (lxh)
BACKGROUND COLOUR	:	TRAFOLYTE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	12 mm
TEXT FONT	:	ARIAL
FIXING	:	BY STAINLESS STEEL SCREWS

TYPICAL 02



CABINET	TEXT
FGS SYSTEM CABINET	B400-FGS-001
FGS MARSHALLING CABINET 1	B400-FGS-002
FGS MARSHALLING CABINET 2	B400-FGS-003
SIS SYSTEM/MARSHALLING CABINET	B400-SIS-001

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SECTION IDENTIFIER NAMEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 028

REV. 3

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DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND | ROSETTI MARINO

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0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 029

REV. 3

CERTIFICATION LABELS DETAILS

TYPICAL 05

LABEL FOR ITEM IDENTIFIER

MATERIAL	:	TRAFFOLYTE
DIMENSION	:	150mm x 150mm (lxh)
BACKGROUND COLOUR	:	WHITE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	4 mm
TEXT FONT	:	ARIAL
FIXING	:	SS316L SCREWS OR RIVETS

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INDUSTRIALI

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22040 ALZATE BRIANZA (CO) ITALY Via Pascoli 150 Ph. +39031631875 website : www.prei.it

PREI JOB/SN: C\5529 CONSTRUCTION YEAR: 2024

CUSTOMER PURCHASE ORDER: 4511988955

CUSTOMER JOB N°: E366772C00

REFERENCE DRAWINGS : 1724000594-IN-DA-00010 - OUTLINE DRAWING

1724000594-IN-DG-00021 - SCHEMATIC DRAWING

Line 1: VOLTAGE 230 Vac / 50 Hz Line 1: CURRENT 5,2A (FGS)

Line 1: SHORT CIRCUIT CURRENT RATING: 10kA

Line 2: VOLTAGE 230 Vac / 50 Hz Line 2: CURRENT 5,2A (FGS)

Line 2: SHORT CIRCUIT CURRENT RATING: 10kA

Line 3: VOLTAGE 230 Vac / 50 Hz Line 3: CURRENT 2,6A (FGS)

Line 3: SHORT CIRCUIT CURRENT RATING: 10kA

PANEL PROTECTION DEGREE IP43

PANEL OPERATING TEMPERATURE RANGE: 5-45°C

DRAWING SCALE 1:1
ALL QUOTES SHOWN ARE IN MILLIMETERS

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
CERTIFICATION LABEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 030

REV. 3

CERTIFICATION LABELS DETAILS

TYPICAL 05

LABEL FOR ITEM IDENTIFIER

MATERIAL	:	TRAFFOLYTE
DIMENSION	:	150mm x 150mm (lxh)
BACKGROUND COLOUR	:	WHITE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	4 mm
TEXT FONT	:	ARIAL
FIXING	:	SS316L SCREWS OR RIVETS

PREI

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REALIZZAZIONI
INDUSTRIALI

CE

22040 ALZATE BRIANZA (CO) ITALY Via Pascoli 150 Ph. +39031631875 website : www.prei.it

PREI JOB/SN: C\5529 CONSTRUCTION YEAR: 2024

CUSTOMER PURCHASE ORDER: 4511988955

CUSTOMER JOB N°: E366772C00

REFERENCE DRAWINGS : 1724000594-IN-DA-00010 - OUTLINE DRAWING

1724000594-IN-DG-00021 - SCHEMATIC DRAWING

Line 1: VOLTAGE 230 Vac / 50 Hz Line 1: CURRENT 3A (SIS)

Line 1: SHORT CIRCUIT CURRENT RATING: 10kA

Line 2: VOLTAGE 230 Vac / 50 Hz Line 2: CURRENT 3A (SIS)

Line 2: SHORT CIRCUIT CURRENT RATING: 10kA

Line 3: VOLTAGE 230 Vac / 50 Hz Line 3: CURRENT 2,6A (SIS)

Line 3: SHORT CIRCUIT CURRENT RATING: 10kA

PANEL PROTECTION DEGREE IP43

PANEL OPERATING TEMPERATURE RANGE: 5-45°C

DRAWING SCALE 1:1
ALL QUOTES SHOWN ARE IN MILLIMETERS

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
CERTIFICATION LABEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 30A

REV. 3

FGS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	12	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	1	DETAILS ON SHEET 027 TYPICAL 02
03	AIR INLET FILTER -	AUGER STANDAR	NA001_03	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
04	FRONT-MOUNTED AIR EXTRACTOR FAN (SUPPLIED WITH AIR FILTER) -	AUGER STANDARD	NA001_04	3	EV1_F - EV2_F - EV3_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
05	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_05	3	DETAILS ON SHEET 028 TYPICAL 03
06	POWER SUPPLY FEEDER MODULE INPUT 230Vac (AUTO-RANGING) - OUTPUT 24Vdc-20a	WEIDMULLER PRO ECO 480W 24V 20A WDM.1469510000	NA001_06	2	G1_F ÷ G2_F (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
07	DECOUPLING & PROTECTIVE DIODE FOR REDUNDANCY - 24Vdc -	WEIDMULLER PRO DM 20 WDM.2486080000	NA001_07	2	VD1_F - VD2_F (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
08	THERMOSTAT FOR FAN ON/OFF CIRCUIT -	MANUFACTURER STANDARD	NA001_08	1	TH_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	THERMOSTAT FOR HIGH TEMPERATURE ALARM -	MANUFACTURER STANDARD	NA001_09	1	THH_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	PRE-ASSEMBLED RELAY BOARD FOR FAN FAULT CIRCUIT -	PREI	NA001_10	2	FRB1_F - FRB2_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
11	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_11	9	TB-PS1_F ÷ TB-PS3_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
12	TRASFORMER 240Vac / 24Vac - 50Hz -	ABB TM10 EA2616	NA001_12	1	T1_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
13	FUSE HOLDER - 10A - 24Vdc -	EATON Z-SH	NA001_13	2	F1 - F2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
14	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK2P100A7	NA001_14	1	CB_SER_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.11.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 031

REV. 4

FGS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
15	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_15	1	Q1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
16	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 115Vac / 240Vac WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_16	22	Q2 ÷ Q21 - Q24 - Q25 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
17	DISTRIBUTION TERMINALS - SCREW TYPE - SECTION 2.5mm² FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 PXC.3044076	NA001_17	131	TB-H1-F TB-H2-F TB-H3-F TB-EV1 TB-EV2 TB-EV3 TB-Q5 - X24L-_F SEE PAGES 15-16 (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
18	TERMINALS - SPRING TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4 HESI PXC.3214366	NA001_18	187	TB-FU_F - X24L+_F SEE PAGES 15-16 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
19	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_19	1	SK1_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
20	SCREW TYPE TERMINALS - SECTION 4 KNIFE DISCONNECT TYPE - GREY COLOUR	PHOENIX CONTACT UDMTK 5 PXC.3048467	NA001_20	231	SEE PAGES 15-16 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
21	Safety Relay 24 Vdc, 5A -	P+F P+F - KFD0-RSH-1.4S.PS2	NA001_21	43	KA1÷KA20 (INTERNAL LABEL) R1÷R12 R101÷R111 EXTERNAL LABEL NOT REQUIRED
22	Analog Input Module -	YOKOGAWA SAI143-H63	NA001_22	20	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
23	ESB Bus Coupler Module -	YOKOGAWA SEC401-51	NA001_23	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
24	Processor Module -	YOKOGAWA S2CP471-01	NA001_24	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
25	220-240V AC Input Power Supply Module -	YOKOGAWA SPW482-53	NA001_25	12	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
26	Duplex Safety Control Unit -	YOKOGAWA S2SC70D-FA12010	NA001_26	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
27	Safety Node Unit -	YOKOGAWA SNB10D-425/CU2N	NA001_27	4	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
28	Digital Input Module -	YOKOGAWA SDV144-S63	NA001_28	12	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 032

REV. 3

FGS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
29	Digital Output Module -	YOKOGAWA SDV541-S63	NA001_29	12	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
30	Safety Node Unit -	YOKOGAWA SNB10D-425/CU2T	NA001_30	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
31	TB for Digital DIN mount type -	YOKOGAWA SBD4D-06	NA001_31	12	TB-05-03 ÷ TB-06-03 - TB-02-05 ÷ TB-06-05 TB-02-07 ÷ TB-06-07 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
32	ISOLATED BARRIERS AND TERMINATION BOARDS FOR YOKOGAWA PROSAFE -RS -16 AI -	P+F HiCTB16-YRS-RRB-KS-CC-AI16	NA001_32	3	TB-01-01 - TB-01-03 - TB-01-05 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
33	TB for Analog DIN mount type -	YOKOGAWA SBA4D-06	NA001_33	7	TB-02-01 ÷ TB-05-01 - TB-02-03 ÷ TB-04-03 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
34	SCREW TYPE TERMINALS - SECTION 4 2.5mm² KNIFE DISCONNECT TYPE - BLUE COLOUR	PHOENIX CONTACT UDMTK 5-P/P BU PXC.3101113	NA001_34	60	SEE PAGE 16 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
35	IS BARRIER (ANALOG SIGNALS) -	PEPPERL+FUCHS HiC2025	NA001_35	30	BR01÷BR30 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
36	ESB BUS COUPLER SLAVE MODULE -	YOKOGAWA SSB401-53	NA001_36	10	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
37	FAN MODULE -	YOKOGAWA AIP-602	NA001_37	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
38	LINE IN SWITCH DISCONNECTOR - 32A - 230Vac -	LOVATO GA032A	NA001_38	2	MS1_F - MS2_F (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
39	DRAWING POCKET - GREY COLOUR -	MANUFACTURER STANDARD	NA001_39	1	MECHANICAL PART EXTERNAL LABEL NOT REQUIRED
40	INTERNAL LIGHT -	MANUFACTURER STANDARD	NA001_40	3	L1 ÷ L3 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
41	INTERNAL LIGHT SWITCH -	MANUFACTURER STANDARD	NA001_41	3	S1 ÷ S3 (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
42	SELECTOR WITH KEY -	MANUFACTURER STANDARD	NA001_42	1	AT-01_F (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 033

REV. 3

FGS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
43	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 24Vdc WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_43	2	Q22 ÷ Q23 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
44	2 POLES COMMON BOX 15 CONNECTION EACH POLE	CABUR QB40KP125A15		3	CB_UPS1_F, CB_UPS2_F, CB_24Vdc-F EXTERNAL LABEL NOT REQUIRED
45	PREI CE LABEL			1	
46	SCREW TYPE TERMINALS - SECTION 2.5mm² KNIFE DISCONNECT TYPE - GREY COLOUR	PHOENIX CONTACT		20	SEE PAGE 15
47	SCREW TYPE TERMINALS - SECTION 2.5mm² FEEO THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 - QUATTRO		81	CB_COM_AI
48					
49					
50					
51					
52					
53					
54					
55					
56					

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
FGS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00010

SHEET 33A

REV. 3

SIS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	1	DETAILS ON SHEET 027 TYPICAL 02
03	AIR INLET FILTER -	AUGER STANDAR	NA001_03	1	MECHANICAL PART NAMEPLATE NOT REQUIRED
04	FRONT-MOUNTED AIR EXTRACTOR FAN (SUPPLIED WITH AIR FILTER) -	AUGER STANDARD	NA001_04	1	EV1_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
05	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_05	1	DETAILS ON SHEET 028 TYPICAL 03
06	POWER SUPPLY FEEDER MODULE INPUT 230Vac (AUTO-RANGING) - OUTPUT 24Vdc-20a	WEIDMULLER PRO ECO 480W 24V 20A WDM.1469510000	NA001_06	2	G1_S ÷ G2_S (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
07	DECOUPLING & PROTECTIVE DIODE FOR REDUNDANCY - 24Vdc -	WEIDMULLER PRO DM 20 WDM.2486080000	NA001_07	2	VD1_S - VD2_S (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
08	THERMOSTAT FOR FAN ON/OFF CIRCUIT -	MANUFACTURER STANDARD	NA001_08	1	TH_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	THERMOSTAT FOR HIGH TEMPERATURE ALARM -	MANUFACTURER STANDARD	NA001_09	1	THH_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	PRE-ASSEMBLED RELAY BOARD FOR FAN FAULT CIRCUIT -	PREI	NA001_10	1	FRB (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
11	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_11	9	TB-PS1_S ÷ TB-PS3_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
12	TRASFORMER 240Vac / 24Vac - 50Hz -	ABB TM10 EA2616	NA001_12	1	T1_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
13	- -	-	-	-	- -
14	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK2P100A7	NA001_14	4	CB_UPS1_S - CB_UPS2_S - CB_SER_S - CB_24Vdc_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 034

REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SIS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
15	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_15	1	Q50 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
16	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 115Vac / 240Vac WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_16	16	Q51 ÷ Q64 - Q67 - Q68 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
17	DISTRIBUTION TERMINALS - SCREW TYPE - SECTION 2.5mm² FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 PXC.3044076	NA001_17	72	TB-LAMP, TB-EV1, TS-01-05, TS-02-05, TS-02-07, TS-03-05 TB-Q54 - X24L-_S (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
18	TERMINALS - SPRING TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4 HESI PXC.3214366	NA001_18	43	TS-01-05, TS-02-07, TS-02-05, TS-03-05 TB-FU_S - X24L+_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
19	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_19	1	SK1_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
20	SCREW TYPE TERMINALS - SECTION 4 KNIFE DISCONNECT TYPE - GREY COLOUR	PHOENIX CONTACT UDMTK 5 PXC.3048467	NA001_20	138	SEE PAGES 25 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
21	Safety Relay 24 Vdc, 5A -	P+F P+F - KFD0-RSH-1.4S.PS2	NA001_21	2	KA1÷KA2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
22	TB for Digital DIN mount type -	YOKOGAWA SBD4D-06	NA001_22	9	TB-02-01 ÷ TB-03-01 - TB-01-03 ÷ TB-02-03 - TB-01-05 ÷ TB-03-05 TB-02-07 ÷ TB-03-07 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
23	TB for Analog DIN mount type -	YOKOGAWA SBA4D-06	NA001_23	1	TB-01-01 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
24	Duplex Safety Control Unit -	YOKOGAWA S2SC70D-FA12010	NA001_24	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
25	Analog Input Module -	YOKOGAWA SAI143-H63	NA001_25	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
26	Digital Input Module -	YOKOGAWA SDV144-S63	NA001_26	10	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
27	Digital Output Module -	YOKOGAWA SDV541-S63	NA001_27	8	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
28	ESB Bus Coupler Module -	YOKOGAWA SEC401-51	NA001_28	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	01.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	14.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	02.09.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)
0	29.05.2024	A.G.	A.B.	S.C.	Issue for Review (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00010 | SHEET 035 | REV. 3

SIS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
29	Processor Module -	YOKOGAWA S2CP471-01	NA001_29	2	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
30	220-240V AC Input Power Supply Module -	YOKOGAWA SPW482-53	NA001_30	6	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
31	Safety Node Unit -	YOKOGAWA SNB10D-425/CU2N	NA001_31	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
32	Safety Node Unit -	YOKOGAWA SNB10D-425/CU2T	NA001_32	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
33	ESB BUS COUPLER SLAVE MODULE	YOKOGAWA SB401-53	NA001_33	4	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
34	FAN MODULE	YOKOGAWA AIP-602	NA001_34	1	T.B.D. (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
35	DRAWING POCKET - GREY COLOUR	MANUFACTURER STANDARD	NA001_35	1	MECHANICAL PART EXTERNAL LABEL NOT REQUIRED
36	INTERNAL LIGHT	MANUFACTURER STANDARD	NA001_36	1	L1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
37	INTERNAL LIGHT SWITCH	MANUFACTURER STANDARD	NA001_37	1	S1 (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
38	LINE IN SWITCH DISCONNECTOR - 32A - 230Vac	LOVATO GA032A	NA001_38	2	MS1 - MS2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
39	SELECTOR WITH KEY	MANUFACTURER STANDARD	NA001_39	1	AT-01_S (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
40	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 24Vdc WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_40	2	Q65 ÷ Q66 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
41	PREI CEI LABEL -	- -	-	1	- -
42	- -	- -	-	-	- -

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-SIS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
SAFETY SYSTEMS CABINET (SIS & FGS) GEN. ARR. DRW AND INT. LAYOUT
SIS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00010

SHEET 036

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-9.3 NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1724000594-IN-DA-00011

BASE LOAD POWER HUB (BLPH) NET. AND SERV. CABINET IN ITER GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	27/10/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)

COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 001

REV. 4

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) INDEX
003	X	X	X		X					BASE LOAD POWER HUB (BLPH) DATA SHEET
004	X		X		X					BASE LOAD POWER HUB (BLPH) INTERNAL WIRING INFORMATION
005		X	X		X					BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006		X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER & NETWORK - EXTERNAL FRONT VIEW
007		X	X		X					BASE LOAD POWER HUB (BLPH) SERVER & NETWORK - EXTERNAL REAR VIEW
008		X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER & NETWORK - LEFT SIDE AND RIGHT SIDE VIEW
009		X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER & NETWORK - EXTERNAL & INTERNAL TOP VIEW
010		X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER & NETWORK - LIFTING DETAILS
011	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW
012	X		X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
013	X		X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL
014	X	X	X		X					BASE LOAD POWER HUB (BLPH) SERVER - EXTERNAL REAR VIEW
015	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - BASEPLATE DETAILS
016	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - EXTERNAL & INTERNAL TOP VIEW
017	X		X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - EXTERNAL TOP VIEW DOOR OPEN
018	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER - FRONT SIDE INTERNAL VIEWS
019	X		X		X					BASE LOAD POWER HUB (BLPH) SERVER - SPARE PAGE
020	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X	X	X		X					BASE LOAD POWER HUB (BLPH) NETWORK - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
022	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL
023	X	X	X		X					BASE LOAD POWER HUB (BLPH) NETWORK - EXTERNAL REAR VIEW
024	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - BASEPLATE DETAILS
025	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - EXTERNAL & INTERNAL TOP VIEW
026	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - FRONT DOOR CUT-OUT DETAILS
027	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - FRONT SIDE INTERNAL VIEWS
028	X		X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK - FRONT SIDE INTERNAL VIEWS
029	X		X		X					BASE LOAD POWER HUB (BLPH) NETWORK - SPARE PAGE
030	X		X		X					BASE LOAD POWER HUB (BLPH) BH AND MANUFACTURER LABEL DETAILS
031	X		X		X					BASE LOAD POWER HUB (BLPH) SERVER AND NETWORK SECTION IDENTIFIER NAMEPLATE DETAILS
032	X		X		X					BASE LOAD POWER HUB (BLPH) SPARE PAGE
033	X		X		X					BASE LOAD POWER HUB (BLPH) CERTIFICATION LABEL
034	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) SERVER MAIN COMPONENT LIST
035	X		X	X	X					BASE LOAD POWER HUB (BLPH) SERVER MAIN COMPONENT LIST
036	X	X	X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK MAIN COMPONENT LIST
037	X		X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK MAIN COMPONENT LIST
038	X		X	X	X					BASE LOAD POWER HUB (BLPH) NETWORK MAIN COMPONENT LIST

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 002

REV. 4

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP	■ MIRROR OF JUNCTION BOX	☐ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

B - MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 1000mm x 2100mm (L x D x H) 800 mm x 800 mm x 2100 mm (L x D x H)	(NOTE B1)		
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55		
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm		
B4	CABLE ENTRY	■ TOP	☐ BOTTOM		
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS	■ MCTs	(NOTE B2)
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR		
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE		
B8	BASE PLINTH	■ SEPARATE PIECES			
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP			
B10	APPROXIMATIVE WEIGHT	400 Kg for each panel			

NOTE B1 : ALLOWED TOLERANCE FOR PANEL HEIGHT/DEPTH: +/-5mm;
ALLOWED TOLERANCE FOR PANEL STRUCTURES AND SUPPORTS: +/-2mm;
ALLOWED TOLERANCE FOR TOTAL PANEL LENGTH : +/-2% OF TOTAL PANEL LENGTH;
(IN ANY CASE, MAXIMUM LENGTH TOLERANCE ALLOWED FOR PANEL WITH 2 OR MORE COLUMNS IS +/-50mm)

NOTE B2 : MCTs ON TOP OF THE PANEL
REMOVABLE BOTTOM PLATE, FOR PANEL FIXING ON CUSTOMER COUNTER FRAME, SHALL BE PROVIDED

C - PAINTING

C1	REFERENCE SPECIFICATIONS	■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD	
C2	EXTERIOR TYPE	☐ SMOOTH	■ PEEL TYPE		
	EXTERIOR COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030	
C3	BASE PLINTH	■ AS EXTERIOR			
C4	INTERIOR	■ GALVANISED (ALUZINC)			
C5	INTERNAL MOUNTING PLATES	■ GALVANISED (ALUZINC)			

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	1kW	1kW	0,6kW
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION	■ LED (230Vac - 50Hz)		
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT	■ YES		
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT	■ YES		
D7	SERVICE SOCKET	■ YES		

E - NAMEPLATES

.	.	EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM DATA SHEET

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 003

REV. 4

A - PANEL CONTROL CABLES

CABLE FUNCTION	CONDUCTOR SIZE	CONDUCTOR COLORS	OUTER SHEATH COLOR NON Intrinsically Safe Circuit	OUTER SHEATH COLOR Intrinsically Safe Circuit
BIPOLAR ANALOG SIGNALS (NOTE A1)	(2x0.5) + Shield	BLACK (BK) - WHITE (WH)	GREY (GR)	BLUE (BL)
TRIPOLAR ANALOG SIGNALS (NOTE A1)	(3x0.5) + Shield	BLACK (BK) - WHITE (WH) RED (RD)	GREY (GR)	BLUE (BL)

NOTE A1 : FOR THE ABOVE MENTIONED ANALOG SIGNALS, PAIRS OR TRIADS SHIELDED SPIRAL CABLES SHALL BE USED,
WITH THE EXCEPTION OF THOSE "SINK" INPUTS OR OUTPUTS OF THE CONTROLLER WHERE AN EXTERNAL FEED IS NEEDED.
ONLY FOR THIS SPECIFIC CASE, SINGLE WIRE CABLE SHALL BE USED.

C-GROUNDING CONNECTIONS

EARTH TYPE	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR	ID RING COLOR
P.E. (PROTECTIVE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	YELLOW/GREEN (YG)	-
I.E. (INSTRUMENT EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	GREEN (GN)	-
I.S.E. (INTRINSICALLY SAFE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	WHITE (WH)	-

B -PANEL SINGLE-CORE CABLES

SINGLE-CORE CABLE FUNCTION	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR NON Intrinsically Safe Circuit	WIRE COLOR Intrinsically Safe Circuit
AC LINE	(1x2.5) - (1x4) - (1x6)	BROWN (BR)	N/A
AC NEUTRAL	(1x2.5) - (1x4) - (1x6)	LIGHT BLUE (LB)	N/A
DC 24Vdc (POSITIVE)	(1x2.5) - (1x4) - (1x6)	RED (RD)	N/A
DC 24Vdc (NEGATIVE)	(1x2.5) - (1x4) - (1x6)	BLUE (BU)	N/A
DIGITAL SIGNALS (POSITIVE)	(1x0.5)	BLACK (BK)	N/A
DIGITAL SIGNALS (NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (2 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (2 WIRE NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (3 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (3 WIRE NEGATIVE)	(1x0.5)	RED (RD)	N/A
ANALOG SIGNALS (3 WIRE SIGNAL)	(1x0.5)	WHITE (WH)	N/A

GENERAL NOTE :MINIMUM SECTION 1.5 mm² FOR CPU PANEL INTERNAL LAMPS, LIMIT SWITCHES, FANS, THERMOSTATS, ISOLATORS POWER SUPPLY

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM INTERNAL WIRING INFORMATION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

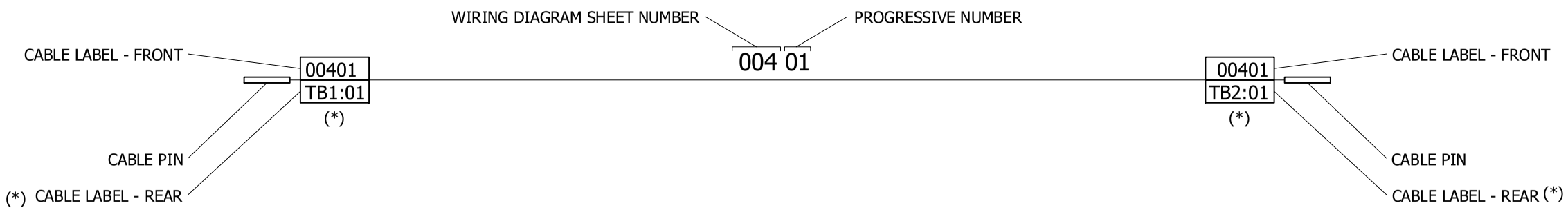
SHEET 004

REV. 4

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	
I.E. EARTH	
I.S.E. EARTH	

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH
I.S. (I.S.E.) - INTRINSICALLY SAFE EARTH

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 005

REV. 4

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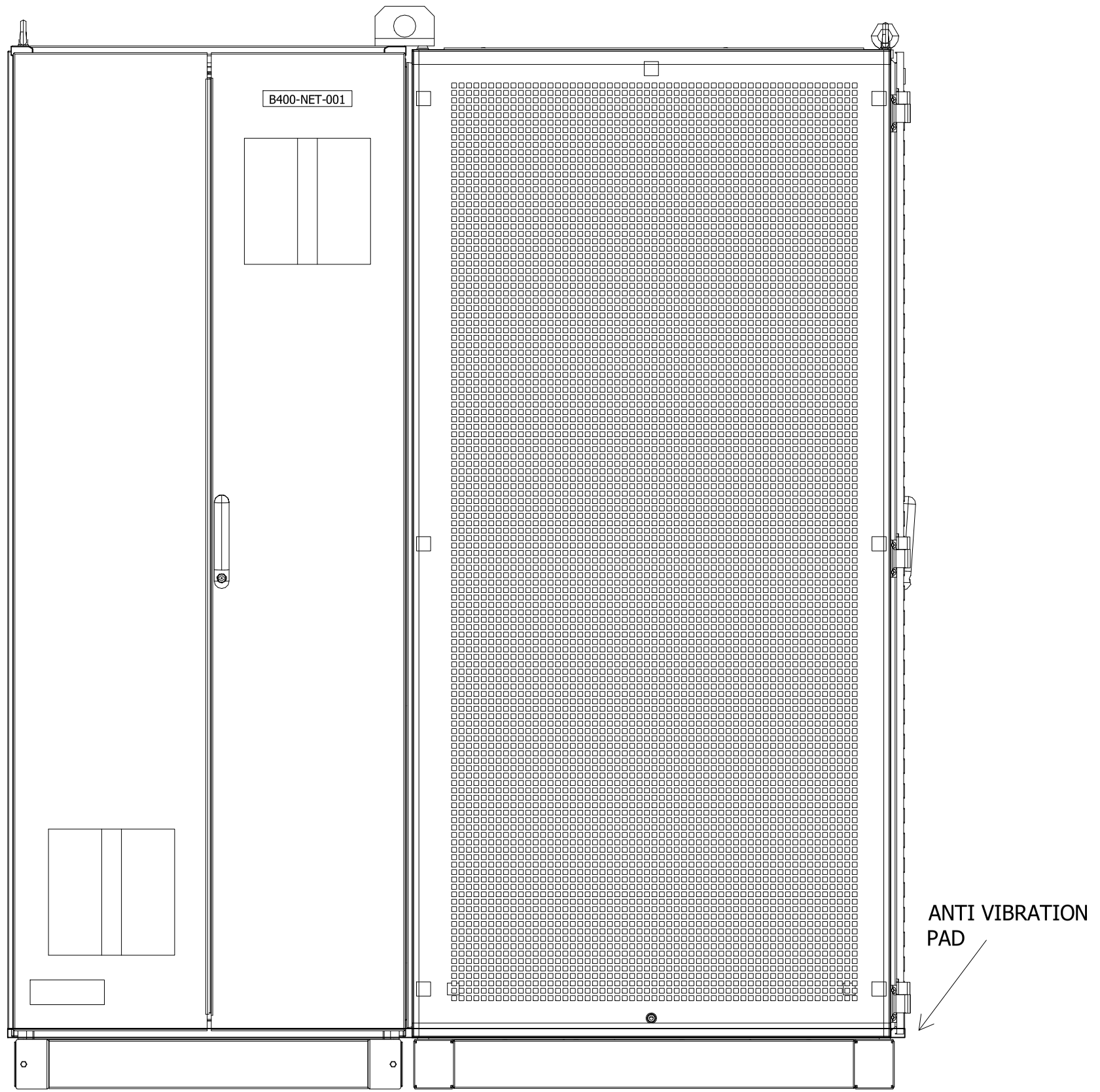
Document Nr. 1724000594-QC-DB-00033 - Rev.01
09 MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER & NETWORK - EXTERNAL FRONT VIEW



DRAWING SCALE 1:10

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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER & NETWORK - EXTERNAL FRONT VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

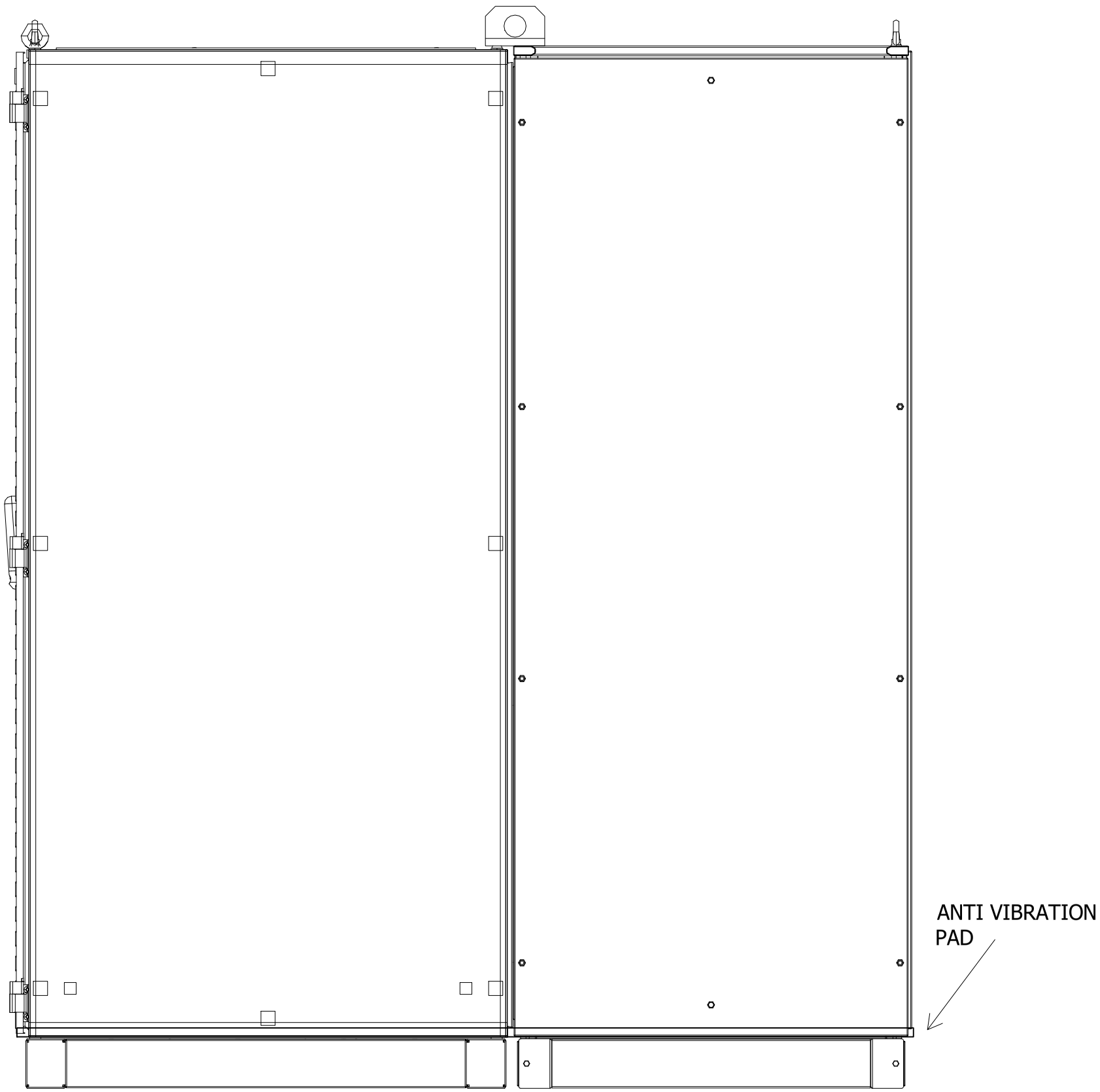
A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 006

REV. 4

SERVER & NETWORK - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER & NETWORK - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

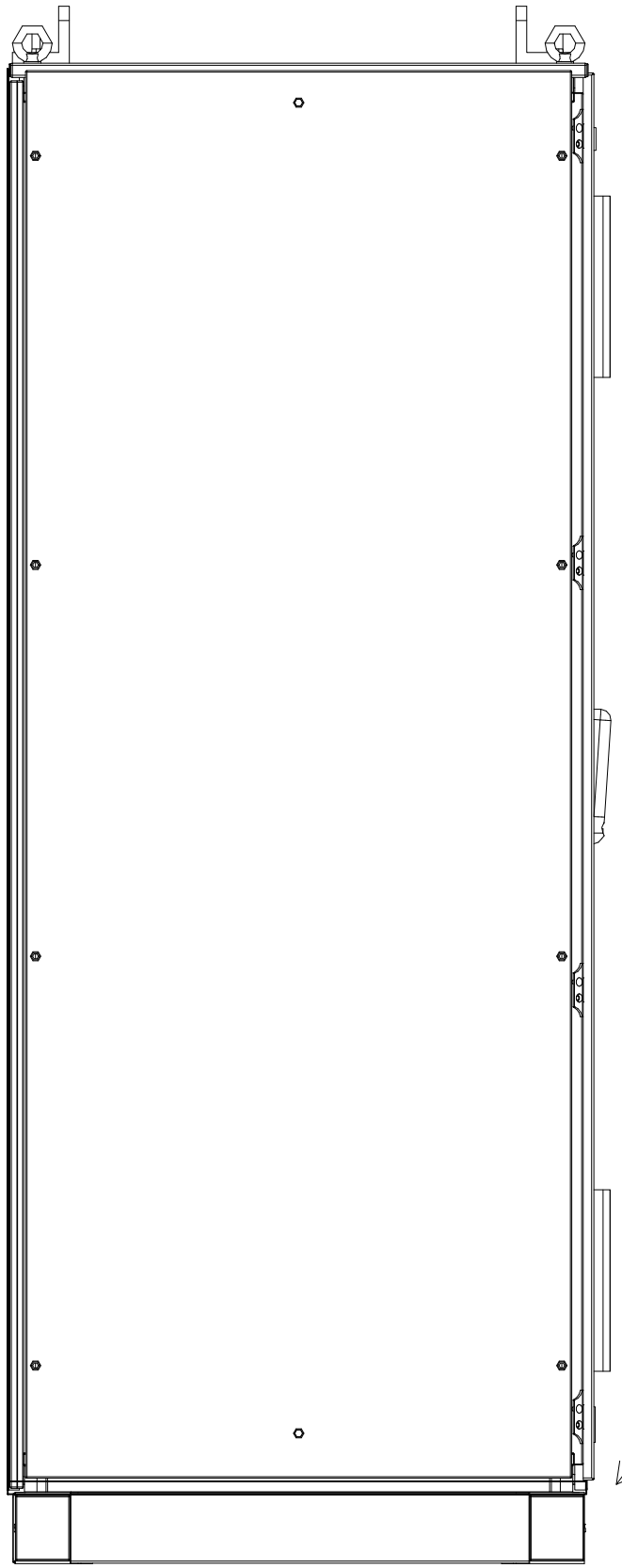
SHEET 007

REV. 4

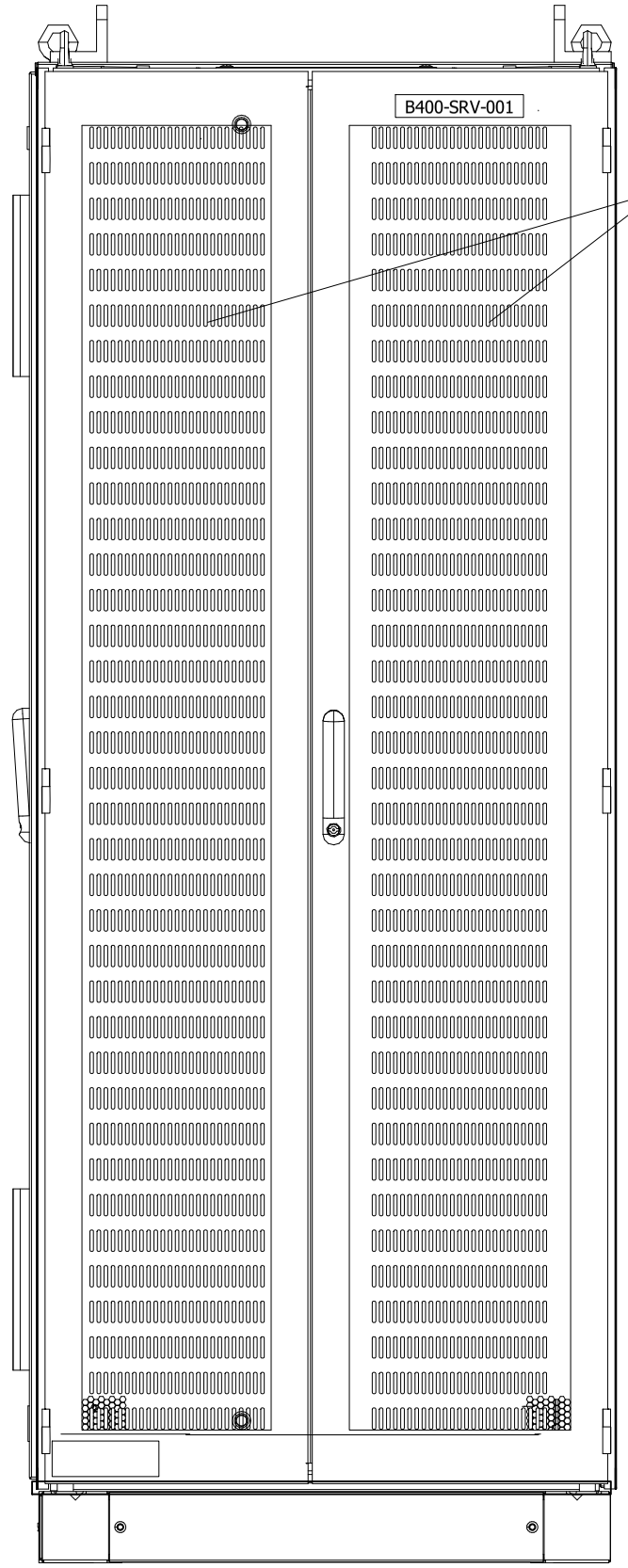
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER & NETWORK - LEFT SIDE AND RIGHT SIDE VIEW

LEFT SIDE



RIGHT SIDE



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER & NETWORK - LEFT SIDE AND RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 03.09.2025

A3

DRAWING NO. 1724000594-IN-DA-00011

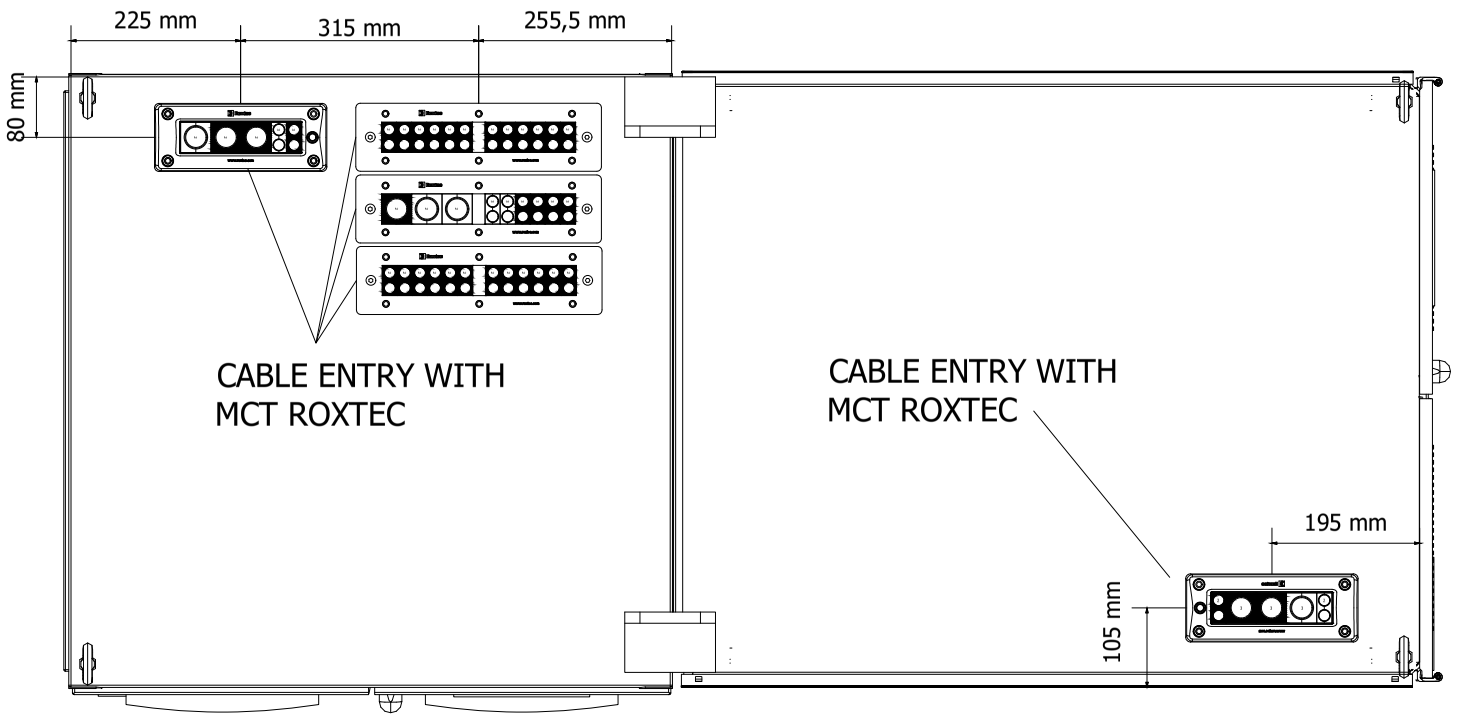
SHEET 008

REV. 4

SERVER & NETWORK - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW

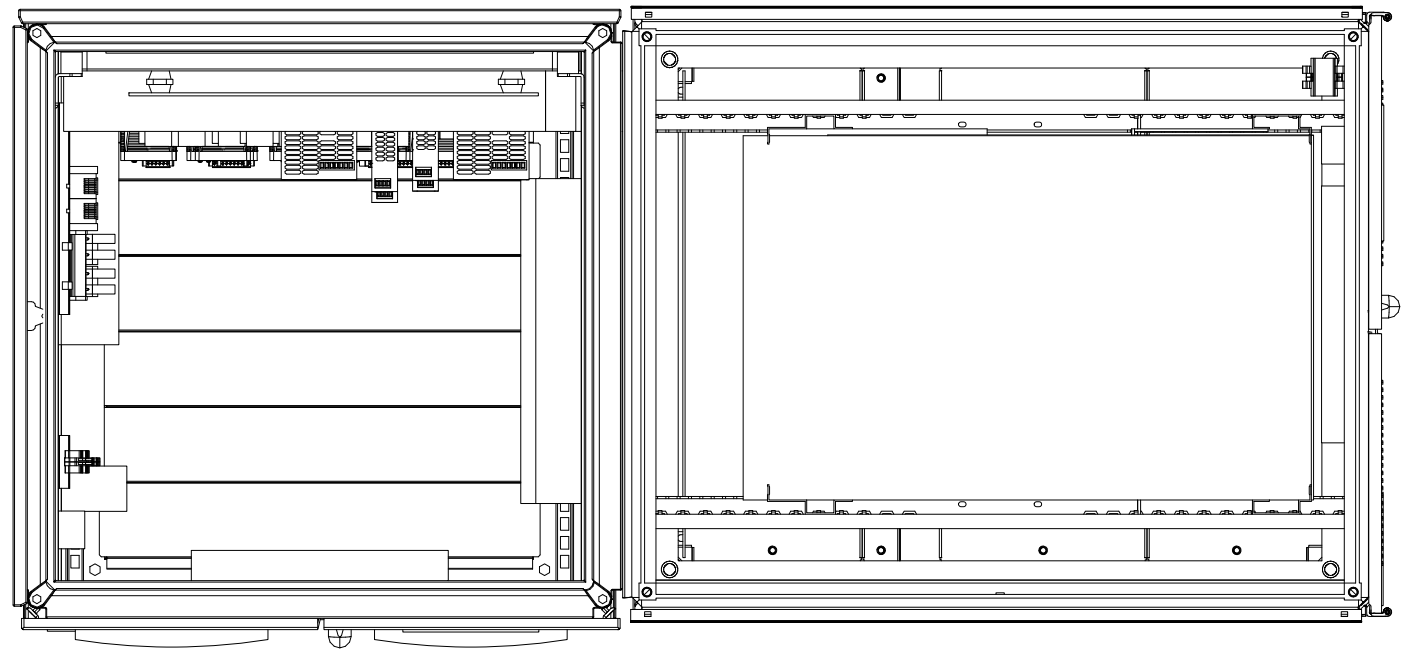
REAR



FRONT

INTERNAL TOP VIEW

REAR



FRONT

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER & NETWORK - EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

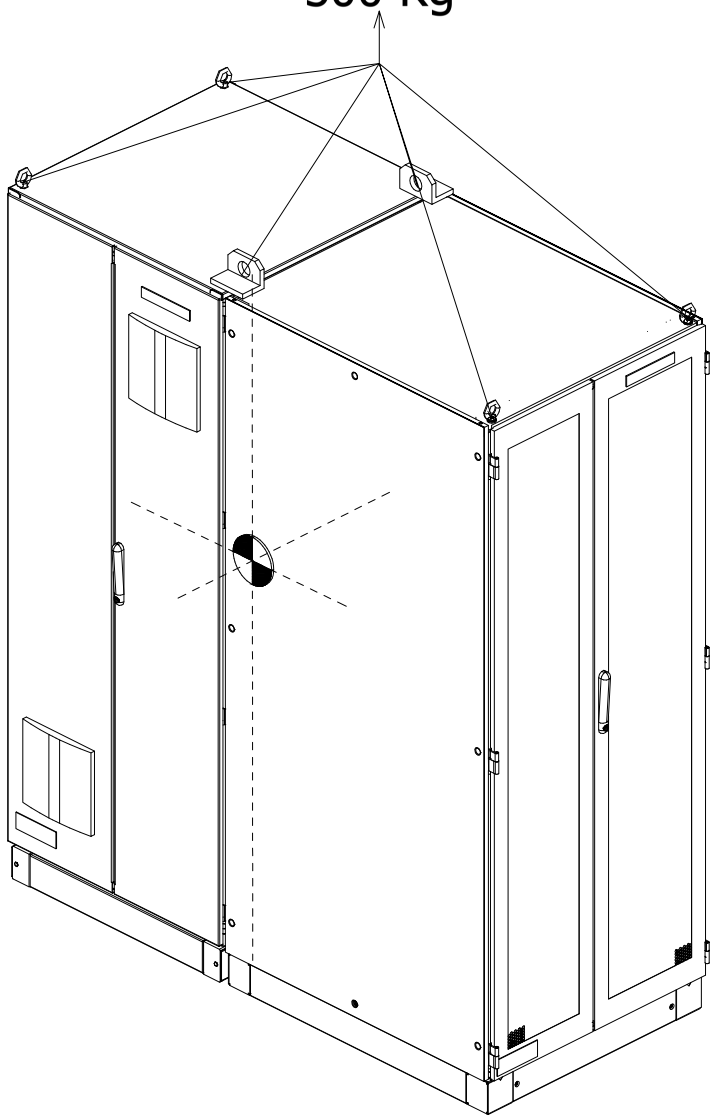
DRAWING NO. 1724000594-IN-DA-00011

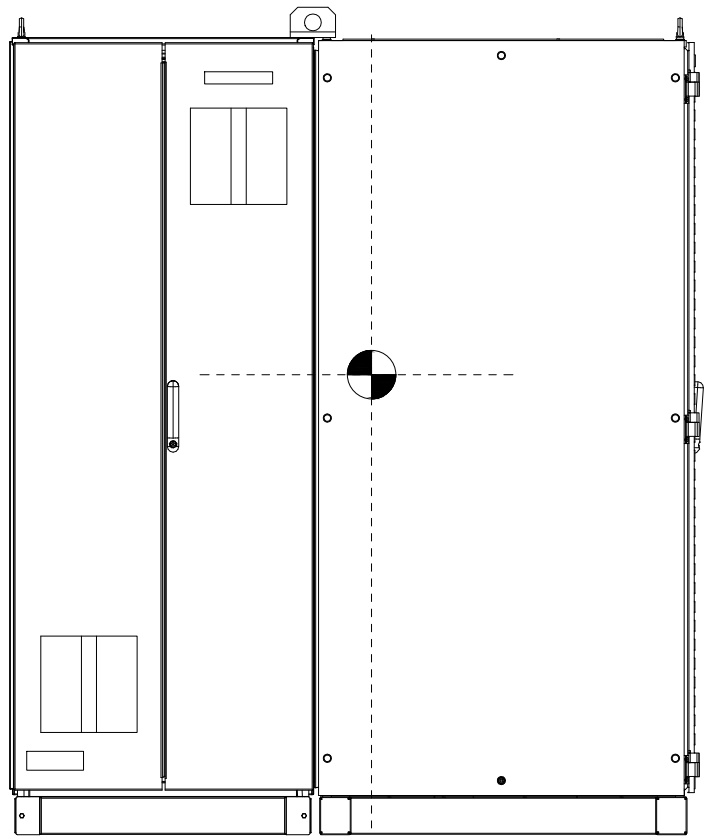
SHEET 009

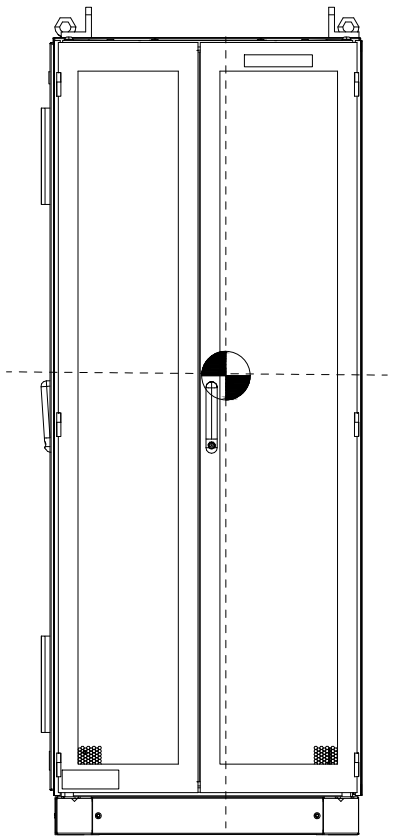
REV. 4

SERVER PANEL - LIFTING DETAILS

500 Kg







= CENTER OF GRAVITY

DRAWING SCALE 1:20
ALL QUOTES SHOWN ARE APPROXIMATE VALUE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER & NETWORK - LIFTING DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

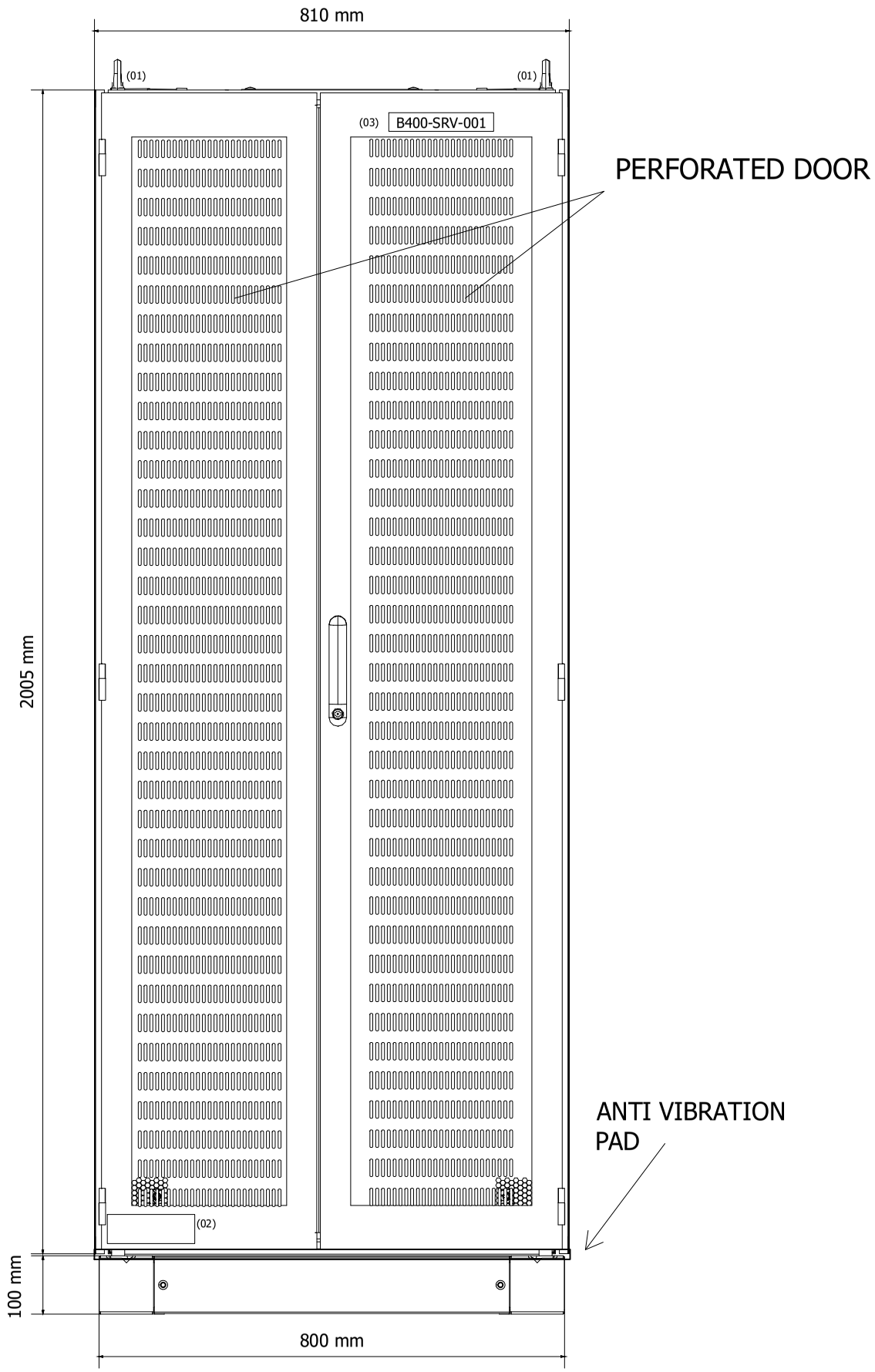
A3

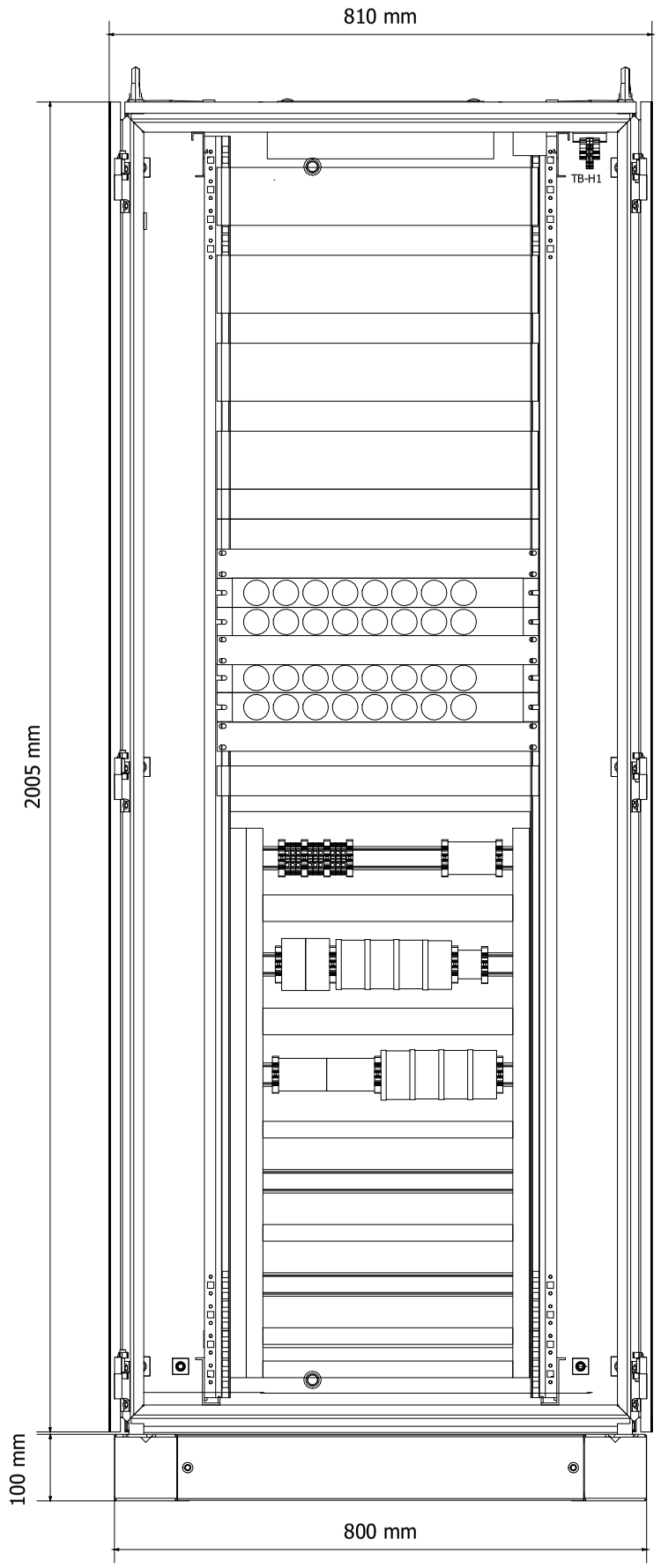
DRAWING NO. 1724000594-IN-DA-00011

SHEET 010

REV. 4

SERVER PANEL - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW





DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

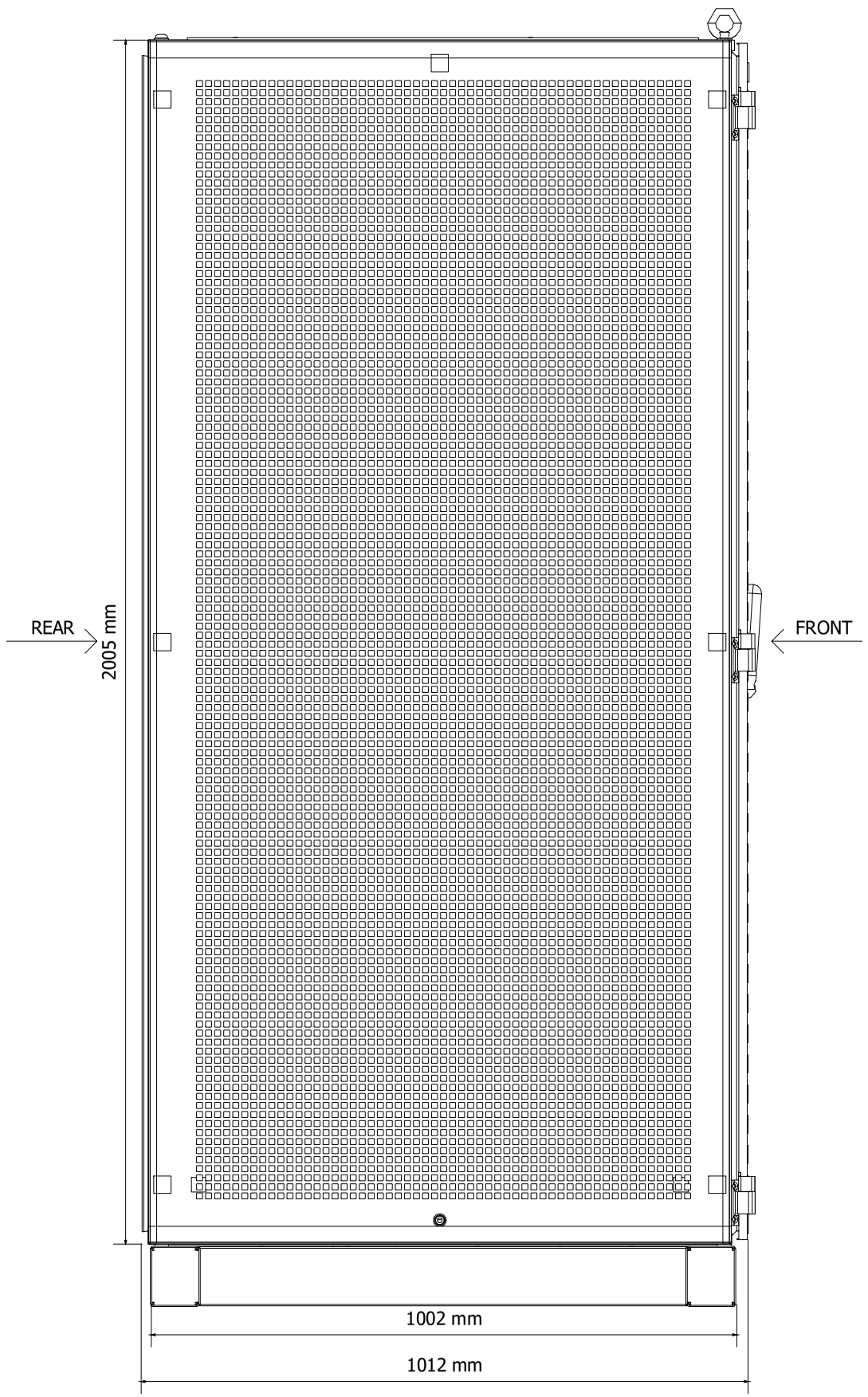
A3

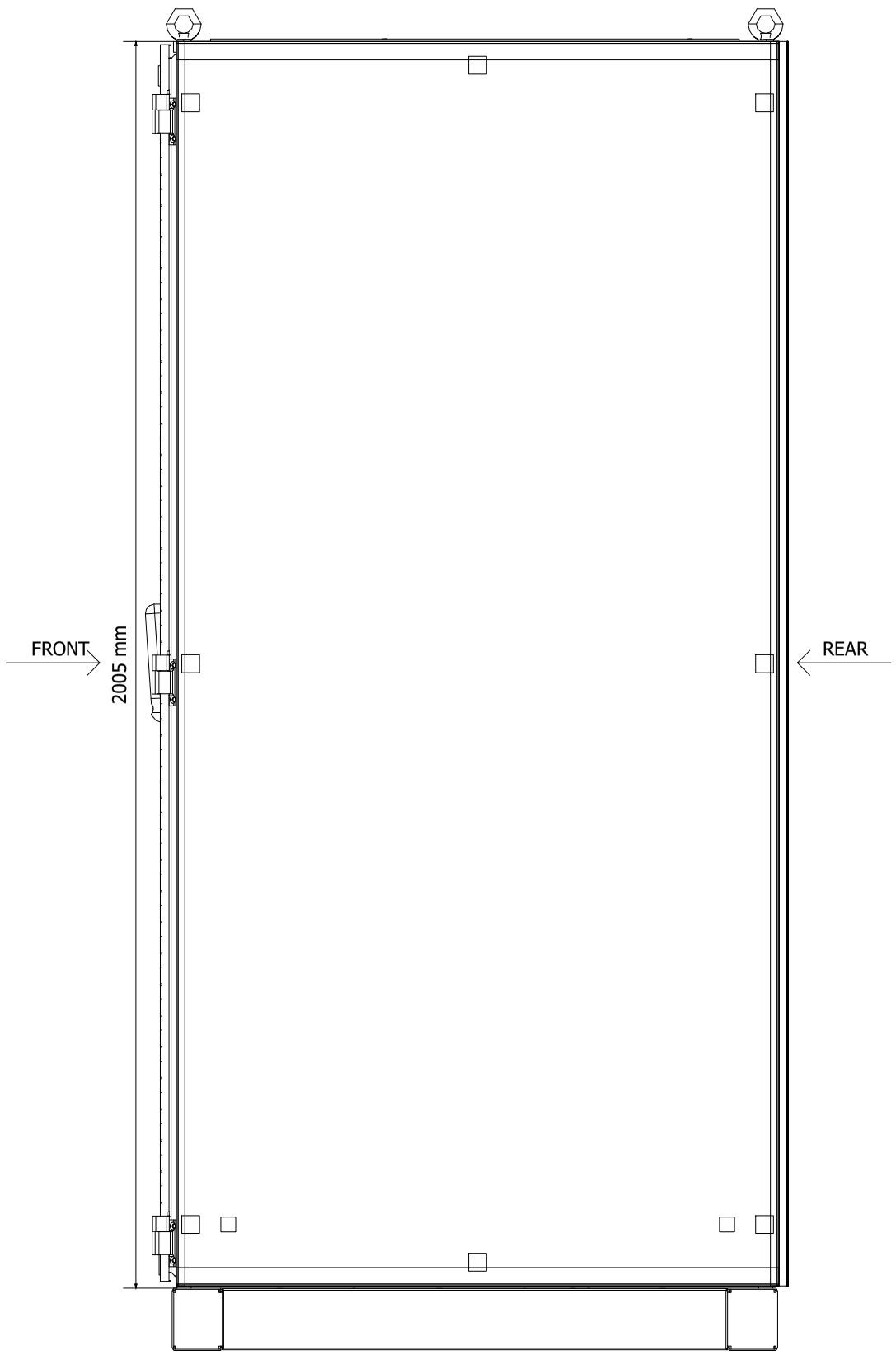
DRAWING NO. 1724000594-IN-DA-00011

SHEET 011

REV. 4

SERVER PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

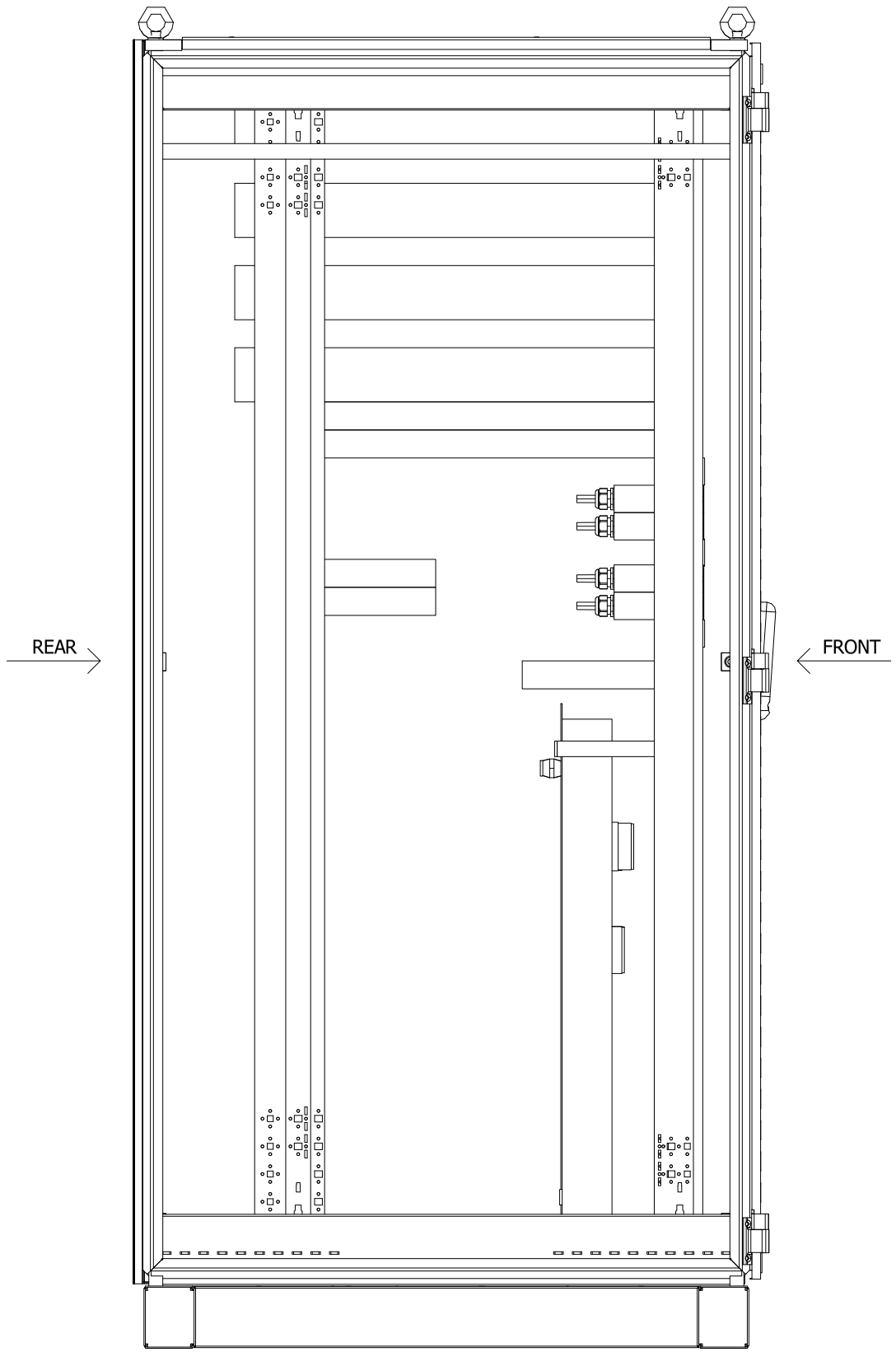
DRAWING NO. 1724000594-IN-DA-00011

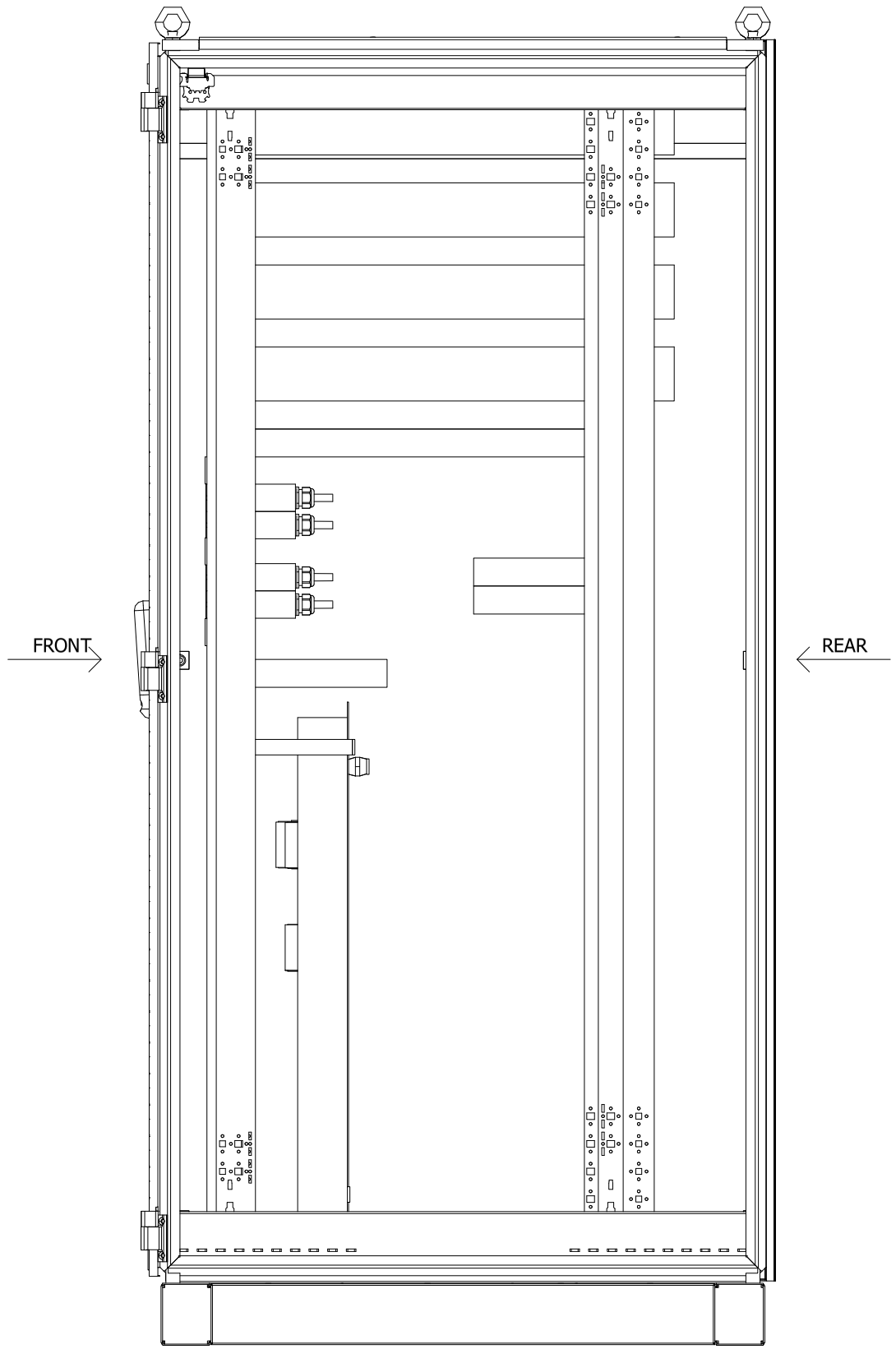
SHEET 012

REV. 4

Page 3515 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE WITHOUT PANEL





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

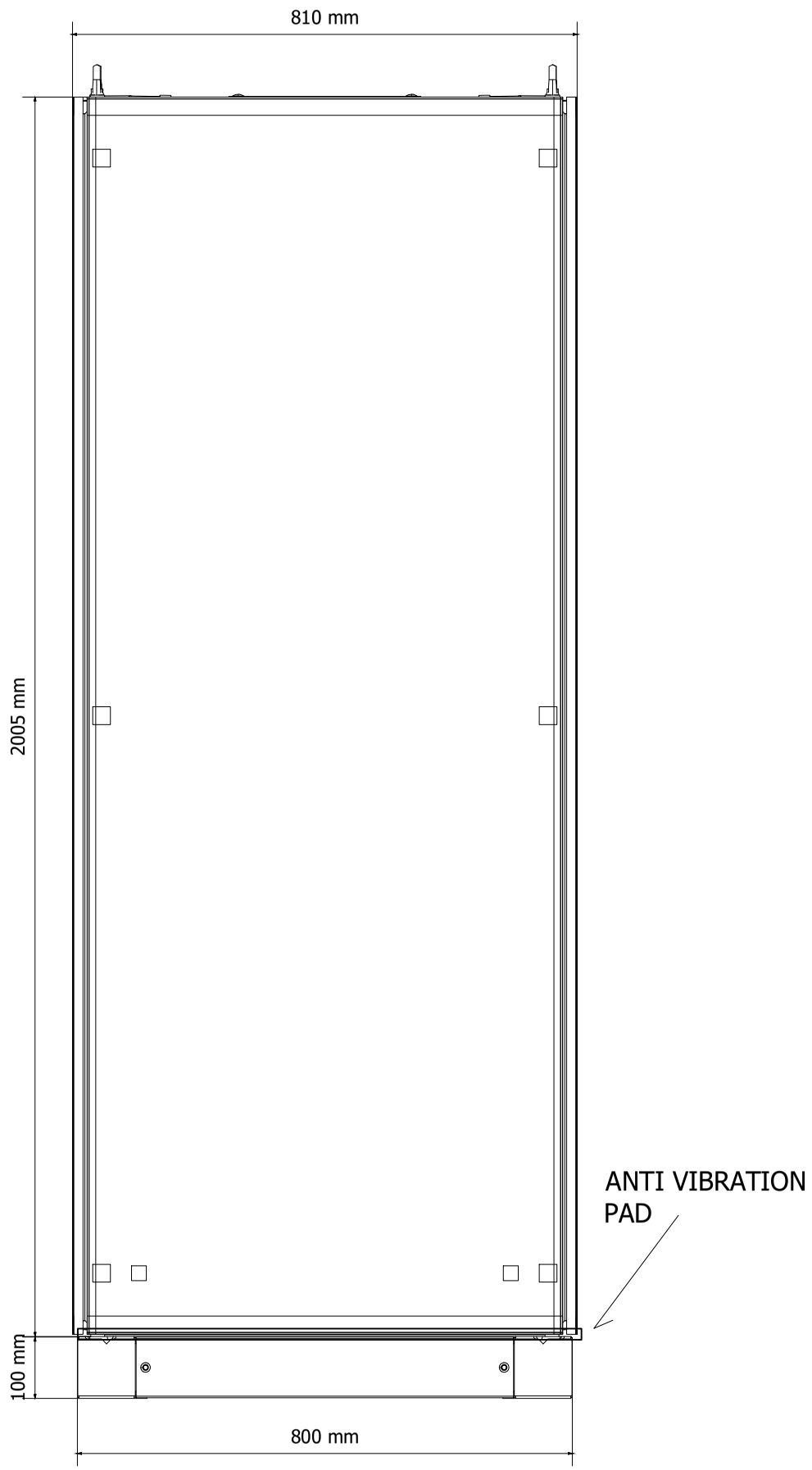
DRAWING NO. 1724000594-IN-DA-00011

SHEET 013

REV. 4

Page 3516 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
09 MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM SERVER - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

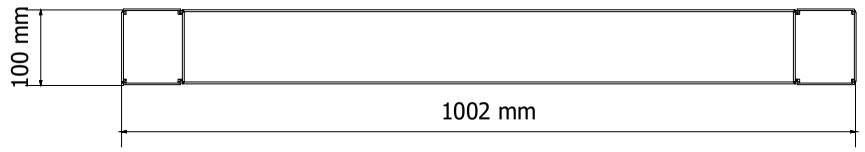
DRAWING NO. 1724000594-IN-DA-00011

SHEET 014

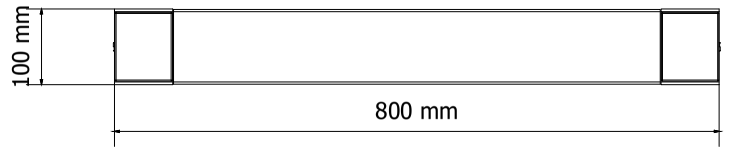
REV. 4

SERVER PANEL - BASEPLATE DETAILS

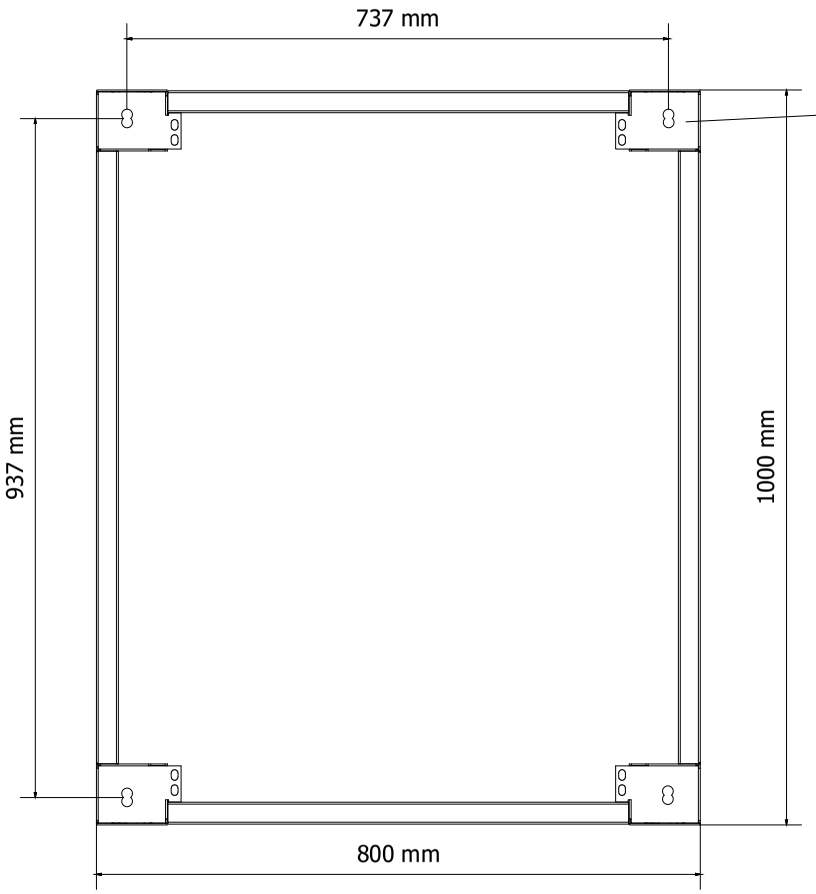
BASEPLATE SIDE VIEW



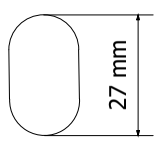
BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW
REAR SIDE



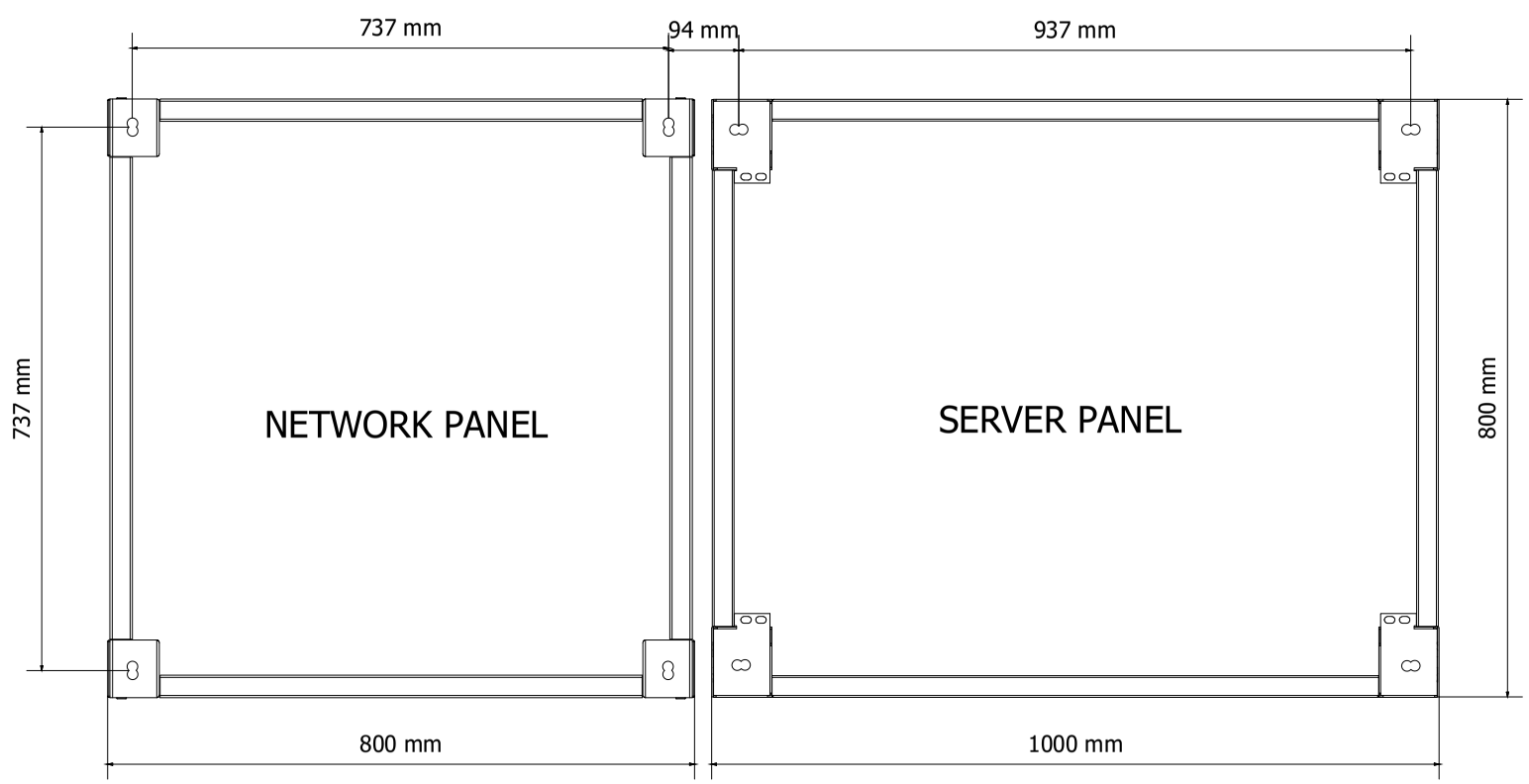
BASEPLATE TOP VIEW
REAR SIDE



DETAIL OF FIXING HOLE:

Ø 16mm

BASEPLATES OF TWO ASSEMBLED CABINETS



NOTE:
FOR NETWORK PANEL BASEPLATE DETAILS, SEE SHEET 024

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
SERVER - BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

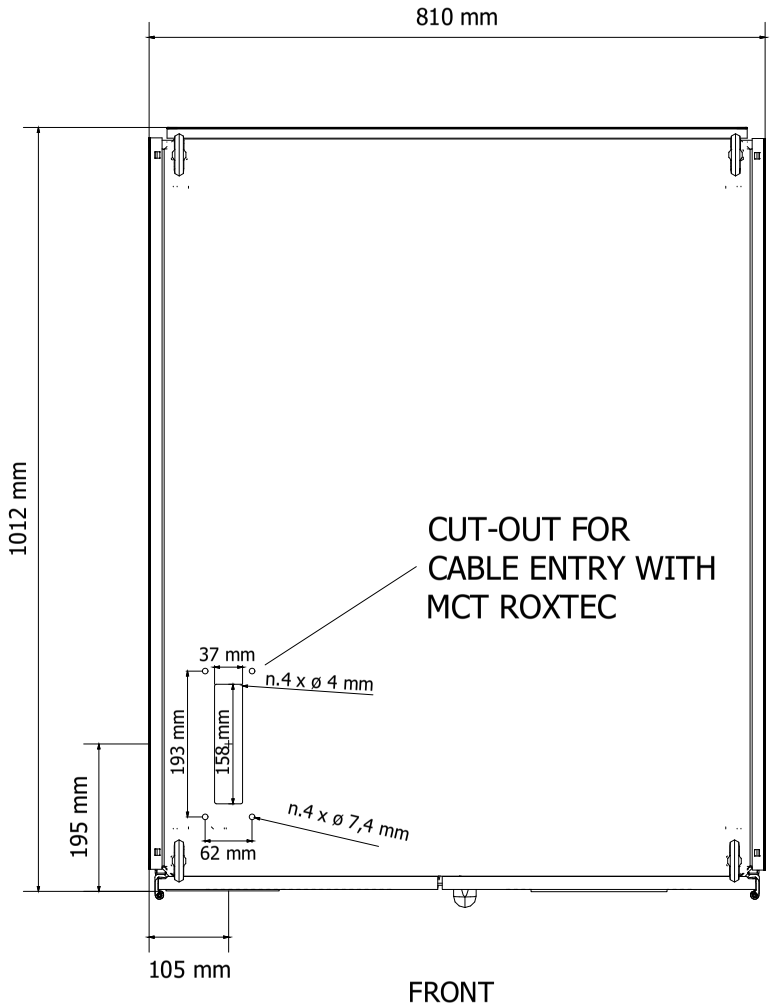
SHEET 015

REV. 4

SERVER PANEL - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW

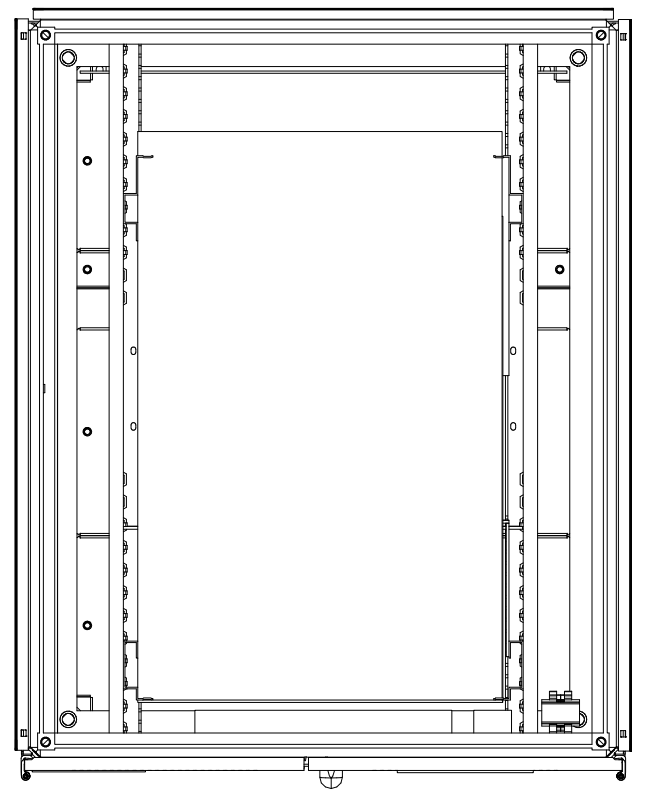
REAR



FRONT

INTERNAL TOP VIEW

REAR



FRONT

DRAWING SCALE 1:10

4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER - EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

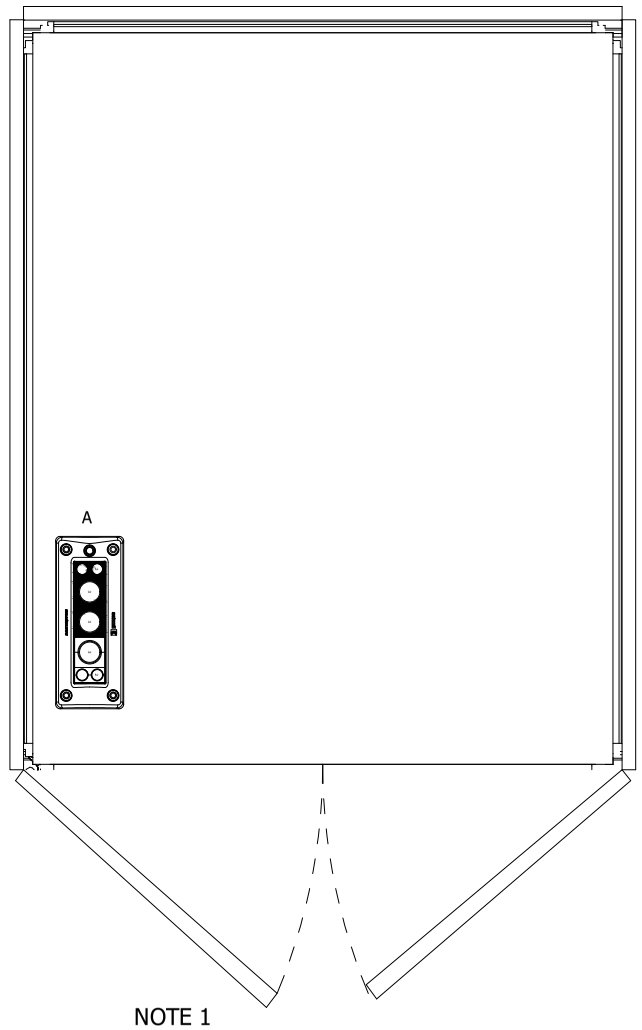
SHEET 016

REV. 4

SERVER PANEL - EXTERNAL TOP VIEW DOOR OPEN

EXTERNAL TOP VIEW
(DOOR OPEN)

REAR



FRONT

CABLE TAG	CABLE TYPE	OUTER CABLE DIAMETER (mm)	MCT SIZE	POSITION
84307-CEL	3G6	18.3	40x40	A
84308-CEL	3G6	18.3	40x40	A
83109-CEL	3G2.5	13	20x40	A

NOTES :

NOTE 1: DOORS LOCK AT 90°

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER - EXTERNAL TOP VIEW DOOR OPEN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

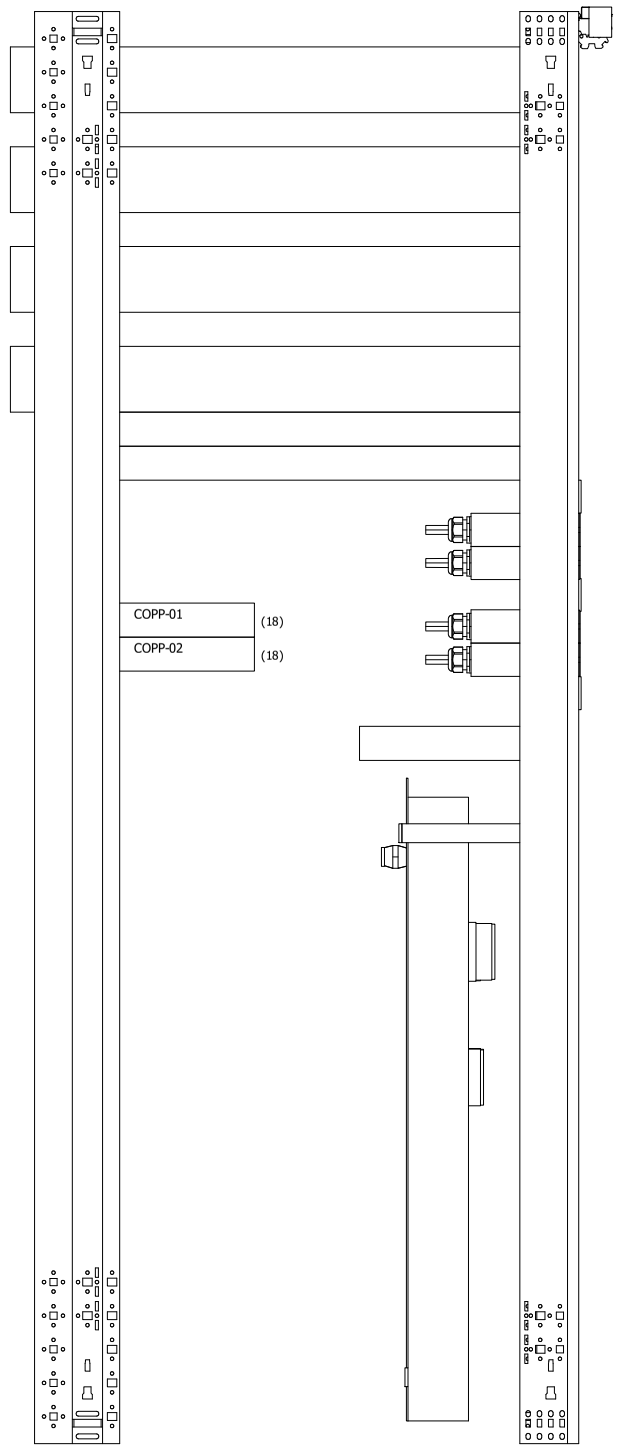
DRAWING NO. 1724000594-IN-DA-00011

SHEET 017

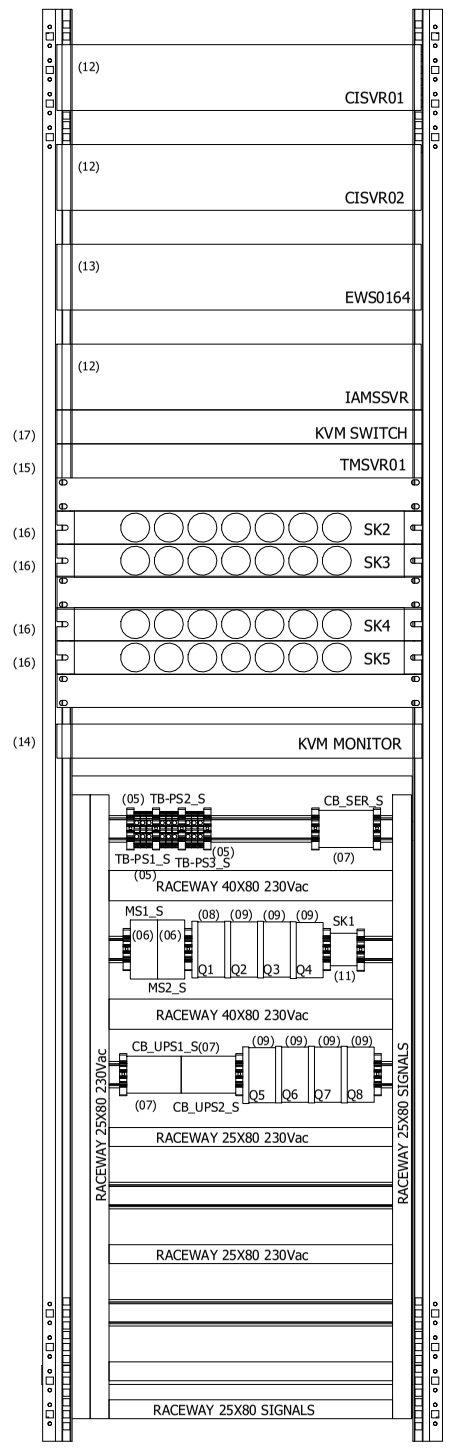
REV. 4

SERVER PANEL - FRONT SIDE INTERNAL VIEW

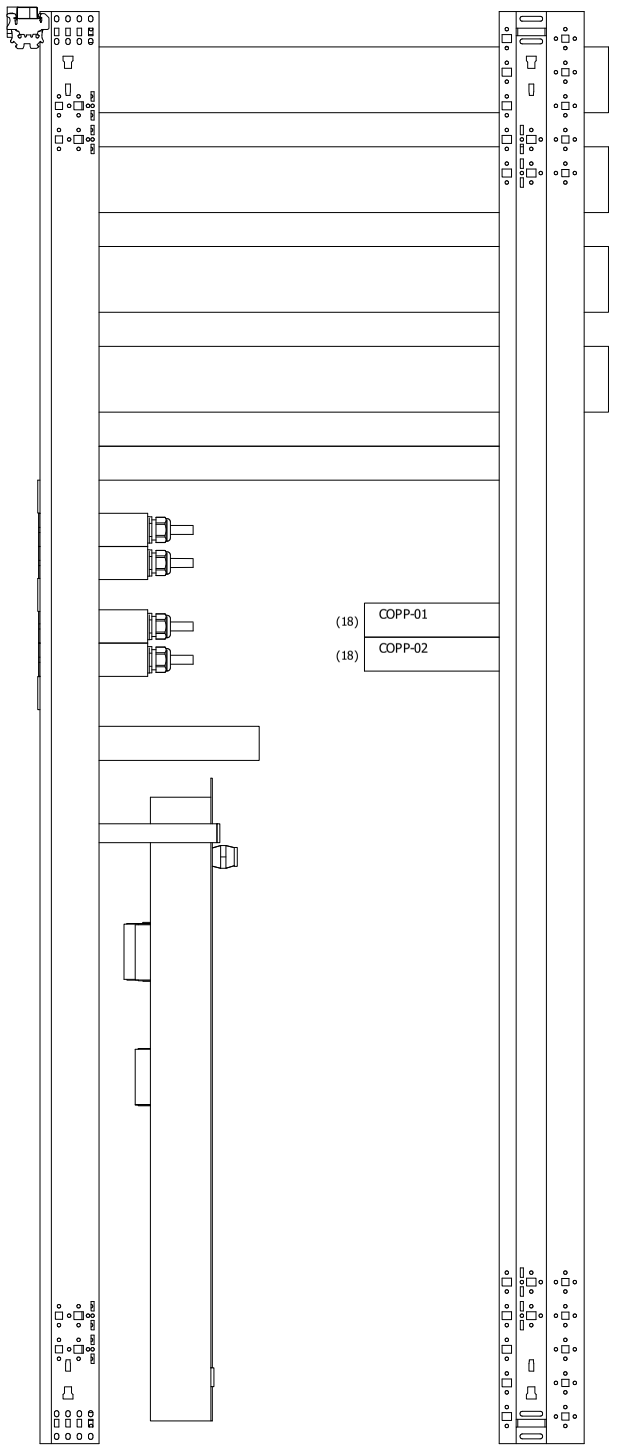
LEFT VIEW



FRONT VIEW



RIGHT VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
4	03.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
3	15.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
SERVER - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 018

REV. 4

SHEET LEFT INTENTIONALLY BLANK

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Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER - SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

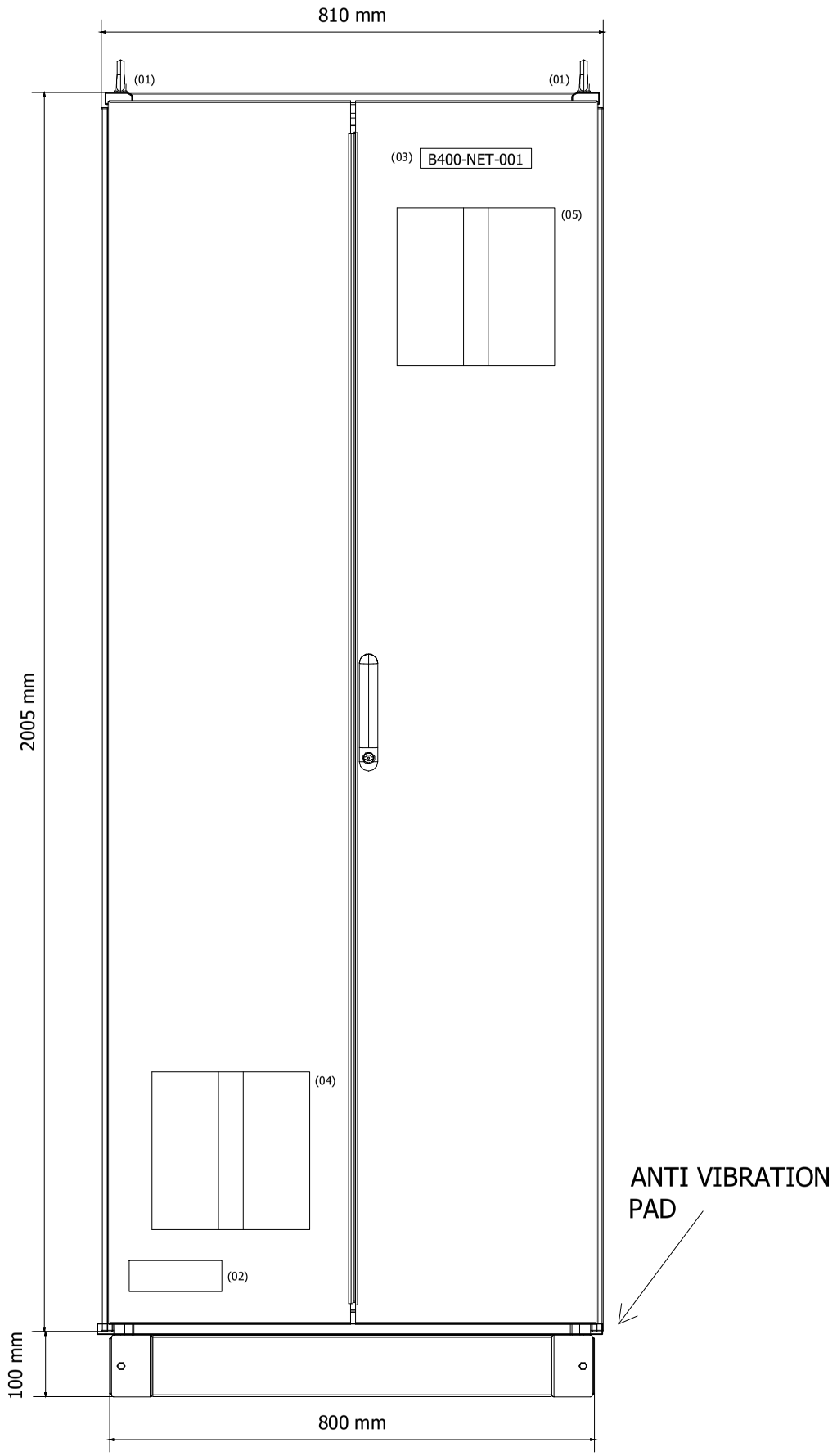
A3

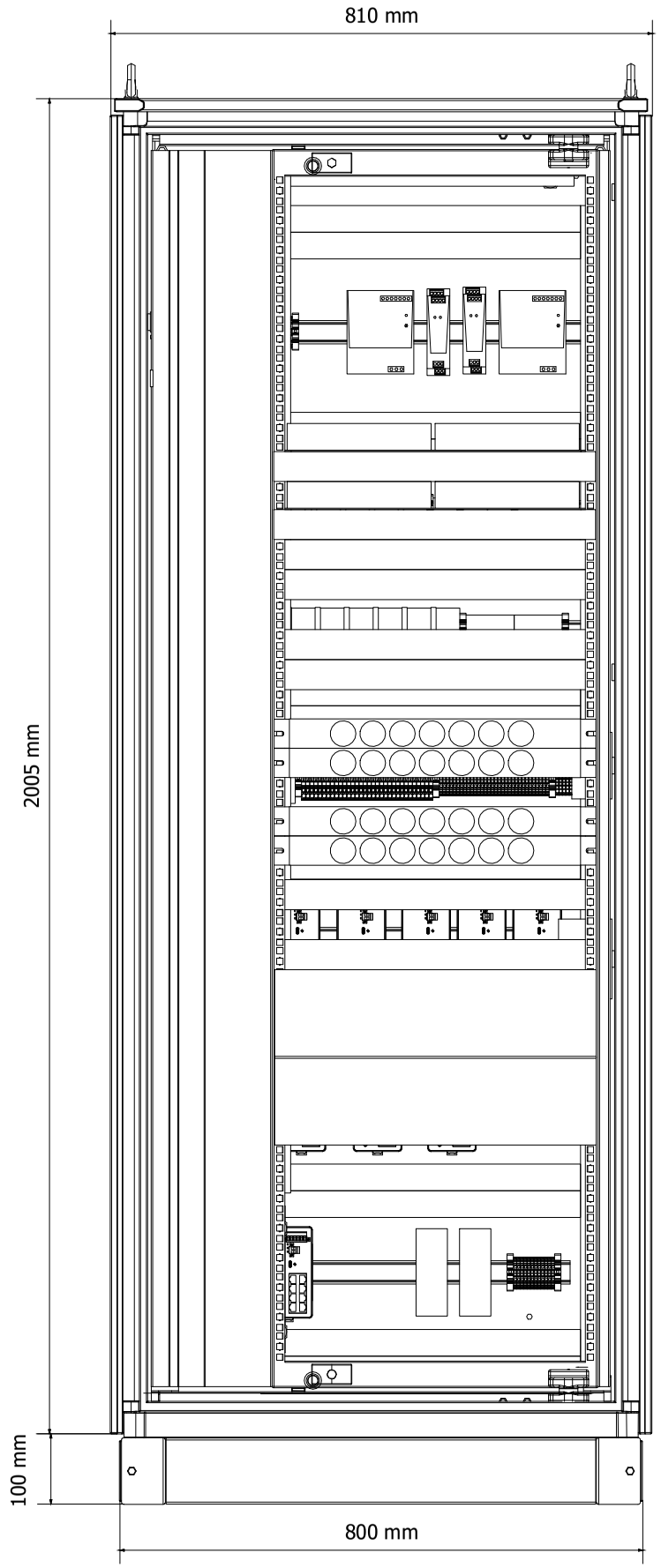
DRAWING NO. 1724000594-IN-DA-00011

SHEET 019

REV. 4

NETWORK PANEL - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW





DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
NETWORK - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

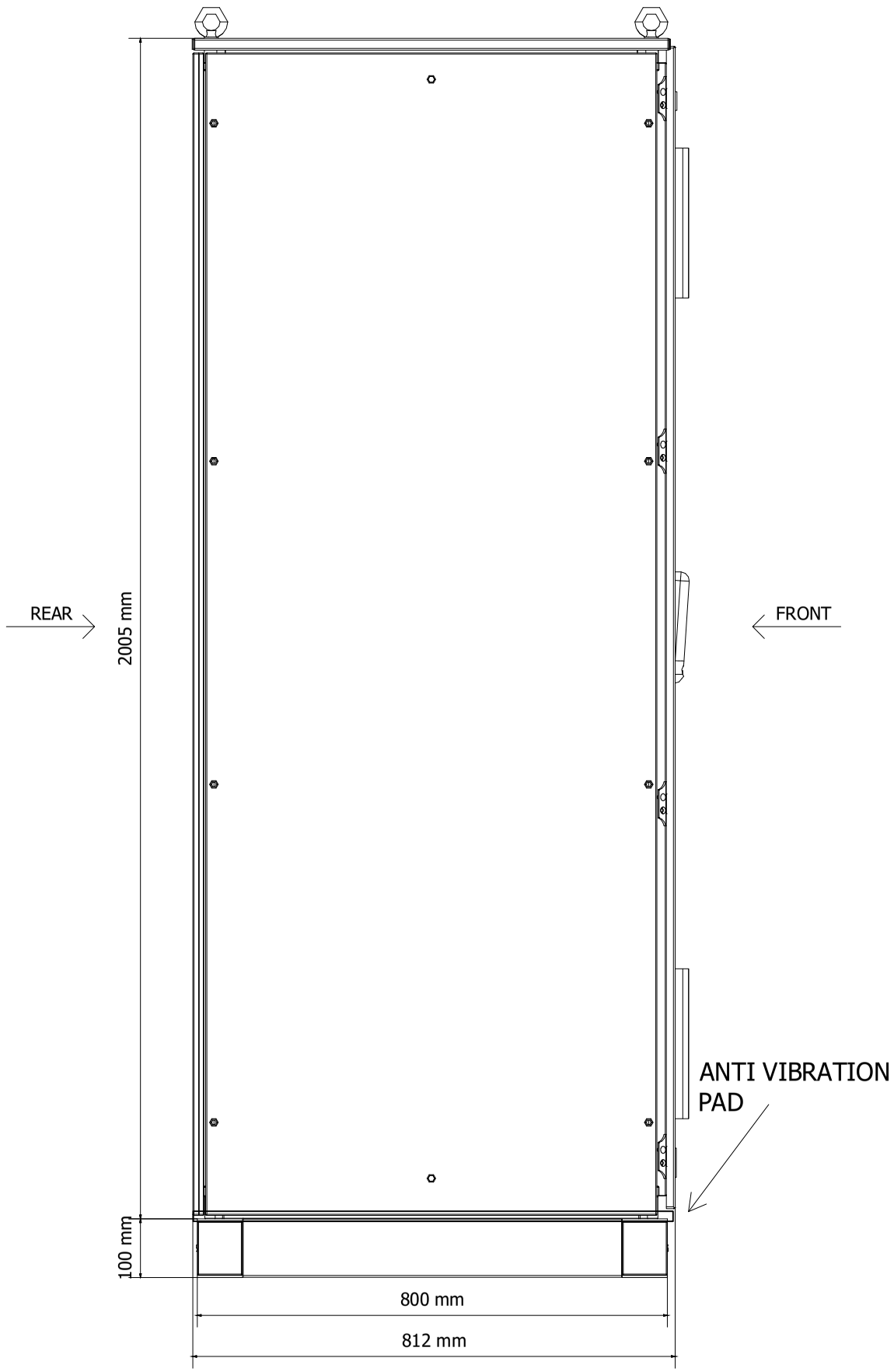
A3

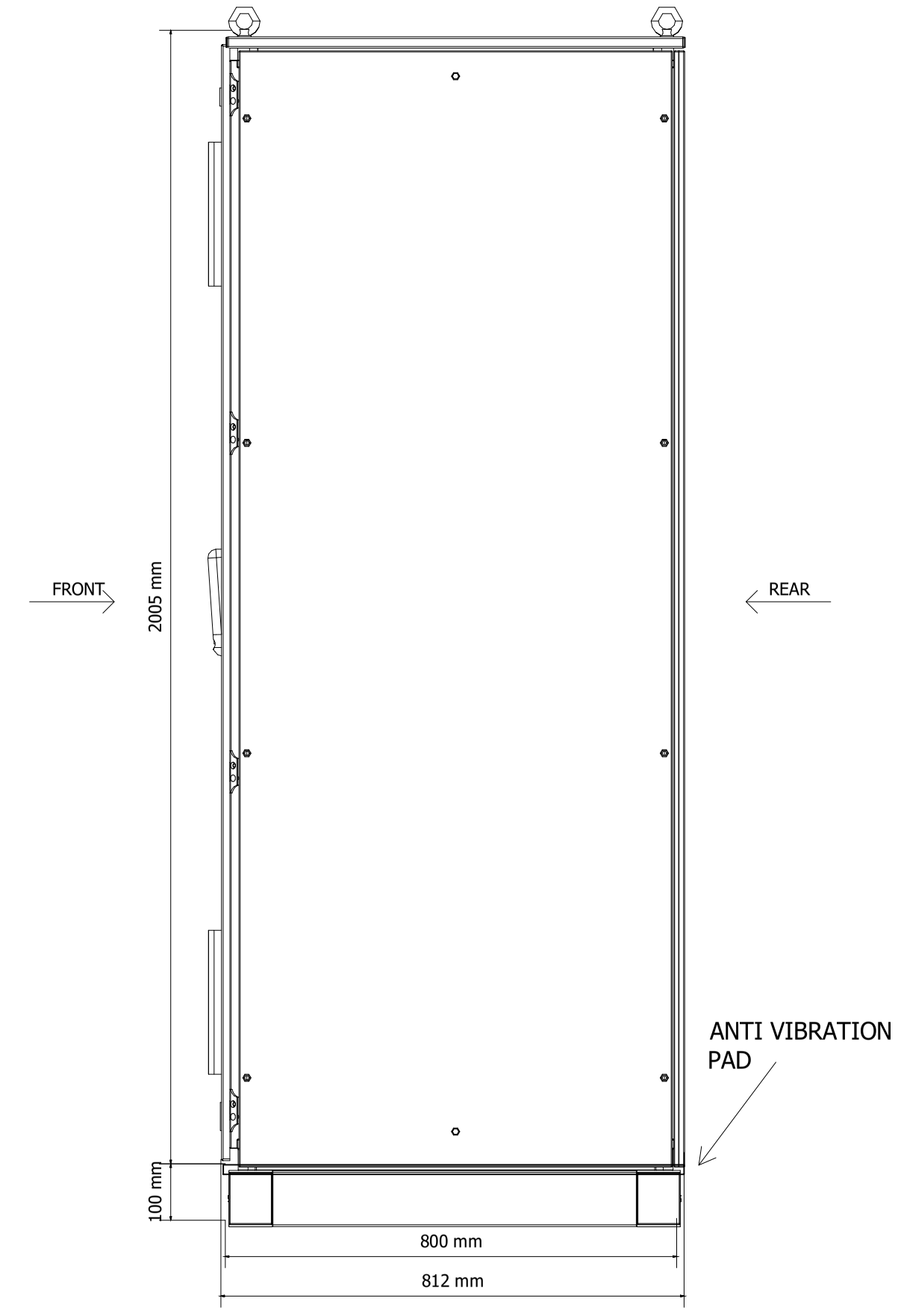
DRAWING NO. 1724000594-IN-DA-00011

SHEET 020

REV. 4

NETWORK PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
NETWORK - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

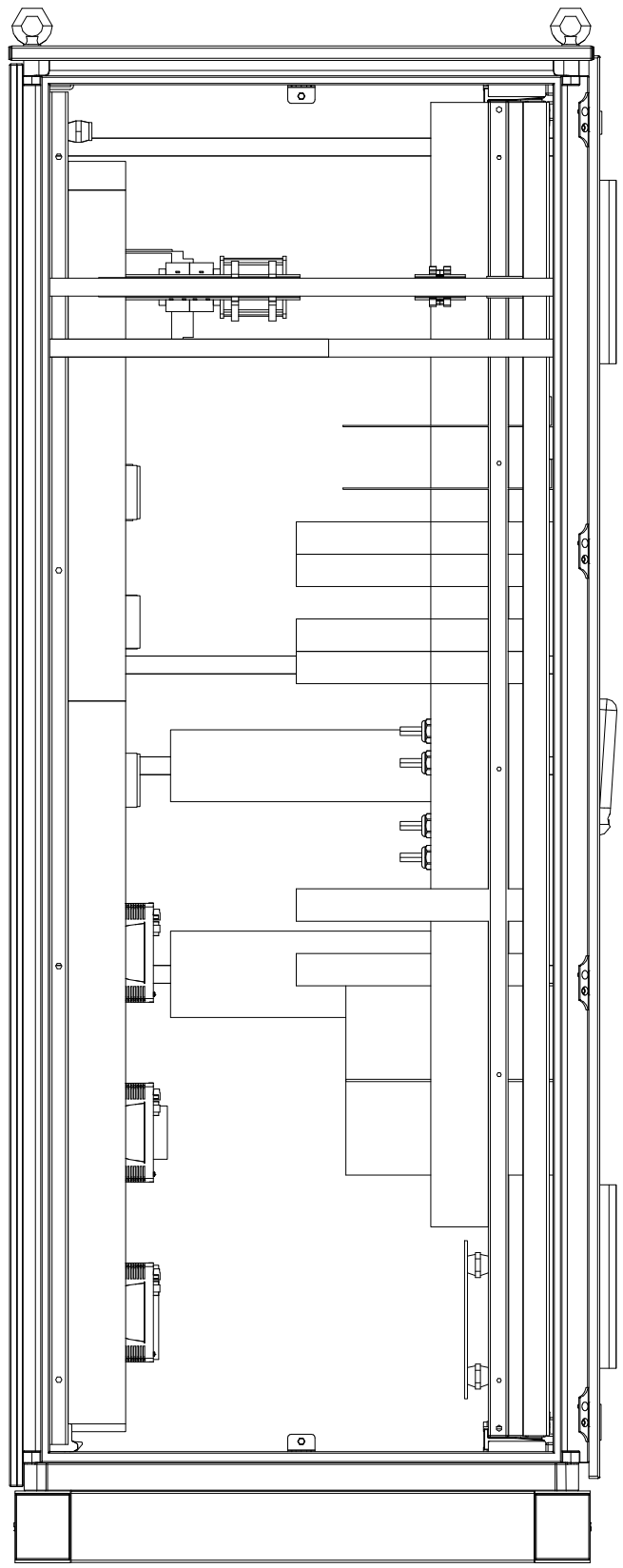
DRAWING NO. 1724000594-IN-DA-00011

SHEET 021

REV. 4

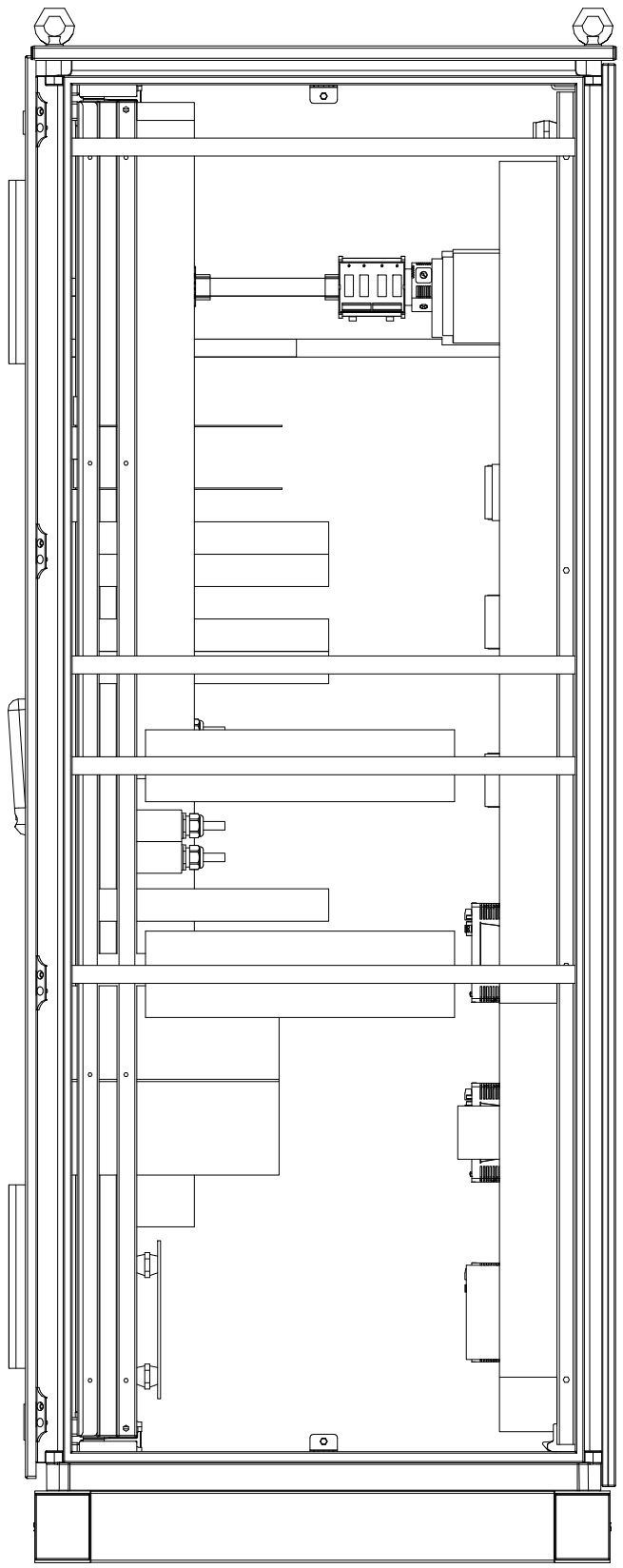
NETWORK PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE WITHOUT PANEL

REAR



FRONT

FRONT



REAR

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
NETWORK - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

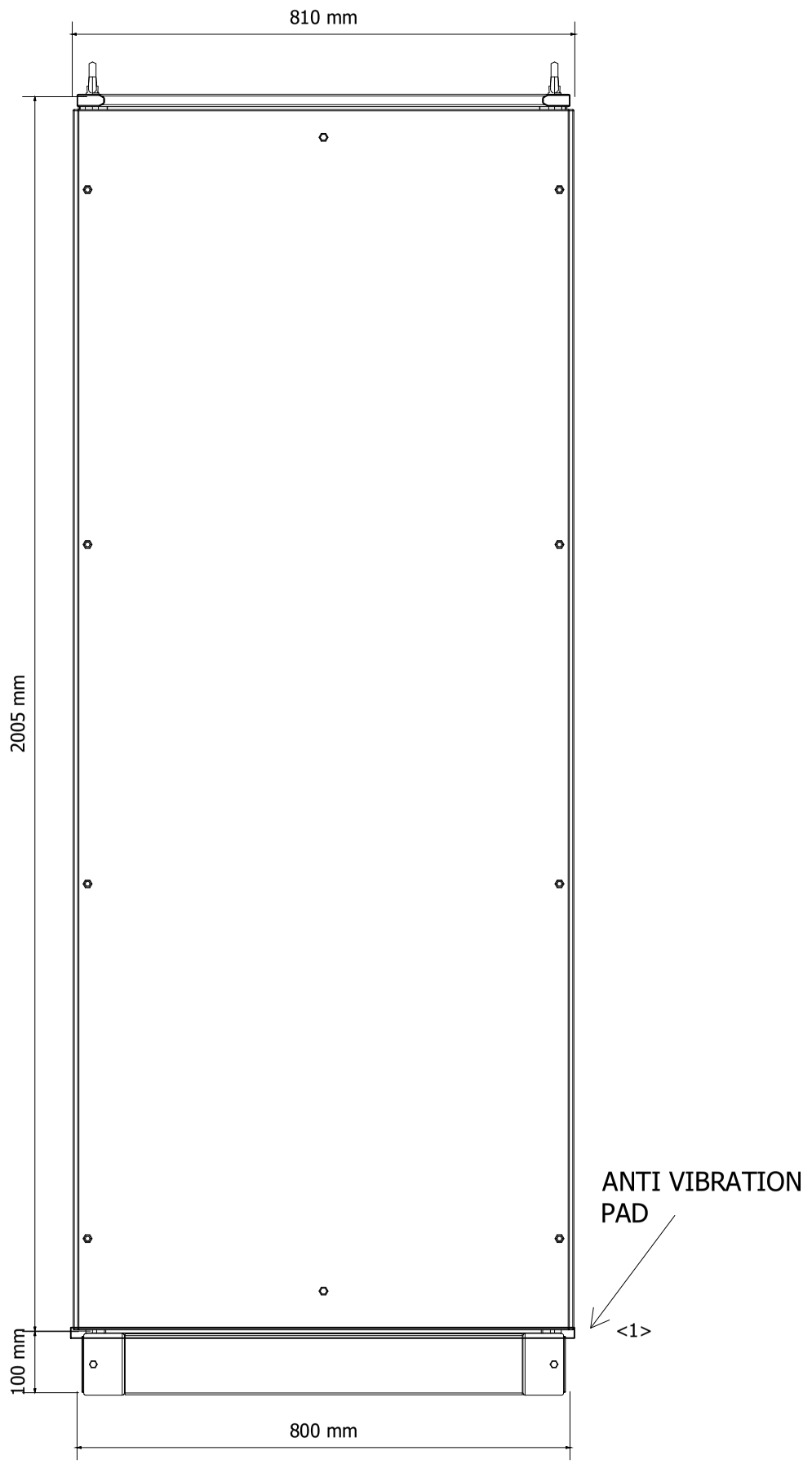
A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 022

REV. 4

NETWORK PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
NETWORK - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

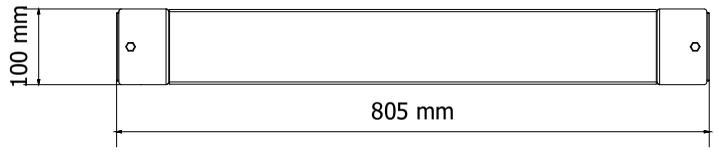
DRAWING NO. 1724000594-IN-DA-00011

SHEET 023

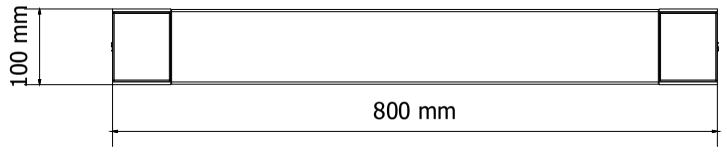
REV. 4

NETWORK PANEL - BASEPLATE DETAILS

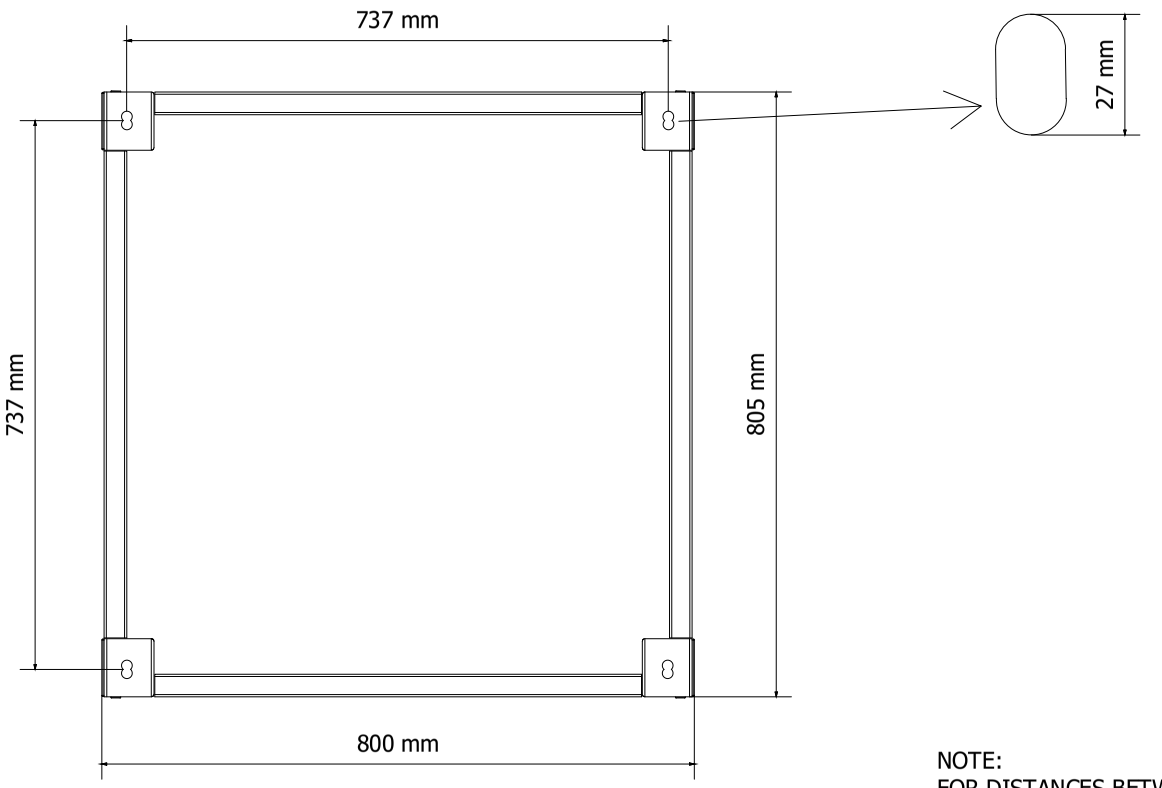
BASEPLATE SIDE VIEW



BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW
REAR SIDE



FRONT SIDE

BASEPLATE TOP VIEW
REAR SIDE

DETAIL OF FIXING HOLE:

Ø 16mm

NOTE:
FOR DISTANCES BETWEEN HOLES OF TWO ASSEMBLED CABINETS, SEE SHEET 015

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM NETWORK - BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 024

REV. 4

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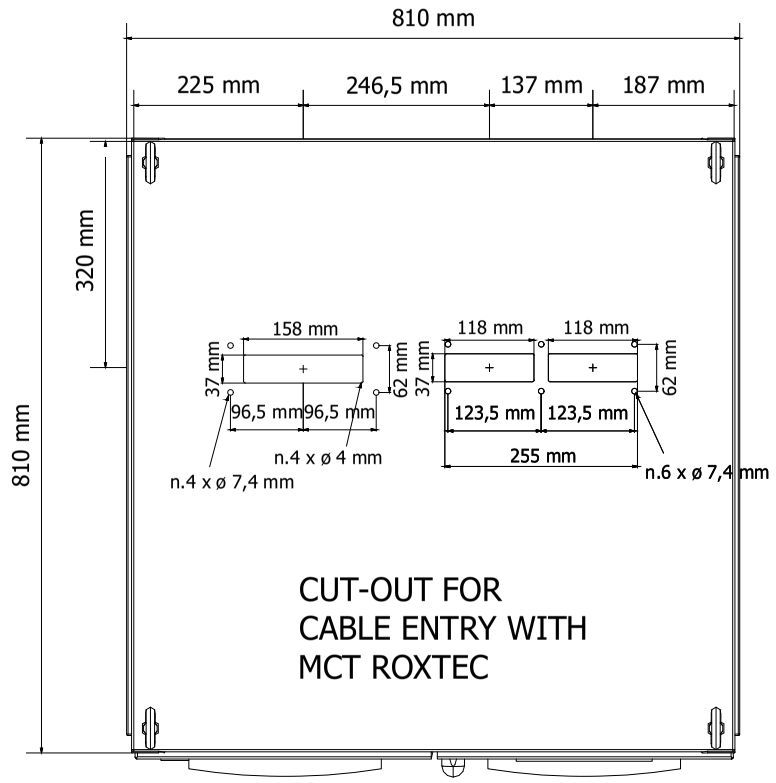
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

NETWORK PANEL - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW

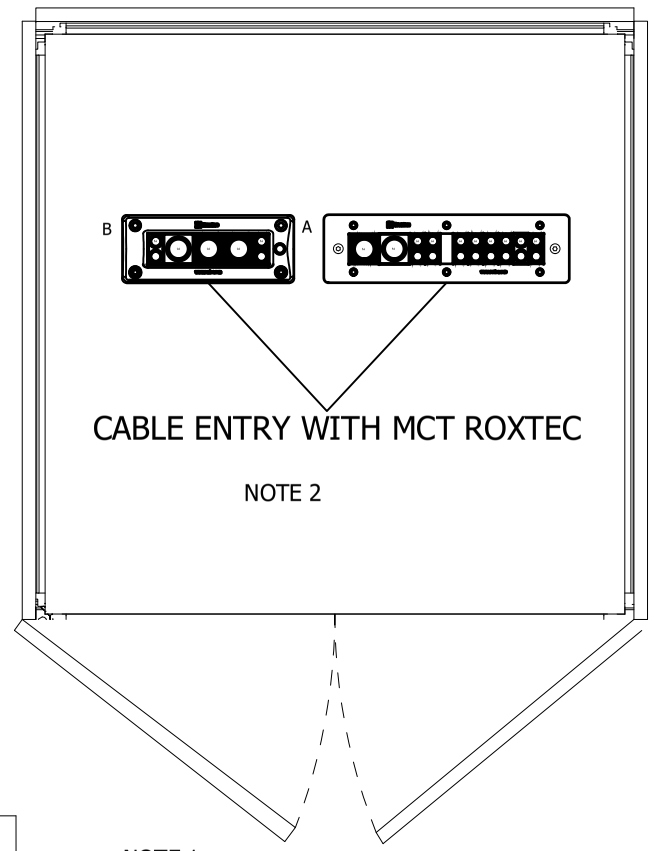
REAR



FRONT

EXTERNAL TOP VIEW (DOOR OPEN)

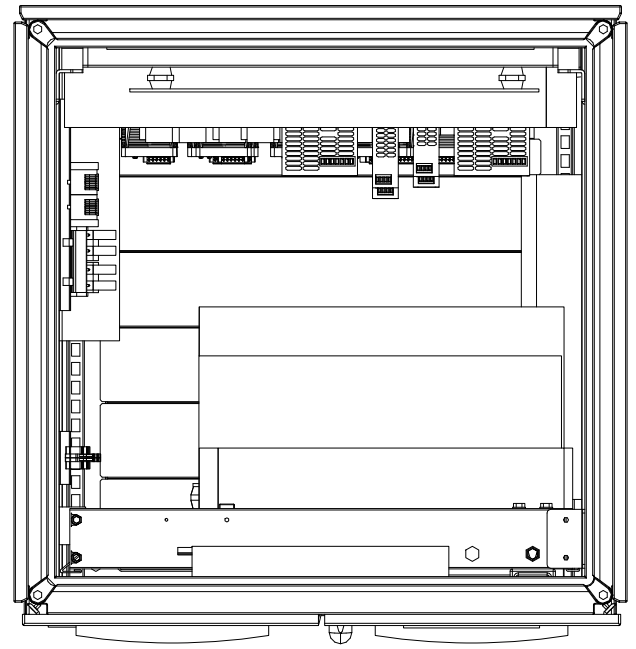
REAR



FRONT

INTERNAL TOP VIEW

REAR



FRONT

CABLE TAG	CABLE TYPE	OUTER CABLE DIAMETER (mm)	MCT SIZE	LOC.	POS.
B100-HSB-001/B400-NET-001	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	4
B200-HSB-001/B400-NET-001	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	5
B300-HSB-001/B400-NET-001	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	6
P320PLC/B400-NET-001.01	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	7
P320PLC/B400-NET-001.02	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	8
20-UCP-001/B400-NET-001.01	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	9
20-UCP-001/B400-NET-001.02	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	10
80-UCP-001/B400-NET-001.01	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	11
80-UCP-001/B400-NET-001.02	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	12
50-LP-001/B400-NET-001	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	13
63-LP-001/B400-NET-001	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	14
64-LP-001/B400-NET-001	CAT.6A 4x2xAWG23, Sh+ShT+ARM, F.Ret, GREEN, NIS	10.7	CM20W40	A	15
HNA6/B400-NET-001	FO12 OS2, ARM, F.Ret, YELLOW, NIS	8.5	CM20W40	A	32
X-FAULT-NET/B400-NET-001	6x2x0.75mm2,Sh+ShT+ARM,F.Ret,GREY,NIS	19.4	CM20W40	A	28
84403-CEL	3G2.5	15.5	EM40 10x32	B	1
84404-CEL	3G2.5	15.5	EM40 10x32	B	2
83108-CEL	3G2.5	13	EM20W40	B	3

NOTE 1: DOOR LOCK AT 130°
NOTE 2: DOOR LOCK AT 110°

DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
NETWORK - EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

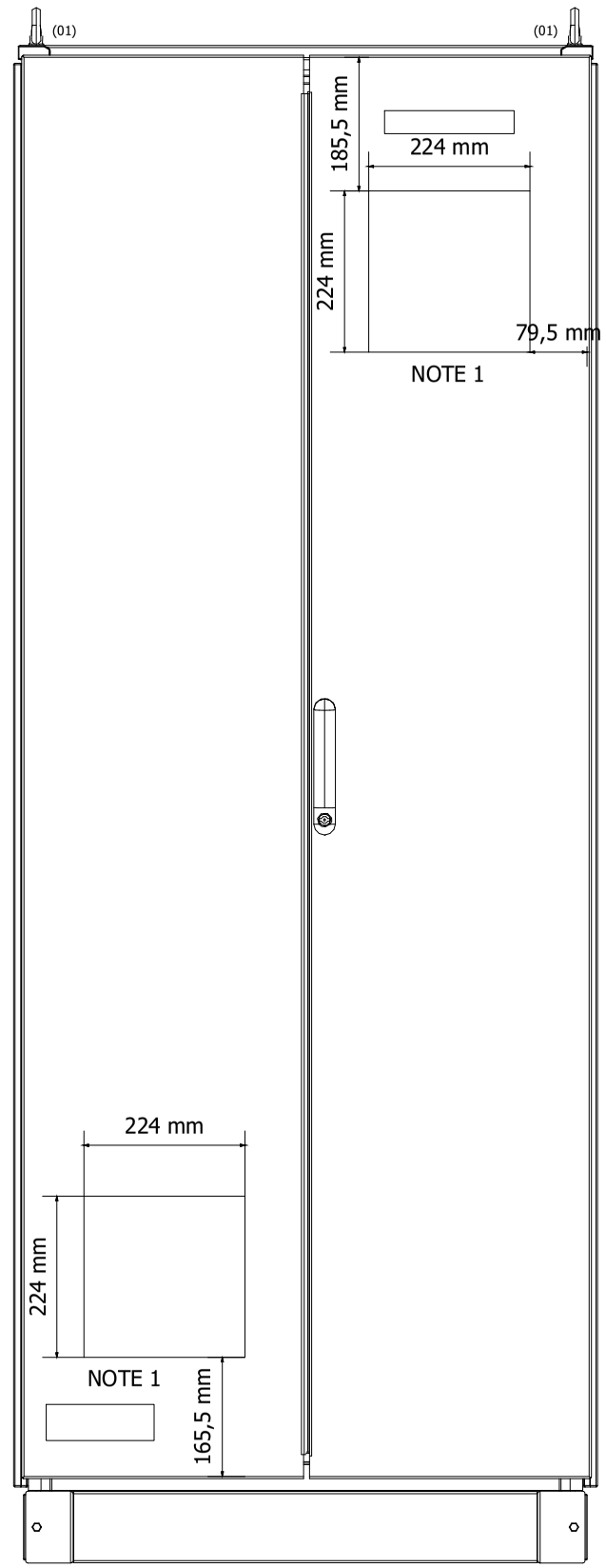
A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 025

REV. 4

NETWORK PANEL - FRONT DOOR CUT-OUT DETAILS



NOTE 1 : CUT-OUT FOR AIR VENTILATION FILTER

<1>

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
NETWORK - FRONT DOOR CUT-OUT DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 026

REV. 4

Document Nr. 1724000594-QC-DB-00033 - Rev.01

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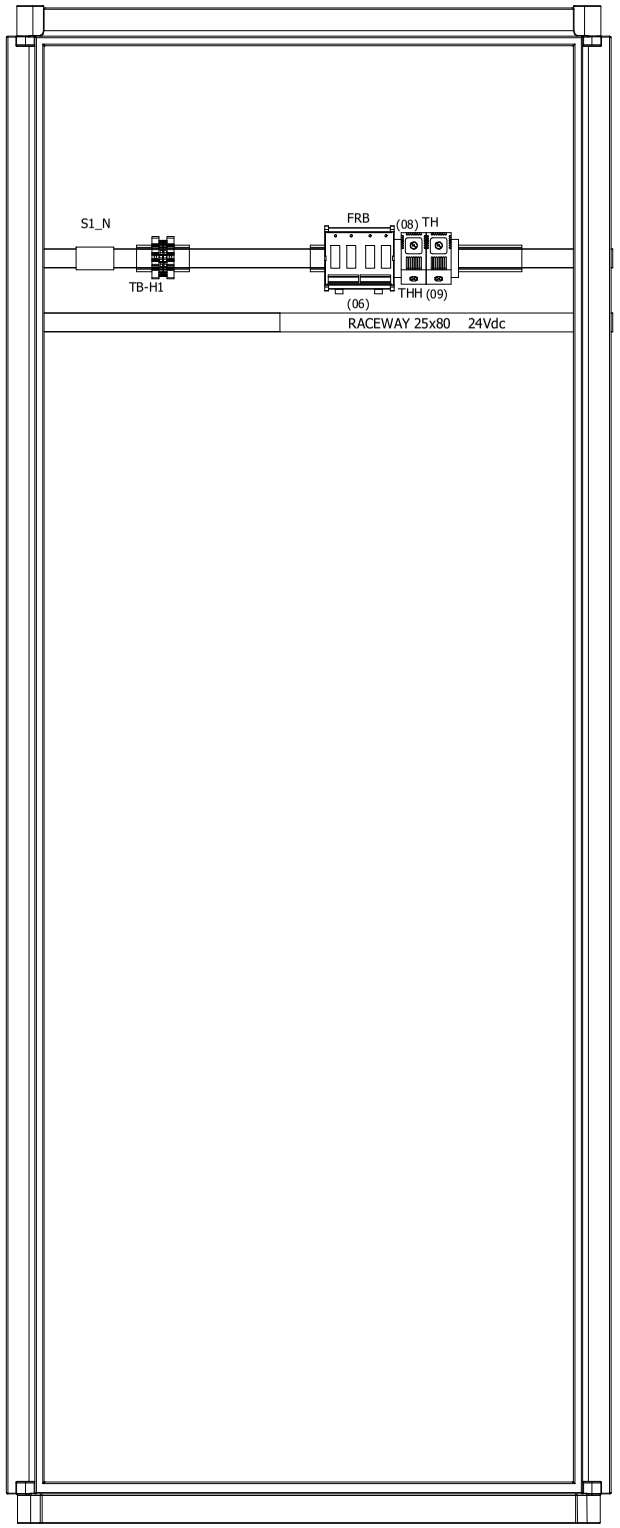
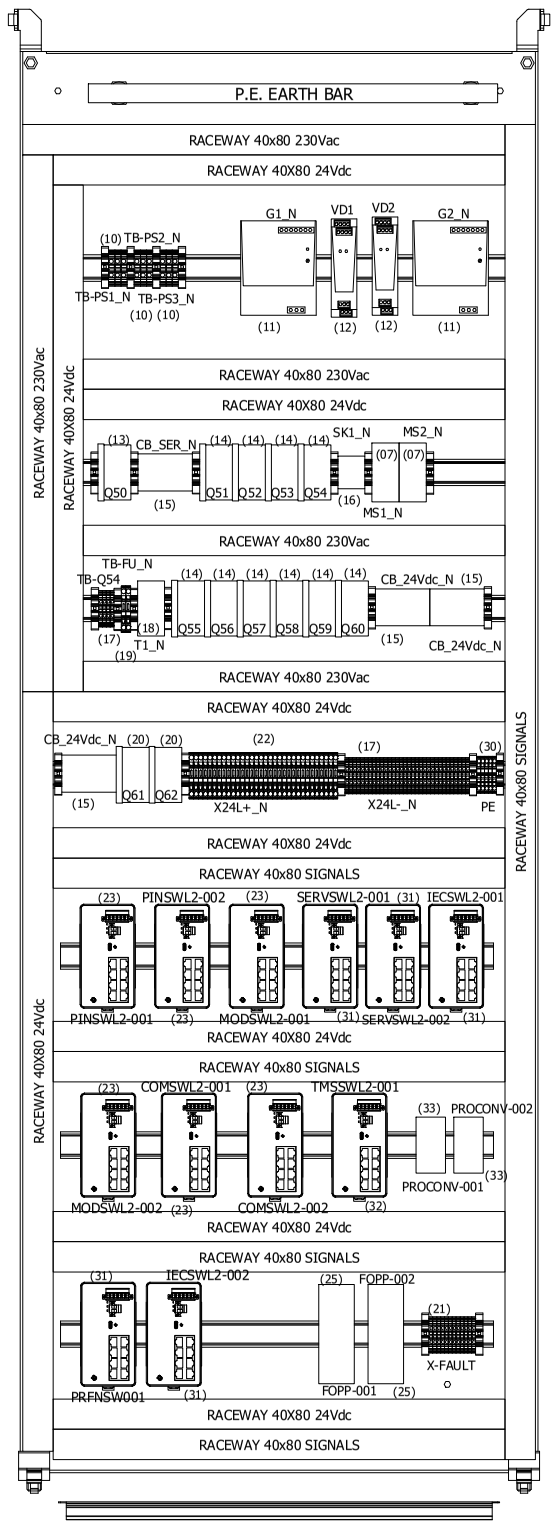
NETWORK PANEL - FRONT SIDE INTERNAL VIEW

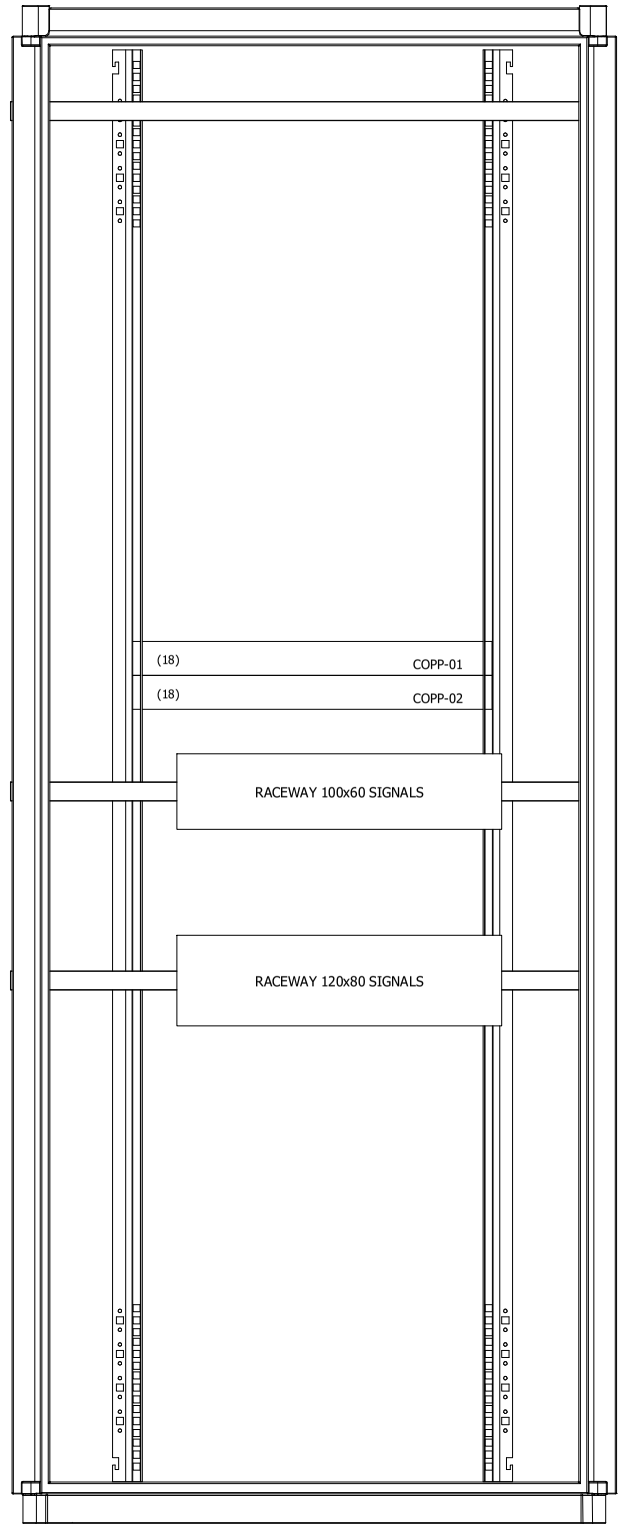
LEFT SIDE



FRONT PLATE



RIGHT SIDE



DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
NETWORK - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

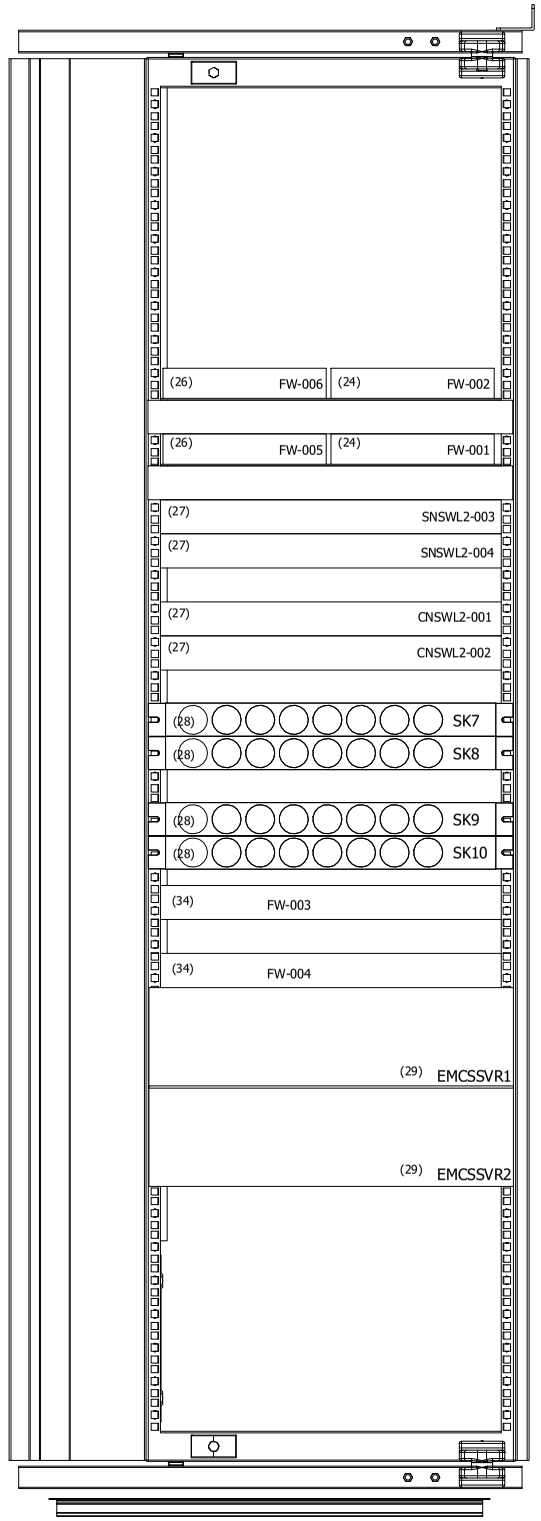
DRAWING NO. 1724000594-IN-DA-00011

SHEET 027

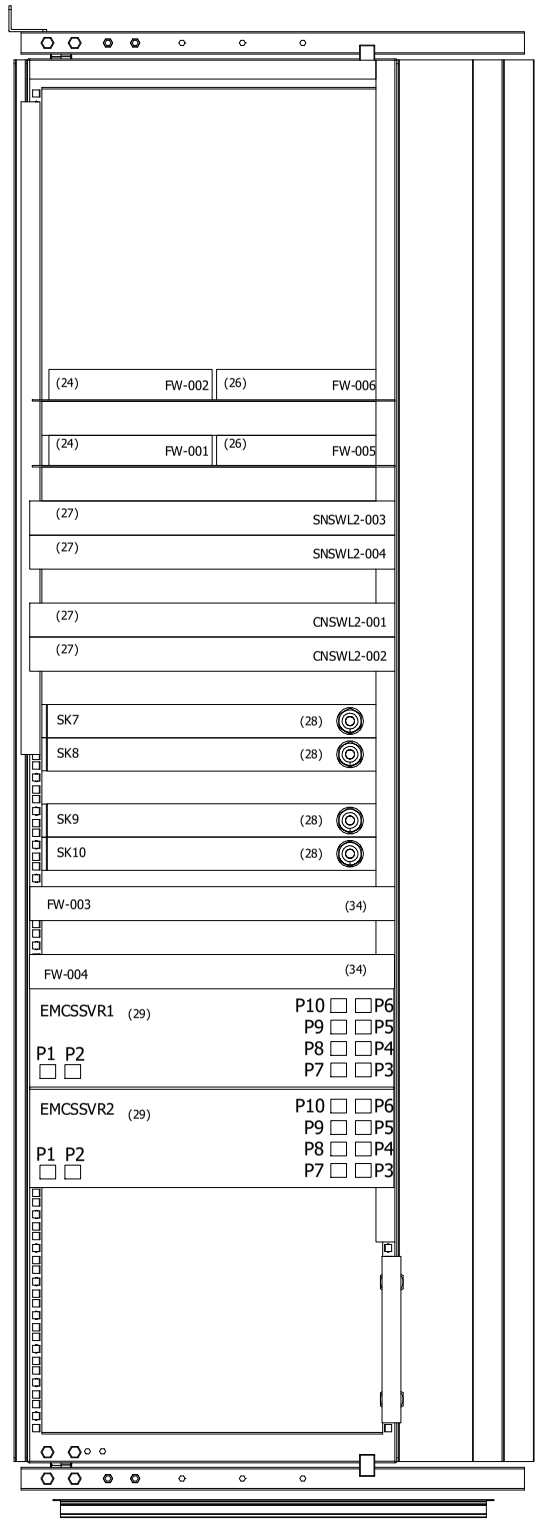
REV. 4

NETWORK PANEL - FRONT SIDE SWING RACK INTERNAL VIEW

FRONT RACK



REAR RACK



DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
NETWORK - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 028

REV. 4

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Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
NETWORK - SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 029

REV. 4

TYPICAL 01



TYPICAL 01

MANUFACTURER LABEL ITEM (02)

MATERIAL	:	ALUMINIUM
DIMENSION	:	150mm x 50mm (lxh)
BACKGROUND COLOUR	:	ALUMINIUM
TEXT COLOUR	:	BLACK & GREEN
FIXING	:	BY STAINLESS STEEL SCREWS

DRAWING SCALE 1:1

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM BH AND MANUFACTURER LABEL DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 030

REV. 4

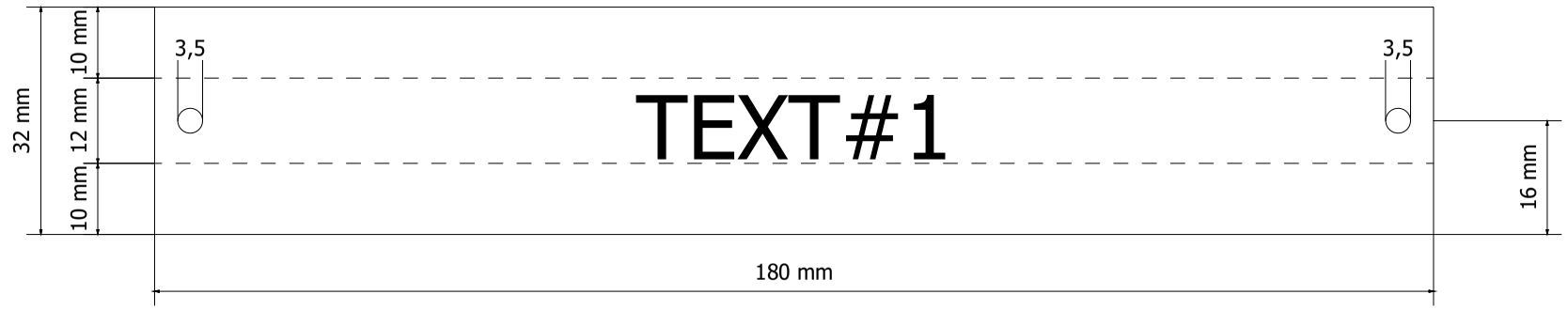
SERVER AND NETWORK PANEL - SECTION IDENTIFIER NAMEPLATE DETAILS

TYPICAL 02

LABEL FOR SECTION IDENTIFIER ITEM (03)

MATERIAL	:	TRAFOLYTE
DIMENSION	:	200mm x 45mm (lxh)
BACKGROUND COLOUR	:	TRAFOLYTE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	15 mm / 10 mm
TEXT FONT	:	ARIAL
FIXING	:	BY STAINLESS STEEL SCREWS

TYPICAL 02



CABINET	TEXT#1
SERVER	B400-SRV-001
NETWORK	B400-NET-001

DRAWING SCALE 1:1

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DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER AND NETWORK SECTION IDENTIFIER NAMEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

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DRAWING NO. 1724000594-IN-DA-00011

SHEET 031

REV. 4

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Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
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CROSSWIND

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& WIRING DIAGRAM
SPARE PAGE

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A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 032

REV. 4

CERTIFICATION LABELS DETAILS

TYPICAL 05

LABEL FOR ITEM IDENTIFIER : ITEM (25)

MATERIAL	:	TRAFFOLYTE
DIMENSION	:	150mm x 150mm (lxh)
BACKGROUND COLOUR	:	WHITE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	4 mm
TEXT FONT	:	ARIAL
FIXING	:	SS316L SCREWS OR RIVETS

PROGETTAZIONE E
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INDUSTRIALI

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22040 ALZATE BRIANZA (CO) ITALY Via Pascoli 150 Ph. +39031631875 website : www.prei.it

PREI JOB/SN: C\5529 CONSTRUCTION YEAR: 2024

CUSTOMER PURCHASE ORDER: 4511988955

CUSTOMER JOB N°: E366772C00

REFERENCE DRAWINGS : 1724000594-IN-DG-00011 - OUTLINE DRAWING

1724000594-IN-DA-00022 - SCHEMATIC DRAWING

Line 1: VOLTAGE 230 Vac / 50 Hz Line 1: CURRENT 4,2A

Line 1: SHORT CIRCUIT CURRENT RATING: 10kA

Line 2: VOLTAGE 230 Vac / 50 Hz Line 2: CURRENT 4,2A

Line 2: SHORT CIRCUIT CURRENT RATING: 10kA

Line 3: VOLTAGE 230 Vac / 50 Hz Line 3: CURRENT 2,6A

Line 3: SHORT CIRCUIT CURRENT RATING: 10kA

PANEL PROTECTION DEGREE IP43

PANEL OPERATING TEMPERATURE RANGE: 5-45°C

DRAWING SCALE 1:1
ALL QUOTES SHOWN ARE IN MILLIMETERS

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DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
CERTIFICATION LABEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 033

REV. 4

SERVER PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	1	DETAILS ON SHEET 033 TYPICAL 02
03	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_03	1	DETAILS ON SHEET 028 TYPICAL 03
04	- -	-	-	-	- -
05	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_05	9	TB-PS1_S ÷ TB-PS3_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
06	ROTATIVE SWITCH 32A 3P -	LOVATO G032A	NA001_06	2	MS1_S - MS2_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
07	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK2P100A7	NA001_07	3	CB_UPS1_S - CB_UPS2_S - CB_SER_S (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
08	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_08	1	Q1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 115Vac / 240Vac WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_09	7	Q2 ÷ Q8 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	- -	-	-	-	- -
11	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_11	1	SK1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
12	SERVER (CI-CORE & IAMS) -	DELL GP4SY	NA001_12	3	CISVR01-CISVR02-IAMSSVR (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
13	SERVER (PCS + SIS, FGS) -	DELL GP4SY	NA001_13	1	EWS0164 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
14	KVM MONITOR -	DELL KMMLED185	NA001_14	1	KVM MONITOR (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM SERVER MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 034

REV. 4

SERVER PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
15	LANTIME NTP SERVER INCOL.2x 10/100 MBIT PORTS + GPS ANTENNA -	MEINBERG LANTIME M1000-IMS	NA001_15	1	TMSVR01 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
16	RACKMOUNT DISTRIBUTION SOCKETS -	MANUFACTURER STANDARD	NA001_16	4	SK2÷SK5 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
17	KVM SWITCH -	DELL AV2108	NA001_17	1	KVM SWITCH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
18	ETHERNET PATCH PANEL -	MANUFACTURER STANDARD	NA001_18	2	COPP-01 - COPP-02 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
19	- -	-	-	-	- -
20	- -	-	-	-	- -
21	- -	-	-	-	- -
22	- -	-	-	-	- -
23	- -	-	-	-	- -
24	- -	-	-	-	- -
25	- -	-	-	-	- -
26	- -	-	-	-	- -
27	- -	-	-	-	- -
28	- -	-	-	-	- -

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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 035

REV. 4

NETWORK PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	1	DETAILS ON SHEET 033 TYPICAL 02
03	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_03	1	DETAILS ON SHEET 028 TYPICAL 03
04	AIR INLET FILTER -	AUGER STANDARD	NA001_04	1	MECHANICAL PART NAMEPLATE NOT REQUIRED
05	FRONT-MOUNTED AIR EXTRACTOR FAN (SUPPLIED WITH AIR FILTER) -	AUGER STANDARD	NA001_05	1	EV (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
06	PRE-ASSEMBLED RELAY BOARD FOR FAN FAULT CIRCUIT -	PREI	NA001_06	1	FRB (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
07	ROTATIVE SWITCH 32A 3P -	LOVATO G032A	NA001_07	2	MS1_N - MS2_N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
08	THERMOSTAT FOR FAN ON/OFF CIRCUIT -	MANUFACTURER STANDAR	NA001_08	1	TH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	THERMOSTAT FOR HIGH TEMPERATURE ALARM -	MANUFACTURER STANDARD	NA001_09	1	THH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_10	9	TB-PS1_N ÷ TB-PS3_N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
11	POWER SUPPLY FEEDER MODULE INPUT 230Vac (AUTO-RANGING) - OUTPUT 24Vdc-20a	WEIDMULLER QUINT4-PS/1AC/24DC/20 WDM.1469510000	NA001_11	2	G1_N ÷ G2_N (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
12	DECOUPLING & PROTECTIVE DIODE FOR REDUNDANCY - 24Vdc -	WEIDMULLER PRO DM 20 WDM.2486080000	NA001_12	2	VD1 - VD2 (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
13	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_13	1	Q50 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
14	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 115Vac / 240Vac WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_14	10	Q51 ÷ Q60 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

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CROSSWIND

ROSETTI MARINO

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CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 036

REV. 4

NETWORK PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
15	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK2P100A7	NA001_15	2	CB_SER_N - CB_24Vdc_N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
16	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_16	1	SK1_N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
17	DISTRIBUTION TERMINALS - SCREW TYPE - SECTION 2.5mm² FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 PXC.3044076	NA001_17	36	TB-Q54 - X24L-N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
18	TRASFORMER 240Vac / 24Vac - 50Hz -	ABB TM10 EA2616	NA001_18	1	T1_N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
19	TERMINALS - SCREW TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4 HESI PXC.3046032	NA001_19	2	TB-FU_N (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
20	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 24Vdc WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_20	2	Q61 ÷ Q62 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
21	TERMINALS - SCREW TYPE - SECTION 2.5mm² KNIFE DISCONNECT TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 MT PXC.3045362	NA001_21	12	X-FAULT (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
22	DISTRIBUTION TERMINALS - FUSED TYPE - SECTION 4mm² FUSED TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4-HESI PXC.3046032	NA001_22	32	X24L+N (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
23	MANAGED SWITCH 24 PORT 2XSFP -	HIRSCHMANN BRS40-0024	NA001_23	6	COMSWL2-001÷002 - MODSWL2-001÷002 - PINSWL2-001÷002 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
24	FORTIGATE FIREWALL 8X PORTS -	FORTINET FG-80F	NA001_26	2	FW-001÷FW-002 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
25	PATCH PANEL 12X LC DUPLEX -	TECNOFIBER TCK-LAN	NA001_25	2	FOPP-001-FOPP-002 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
26	FORTIGATE FIREWALL 4X PORTS -	FORTINET FG-40F	NA001_26	2	FW-005÷FW-006 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
27	SWITCH 24 PORT (Vnet / IP) -	YOKOGAWA GRS105	NA001_27	4	SNSWL2-003÷004-CNSWL2-001÷002 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
28	RACKMOUNT DISTRIBUTION SOCKETS -	MANUFACTURER STANDAR	NA001_28	4	SK7÷SK10 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM NETWORK MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 037

REV. 4

NETWORK PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
29	PPC Industrial PC -	SEL SEL-3555	NA001_29	2	EMCSSVR1 - EMCSSVR2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
30	PE TERMINALS -	PHOENIX CONTACT UT 2.5 PE PXC.3044092	NA001_30	5	PE (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
31	ETHERNET SWITCH 12 PORT -	HIRSCHMANN BRS40-0012	NA001_31	5	SERVSWL2-001÷002 - IECSWL2-001÷002 - PRFNSW001 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
32	ETHERNET SWITCH 16 PORT -	HIRSCHMANN BRS40-0016	NA001_32	1	TMSSWL2-001 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
33	PROFINET CONVERTER -	MOXA 5103T	NA001_33	2	PROCONV-001÷PROCONV-002 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
34	FIREWALL 20 PORT -	FORTIGATE 100F	NA001_34	2	FW-003÷FW-004 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
35	- -	-	NA001_35	-	- -
36	- -	-	NA001_36	-	- -
37	- -	-	NA001_37	-	- -
38	- -	-	NA001_38	-	- -
39	- -	-	NA001_39	-	- -
40	- -	-	NA001_40	-	- -
41	- -	-	NA001_41	-	- -
42	- -	-	NA001_42	-	- -

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0	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-ITER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
NETWORK MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00011

SHEET 038

REV. 4

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-9.4 NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1724000594-IN-DA-00012

BASE LOAD POWER HUB (BLPH) NET. AND SERV. CABINET IN OER GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	27/10/2025

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)

COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 001

REV. 3

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X						BASE LOAD POWER HUB (BLPH) INDEX
003	X	X	X	X						BASE LOAD POWER HUB (BLPH) DATA SHEET
004	X	X		X						BASE LOAD POWER HUB (BLPH) INTERNAL WIRING INFORMATION
005	X	X		X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW
007	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
008	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL
009	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - EXTERNAL REAR VIEW
010	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER- BASEPLATE DETAILS
011	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - EXTERNAL & INTERNAL TOP VIEW
012	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - EXTERNAL TOP VIEW DOOR OPEN
013	X	X	X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - LIFTING DETAILS
014	X		X	X						BASE LOAD POWER HUB (BLPH) SERVER OER - FRONT SIDE INTERNAL VIEWS
015	X		X	X						BASE LOAD POWER HUB (BLPH) SERVER OER- FRONT SIDE INTERNAL VIEWS
016	X			X						BASE LOAD POWER HUB (BLPH) SERVER OER - SPARE PAGE
017	X			X						BASE LOAD POWER HUB (BLPH) BH AND MANUFACTURER LABEL DETAILS
018	X		X	X						BASE LOAD POWER HUB (BLPH) SERVER AND NETWORK SECTION IDENTIFIER NAMEPLATE DETAILS
019	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
020	X		X	X						BASE LOAD POWER HUB (BLPH) CERTIFICATION LABEL

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X		X	X						BASE LOAD POWER HUB (BLPH) SERVER OER MAIN COMPONENT LIST
022	X		X	X						BASE LOAD POWER HUB (BLPH) SERVER OER MAIN COMPONENT LIST
023	X		X	X						BASE LOAD POWER HUB (BLPH) SERVER OER MAIN COMPONENT LIST

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)

INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 002

REV. 3

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP	☐ MIRROR OF JUNCTION BOX	■ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

B-MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 1200mm x 2100mm (L x D x H) 800 mm x 1200mm x 2100mm (L x D x H) (NOTE B1)		
B2	PROTECTION DEGREE	■ IP 20	☐ IP 55	
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm	
B4	CABLE ENTRY	☐ TOP	■ BOTTOM	
B5	CABLE ENTRY FIXING	■ REMOVABLE PLATES	☐ CLAMPS	☐ CABLE GLAND
B6	ACCESSIBILITY	☐ FRONT ONLY	■ FRONT / REAR	
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE	
B8	BASE PLINTH	■ SEPARATE PIECES		
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP		
B10	APPROXIMATIVE WEIGHT	400 Kg for each panel		

NOTE B1 : ALLOWED TOLERANCE FOR PANEL HEIGHT/DEPTH: +/-5mm;
ALLOWED TOLERANCE FOR PANEL STRUCTURES AND SUPPORTS: +/-2mm;
ALLOWED TOLERANCE FOR TOTAL PANEL LENGTH : +/-2% OF TOTAL PANEL LENGTH;
(IN ANY CASE, MAXIMUM LENGTH TOLERANCE ALLOWED FOR PANEL WITH 2 OR MORE COLUMNS IS +/-50mm)
REMOVABLE BOTTOM PLATES SHALL BE PROVIDED

C - PAINTING

C1	REFERENCE SPECIFICATIONS		■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR	TYPE	☐ SMOOTH	■ PEEL TYPE	
		COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH		■ AS EXTERIOR		
C4	INTERIOR		■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES		■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	1kW	1kW	0,6kW
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION		■ FLUORESCENT (230Vac - 50Hz)	
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT		■ YES	
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT		■ YES	
D7	SERVICE SOCKET		■ YES	

E - NAMEPLATES

.	.	EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM DATA SHEET

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 003

REV. 3

A - PANEL CONTROL CABLES

CABLE FUNCTION	CONDUCTOR SIZE	CONDUCTOR COLORS	OUTER SHEATH COLOR NON Intrinsically Safe Circuit	OUTER SHEATH COLOR Intrinsically Safe Circuit
BIPOLAR ANALOG SIGNALS (NOTE A1)	(2x0.5) + Shield	BLACK (BK) - WHITE (WH)	GREY (GR)	BLUE (BL)
TRIPOLAR ANALOG SIGNALS (NOTE A1)	(3x0.5) + Shield	BLACK (BK) - WHITE (WH) RED (RD)	GREY (GR)	BLUE (BL)

NOTE A1 : FOR THE ABOVE MENTIONED ANALOG SIGNALS, PAIRS OR TRIADS SHIELDED SPIRAL CABLES SHALL BE USED,
WITH THE EXCEPTION OF THOSE "SINK" INPUTS OR OUTPUTS OF THE CONTROLLER WHERE AN EXTERNAL FEED IS NEEDED.
ONLY FOR THIS SPECIFIC CASE, SINGLE WIRE CABLE SHALL BE USED.

C-GROUNDING CONNECTIONS

EARTH TYPE	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR	ID RING COLOR
P.E. (PROTECTIVE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	YELLOW/GREEN (YG)	-
I.E. (INSTRUMENT EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	GREEN (GN)	-
I.S.E. (INTRINSICALLY SAFE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	WHITE (WH)	-

B -PANEL SINGLE-CORE CABLES

SINGLE-CORE CABLE FUNCTION	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR NON Intrinsically Safe Circuit	WIRE COLOR Intrinsically Safe Circuit
AC LINE	(1x2.5) - (1x4) - (1x6)	BROWN (BR)	N/A
AC NEUTRAL	(1x2.5) - (1x4) - (1x6)	LIGHT BLUE (LB)	N/A
DC 24Vdc (POSITIVE)	(1x2.5) - (1x4) - (1x6)	RED (RD)	N/A
DC 24Vdc (NEGATIVE)	(1x2.5) - (1x4) - (1x6)	BLUE (BU)	N/A
DIGITAL SIGNALS (POSITIVE)	(1x0.5)	BLACK (BK)	N/A
DIGITAL SIGNALS (NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (2 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (2 WIRE NEGATIVE)	(1x0.5)	WHITE (WH)	N/A
ANALOG SIGNALS (3 WIRE POSITIVE)	(1x0.5)	BLACK (BK)	N/A
ANALOG SIGNALS (3 WIRE NEGATIVE)	(1x0.5)	RED (RD)	N/A
ANALOG SIGNALS (3 WIRE SIGNAL)	(1x0.5)	WHITE (WH)	N/A

GENERAL NOTE :MINIMUM SECTION 1.5 mm² FOR CPU PANEL INTERNAL LAMPS, LIMIT SWITCHES, FANS, THERMOSTATS, ISOLATORS POWER SUPPLY

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM INTERNAL WIRING INFORMATION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

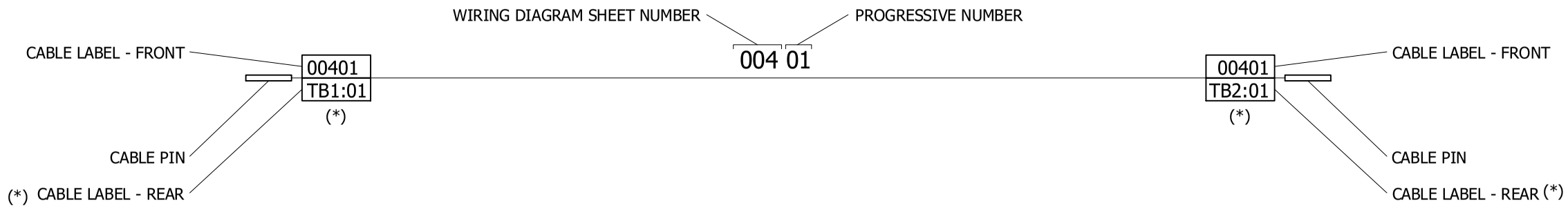
SHEET 004

REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

	CABINET
P.E. EARTH	
I.E. EARTH	
I.S.E. EARTH	

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH
I.S. (I.S.E.) - INTRINSICALLY SAFE EARTH

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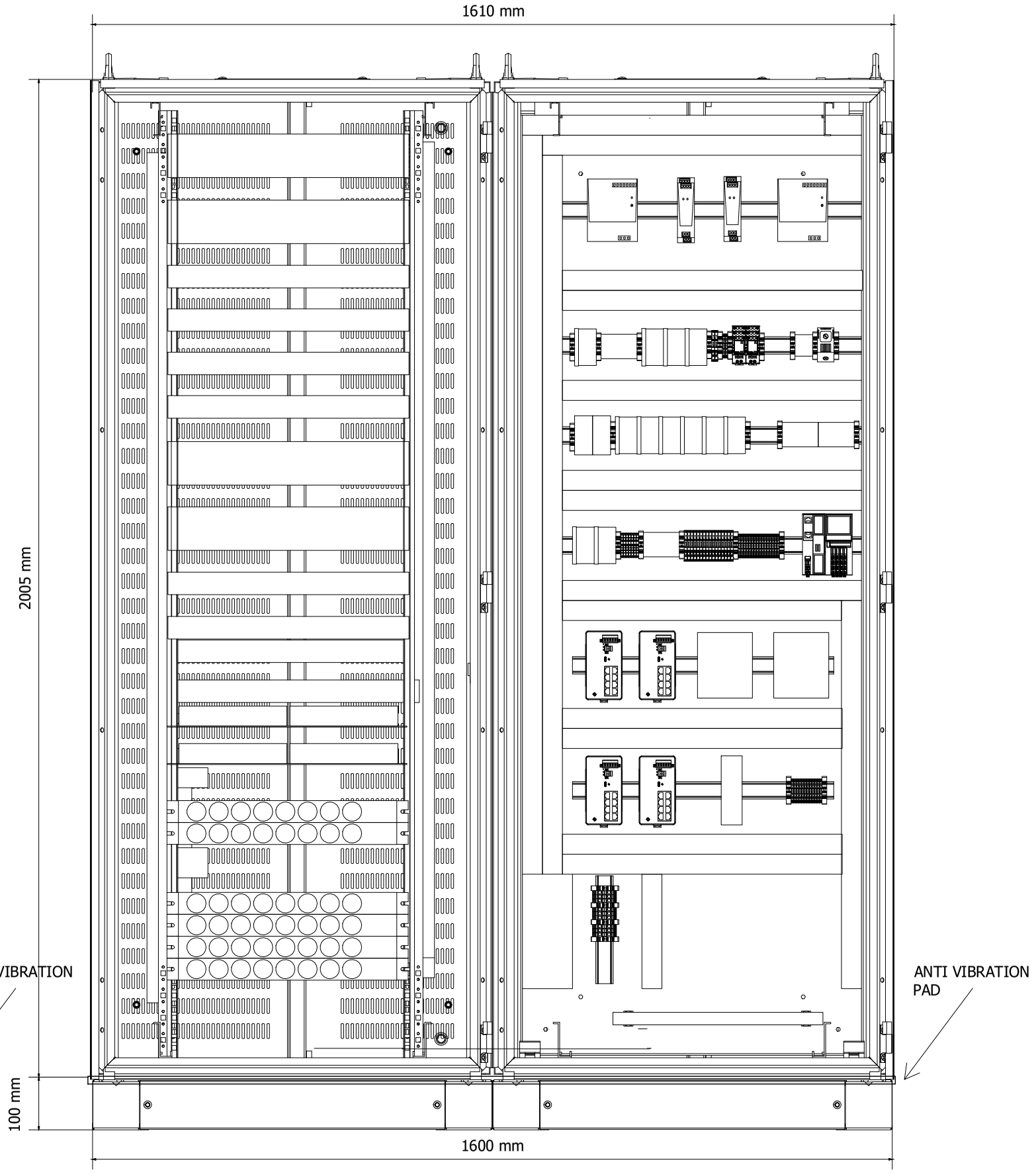
YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO
CROSSWIND
ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DA-00012
SHEET 005
REV. 3

SERVER PANEL - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW





DRAWING SCALE 1:10

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DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

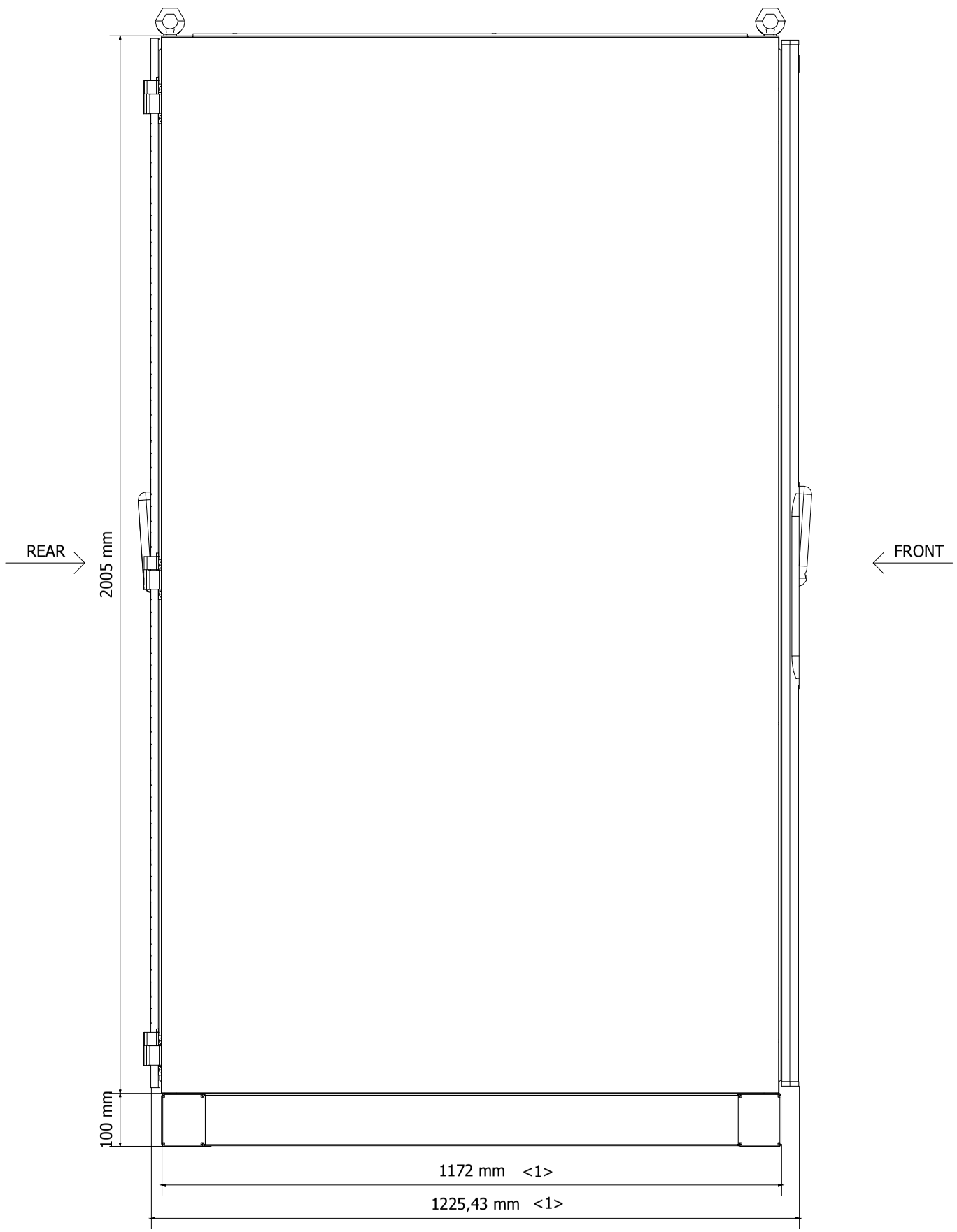
TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
SERVER OER - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

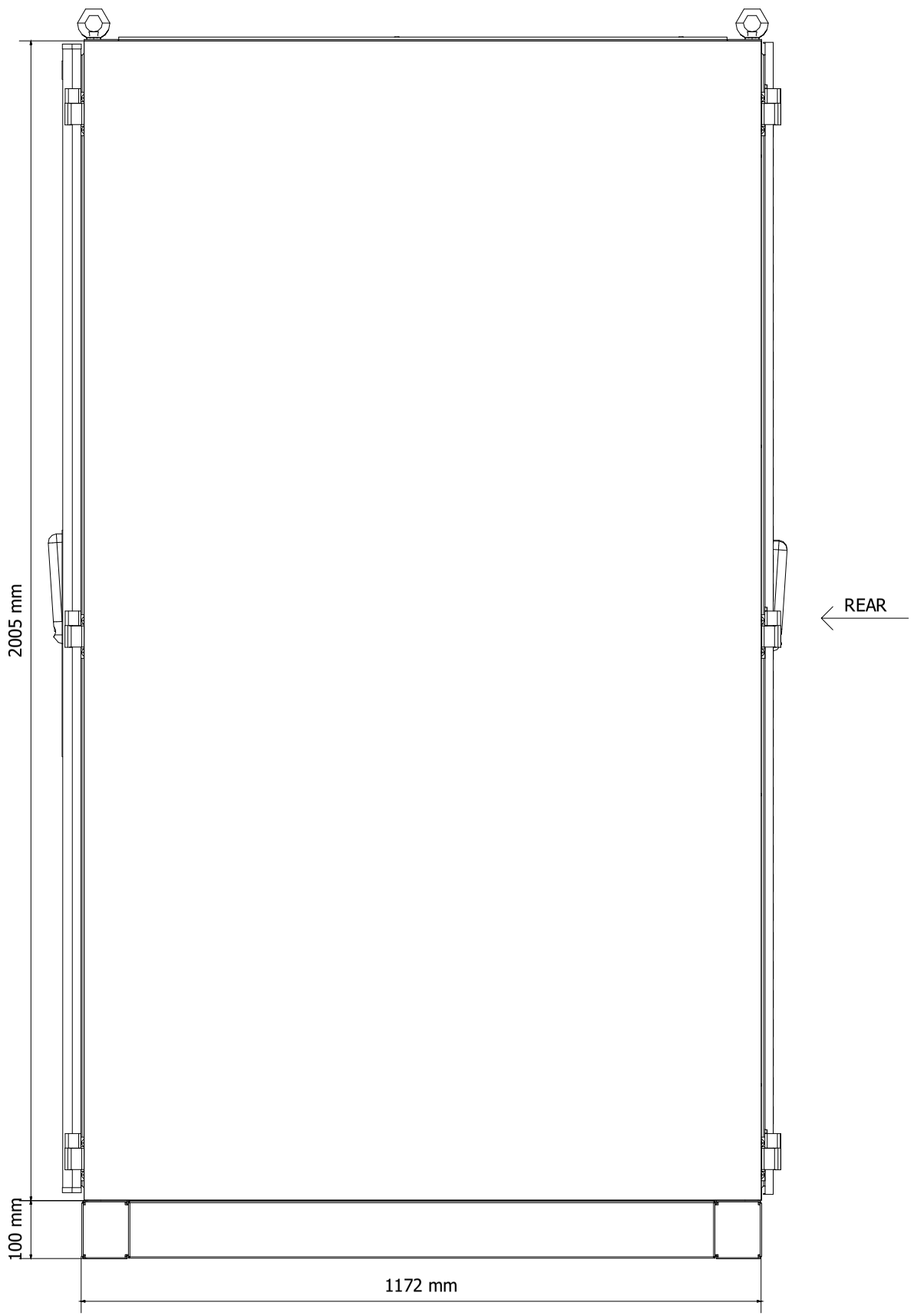
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00012 | SHEET 006 | REV. 3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

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CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

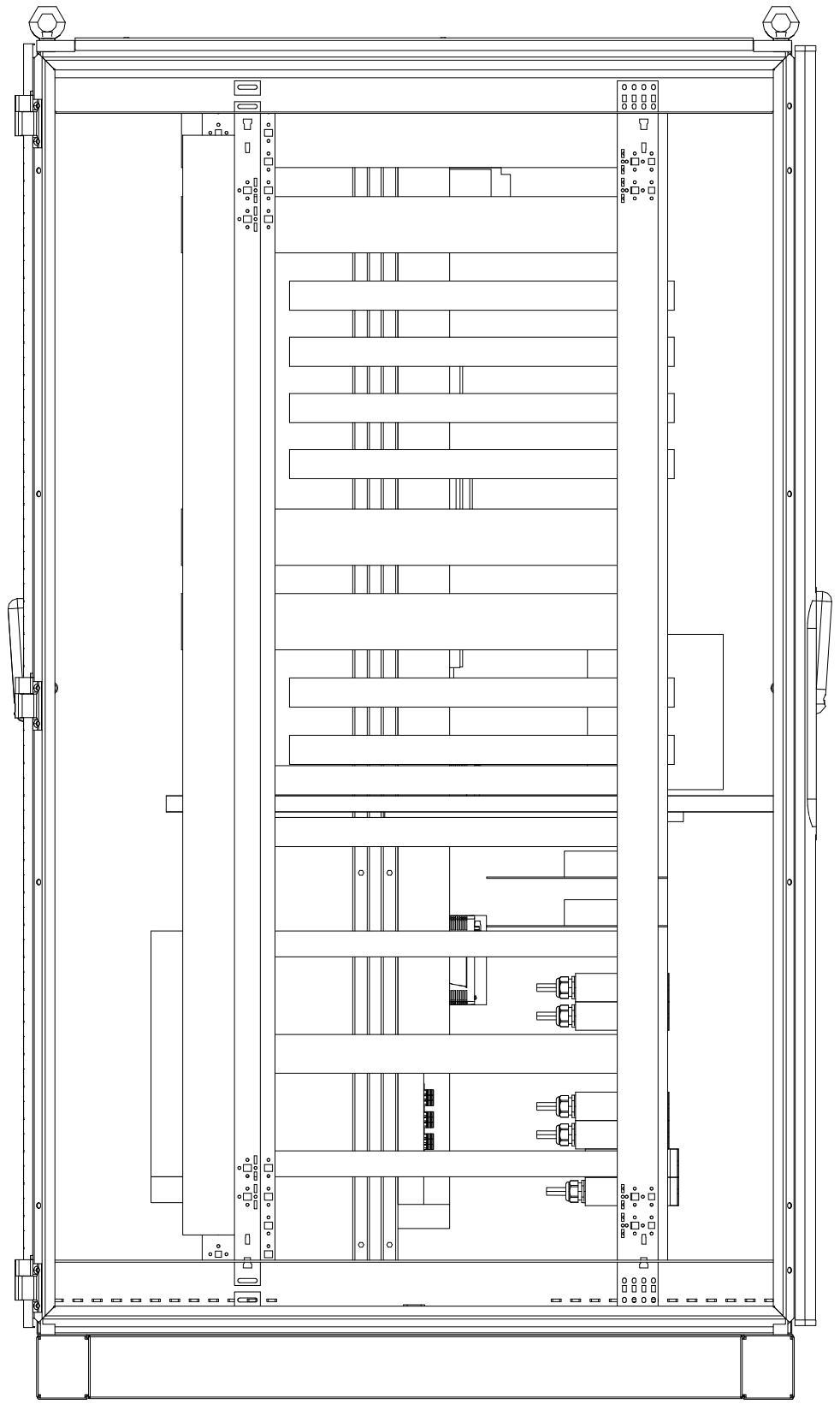
A3

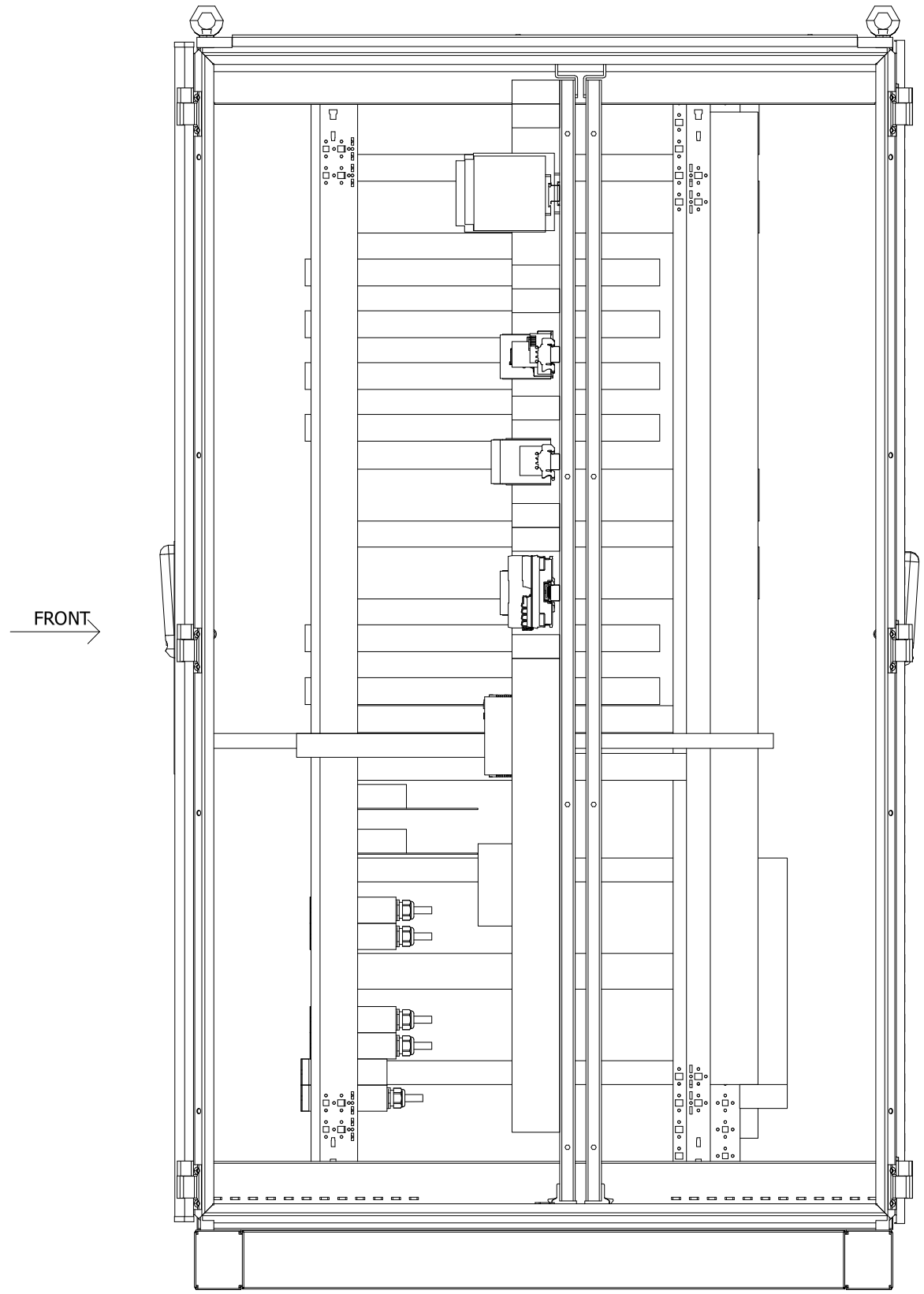
DRAWING NO. 1724000594-IN-DA-00012

SHEET 007

REV. 3

SERVER PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE WHITOUT PANEL





DRAWING SCALE 1:10

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DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

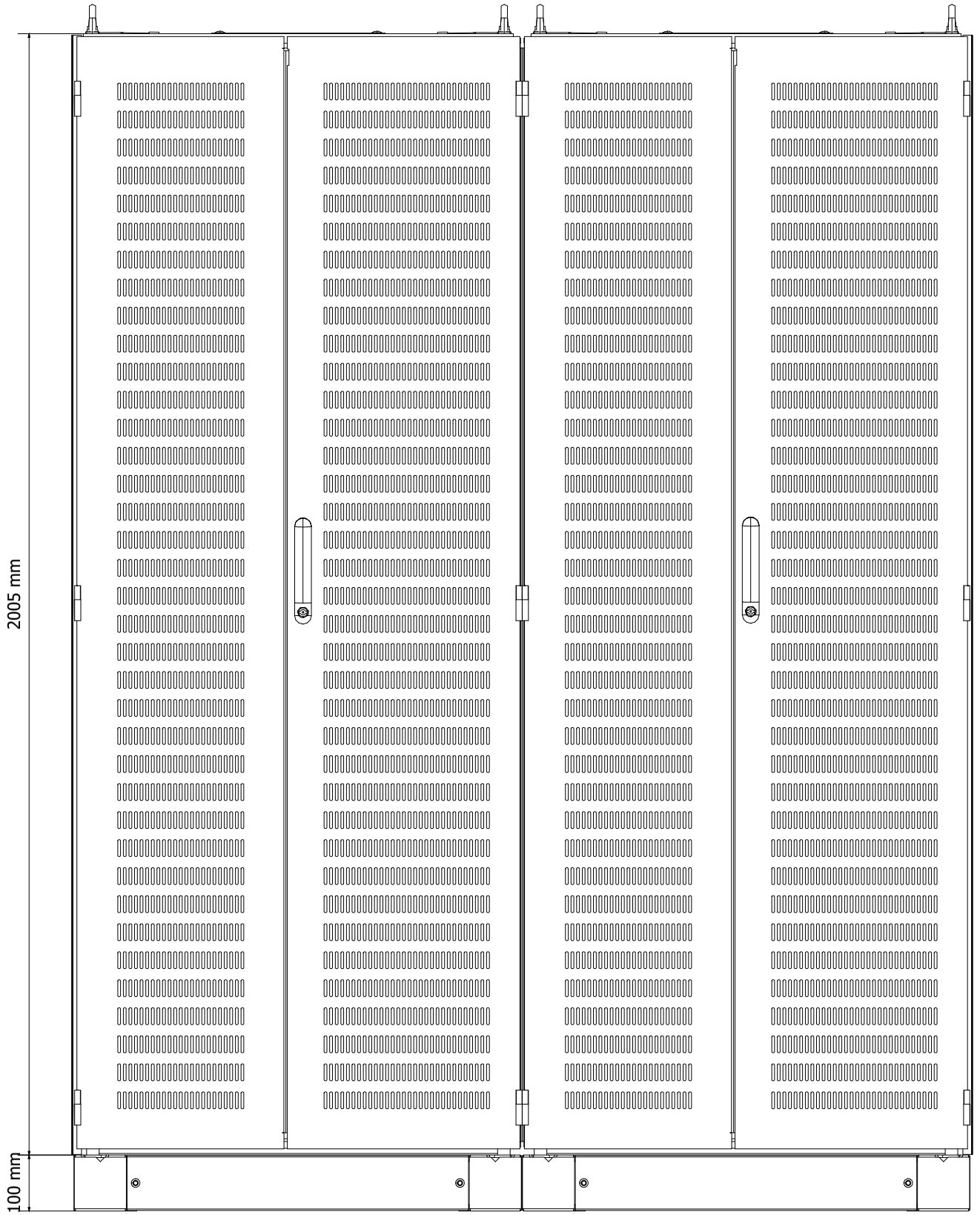
A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 008

REV. 3

SERVER PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

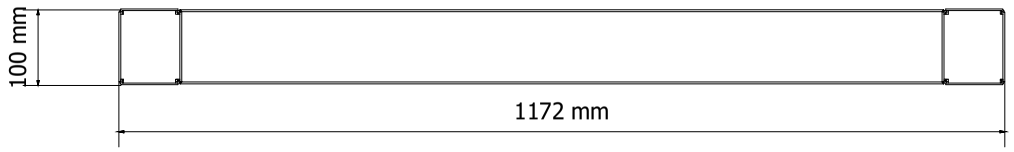
DRAWING NO. 1724000594-IN-DA-00012

SHEET 009

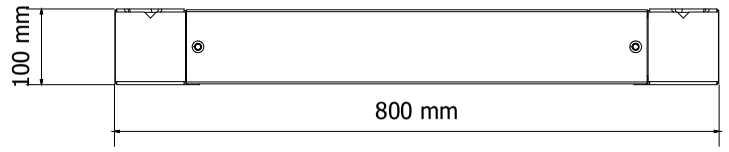
REV. 3

SERVER PANEL - BASEPLATE DETAILS

BASEPLATE SIDE VIEW

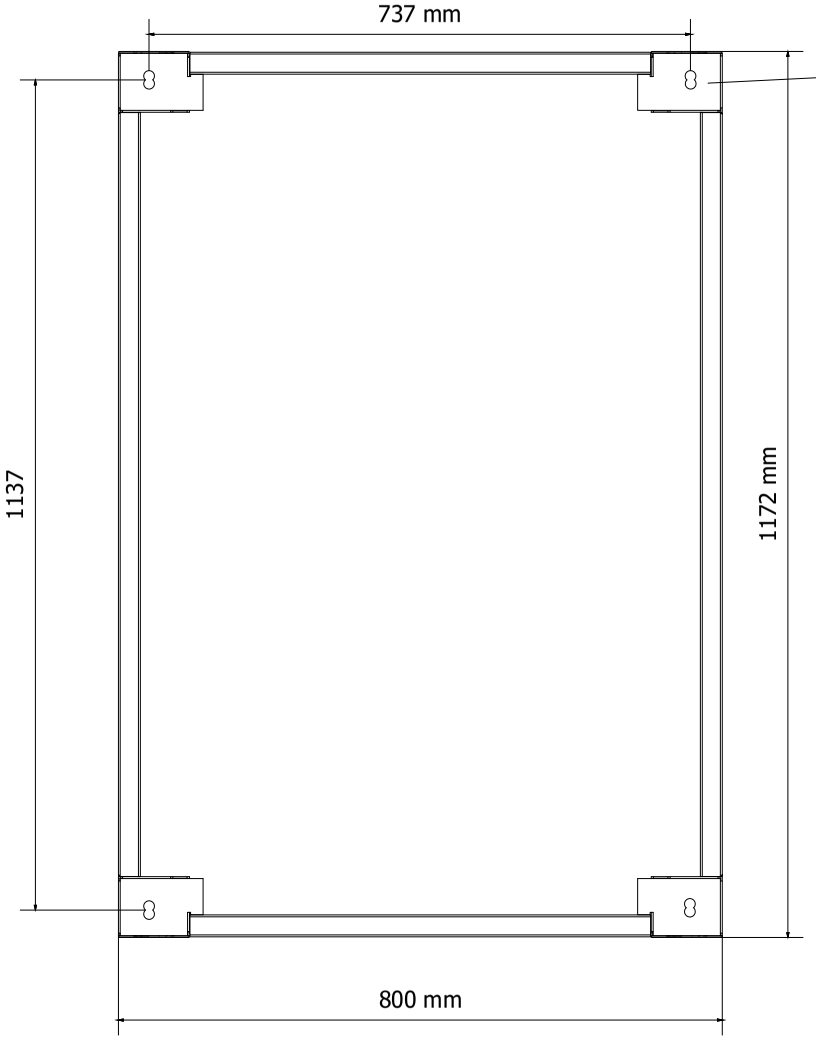


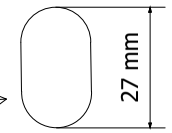
BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW

REAR SIDE





DETAIL OF FIXING HOLE:

Ø 16mm

NOTE:
TO BE CONSIDERED FOR EACH COLUMN

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	10.07.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	22.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER- BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 010

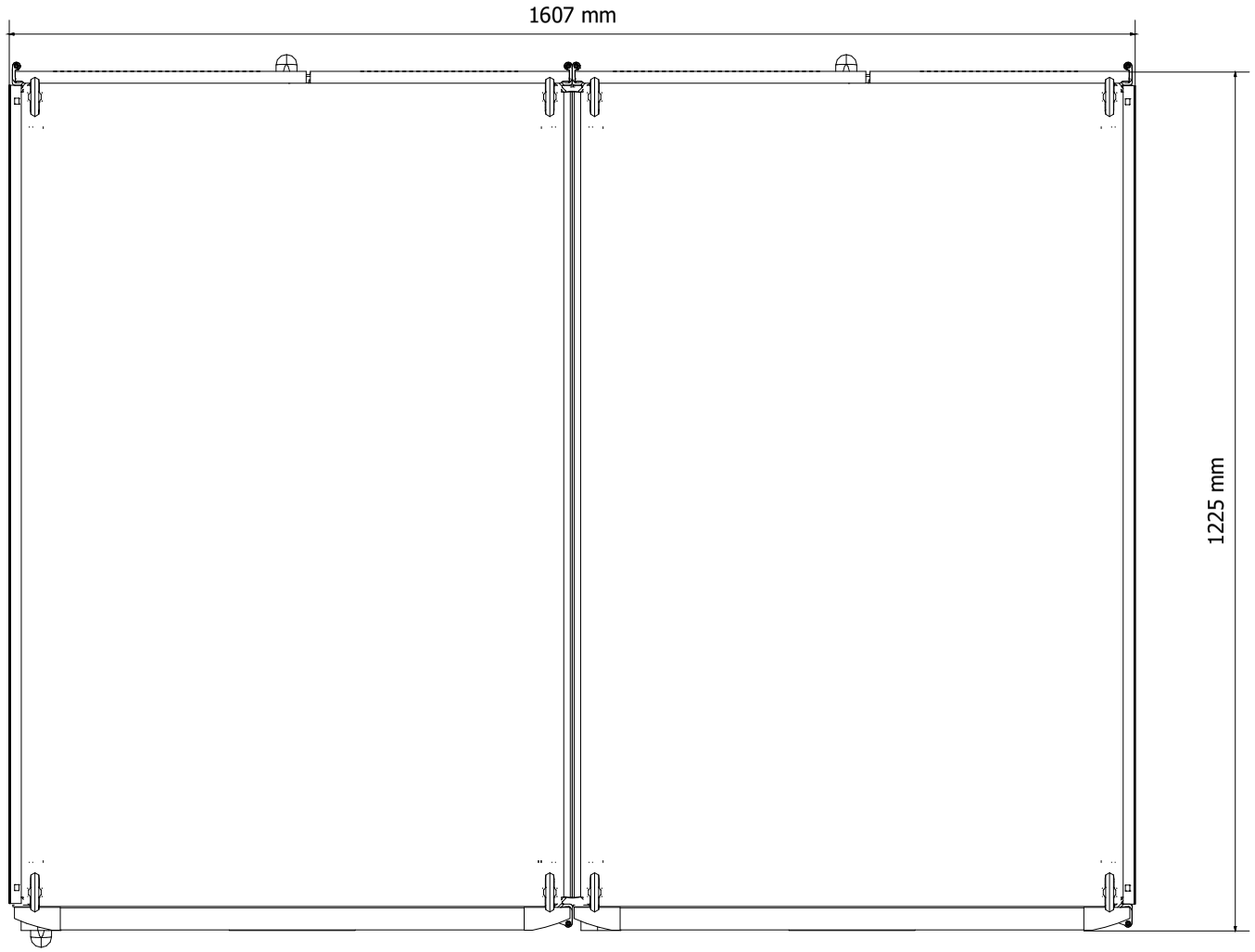
REV. 3

Page 3552 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER PANEL - EXTERNAL & INTERNAL TOP VIEW

EXTERNAL TOP VIEW

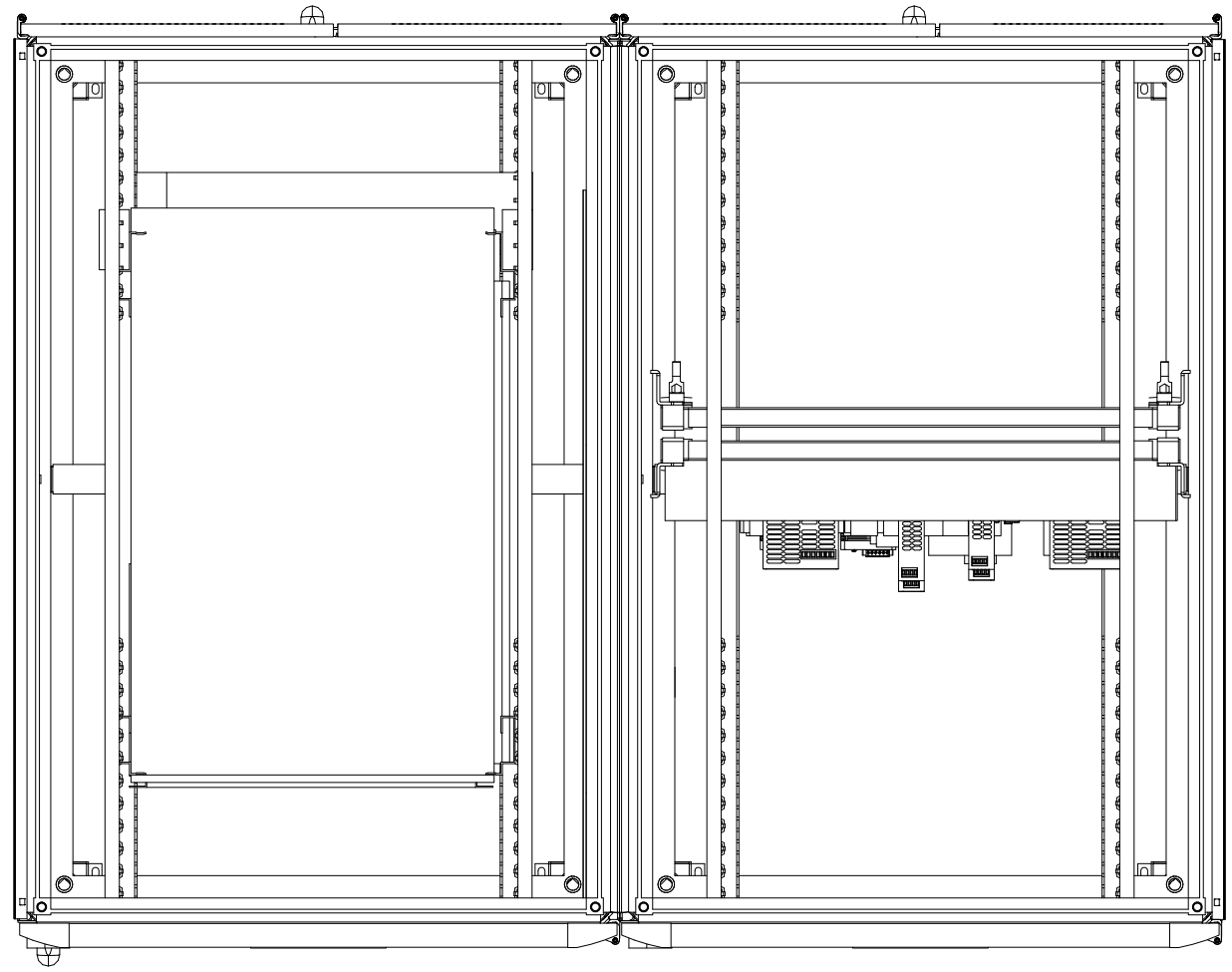
REAR



FRONT

INTERNAL TOP VIEW

REAR



FRONT

NOTE 1: DOOR LOCK AT 130°
NOTE 2: DOOR LOCK AT 110°

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
SERVER OER - EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 011

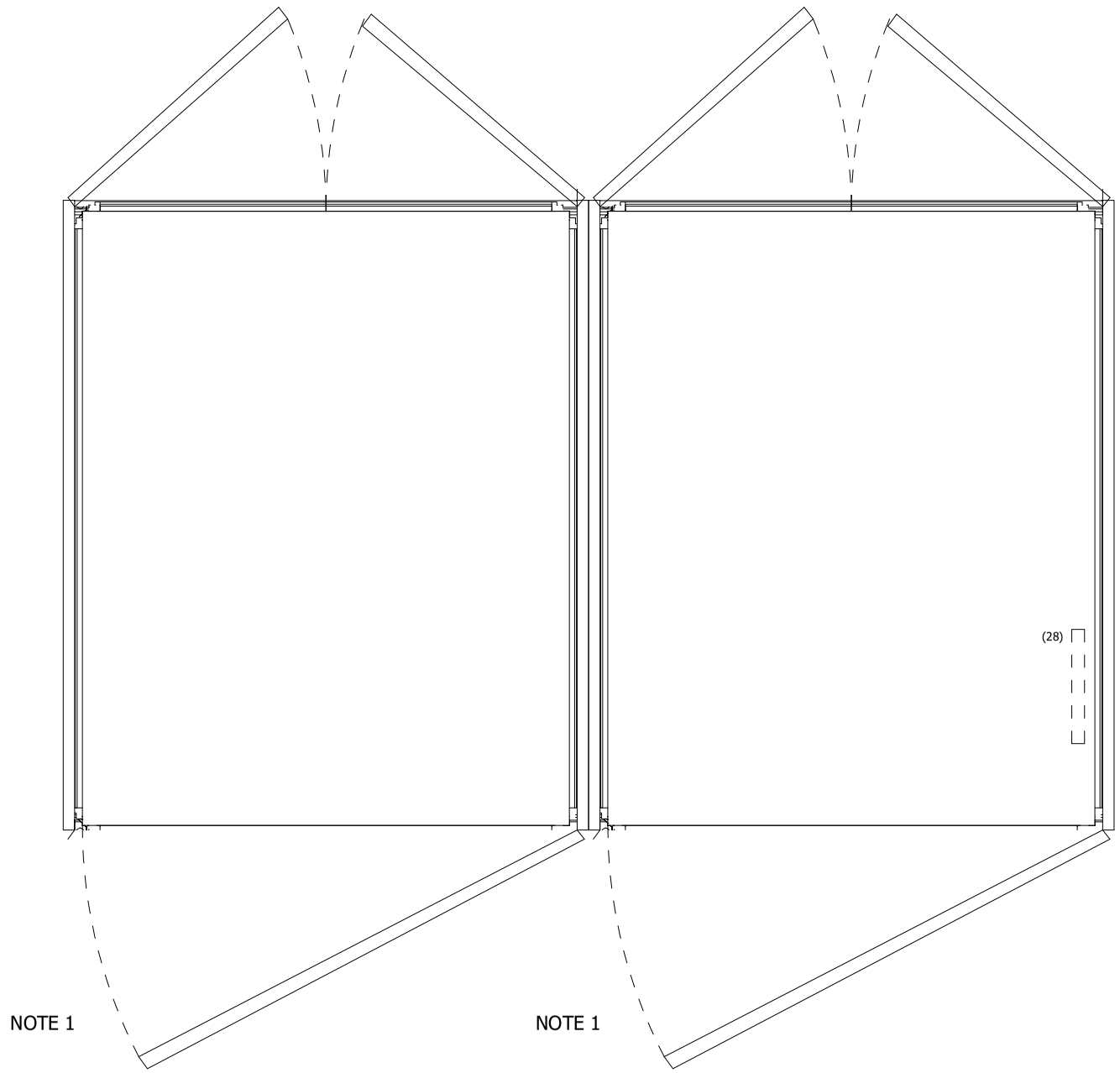
REV. 3

Page 3553 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

SERVER PANEL - EXTERNAL TOP VIEW DOOR OPEN

EXTERNAL TOP VIEW
(DOOR OPEN)

REAR



FRONT

NOTES :
NOTE 1: DOORS LOCK AT 90°

NOTE:
TO BE CONSIDERED FOR EACH COLUMN

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDA	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER - EXTERNAL TOP VIEW DOOR OPEN

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

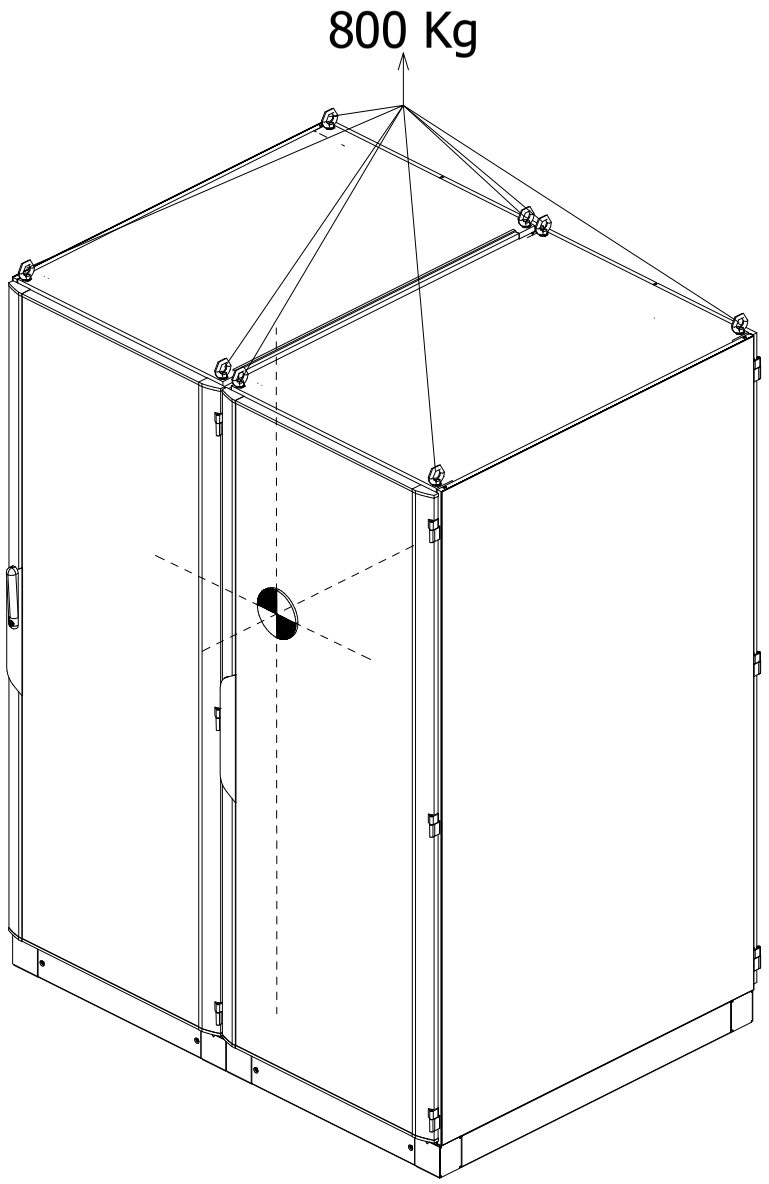
A3

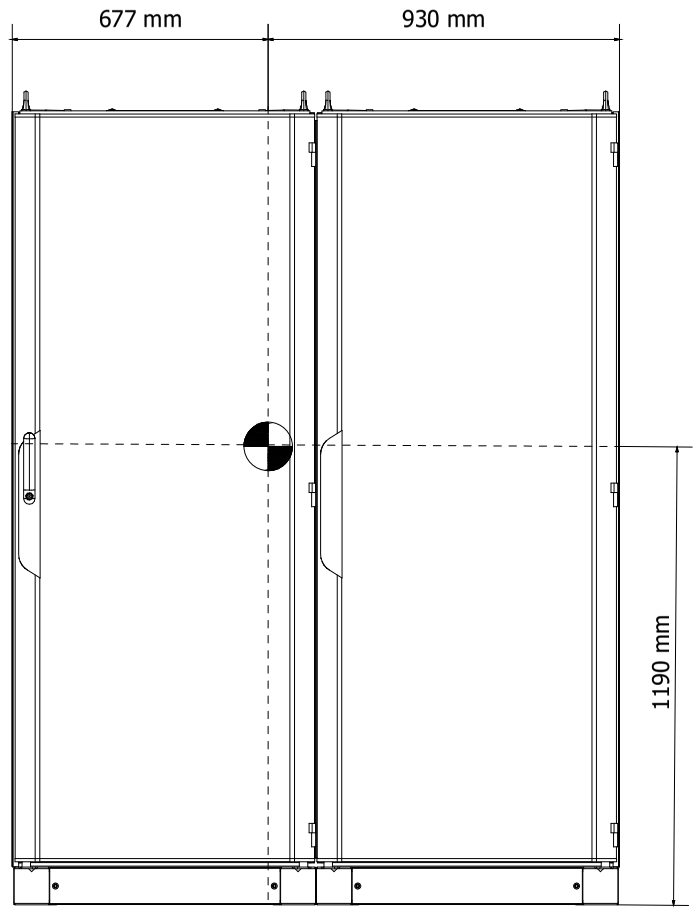
DRAWING NO. 1724000594-IN-DA-00012

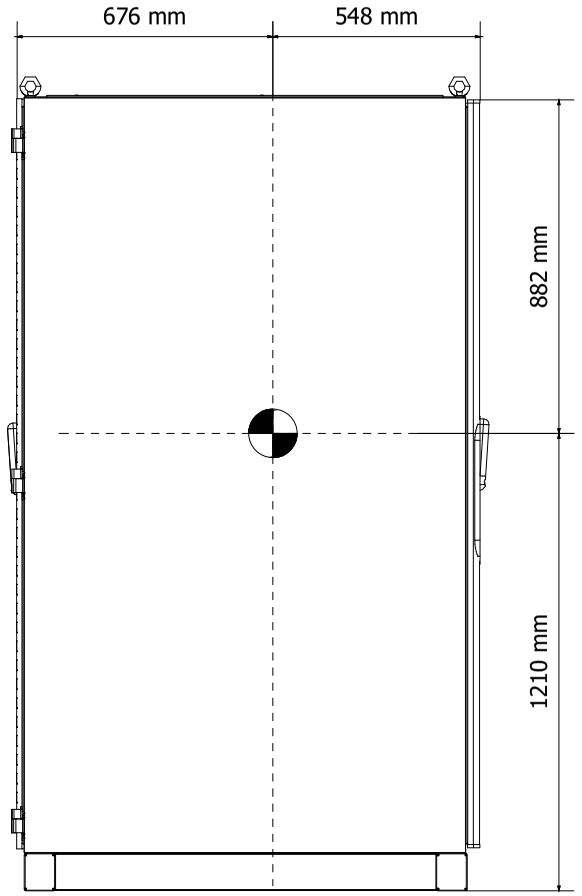
SHEET 012

REV. 3

SERVER PANEL - LIFTING DETAILS







= CENTER OF GRAVITY

DRAWING SCALE 1:20
ALL QUOTES SHOWN ARE APPROXIMATE VALUE

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER - LIFTING DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 013

REV. 3

SERVER PANEL - FRONT SIDE INTERNAL VIEW

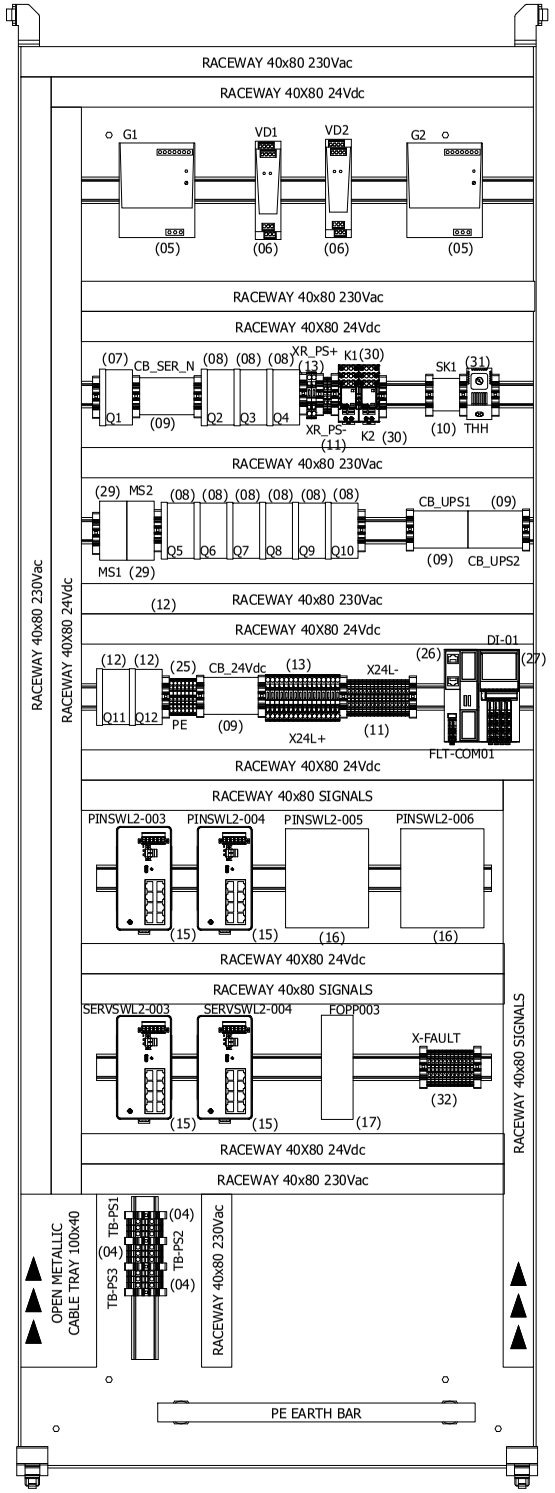
LEFT SIDE

FRONT

EMPTY SECTION

REAR

FRONT PLATE



REAR

RIGHT SIDE

FRONT

EMPTY SECTION

(28)

▲▲▲ = CABLE ENTRY

DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM
SERVER OER - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

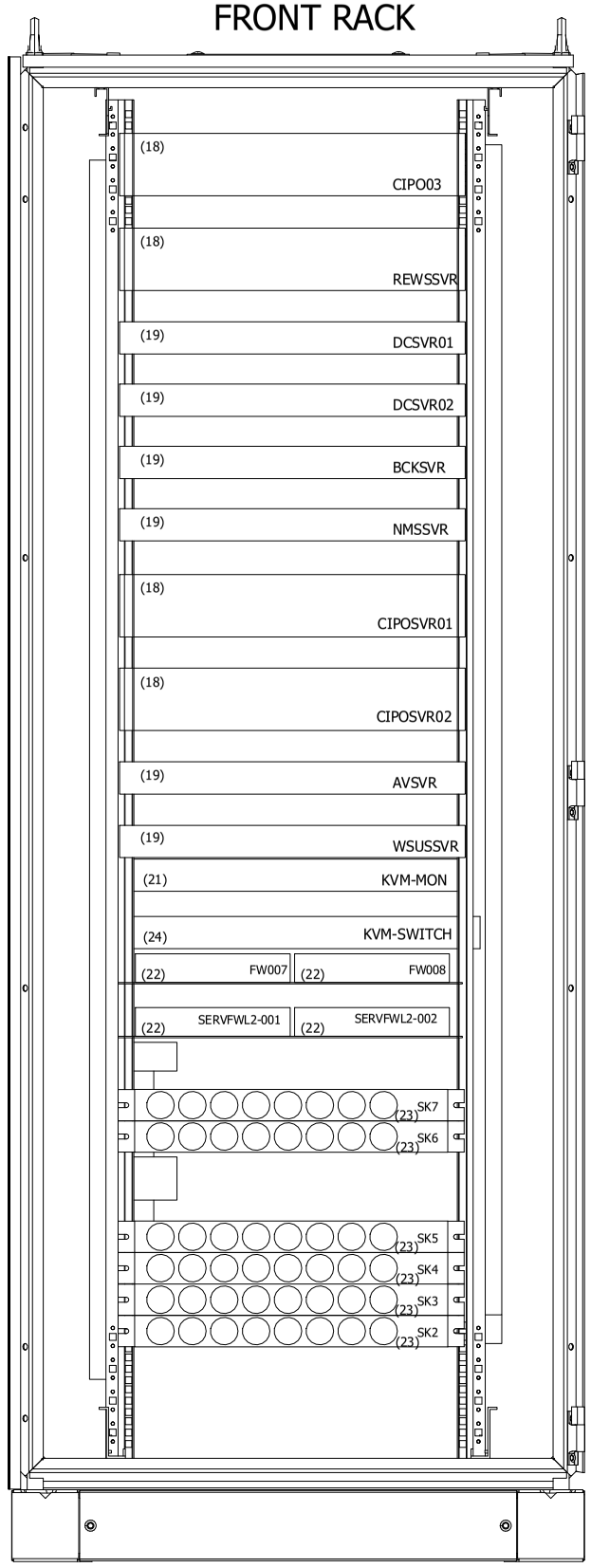
A3

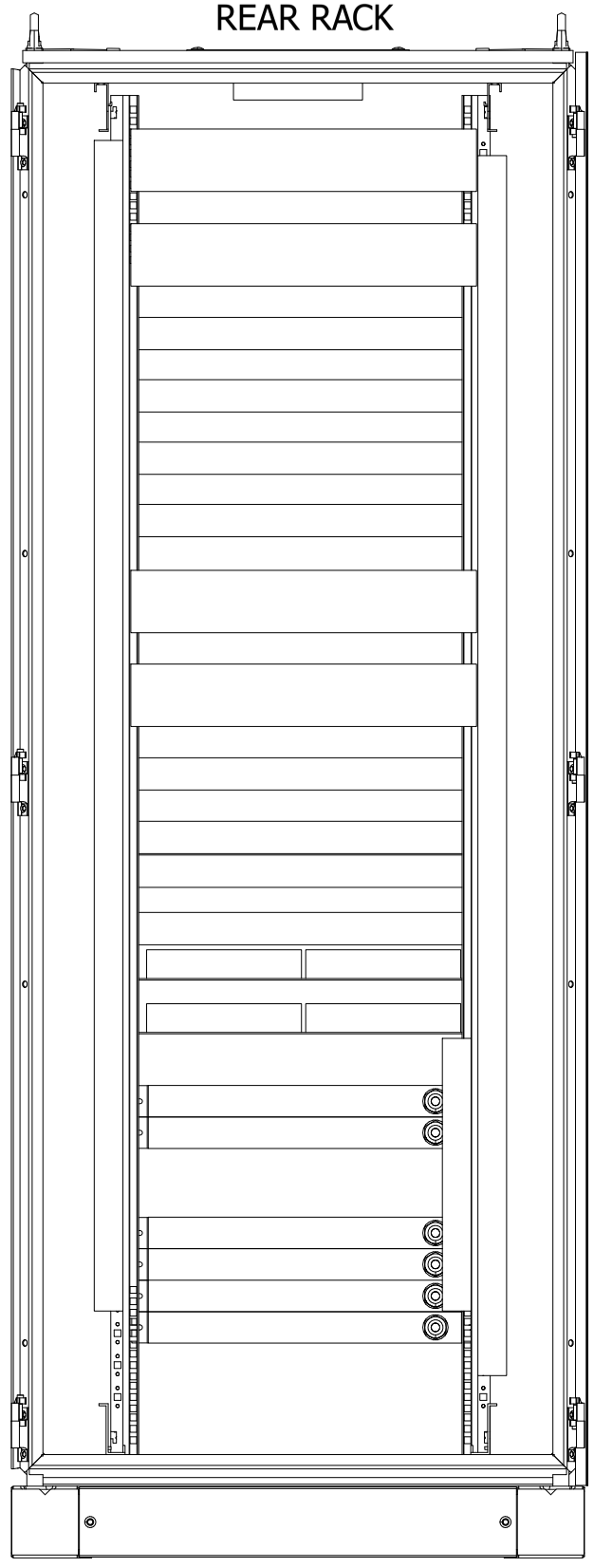
DRAWING NO. 1724000594-IN-DA-00012

SHEET 014

REV. 3

SERVER PANEL - FRONT SIDE SWING RACK INTERNAL VIEW





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	22.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER- FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 015

REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDA	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	22.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER - SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 016

REV. 3

TYPICAL 01



TYPICAL 01

MANUFACTURER LABEL ITEM (02)

MATERIAL	:	ALUMINIUM
DIMENSION	:	150mm x 50mm (lxh)
BACKGROUND COLOUR	:	ALUMINIUM
TEXT COLOUR	:	BLACK & GREEN
FIXING	:	BY STAINLESS STEEL SCREWS

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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0	22.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
BH AND MANUFACTURER LABEL DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 017

REV. 3

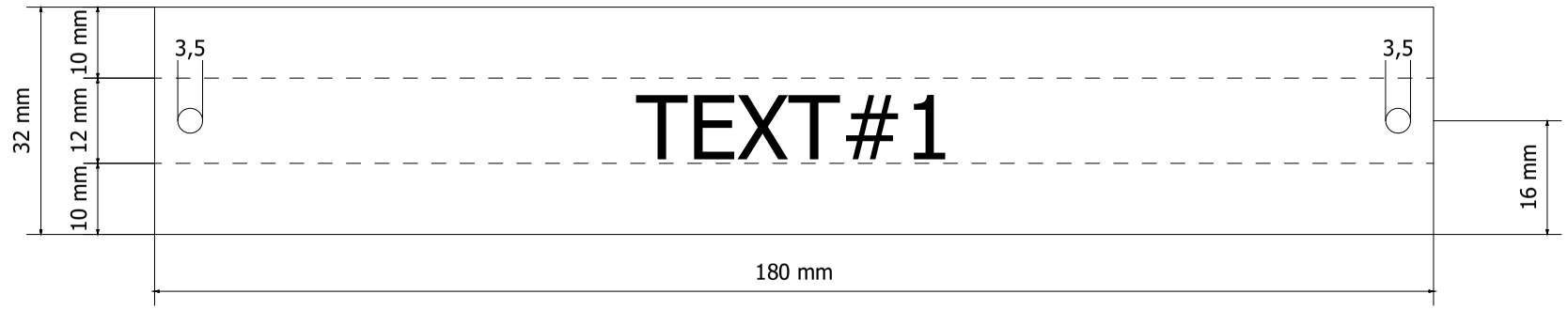
SERVER PANEL - SECTION IDENTIFIER NAMEPLATE DETAILS

TYPICAL 02

LABEL FOR SECTION IDENTIFIER ITEM (03)

MATERIAL	:	TRAFOLYTE
DIMENSION	:	200mm x 45mm (lxh)
BACKGROUND COLOUR	:	TRAFOLYTE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	15 mm / 10 mm
TEXT FONT	:	ARIAL
FIXING	:	BY STAINLESS STEEL SCREWS

TYPICAL 02



CABINET	TEXT#1
SERVER	HKN-WPO1-BLPH-SRV-01
NETWORK	HKN-WPO1-BLPH-NET-01

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	18.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
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0	22.05.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER AND NETWORK SECTION IDENTIFIER NAMEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00012 | SHEET 018 | REV. 3

SHEET LEFT INTENTIONALLY BLANK

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND | ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
	.				
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 019

REV. 3

CERTIFICATION LABELS DETAILS

TYPICAL 05

LABEL FOR ITEM IDENTIFIER : ITEM (25)

MATERIAL	:	TRAFFOLYTE
DIMENSION	:	150mm x 150mm (lxh)
BACKGROUND COLOUR	:	WHITE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	4 mm
TEXT FONT	:	ARIAL
FIXING	:	SS316L SCREWS OR RIVETS

PREI

PROGETTAZIONE E
REALIZZAZIONI
INDUSTRIALI

CE

22040 ALZATE BRIANZA (CO) ITALY Via Pascoli 150 Ph. +39031631875 website : www.prei.it

PREI JOB/SN: C\5529 CONSTRUCTION YEAR: 2024

CUSTOMER PURCHASE ORDER: 4511988955

CUSTOMER JOB N°: E366772C00

REFERENCE DRAWINGS : 1724000594-IN-DG-00012 - OUTLINE DRAWING

1724000594-IN-DA-00023 - SCHEMATIC DRAWING

Line 1: VOLTAGE 230 Vac / 50 Hz Line 1: CURRENT 4,2A

Line 1: SHORT CIRCUIT CURRENT RATING: 10kA

Line 2: VOLTAGE 230 Vac / 50 Hz Line 2: CURRENT 4,2A

Line 2: SHORT CIRCUIT CURRENT RATING: 10kA

Line 3: VOLTAGE 230 Vac / 50 Hz Line 3: CURRENT 2,6A

Line 3: SHORT CIRCUIT CURRENT RATING: 10kA

PANEL PROTECTION DEGREE IP43

PANEL OPERATING TEMPERATURE RANGE: 5-45°C

DRAWING SCALE 1:1
ALL QUOTES SHOWN ARE IN MILLIMETERS

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
CERTIFICATION LABEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 020

REV. 3

SERVER PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	2	DETAILS ON SHEET 027 TYPICAL 02
03	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_03	2	DETAILS ON SHEET 028 TYPICAL 03
04	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_04	9	TB-PS1 ÷ TB-PS3 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
05	POWER SUPPLY FEEDER MODULE INPUT 230Vac (AUTO-RANGING) - OUTPUT 24Vdc-20a	WEIDMULLER PRO ECO 480W 24V 20A WDM.1469510000	NA001_05	2	G1 ÷ G2 (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
06	DECOUPLING & PROTECTIVE DIODE FOR REDUNDANCY - 24Vdc -	WEIDMULLER PRO DM 20 WDM.2486080000	NA001_06	2	VD1 - VD2 (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
07	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_07	1	Q1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
08	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 115Vac / 240Vac WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_08	9	Q2 ÷ Q10 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK2P100A7	NA001_09	4	CB_UPS1 - CB_UPS2 - CB_SER - CB_24Vdc (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_10	1	SK1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
11	DISTRIBUTION TERMINALS - SCREW TYPE - SECTION 2.5mm² FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 PXC.3044076	NA001_11	16	XR_PS- / X24L- (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
12	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 24Vdc WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_12	2	Q11 ÷ Q12 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
13	TERMINALS - SCREW TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4 HESI PXC.3046032	NA001_13	16	XR_PS+ - X-24L+(INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
14	INTERPOSING RELAY FOR HEATER CUT-OUT COIL - 240Vac - 50Hz - 2 CONTACTS	PHOENIX CONTACT PLC-RCS-230UC/21-21 PXC.2967099	NA001_14	1	KTHG (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
& WIRING DIAGRAM
SERVER OER MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 021

REV. 3

SERVER PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
15	MANAGED SWITCH 12 PORT 2XSFP -	HIRSCHMANN BRS40-0012	NA001_15	4	PINSWL2-003 ÷ PINSWL2-004 - SERVSWL2-003 ÷ SERVSWL2-004 EXTERNAL LABEL NOT REQUIRED
16	MANAGED SWITCH 24 PORT 2XSFP -	HIRSCHMANN BRS40-0024	NA001_16	2	PINSWL2-005 ÷ PINSWL2-006 EXTERNAL LABEL NOT REQUIRED
17	PATCH PANEL MODULE -	BELDEN MIPP/AD/1L3P	NA001_17	1	FOPP003 EXTERNAL LABEL NOT REQUIRED
18	SERVER -	DELL GP4SY	NA001_18	4	CIPO03 - REWSSVR - CIPOSVR01 - CIPOSVR02 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
19	SERVER -	YOKOGAWA Dell PowerEdge R340	NA001_19	6	DCSSVR01 - DCSSVR02 - BCKSVR - NMSSVR AVSSVR - WSUSSVR (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
20	- -	- -	-	-	- -
21	KVM MONITOR -	DELL KMMLED185	NA001_21	1	KVM-MON (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
22	FORTIGATE FIREWALL 4X PORTS -	FORTINET FG-40 F	NA001_22	4	FW007 ÷ FW008 - SERVFWL2-001 ÷ SERVFWL2-002 EXTERNAL LABEL NOT REQUIRED
23	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_23	6	SK2 ÷ SK7 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
24	KVM SWITCH -	DELL AV 2216	NA001_24	1	KVM-SWITCH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
25	PE TERMINALS -	PHOENIX CONTACT UT 2.5 PE PXC.3044092	NA001_25	7	PE (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
26	MODBUS/ETHERNET COMMUNICATION MODULE -	PHOENIX CONTACT AXL F BK ETH	NA001_26	1	FLT-COM01 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
27	DIGITAL INPUT MODULE -	PHOENIX CONTACT AXL F DI8/2 24DC 1	NA001_27	1	DI-01 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
28	DRAWING POCKET - GREY COLOUR -	MANUFACTURER STANDARD	NA001_28	1	EXTERNAL LABEL NOT REQUIRED -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-OER_NLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) & WIRING DIAGRAM SERVER OER MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 022

REV. 3

SERVER PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
29	ROTATIVE SWITCH 32A 3P -	LOVATO G032A	NA001_29	2	MS1 - MS2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
30	RELAY FOR 230Vac POWER DISTRIBUTION -	FINDER 62.32.8.230.0000	NA001_30	2	K1 - K2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
31	THERMOSTAT FOR HIGH TEMPERATURE ALARM -	MANUFACTURER STANDARD	NA001_31	1	THH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
32	TERMINALS - SCREW TYPE - SECTION 2.5mm² KNIFE DISCONNECT TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 MT PXC.3045362	NA001_32	12	X-FAULT (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
33	- -	-	NA001_33	-	- -
34	- -	-	NA001_34	-	- -
35	- -	-	NA001_35	-	- -
36	- -	-	NA001_36	-	- -
37	- -	-	NA001_37	-	- -
38	- -	-	NA001_38	-	- -
39	- -	-	NA001_39	-	- -
40	- -	-	NA001_40	-	- -
41	- -	-	NA001_41	-	- -
42	- -	-	NA001_42	-	- -

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CROSSWIND

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SERVER OER MAIN COMPONENT LIST

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SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00012

SHEET 023

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-9.5 EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

1724000594-IN-DA-00013

BASE LOAD POWER HUB (BLPH)
EMCS CABINET
GENERAL ARRANGEMENT
DRAWINGS AND
INTERNAL LAYOUT

Page 3567 of 4406
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	27/10/2025

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
COVER PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 001

REV. 3

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
001	X	X	X	X						BASE LOAD POWER HUB (BLPH) COVER PAGE
002	X	X	X	X						BASE LOAD POWER HUB (BLPH) INDEX
003	X	X		X						BASE LOAD POWER HUB (BLPH) DATA SHEET
004	X	X		X						BASE LOAD POWER HUB (BLPH) INTERNAL WIRING INFORMATION
005	X	X		X						BASE LOAD POWER HUB (BLPH) TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS
006	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW
007	X			X						BASE LOAD POWER HUB (BLPH) EMCS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW
008	X	X		X						BASE LOAD POWER HUB (BLPH) EMCS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL
009	X			X						BASE LOAD POWER HUB (BLPH) EMCS - EXTERNAL REAR VIEW
010	X	X		X						BASE LOAD POWER HUB (BLPH) EMCS - BASEPLATE DETAILS
011	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS- EXTERNAL & INTERNAL TOP VIEW
012	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS - LIFTING DETAILS
013	X		X	X						BASE LOAD POWER HUB (BLPH) EMCS - FRONT DOOR CUT-OUT DETAILS
014	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS - FRONT SIDE INTERNAL VIEWS
015	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS - FRONT SIDE INTERNAL VIEWS
016	X			X						BASE LOAD POWER HUB (BLPH) EMCS - SPARE PAGE
017	X			X						BASE LOAD POWER HUB (BLPH) BH AND MANUFACTURER LABEL DETAILS
018	X		X	X						BASE LOAD POWER HUB (BLPH) EMCS SECTION IDENTIFIER NAMEPLATE DETAILS
019	X			X						BASE LOAD POWER HUB (BLPH) SPARE PAGE
020	X	X	X	X						BASE LOAD POWER HUB (BLPH) CERTIFICATION LABEL

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE
021	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS MAIN COMPONENT LIST
022	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS MAIN COMPONENT LIST
023	X	X	X	X						BASE LOAD POWER HUB (BLPH) EMCS MAIN COMPONENT LIST

PAG. NR.	REVISION 0	1	2	3	4	5	6	7	8	TITLE

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DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
INDEX

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 002

REV. 3

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

A - GENERAL DATA

A1	TYPE	☐ MANUFACTURER STANDARD	■ AUGER	
A2	REFERENCE CODE	■ IEC	☐ IEC NORTH AMERICA SUITABLE (THIRD PARTY CERTIFIED)	
A3	CONTRACTUAL LANGUAGE	■ ENGLISH	☐	
A4	INSTALLATION	SAFE AREA, AIR CONDITIONING CONTROL ROOM/CAB HEAVY INDUSTRY ENVIRONMENT		
A5	OPERATING TEMPERATURE	+5°C TO +45 °C		
A6	OPERATING HUMIDITY	10 TO 93 % RH NOT CONDENSING		
A7	MARSHALLING TERMINAL STRIP	■ WITH	☐ WITHOUT	
A8	TERMINAL STRIP	☐ MIRROR OF JUNCTION BOX	■ NOT MIRROR OF JUNCTION BOX	
A9	SPARE TERMINALS	☐ NO	■ YES, NOT WIRED	☐ YES, JUMPERED TO I.E. OR I.S. BAR
A10	CABLES & CABLE TRAYS	☐ PVC	■ HALOGEN FREE AND LOW SMOKE	
A11	INTRINSICALLY SAFE BARRIERS/ISOLATORS	■ NO	☐ YES	
A12	SURGE ARRESTORS	■ NO	☐ YES, ONLY FOR POWER SUPPLY LINE IN	
A13	POLLUTION DEGREE	■ 2 AS PER IEC60664-1		
A14	STORAGE TEMPERATURE	-20°C TO 50°C UP TO 80% HUMIDITY		
A15	MATERIAL	■ CARBON STEEL	☐ STAINLESS STEEL AISI 304	☐ STAINLESS STEEL AISI 316

B - MECHANICAL DATA

B1	OVERALL DIMENSION	800 mm x 800 mm x 2100 mm (L x D x H) (NOTE B1)		
B2	PROTECTION DEGREE	■ IP 43	☐ IP 55	
B3	STEEL THICKNESS	■ STRUCTURE: 1.5 mm	■ DOORS: 2 mm	
B4	CABLE ENTRY	■ TOP	☐ BOTTOM	
B5	CABLE ENTRY FIXING	☐ REMOVABLE PLATES	☐ CLAMPS	■ MCT
B6	ACCESSIBILITY	■ FRONT ONLY	☐ FRONT / REAR	
B7	LIFTING SYSTEM	■ EYE BOLTS	☐ LIFTING BAR "L" TYPE	
B8	BASE PLINTH	■ SEPARATE PIECES		
B9	DOOR LOCKS	■ KEY LOCKED WITH UNIQUE KEY PER UCP		
B10	APPROXIMATIVE WEIGHT	250 Kg		

NOTE B1 : ALLOWED TOLERANCE FOR PANEL HEIGHT/DEPTH: +/-5mm;
ALLOWED TOLERANCE FOR PANEL STRUCTURES AND SUPPORTS: +/-2mm;
ALLOWED TOLERANCE FOR TOTAL PANEL LENGTH : +/-2% OF TOTAL PANEL LENGTH;
(IN ANY CASE, MAXIMUM LENGTH TOLERANCE ALLOWED FOR PANEL WITH 2 OR MORE COLUMNS IS +/-50mm)
REMOVALE BOTTOM PLATES SHALL BE PROVIDED

C - PAINTING

C1	REFERENCE SPECIFICATIONS		■ AUGER STANDARD	☐ JOB SPECIFIC	☐ MFR STANDARD
C2	EXTERIOR	TYPE	☐ SMOOTH	■ PEEL TYPE	
		COLOUR	■ RAL 7035	☐ RAL 7032	☐ RAL 7030
C3	BASE PLINTH		■ AS EXTERIOR		
C4	INTERIOR		■ GALVANISED (ALUZINC)		
C5	INTERNAL MOUNTING PLATES		■ GALVANISED (ALUZINC)		

D - ELECTRICAL DATA

.	SUPPLY LINE	UPS LINE 1	UPS LINE 2	NON-UPS LINE 3
D1	SUPPLY VOLTAGE	230Vac	230Vac	230Vac
D2	FREQUENCY	50Hz	50Hz	50Hz
D3	LOAD	0,7kW	0,7kW	0,6kW
D4	INTERNAL LIGHTING WITH DOOR LIMIT SWITCH OPERATION		■ FLUORESCENT (230Vac - 50Hz)	
D5	ANTI CONDENSING HEATER WITH TEMPERATURE THERMOSTAT		■ YES	
D6	VENTILATION FAN WITH FLOW SWITCH AND TEMPERATURE THERMOSTAT		■ YES	
D7	SERVICE SOCKET		■ YES	

E - NAMEPLATES

.	.	EXTERNAL PANEL	INTERNAL PANEL
E1	MATERIAL	■ TRAFFOLYTE	■ TAPE
E2	BACKGROUND COLOUR	■ WHITE	■ WHITE
E3	TEXT COLOUR	■ BLACK	■ BLACK
E4	FIXING	■ WITH SCREWS	■ SELF-ADHESIVE
E5	WARNING LABELS	■ SELF-ADHESIVE	■ SELF-ADHESIVE
E6	LANGUAGE	■ ENGLISH	■ ENGLISH

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
DATA SHEET

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 003

REV. 3

A - PANEL CONTROL CABLES

CABLE FUNCTION	CONDUCTOR SIZE	CONDUCTOR COLORS	OUTER SHEATH COLOR NON Intrinsically Safe Circuit	OUTER SHEATH COLOR Intrinsically Safe Circuit
BIPOLAR ANALOG SIGNALS (NOTE A1)	(2x0.5) + Shield	BLACK (BK) - WHITE (WH)	GREY (GR)	BLUE (BL)
TRIPOLAR ANALOG SIGNALS (NOTE A1)	(3x0.5) + Shield	BLACK (BK) - WHITE (WH) RED (RD)	GREY (GR)	BLUE (BL)

NOTE A1 : FOR THE ABOVE MENTIONED ANALOG SIGNALS, PAIRS OR TRIADS SHIELDED SPIRAL CABLES SHALL BE USED,
WITH THE EXCEPTION OF THOSE "SINK" INPUTS OR OUTPUTS OF THE CONTROLLER WHERE AN EXTERNAL FEED IS NEEDED.
ONLY FOR THIS SPECIFIC CASE, SINGLE WIRE CABLE SHALL BE USED.

C-GROUNDING CONNECTIONS

EARTH TYPE	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR	ID RING COLOR
P.E. (PROTECTIVE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	YELLOW/GREEN (YG)	-
I.E. (INSTRUMENT EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	GREEN (GN)	-
I.S.E. (INTRINSICALLY SAFE EARTH)	(1x2.5) - (1x6) - (1x16) - (1x25)	WHITE (WH)	-

B -PANEL SINGLE-CORE CABLES

SINGLE-CORE CABLE FUNCTION	CONDUCTOR SIZE Cable size shall not exceed max allowable section as per device's manufacturer recommendation	WIRE COLOR NON Intrinsically Safe Circuit	WIRE COLOR Intrinsically Safe Circuit
AC LINE	(1x2.5) - (1x4) - (1x6)	BROWN (BR)	N/A
AC NEUTRAL	(1x2.5) - (1x4) - (1x6)	LIGHT BLUE (LB)	N/A
DC 24Vdc (POSITIVE)	(1x2.5) - (1x4) - (1x6)	RED (RD)	N/A
DC 24Vdc (NEGATIVE)	(1x2.5) - (1x4) - (1x6)	BLUE (BU)	N/A
DIGITAL SIGNALS (POSITIVE)	(1x1)	BLACK (BK)	N/A
DIGITAL SIGNALS (NEGATIVE)	(1x1)	WHITE (WH)	N/A
ANALOG SIGNALS (2 WIRE POSITIVE)	(1x1)	BLACK (BK)	N/A
ANALOG SIGNALS (2 WIRE NEGATIVE)	(1x1)	WHITE (WH)	N/A
ANALOG SIGNALS (3 WIRE POSITIVE)	(1x1)	BLACK (BK)	N/A
ANALOG SIGNALS (3 WIRE NEGATIVE)	(1x1)	RED (RD)	N/A
ANALOG SIGNALS (3 WIRE SIGNAL)	(1x1)	WHITE (WH)	N/A

GENERAL NOTE :MINIMUM SECTION 1.5 mm² FOR CPU PANEL INTERNAL LAMPS, LIMIT SWITCHES, FANS, THERMOSTATS, ISOLATORS POWER SUPPLY

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DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
INTERNAL WIRING INFORMATION

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

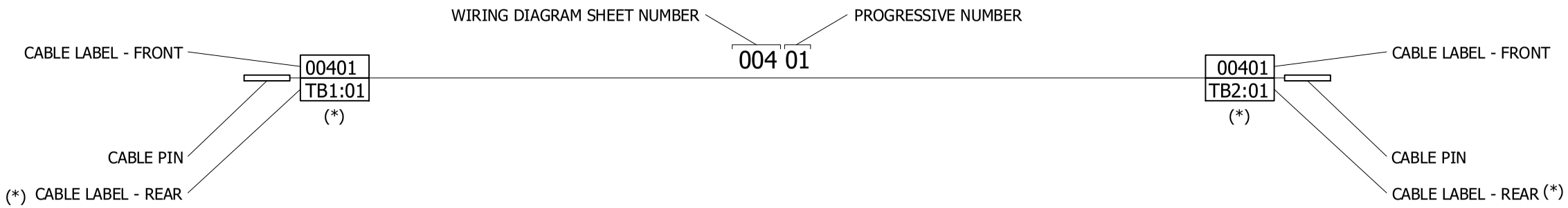
SHEET 004

REV. 3

COLOR ACRONYMS LIST :

RD	-	RED
BK	-	BLACK
BL	-	BLUE
LB	-	LIGHT BLUE
GR	-	GREY
GN	-	GREEN
YE	-	YELLOW
Y/G	-	YELLOW/GREEN
BR	-	BROWN
WH	-	WHITE

TYPICAL WIRE MARKING



EARTH CONNECTION RESUME TABLE:

		CABINET
<1>	P.E. EARTH	○○○○○○○○○○○○○○○
	I.E. EARTH	○○○○○○○○○○○○○○○
	I.S.E. EARTH	○○○○○○○○○○○○○○○

EARTH ACRONYMS LEGEND :

P.E. (GND) - PROTECTION EARTH (GROUND, FRAME CHASSIS)
I.E. (F.E.) - INSTRUMENT EARTH (NOISELESS), FUNCTIONAL EARTH
I.S. (I.S.E.) - INTRINSICALLY SAFE EARTH

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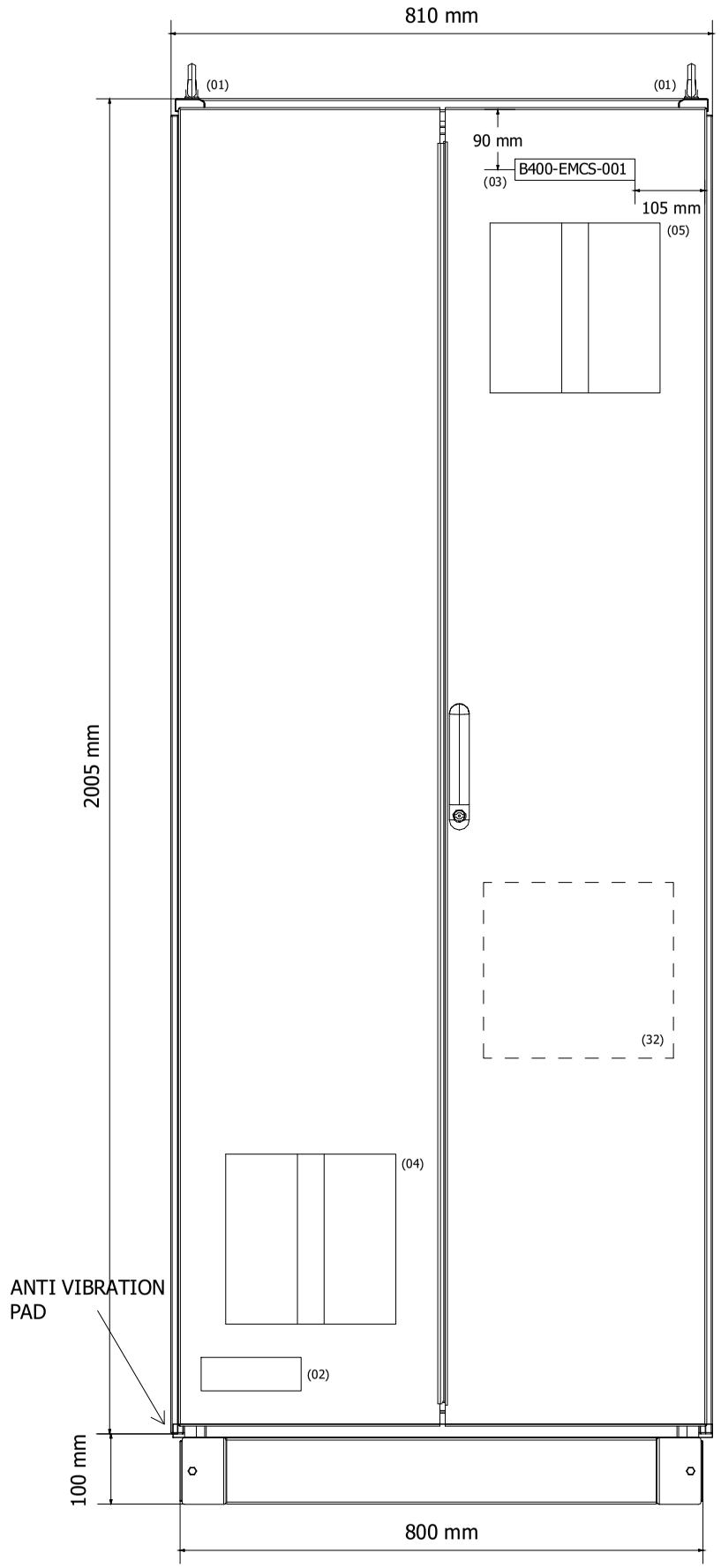
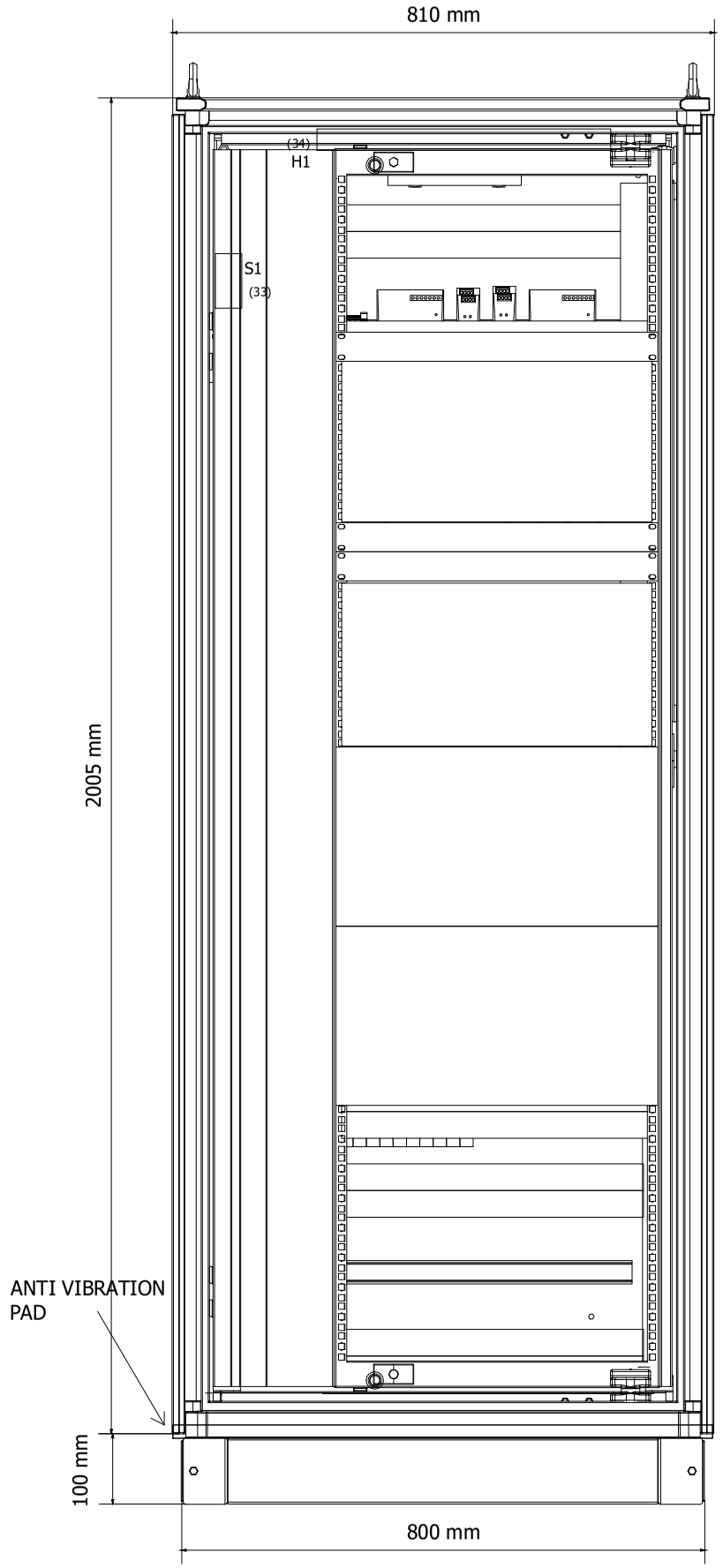
CROSSWIND
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
TYPICAL WIRE MARKING & EARTH BAR CONNECTION DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1
A3
DRAWING NO. 1724000594-IN-DA-00013
SHEET 005
REV. 3

EMCS PANEL - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW





DRAWING SCALE 1:10

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EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - EXTERNAL FRONT VIEW & FRONT DOOR OPENED VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

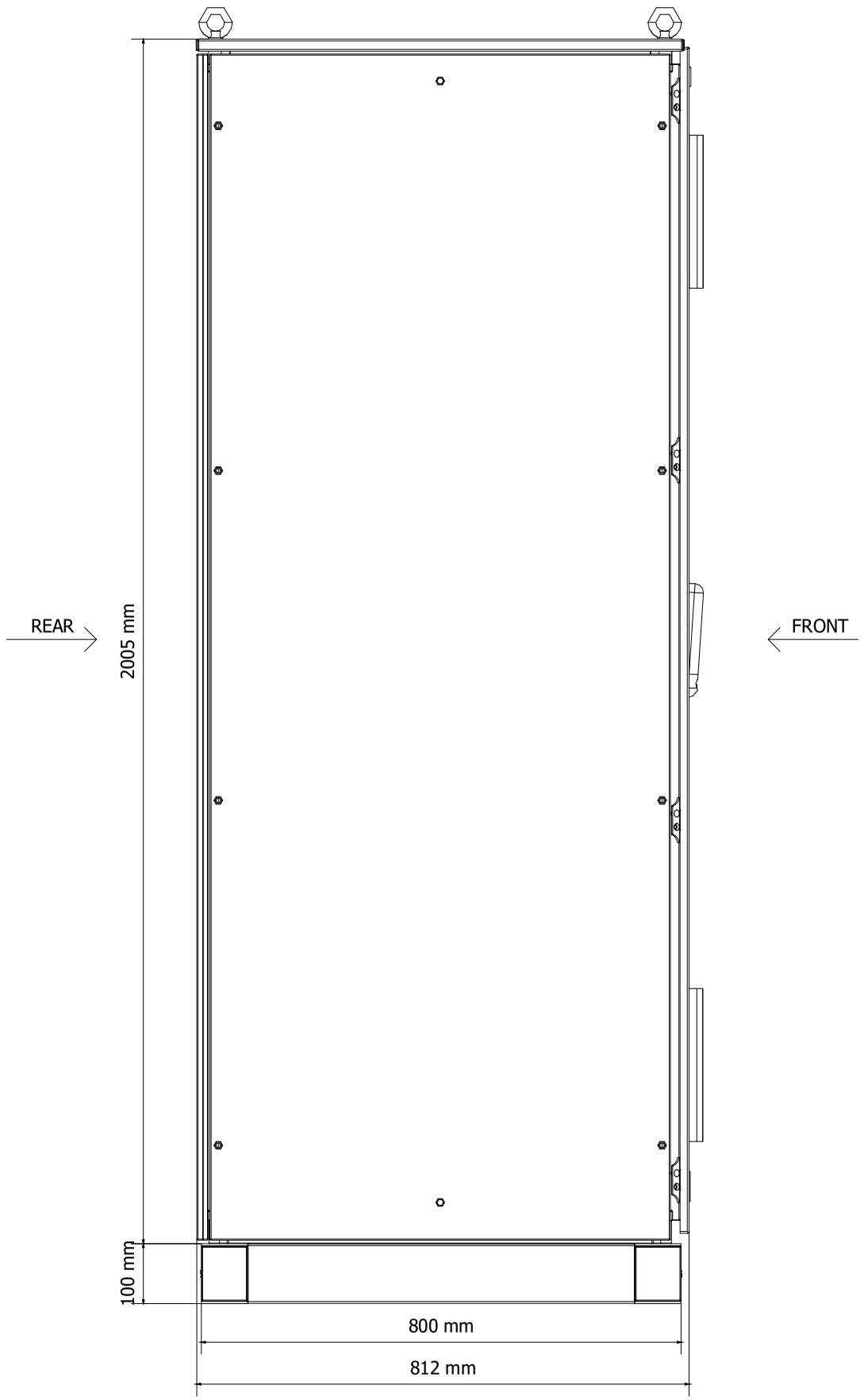
A3

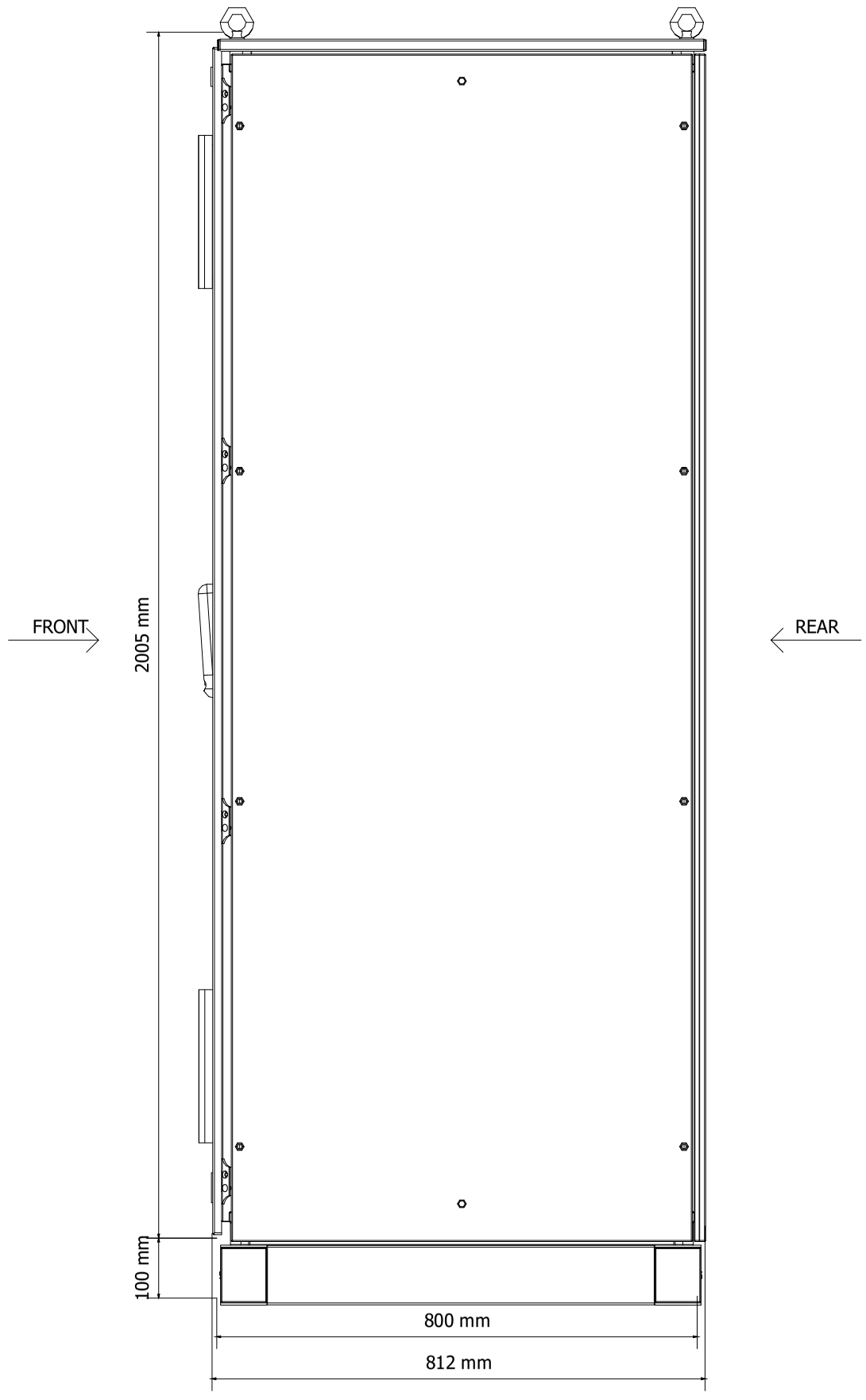
DRAWING NO.
1724000594-IN-DA-00013

SHEET 006

REV. 3

EMCS PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW





DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO.
1724000594-IN-DA-00013

SHEET 007

REV. 3

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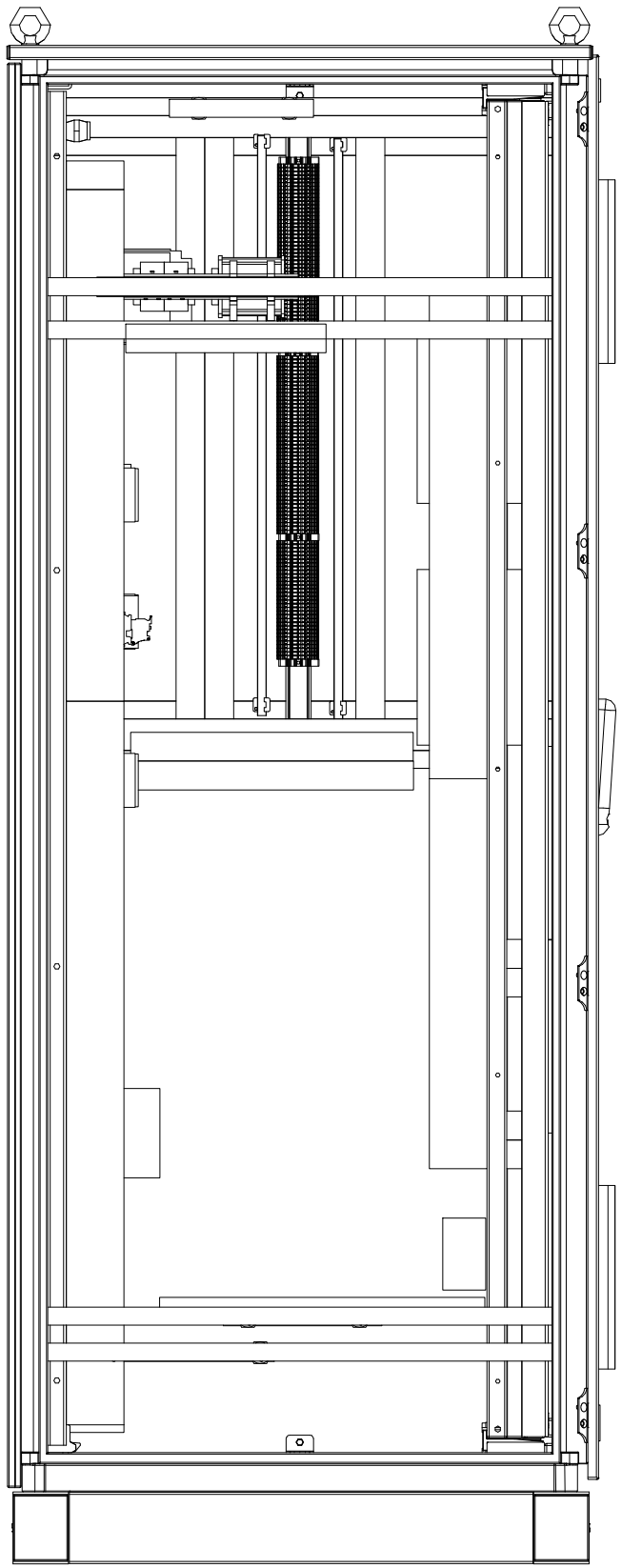
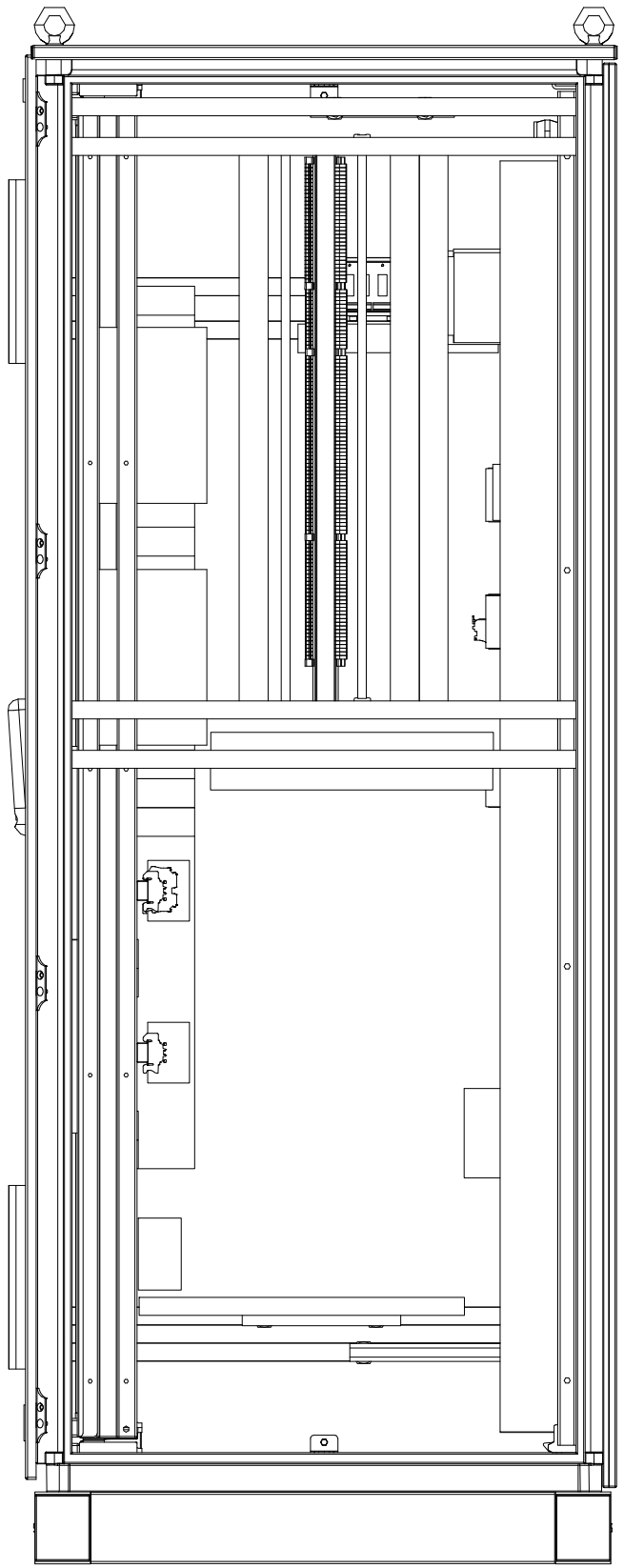
Document Nr. 1724000594-QC-DB-00033 - Rev.01
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS PANEL - EXTERNAL LEFT SIDE & RIGHT SIDE WHITOUT PANEL





DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - EXTERNAL LEFT SIDE & RIGHT SIDE VIEW WHITOUT PANEL

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

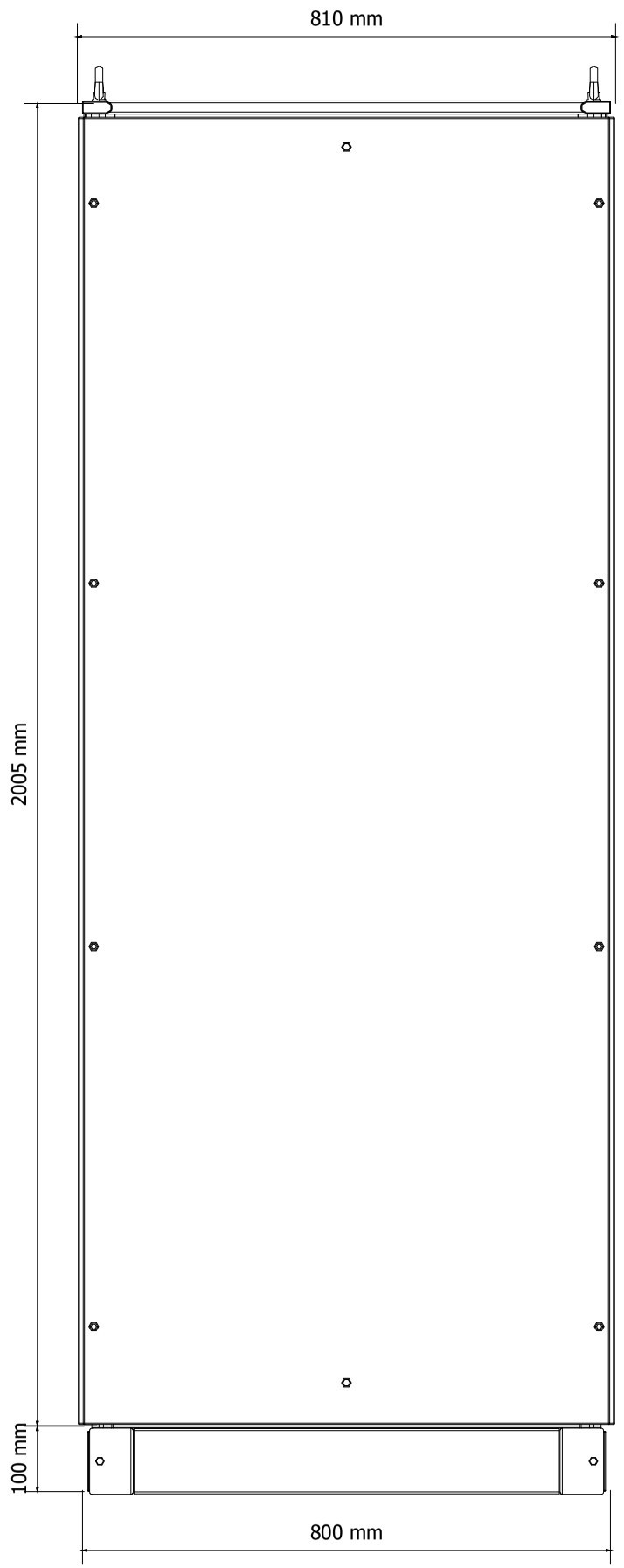
A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 008

REV. 3

EMCS PANEL - EXTERNAL REAR VIEW



DRAWING SCALE 1:10

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - EXTERNAL REAR VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

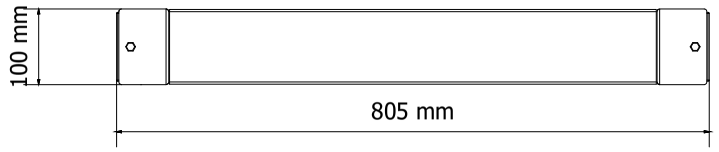
DRAWING NO.
1724000594-IN-DA-00013

SHEET 009

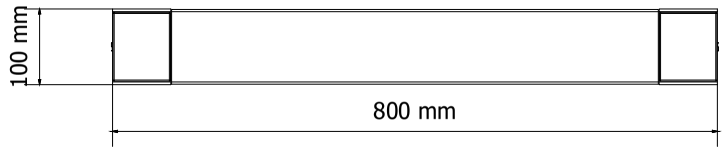
REV. 3

EMCS PANEL - BASEPLATE DETAILS

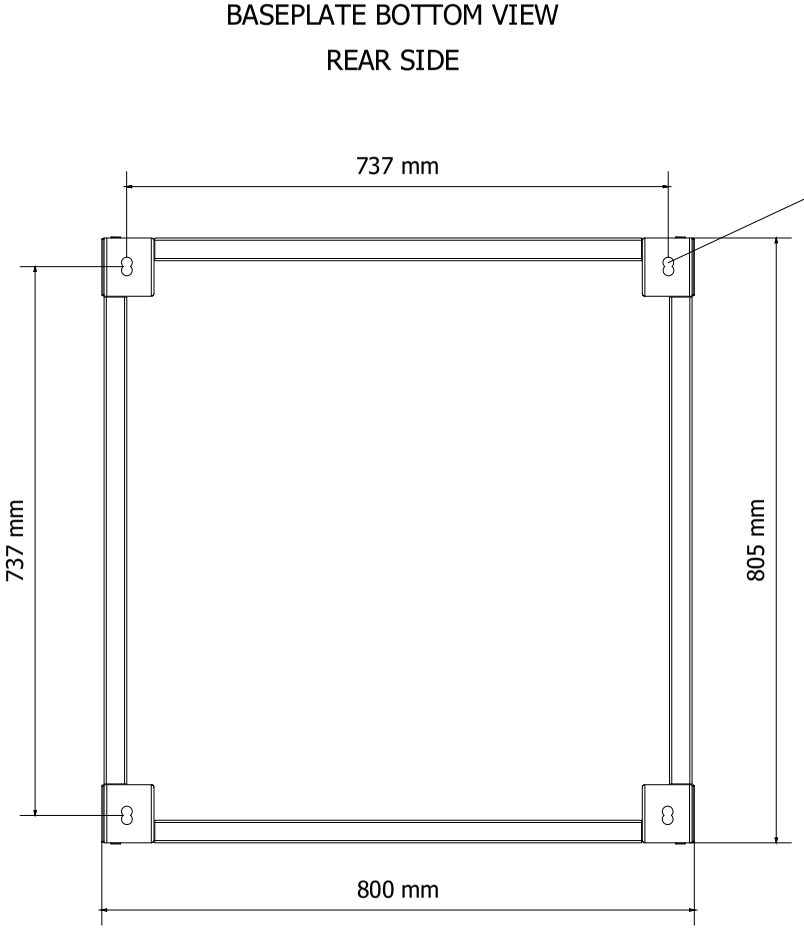
BASEPLATE SIDE VIEW



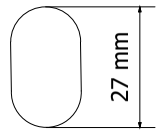
BASEPLATE FRONT VIEW



BASEPLATE BOTTOM VIEW
REAR SIDE



FRONT SIDE



DETAIL OF FIXING HOLE:

Ø 16mm

DRAWING SCALE 1:10

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

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TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - BASEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 010

REV. 3

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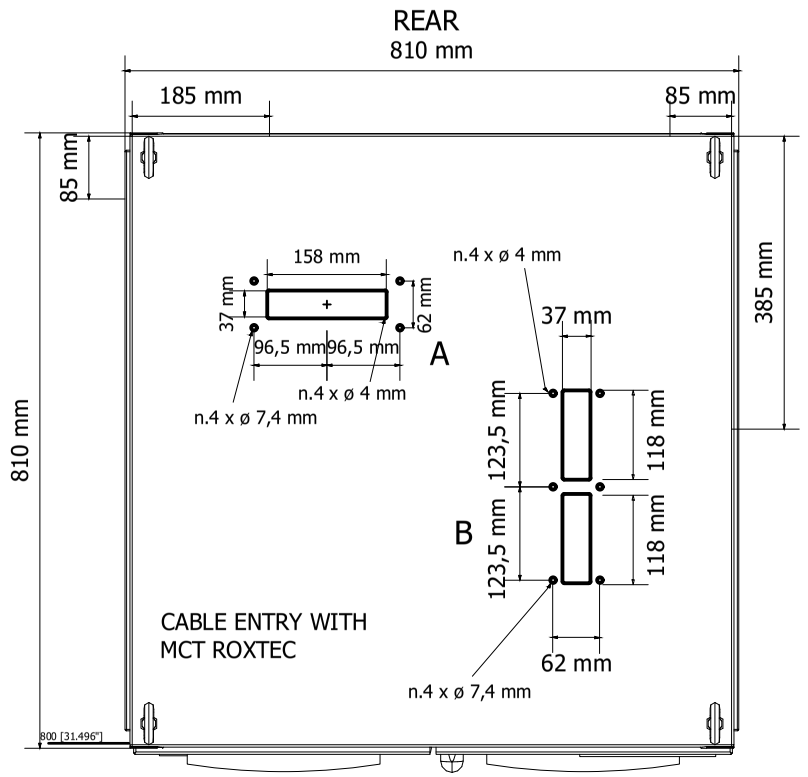
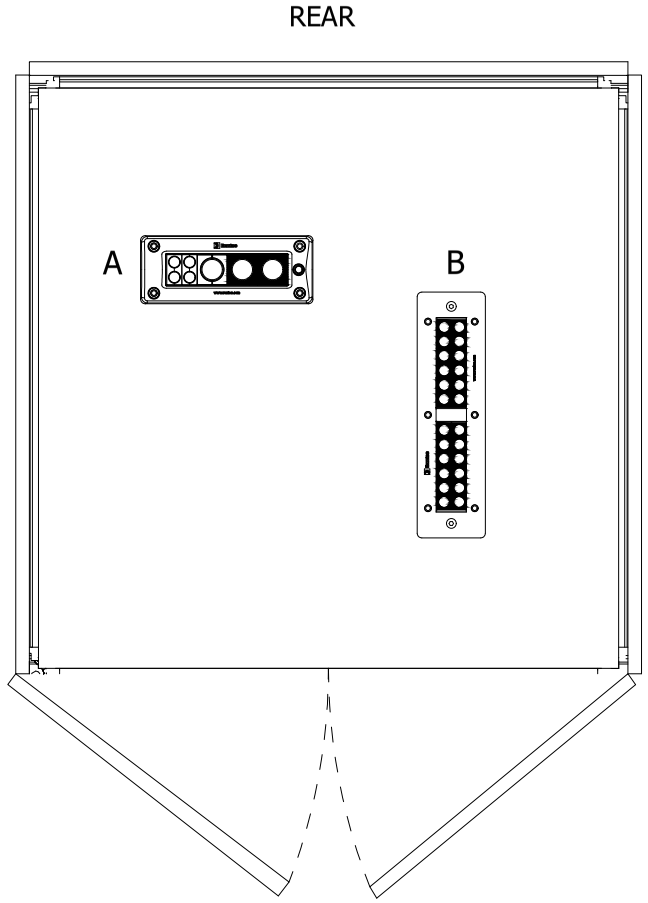
MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS PANEL - EXTERNAL & INTERNAL TOP VIEW

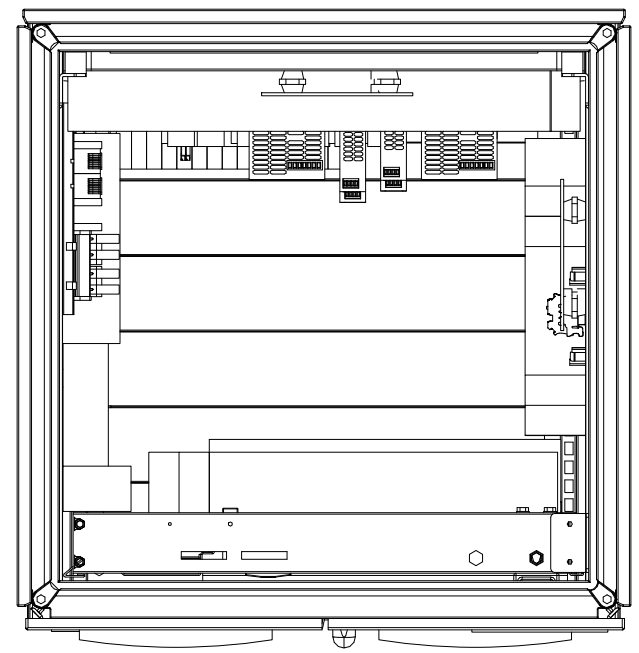
EXTERNAL TOP VIEW



EXTERNAL TOP VIEW (DOOR OPEN)



INTERNAL TOP VIEW



CABLE TAG	CABLE TYPE	OUTER CABLE DIAMETER (mm)	MCT SIZE	LOCATION
84305-CEL	3G2.5	15.5	40x40	A
84306-CEL	3G2.5	15.5	40x40	A
83106-CEL	3G2.5	13	20x40	A
85002-CEC	7CX1.5			
B400-NET1-E8	7CX1.5			
B400-NET1-E9	7CX1.5			
B400-NET1-E17	7CX1.5			
B400-NET1-E19	7CX1.5			

NOTE 1: DOOR LOCK AT 110°

DRAWING SCALE 1:10

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

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TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS- EXTERNAL & INTERNAL TOP VIEW

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

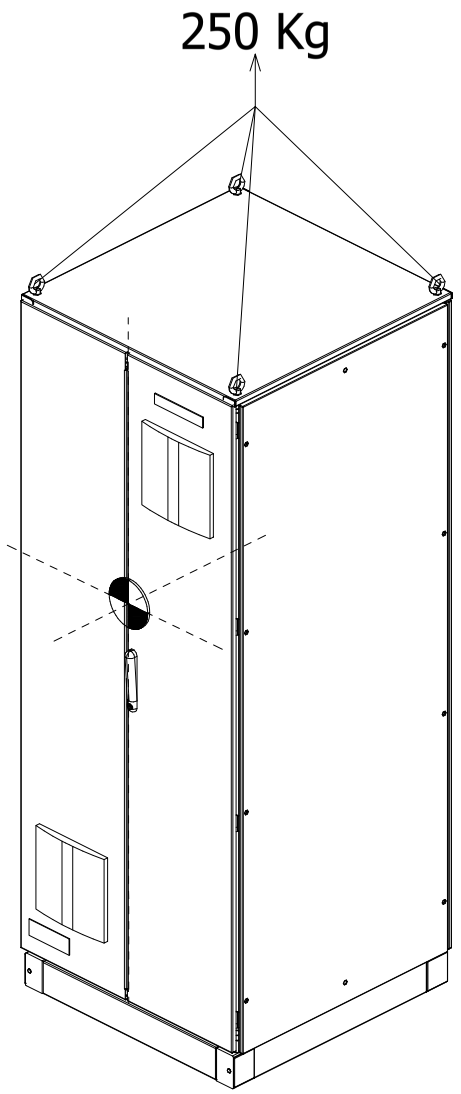
A3

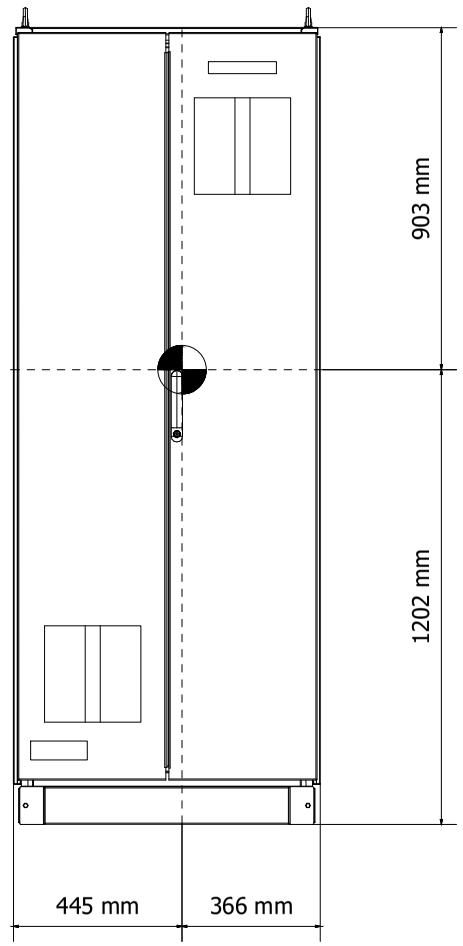
DRAWING NO. 1724000594-IN-DA-00013

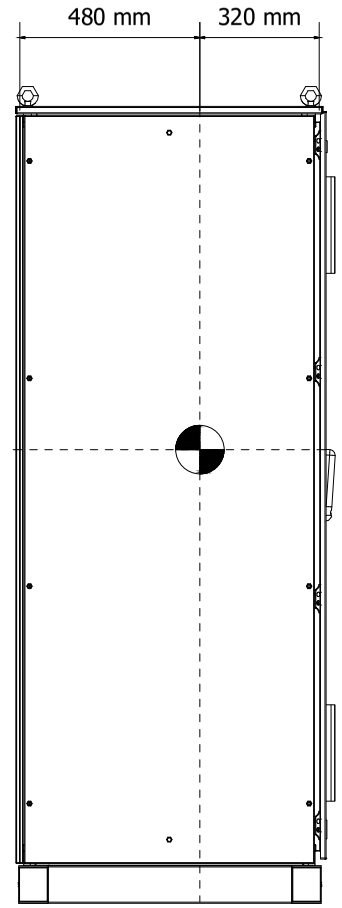
SHEET 011

REV. 3

EMCS PANEL - LIFTING DETAILS







= CENTER OF GRAVITY

DRAWING SCALE 1:20
ALL QUOTES SHOWN ARE APPROXIMATE VALUE

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - LIFTING DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

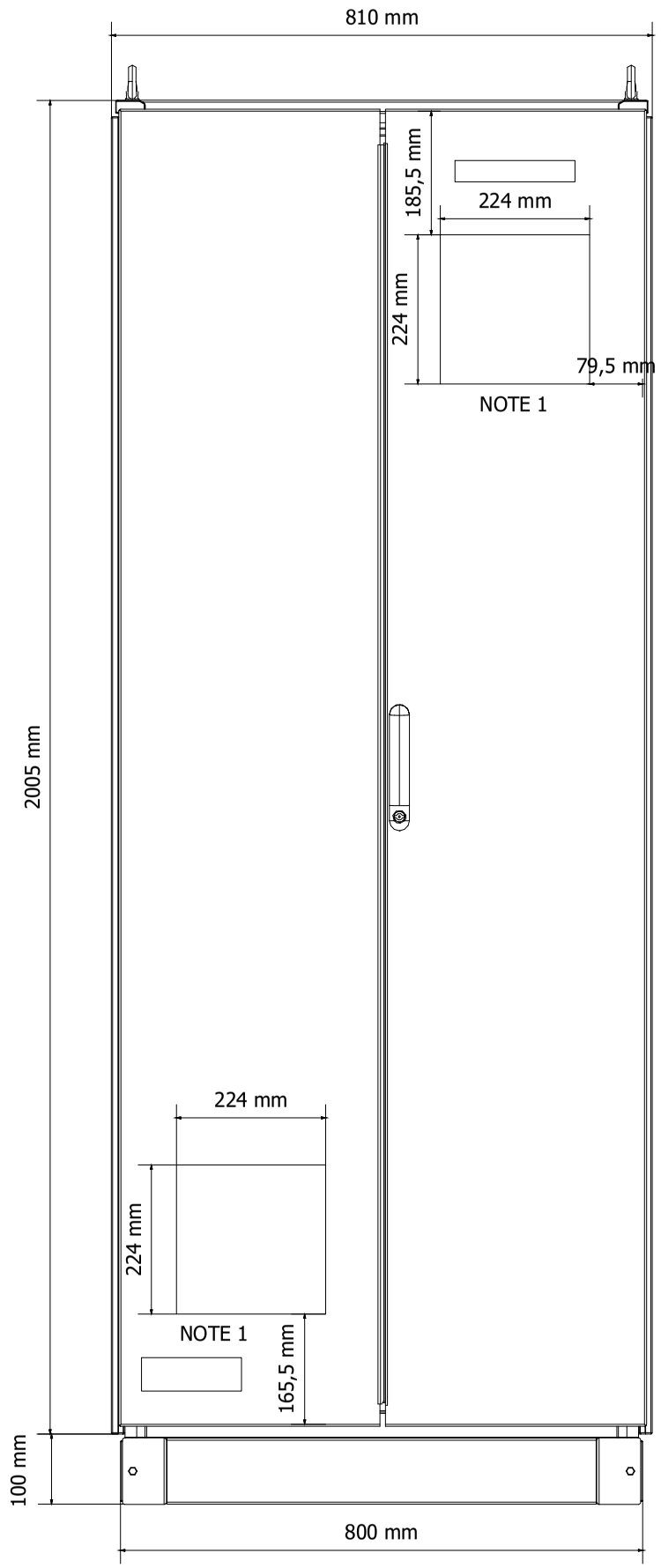
A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 012

REV. 3

EMCS PANEL - FRONT DOOR CUT-OUT DETAILS



NOTE 1 : CUT-OUT FOR AIR VENTILATION FILTER

DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - FRONT DOOR CUT-OUT DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

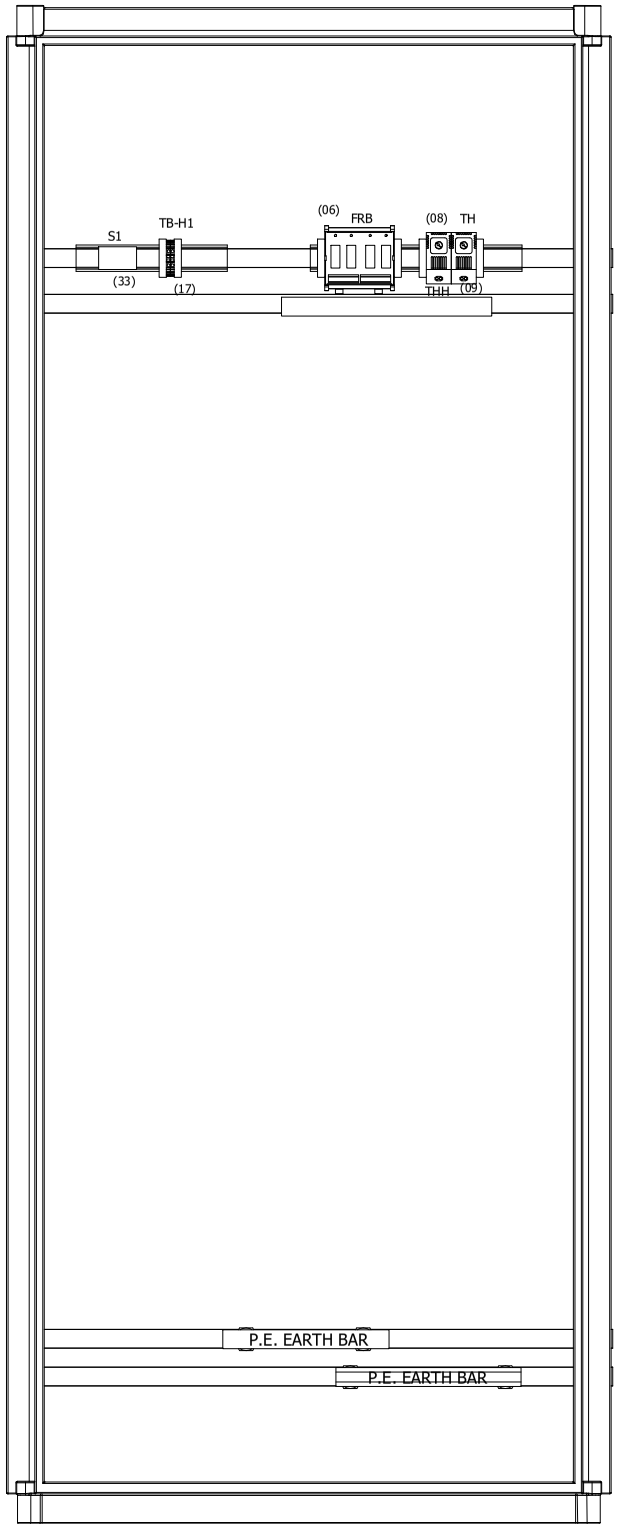
DRAWING NO.
1724000594-IN-DA-00013

SHEET 013

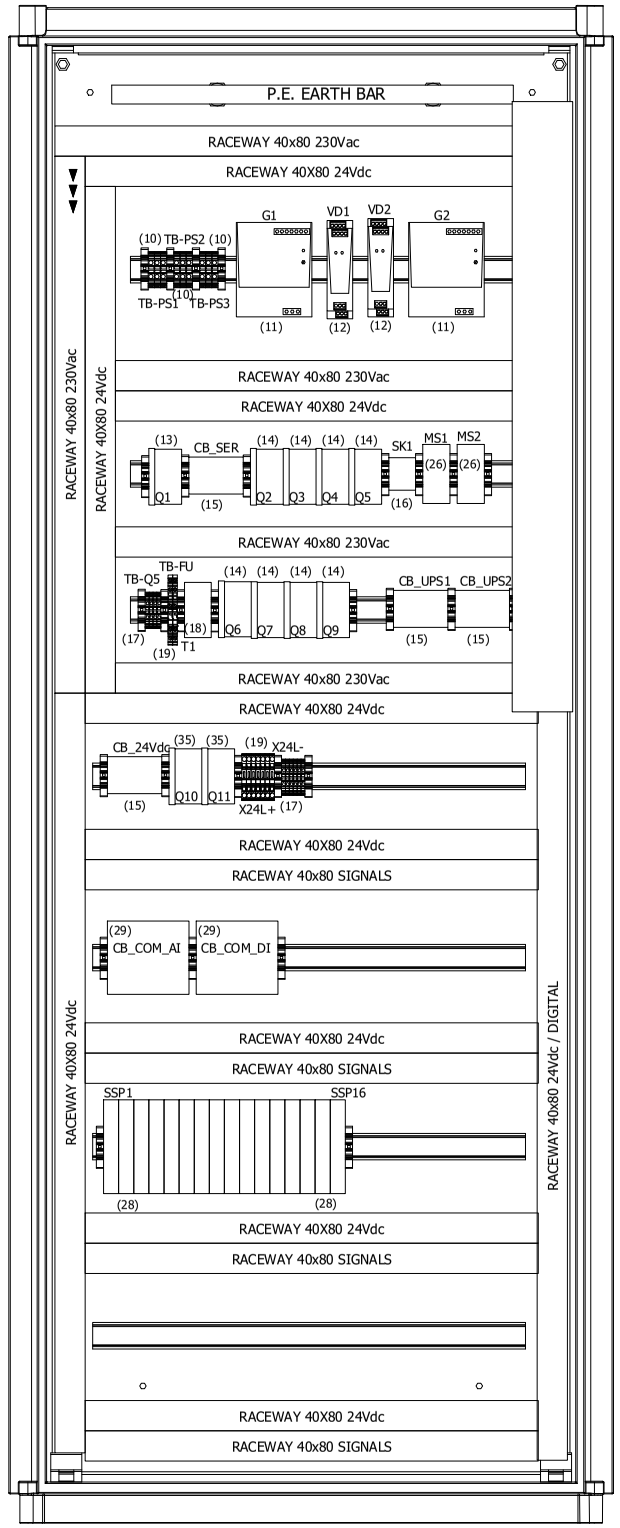
REV. 3

EMCS PANEL - FRONT SIDE INTERNAL VIEW

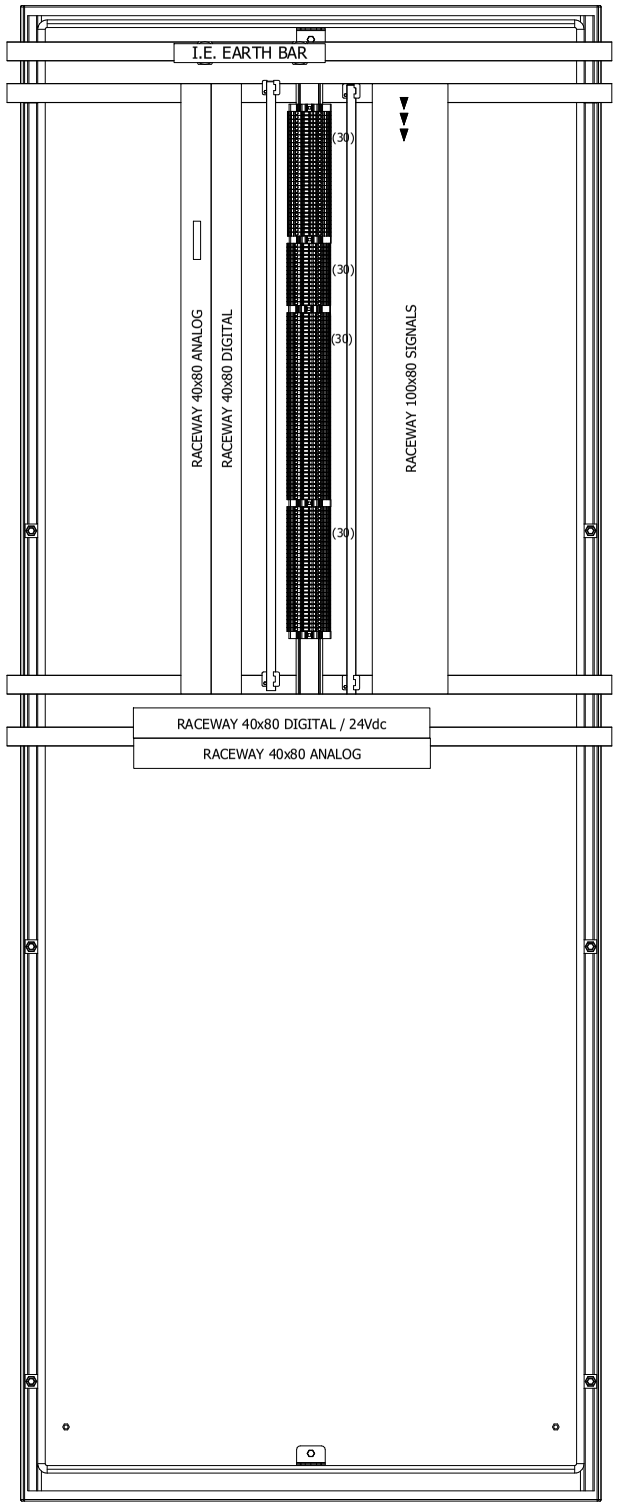
LEFT SIDE



FRONT PLATE



RIGHT SIDE



DRAWING SCALE 1:10

= CABLE ENTRY

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

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TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 014

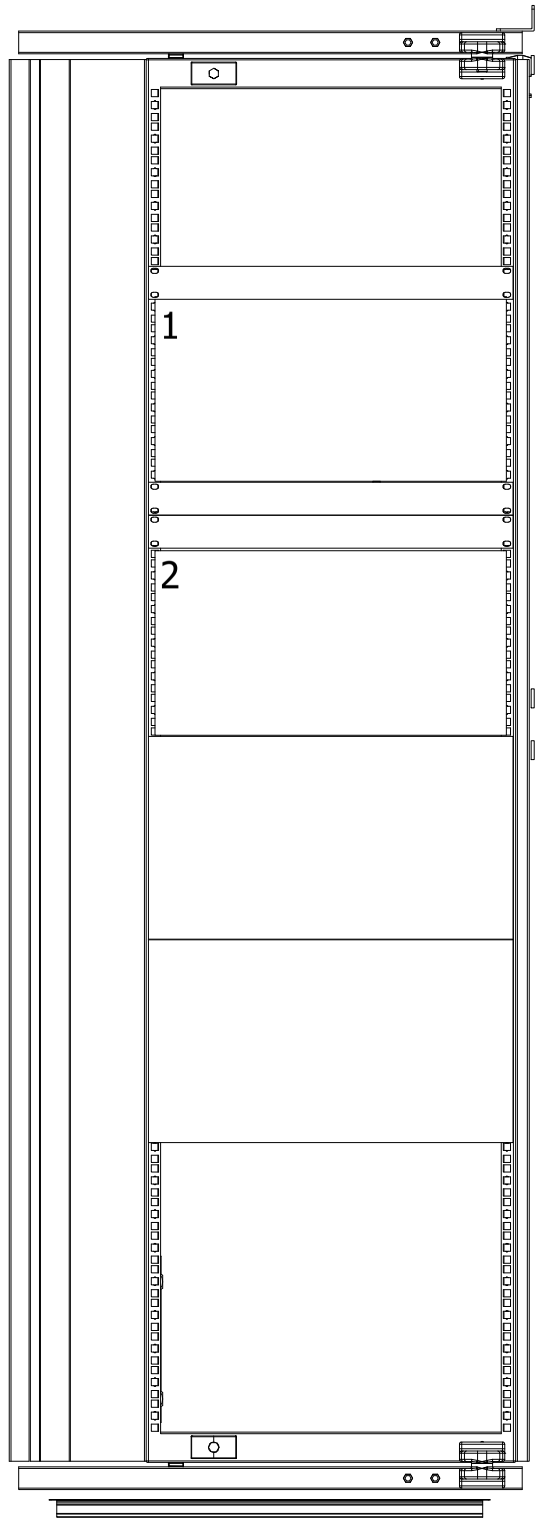
REV. 3

EMCS PANEL - FRONT SIDE SWING RACK INTERNAL VIEW

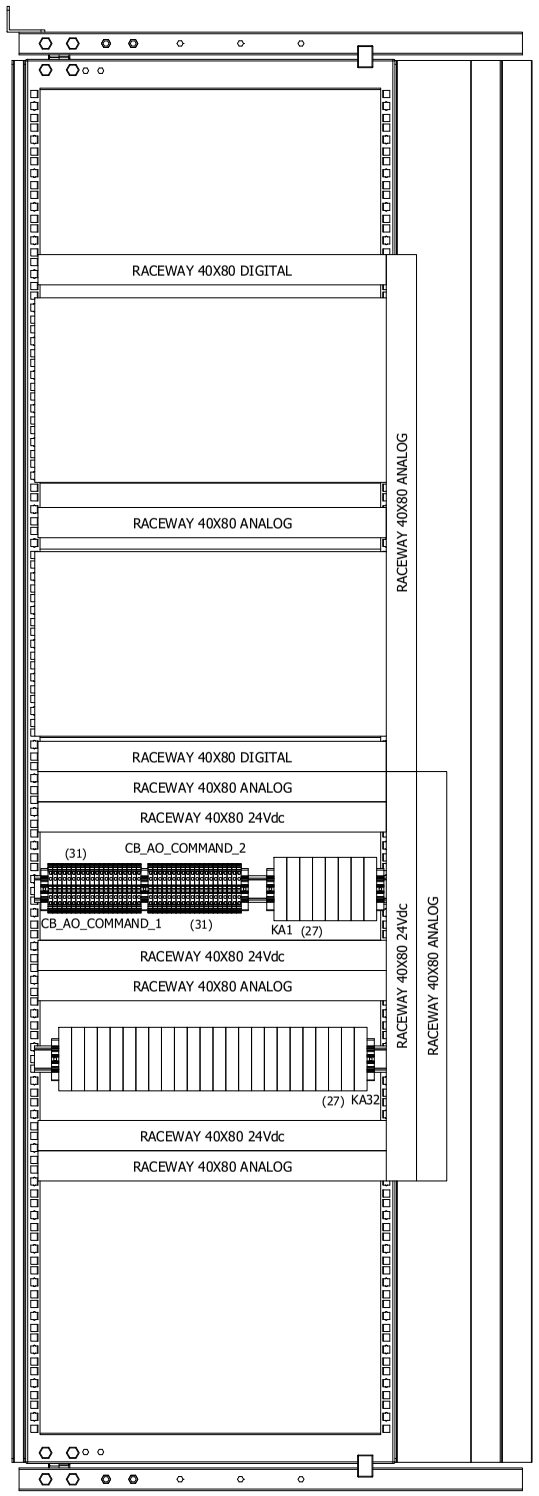
DEVICE "1"
(07) -N: 1 SEL-2241
(21) -N: 1 SEL-2243
(22) -N: 1 SEL-2245-2
(23) -N: 1 SEL-2245-3
(24) -N: 1 SEL-2244-2
(25) -N: 1 SEL-2244-3

DEVICE "2"
(07) -N: 1 SEL-2241
(21) -N: 1 SEL-2243
(22) -N: 1 SEL-2245-2
(23) -N: 1 SEL-2245-3
(24) -N: 1 SEL-2244-2
(25) -N: 1 SEL-2244-3

FRONT RACK



REAR RACK



DRAWING SCALE 1:10

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - FRONT SIDE INTERNAL VIEWS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : 1

A3
DRAWING NO. 1724000594-IN-DA-00013
SHEET 015
REV. 3

SHEET LEFT INTENTIONALLY BLANK

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS - SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 016

REV. 3

TYPICAL 01



TYPICAL 01

MANUFACTURER LABEL ITEM (02)

MATERIAL	:	ALUMINIUM
DIMENSION	:	150mm x 50mm (lxh)
BACKGROUND COLOUR	:	ALUMINIUM
TEXT COLOUR	:	BLACK & GREEN
FIXING	:	BY STAINLESS STEEL SCREWS

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND | ROSETTI MARINO

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TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
BH AND MANUFACTURER LABEL DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00013 | SHEET 017 | REV. 3

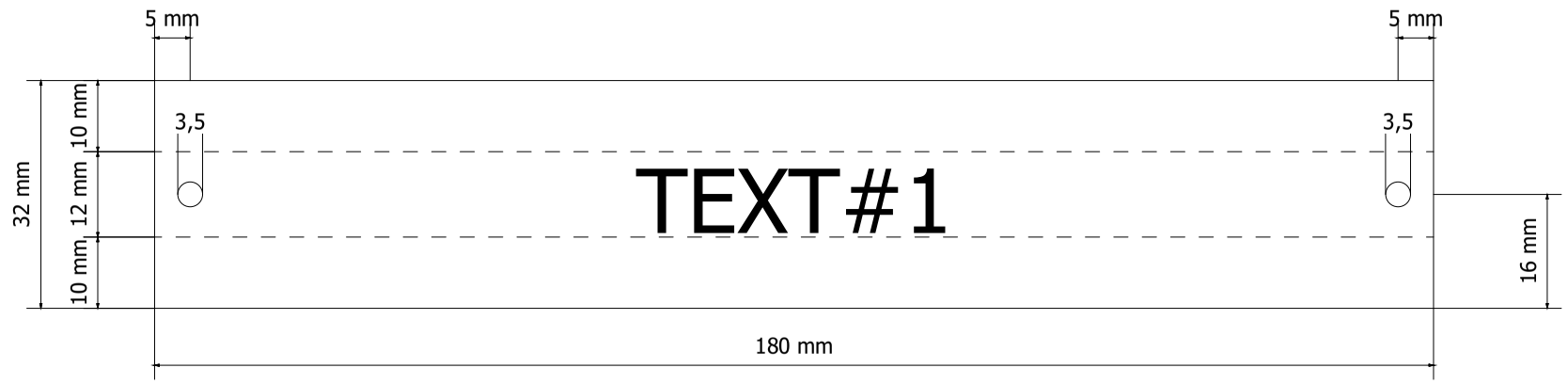
EMCS PANEL - SECTION IDENTIFIER NAMEPLATE DETAILS

TYPICAL 02

LABEL FOR SECTION IDENTIFIER ITEM (03)

MATERIAL	:	TRAFOLYTE
DIMENSION	:	200mm x 45mm (lxh)
BACKGROUND COLOUR	:	TRAFOLYTE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	15 mm / 10 mm
TEXT FONT	:	ARIAL
FIXING	:	BY STAINLESS STEEL SCREWS

TYPICAL 02



CABINET	TEXT#1
EMCS	B400-EMCS-001

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND | ROSETTI MARINO

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TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS SECTION IDENTIFIER NAMEPLATE DETAILS

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1

A3 | DRAWING NO. 1724000594-IN-DA-00013 | SHEET 018 | REV. 3

SHEET LEFT INTENTIONALLY BLANK

DRAWING SCALE 1:1

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
3	04.09.2025	AMA	MGA	MDO	AS BUILT (ASB)
2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	30.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	13.06.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
SPARE PAGE

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 019

REV. 3

CERTIFICATION LABELS DETAILS

TYPICAL 05

LABEL FOR ITEM IDENTIFIER : ITEM (25)

MATERIAL	:	TRAFFOLYTE
DIMENSION	:	150mm x 150mm (lxh)
BACKGROUND COLOUR	:	WHITE
TEXT COLOUR	:	BLACK
TEXT HEIGHT	:	4 mm
TEXT FONT	:	ARIAL
FIXING	:	SS316L SCREWS OR RIVETS

PROGETTAZIONE E
REALIZZAZIONI
INDUSTRIALI

CE

22040 ALZATE BRIANZA (CO) ITALY Via Pascoli 150 Ph. +39031631875 website : www.prei.it

PREI JOB/SN: C\5529 CONSTRUCTION YEAR: 2024

CUSTOMER PURCHASE ORDER: 4511988955

CUSTOMER JOB N°: E366772C00

REFERENCE DRAWINGS : 1724000594-IN-DA-00013 - OUTLINE DRAWING

1724000594-IN-DG-00024 - SCHEMATIC DRAWING

Line 1: VOLTAGE 230 Vac / 50 Hz Line 1: CURRENT 3A

Line 1: SHORT CIRCUIT CURRENT RATING: 10kA

Line 2: VOLTAGE 230 Vac / 50 Hz Line 2: CURRENT 3A

Line 2: SHORT CIRCUIT CURRENT RATING: 10kA

Line 3: VOLTAGE 230 Vac / 50 Hz Line 3: CURRENT 2,6A

Line 3: SHORT CIRCUIT CURRENT RATING: 10kA

PANEL PROTECTION DEGREE IP43

PANEL OPERATING TEMPERATURE RANGE: +5-+45°C

DRAWING SCALE 1:1
ALL QUOTES SHOWN ARE IN MILLIMETERS

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DESCRIPTION: E366772C00-EMCS_CLO

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TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
CERTIFICATION LABEL

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SCALE : 1

A3

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SHEET 020

REV. 3

EMCS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
01	REMOVABLE LIFTING LUGS -	MANUFACTURER STANDARD	NA001_01	4	MECHANICAL PART NAMEPLATE NOT REQUIRED
02	CABINET MANUFACTURER LABEL -	MANUFACTURER STANDARD	NA001_02	1	DETAILS ON SHEET 027 TYPICAL 02
03	SECTION IDENTIFICATION LABEL -	MANUFACTURER STANDARD	NA001_03	1	DETAILS ON SHEET 028 TYPICAL 03
04	AIR INLET FILTER -	AUGER STANDARD	NA001_04	1	MECHANICAL PART NAMEPLATE NOT REQUIRED
05	FRONT-MOUNTED AIR EXTRACTOR FAN (SUPPLIED WITH AIR FILTER) -	AUGER STANDARD	NA001_05	1	EV1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
06	PRE-ASSEMBLED RELAY BOARD FOR FAN FAULT CIRCUIT -	PREI	NA001_06	1	FRB (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
07	RTAC SEL 2241 CHASSIS/BACKPLANE	SEL	NA001_07	2	AXION1 - AXION2 EXTERNAL LABEL NOT REQUIRED
08	THERMOSTAT FOR FAN ON/OFF CIRCUIT -	MANUFACTURER STANDAR	NA001_08	1	TH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
09	THERMOSTAT FOR HIGH TEMPERATURE ALARM -	MANUFACTURER STANDARD	NA001_09	1	THH (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
10	FEED-THROUGH TYPE TERMINAL SCREW TYPE - GREY COLOUR - SECTION 6mm²	PHOENIX CONTACT UT 6	NA001_10	9	TB-PS1 ÷ TB-PS3 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
11	POWER SUPPLY FEEDER MODULE INPUT 230Vac (AUTO-RANGING) - OUTPUT 24Vdc-20a	WEIDMULLER QUINT4-PS/1AC/24DC/20 WDM.1469510000	NA001_11	2	G1 ÷ G2 (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
12	DECOUPLING & PROTECTIVE DIODE FOR REDUNDANCY - 24Vdc -	WEIDMULLER PRO DM 20 WDM.2486080000	NA001_12	2	VD1 - VD2 (INTERNAL LABEL) EXTERNAL LABLE NOT REQUIRED
13	PURE Id CIRCUIT BREAKER WITH AUXILIARY CONTACT 2 POLES - 240Vac - 50Hz - 25A - Id: 30mA	EATON FAZ SERIES	NA001_13	1	Q1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
14	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 115Vac / 240Vac WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_14	8	Q2 ÷ Q9 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

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DRAWING NO. 1724000594-IN-DA-00013

SHEET 021

REV. 3

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

EMCS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
15	2 POLES COMMON BOX - 7 CONNECTION EACH POLE -	CABUR QBLOCK SERIES	NA001_15	4	CB_SER - CB_24Vdc - CB_UPS1 - CB_UPS2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
16	SERVICE SOCKET INCLUDING SOCKET DIN MOUNTING KIT	MANUFACTURER STANDARD	NA001_16	1	SK1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
17	DISTRIBUTION TERMINALS - SCREW TYPE - SECTION 2.5mm² FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACT UT 2.5 PXC.3044076	NA001_17	13	TB-H1 - TB-Q5 - X24L- (INTERNAL LABLE) EXTERNAL LABEL NOT REQUIRED
18	TRASFORMER 240Vac / 24Vac - 50Hz - 10VA -	ABB TM10/24 EA2616	NA001_18	1	T1 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
19	TERMINALS - SCREW TYPE - SECTION 4mm² FUSE DISCONNECT TYPE - BLACK COLOUR	PHOENIX CONTACT UT 4 HESI PXC.3046032	NA001_19	9	TB-FU - X24L+ (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
20			NA001_20		
21	RTAC SEL 2243 POWER COUPLER MODULE	SEL	NA001_21	2	T.B.D. EXTERNAL LABEL NOT REQUIRED
22	RTAC SEL 2245-2 ANALOG INPUT MODULE	SEL	NA001_22	2	T.B.D. EXTERNAL LABEL NOT REQUIRED
23	RTAC SEL-2245-3 ANALOG OUTPUT MODULE	SEL	NA001_23	2	T.B.D. EXTERNAL LABEL NOT REQUIRED
24	RTAC SEL-2244-2 DIGITAL INPUT MODULE	SEL	NA001_24	2	T.B.D. EXTERNAL LABEL NOT REQUIRED
25	RTAC SEL-2244-3 DIGITAL OUTPUT MODULE	SEL	NA001_25	2	T.B.D. EXTERNAL LABEL NOT REQUIRED
26	ROTATIVE MAIN SWITCH - 230Vac - 50Hz - 32A -	LOVATO LOGA032A	NA001_26	2	MS1 - MS2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
27	MODULAR STEP RELAYS 16 A -	FINDER 202290240000	NA001_27	32	KA1 ÷ KA32 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
28	SIGNAL SPLITTER -	PEPPERL+FUCHS KFD2-STC5-1.2O	NA001_28	16	SSP1 ÷ SSP16 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED

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YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

A3

DRAWING NO. 1724000594-IN-DA-00013

SHEET 022

REV. 3

EMCS PANEL COMPONENT LIST

POS.	DESCRIPTION	MANUFACTURER TYPE & MODEL	SHIPPING BOM MARK	Q.TY	NAMEPLATE
29	2 POLES COMMON BOX - 60 CONNECTION EACH POLE -	CABUR QBLOCK SERIES	NA001_29	2	CB_COM_AI - CB_COM_DI (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
30	SCREW TYPE TERMINALS - SECTION 2,5 KNIFE DISCONNECTING TYPE - GREY COLOUR	PHOENIX CONTACTS UT 2,5 MT PXC.3046362	NA001_30	128	TB_AI - TB_AO - TB_DI - TB_DO EXTERNAL LABEL NOT REQUIRED
31	SCREW TYPE TERMINALS - SECTION 2,5 FEED THROUGH TYPE - GREY COLOUR	PHOENIX CONTACTS UT 2,5 QUATRO PXC.3044542	NA001_31	40	CB_AO_COMMAND_1 - CB_AO_COMMAND_2 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
32	DRAWING POCKET - GREY COLOUR -	MANUFACTURER STANDARD	NA001_32	1	EXTERNAL LABEL NOT REQUIRED -
33	INTERNAL LIGHT -	MANUFACTURER STANDARD	NA001_33	1	H1 -
34	INTERNAL LIGHT SWITCH -	MANUFACTURER STANDARD	NA001_34	1	S1 -
35	AUTOMATIC MAGNETO-THERMAL CIRCUIT BREAKER - 24Vdc WITH AUXILIARY CONTACT	EATON FAZ SERIES	NA001_35	2	Q10 ÷ Q11 (INTERNAL LABEL) EXTERNAL LABEL NOT REQUIRED
36	- -	-	NA001_36	-	- -
37	- -	-	NA001_37	-	- -
38	- -	-	NA001_38	-	- -
39	- -	-	NA001_39	-	- -
40	- -	-	NA001_40	-	- -
41	- -	-	NA001_41	-	- -
42	- -	-	NA001_42	-	- -

REV	DATE	PREPARED	CHECKED	APPROVED	DESCRIPTION
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2	11.11.2024	A.G.	A.B.	S.C.	ACCEPTED FOR CONSTRUCTION (AFC)
1	30.09.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)
0	13.06.2024	A.G.	A.B.	S.C.	ISSUE FOR REVIEW (IFR)

YOKOGAWA ◆ PROJECT Nr. E36672C00
DESCRIPTION: E366772C00-EMCS_CLO

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EMCS. CABINET IN ITER GEN. ARR. DRW. AND INTERNAL LAYOUT
EMCS MAIN COMPONENT LIST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1

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DRAWING NO.
1724000594-IN-DA-00013

SHEET 023

REV. 3

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-10 Man Machine Interface; Graphic Pages; Synoptic and Operating Panels layouts

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-10.1 HMI screens print out

1724000594-IN-DD-00028

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HMI Screen Print Out	Sheet 1 of 67 Date: 22/09/2025 Rev: 03

Base Load Power Hub (BLPH)

HMI Screens Print Out

Document Number: 1724000594-IN-DD-00028

Job Doc Number: E366772C00-SPO

Document Class: 2

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED
NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.	
Sign	Date
	30/10/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
03	22/09/2025	As Built (ASB)	JG	AB	SC
02	31/01/2025	Issue for Review (IFR)	KS	AB	SC
01	13/09/2024	Issue for Review (IFR)	KS	AB	SC
00	16/07/2024	Issue for Review (IFR)	AP	AB	SC

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HMI Screen Print Out	Sheet 2 of 67 Date: 22/09/2025 Rev: 03

Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Issue for Review (IFR)
02	Issue for Review (IFR)
03	As Built (ASB)

HOLDS LIST

No.	Description

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HMI Screen Print Out	Sheet 3 of 67 Date: 22/09/2025 Rev: 03

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HMI Screen Print Out	Sheet 4 of 67 Date: 22/09/2025 Rev: 03

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List of Attachments

NA

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

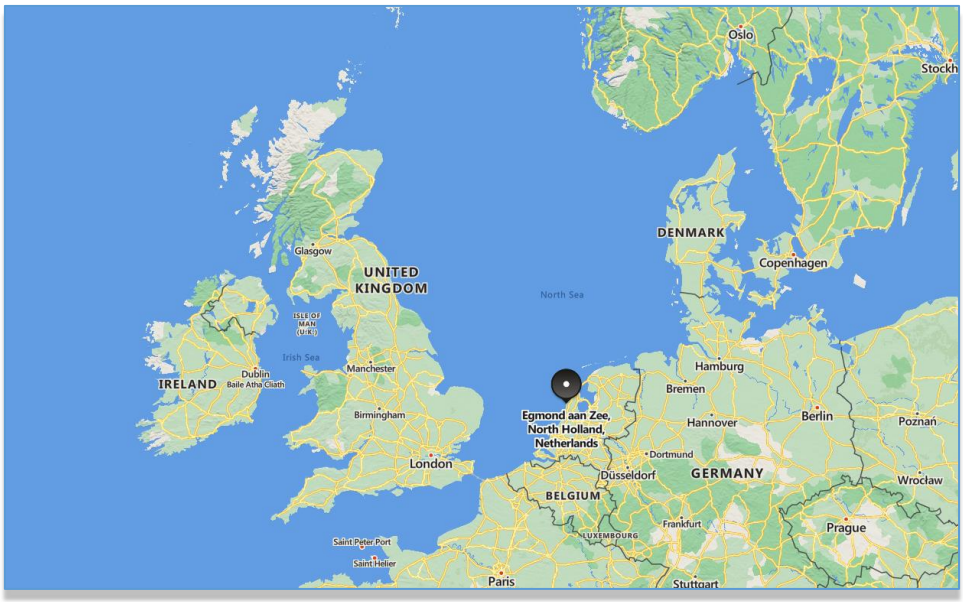

Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

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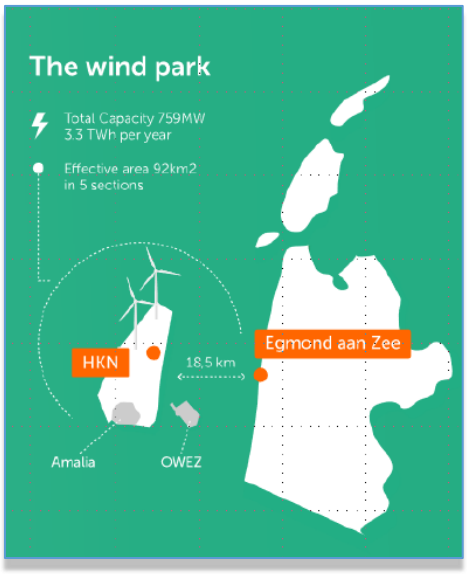

Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

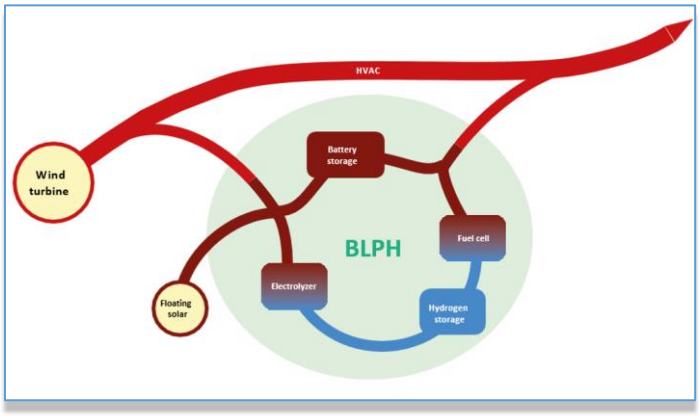

Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

This document describes the List of Human Machine Interface (HMI) Screens for the Yokogawa PCS, SIS and FGS.

The aim of this document is to ensure that the Human Machine Interface (HMI) is equipped with the facilities and functionalities needed by the operators to perform supervisory and control tasks in an efficient and effective way. The functionality of HMI is limited to graphics.

2.1 REFERENCES

Doc. No.	Description
1724000594-IN-SP-00018	PCS and SAFETY SISTEMS Software Functional Design Specification (FDS-SW)
1724000594-IN-DD-00015	System Architecture
1724000594-IN-SP-00019	EMCS Software Functional Design Specification (FDS-SW)
1724000594-IN-LIS-00004	PCS and Safety System IO List (HW and SW)
1724000594-IN-LIS-00005	EMCS IO List (HW and SW)
K559-2254-IC-SPE-001	System specification for Main Automation Contractor
K559-2254-EL-LST-001	BLPH CONTROL ALARM AND MONITORING TABLE
CWHKN-INN-INP-SPC-00005	SCADA Functional Design Specification

Table 1 - Reference Documents

2.2 DEFINITIONS AND ABBREVIATIONS

Abbreviations	Definition
BLPH	Base Load Power Hub
COMPANY or Client (CPY)	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
C&E	Cause and Effect
EMCS	Electrical Monitoring and Control System
FGS	Fire and Gas System
HMI	Human Machine Interface

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OWS	Operator workstation
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
PCS	Process Control System
P&ID	Piping and Instrument Diagram
SCADA	Supervisory Control and Data Access
SIS	Safety Instrumented System

Table 2 - Definitions and Abbreviations

3 HMI SCREENS

Process operators monitor and control their respective units through the Yokogawa Human Machine Interface (HMI). SCADA shall is configured so that the operator can work simultaneously in the following two modes:

Proactive mode

This mode requires the proactive role of the operator in controlling the plant. Operator monitors the status of the plant by paging through displays, watching trends and deviations, and acting when required or appropriate. Awareness is improved by a well-designed hierarchical arrangement and a logical and understandable grouping of the HMI displays.

Reactive mode

This reactive mode is triggered by events such as alarms. The operator's attention is demanded and directed by the system to displays where he can see what has happened and can take appropriate corrective action. Visualization of alarms and access to corrective controls depend on the urgency of action required.

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3.1 GENERAL GUIDELINES

HMI Screens provides a wide range of user-defined views, for operation and monitoring, as well as for system maintenance. Operation and monitoring functions are functions such as receiving and acknowledging of alarms, set point control, output manipulation, process data monitoring, trending, reporting, controller mode changing, etc.

The layout of the graphics conforms the following guidelines:

Layout Standard:

- All Graphic displays contain, as a minimum, Graphic Title, Navigation arrows and Navigation bar.
- Graphic title is in the top middle of the graphic. It includes operating unit name, as well as specific graphic function description.
- The bar has max. 21 configurable navigation targets that facilitates operator to navigate to Unit menu, FGS display, SIS display and process displays.

Process and Instrument Lines:

- Are laid out in a way to minimize distracting clutter and to provide a simplified process flow view.
- Process flow is from left to right in a process graphic page.
- Layout minimizes piping (line) crossovers. The vertical line is broken in case of cross over.
- Lines are separated (both vertically and horizontally) by enough gap based on the line thickness.
- Layout minimizes the number of turns in a line.
- Directional arrows are placed only where process line enters equipment, at pipe corners or where lines leave the page.
- Process lines are of a thickness such that they are easily distinguishable from signal lines.
- Do not join lines in an X-pattern (four lines meeting at a point). Exception is where a single line splits into an odd number of branches.
- All control signal lines connected to another graphic shall have a dynamic “connector” target.
- Single color and pattern are used for all process lines.
- When process lines are continued in a separate graphic, both source and destination graphics will have dynamic connector arrows. Pipeline / process lines leaving a graphic will enter at the same height on the destination graphic.

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Graphic Parts & Symbols:

- All shapes are two-dimensional.
- Balance equipment on screen distribution to prevent density clusters.
- Dynamic shapes are not re-sized.
- As much as possible place control and on/off valves on horizontal lines only.
- Place valves symmetrically (aligned with each other).
- Do not show details to match operational requirement (e.g., do not show trays in a distillation tower).

Process Values & Tag Names:

- All analog values associated with field instrumentation are displayed next to the measuring point. The number of process digits to be displayed is based on the engineering range. The Instrument line connection to the process line is situated between the engineering unit and measuring point.
- Measurements from externally mounted instruments, inferred differentials, calculations, etc., are located adjacent to the process line or vessel and connected to the process line or vessel.
- Equipment names are placed inside the equipment symbol.
- Where there is logic associated with the starting and stopping of pumps by level or pressure measurement, the motor symbol is joined to the display value via an instrument line.
- Only acronyms and tag names are displayed in all capital letters. Engineering units are displayed as per the standard. Other texts are displayed using leading capitals (title case). When there is more than one word, the leading letter of each word is capitalized. This applies to tag comments, menu option, Graphic title and equipment labels.

General:

- In general, only process lines (or areas) that show PCS, SIS, and FGS instrumentation are shown on displays, although other lines may be shown to specify the position of field instruments.
- Graphic representation of dynamic shapes is consistent with that of static shapes.
- Local pneumatic loops, relief valves, steam traps, hand valves without position indication, etc., do not appear on displays.
- Graphics are to be distinguishable and readable from a distance of 1 meter from the screen
- Dynamic color modifier based on status and alarm are available in Appendix -5 HMI Graphic Objects
- EMCS Current Mode indication is shown in Hydrogen storage vessel graphics and Electrical graphics, which shall be navigating to EMCS overview template.
- Alarm Severities

There are 4 severities defined for Alarms. Two severity types are defined for “Logging” events and the return to “Normal” function. The severities are linked to CI Server priorities. The priority levels in CI Server are used for filtering and assigning alarm colors. The internal CI Server priorities and associated colors are provided in the table below.

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ALARM ICON	PRIORITY LEVEL	SEVERITY LEVEL	INTEPRETATION
	1	Critical	Critical Alarm
	2	High	High priority Alarm
	3	Medium	Medium priority Alarm
	4	Low	Low priority Alarm
	15		Alarm to Normal state

Table 3 – Alarm Severity colors

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3.2 LIST OF HMI SCREENS

Sl. No	P&ID	HMI Screen Name	Type of Display	Windows Hierarchy Level
1	K559-2254-PR-BLD-001	BLPH_OVERVIEW	PROCESS	Level-1
2	123A90-DDL-IN-RE-40095	BLPH_CCS_OPERATIONS	PROCESS	Level-2
3	-	M7_ MAINTENANCE _CSS_1	POPUP	Level-3
4	-	M7_ MAINTENANCE _CSS_2	POPUP	Level-3
5	-	M7_SHUTDOWN_CSS_1	POPUP	Level-3
6	-	M7_SHUTDOWN_CSS_2	POPUP	Level-3
7	-	M7_PRO_CHARGE_CSS	POPUP	Level-3
8	-	M7_PRO_STR_CHARG_CSS	POPUP	Level-3
9	-	M7_PRO_DISCHARGE_CSS	POPUP	Level-3
10	123A-90-DD- PR-PID-80013	H2_STG_VESSELS_HEADER_INLET	PROCESS	Level-2
11	123A-90-DD- PR-PID-80014	H2_STG_VESSELS_HEADER_OUTLET	PROCESS	Level-2
12	123A-90-DDL-PR-PID-80015	HYDROGEN_STORAGE_VESSEL_A	PROCESS	Level-2
13	123A-90-DD- PR-PID-80016	HYDROGEN_STORAGE_VESSEL_B	PROCESS	Level-2
14	123A-90-DD- PR-PID-80017	HYDROGEN_STORAGE_VESSEL_C	PROCESS	Level-2
15	123A-90-DD- PR-PID-80018	HYDROGEN_STORAGE_VESSEL_D	PROCESS	Level-2
16	123A-90-DD- PR-PID-80019	HYDROGEN_STORAGE_VESSEL_E	PROCESS	Level-2
17	123A-90-DD- PR-PID-80020	HYDROGEN_STORAGE_VESSEL_F	PROCESS	Level-2
18	123A-90-DD- PR-PID-80029	HYDROGEN_VENT_DRUM	PROCESS	Level-2
19	123A-90-DD- PR-PID-80028	HYDROGEN_VENT_HEADER	PROCESS	Level-2
20	1724000428-PR-PID-00019	INSTRUMENT_AIR_PACKAGE	PROCESS	Level-2
21	123A90-DDL-PR-PID-80027	INSTRUMENT_AIR_PACKAGE_DISTRIBUTION	PROCESS	Level-2

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Sl. No	P&ID	HMI Screen Name	Type of Display	Windows Hierarchy Level
22	1724000428-PR-PID-00018	NITROGEN_PACKAGE	PROCESS	Level-2
23	123A-90-DD- PR-PID-80021	SEA_WATER_INTAKE_SYSTEM1	PROCESS	Level-2
24	123A-90-DD- PR-PID-80025	WATER_DISPOSAL_SHEET_1	PROCESS	Level-2
25	123A-90-DD- PR-PID-80026	WATER_DISPOSAL_SHEET_2	PROCESS	Level-2
26	1724000428-PR-PID-00014	WTP_BIOCIDE_DOSAGE	PROCESS	Level-2
27	1724000428-PR-PID-00013	WTP_SEA_WATER_FILTRATION_1	PROCESS	Level-2
28	1724000428-PR-PID-00013	WTP_SEA_WATER_FILTRATION_2	PROCESS	Level-2
29	1724000428-PR-PID-00013	WTP_SEA_WATER_REVERSE_OSMOSIS	PROCESS	Level-2
30	1724000428-PR-PID-00013	WTP_ACID_ANTISCALANT_DOSAGES	PROCESS	Level-2
31	1724000428-PR-PID-00013	WTP_FRESH_WATER_STORAGE	PROCESS	Level-2
32	1724000428-PR-PID-00013	INTRUSION_DETECTION_SYSTEM	PROCESS	Level-2
33	123A-90-DDL-PR-PID-80011	ELECTROLYSER_PACKAGE_A20000	PROCESS	Level-2
34	123A-90-DD- PR-PID-80012	FUEL_CELL_PACKAGE_A80000	PROCESS	Level-2
35	1724000049-HV-PID-00039	BLPH_B100_HV	PROCESS	Level-2
36	1724000049-HV-PID-00040	BLPH_B200_HV	PROCESS	Level-2
37	1724000049-HV-PID-00041	BLPH_B300_HV	PROCESS	Level-2
38	1724000049-HV-PID-00042	BLPH_B400_HV	PROCESS	Level-2
39	123A90-DDL-IN-CE-40000	CE_ASD	PROCESS C&E	Level-2
40	123A90-DDL-IN-CE-40000	CE_ESD1	PROCESS C&E	Level-2
41	123A90-DDL-IN-CE-40000	CE_ESD1D_1	PROCESS C&E	Level-2
42	123A90-DDL-IN-CE-40000	CE_ESD1D_2	PROCESS C&E	Level-2
43	123A90-DDL-IN-CE-40000	CE_ESD1D_3	PROCESS C&E	Level-2
44	123A90-DDL-IN-CE-40000	CE_PSD_1	PROCESS C&E	Level-2

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Sl. No	P&ID	HMI Screen Name	Type of Display	Windows Hierarchy Level
45	123A90-DDL-IN-CE-40000	CE_PSD_2	PROCESS C&E	Level-2
46	123A90-DDL-IN-CE-40000	CE_MOB_PUSH_BUTTON	PROCESS C&E	Level-2
47	123A90-DDL-IN-CE-40002	CE_B100	FGS C&E	Level-2
48	123A90-DDL-IN-CE-40002	CE_B200	FGS C&E	Level-2
49	123A90-DDL-IN-CE-40002	CE_B300	FGS C&E	Level-2
50	123A90-DDL-IN-CE-40002	CE_B400	FGS C&E	Level-2
51	123A90-DDL-IN-CE-40002	CE_BESS	FGS C&E	Level-2
52	123A90-DDL-IN-CE-40002	CE_ELECTROLYSER	FGS C&E	Level-2
53	123A90-DDL-IN-CE-40002	CE_FIRE_OPEN_AREA_1	FGS C&E	Level-2
54	123A90-DDL-IN-CE-40002	CE_FIRE_OPEN_AREA_2	FGS C&E	Level-2
55	123A90-DDL-IN-CE-40002	CE_FUEL_CELL	FGS C&E	Level-2
56	123A90-DDL-IN-CE-40002	CE_H2_OPEN_AREA_1A	FGS C&E	Level-2
57	123A90-DDL-IN-CE-40002	CE_H2_OPEN_AREA_1B	FGS C&E	Level-2
58	123A90-DDL-IN-CE-40002	CE_H2_OPEN_AREA_2	FGS C&E	Level-2
59	123A90-DDL-IN-CE-40002	CE_H2_OPEN_AREA_3	FGS C&E	Level-2
60	123A90-DDL-IN-CE-40002	CE_MFA_PUSH_BUTTONS_1	FGS C&E	Level-2
61	123A90-DDL-IN-CE-40002	CE_MFA_PUSH_BUTTONS_2	FGS C&E	Level-2
62	123A90-DDL-IN-CE-40002	CE_OXY_OPEN_AREA	FGS C&E	Level-2
63	123A90-DDL-IN-CE-40002	CE_SOUNDERS_BEACONS_1	FGS C&E	Level-2
64	123A90-DDL-IN-CE-40002	CE_SOUNDERS_BEACONS_2	FGS C&E	Level-2
65	123A90-DDL-IN-CE-40002	CE_SOUNDERS_BEACONS_3	FGS C&E	Level-2
66	123A90-DDL-IN-CE-40002	CE_SOUNDERS_BEACONS_4	FGS C&E	Level-2
67	123A90-DDL-IN-CE-40002	WATER TREATMENT	FGS C&E	Level-2
68	-	BLPH_MATRIX_ESD	PROCESS C&E	Level-2
69	-	BLPH_MATRIX_FGS	FGS C&E	Level-2
70	123A90-DDL-SAF-DL-30027	FG_DETECTOR_LAYOUT_1	FGS C&E	Level-2
71	123A90-DDL-SAF-DL-30027	FG_DETECTOR_LAYOUT_2	FGS C&E	Level-2
72	123A90-DDL-SAF-DL-30028	FG_DETECTOR_LAYOUT_5	FGS C&E	Level-2
73	123A90-DDL-EL-DG-20158	OVERALL_SINGLE_LINE_DIAGRAM	ELECTRICAL	Level-2
74	123A90-DDL-EL-DG-20014	TRANSFORMER_INCOMER	ELECTRICAL	Level-2
75	123A90-DDL-EL-DG-20014	BESS_FEEDER	ELECTRICAL	Level-2
76	123A90-DDL-EL-DG-20014	ELECTROLYSER_FEEDER	ELECTRICAL	Level-2
77	123A90-DDL-EL-DG-20014	FUEL_CELL_FEEDER	ELECTRICAL	Level-2
78	123A90-DDL-EL-DG-20014	DISTRIBUTION_TRANSFORMER_FEEDER	ELECTRICAL	Level-2
79	123A90-DDL-EL-DG-20014	SOLAR_FARM_FEEDER	ELECTRICAL	Level-2
80	1723002197-EL-DG-00011	SG_200N1_400_1	ELECTRICAL	Level-2
81	1723002197-EL-DG-00011	SG_200N1_400_2	ELECTRICAL	Level-2

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Sl. No	P&ID	HMI Screen Name	Type of Display	Windows Hierarchy Level
82	1723002197-EL-DG-00011	SG_200N1_400_3	ELECTRICAL	Level-2
83	1723002197-EL-DG-00011	SG_200N1_400_4	ELECTRICAL	Level-2
84	-	GIS_7UT85	ELECTRICAL	Level-2
85	-	GIS_7SJ85_DIGITAL	ELECTRICAL	Level-2
86	-	GIS_7SJ85_ANALOG	ELECTRICAL	Level-2
87	K559-2254-CWIWP4202302-C03-001	ELECTROLYSER_STACK	CPI	Level-2
88	-	BLPH_EMCS_MODE	CPI	Level-2
89	-	ELECTROLYSER_PROCESS	CPI	Level-2
90	-	BLPH_ALARMSYSTEM	GENERAL	Level-2
91	-	BLPH_ALARMCURRENT	GENERAL	Level-2
92	-	BLPH_ALARMHISTORY	GENERAL	Level-2
93	-	BLPH_AUDITTRAIL	GENERAL	Level-2

Table 4 – List of Graphics

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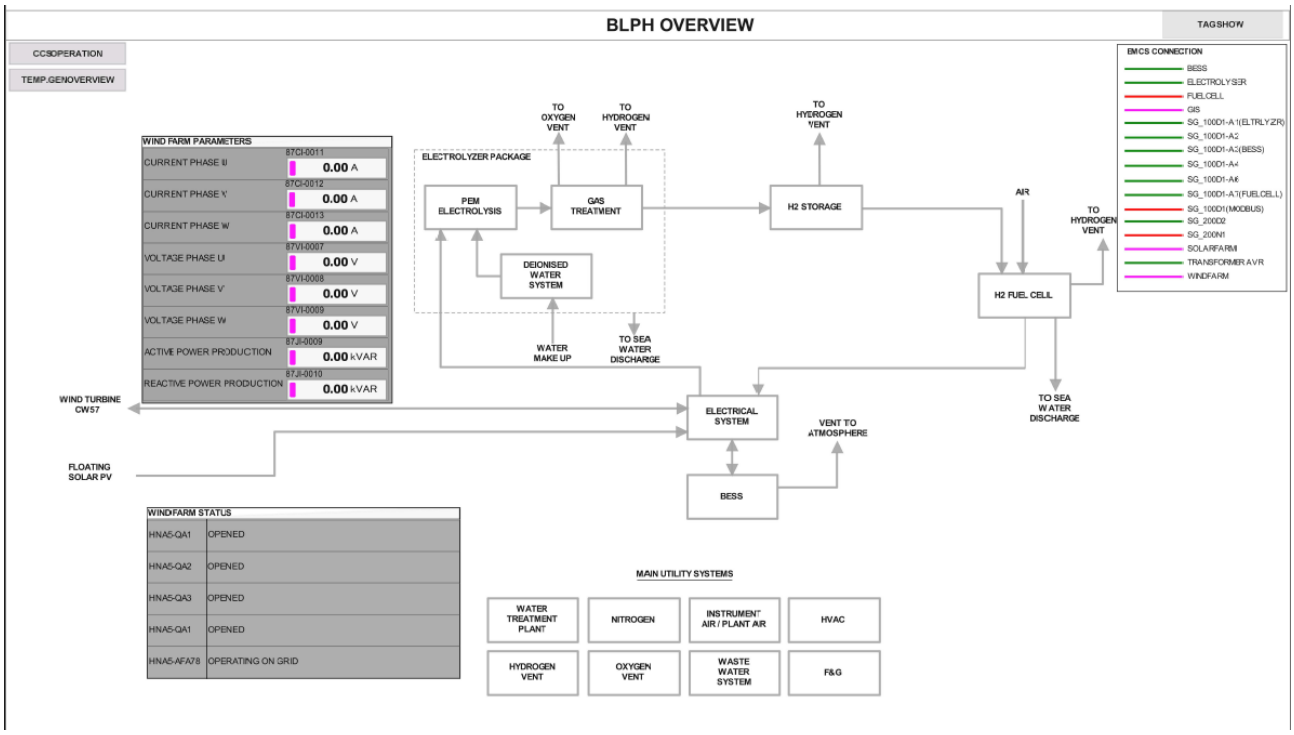
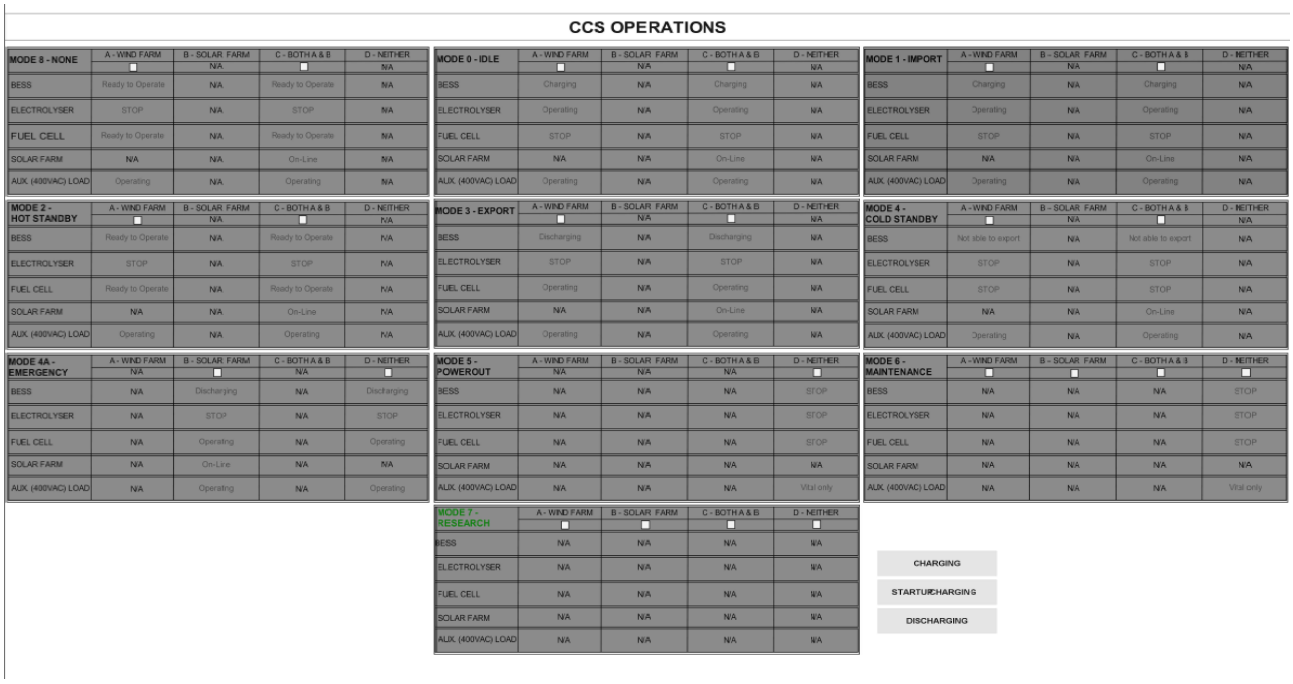
3.3 HMI SCREENS IMAGES

- BLPH_OVERVIEW



- BLPH_CCS_OPERATIONS



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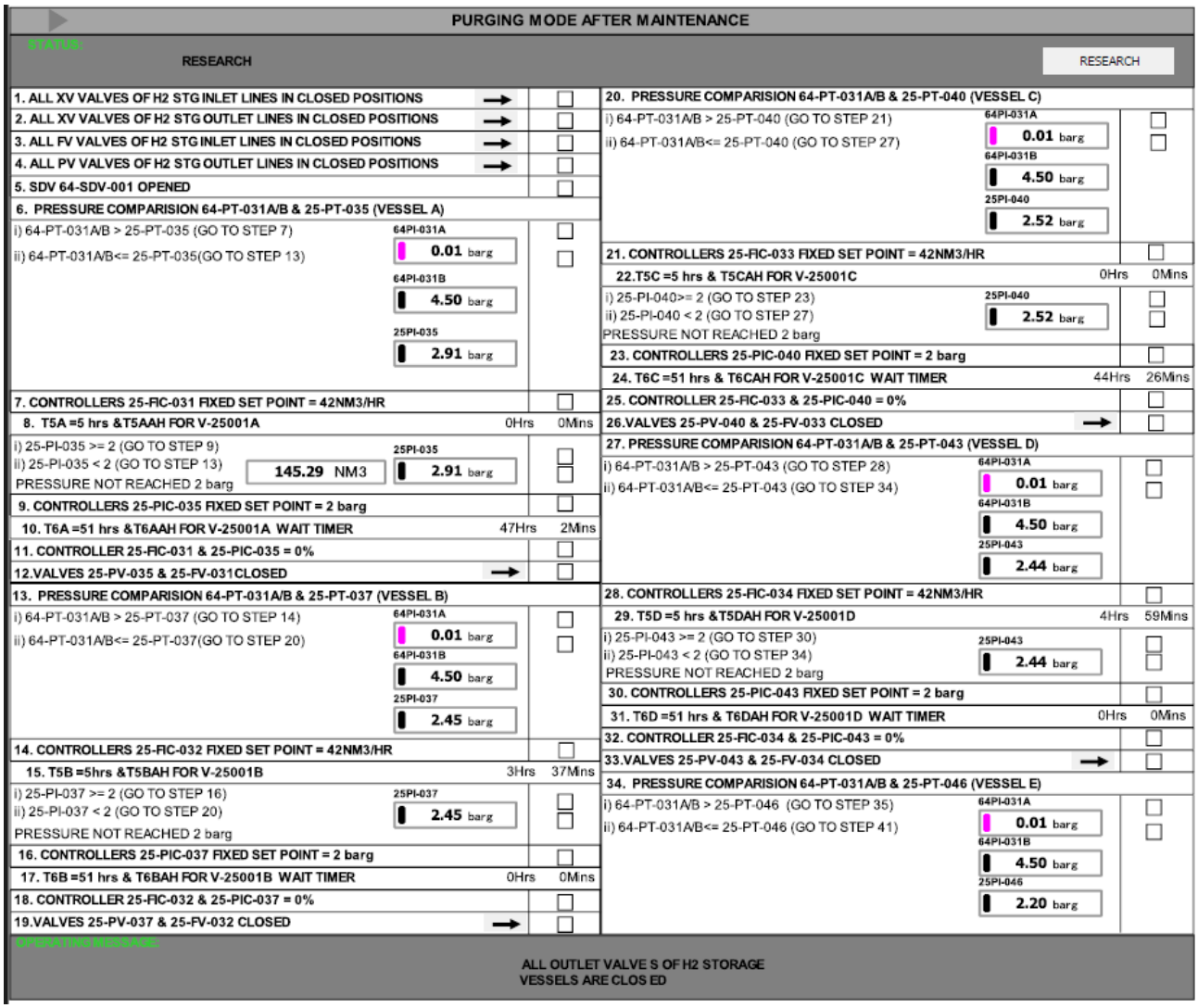
- M7_MAINTENANCE_CSS_1



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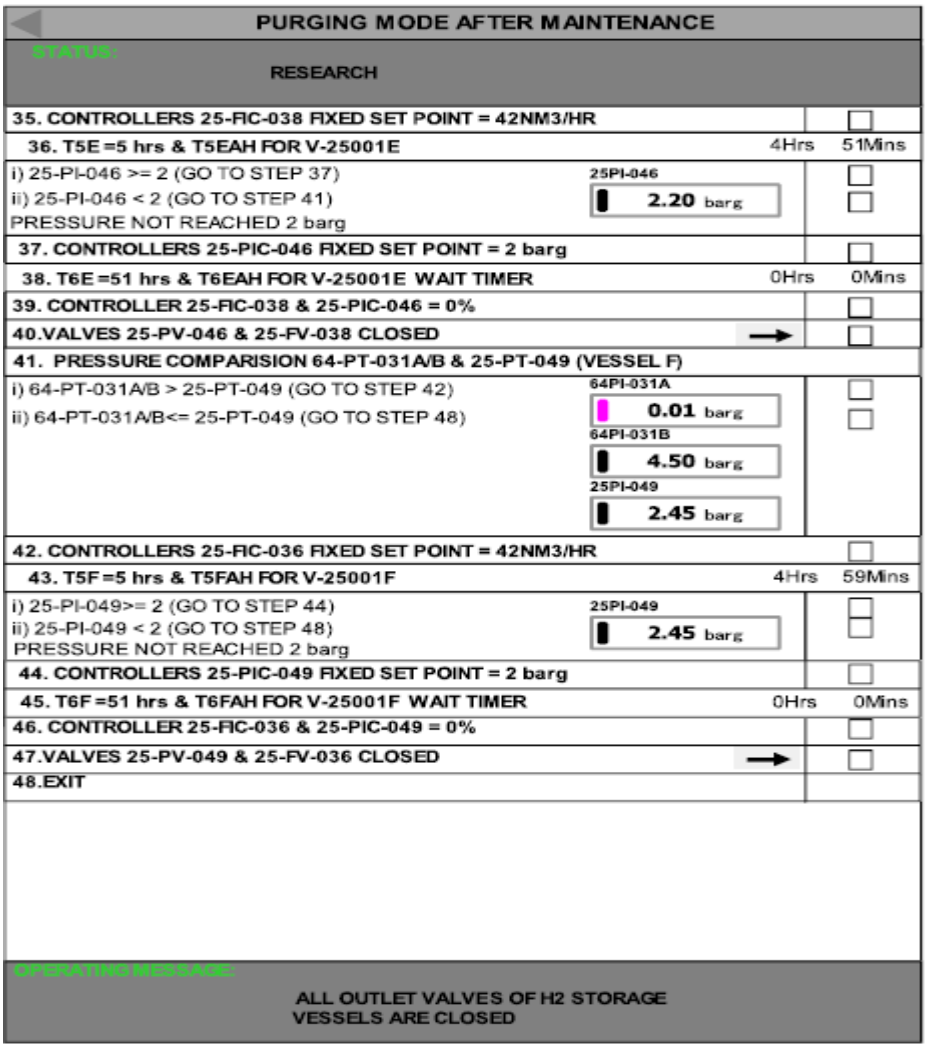

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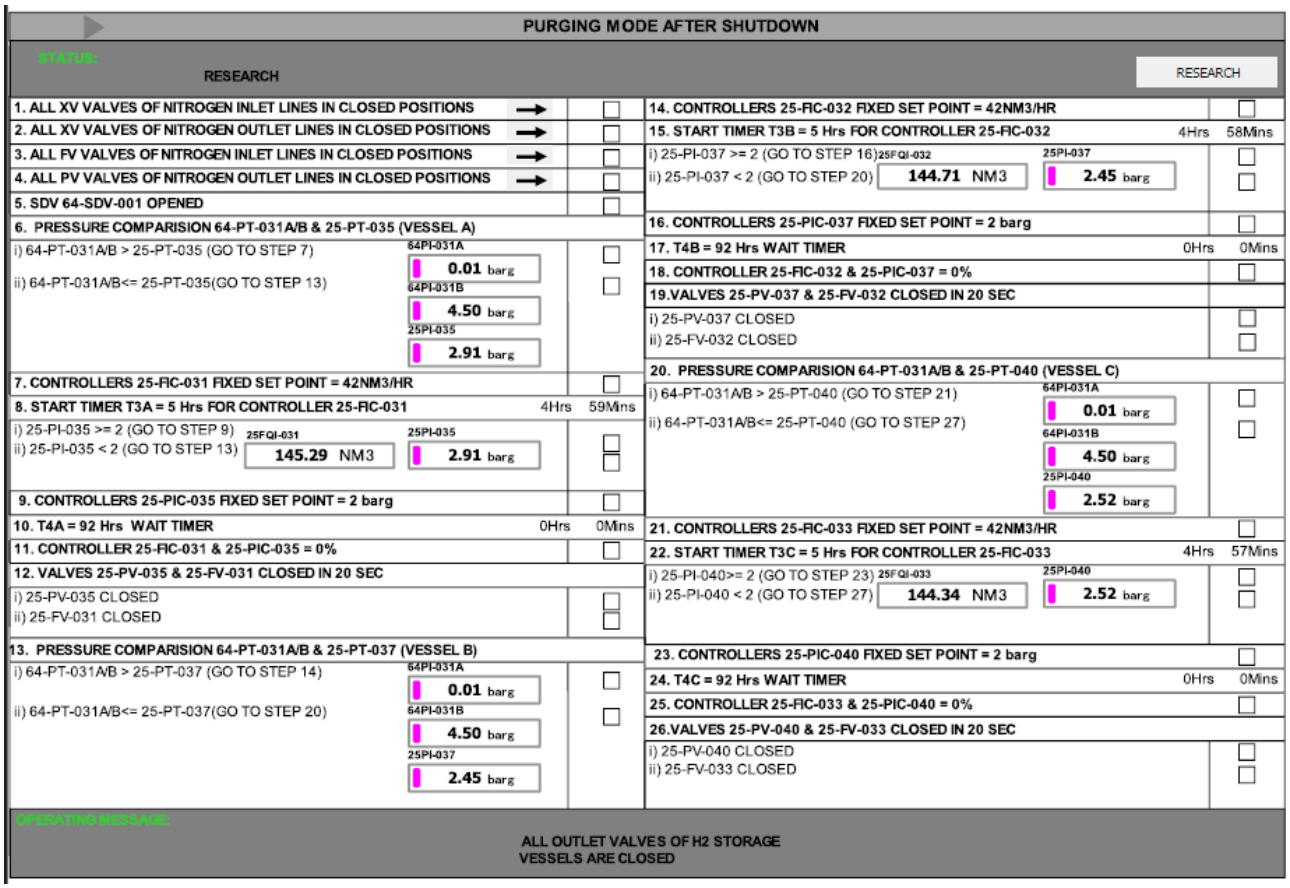
- M7_SHUTDOWN_CSS_1



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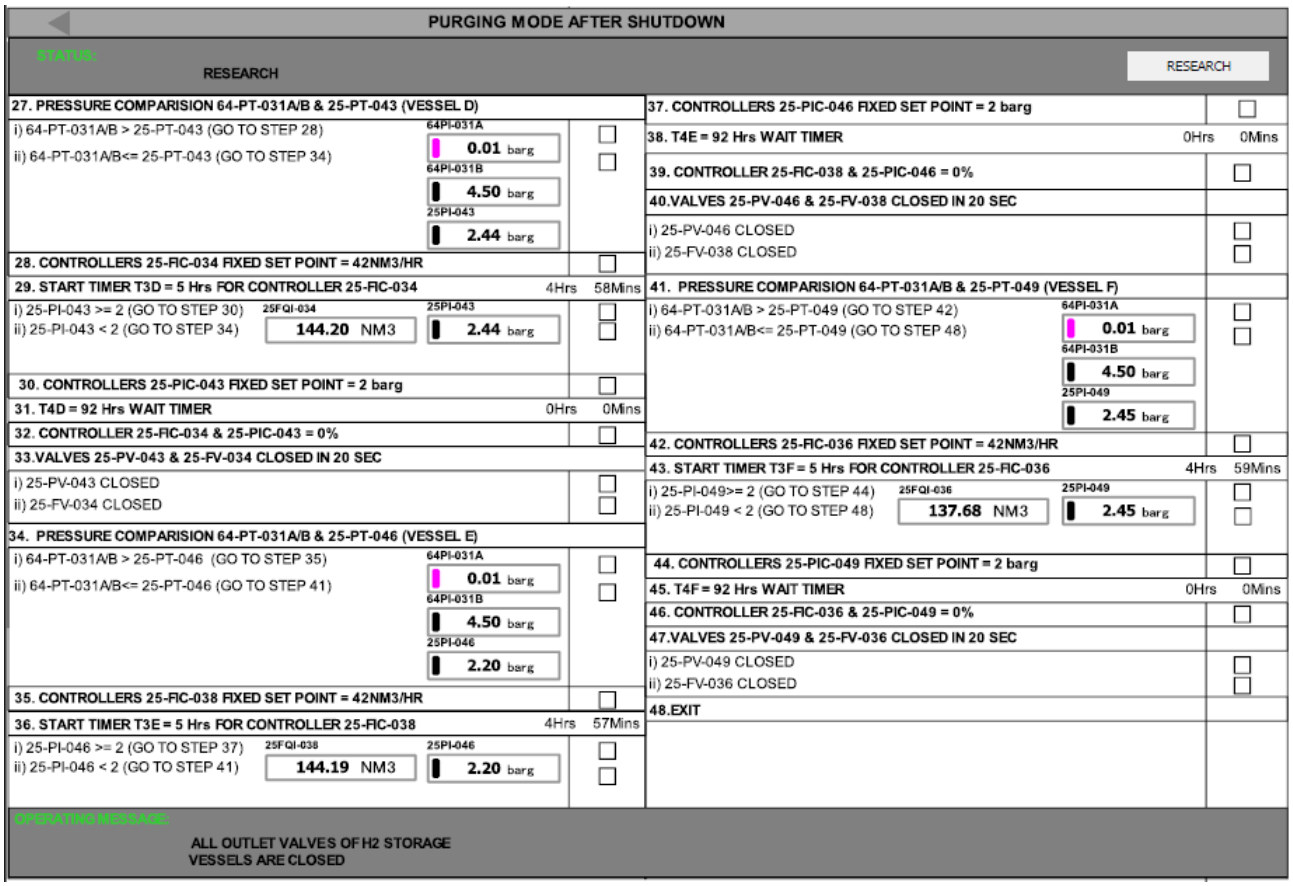
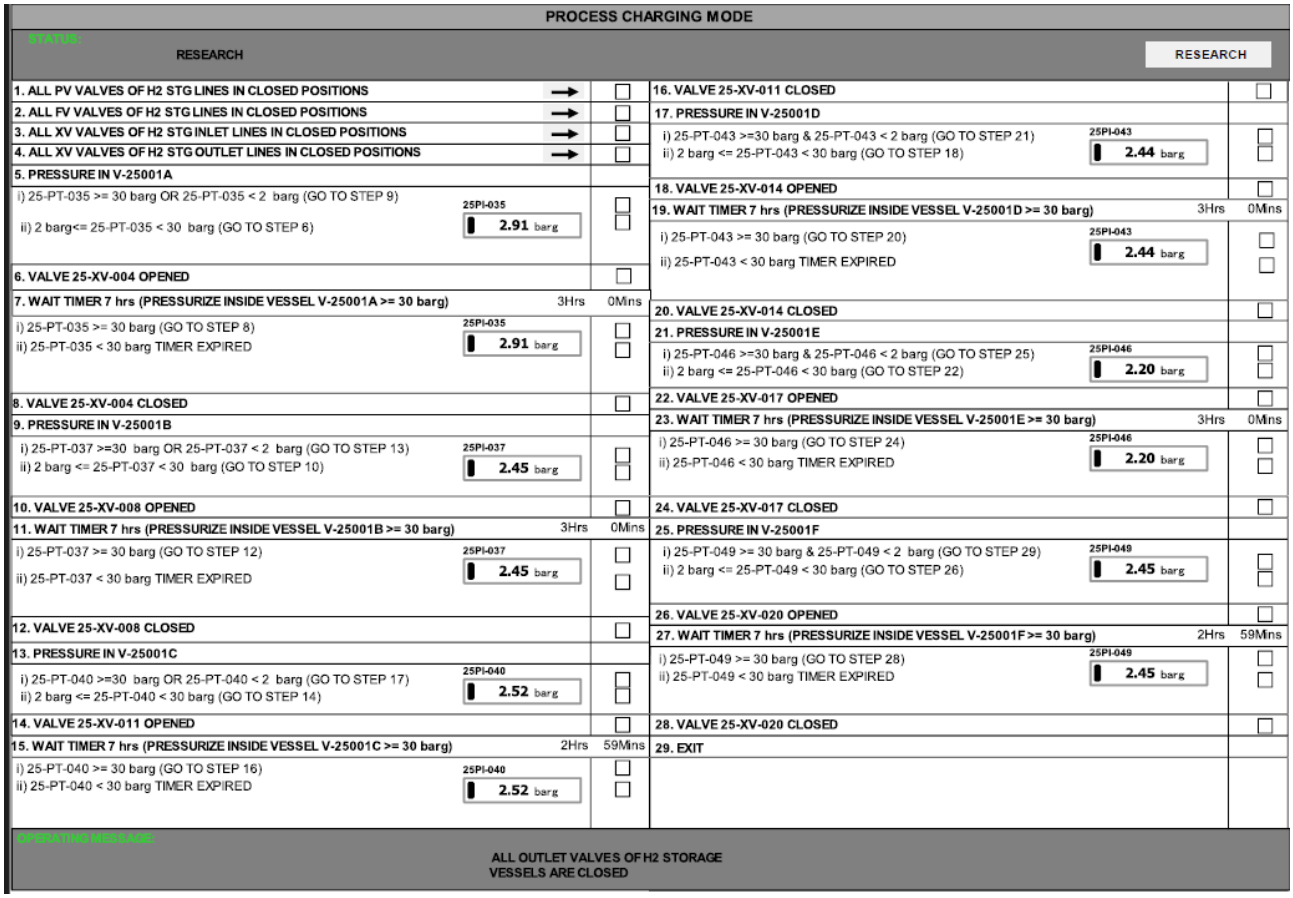
- M7_SHUTDOWN_CSS_2



- M7_PRO_CHARGE_CSS



PROCESS CHARGING MODE

STATUS: RESEARCH — RESEARCH

1. ALL PV VALVES OF H2 STG LINES IN CLOSED POSITIONS	→	☐	16. VALVE 25-XV-011 CLOSED		☐
2. ALL FV VALVES OF H2 STG LINES IN CLOSED POSITIONS	→	☐	17. PRESSURE IN V-25001D		
3. ALL XV VALVES OF H2 STG INLET LINES IN CLOSED POSITIONS	→	☐	i) 25-PT-043 >=30 barg & 25-PT-043 < 2 barg (GO TO STEP 21) ii) 2 barg <= 25-PT-043 < 30 barg (GO TO STEP 18)	25PI-043 2.44 barg	☐ ☐
4. ALL XV VALVES OF H2 STG OUTLET LINES IN CLOSED POSITIONS	→	☐	18. VALVE 25-XV-014 OPENED		☐
5. PRESSURE IN V-25001A			19. WAIT TIMER 7 hrs (PRESSURIZE INSIDE VESSEL V-25001D >= 30 barg)	3Hrs 0Mins	
i) 25-PT-035 >= 30 barg OR 25-PT-035 < 2 barg (GO TO STEP 9) ii) 2 barg<= 25-PT-035 < 30 barg (GO TO STEP 6)	25PI-035 2.91 barg	☐ ☐	i) 25-PT-043 >= 30 barg (GO TO STEP 20) ii) 25-PT-043 < 30 barg TIMER EXPIRED	25PI-043 2.44 barg	☐ ☐
6. VALVE 25-XV-004 OPENED		☐	20. VALVE 25-XV-014 CLOSED		☐
7. WAIT TIMER 7 hrs (PRESSURIZE INSIDE VESSEL V-25001A >= 30 barg)	3Hrs 0Mins		21. PRESSURE IN V-25001E		
i) 25-PT-035 >= 30 barg (GO TO STEP 8) ii) 25-PT-035 < 30 barg TIMER EXPIRED	25PI-035 2.91 barg	☐ ☐	i) 25-PT-046 >=30 barg & 25-PT-046 < 2 barg (GO TO STEP 25) ii) 2 barg <= 25-PT-046 < 30 barg (GO TO STEP 22)	25PI-046 2.20 barg	☐ ☐
8. VALVE 25-XV-004 CLOSED		☐	22. VALVE 25-XV-017 OPENED		☐
9. PRESSURE IN V-25001B			23. WAIT TIMER 7 hrs (PRESSURIZE INSIDE VESSEL V-25001E >= 30 barg)	3Hrs 0Mins	
i) 25-PT-037 >=30 barg OR 25-PT-037 < 2 barg (GO TO STEP 13) ii) 2 barg <= 25-PT-037 < 30 barg (GO TO STEP 10)	25PI-037 2.45 barg	☐ ☐	i) 25-PT-046 >= 30 barg (GO TO STEP 24) ii) 25-PT-046 < 30 barg TIMER EXPIRED	25PI-046 2.20 barg	☐ ☐
10. VALVE 25-XV-008 OPENED		☐	24. VALVE 25-XV-017 CLOSED		☐
11. WAIT TIMER 7 hrs (PRESSURIZE INSIDE VESSEL V-25001B >= 30 barg)	3Hrs 0Mins		25. PRESSURE IN V-25001F		
i) 25-PT-037 >= 30 barg (GO TO STEP 12) ii) 25-PT-037 < 30 barg TIMER EXPIRED	25PI-037 2.45 barg	☐ ☐	i) 25-PT-049 >= 30 barg & 25-PT-049 < 2 barg (GO TO STEP 29) ii) 2 barg <= 25-PT-049 < 30 barg (GO TO STEP 26)	25PI-049 2.45 barg	☐ ☐
12. VALVE 25-XV-008 CLOSED		☐	26. VALVE 25-XV-020 OPENED		☐
13. PRESSURE IN V-25001C			27. WAIT TIMER 7 hrs (PRESSURIZE INSIDE VESSEL V-25001F >= 30 barg)	2Hrs 59Mins	
i) 25-PT-040 >=30 barg OR 25-PT-040 < 2 barg (GO TO STEP 17) ii) 2 barg <= 25-PT-040 < 30 barg (GO TO STEP 14)	25PI-040 2.52 barg	☐ ☐	i) 25-PT-049 >= 30 barg (GO TO STEP 28) ii) 25-PT-049 < 30 barg TIMER EXPIRED	25PI-049 2.45 barg	☐ ☐
14. VALVE 25-XV-011 OPENED		☐	28. VALVE 25-XV-020 CLOSED		☐
15. WAIT TIMER 7 hrs (PRESSURIZE INSIDE VESSEL V-25001C >= 30 barg)	2Hrs 59Mins		29. EXIT		
i) 25-PT-040 >= 30 barg (GO TO STEP 16) ii) 25-PT-040 < 30 barg TIMER EXPIRED	25PI-040 2.52 barg	☐ ☐			

OPERATING MESSAGE: ALL OUTLET VALVES OF H2 STORAGE VESSELS ARE CLOSED

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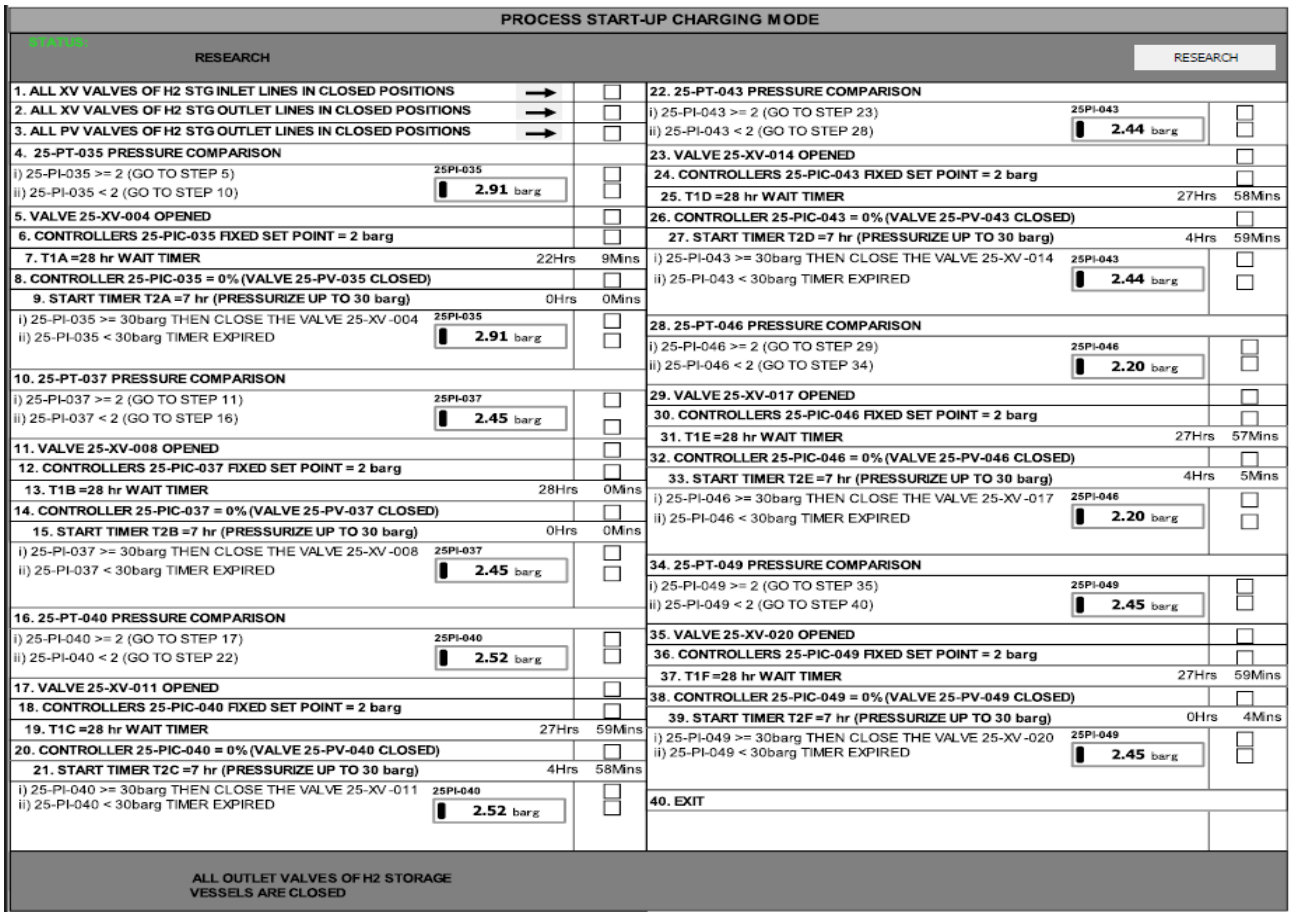
- M7_PRO_STR_CHARG_CSS



PROCESS START-UP CHARGING MODE

STATUS: RESEARCH — RESEARCH

1. ALL XV VALVES OF H2 STG INLET LINES IN CLOSED POSITIONS	→		
2. ALL XV VALVES OF H2 STG OUTLET LINES IN CLOSED POSITIONS	→		
3. ALL PV VALVES OF H2 STG OUTLET LINES IN CLOSED POSITIONS	→		
4. 25-PT-035 PRESSURE COMPARISON			
i) 25-PI-035 >= 2 (GO TO STEP 5)	25PI-035 2.91 barg		
ii) 25-PI-035 < 2 (GO TO STEP 10)			
5. VALVE 25-XV-004 OPENED			
6. CONTROLLERS 25-PIC-035 FIXED SET POINT = 2 barg			
7. T1A =28 hr WAIT TIMER	22Hrs	9Mins	
8. CONTROLLER 25-PIC-035 = 0% (VALVE 25-PV-035 CLOSED)			
9. START TIMER T2A =7 hr (PRESSURIZE UP TO 30 barg)	0Hrs	0Mins	
i) 25-PI-035 >= 30barg THEN CLOSE THE VALVE 25-XV-004	25PI-035 2.91 barg		
ii) 25-PI-035 < 30barg TIMER EXPIRED			
10. 25-PT-037 PRESSURE COMPARISON			
i) 25-PI-037 >= 2 (GO TO STEP 11)	25PI-037 2.45 barg		
ii) 25-PI-037 < 2 (GO TO STEP 16)			
11. VALVE 25-XV-008 OPENED			
12. CONTROLLERS 25-PIC-037 FIXED SET POINT = 2 barg			
13. T1B =28 hr WAIT TIMER	28Hrs	0Mins	
14. CONTROLLER 25-PIC-037 = 0% (VALVE 25-PV-037 CLOSED)			
15. START TIMER T2B =7 hr (PRESSURIZE UP TO 30 barg)	0Hrs	0Mins	
i) 25-PI-037 >= 30barg THEN CLOSE THE VALVE 25-XV-008	25PI-037 2.45 barg		
ii) 25-PI-037 < 30barg TIMER EXPIRED			
16. 25-PT-040 PRESSURE COMPARISON			
i) 25-PI-040 >= 2 (GO TO STEP 17)	25PI-040 2.52 barg		
ii) 25-PI-040 < 2 (GO TO STEP 22)			
17. VALVE 25-XV-011 OPENED			
18. CONTROLLERS 25-PIC-040 FIXED SET POINT = 2 barg			
19. T1C =28 hr WAIT TIMER	27Hrs	59Mins	
20. CONTROLLER 25-PIC-040 = 0% (VALVE 25-PV-040 CLOSED)			
21. START TIMER T2C =7 hr (PRESSURIZE UP TO 30 barg)	4Hrs	58Mins	
i) 25-PI-040 >= 30barg THEN CLOSE THE VALVE 25-XV-011	25PI-040 2.52 barg		
ii) 25-PI-040 < 30barg TIMER EXPIRED			

22. 25-PT-043 PRESSURE COMPARISON			
i) 25-PI-043 >= 2 (GO TO STEP 23)	25PI-043 2.44 barg		
ii) 25-PI-043 < 2 (GO TO STEP 28)			
23. VALVE 25-XV-014 OPENED			
24. CONTROLLERS 25-PIC-043 FIXED SET POINT = 2 barg			
25. T1D =28 hr WAIT TIMER	27Hrs	58Mins	
26. CONTROLLER 25-PIC-043 = 0% (VALVE 25-PV-043 CLOSED)			
27. START TIMER T2D =7 hr (PRESSURIZE UP TO 30 barg)	4Hrs	59Mins	
i) 25-PI-043 >= 30barg THEN CLOSE THE VALVE 25-XV-014	25PI-043 2.44 barg		
ii) 25-PI-043 < 30barg TIMER EXPIRED			
28. 25-PT-046 PRESSURE COMPARISON			
i) 25-PI-046 >= 2 (GO TO STEP 29)	25PI-046 2.20 barg		
ii) 25-PI-046 < 2 (GO TO STEP 34)			
29. VALVE 25-XV-017 OPENED			
30. CONTROLLERS 25-PIC-046 FIXED SET POINT = 2 barg			
31. T1E =28 hr WAIT TIMER	27Hrs	57Mins	
32. CONTROLLER 25-PIC-046 = 0% (VALVE 25-PV-046 CLOSED)			
33. START TIMER T2E =7 hr (PRESSURIZE UP TO 30 barg)	4Hrs	5Mins	
i) 25-PI-046 >= 30barg THEN CLOSE THE VALVE 25-XV-017	25PI-046 2.20 barg		
ii) 25-PI-046 < 30barg TIMER EXPIRED			
34. 25-PT-049 PRESSURE COMPARISON			
i) 25-PI-049 >= 2 (GO TO STEP 35)	25PI-049 2.45 barg		
ii) 25-PI-049 < 2 (GO TO STEP 40)			
35. VALVE 25-XV-020 OPENED			
36. CONTROLLERS 25-PIC-049 FIXED SET POINT = 2 barg			
37. T1F =28 hr WAIT TIMER	27Hrs	59Mins	
38. CONTROLLER 25-PIC-049 = 0% (VALVE 25-PV-049 CLOSED)			
39. START TIMER T2F =7 hr (PRESSURIZE UP TO 30 barg)	0Hrs	4Mins	
i) 25-PI-049 >= 30barg THEN CLOSE THE VALVE 25-XV-020	25PI-049 2.45 barg		
ii) 25-PI-049 < 30barg TIMER EXPIRED			
40. EXIT			

ALL OUTLET VALVES OF H2 STORAGE VESSELS ARE CLOSED

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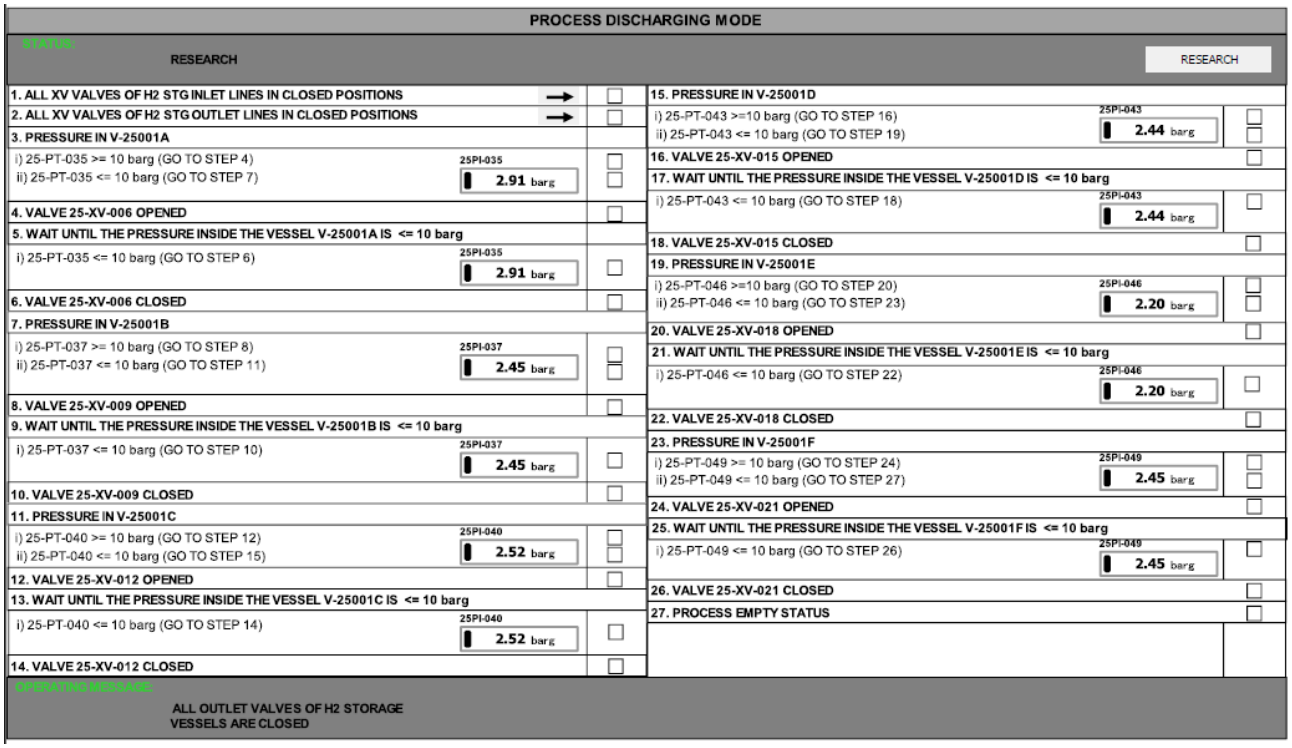
- M7_PRO_DISCHARGE_CSS



PROCESS DISCHARGING MODE

STATUS: RESEARCH

RESEARCH

1. ALL XV VALVES OF H2 STG INLET LINES IN CLOSED POSITIONS	→	☐
2. ALL XV VALVES OF H2 STG OUTLET LINES IN CLOSED POSITIONS	→	☐
3. PRESSURE IN V-25001A		
i) 25-PT-035 >= 10 barg (GO TO STEP 4) ii) 25-PT-035 <= 10 barg (GO TO STEP 7)	25PI-035: 2.91 barg	☐ ☐
4. VALVE 25-XV-006 OPENED		☐
5. WAIT UNTIL THE PRESSURE INSIDE THE VESSEL V-25001A IS <= 10 barg		
i) 25-PT-035 <= 10 barg (GO TO STEP 6)	25PI-035: 2.91 barg	☐
6. VALVE 25-XV-006 CLOSED		☐
7. PRESSURE IN V-25001B		
i) 25-PT-037 >= 10 barg (GO TO STEP 8) ii) 25-PT-037 <= 10 barg (GO TO STEP 11)	25PI-037: 2.45 barg	☐ ☐
8. VALVE 25-XV-009 OPENED		☐
9. WAIT UNTIL THE PRESSURE INSIDE THE VESSEL V-25001B IS <= 10 barg		
i) 25-PT-037 <= 10 barg (GO TO STEP 10)	25PI-037: 2.45 barg	☐
10. VALVE 25-XV-009 CLOSED		☐
11. PRESSURE IN V-25001C		
i) 25-PT-040 >= 10 barg (GO TO STEP 12) ii) 25-PT-040 <= 10 barg (GO TO STEP 15)	25PI-040: 2.52 barg	☐ ☐
12. VALVE 25-XV-012 OPENED		☐
13. WAIT UNTIL THE PRESSURE INSIDE THE VESSEL V-25001C IS <= 10 barg		
i) 25-PT-040 <= 10 barg (GO TO STEP 14)	25PI-040: 2.52 barg	☐
14. VALVE 25-XV-012 CLOSED		☐
15. PRESSURE IN V-25001D		
i) 25-PT-043 >=10 barg (GO TO STEP 16) ii) 25-PT-043 <= 10 barg (GO TO STEP 19)	25PI-043: 2.44 barg	☐ ☐
16. VALVE 25-XV-015 OPENED		☐
17. WAIT UNTIL THE PRESSURE INSIDE THE VESSEL V-25001D IS <= 10 barg		
i) 25-PT-043 <= 10 barg (GO TO STEP 18)	25PI-043: 2.44 barg	☐
18. VALVE 25-XV-015 CLOSED		☐
19. PRESSURE IN V-25001E		
i) 25-PT-046 >=10 barg (GO TO STEP 20) ii) 25-PT-046 <= 10 barg (GO TO STEP 23)	25PI-046: 2.20 barg	☐ ☐
20. VALVE 25-XV-018 OPENED		☐
21. WAIT UNTIL THE PRESSURE INSIDE THE VESSEL V-25001E IS <= 10 barg		
i) 25-PT-046 <= 10 barg (GO TO STEP 22)	25PI-046: 2.20 barg	☐
22. VALVE 25-XV-018 CLOSED		☐
23. PRESSURE IN V-25001F		
i) 25-PT-049 >= 10 barg (GO TO STEP 24) ii) 25-PT-049 <= 10 barg (GO TO STEP 27)	25PI-049: 2.45 barg	☐ ☐
24. VALVE 25-XV-021 OPENED		☐
25. WAIT UNTIL THE PRESSURE INSIDE THE VESSEL V-25001F IS <= 10 barg		
i) 25-PT-049 <= 10 barg (GO TO STEP 26)	25PI-049: 2.45 barg	☐
26. VALVE 25-XV-021 CLOSED		☐
27. PROCESS EMPTY STATUS		☐

OPERATING MESSAGE:

ALL OUTLET VALVES OF H2 STORAGE VESSELS ARE CLOSED

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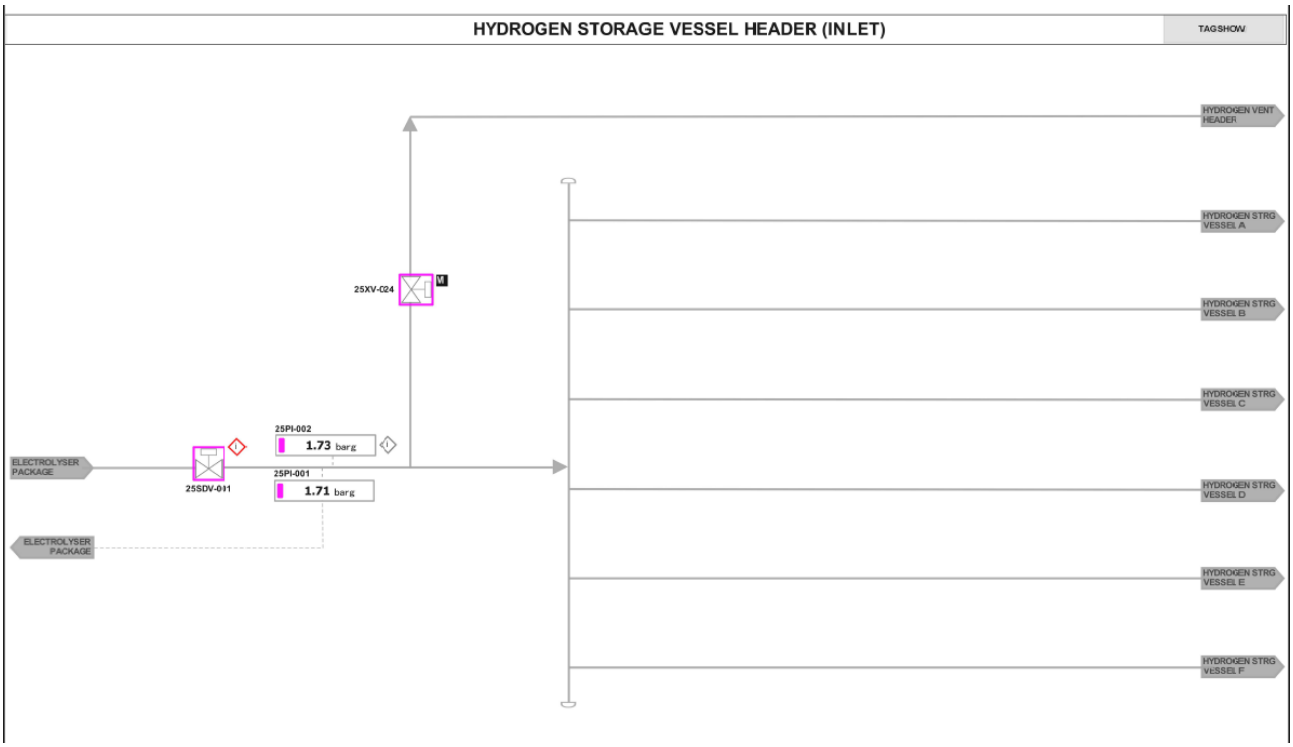
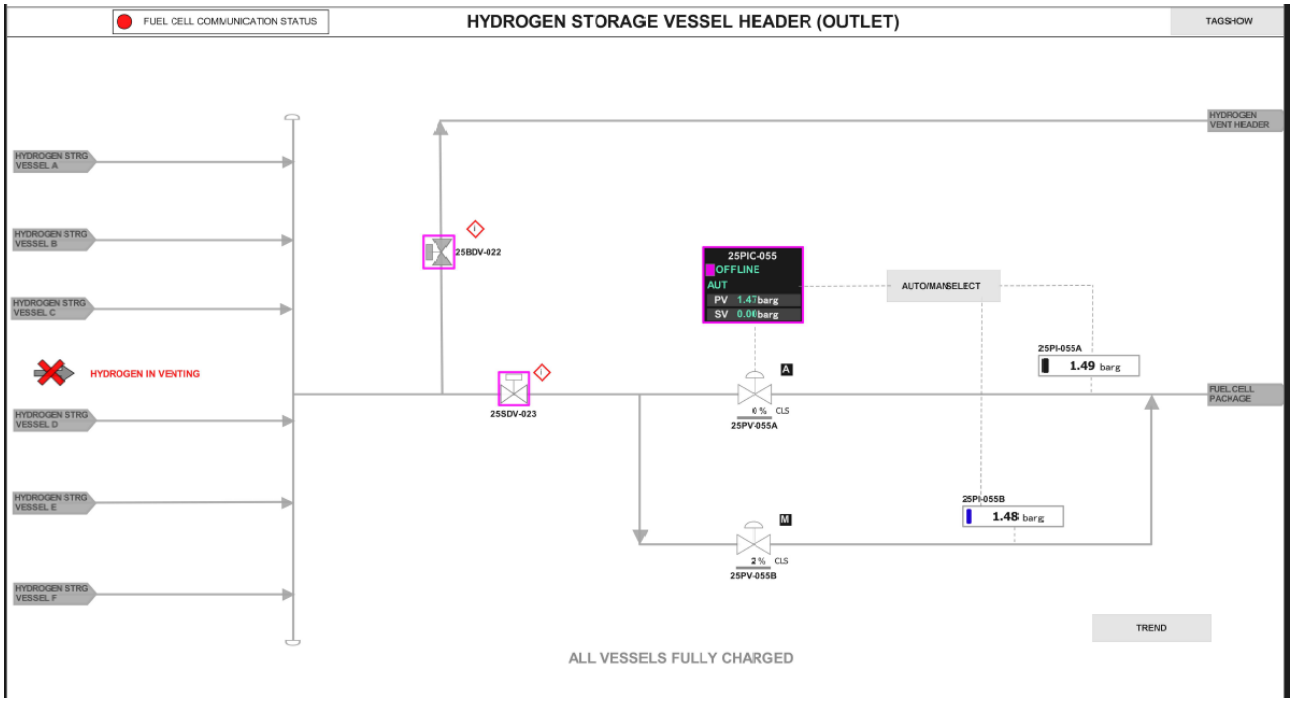
- H2_STG_VESSELS_HEADER_INLET



- H2_STG_VESSELS_HEADER_OUTLET



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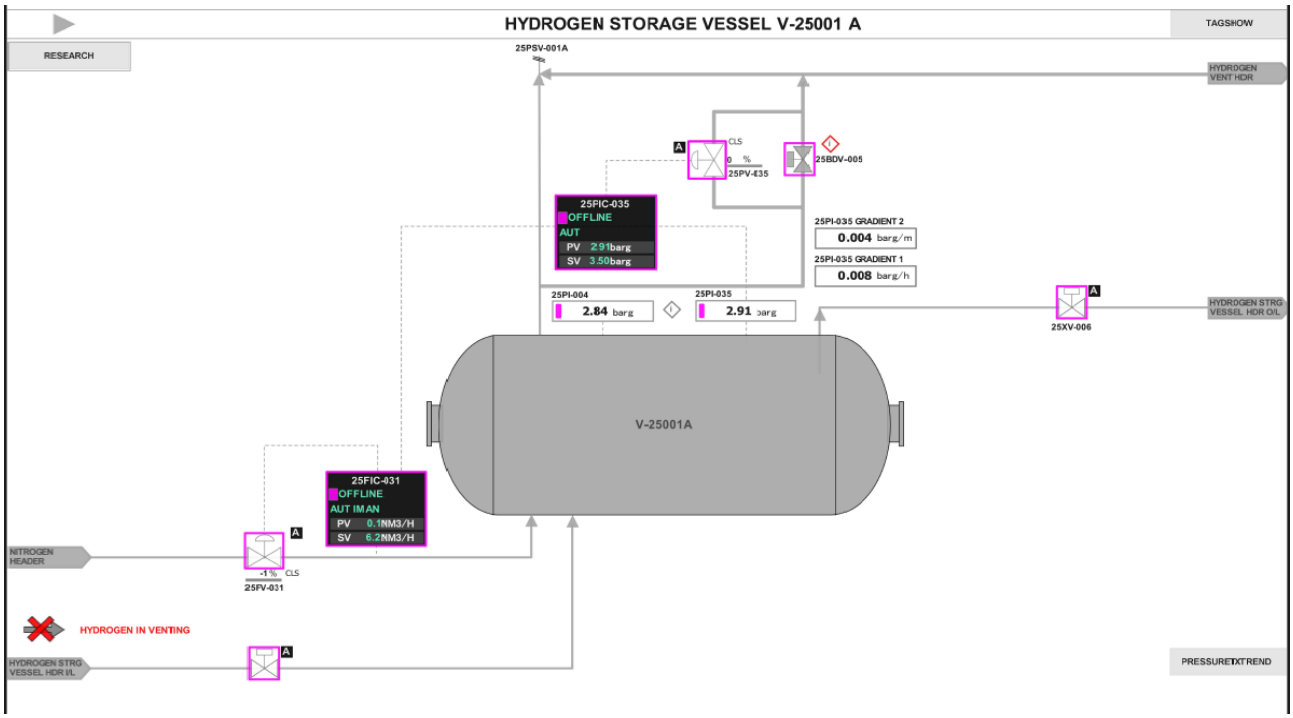
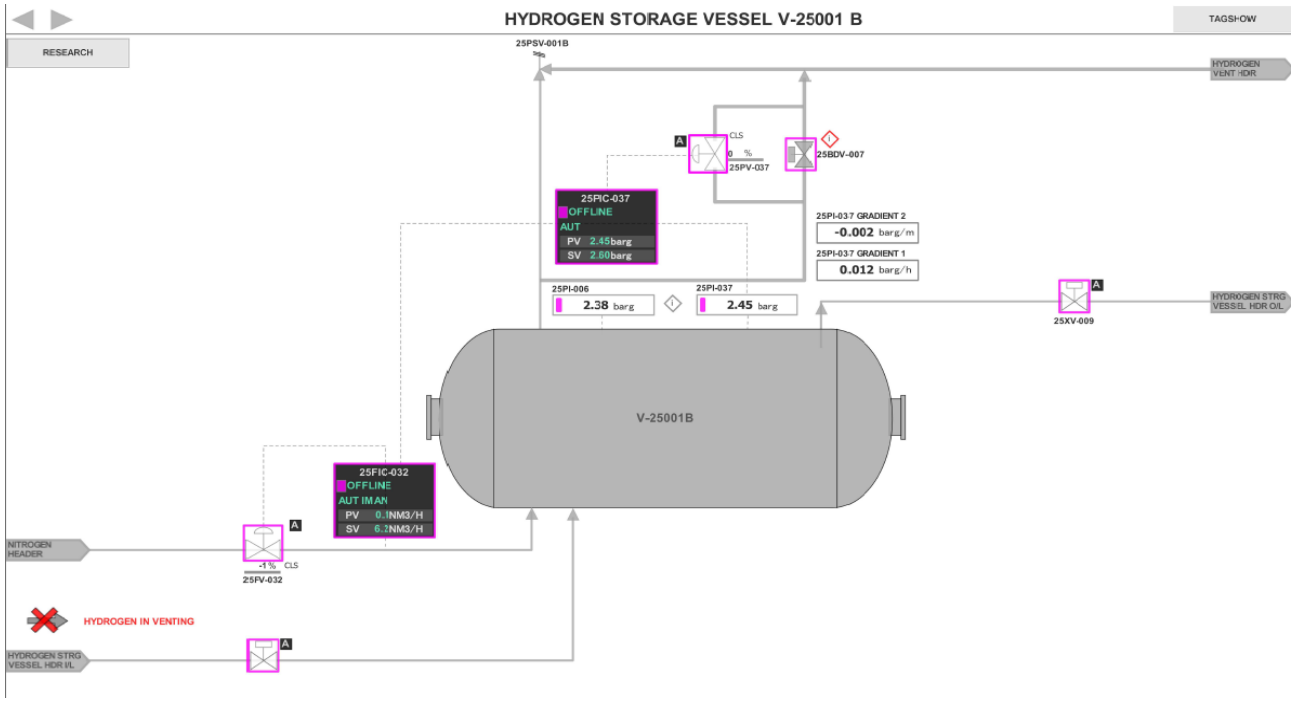
- HYDROGEN_STORAGE_VESSEL_A



- HYDROGEN_STORAGE_VESSEL_B



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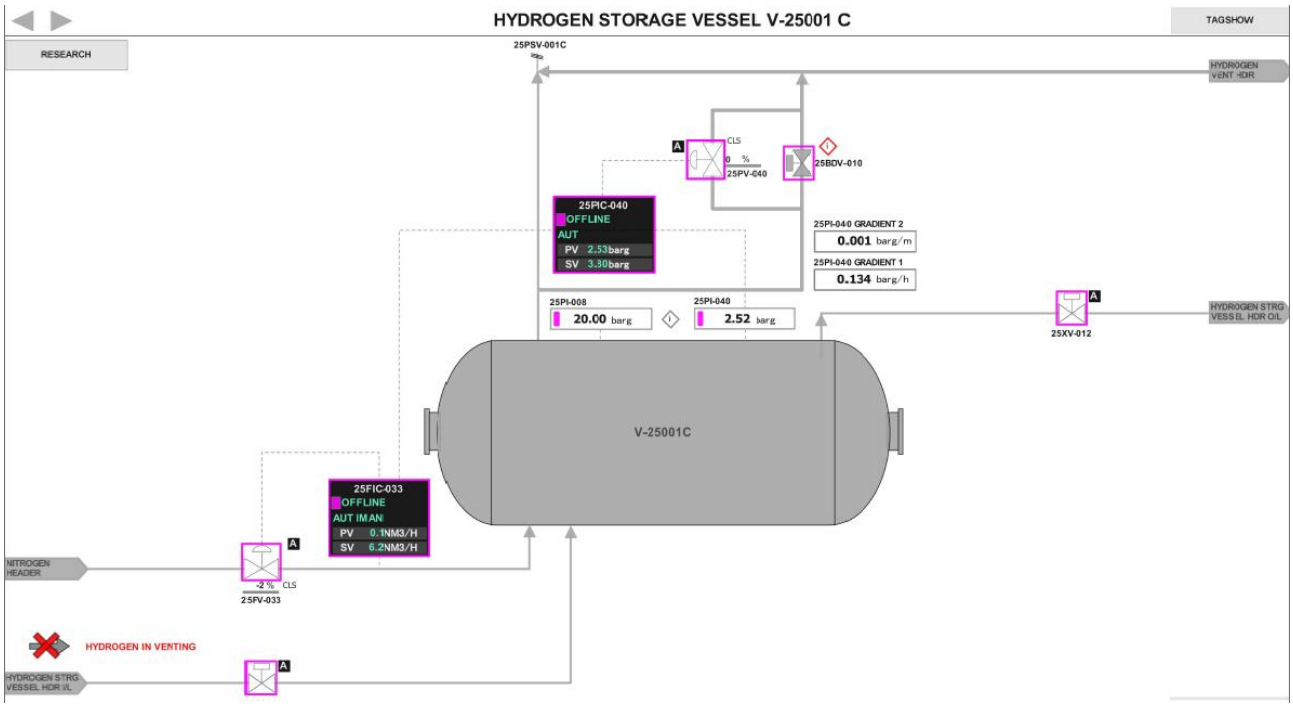
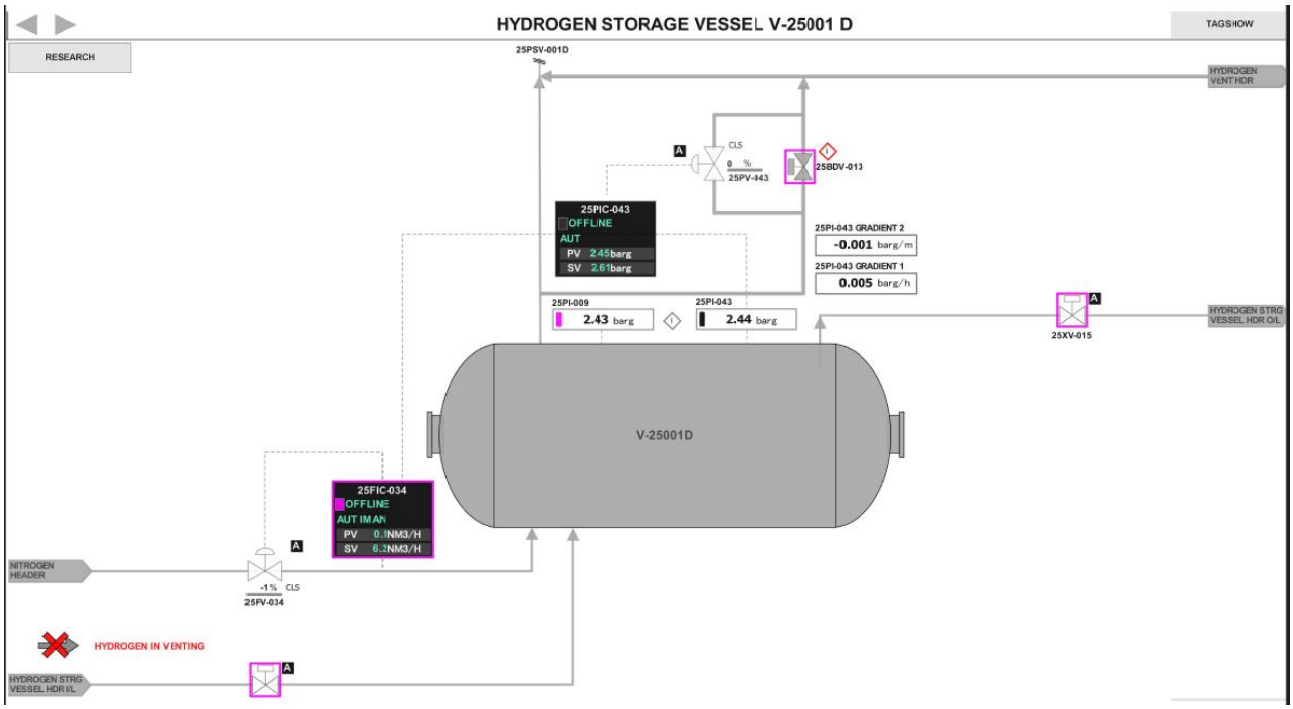
- HYROGEN_STORAGE_VESSEL_C



- HYDROGEN_STORAGE_VESSEL_D



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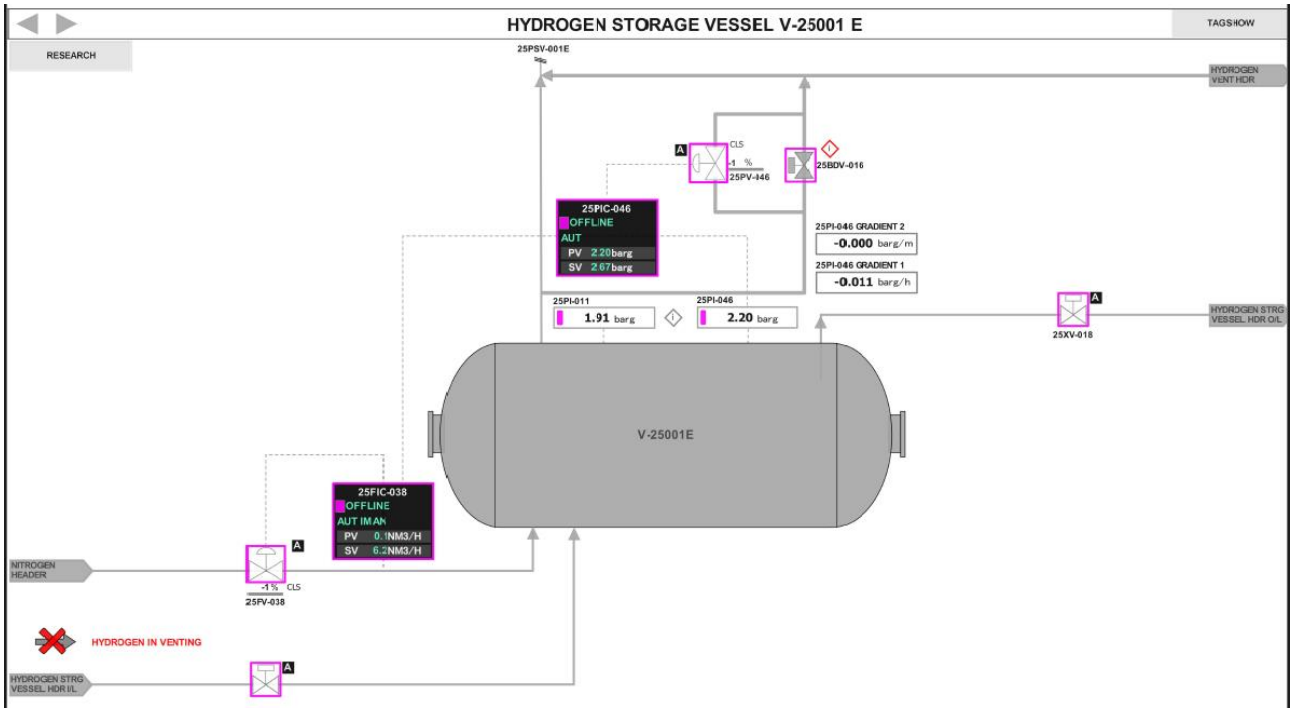
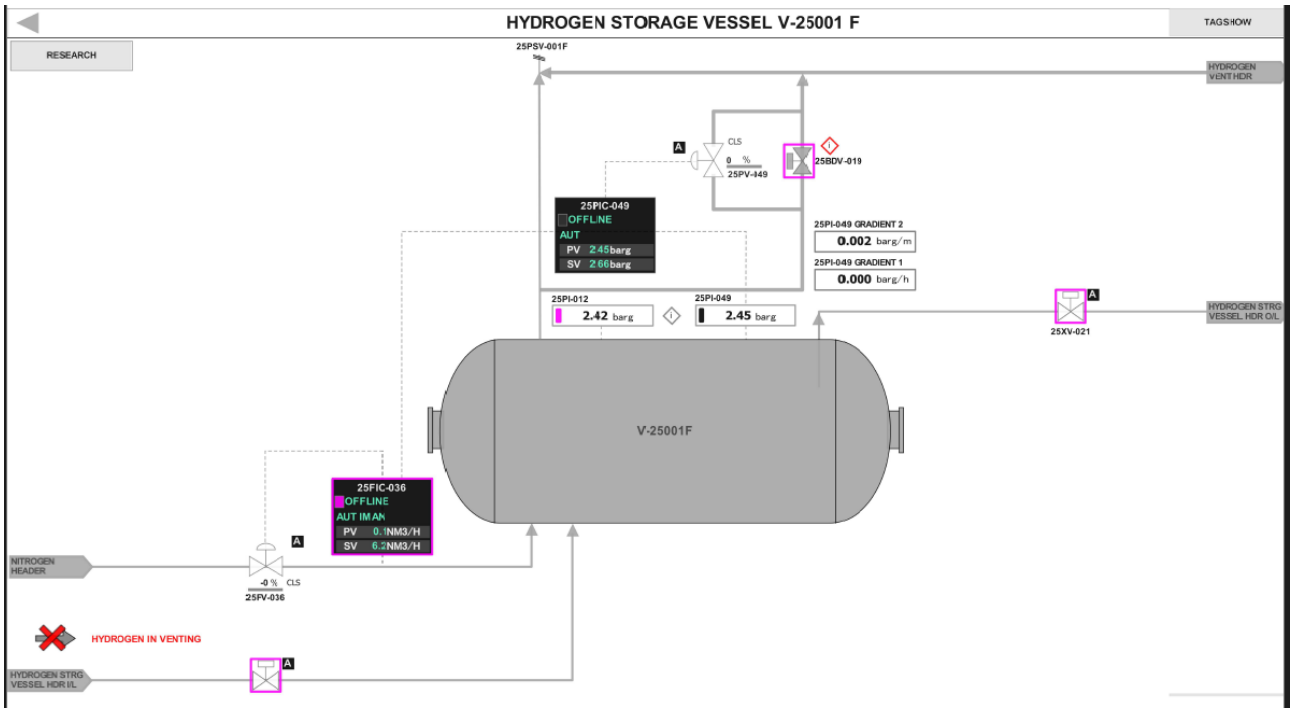
- HYDROGEN_STORAGE_VESSEL_E



- HYROGEN_STORAGE_VESSEL_F



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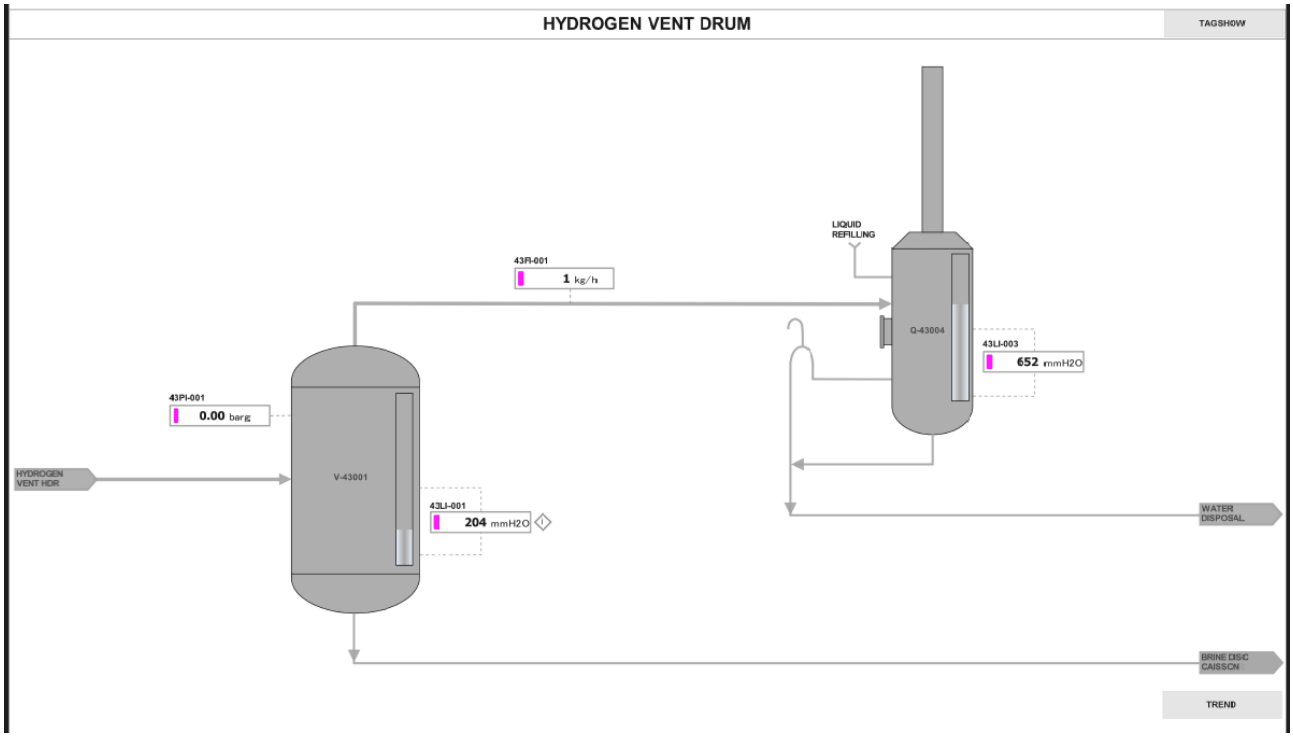
- HYDROGEN_VENT_DRUM



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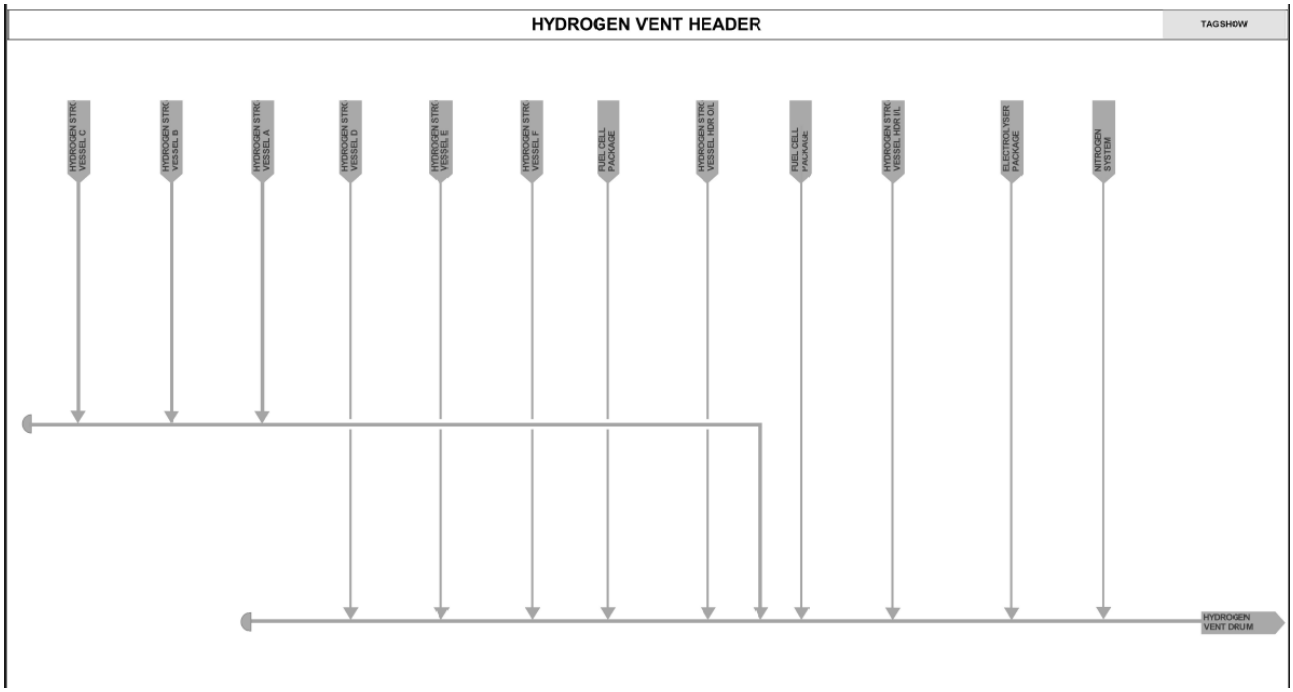

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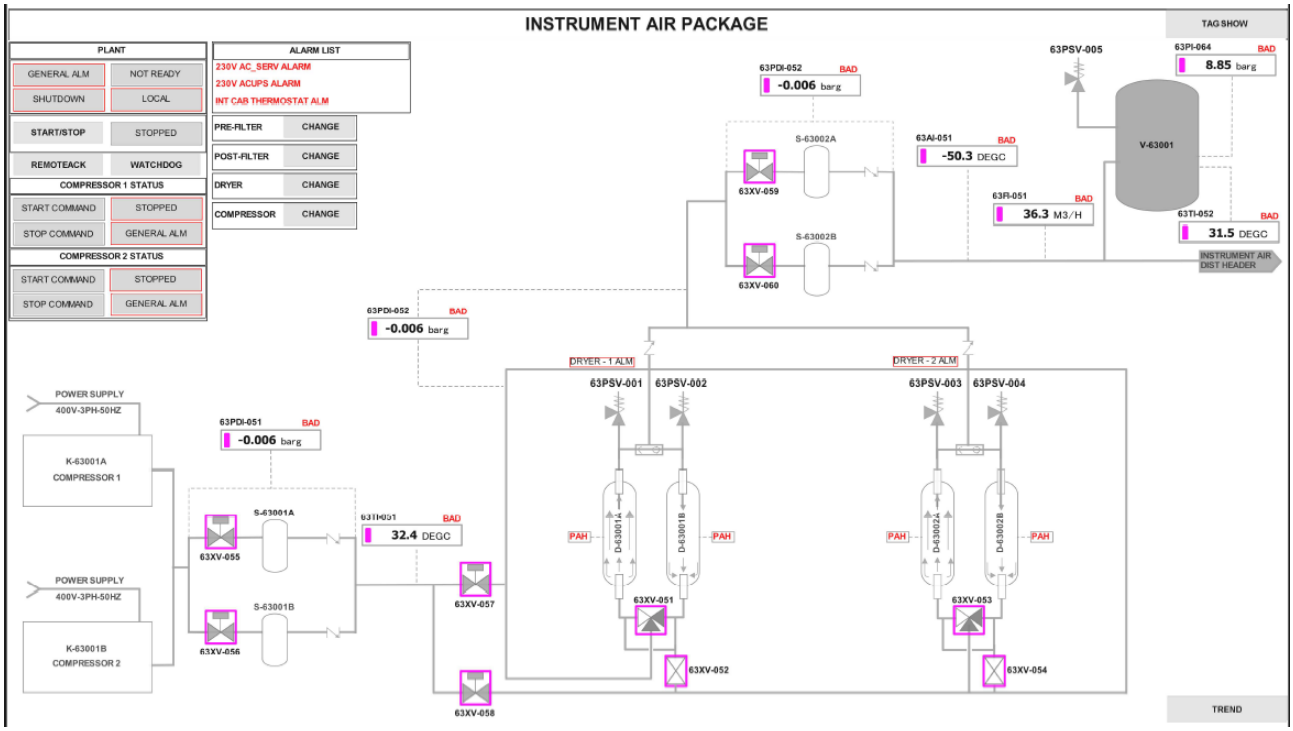
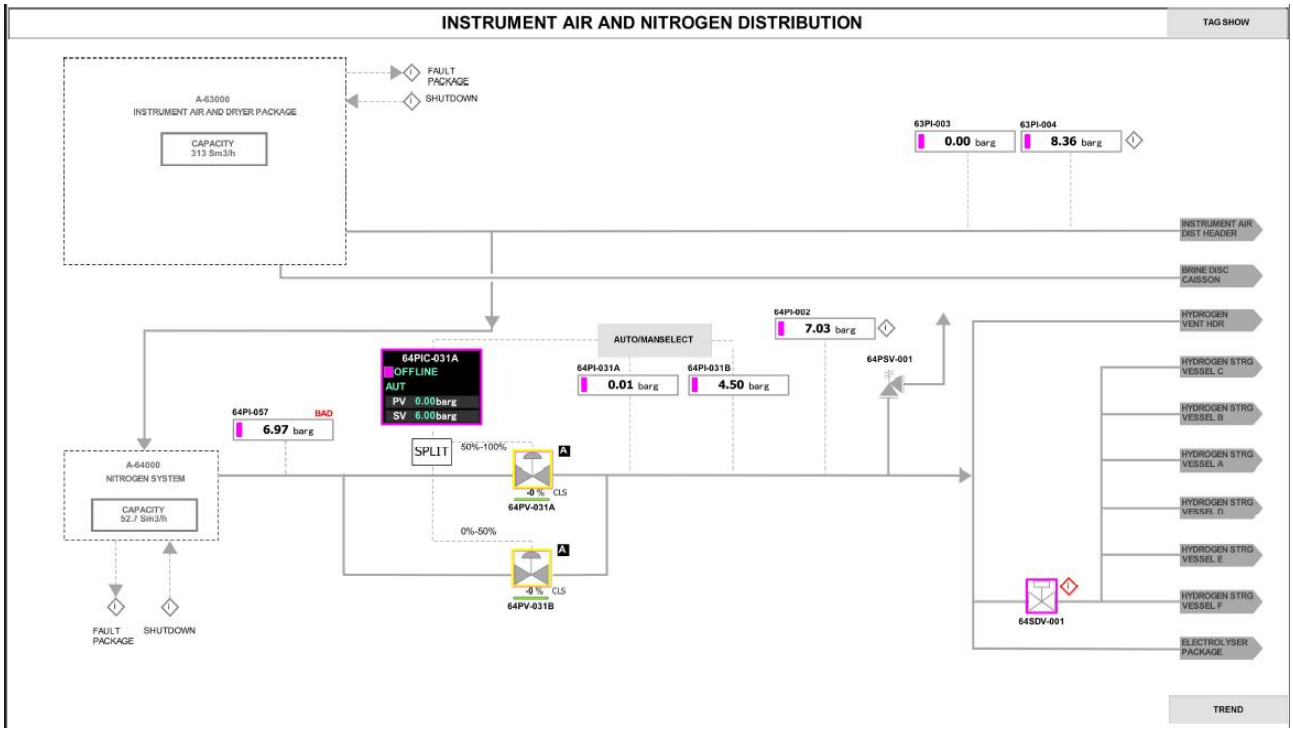
- INSTRUMENT_AIR_PACKAGE



- INSTRUMENT_AIR_PACKAGE_DISTRIBUTION



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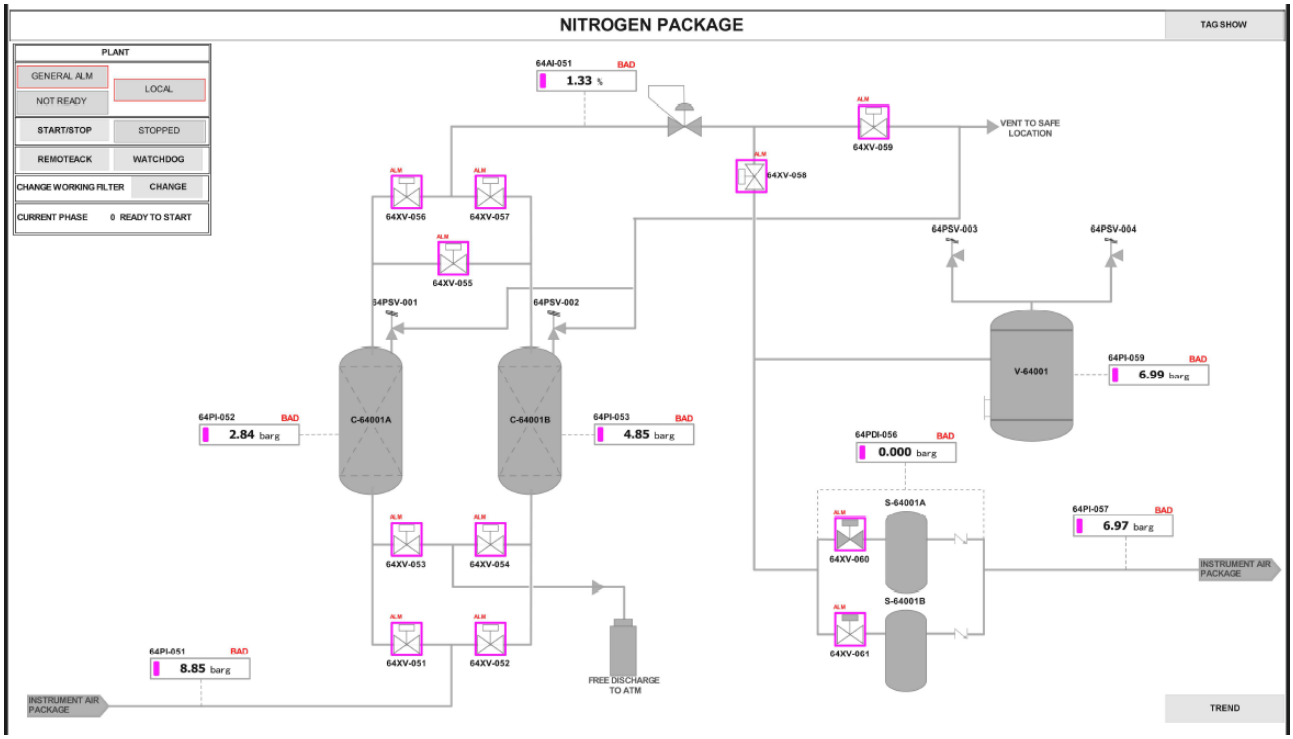
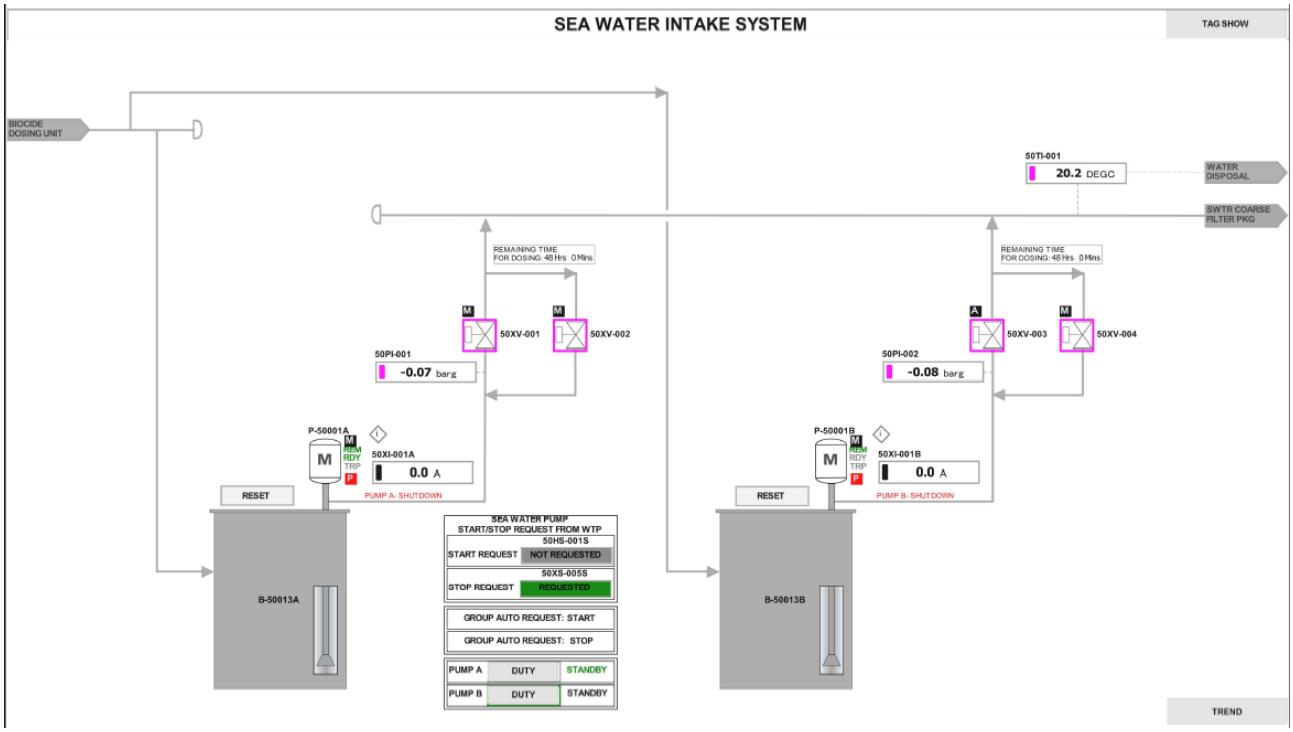
- NITROGEN_PACKAGE



- SEA_WATER_INTAKE_SYSTEM1



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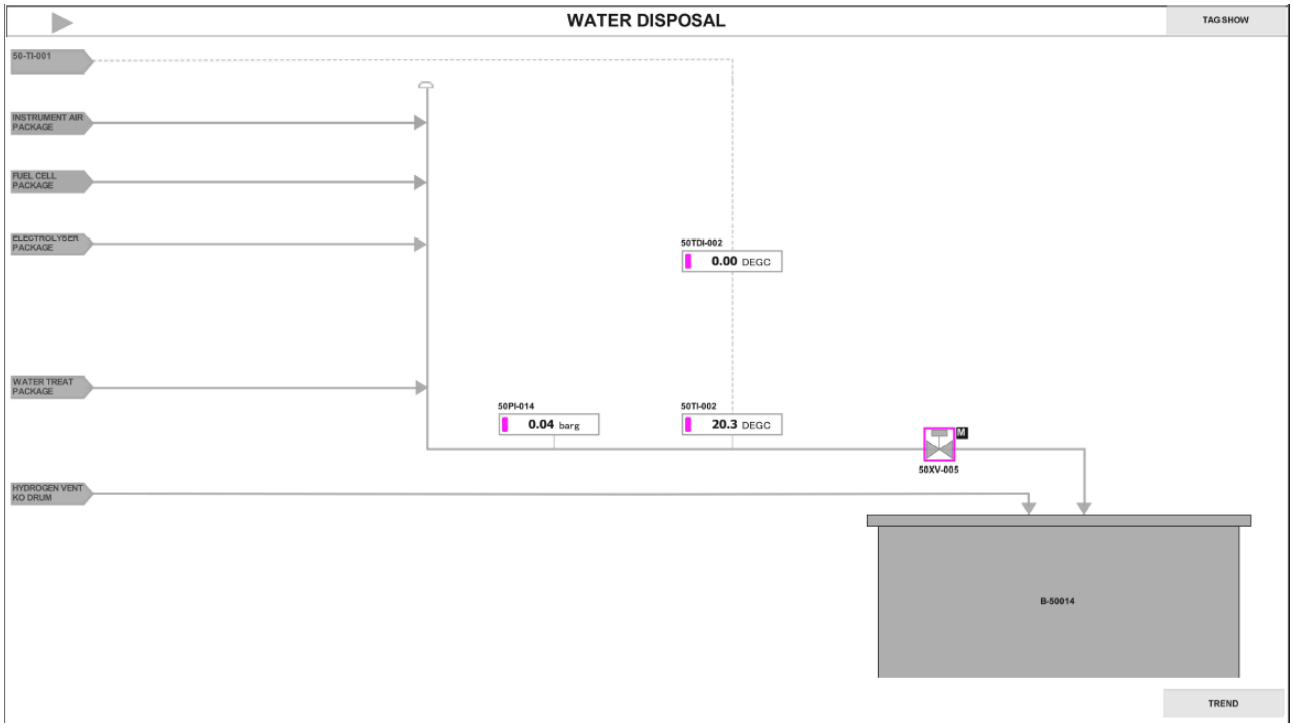
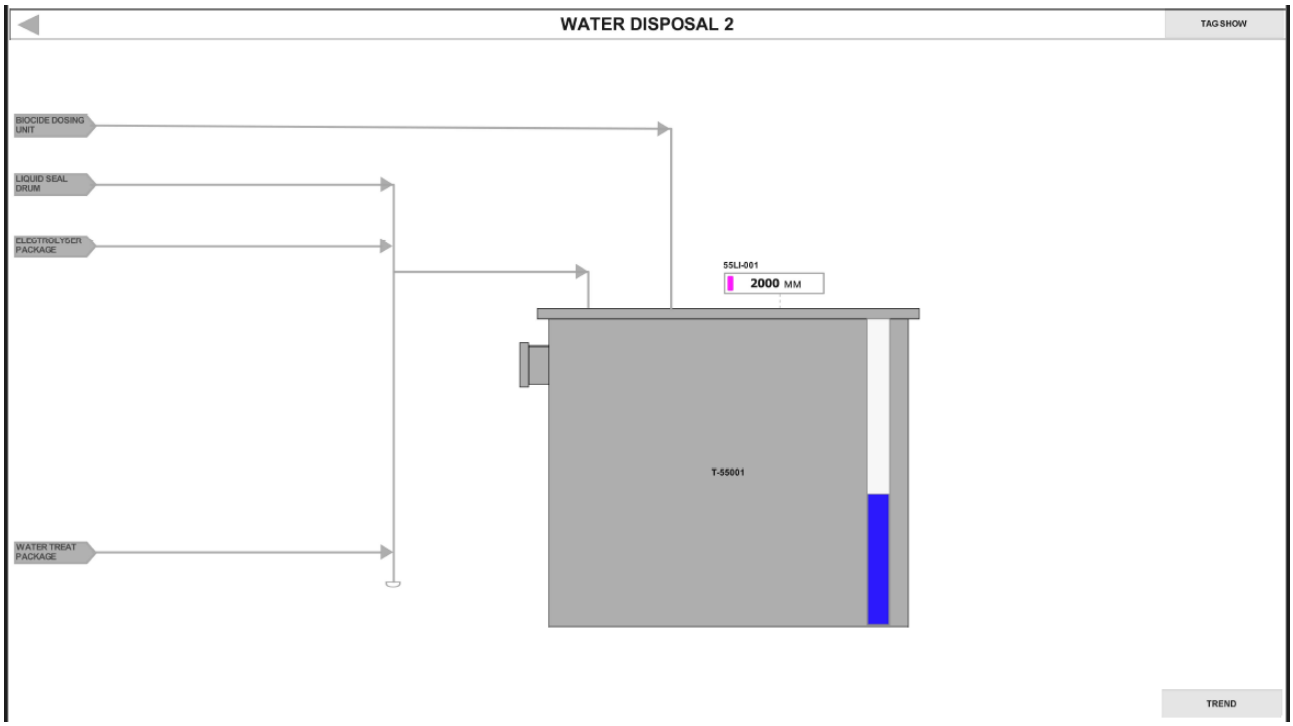
- WATER_DISPOSAL_SHEET_1



- WATER_DISPOSAL_SHEET_2



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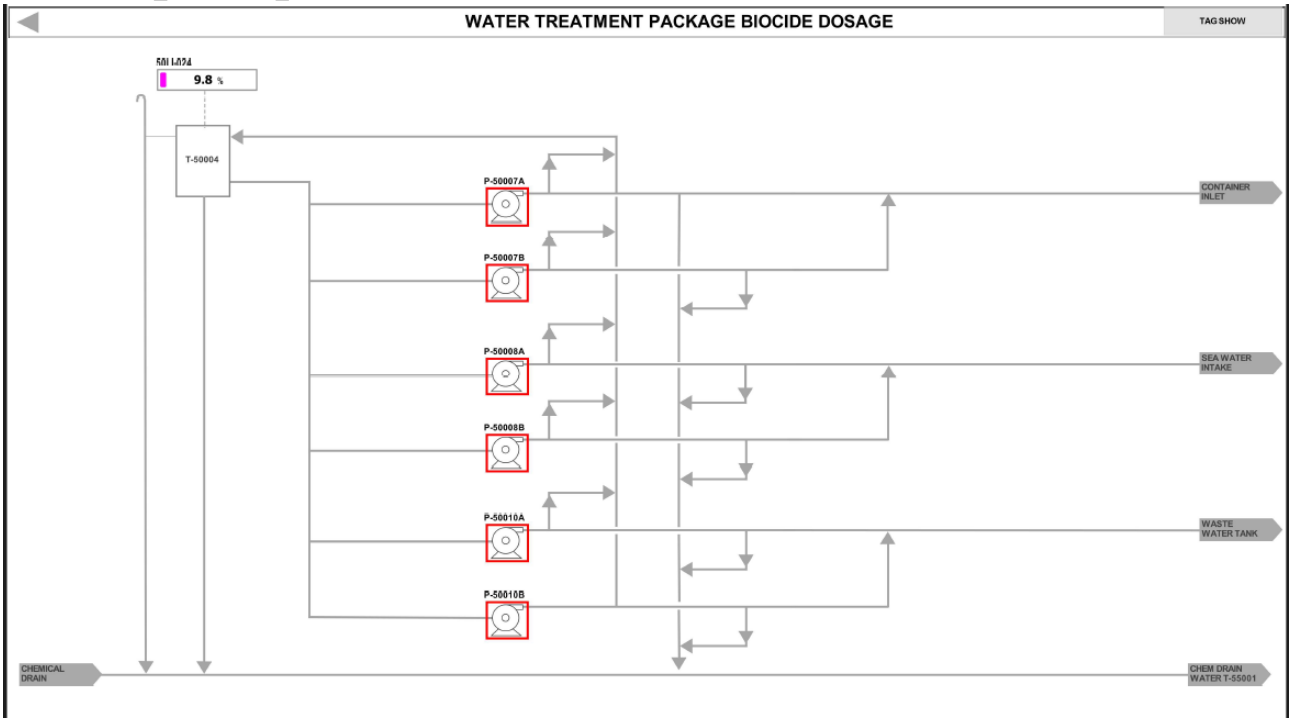
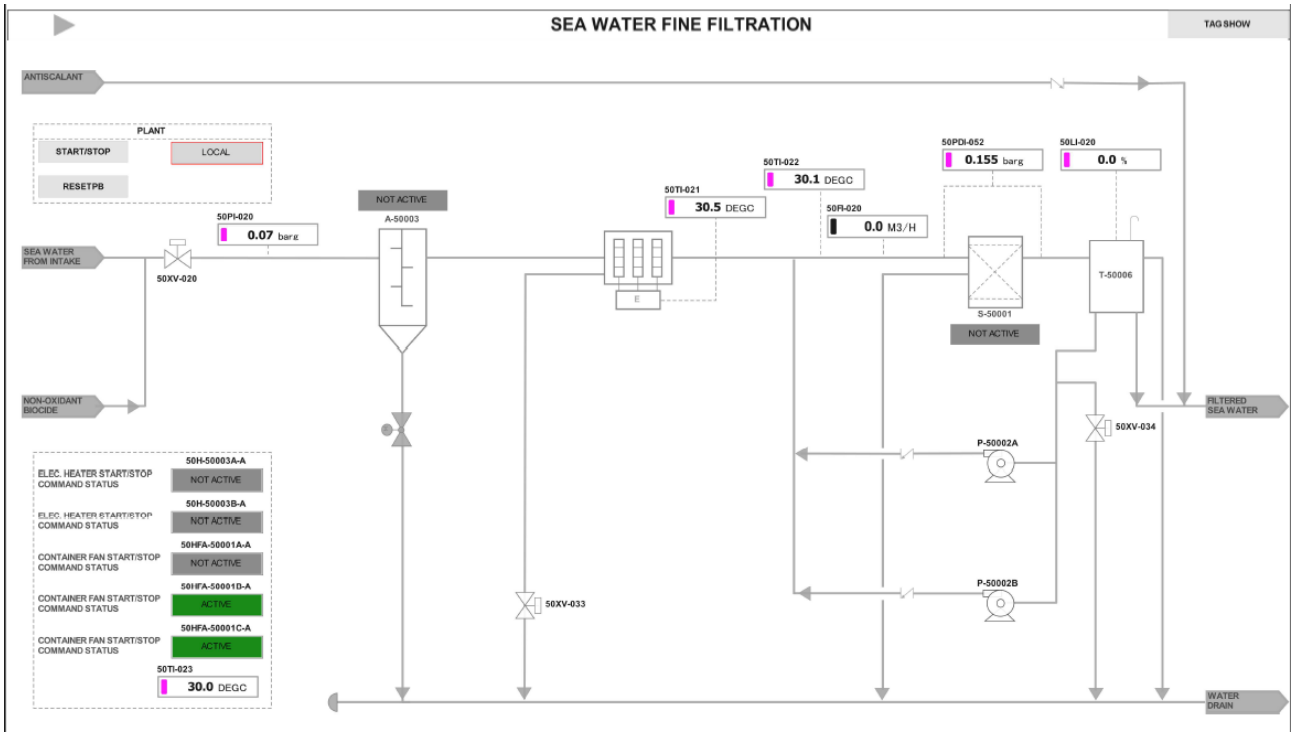
- WTP_BIOCIDE_DOSAGE



- WTP_SEA_WATER_FILTRATION_1



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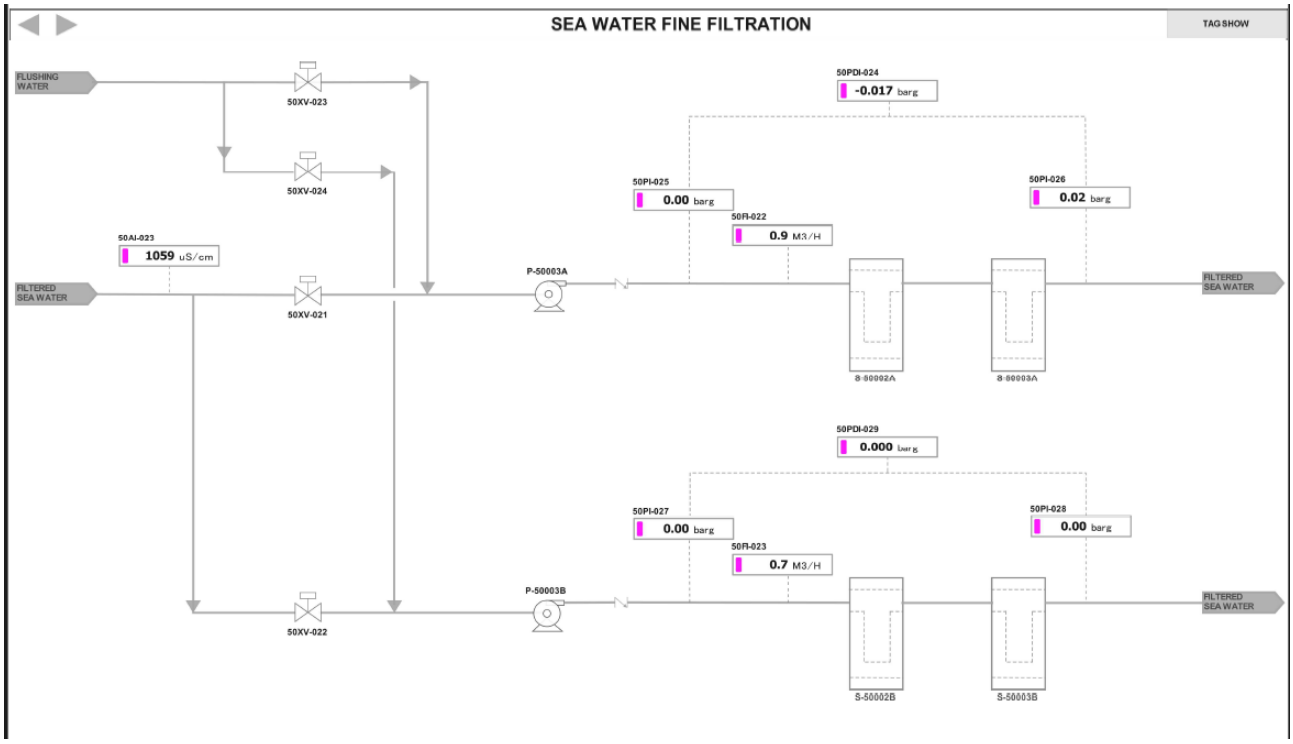
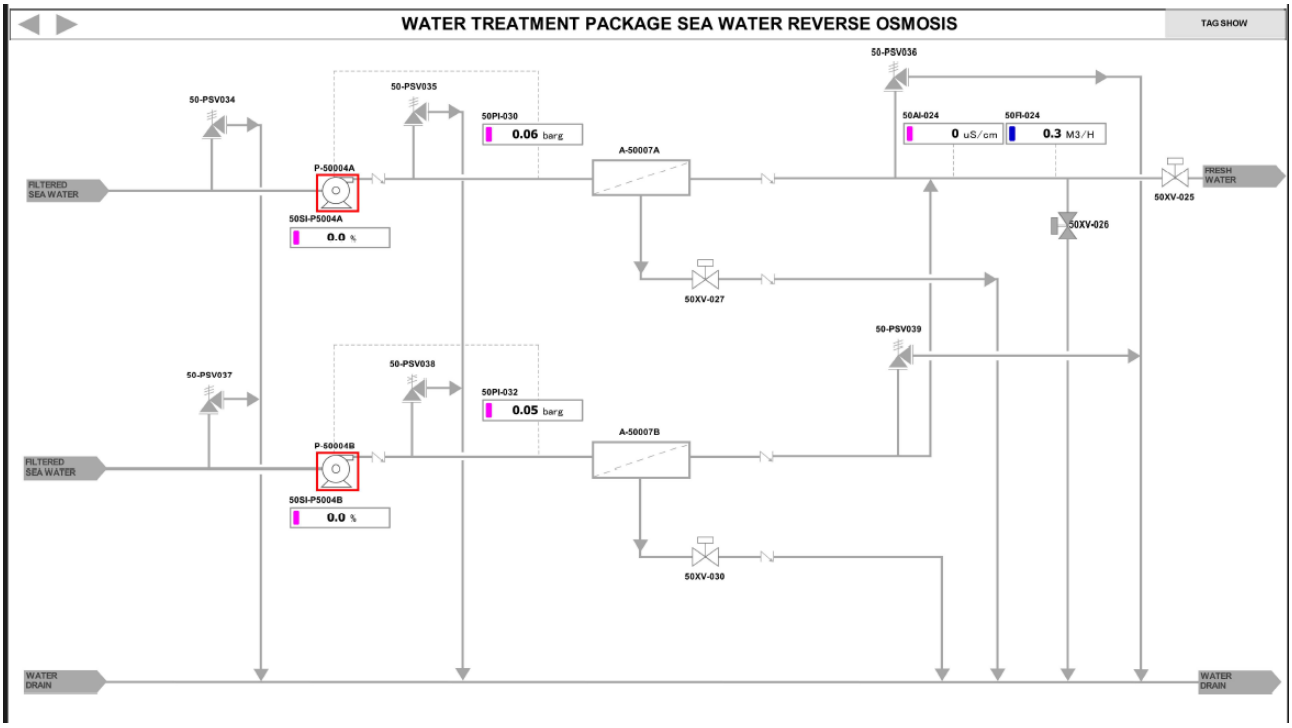
- WTP_SEA_WATER_FILTRATION_2



- WTP_SEA_WATER_REVERSE_OSMOSIS



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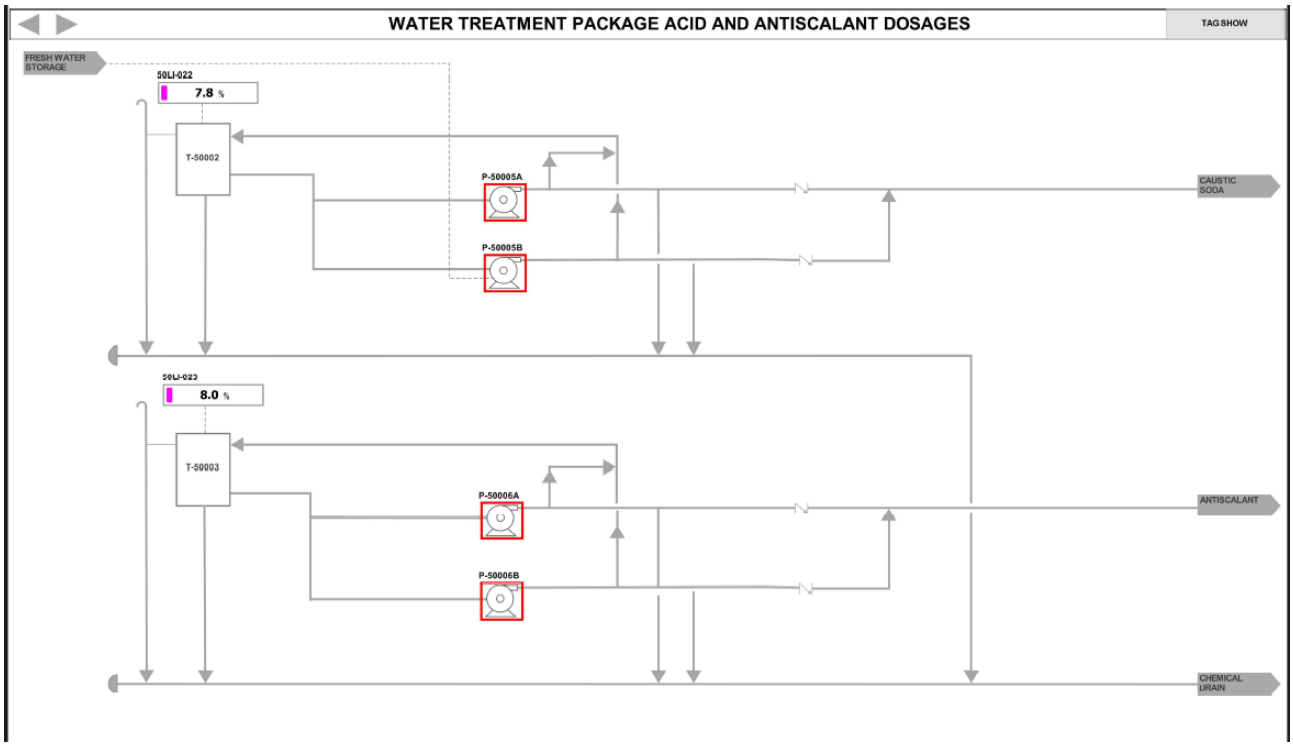
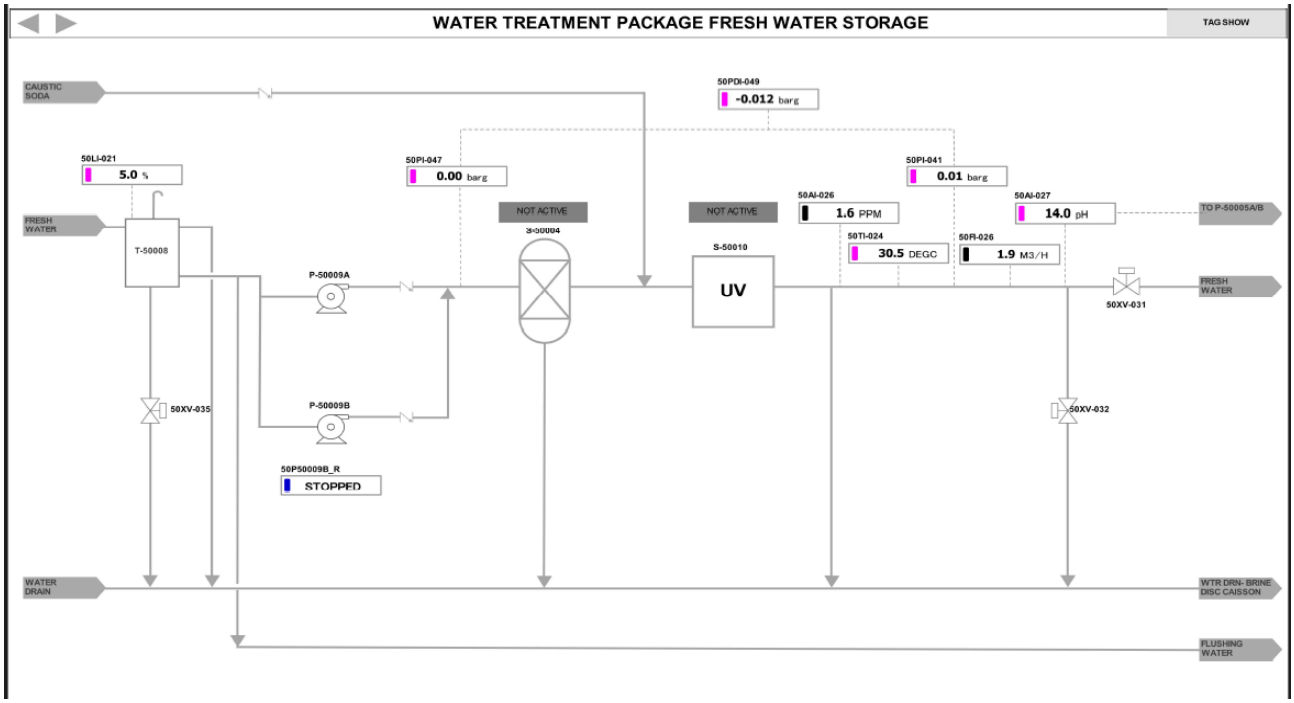
- WTP_ACID_ANTISCALANT_DOSAGES



- WTP_FRESH_WATER_STORAGE



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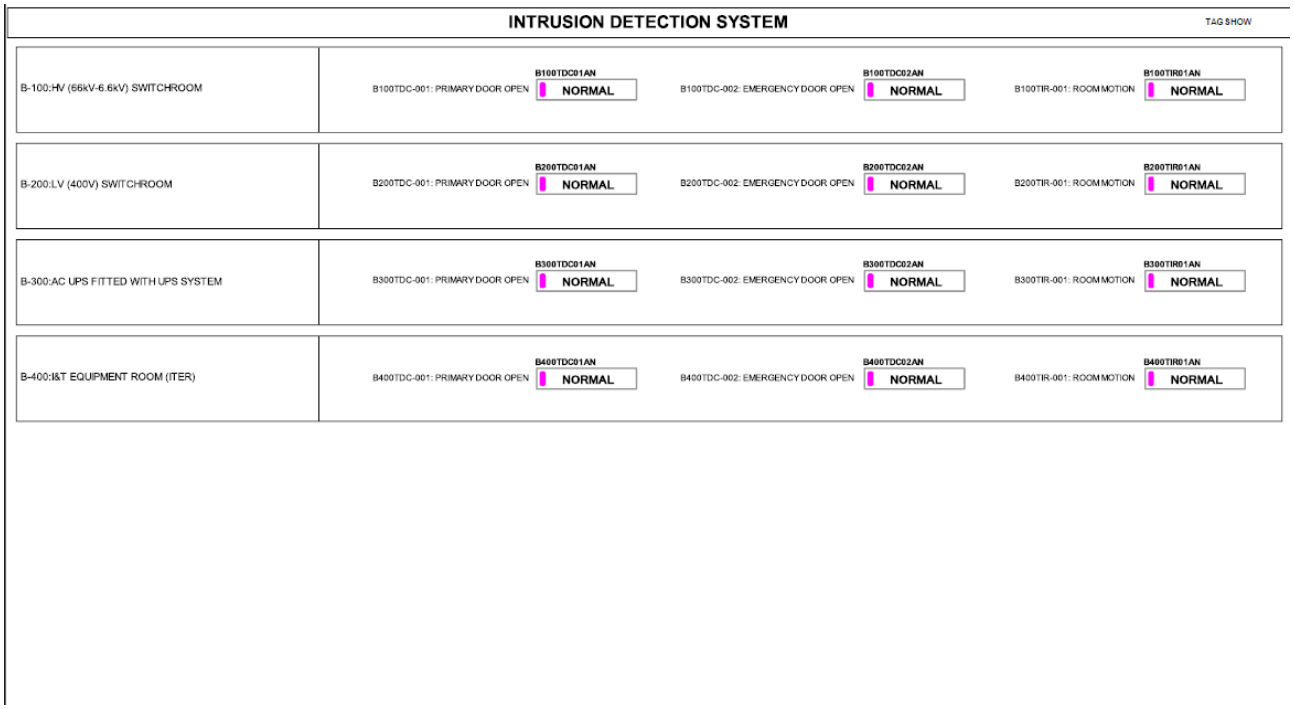
- INTRUSION_DETECTION_SYSTEM



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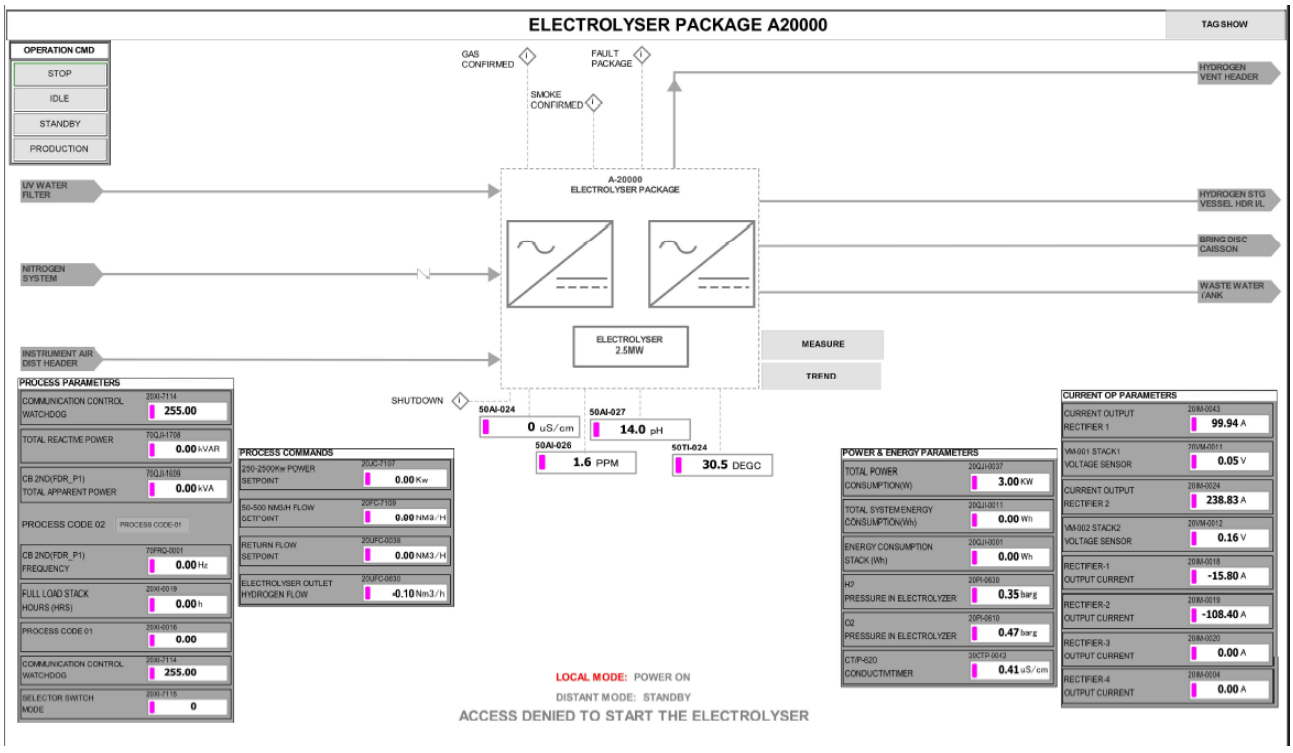
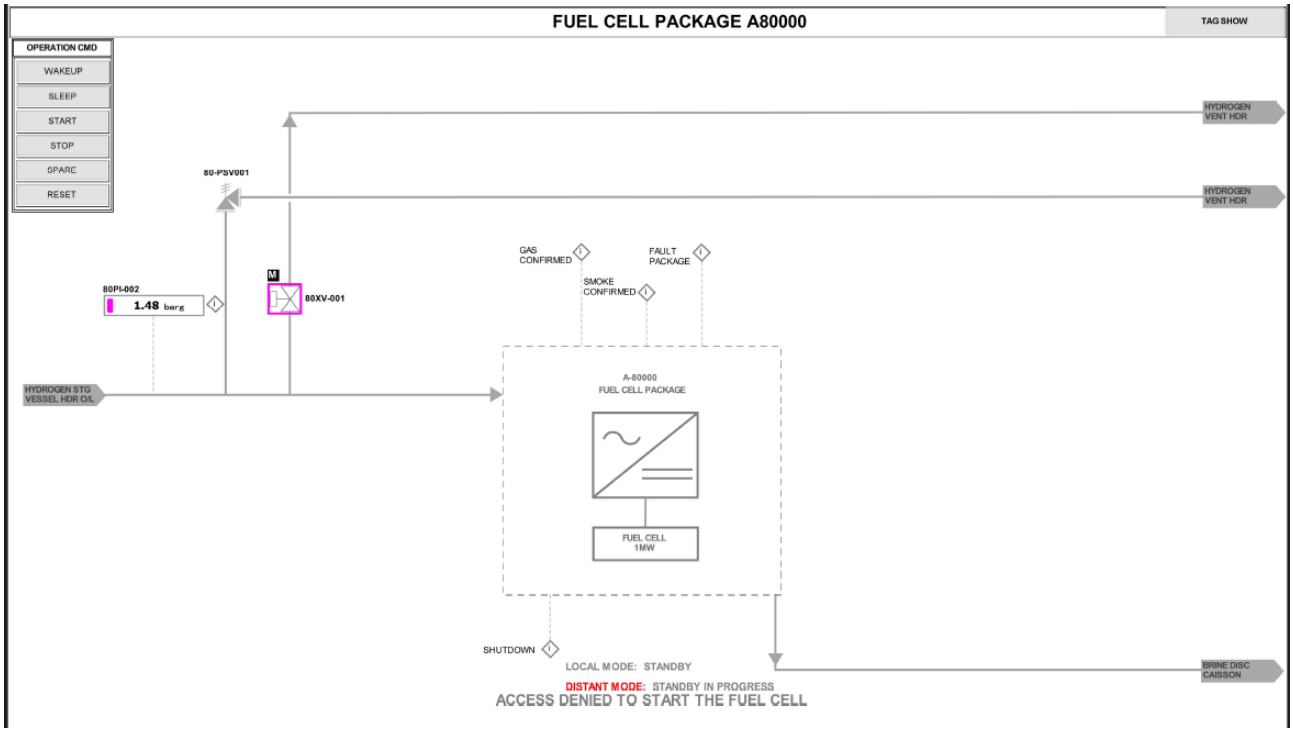
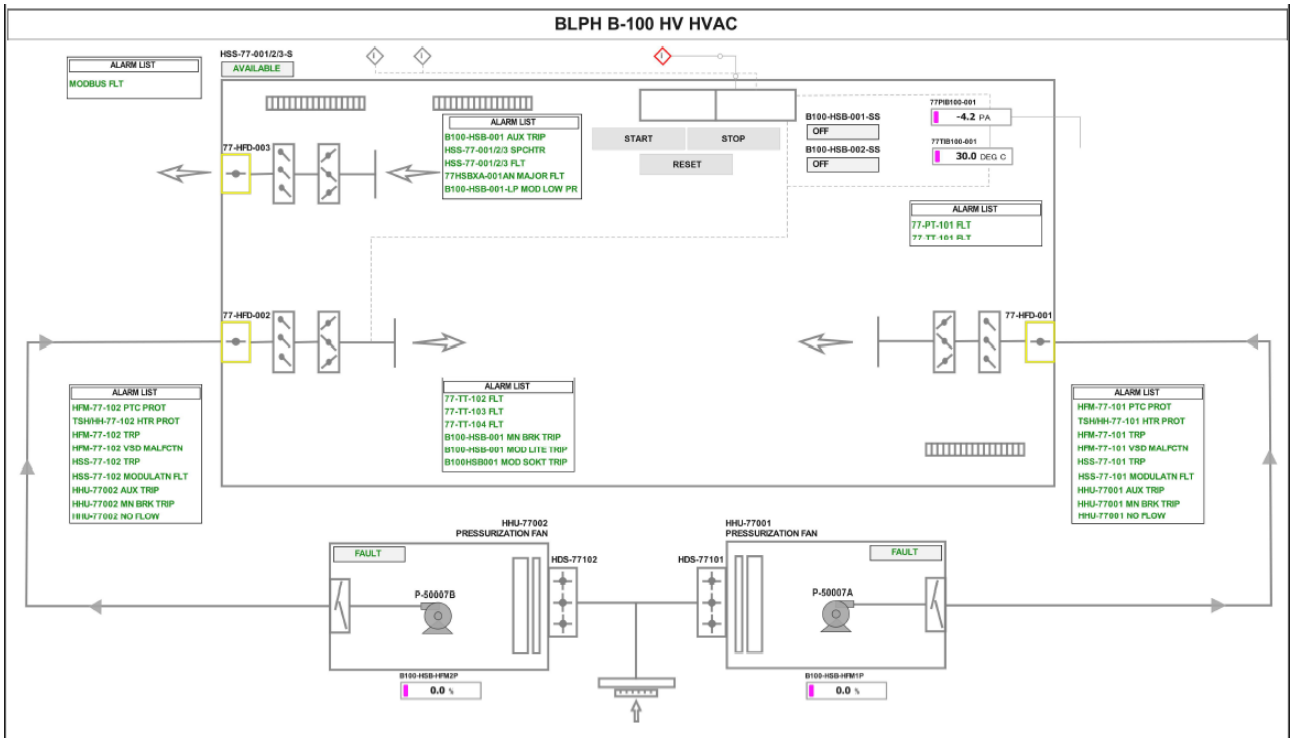


- FUEL_CELL_PACKAGE_A80000



- BLPH_B100_HV



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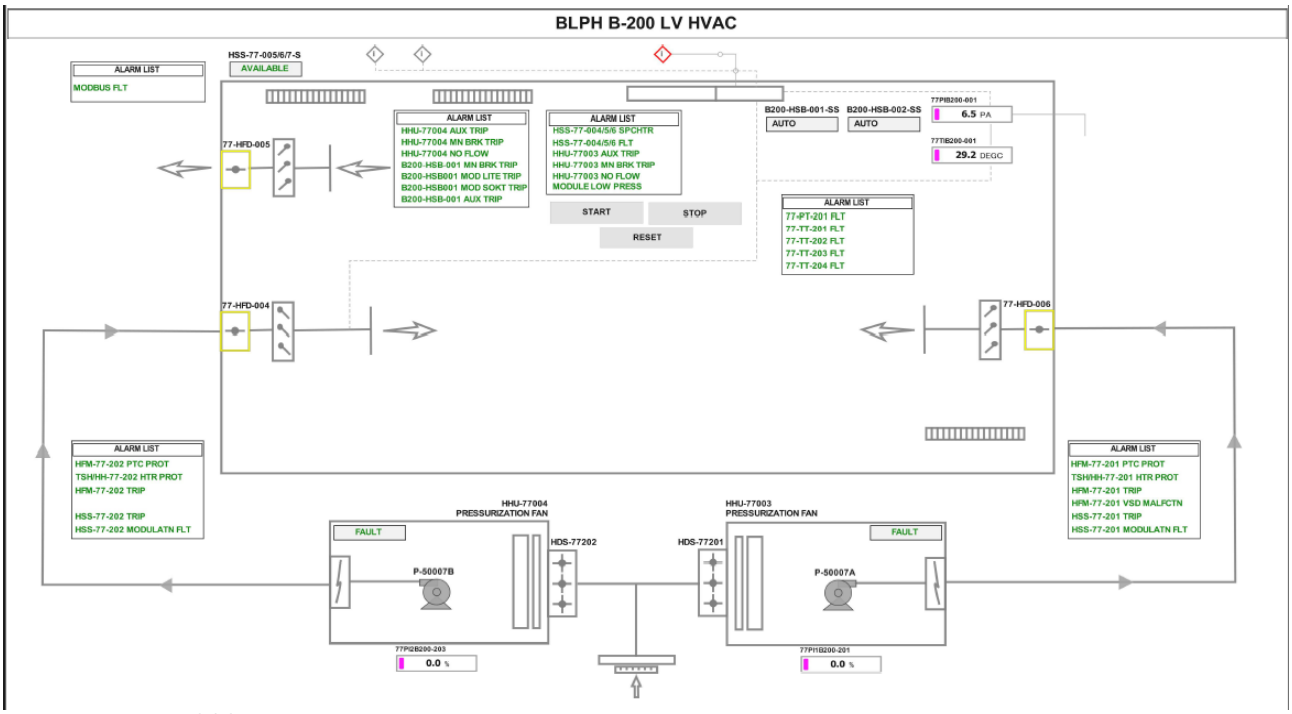
- BLPH_B200_HV



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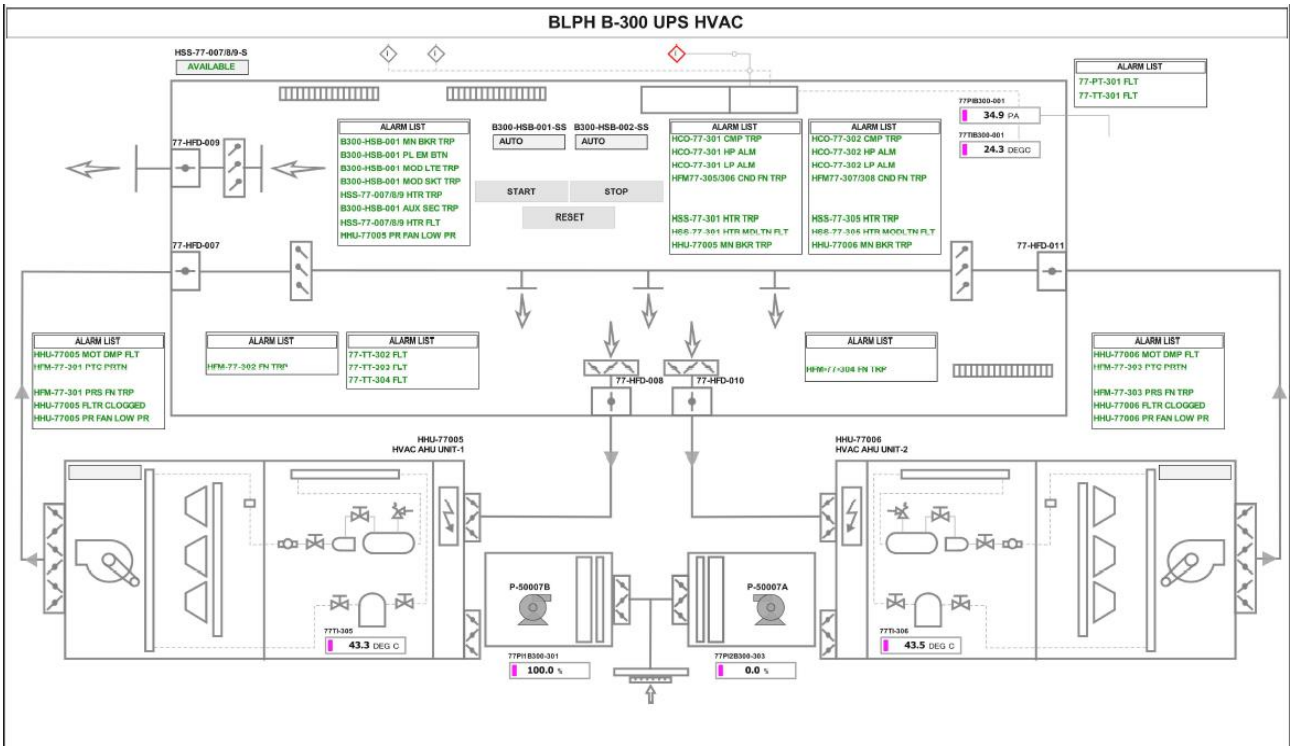

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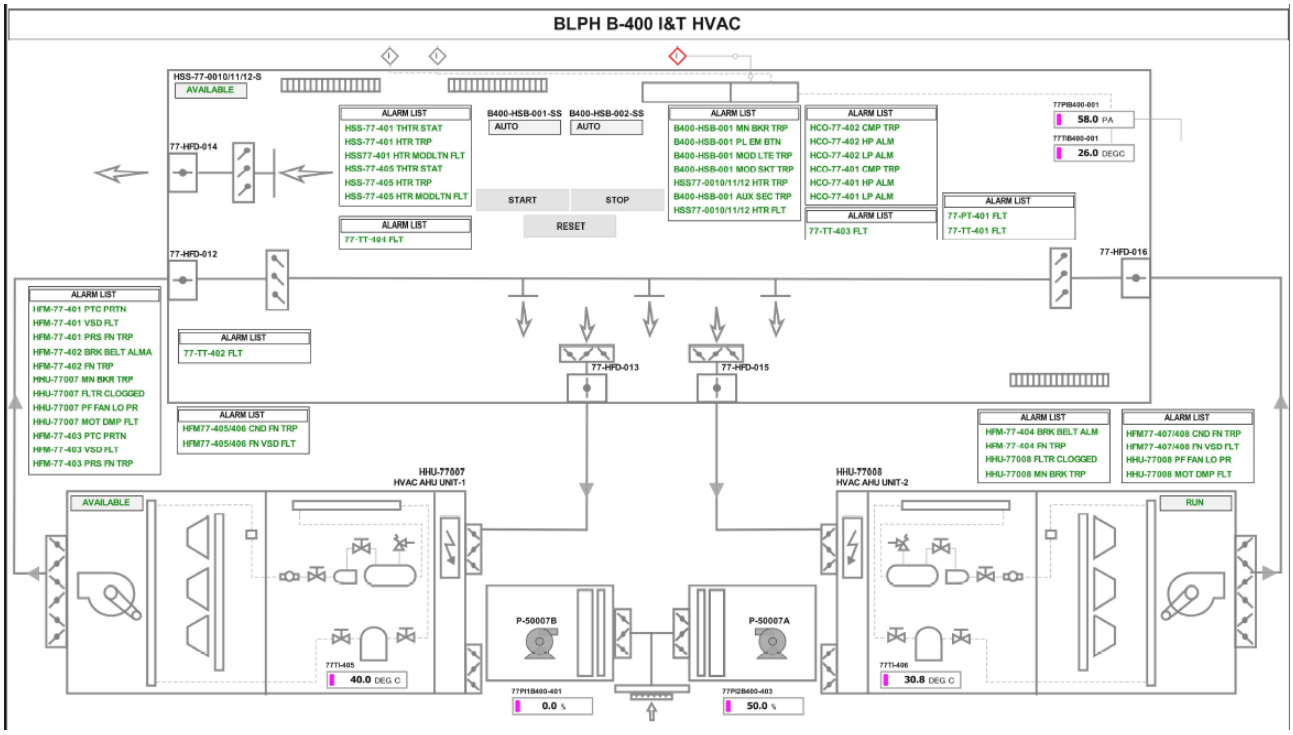
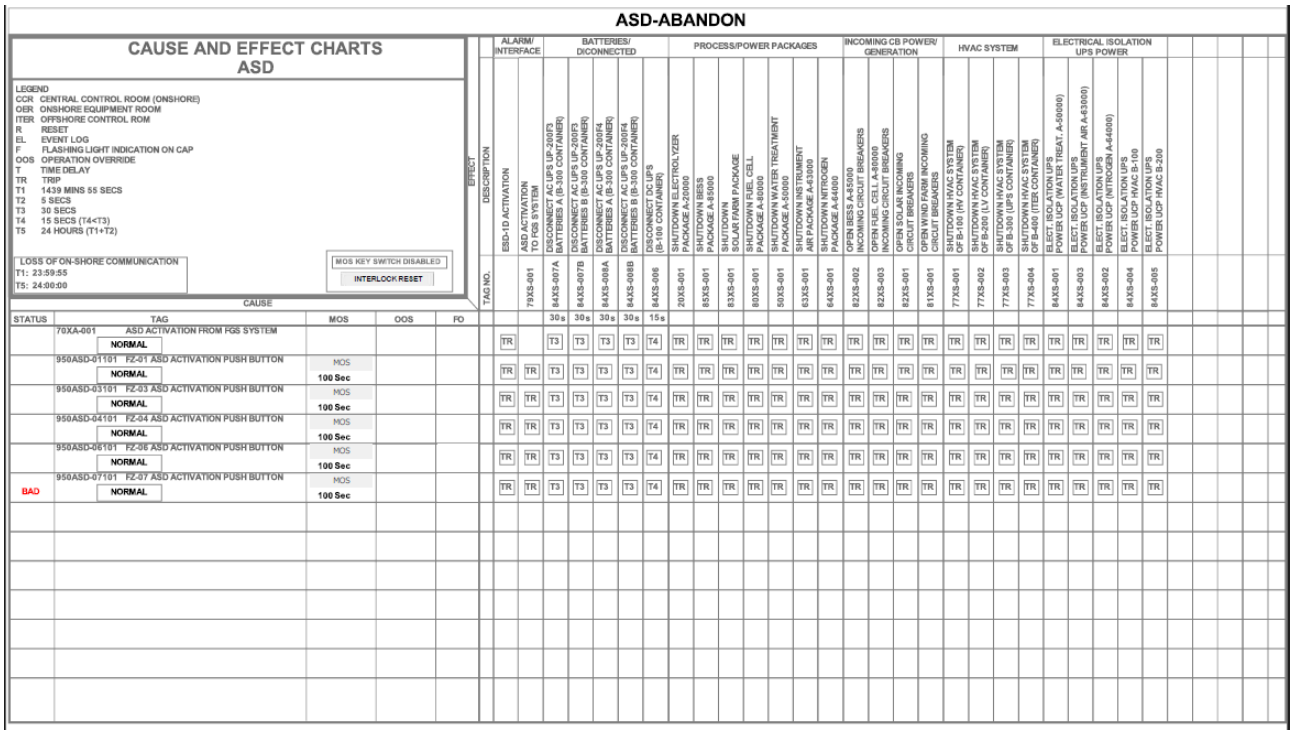
- BLPH_B400_HV



- CE_ASD



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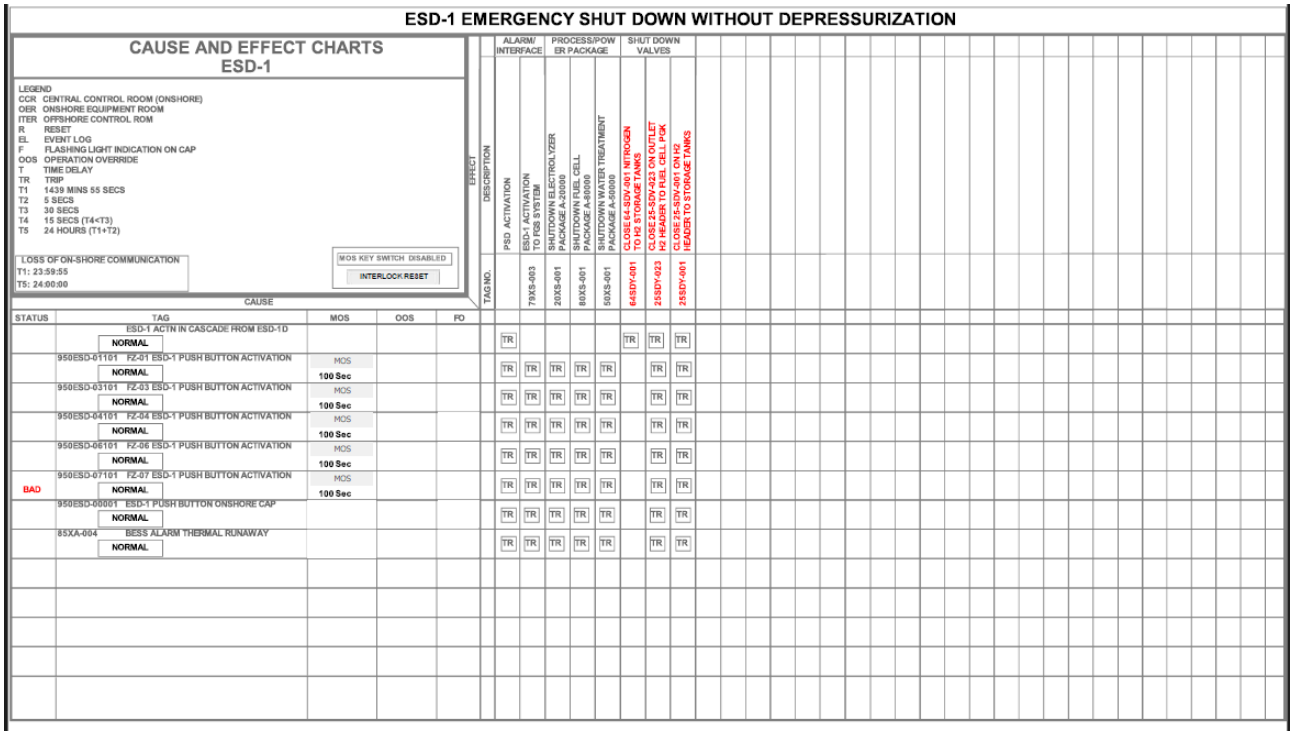
- CE_ESD1



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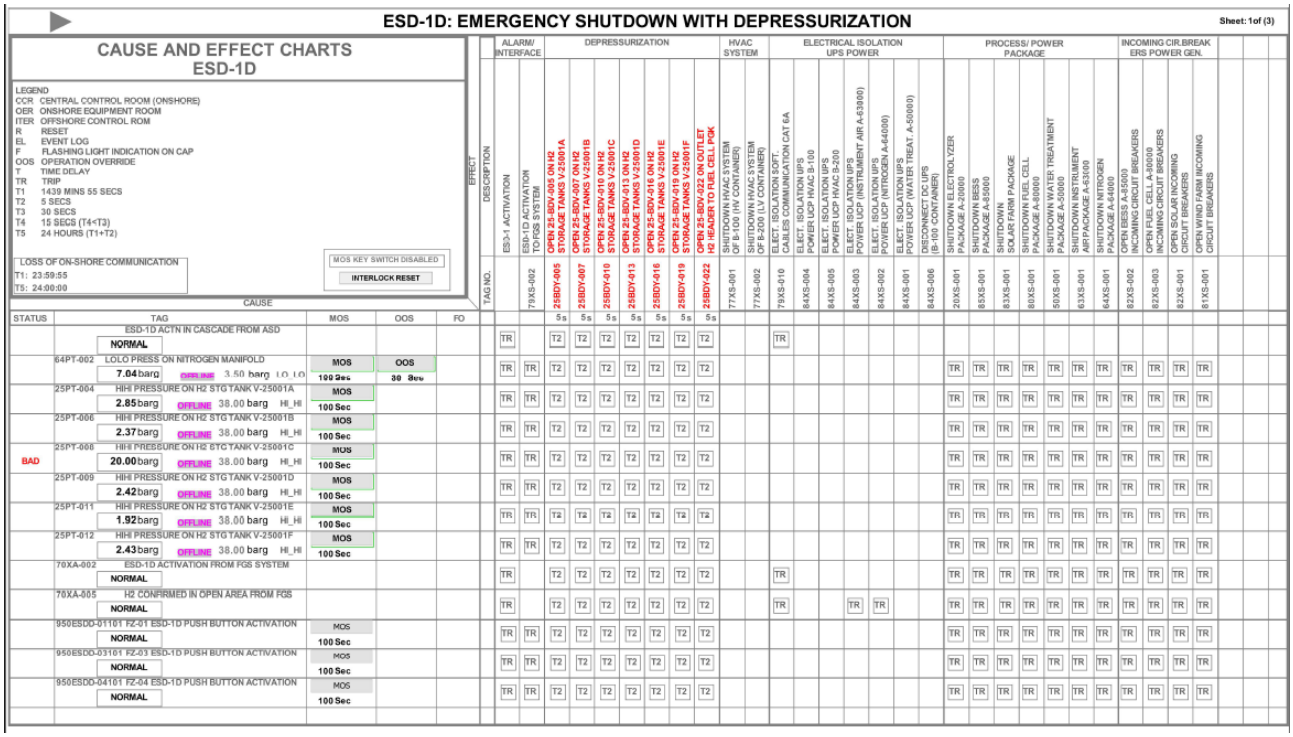

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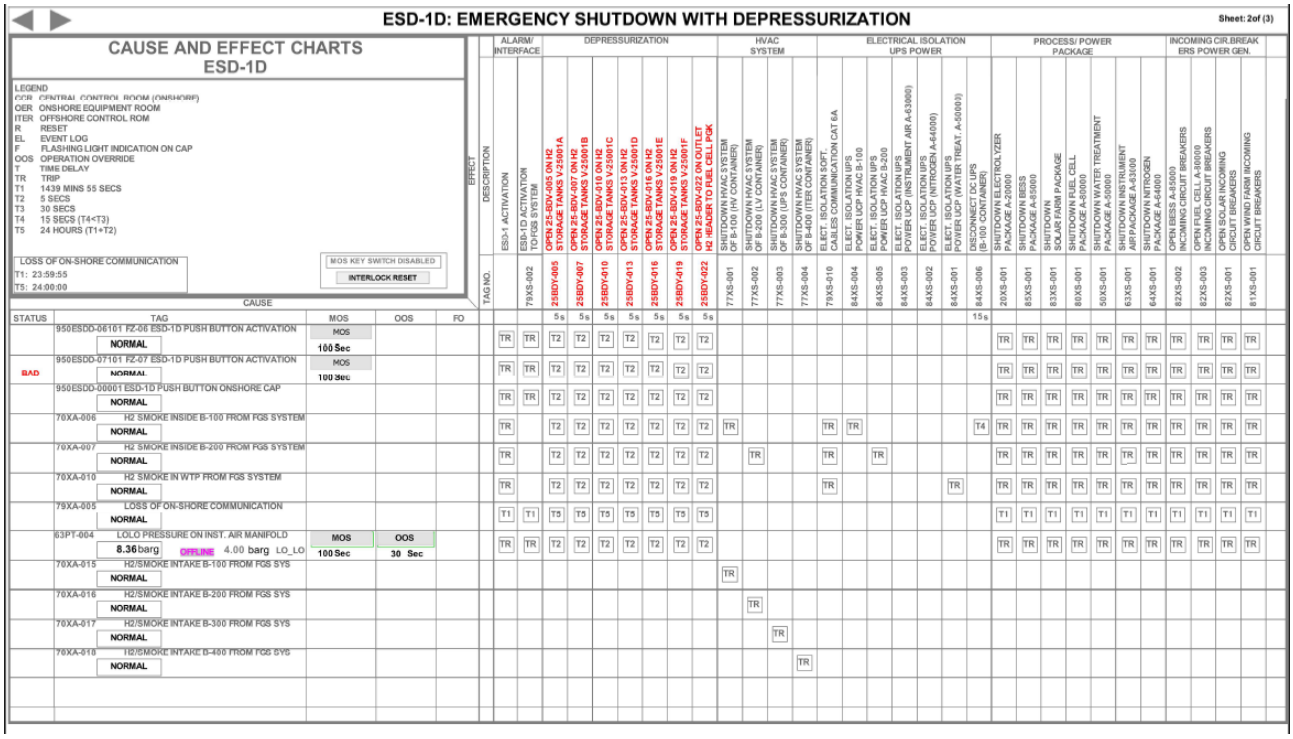
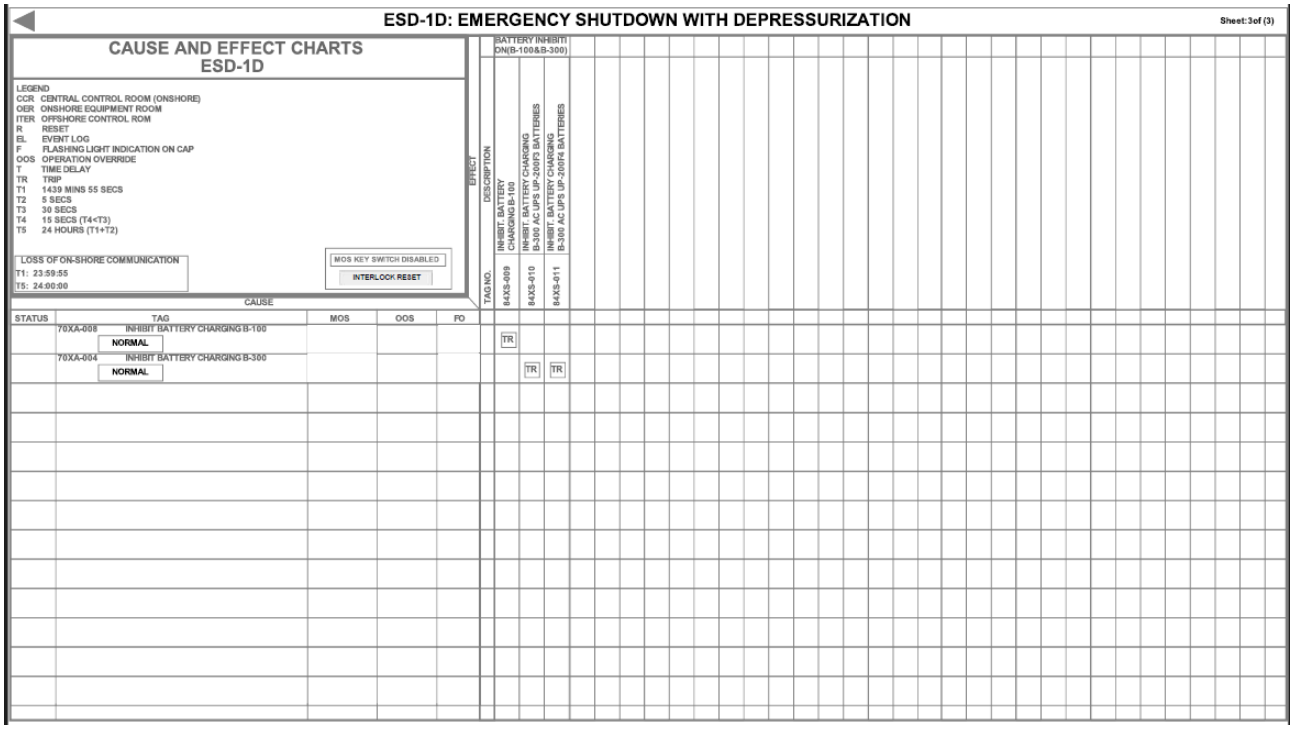
- CE_ESD1D_2



- CE_ESD1D_3



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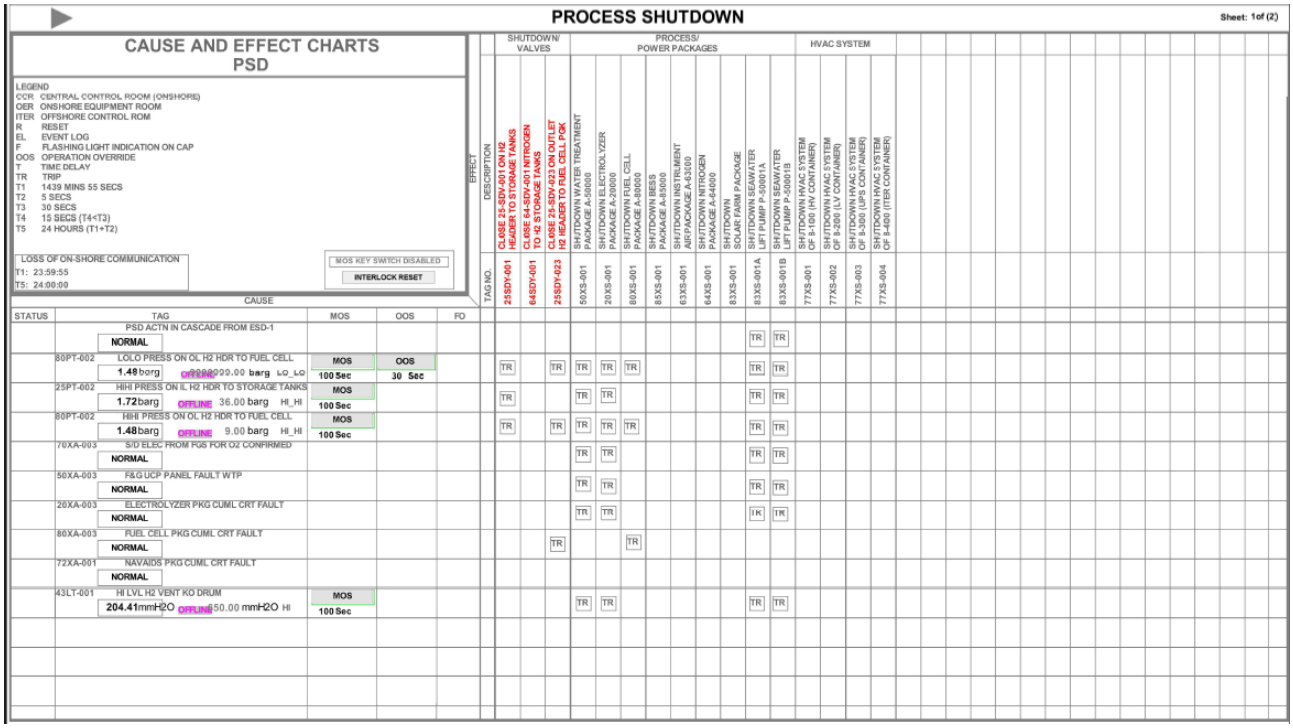
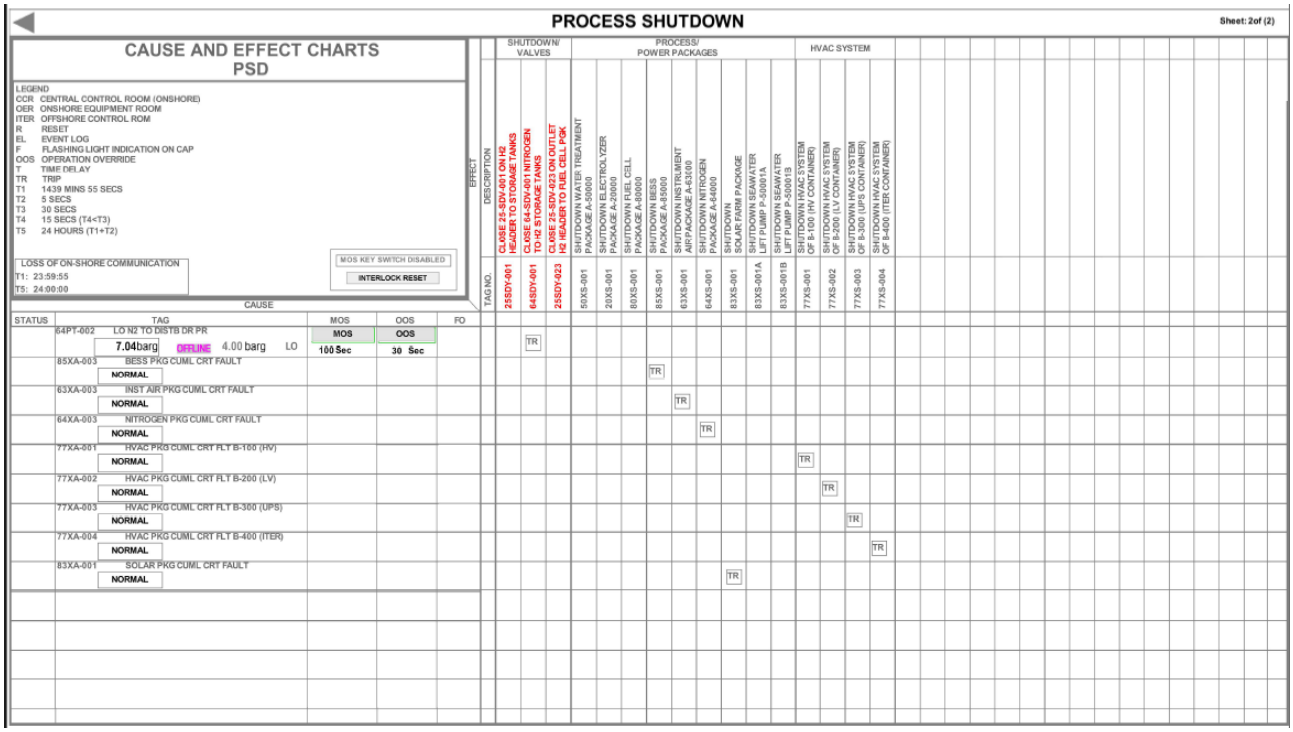
- CE_PSD_1



- CE_PSD_2



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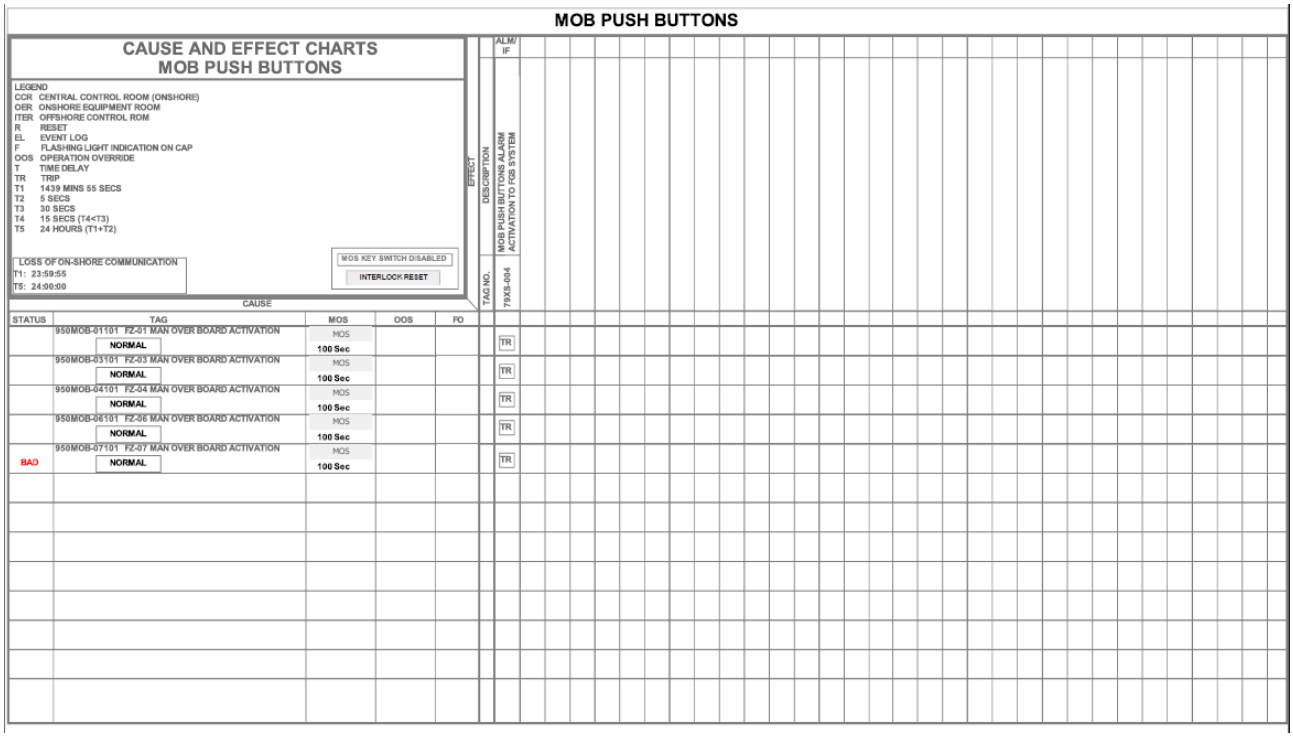
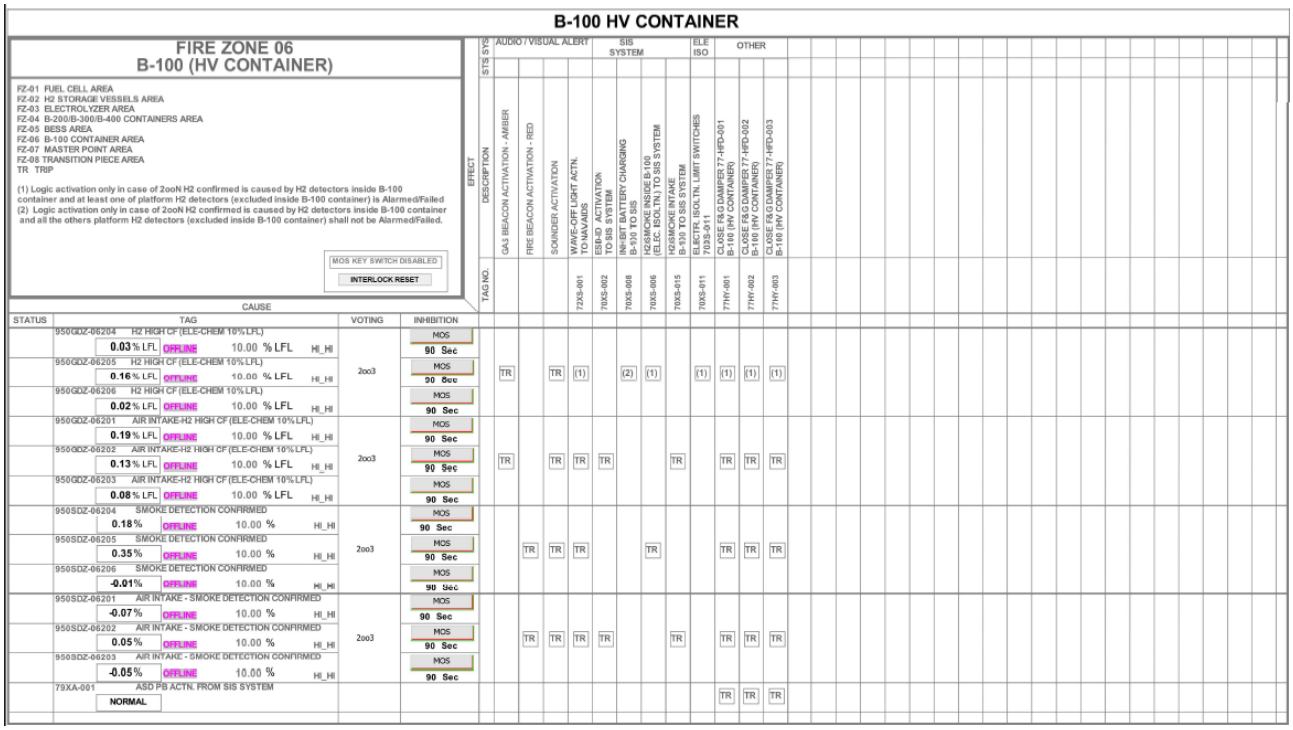
- CE_MOB_PUSH_BUTTON



- CE_B100



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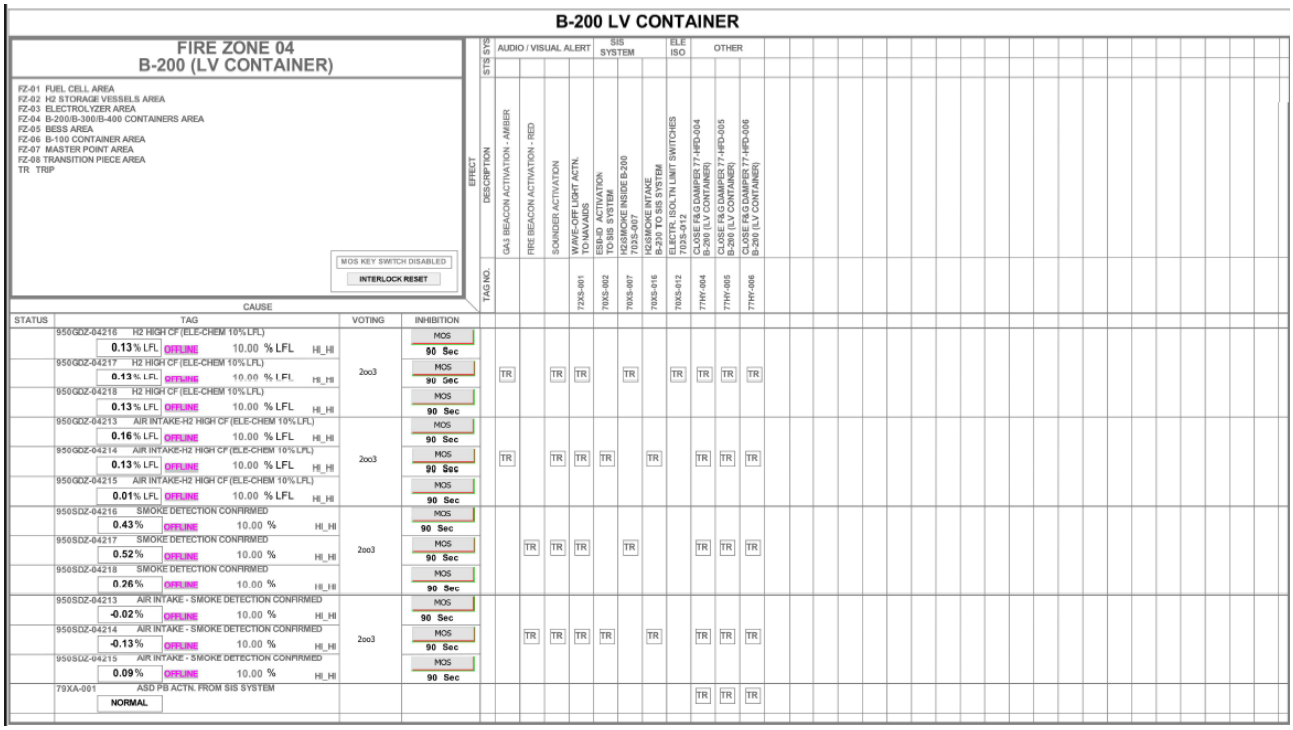
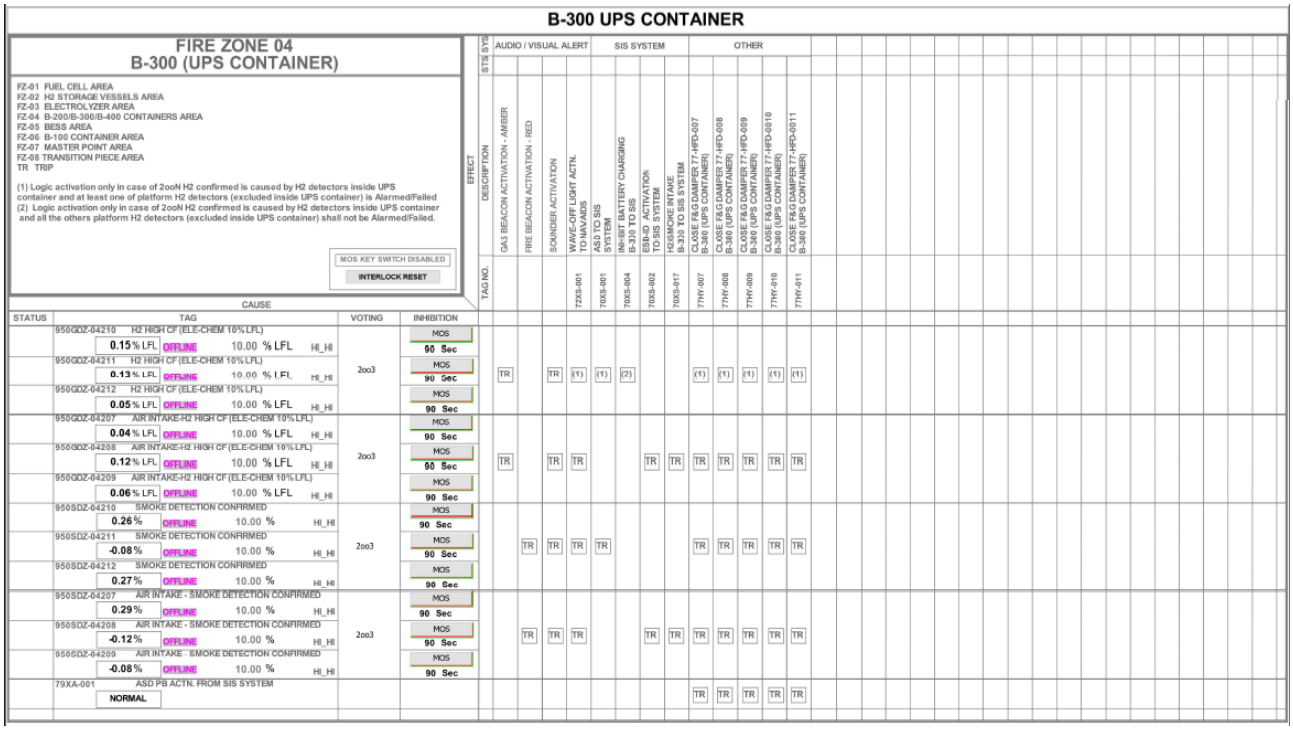
- CE_B200



- CE_B300



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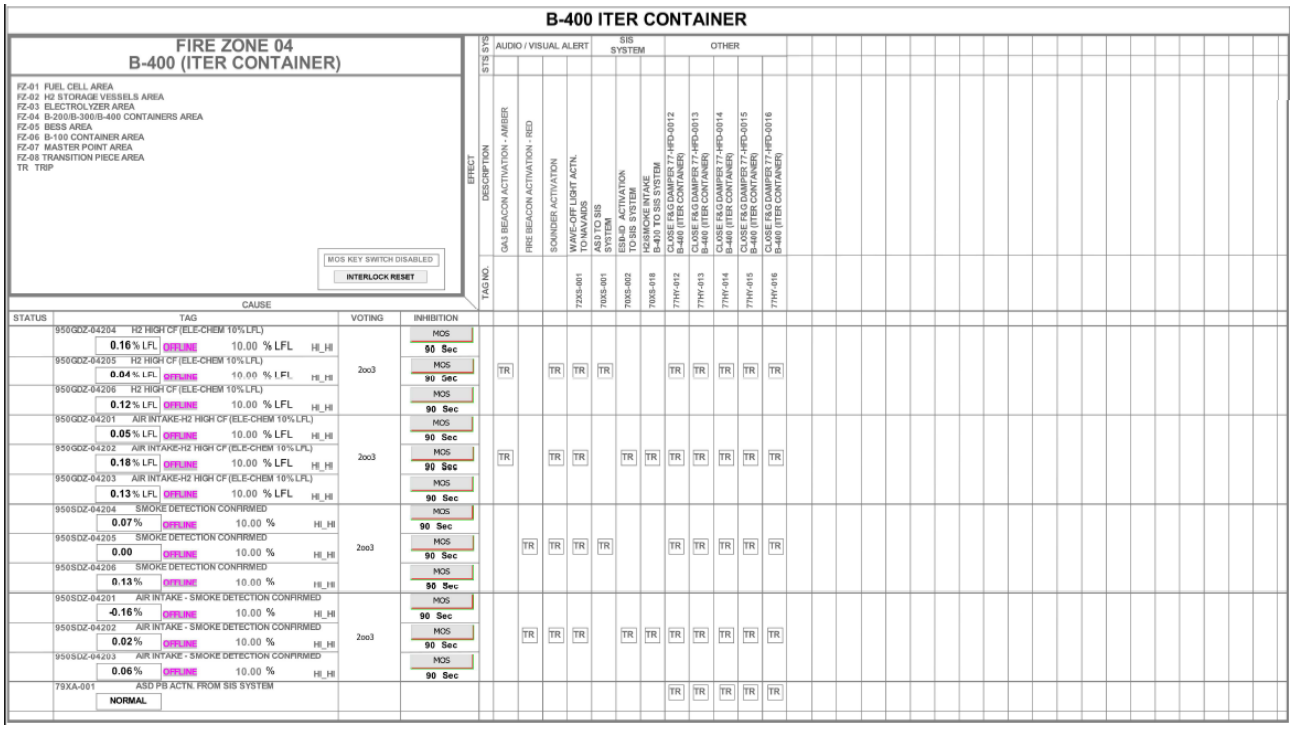
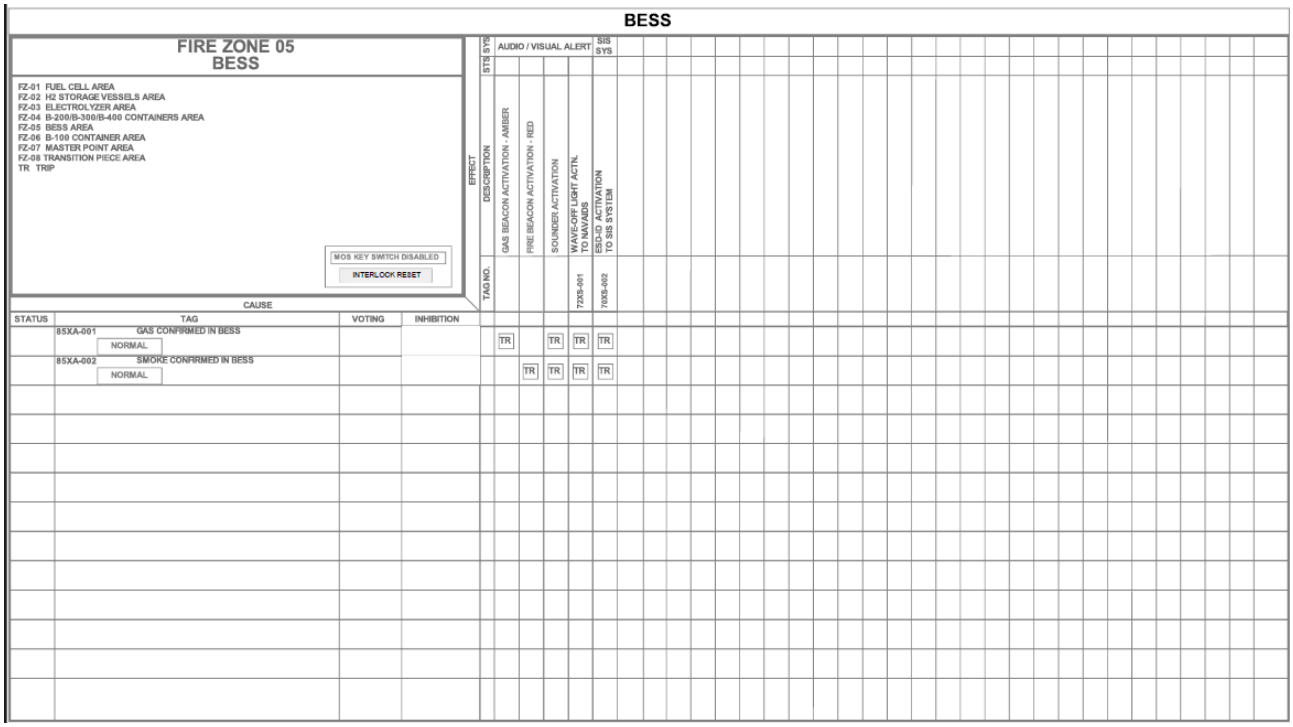
- CE_B400



- CE_BESS



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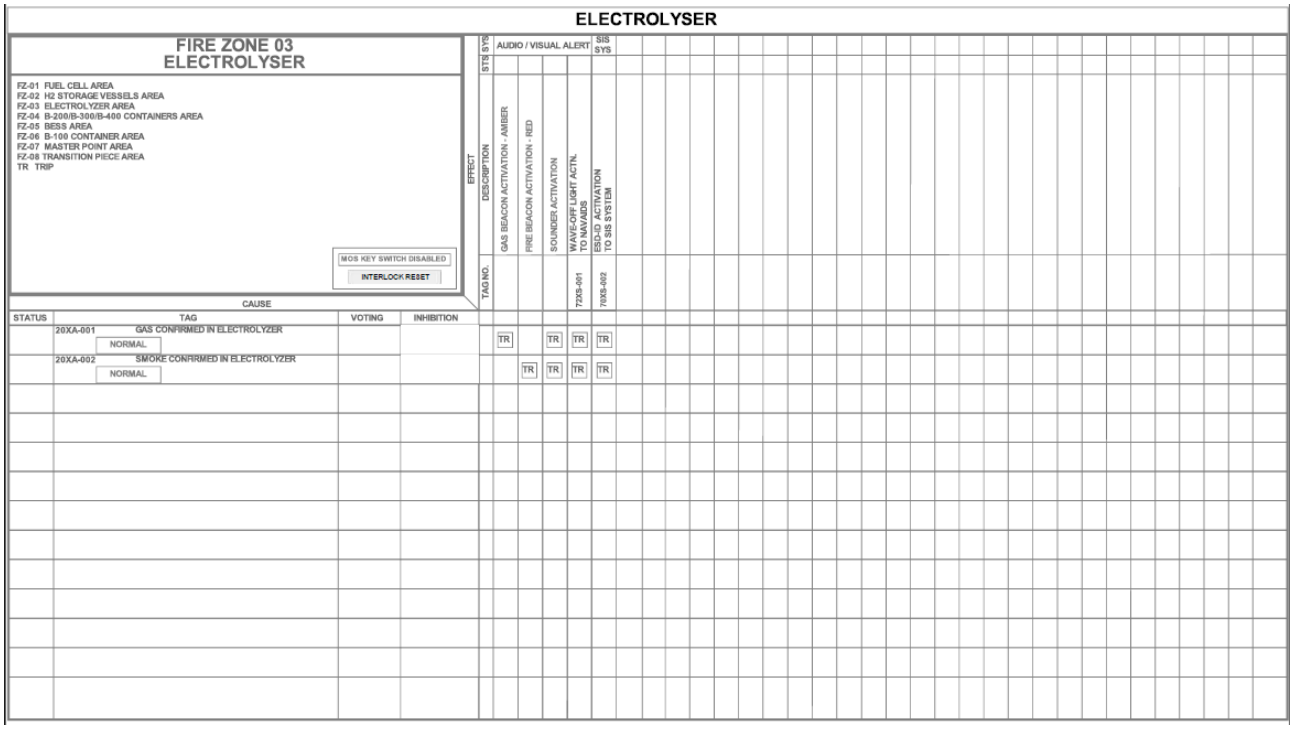
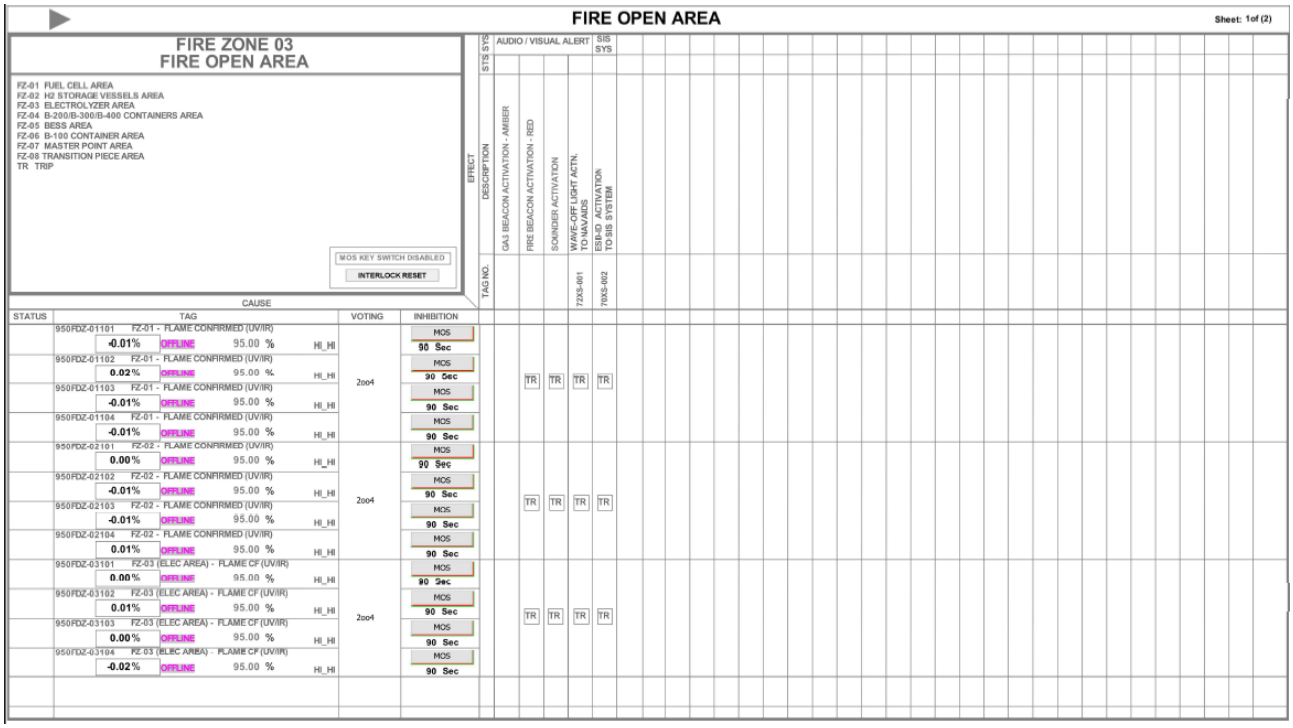
- CE_ELECTROLYSER



- CE_FIRE_OPEN_AREA_1



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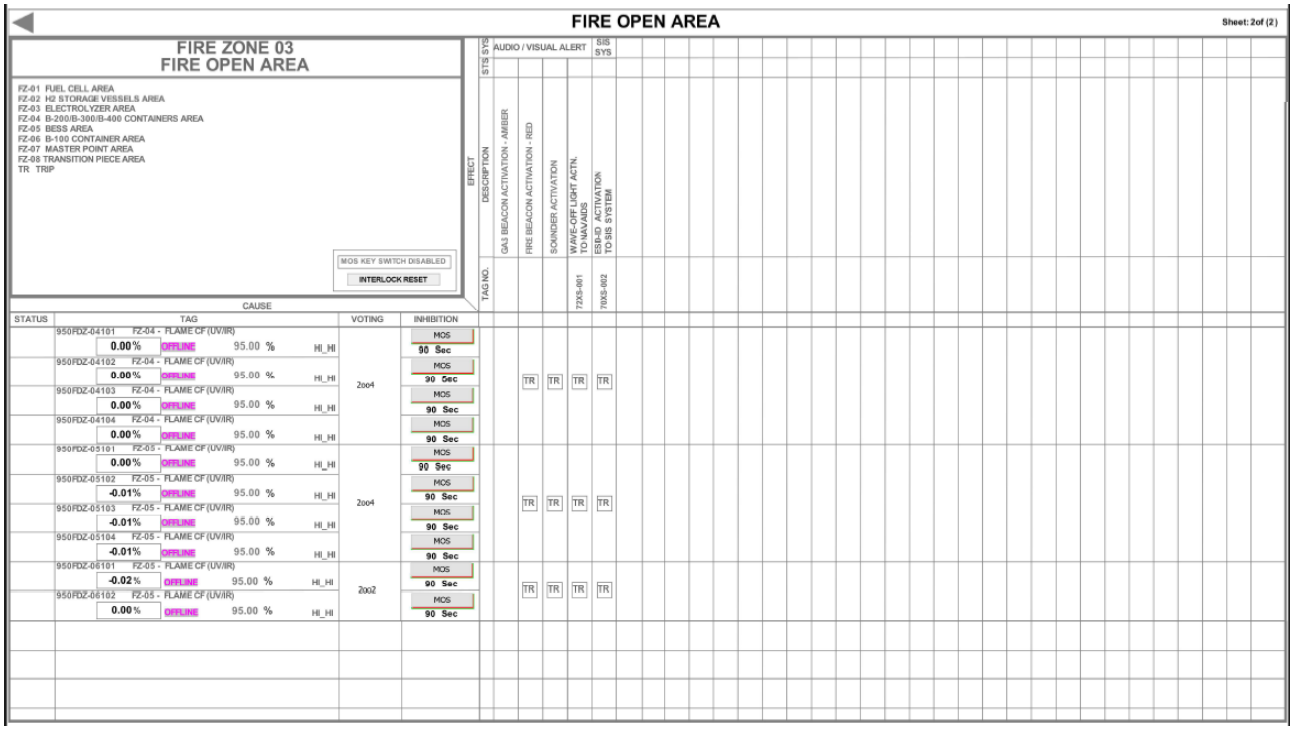
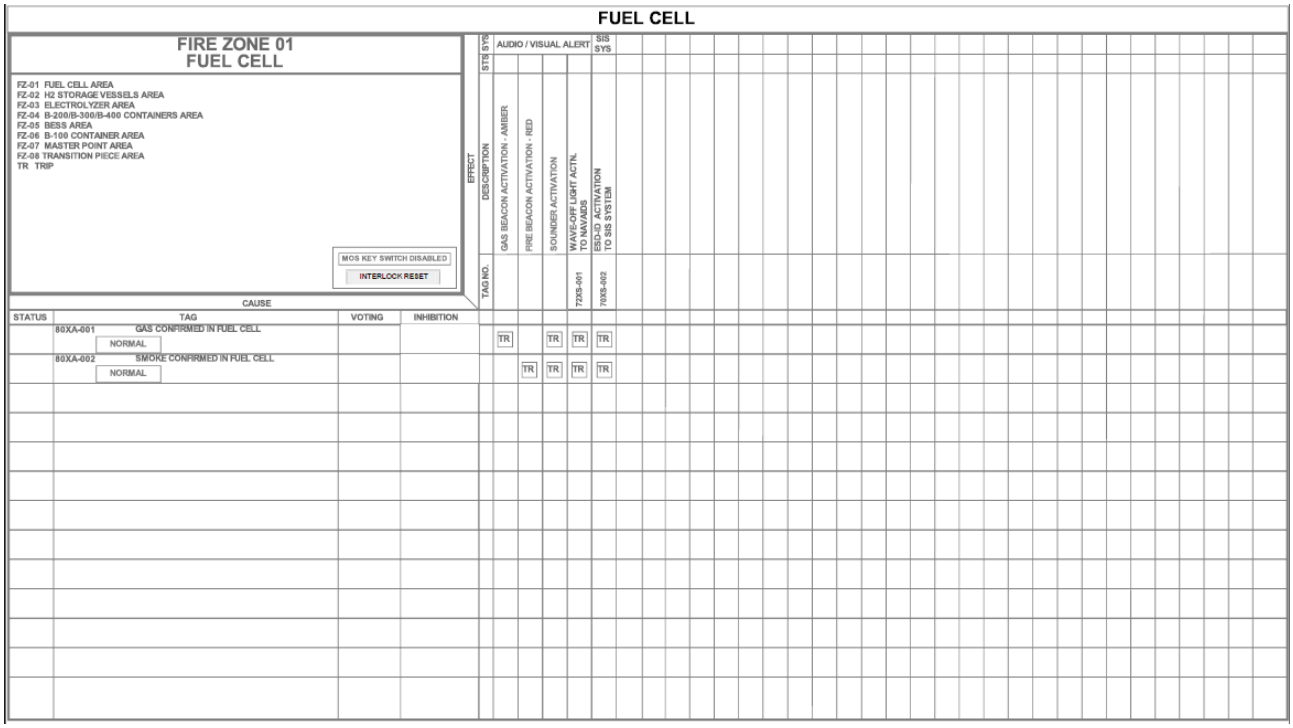
- CE_FIRE_OPEN_AREA_2



- CE_FUEL_CELL



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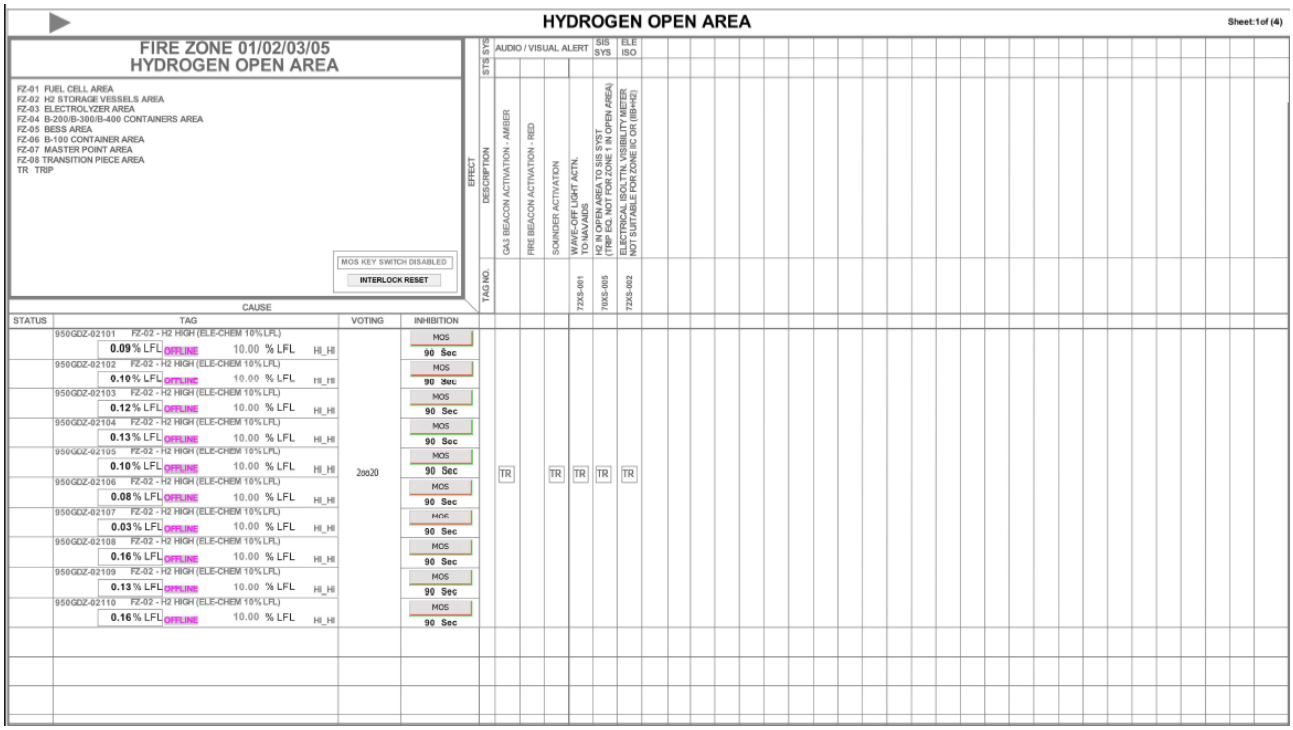
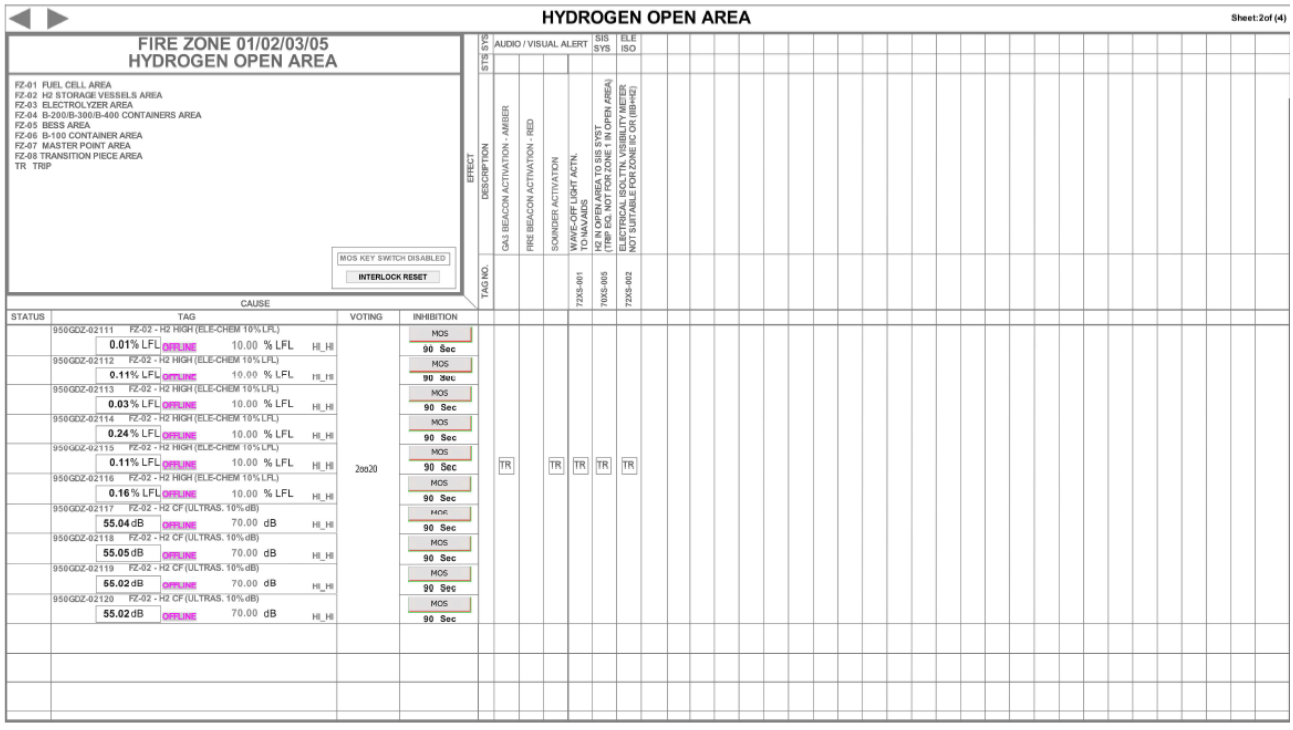
- CE_H2_OPEN_AREA_1A



- CE_H2_OPEN_AREA_1B



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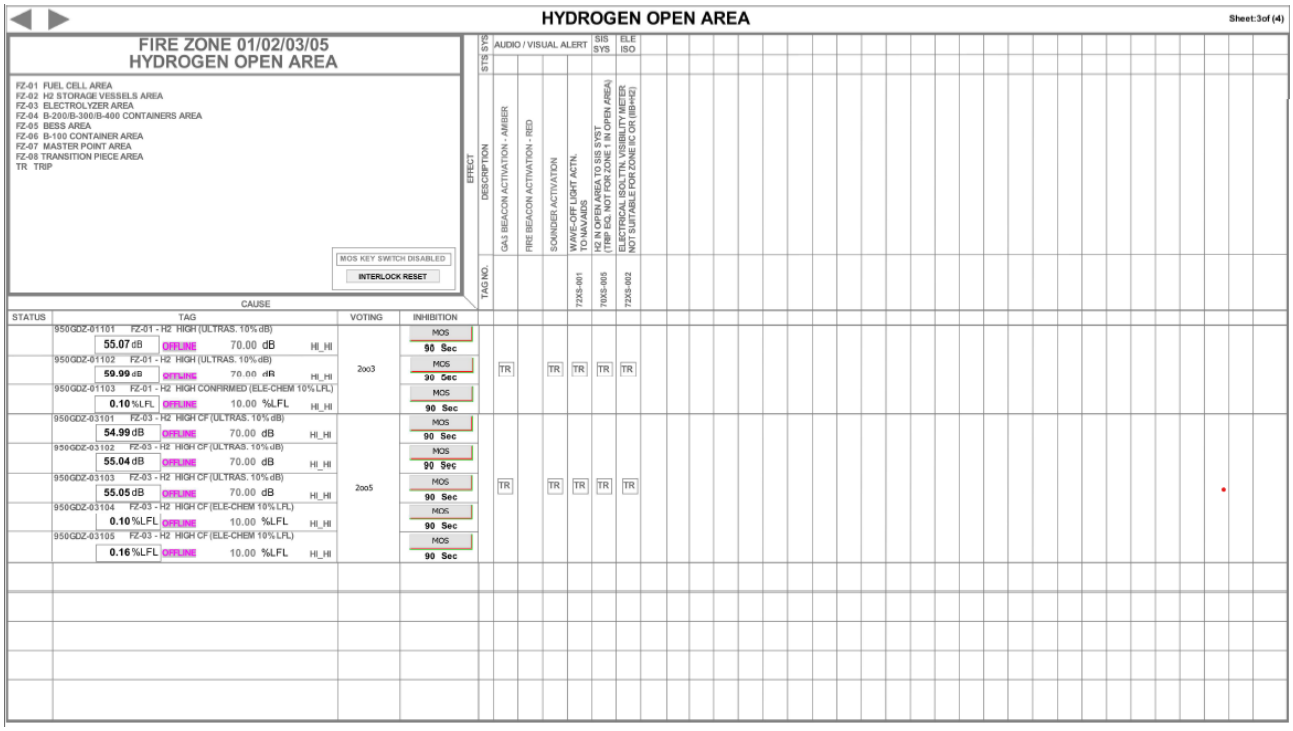
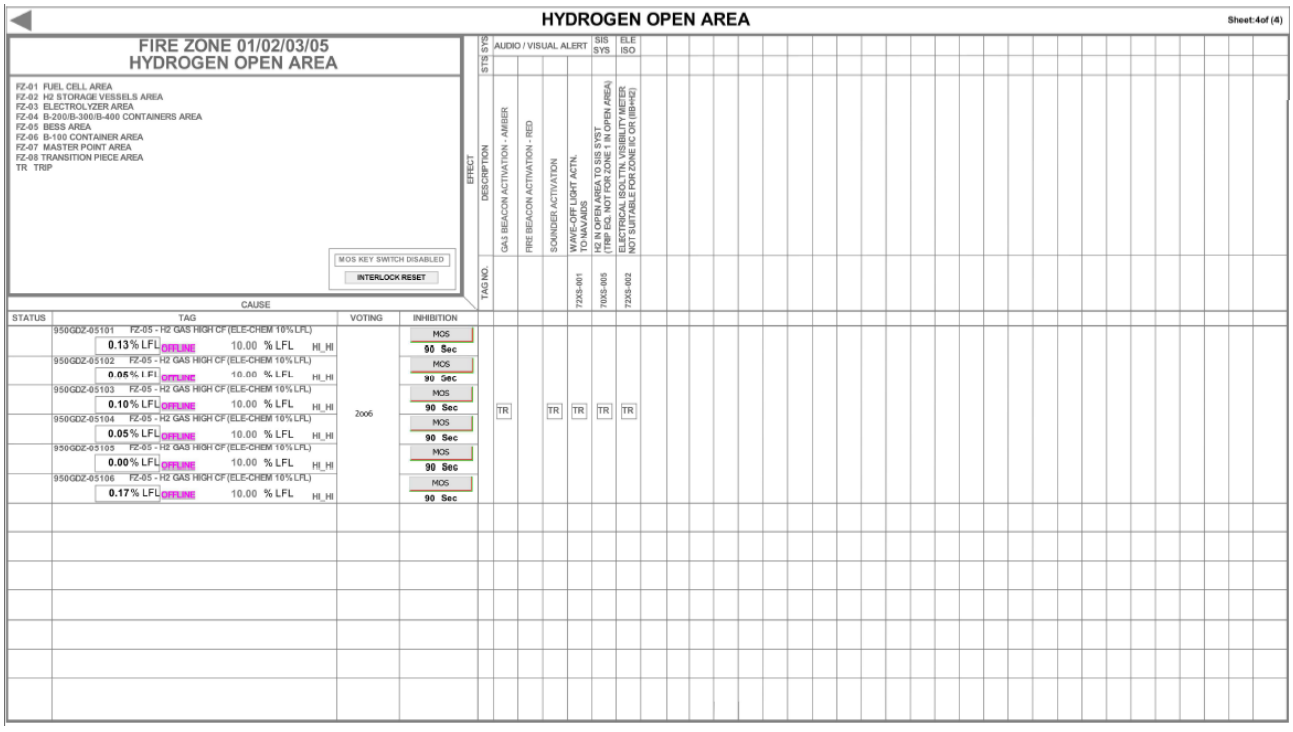
- CE_H2_OPEN_AREA_2



- CE_H2_OPEN_AREA_3



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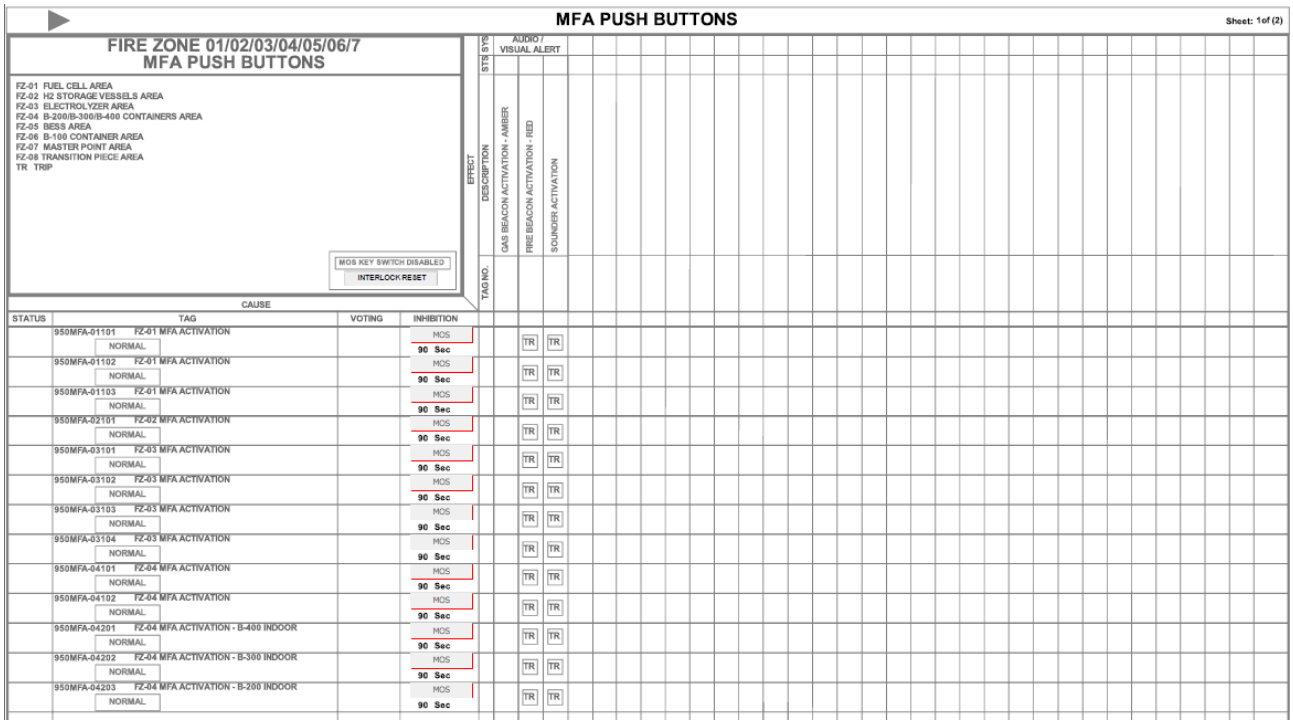
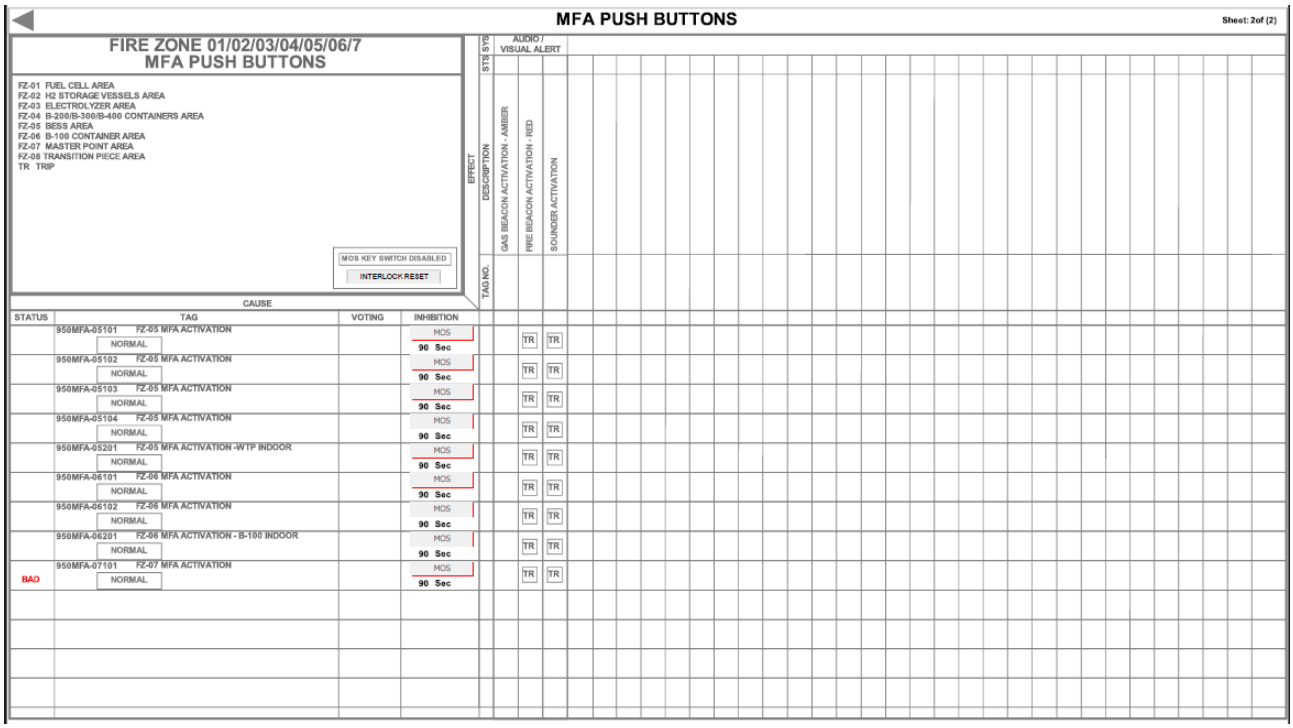
- CE_MFA_PUSH_BUTTONS_1



- CE_MFA_PUSH_BUTTONS_2



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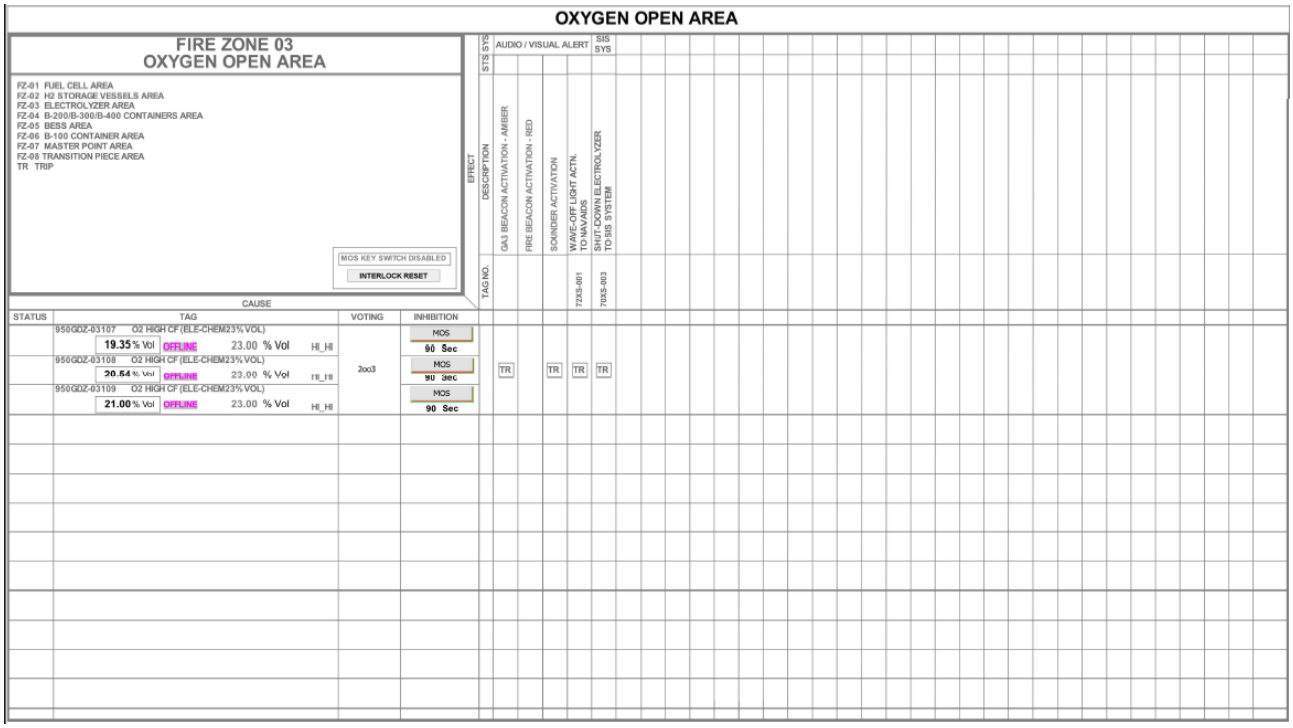
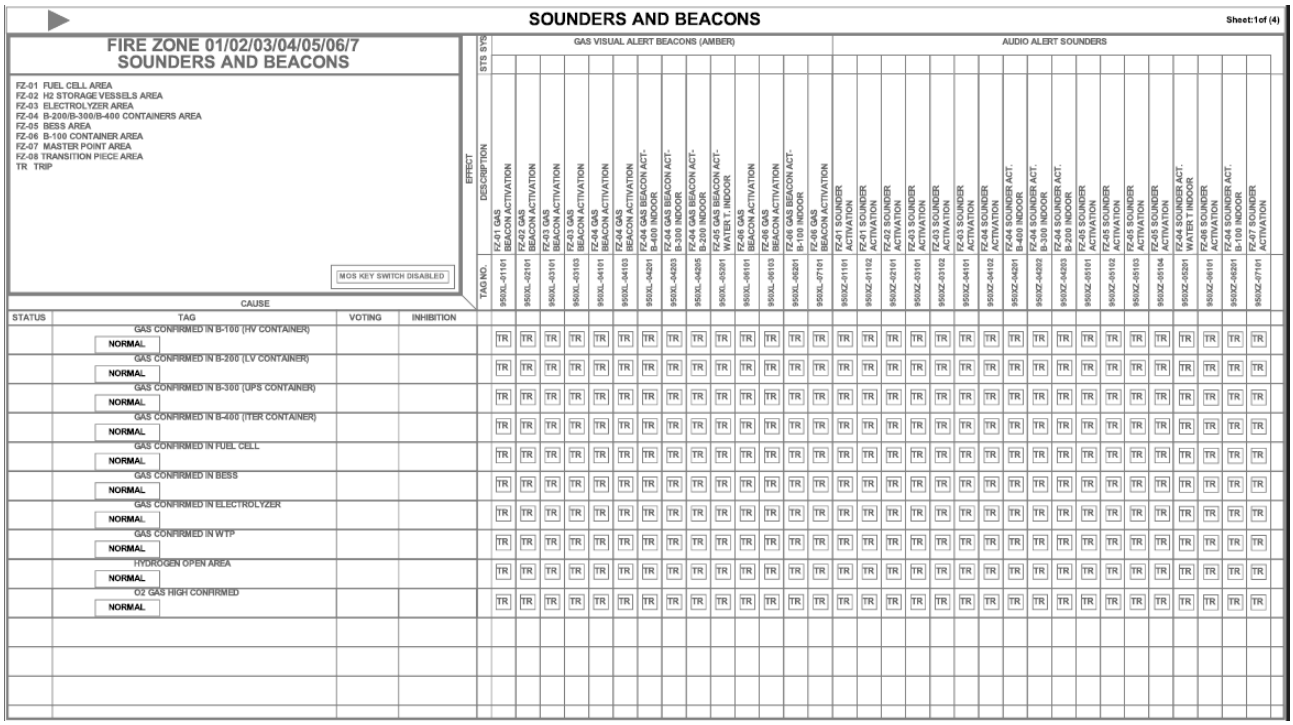
- CE_OXY_OPEN_AREA



- CE_SOUNDERS_BEACONS_1



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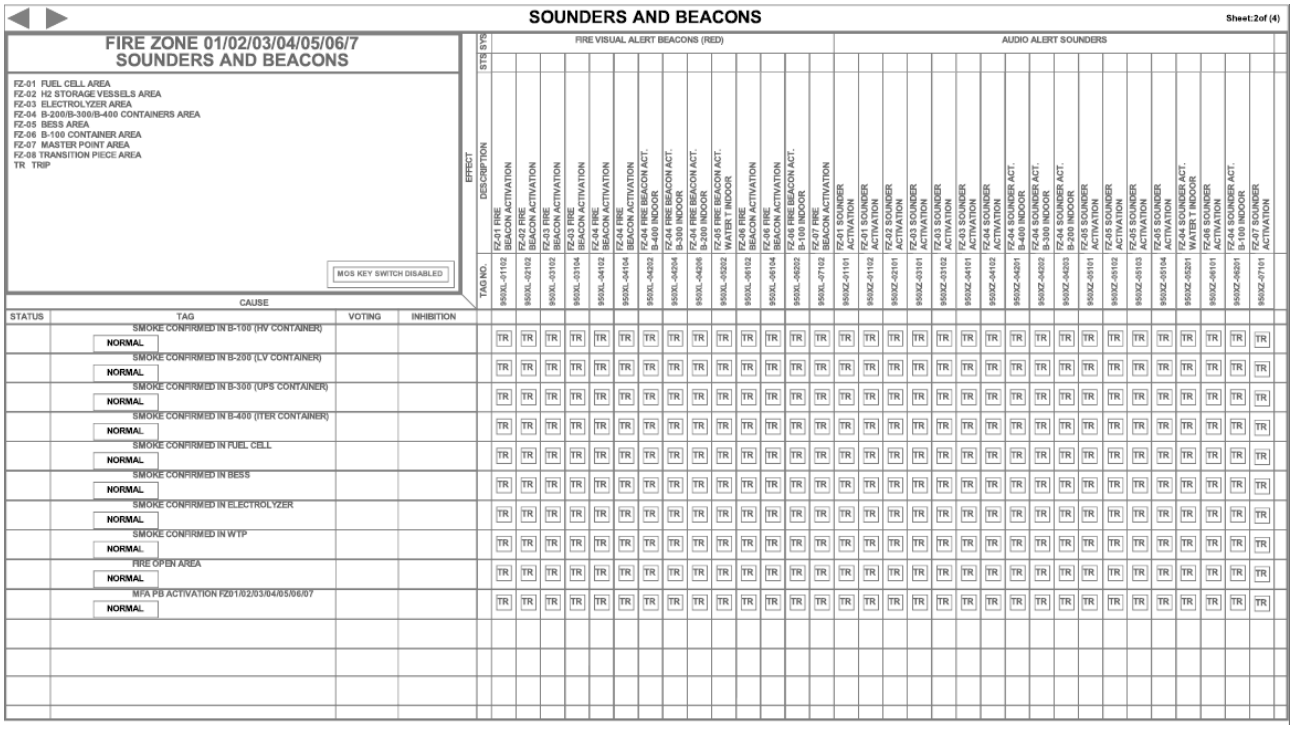
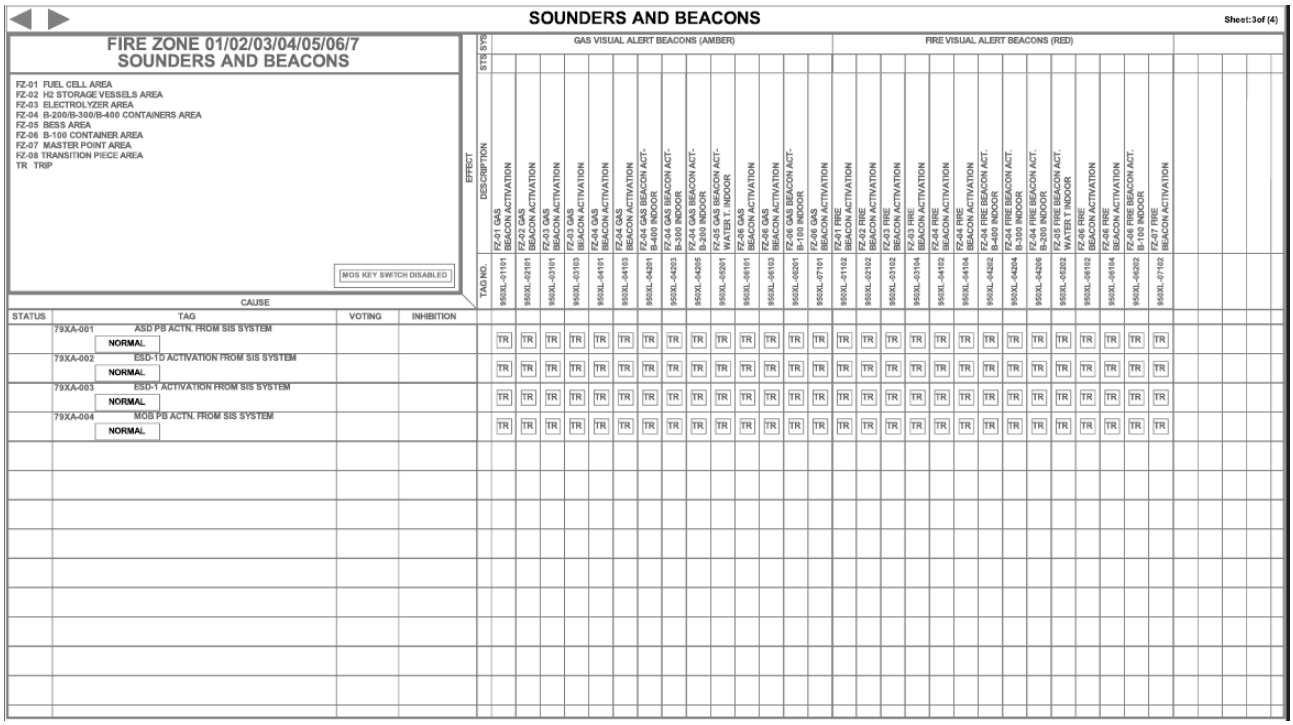
- CE_SOUNDERS_BEACONS_2



- CE_SOUNDERS_BEACONS_3



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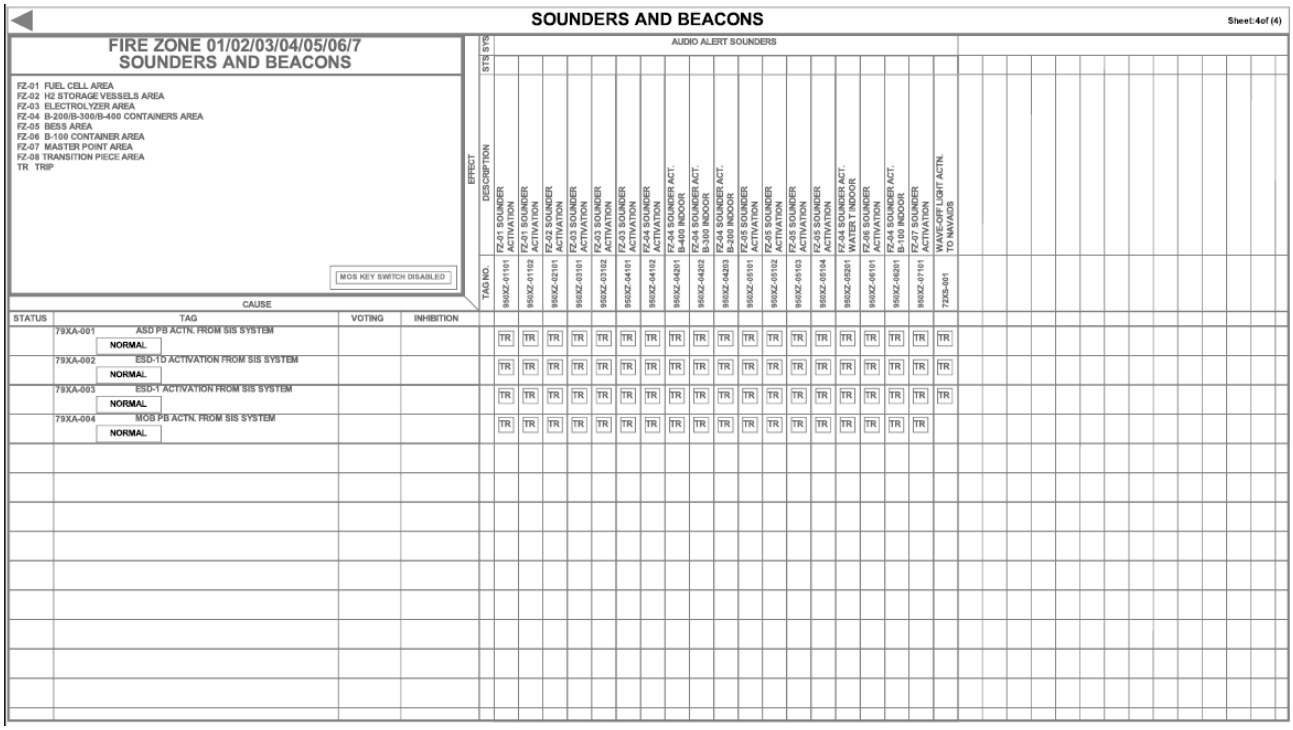
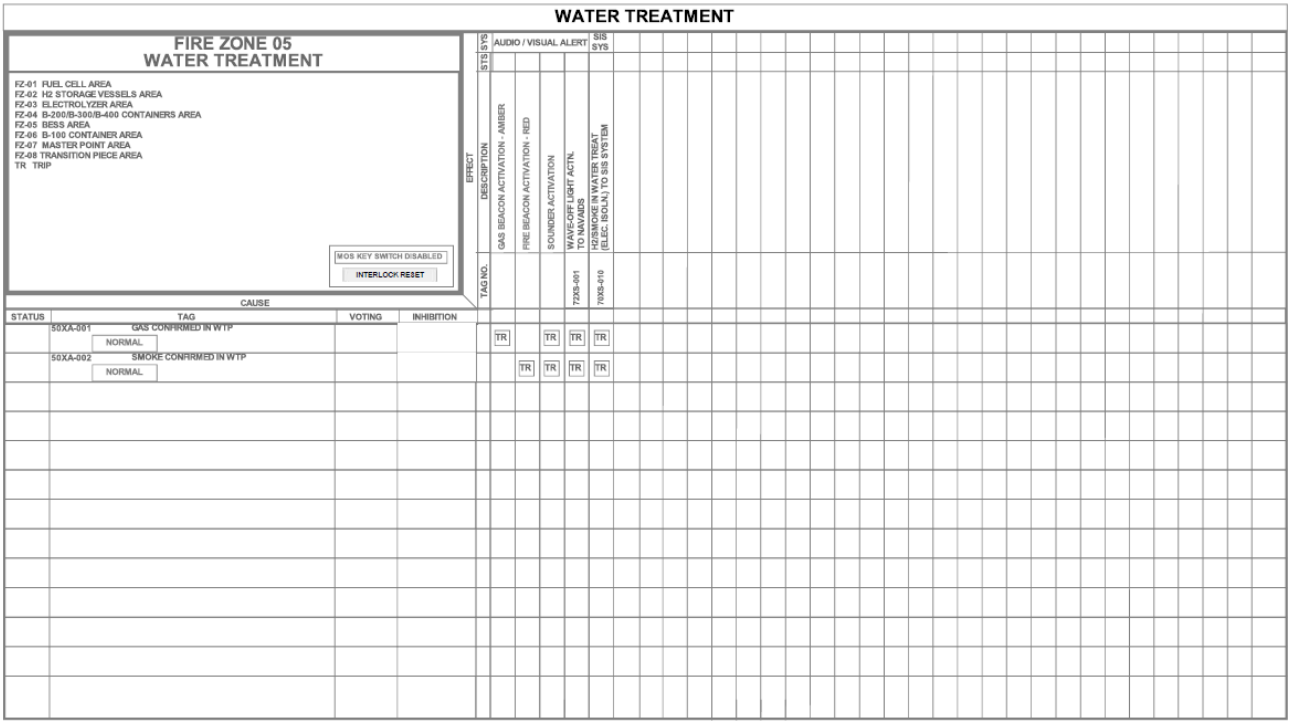
- CE_SOUNDERS_BEACONS_4



- WATER TREATMENT



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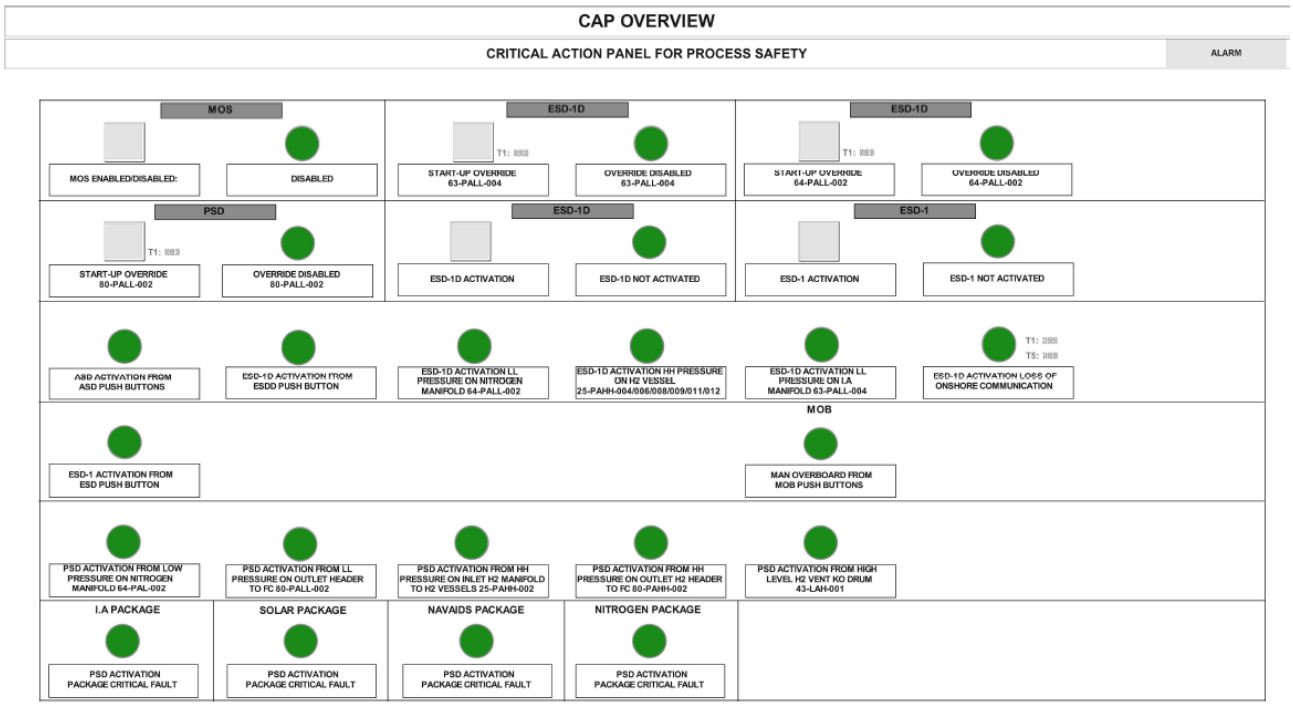
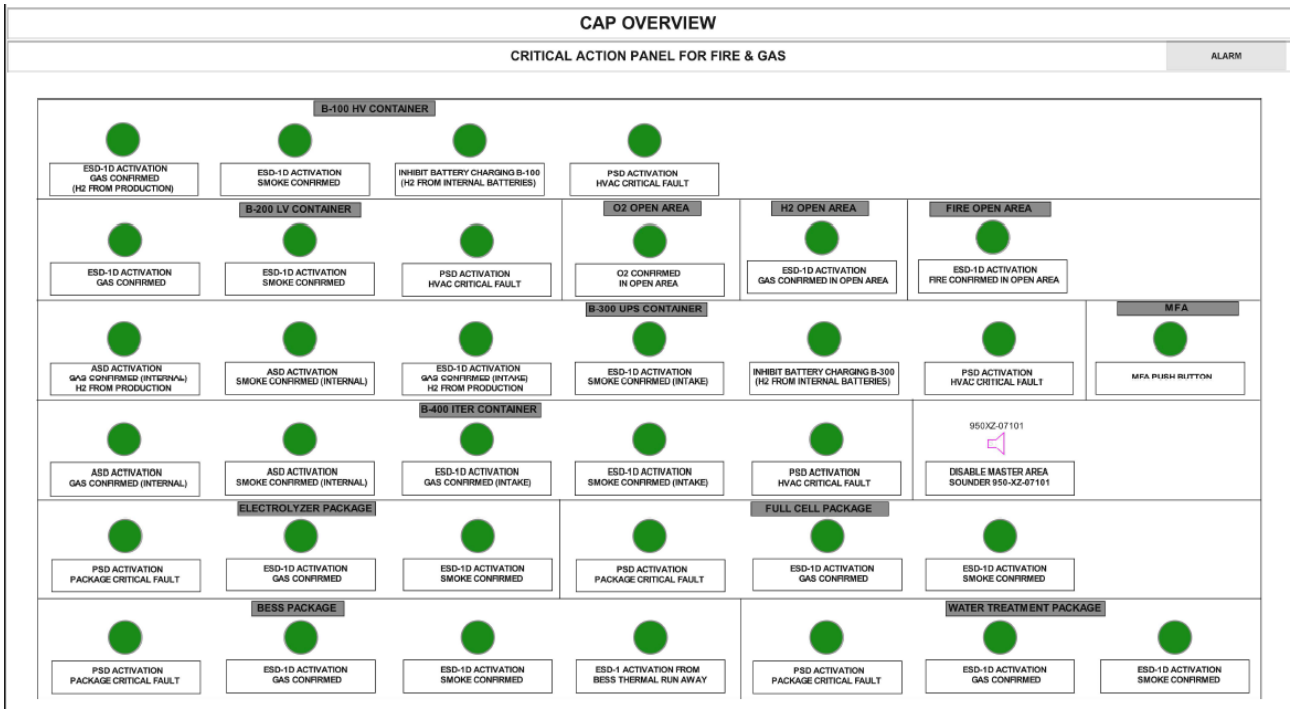
- BLPH_MATRIX_ESD



- BLPH_MATRIX_FGS



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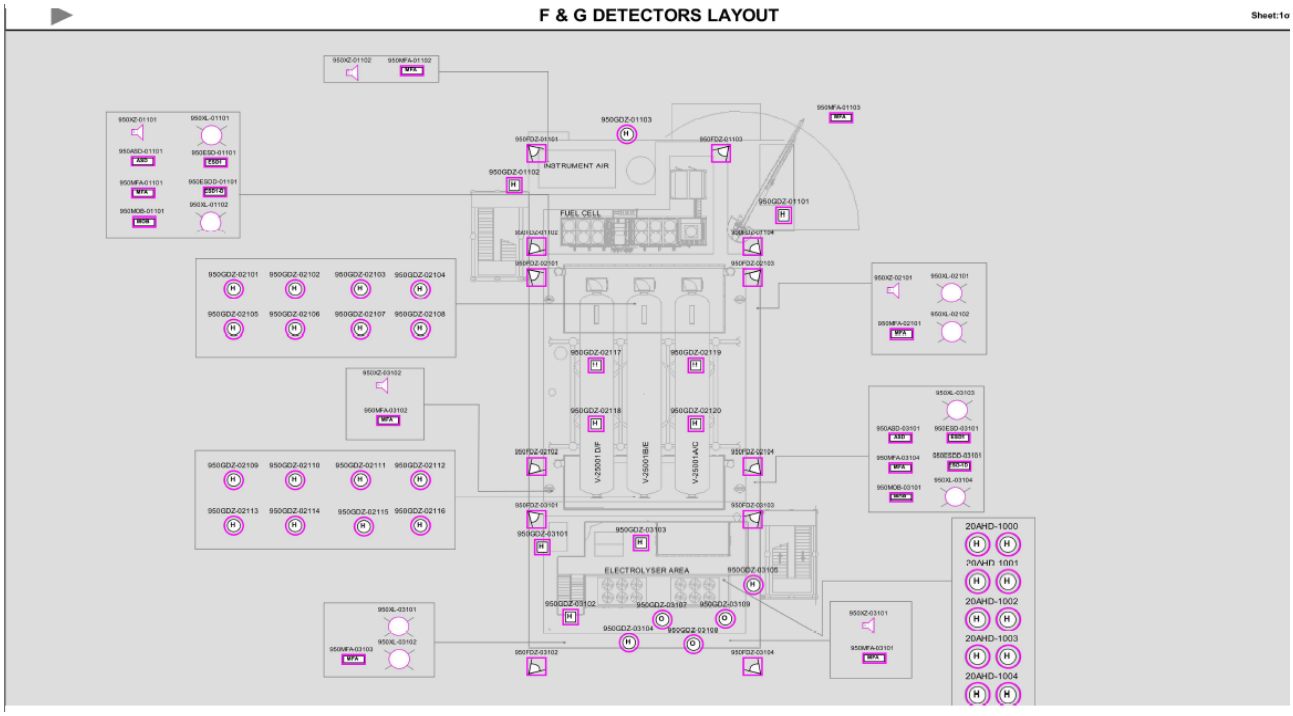
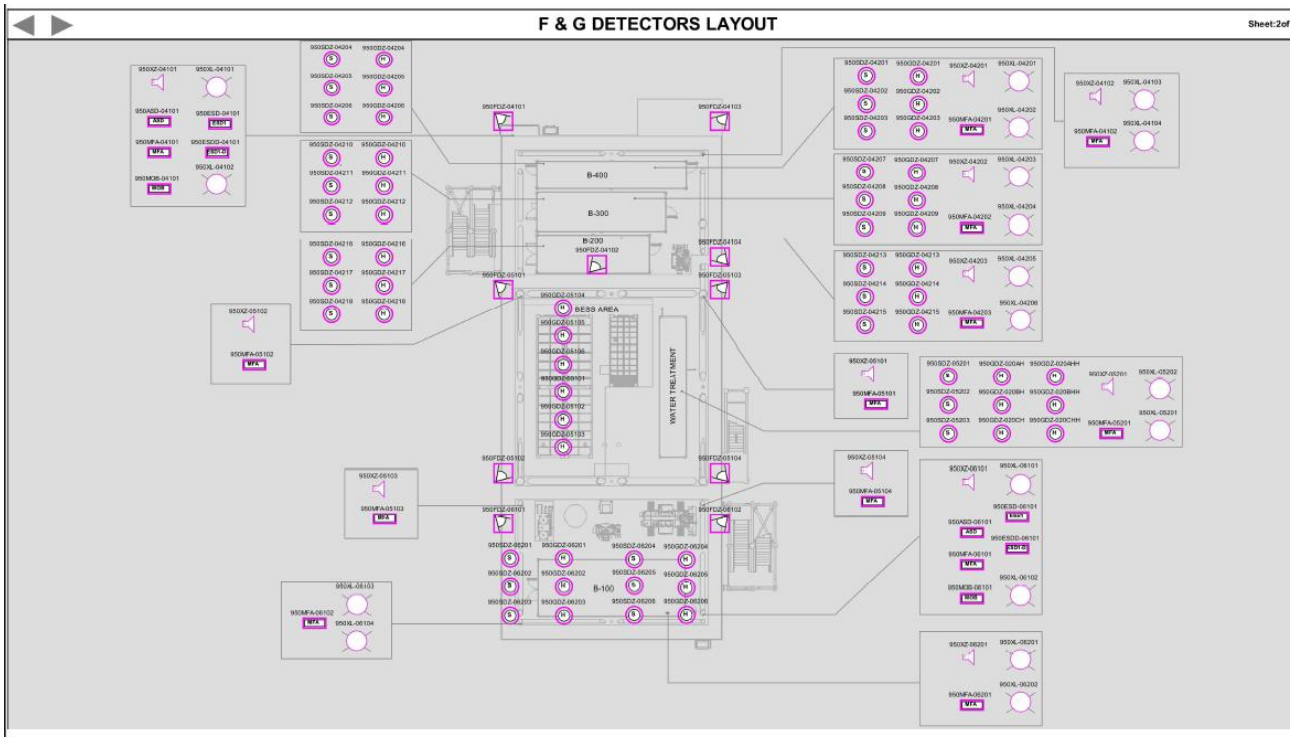
- FG_DETECTOR_LAYOUT_1



- FG_DETECTOR_LAYOUT_2



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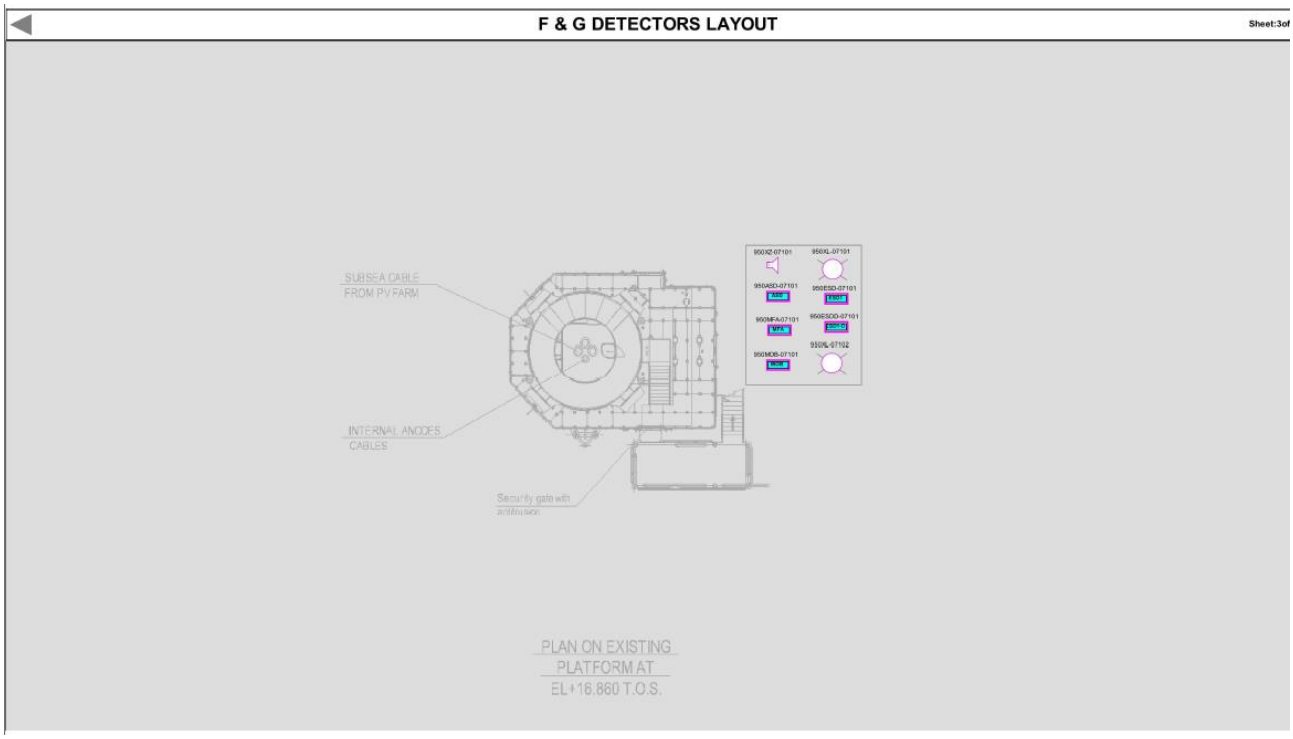
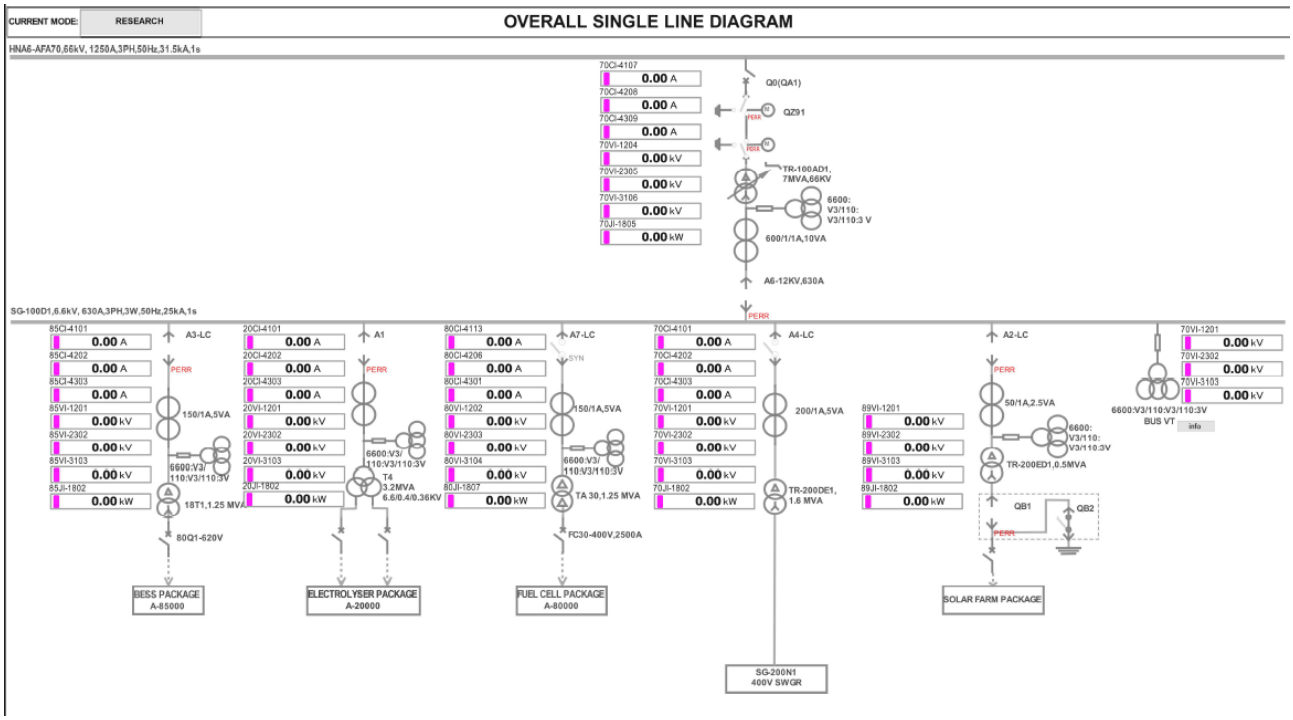
- FG_DETECTOR_LAYOUT_5



- OVERALL_SINGLE_LINE_DIAGRAM



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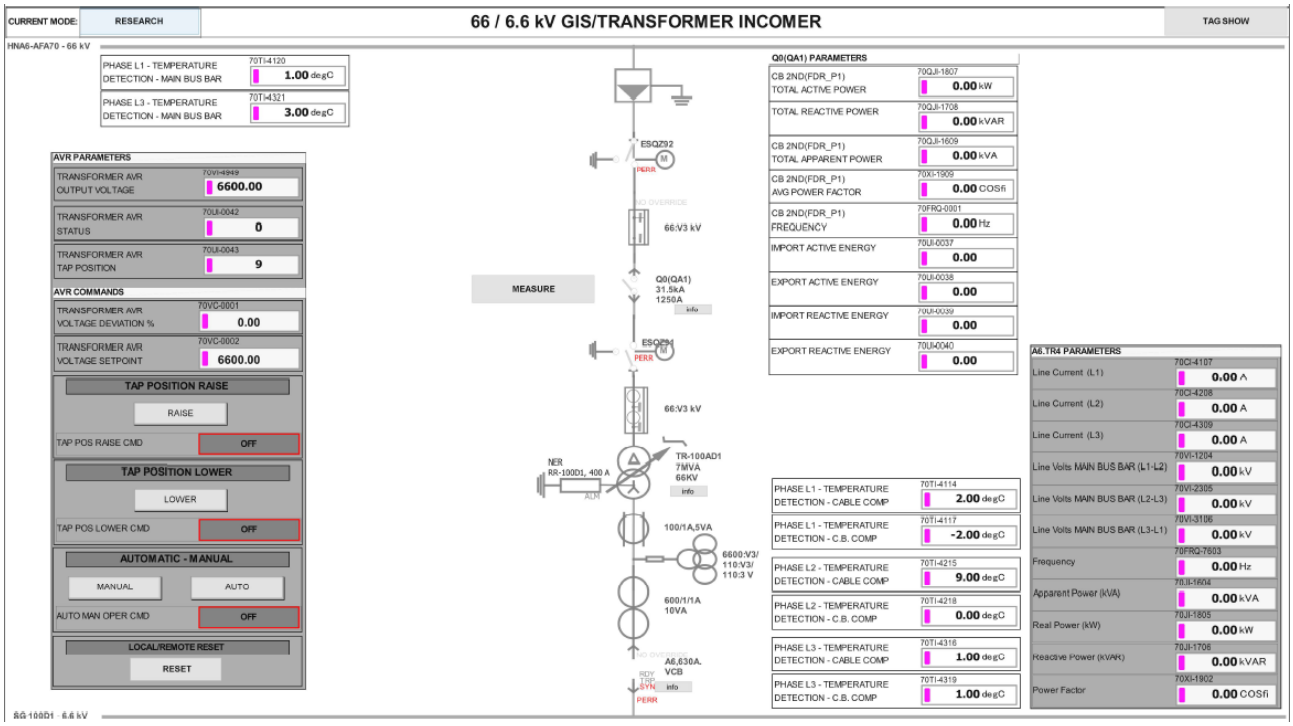
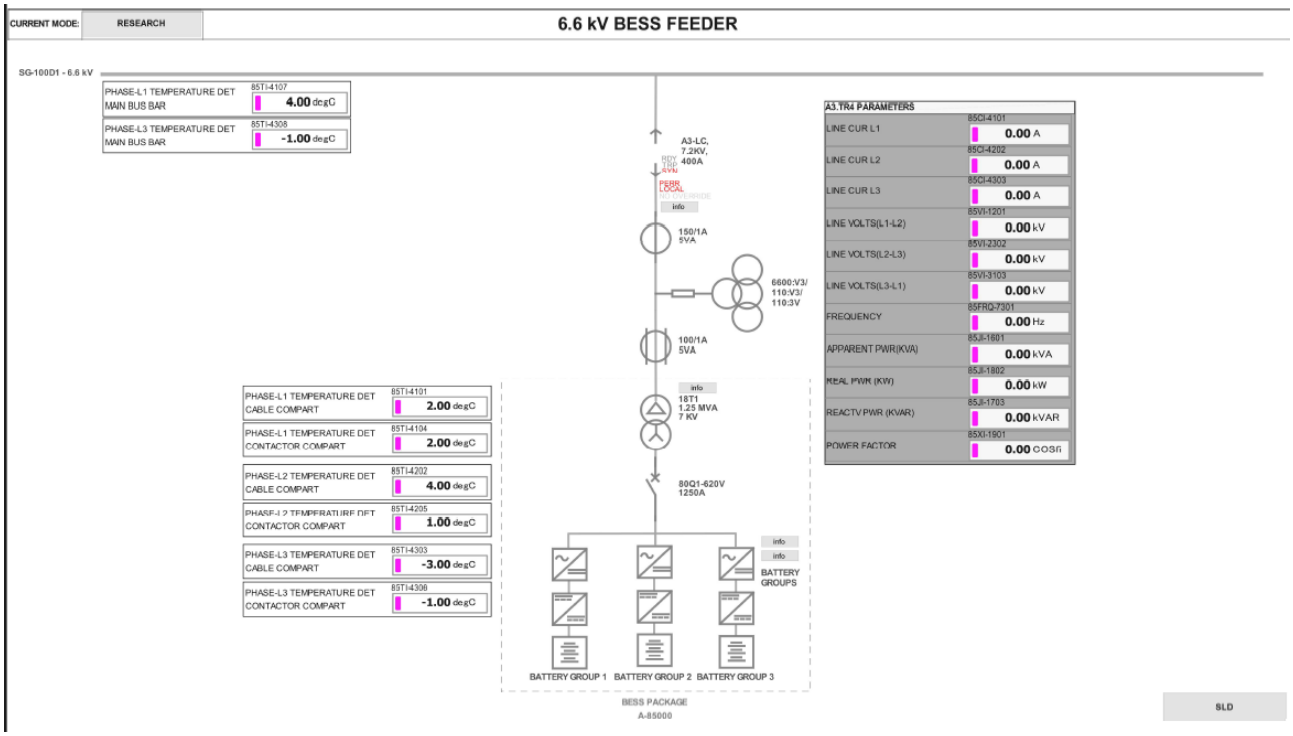
- TRANSFORMER_INCOMER



- BESS_FEEDER



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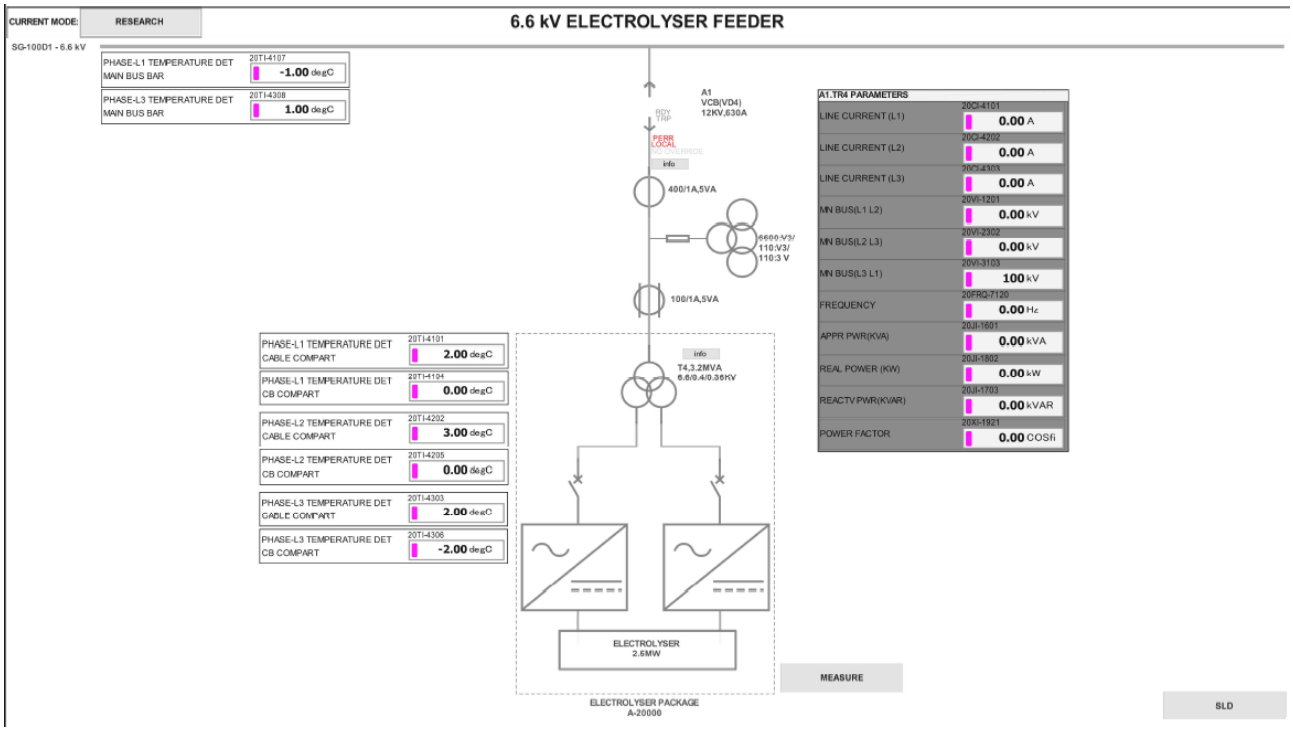
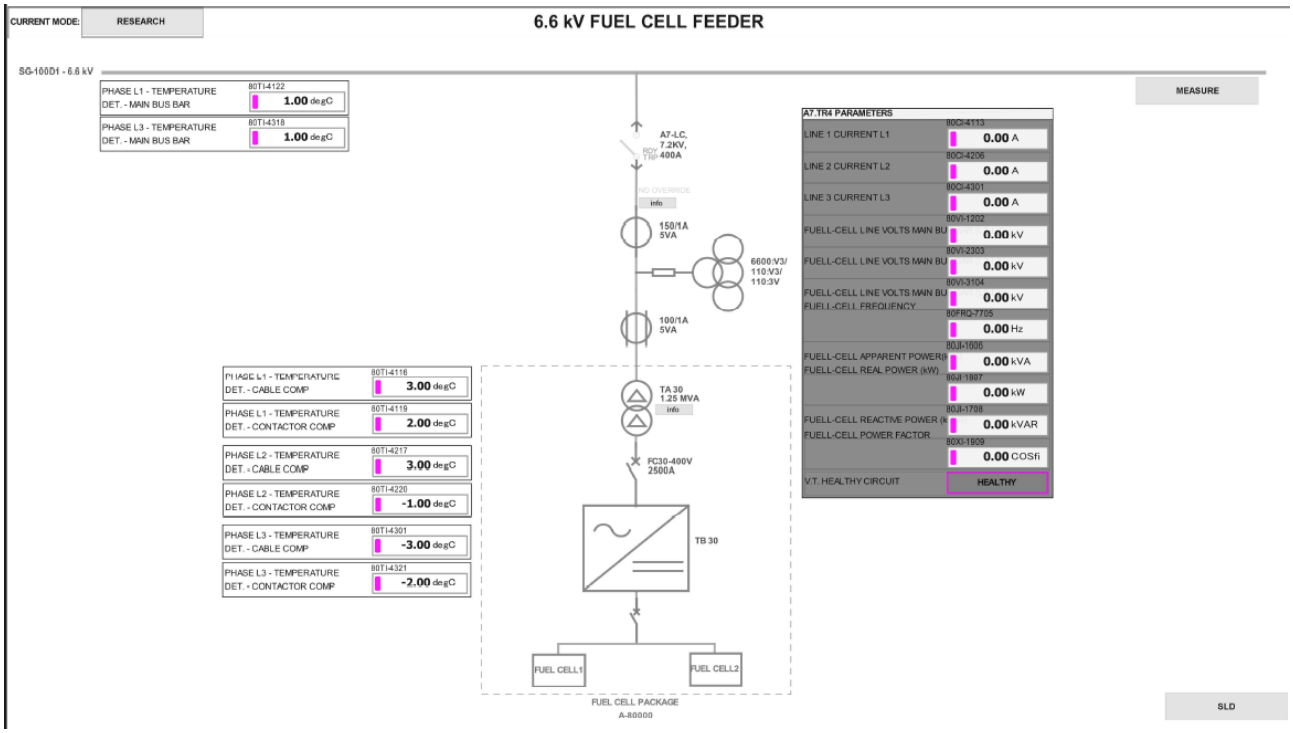
- ELECTROLYSER_FEEDER



- FUEL_CELL_FEEDER



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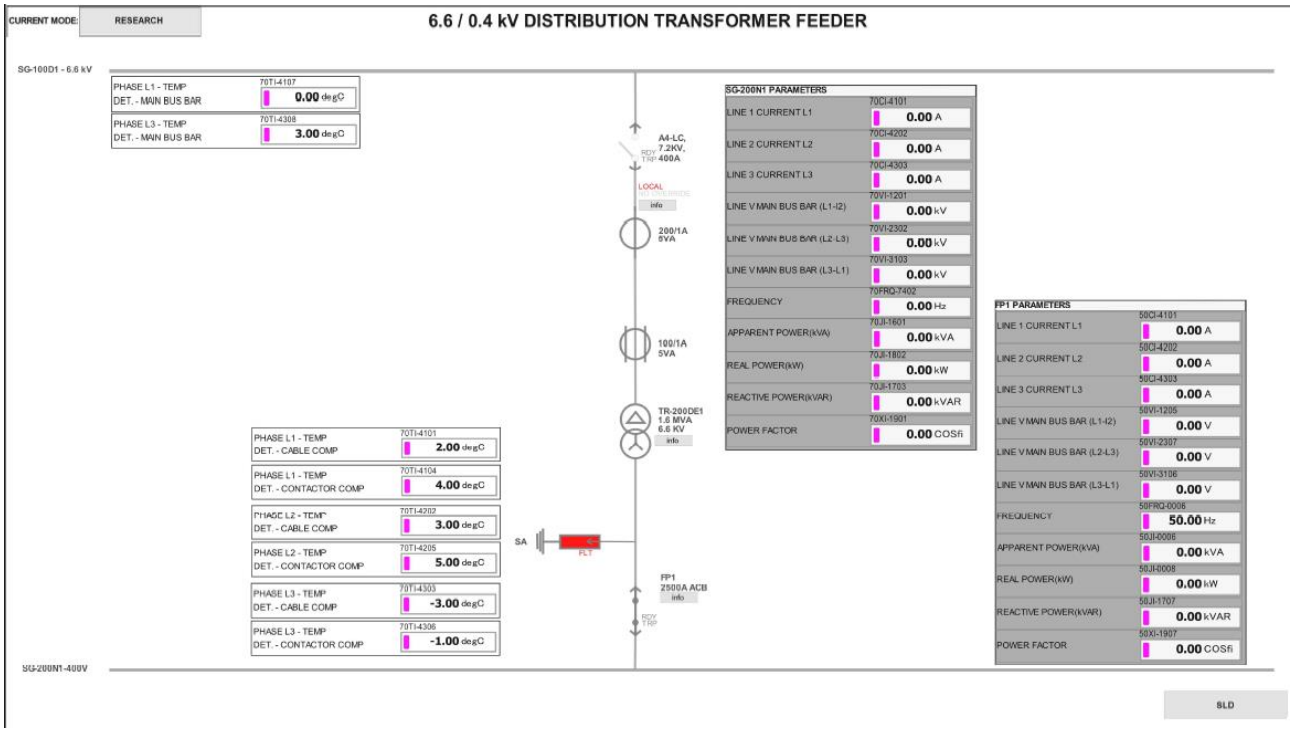
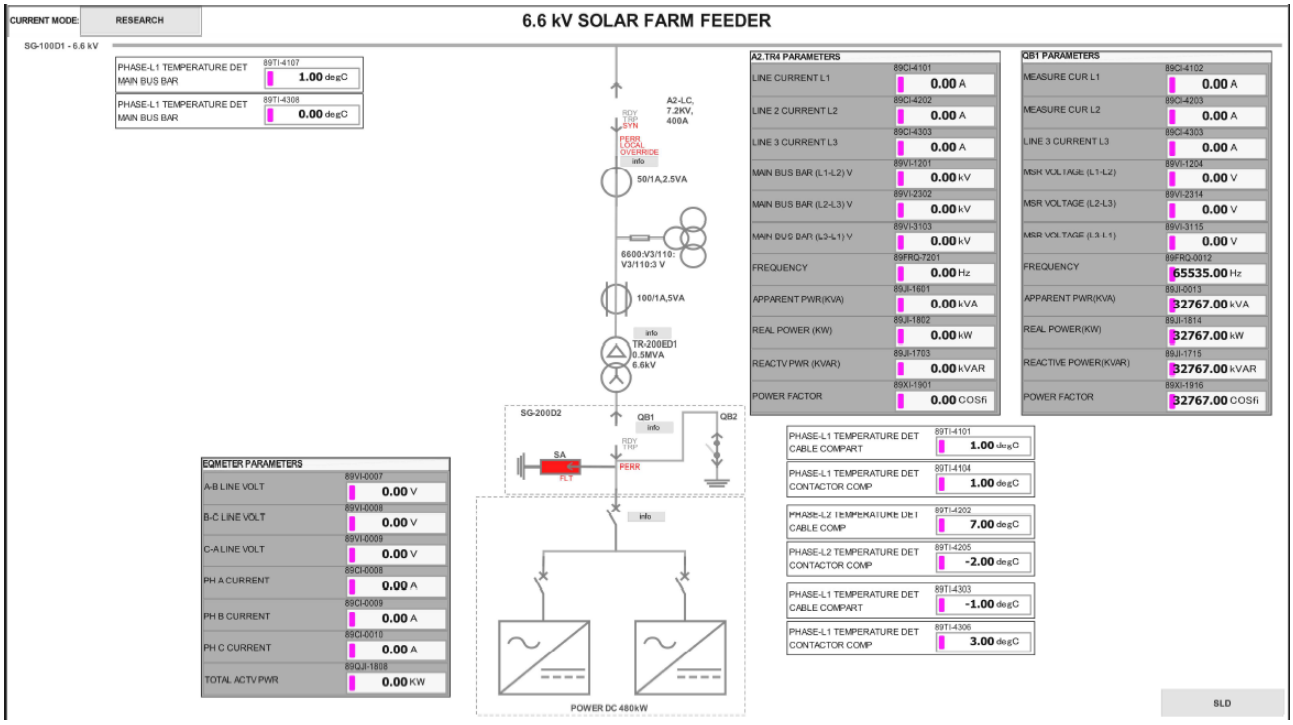
- DISTRIBUTION_TRANSFORMER_FEEDER



- SOLAR_FARM_FEEDER



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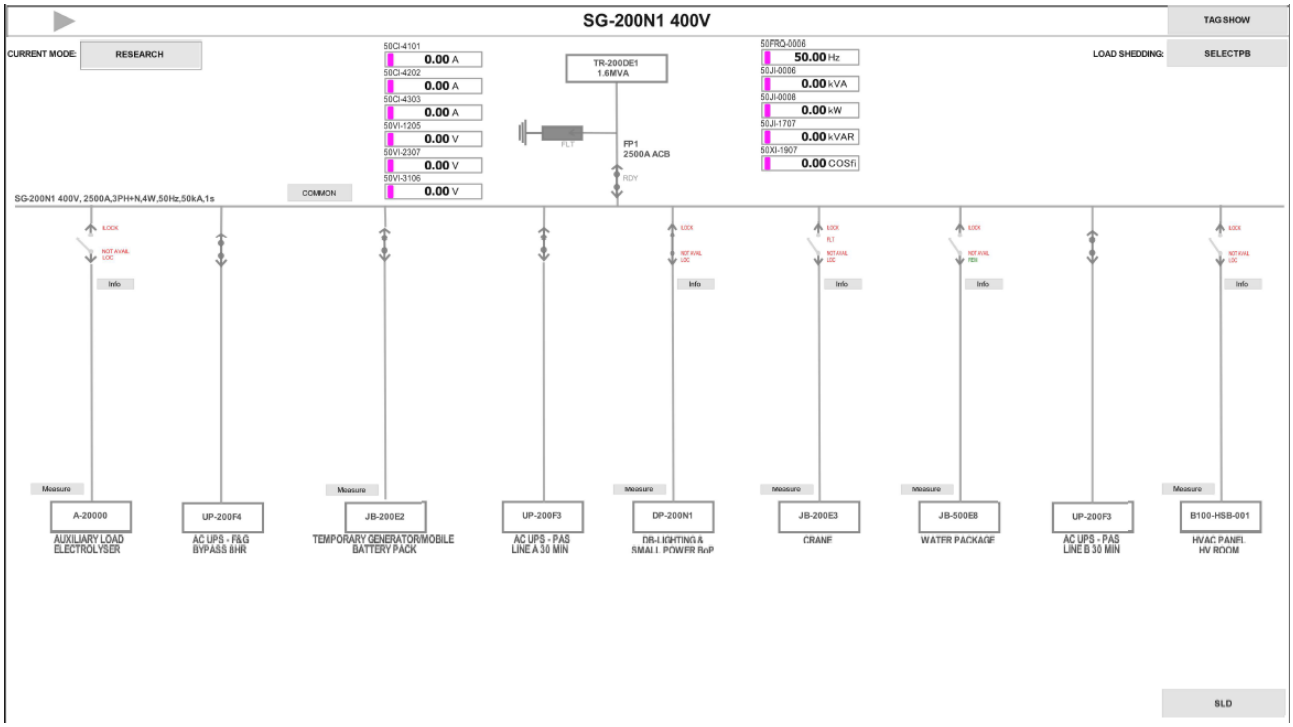
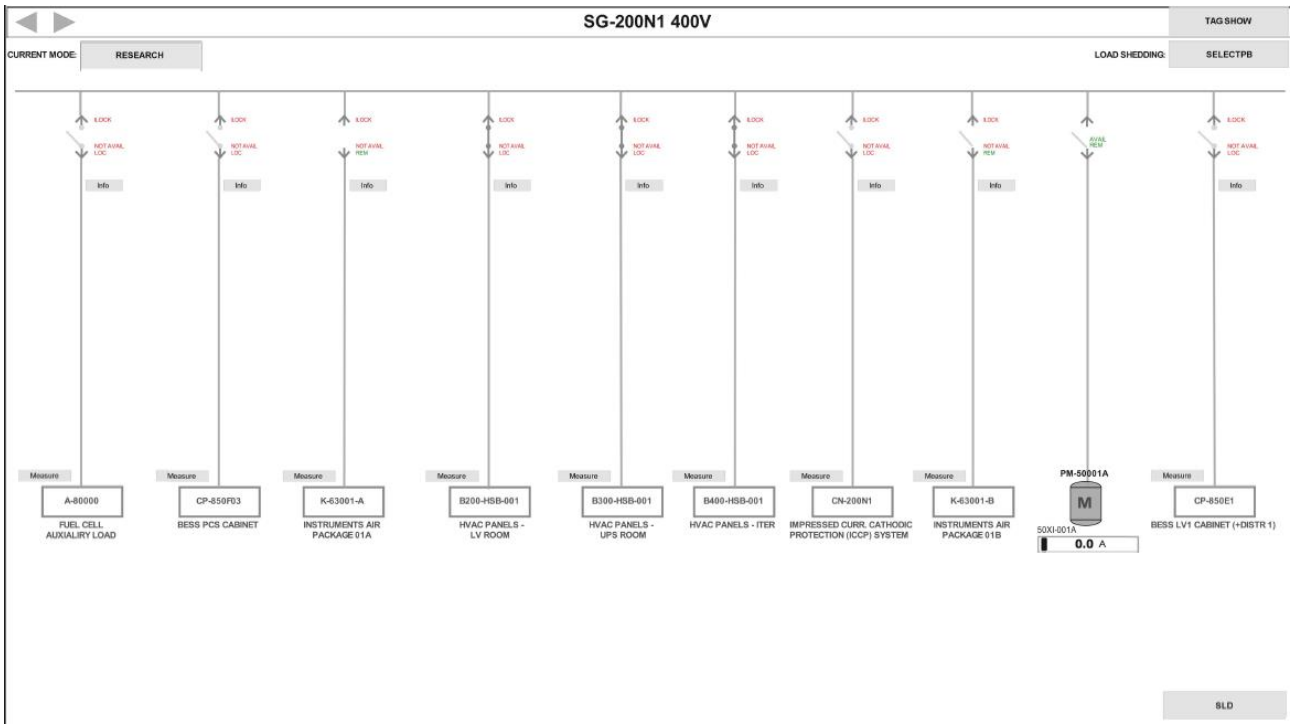
- SG_200N1_400_1



- SG_200N1_400_2



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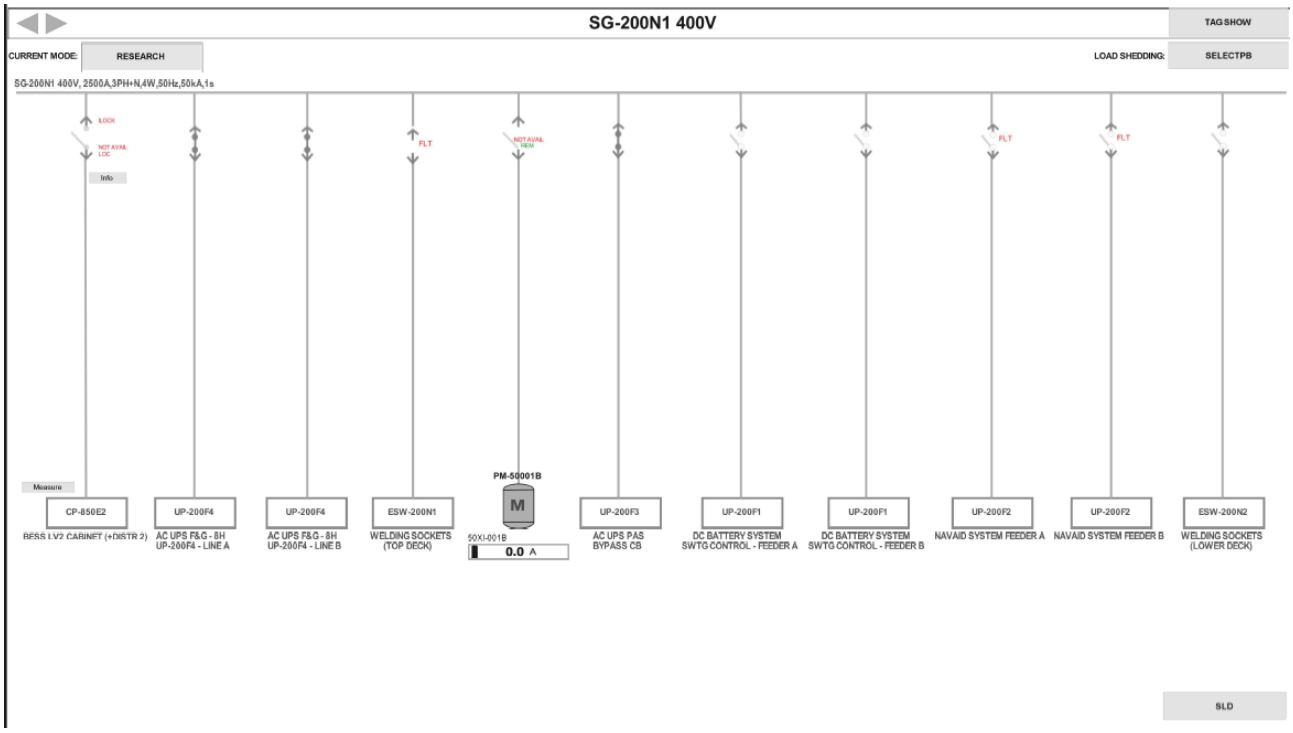
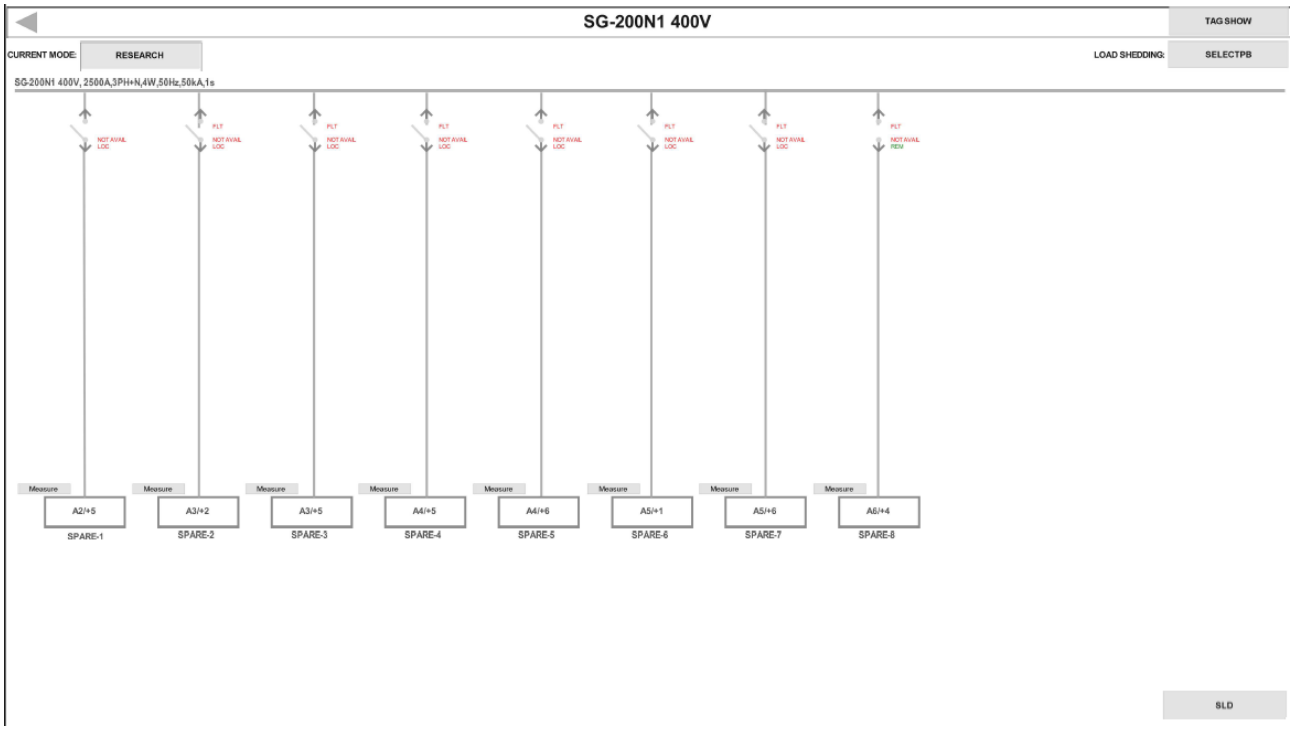
- SG_200N1_400_3



- SG_200N1_400_4



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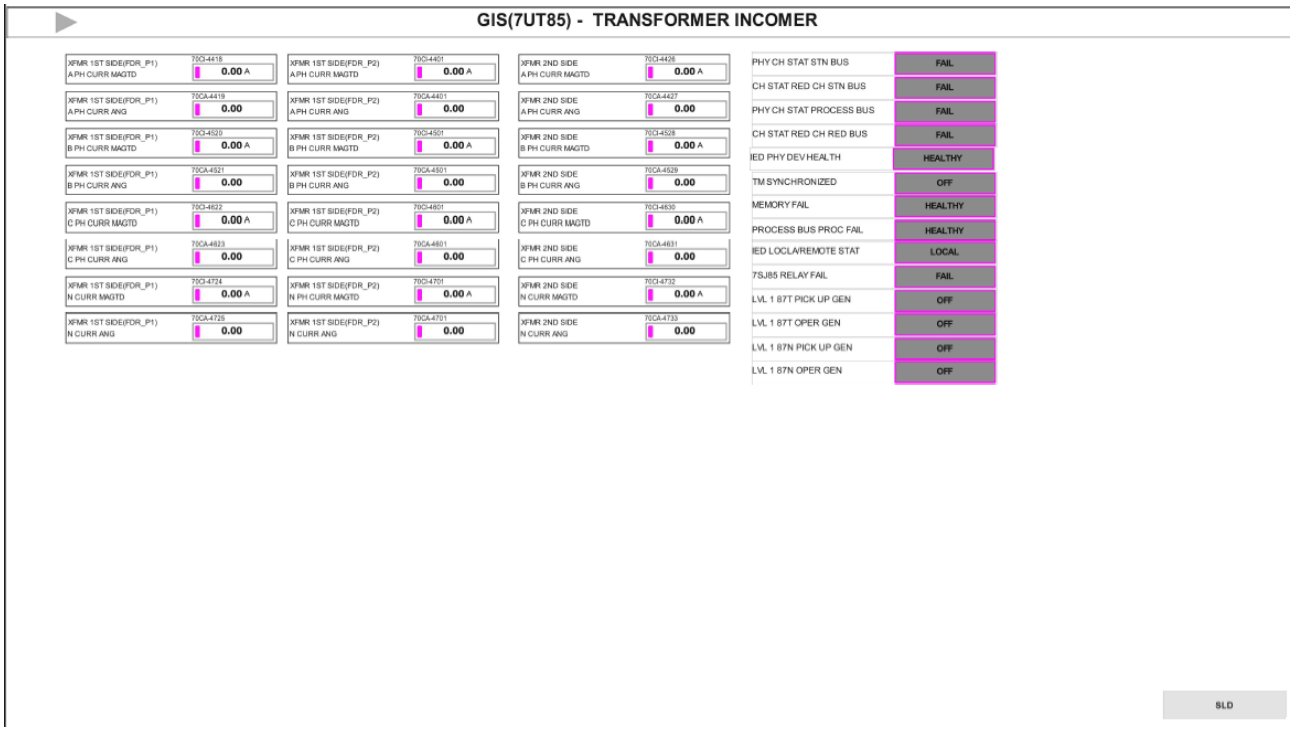
- GIS_7UT85



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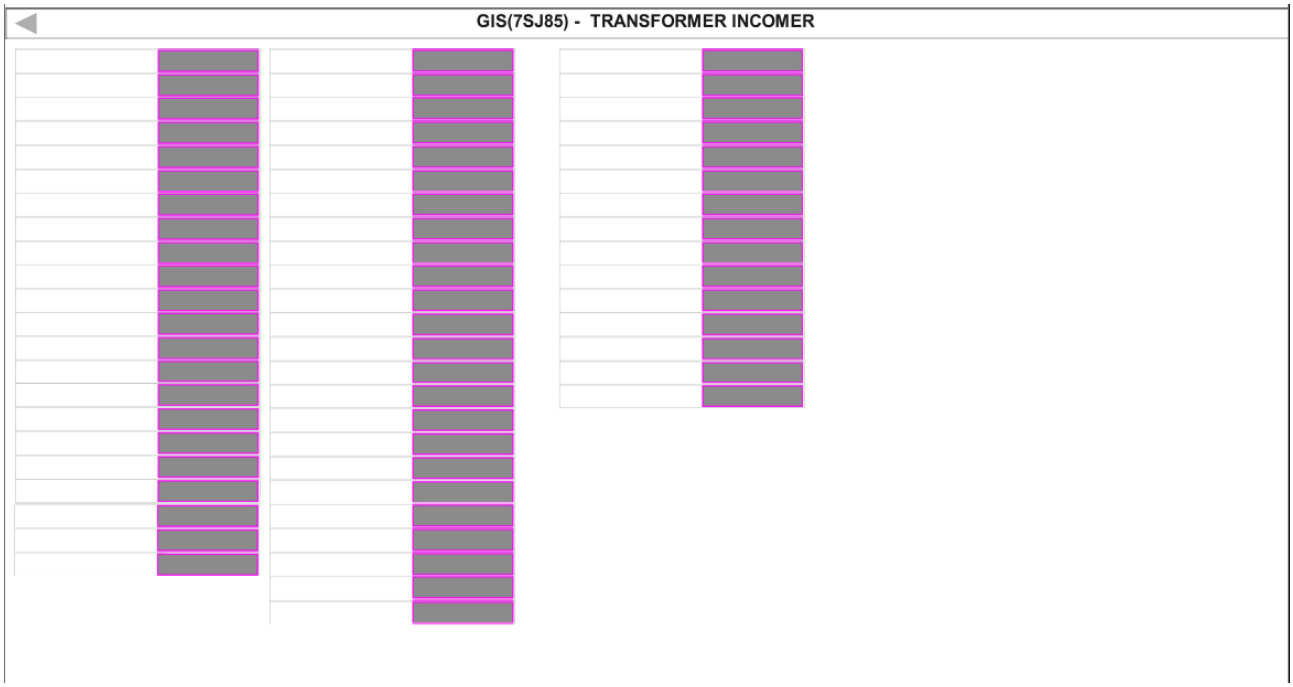
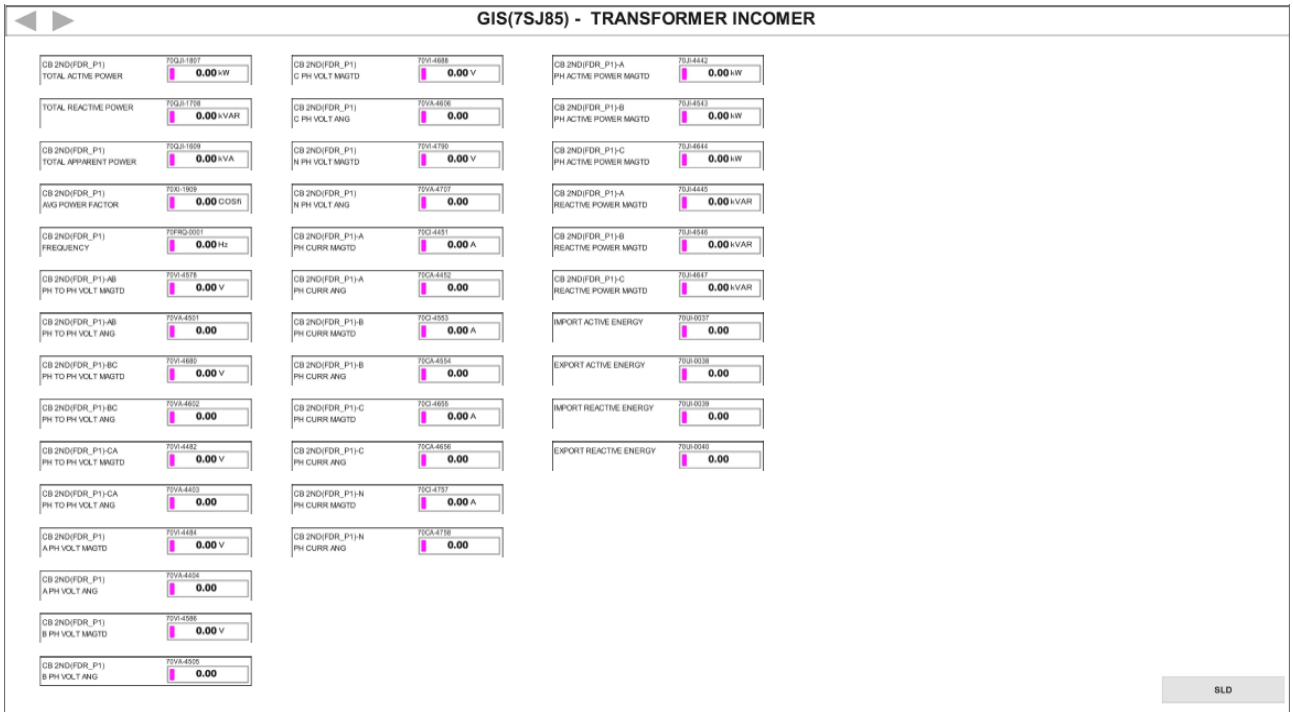
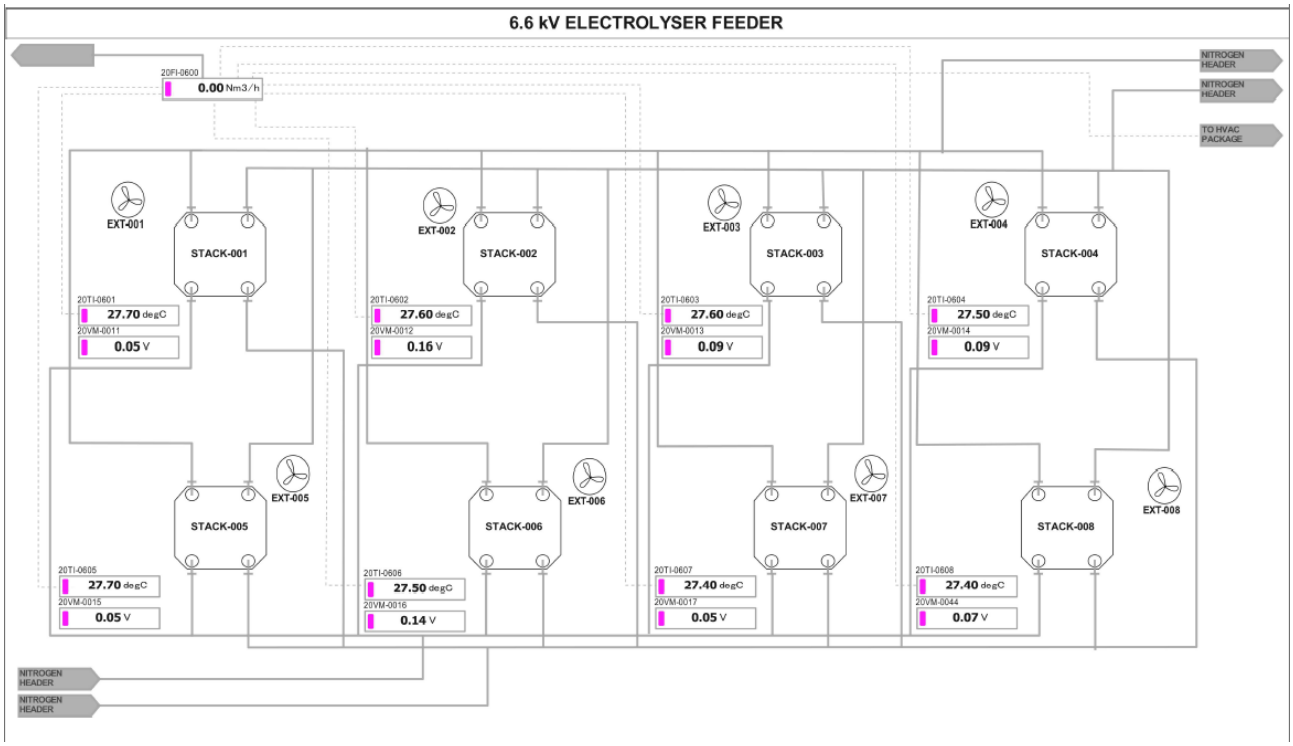


CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HMI Screen Print Out	Sheet 64 of 67 Date: 22/09/2025 Rev: 03

- GIS_7SJ85_ANALOG



- ELECTROLYSER_STACK



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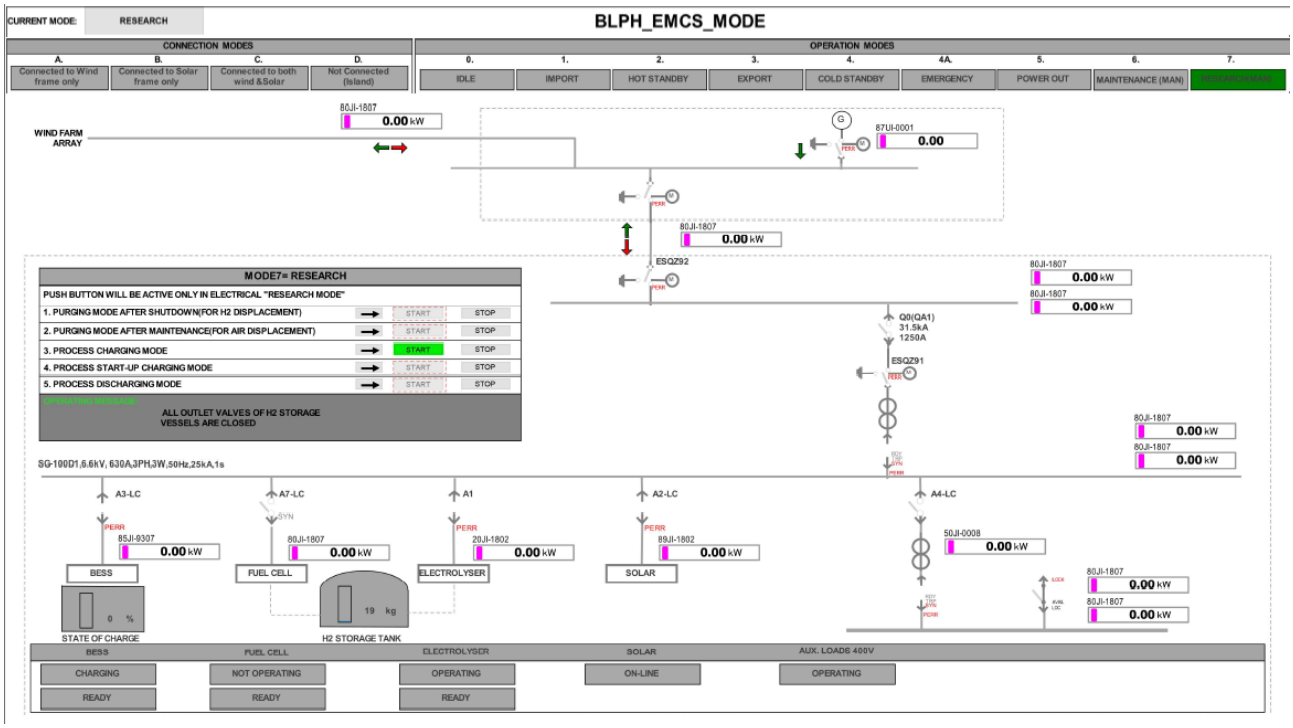
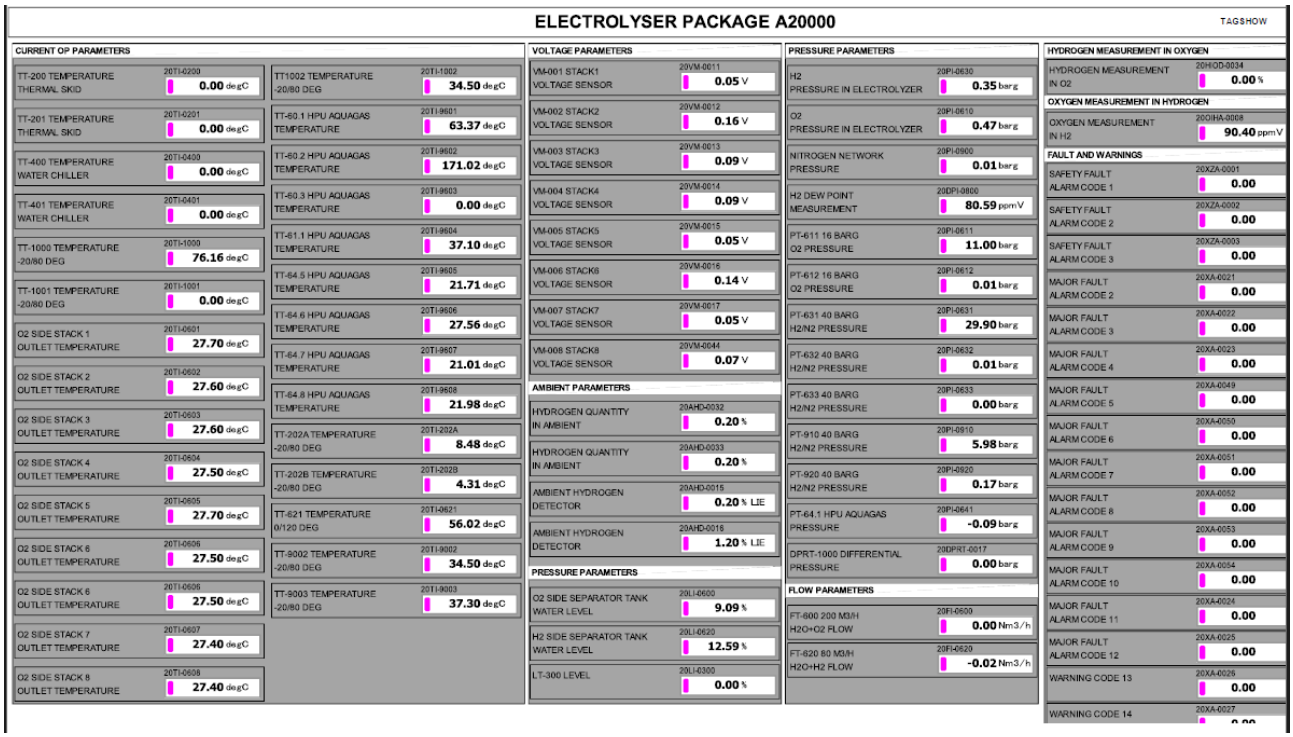
Document Title:	HMI Screen Print Out	Sheet 65 of 67 Date: 22/09/2025 Rev: 03

- BLPH_EMCS_MODE



- ELECTROLYSER_PROCESS



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Document Title:	HMI Screen Print Out	Sheet 66 of 67 Date: 22/09/2025 Rev: 03

- BLPH_ALARMSYSTEM

SYSTEM ALARM OVERVIEW

Alarm Time	Section	Tag	
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	rPsuStatusHmi	RIGHT PSU stat
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	lPsuStatusHmi	LEFT PSU statu
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	rCpuStatusHmi	RIGHT CPU stat
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	lCpuStatusHmi	LEFT CPU statu
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	rPsuStatusHmi	RIGHT PSU stat
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	lPsuStatusHmi	LEFT PSU statu
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	rCpuStatusHmi	RIGHT CPU stat
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	lCpuStatusHmi	LEFT CPU statu
16-09-2025 03:35:40:000	VNET_IP_STATUS.NETWORK	VnetIP_2	Vnet/IP bus 2 st
16-09-2025 03:35:40:000	VNET_IP_STATUS.NETWORK	VnetIP_1	Vnet/IP bus 1 st
16-09-2025 03:35:40:000	SCS_STATUS.0120_STATION	cpuCtrlTrans	CPU Control Tra
16-09-2025 03:35:40:000	SCS_STATUS.0110_STATION	cpuCtrlTrans	CPU Control Tra
21-07-2025 08:18:28:525	SCS_STATUS.0110_NODE.N1	CS1_ERR	Card status FIC
21-07-2025 08:18:28:525	SCS_STATUS.0110_NODE.N1	CS2_ERR	Card status FIC
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	fcuFan2Status	FAN FCU N2 sta
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	n1RPSU	Node 1 R PSU s
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	n2RPSU	Node 2 R PSU s
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	n3RPSU	Node 3 R PSU s
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	n4RPSU	Node 4 R PSU s
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	n5RPSU	Node 5 R PSU s
21-07-2025 07:05:27:048	SCS_STATUS.0120_STATION	n6RPSU	Node 6 R PSU s

63 alarms found : 0 alarms shelved : 0 alarms expire | Stop | More | Before | Sep 16, 2025 | Last minute | Since

- BLPH_ALARMCURRENT

CURRENT ALARM OVERVIEW

Alarm Time	Item Name	Section	
16-09-2025 20:53:47:036	BLPH.FCS0101.64PI-051.64PI-0...	BLPH.FCS0101.64PI-051	64PI-051
16-09-2025 20:53:26:308	BLPH.EMCS.FUELCELL.80XA-10..	BLPH.EMCS.FUELCELL.80XA-1001	80XA-10
16-09-2025 20:51:56:094	BLPH.EMCS.FUELCELL.80XA-10..	BLPH.EMCS.FUELCELL.80XA-1010	80XA-10
27-07-2025 00:36:26:542	BLPH.FCS0101.B300TIR01AN.B...	BLPH.FCS0101.B300TIR01AN	B300TIR
27-07-2025 00:36:00:926	BLPH.EMCS.INTERNAL.89HS-00...	BLPH.EMCS.INTERNAL.89HS-0001	89HS-00
27-07-2025 00:35:40:391	BLPH.FCS0101.B200TIR01AN.B...	BLPH.FCS0101.B200TIR01AN	B200TIR
27-07-2025 00:35:21:892	BLPH.SCS0120.950GDZ-01102.A	BLPH.SCS0120.950GDZ-01102	A
27-07-2025 00:34:32:029	BLPH.FCS0101.B200TDC01AN.B..	BLPH.FCS0101.B200TDC01AN	B200TD
27-07-2025 00:33:57:539	BLPH.FCS0101.B400TIR01AN.B...	BLPH.FCS0101.B400TIR01AN	B400TIR
27-07-2025 00:24:29:520	BLPH.FCS0101.43FAH-001.43FA...	BLPH.FCS0101.43FAH-001	43FAH-0
27-07-2025 00:15:17:059	BLPH.FCS0101.43PAH-001.43P...	BLPH.FCS0101.43PAH-001	43PAH-0
27-07-2025 00:08:05:787	BLPH.FCS0101.77PTXA-401AN....	BLPH.FCS0101.77PTXA-401AN	77PTXA-
27-07-2025 00:07:44:081	BLPH.FCS0101.B400TDC01AN.B..	BLPH.FCS0101.B400TDC01AN	B400TD
26-07-2025 23:56:03:980	BLPH.SCS0120.950GDZ-02119.A	BLPH.SCS0120.950GDZ-02119	A
26-07-2025 23:56:02:821	BLPH.SCS0120.T950GDZ0202V...	BLPH.SCS0120.T950GDZ0202V2N	T950GD
26-07-2025 23:32:29:989	BLPH.SCS0120.950GDZ-02117.A	BLPH.SCS0120.950GDZ-02117	A
26-07-2025 23:05:27:468	BLPH.FCS0101.B100TDC01AN.B..	BLPH.FCS0101.B100TDC01AN	B100TD
26-07-2025 22:56:23:246	BLPH.FCS0101.B300TDC01AN.B..	BLPH.FCS0101.B300TDC01AN	B300TD
26-07-2025 22:01:14:569	BLPH.FCS0101.25PI008_040.25...	BLPH.FCS0101.25PI008_040	25PI008
26-07-2025 20:00:46:099	BLPH.FCS0101.63PAL-003.63P...	BLPH.FCS0101.63PAL-003	63PAL-0
26-07-2025 15:13:19:101	BLPH.FCS0101.82CI-4412.82CI-...	BLPH.FCS0101.82CI-4412	82CI-441

1300 alarms found (more available) : 0 alarms shelved : | Stop | More | Before | Sep 16, 2025 | Last minute | Since

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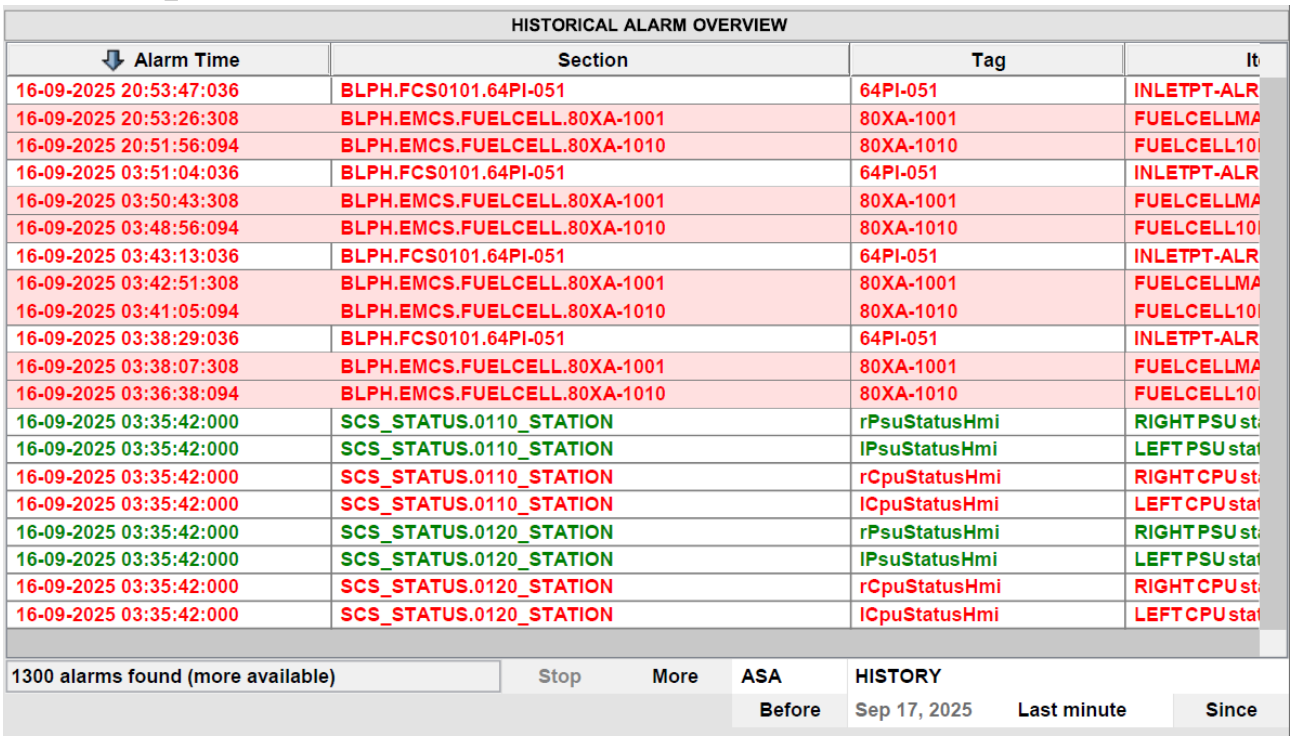
- BLPH_ALARMHISTORY



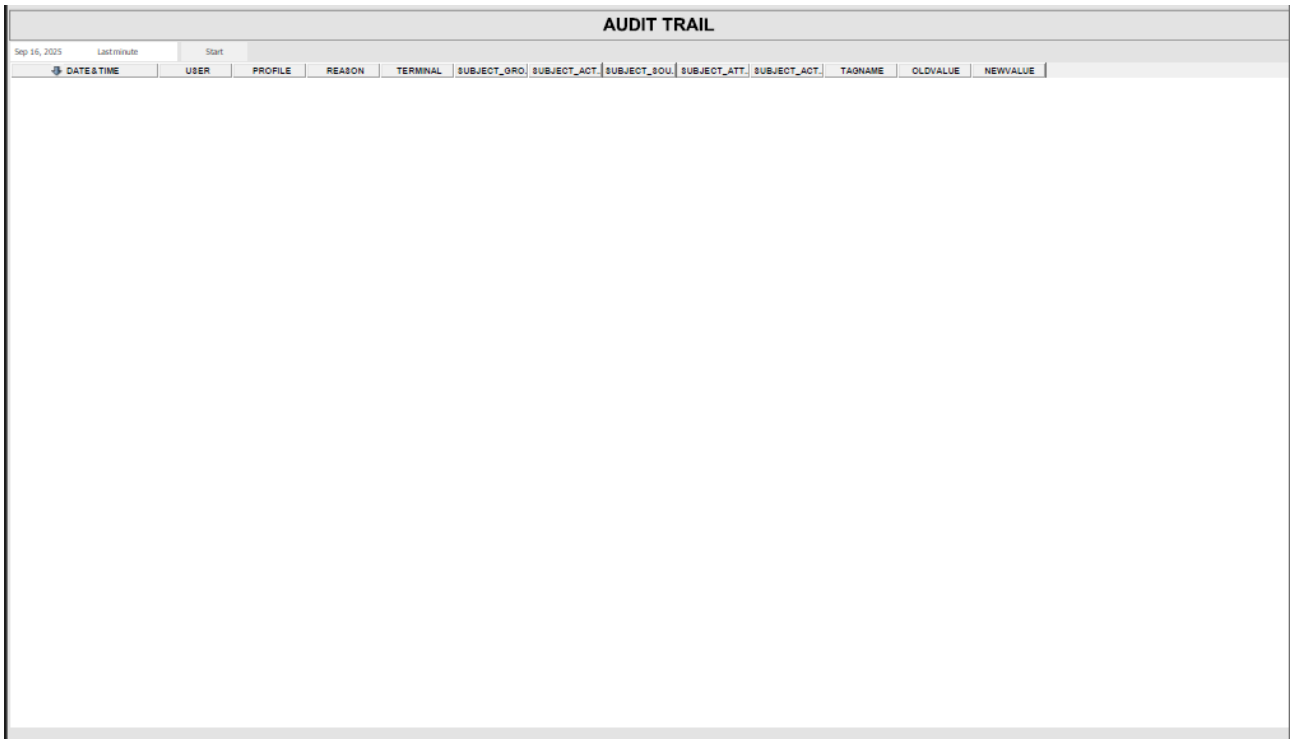
HISTORICAL ALARM OVERVIEW

Alarm Time	Section	Tag	It
16-09-2025 20:53:47:036	BLPH.FCS0101.64PI-051	64PI-051	INLETPT-ALR
16-09-2025 20:53:26:308	BLPH.EMCS.FUELCELL.80XA-1001	80XA-1001	FUELCELLMA
16-09-2025 20:51:56:094	BLPH.EMCS.FUELCELL.80XA-1010	80XA-1010	FUELCELL10
16-09-2025 03:51:04:036	BLPH.FCS0101.64PI-051	64PI-051	INLETPT-ALR
16-09-2025 03:50:43:308	BLPH.EMCS.FUELCELL.80XA-1001	80XA-1001	FUELCELLMA
16-09-2025 03:48:56:094	BLPH.EMCS.FUELCELL.80XA-1010	80XA-1010	FUELCELL10
16-09-2025 03:43:13:036	BLPH.FCS0101.64PI-051	64PI-051	INLETPT-ALR
16-09-2025 03:42:51:308	BLPH.EMCS.FUELCELL.80XA-1001	80XA-1001	FUELCELLMA
16-09-2025 03:41:05:094	BLPH.EMCS.FUELCELL.80XA-1010	80XA-1010	FUELCELL10
16-09-2025 03:38:29:036	BLPH.FCS0101.64PI-051	64PI-051	INLETPT-ALR
16-09-2025 03:38:07:308	BLPH.EMCS.FUELCELL.80XA-1001	80XA-1001	FUELCELLMA
16-09-2025 03:36:38:094	BLPH.EMCS.FUELCELL.80XA-1010	80XA-1010	FUELCELL10
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	rPsuStatusHmi	RIGHT PSU st
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	lPsuStatusHmi	LEFT PSU stat
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	rCpuStatusHmi	RIGHT CPU st
16-09-2025 03:35:42:000	SCS_STATUS.0110_STATION	lCpuStatusHmi	LEFT CPU stat
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	rPsuStatusHmi	RIGHT PSU st
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	lPsuStatusHmi	LEFT PSU stat
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	rCpuStatusHmi	RIGHT CPU st
16-09-2025 03:35:42:000	SCS_STATUS.0120_STATION	lCpuStatusHmi	LEFT CPU stat

1300 alarms found (more available) Stop More ASA HISTORY

Before Sep 17, 2025 Last minute Since

- BLPH_AUDITTRAIL



AUDIT TRAIL

Sep 16, 2025 Last minute Start

DATE&TIME	USER	PROFILE	REASON	TERMINAL	SUBJECT_GRO	SUBJECT_ACT	SUBJECT_SOU	SUBJECT_ATT	SUBJECT_ACT	TAGNAME	OLDVALUE	NEWVALUE

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

B CERTIFICATION DOSSIER

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1 GENERAL

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-1 Cyber Security Risk Assessment REPORT

CONFIDENTIAL DOCUMENT
AVAILABLE ONLY DIGITAL VERSION
PASSWORD PROTECTED

1724000594-IN-RE-00035

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Cyber Security Risk Assessment Report	Sheet 1 of 29 Date: 01/Jul/2025 Rev: 03

Base Load Power Hub (BLPH)

Cyber Security Risk Assessment Report

Document Number: 1724000594-IN-RE-00035

Supplier Document Number: E366772C00-CSRA

Document Class: 2

03	01/Jul/2025	Issue for Acceptance (AFC)	N S Rao	Alessandro Berra	Sonia Corradi
02	12/Mar/2025	Issue for Acceptance (AFC)	N S Rao	Alessandro Berra	Sonia Corradi
01	25/Sep/2024	Issue for Review (IFR)	N S Rao	Alessandro Berra	Sonia Corradi
00	05/July/2024	Issue for Review (IFR)	N S Rao	Alessandro Berra	Sonia Corradi
Rev.	Date	Description	Prepared	Reviewed	Approved

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ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	08/07/2025

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-2 ATEX REGISTER

1724000594-IN-LIS-00036

Base Load Power Hub (BLPH)

INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

ATEX REGISTER

Document Number: 1724000594-IN-LIS-00036

Document Class: 2

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	08/01/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
02	12/12/2024	Accepted for Construction (AFC)	A.Giorgetti	A.Berra	S.Corradi
01	30/08/2024	Issue for Review (IFR)	A.Giorgetti	A.Berra	S.Corradi
00	04/07/2024	Issue for Review (IFR)	A.Giorgetti	A.Berra	S.Corradi

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Document Title:	ATEX REGISTER	Sh. 2 of 14 Date: 12/12/2024 Rev. 02

Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00	01						
1	Cover	X	X	X					
2	Table of Contents	X	X	X					
3	Revision / Change Log	X	X	X					
4	ATEX Register	X	X	X					
ATT.1	Device datasheet - 321423_eng	X	X	-					
ATT.2	Type Examination Certificate - cert0909a	X	X	-					
ATT.3	EU-Declaration of conformity - DOC-4563B	X	X	-					

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	ATEX REGISTER	Sh. 3 of 14 Date: 12/12/2024 Rev. 02

Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ISSUE FOR REVIEW (IFR)
02	ACCEPTED FOR CONSTRUCTION (AFC)

HOLDS LIST

No.	Description
1.	-
2.	-
3.	-
4.	-

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No.	Revision	Tag Number	Description	Location	Manufacturer	Model Type Catalogue Number	Serial Number	ATEX Certification Marking	Reference Document	ATEX Certificate Number	Installation Zone	Notes / Comments	P.O.	Vendor	Skid / Package	Barrier Calculation Ref.	Non-Electrical Equipment	Special Conditions of safe use Applicable
1	02	BR01	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503292	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
2	02	BR02	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503507	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
3	02	BR03	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503304	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
4	02	BR04	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173669121	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
5	02	BR05	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173669155	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
6	02	BR06	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503312	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
7	02	BR07	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503498	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
8	02	BR08	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503425	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
9	02	BR09	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173669137	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
10	02	BR10	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173669167	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
11	02	BR11	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503324	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
12	02	BR12	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503518	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
13	02	BR13	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173669159	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
14	02	BR14	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503328	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
15	02	BR15	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503336	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
16	02	BR16	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503320	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
17	02	BR17	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503546	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
18	02	BR18	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503506	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
19	02	BR19	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503344	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
20	02	BR20	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503047	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
21	02	BR21	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173669328	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
22	02	BR22	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503421	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
23	02	BR23	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173668858	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
24	02	BR24	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503514	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
25	02	BR25	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503316	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
26	02	BR26	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503352	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
27	02	BR27	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000173672207	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
28	02	BR28	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503511	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
29	02	BR29	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503356	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
30	02	BR30	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	40000170503340	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO

ATTACHMENT-1



SMART Transmitter Power Supply

HiC2025

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Input for 2-wire SMART transmitters and current sources
- Output for 4 mA ... 20 mA or 1 V ... 5 V
- Low power dissipation
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508

SIL 2

HART COMMUNICATION PROTOCOL

Function

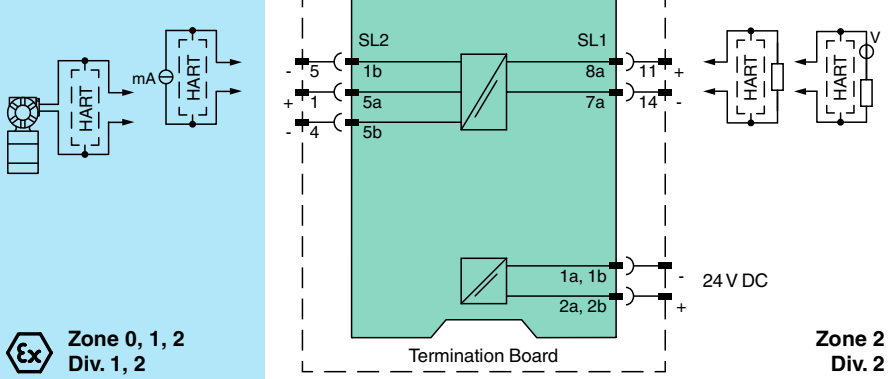
This isolated barrier is used for intrinsic safety applications.
The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources.
It transfers the analog input signal to the safe area as an isolated current value.
Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.
The output is selected as a current source, current sink, or voltage source via DIP switches.
This device mounts on a HiC Termination Board.

Application

The device supports the following SMART protocols:

- HART
- BRAIN

Connection



Technical Data

General specifications	
Signal type	Analog input

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

Technical Data

Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Systematic capability (SC)		SC 3
Supply		
Connection		SL1: 1a, 1b(-); 2a, 2b(+)
Rated voltage	U_r	19 ... 30 V DC bus powered via Termination Board
Ripple		≤ 10 %
Rated current	I_r	≤ 45 mA at 24 V and 20 mA source mode output
Power dissipation		≤ 800 mW
Power consumption		≤ 1.1 W
Input		
Connection side		field side
Connection		SL2: 5a(+), 1b(-); 5a(+), 5b(-)
Input signal		4 ... 20 mA limited to approx. 26 mA
Voltage drop		approx. 5 V on SL2: 5a(+), 1b(-)
Available voltage		≥ 15 V at 20 mA , ≥ 18 V at 4 mA on SL2: 5a(+), 5b(-)
Output		
Connection side		control side
Connection		SL1: 8a(+), 7a(-)
Load		0 ... 350 Ω (source mode)
Output signal		source mode: 4 ... 20 mA or 1 ... 5 V (internal resistor: 250 Ω, 0.1 %) sink mode: 4 ... 20 mA, operating voltage 10 ... 30 V For additional internal or external loads the voltage drop has to be considered, e. g. 250 Ω x 20 mA = 5 V.
Ripple		20 mV $_{rms}$
Transfer characteristics		
Deviation		at 20 °C (68 °F) < 0.1 % of full scale, incl. non-linearity and hysteresis (source mode and sink mode 4 ... 20 mA) ≤ ± 0.2 % incl. non-linearity and hysteresis (source mode 1 ... 5 V)
Influence of ambient temperature		< 2 µA/K (-20 ... 70 °C (-4 ... 158 °F)); < 4 µA/K (-40 ... -20 °C (-40 ... -4 °F)) (source mode and sink mode 4 ... 20mA) < 0.5 mV/K (-20 ... 70 °C (-4 ... 158 °F)); < 1 mV/K (-40 ... -20 °C (-40 ... -4 °F)) (source mode 1...5 V)
Frequency range		field side into the control side: bandwidth with 0.5 V_{pp} signal 0 ... 3 kHz (-3 dB) control side into the field side: bandwidth with 0.5 V_{pp} signal 0 ... 3 kHz (-3 dB)
Settling time		≤ 50 ms
Rise time/fall time		≤ 10 ms
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Output/power supply		basic insulation according to IEC/EN 61010-1, rated insulation voltage 60 V_{eff}
Indicators/settings		
Display elements		LED
Control elements		DIP switch
Configuration		via DIP switches
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2017 EN 61326-3-2:2018 For further information see system description.
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2012
Ambient conditions		

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

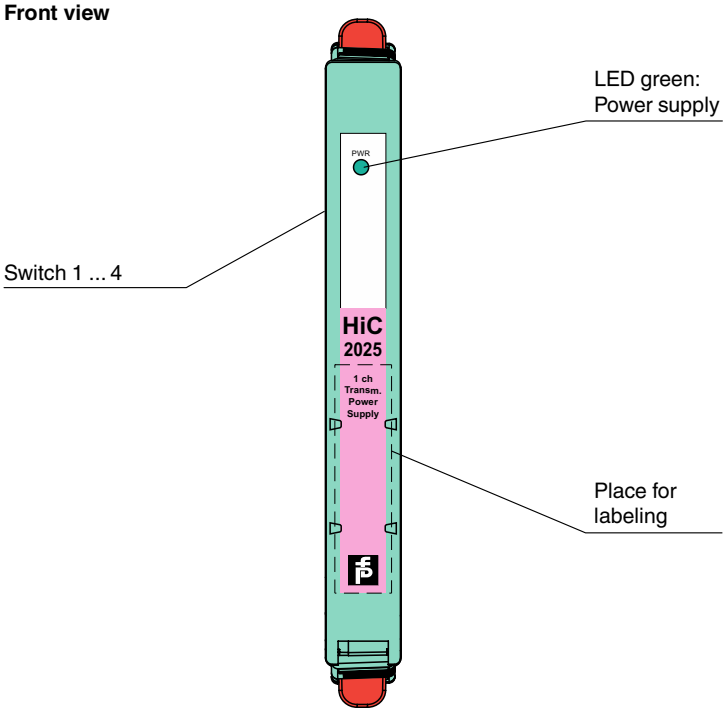
Technical Data

Ambient temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		12.5 x 106 x 128 mm (0.5 x 4.2 x 5.1 inch) (W x H x D)
Mounting		on termination board
Coding		pin 1 and 3 trimmed For further information see system description.
Data for application in connection with hazardous areas		
EU-type examination certificate		CESI 06 ATEX 017
Marking		⟨Ex⟩ II (1)G [Ex ia Ga] IIC ⟨Ex⟩ II (1)D [Ex ia Da] IIIC ⟨Ex⟩ I (M1) [Ex ia Ma] I
Input		Ex ia
Supply		
Maximum safe voltage	U_m	250 V AC (Attention! U_m is no rated voltage.)
Equipment		SL2: 5a(+), 5b(-)
Voltage	U_o	25.2 V
Current	I_o	100 mA
Power	P_o	630 mW
Internal capacitance	C_i	5.7 nF
Internal inductance	L_i	negligible
Equipment		SL2: 5a(+), 1b(-)
Voltage	U_i	30 V
Current	I_i	128 mA
Voltage	U_o	7.2 V
Current	I_o	100 mA
Power	P_o	25 mW
Internal capacitance	C_i	5.7 nF
Internal inductance	L_i	negligible
Certificate		CESI 19 ATEX 027 X
Marking		⟨Ex⟩ II 3G Ex ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-7:2015
International approvals		
FM approval		
FM certificate		FM 19 US 0122 X , FM 19 CA 0065 X
Control drawing		116-0470 (cFMus)
UL approval		E106378
Control drawing		116-0458 (cULus)
IECEx approval		
IECEx certificate		IECEx CES 06.0002X
IECEx marking		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec IIC T4 Gc
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

Assembly

Front view



Configuration

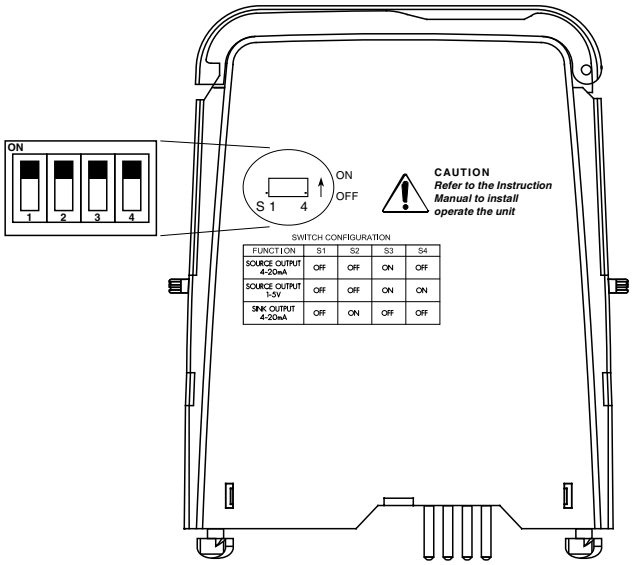
Configure the device in the following way:

- Push the red Quick Lok Bars on each side of the device in the upper position.
- Remove the device from termination board.
- Set the switches according to the figure in the **Configuration** section.

Note
The pins for this device are trimmed to polarize it according to its safety parameters. Do not change the setting. For further information see system description.

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

Configuration



Switch position

Function	S1	S2	S3	S4
Current source 4 mA ... 20 mA	OFF	OFF	ON	OFF
Voltage source 1 V ... 5 V	OFF	OFF	ON	ON
Current sink 4 mA ... 20 mA	OFF	ON	OFF	OFF

Factory setting: current source 4 mA ... 20 mA

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

ATTACHMENT-2

CESI

CERTIFICATE

CESI S.p.A.
Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 21255440
e-mail: info@cesi.it
www.cesi.it

Schema di certificazione CESI-ATEX

[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 06 ATEX 017 /02

[4] Product: Galvanically isolated barrier type: **HiC2025, HiC2025A** and **HiC2031**

[5] Manufacturer: **Pepperl+Fuchs GmbH**

[6] Address: **Lilienthalstrasse 200, 68307 - Mannheim - Germany**

[7] This supplementary certificate extends EC–Type Examination Certificate CESI 06 ATEX 017 to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to..

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-B9011911.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

I (M1) [Ex ia Ma] I
II (1) G [Ex ia Ga] IIC
II (1) D [Ex ia Da] IIIC

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 14.06.2019 - Translation issued the 14th 06.2019

Prepared	**Verified**	**Approved**
Guido Prazzoli	Mirko Balaz	Roberto Piccin

CESI S.p.A.
Testing & Certification Division
Business Area Certification
Il Responsabile
(Roberto Piccin)

ACCREDIA
PRD N. 018B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

CESI

[13] # Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 06 ATEX 017 /02**

[15] **Description of the variation to the product**

Variation 2.1: Constructive modifications concerning the improvement of the thermal dissipation of the infallible components, considering the maximum service temperature of +94 °C.

Variation 2.2: Extended the ambient temperature range from -20 °C ÷ +60°C up to -40 °C ÷ +70 °C.

Variation 2.3: Added new alternative I.S. components.

Variation 2.4: Added a new device called HiC2025A with new safety parameters.

Variation 2.5: The product denomination has been updated, introducing asterisks at the end of name.

Variation 2.6: Standards updating.

Variation 2.7: Update to Directive 2014/34/EU.

Description of equipment

The SMART Transmitter Power Supply **HiC2025**, **HiC2025A** and SMART Current Driver **HiC2031** are, galvanically isolated, associated apparatus.

The **HiC2025** and HiC2025A devices are suitable for supply/interface signal transmitter placed in hazardous area and transfer the analog signal to a safe area. The hazardous area connections *(Input circuit)* are for "Sink Input" *(2-wire transmitters)* or 4-wire transmitters.

The **HiC2031** device is suitable to repeat a current signal coming from a safe area to drive smart I/P converter, valve actuator and displays placed in hazardous area.

For all equipmet, a SMART digital communication can be superimposed on the measurement signal of the transmitter, as input or output and can be transferred in both directions.

The products have a plastic enclosure, the boards are equipped with two DIN 41612 B/3 connectors, suitable for direct insertion in the ATEX certified Termination Boards HiC series, produced by Pepperl+Fuchs.

For particular variants, the equipment's name can be extended with additional characters at the end of the name *(es. HiC2025(A)** or HiC2031**)*. These variants do not change the function or the type of protection of the products in any way.

The equipment has been, previously, assessed and marked in compliance with the following standards: EN 60079-0:2009, EN 60079-11:2007, EN60079-26: 2007, EN 61241-11:2006 and EN 50303:2000.

With this Supplement the products are re-assessed and marked on the basis of the standards:
EN 60079-0:2012/A11:2013 and EN 60079-11:2012

Electrical characteristics

Non-intrinsically safe circuits

Um:	250 Vac
Power supply *[connettor SL1 pins: 2a,2b (+) and 1a,1b (-)]:*	Un: 24 Vdc *(19 ÷ 30 Vdc)*
Analog Input/Output *[connector SL1 pins: 8a (+) and 7a (-)]*:	Un: up to 30 Vdc
Tamb.:	from -40 °C up to +70 °C

*Intrinsically safe circuits – equipment **HiC2025***

Connector SL2 pins	Uo	Io	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 5b(-)	25.2 V	100 mA	630 mW	IIC	0.100	3.5	55
				IIB	0.81	14	222
				IIA	2.8	28	444
				I	4.14	46	743

Ci = 5.7nF Li = negligible Output characteristic: linear.

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 06 ATEX 017 /02**

Electrical characteristics *(continue)*

Intrinsically safe circuits – equipment ***HiC2025***

Connector SL2 pins	Uo / Ui	Io / Ii	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 1b(-) 7a(-)	7.2 V	100 mA	25 mW	IIC	13.49	3.5	27
				IIB	239	14	108
	30 V	128 mA		IIA	1000	28	216
				I	1000	46	356

Ci = 5.7nF Li = negligible Output characteristic: diodes blocking barrier.

Intrinsically safe circuits – equipment ***HiC2025A***

Connector SL2 pins	Uo	Io	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 5b(-)	25.2 V	93 mA	586 mW	IIC	0.100	4.1	61
				IIB	0.81	16.4	244
				IIA	2.8	32.8	488
				I	4.14	53.9	800

Ci = 5.7nF Li = negligible Output characteristic: linear.

Connector SL2 pins	Uo / Ui	Io / Ii	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (mH/Ω)
5a(+); 1b(-) 7a(-)	1 V	100 mA	25 mW	IIC	100	3.5	1.4
				IIB	1000	14	5.6
	30 V	128 mA		IIA	1000	28	11.2
				I	1000	46	18

Ci = 5.7nF Li = negligible Output characteristic: diodes blocking barrier.

Intrinsically safe circuits – equipment ***HiC2031***

Connector SL2 pins	Uo	Io	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 5b(-)	25.2 V	100 mA	630 mW	IIC	0.100	3.5	55
				IIB	0.81	14	222
				IIA	2.8	28	444
				I	4.14	46	743

Ci = 5.7nF Li = negligible Output characteristic: linear.

Note: External circuits with both inductance and capacitance

The above maximum Lo and Co parameters apply where:
- the total Ci of the external circuit (excluding the cable) is < 1% of the Co value or
- the total Li of the external circuit (excluding the cable) is < 1% of the Lo value.

The above Lo and Co parameters shall reduce to 50% when both of the two conditions below are given:
- the total Li of the external circuit (excluding the cable) > 1% of the Lo value and
- the total Ci of the external circuit (excluding the cable) > 1% of the Co value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC.

The intrinsically safe systems shall be realized according to EN 60079-25 standard. The interconnection with active intrinsically safe transmitters must also respect the output parameters of these transmitters.

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 06 ATEX 017 /02**

Warning label
None

[16] **Report n.** EX-B9011911

Routine tests
The Manufacturer shall carry out the routine tests provided to clause 27 on the of EN 60079-0 standard and furthermore, the tests prescribed in clause 11.2 of the EN 60079-11 standard.

[17] **Special conditions for safe use**
None

[18] **Essential Health and Safety Requirements**
Compliance with the Essential Health and Safety Requirements is not affected by these variations and are assured by compliance to the following standards:

- EN 60079-0:2012+A11:2013 – Explosive atmospheres – Part 0: Equipment – General requirements.
- EN 60079-11:2012 - Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i".

In addition, the following EHSRs *(ref. ANNEX II of the Directive)* are considered relevant for this product:

Clause	Subject	Compliance
1.2.7.	Protection against other hazards	Manufacturer responsibility
1.2.8	Overloading of equipment	User/Installer responsibility
1.4.	Hazards arising from external effects	User/Installer responsibility

[19] **Descriptive documents** (prot. EX-B9011917)

- n.366-0029CE-00B Description	pages 40	date	2018.11.29
- n.366-0029CE-01B Schematic	sheets 2	date	2018.11.29
- n.366-0029CE-02B Bill of material	pages 12	date	2018.11.29
- n.366-0029CE-03B Component set up	sheets 4	date	2018.11.29
- n.366-0029CE-05B Layouts multilayer	sheets 4	date	2018.11.29
- n.366-0029CE-06B Transformer	pages 3	date	2018.11.29
- n.366-0029CE-09B Instructions	pages 3	date	2018.11.29
- n.366-0029CE-10B Type Label	pages 6	date	2018.11.29
- n.CAR-0051 Conformity Assessment Report	pages 6	date	2018.11.29

One copy of all documents is kept in CESI files.

Certificate hystory

Issue N°	Issue Date	Summary description of variation
02	14/06/2019	Constructive modifications, considering the maximum service temperature of +94 °C; extended the ambient temperature range; new alternative I.S. components; new device HiC2025A; updated the product denomination; conformity to European standards EN60079-0:2012+A1:2013 and EN60079-11:2012
01	31/05/2011	Conformity to new edition of harmonized European standards; added Group I equipment marking; circuital modifications barrier HiC2031; minor changes to the non-intrinsically safe circuit; change Manufacturer address
00	22/03/2006	First Issue of the Certificate

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EU-Declaration of conformity

en/de

EU-Konformitätserklärung

ATTACHMENT-3

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Germany
Phone +49 621 776-0
Fax +49 621 776-1000

No. / *Nr.*: DOC-4563B
Date / *Datum*: 2022-01-20

Copyright Pepperl+Fuchs
www.pepperl-fuchs.com

PEPPERL+FUCHS

Declaration of conformity / *Konformitätserklärung*

We, Pepperl+Fuchs SE declare under our sole responsibility that the **products** listed below are in conformity with the listed **European Directives** and **standards**.
*Die Pepperl+Fuchs SE erklärt hiermit in alleiniger Verantwortung, dass die unten gelisteten **Produkte** den genannten **Europäischen Richtlinien** und **Normen** entsprechen.*

Products / *Produkte*

Product / *Produkt*	**Item number**	**Description** / *Beschreibung*
HIC2025	321423	Smart Transmitter
HIC2025A	321425	Smart Transmitter
HIC2025Y1	70147235	Transmitter power supply
HIC2031	321426	Smart Valve Isolator

Directives and Standards / *Richtlinien und Normen*

EU-Directive *EU-Richtlinie*	**Standards** *Normen*
ATEX 2014/34/EU (L96/309-356)	EN 60079-11:2012-01 EN 60079-7:2015-12 EN IEC 60079-0/AC:2020-02 EN IEC 60079-0:2018-07 EN IEC 60079-7/A1:2018-01
EMC 2014/30/EU (L96/79-106)	EN 61326-1:2013-01
RoHS 2011/65/EU (L174/88-110)	EN IEC 63000:2018-12

Affixed CE Marking / *Angebrachte CE-Kennzeichnung*

CE 0102

Signatures / *Unterschriften*

Mannheim, 2022-01-20

ppa. Michael Kessler
Executive Vice President
Components & Technology

i.V. Udo Körner
Continuation Manager
Value Engineering

ANNEX EMC

The products listed above fulfill the immunity test requirements for equipment intended for use in industrial locations.
Die oben gelisteten Produkte erfüllen die Störfestigkeits-Prüfanforderungen an Betriebsmittel, die zum Gebrauch in industriellen Bereichen vorgesehen sind.

ANNEX ATEX

Notified Body QM-System / Notifizierte Stelle des QM-Systems
Physikalisch Technische Bundesanstalt (0102)
Bundesallee 100
38116 Braunschweig
Germany

Marking and Certificates / ***Kennzeichnung und Zertifikate***

Marking *Kennzeichnung*	Certificate *Zertifikat*	Issuer ID *Aussteller* ID
Ex I (M1) Ex II (1) D Ex II (1) G	CESI 06 ATEX 017	0722
Ex II 3 G	CESI 19 ATEX 027X	CES

Key for Issuer ID / ***Schlüssel zur Aussteller ID***

ID	**Issuer** / *Aussteller*
0722	CESI Via Rubattino 54 20134 Milan Italy
CES	CESI Via Rubattino 54 20134 Milan Italy

Pepperl+Fuchs SE declares that the products are only affected by minor or formal changes with respect to the new edition of the standards. These changes are not relevant for compliance with the essential health and safety requirements. The products still comply with the ATEX Directive. This declaration is also valid if the marking and the certificates of the listed devices correspond to previous editions of standards.
Die Pepperl+Fuchs SE erklärt hiermit, dass die Produkte nur von kleineren oder formalen Änderungen in Bezug auf die neue Ausgabe der Normen betroffen sind. Diese Änderungen sind nicht relevant für die Konformität mit den wesentlichen Gesundheits- und Sicherheitsanforderungen. Die Produkte erfüllen nach wie vor die ATEX-Richtlinie. Diese Erklärung gilt auch, wenn die Kennzeichnung und die Zertifikate der aufgeführten Geräte vorangegangenen Normenständen entsprechen.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-3 Safety Validation Plan (SVP)

1724000594-IN-PL-00029

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Safety Validation Plan (SVP)	Sheet 1 of 98 Date: 10/02/2026 Rev: 02

Base Load Power Hub (BLPH)

Safety Validation Plan (SVP)

Document Number: 1724000594-IN-PL-00029

Supplier Document Number: E366772C00-SVP

Document Class: 3

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	12/02/2026

02	10/02/2026	As-Built	MP	AB	Raghavendran
01	10/10/2025	Issue for Information (IFI)	MP	AB	Raghavendran
00	23/08/2024	Issue for Information (IFI)	MP	AB	Raghavendran
Rev.	Date	Description	Prepared	Reviewed	Approved

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File: 1724000594-IN-PL-00029 R02

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Safety Validation Plan (SVP)	Sheet 2 of 98 Date: 10/02/2026 Rev: 02

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)
02	As-Built

HOLDS LIST

No.	Description
1	
2	
3	
4	

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Base Load Power Hub (BLPH)

Project No. 123A90

CROSSWIND

Crosswind Hollandse Kust Noord

Netherlands

YOKOGAWA

ITALY

Yokogawa Main Automation Contractor Toolkits

GES_A0202_02

DOCUMENT TITLE:

Safety Validation Plan

PO Number			**Purchaser:**		
CW-I-WP4-2023-05			ROSETTI MARINO S.p.A.		
Yokogawa Document Number:			**Purchaser Document Number:**		
E366772C00-SVP			1724000594-IN-PL-00029		
02	10-Feb-2026	As-Built	MP	AB	Raghavendran
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00	23-Aug-2024	Issued for Information	MP	AB	Raghavendran
REV	**DATE**	**DESCRIPTION**	**ORIG**	**CHK**	**APPR**

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REVISION DETAILS

Revision History of this Project Document

Rev.	Date (MM/DD/YY)	Section	Description
0.1	05/14/24	All	Issued for SA Review/Approval (Internal)
0.2	06/10/24	All	Issued for SA Review/Approval (Internal)
0.3	07/30/24	All	Issued for SA Review/Approval (Internal)
00	08/23/24	All	Issued for Client Approval
1.1	10/10/25	All	Issued for SA Review/Approval (Internal)
01	10/10/2025	All	Issued for Client Approval
02.1	03/02/2026	All	Issued for SA Review/Approval (Internal)
02	02/10/26	All	Issued for Client Approval (As-Built)

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Appendix I Availability Calculations

Appendix II Safety Certificates and Safety Manuals

Attachment -1 System Architecture

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1 Introduction

1.1 Purpose and Scope

This document describes the principal activities in the life cycle of the project to be executed by Yokogawa relating to the verification and validation of the functional safety and safety integrity of the Safety Instrumented System. The two objectives of this document are firstly to support that the Safety Instrumented System(s) is realised according to the safety regulations as per international standards IEC 61508 and IEC 61511, and secondly to verify that the required safety integrity level is achieved.
Section 2 describes briefly the verification and validation process of the SIS
Section 3 contains an analysis of the requirements on the SIS
Section 4 contains an assessment of the safety functions.

This document has been prepared by Yokogawa with the assistance and approval of an independent functional safety assessor appointed by GMS-600-14-01-GB. This assessor is responsible for internal safety validation, therefore this assessor has to consider that the project team has correctly stated the specified requirements in this SVP.

Although not being part of Yokogawa's scope and responsibility, inconsistencies and deficiencies within client's safety requirements will be recorded in this SVP as far as they can be identified. It is Yokogawa's policy to present these at an early stage.

In case the SVP is marked as a lifecycle document by the end-user, later (site) modifications might necessitate the update of this document. (IEC: "back to the appropriate phase").

1.2 Reference Documents

1.2.1 General

- IEC 61508 Functional safety of E/E/PES safety related systems (Edition -2)
- IEC 61511 Safety Instrumented Systems for the process industry (Edition -2)
- ISO 9001 Quality management
- Yokogawa Quality Management System

1.2.2 Crosswind Hollandse Kust Noord

Safety Requirement Specification, comprising:
[a] Safety System (ESD, Fire and Gas) Specification (123A90-DDL-IN-SP-40100, Rev 00)
[b] Process Safety Cause & Effect Matrix (123A90-DDL-IN-CE-40000, Rev 04)
[c] Instrument I/O List (123A90-DDL-IN-LIS-40089, Rev 04)
[d] System Specification for Main Automation Contractor (K559-2254-IC-SPE-001, Rev 00)
[e] Process Safety Cause and Effect (123A90-DDL-IN-CE-40000, Rev 04)
[f] FGS Cause and Effect (123A90-DDL-IN-CE-40002, Rev 03)

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1.2.3 Yokogawa

- ProSafe-RS Safety Manual(IM32P01S10-01EN(7))
- ProSafe-RS Engineering guide Vol. 1 (IM32P01C10-01EN(7))
- ProSafe-RS Engineering guide Vol. 2 (IM32P01C20-01EN(7))
- ProSafe-RS Installation Guidance (TI 32P01J10-01EN(17))
- System Architecture (1724000594-IN-DD-00015, E366772C00-SA, Rev 04)
- Network Connection Diagram (1724000594-IN-DG-00016, E366772C00-ND, Rev 02)
- PAS Hardware Functional Design Specification (FDS-HW) (1724000594-IN-SP-00017, E366772C00-FDS_HW, Rev 02)
- PCS and SAFETY SISTEMS Software Functional Design Specification (FDS-SW) (1724000594-IN-SP-00018, E366772C00-FDS_SW, Rev 03)
- Bill of Material (1724000594-IN-LIS-00003, E366772C00-BOM, Rev 04)
- PCS and Safety System IO List (HW and SW) (1724000594-IN-LIS-00004, E366772C00-IO, Rev 04)
- Safety Controller loading estimation (1724000594-IN-RE-00008, E366772C00-SLE, Rev 02)
- Safety Systems Cabinets (SIS And FGS) General Arrangement Drawings And Internal Layout (1724000594-IN-DA-00010, E366772C00-SIS_CLO, Rev 02)
- Safety Systems Cabinets (SIS And FGS) Wiring Diagrams And Terminal Strips (1724000594-IN-DG-00021, E366772C00-SIS_WD, Rev 02)
- HW Factory Acceptance Test (Fat) Procedure (1724000594-IN-LIS-00004, E366772C00-HW_FAT, Rev 02)
- Instructions for Operation and Maintenance for ProSafe-RS (1724000594-IN-MAN-00038, E366772C00-SIS_IOM, Rev 01)
- SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE (1724000594-QC-PRO-00031, Rev 01)
- FAT Reports submitted with FAT Procedure. (1724000594-QC-PRO-00031, Rev 02)

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1.3 Definitions, Abbreviations and Acronyms

ALARP	As Low As Reasonable Practicable
AMS	Alarm Management System
ATEX	Atmospheres Explosibles (French, Explosive Atmospheres)
BFD	Block Flow Diagram
BLPH	Base Load Power Hub
BPCS	Basic Process Control System
CAP	Critical Action Panel
CCN	Central Control Network
CCR	Central Control Room
PAS	Process Automation System (PCS+EMCS+SIS+F&G)
CHAZOP	Control Systems Hazard Operability Study
COMPANY	Shell Global Solutions International B.V. (SGSI)
CI SERVER	Collaborative Information Server
CW	CrossWind
CWHKN	CrossWind Hollandse Kust Noord
DEM	Design Engineering Manual
DEP	Design Engineering Practice
DoC(FS)	Declaration of Conformance for Functional Safety
EMC	Electromagnetic Compatibility
EMCS	Electrical Monitoring And Control System
EPC	Engineering, Procurement & Construction
ESD	Emergency Shutdown
EU	European Union
EWS	Engineering Workstation
Ex	Explosion Proof
FAT	Factory Acceptance Test
F&G	Fire & Gas
FDS	Functional Design Specification
FGS	Fire & Gas System
FSAC	Functional Safety Assessment Checksheet
FSM	Functional Safety Management

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GMS-600-14-01-GB	Yokogawa GMS-600-14-01 Governance Board
HART	Highway Addressable Remote Transducer
HAZID	Hazard Identification
HAZOP	Hazard and Operability Analysis
HFT	Hardware Fault Tolerance
HKN	Hollandse Kust Noord
HLV	Heavy Lift Vessel
HMI	Human Machine Interface
HRA	Health Risk Assessment
HS(S)E	Health, Safety, (Security) and Environment
HVAC	Heating Ventilation and Air Conditioning
I/O	Input/Output
IACS	Industrial Automation and Control Systems
IAMS	Instrument Asset Management System
ICM	Instructions for Commissioning
IEC	International Electrotechnical Commission
IOM	Instructions for Operation and Maintenance
IP	Ingress Protection / Internet Protocol
IS	Intrinsically Safe
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
LS	Logic Solver
LV	Low Voltage
MAC	Main Automation Contractor
MTTR	Mean Time To Repair
MTBF	Mean Time Between Failure
MW	Mega Watt
n.a.	Not applicable
n.s.	Not specified
NAMUR	Interessengemeinschaft Automatisierungstechnik der Prozessindustrie (User Association of Automation Technology in Process Industries)
NIS	Non-Intrinsically Safe
O&M	Operation & Maintenance

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OWNER	Crosswind
OWS	Operator Workstation
P&ID	Piping & Instrumentation Diagram
PSMT	Procedure for Site Modification and Test
RAM	Reliability, Availability & Maintainability (O&M)
RAM	Risk Assessment Matrix (Safety)
RSV	ProSafe-RS Safety Verifier
SA group	Safety Assurance group, Yokogawa's independent group of Functional Safety specialists
SC	Systematic Capability
SCADA	Supervisory Control and Data Acquisition
SFF	Safe Failure Fraction
SIF	Safety Instrumented Function
SIL	Safety Integrity Level
SIS	Safety Instrumented System
SRS	Safety Requirements Specification
SN	Safety Network
SVP	Safety Validation Plan
TCP/IP	Transmission Control Protocol/Internet Protocol
UCP	Unit Control Panel
UFD	Utility Flow Diagram
UPS	Uninterrupted Power Supply
PCS	PCS + EMCS
SS	Safety System (SIS + F&G)

For other abbreviations a reference is made to the IEC 61508 standard, part 4.

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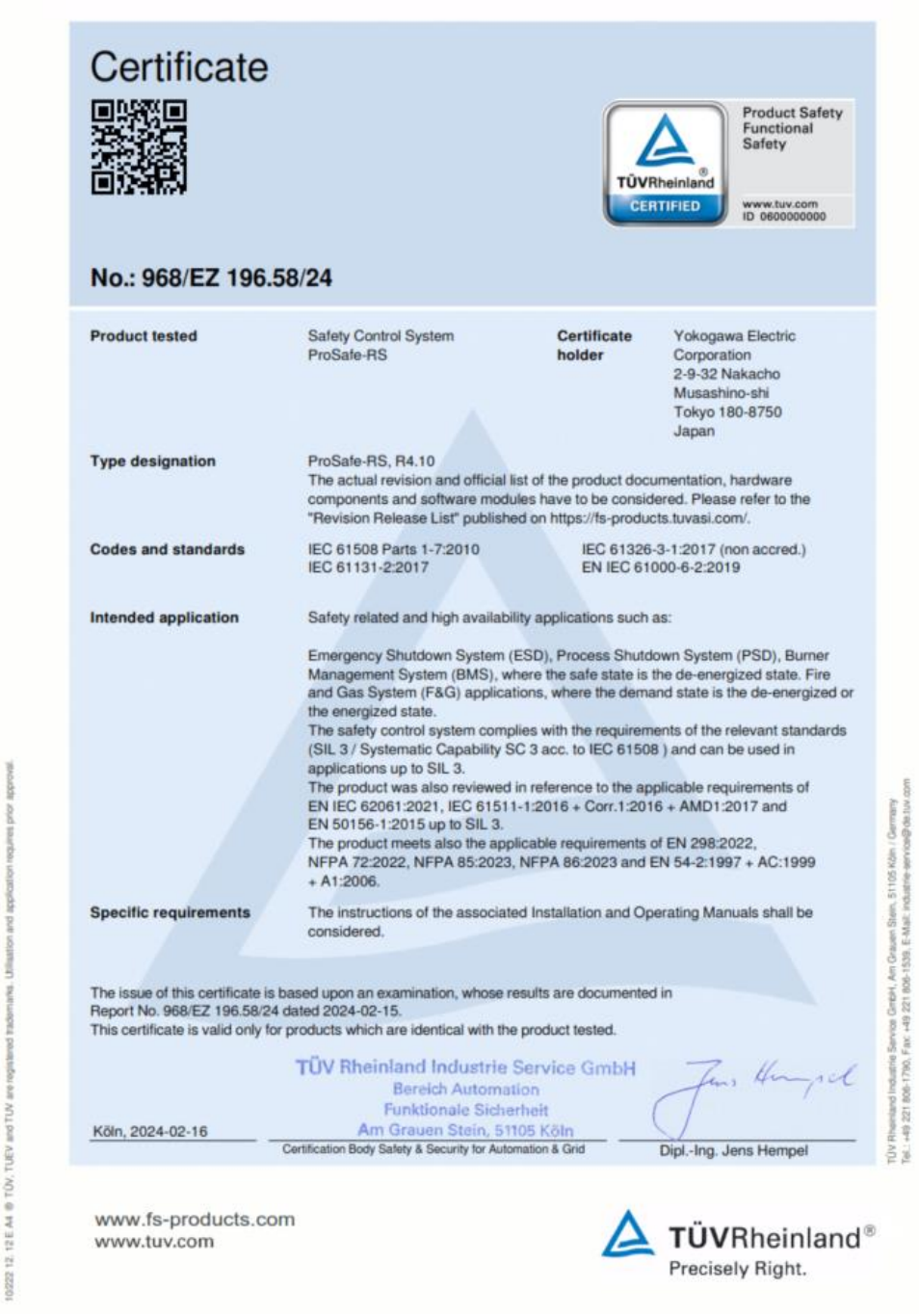
1.4 Product certificate for ProSafe-RS

ProSafe-RS is certified by TÜV Rheinland to be used in applications up to and including SIL3 (IEC 61508)



Certificate

Product Safety
Functional Safety

TÜVRheinland CERTIFIED

www.tuv.com
ID 0600000000

No.: 968/EZ 196.58/24

Product tested	Safety Control System ProSafe-RS	**Certificate holder**	Yokogawa Electric Corporation 2-9-32 Nakacho Musashino-shi Tokyo 180-8750 Japan
Type designation	ProSafe-RS, R4.10 The actual revision and official list of the product documentation, hardware components and software modules have to be considered. Please refer to the "Revision Release List" published on https://fs-products.tuvasi.com/.		
Codes and standards	IEC 61508 Parts 1-7:2010 IEC 61131-2:2017		IEC 61326-3-1:2017 (non accred.) EN IEC 61000-6-2:2019
Intended application	Safety related and high availability applications such as: Emergency Shutdown System (ESD), Process Shutdown System (PSD), Burner Management System (BMS), where the safe state is the de-energized state. Fire and Gas System (F&G) applications, where the demand state is the de-energized or the energized state. The safety control system complies with the requirements of the relevant standards (SIL 3 / Systematic Capability SC 3 acc. to IEC 61508) and can be used in applications up to SIL 3. The product was also reviewed in reference to the applicable requirements of EN IEC 62061:2021, IEC 61511-1:2016 + Corr.1:2016 + AMD1:2017 and EN 50156-1:2015 up to SIL 3. The product meets also the applicable requirements of EN 298:2022, NFPA 72:2022, NFPA 85:2023, NFPA 86:2023 and EN 54-2:1997 + AC:1999 + A1:2006.		
Specific requirements	The instructions of the associated Installation and Operating Manuals shall be considered.		

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/EZ 196.58/24 dated 2024-02-15.
This certificate is valid only for products which are identical with the product tested.

Köln, 2024-02-16

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln
Certification Body Safety & Security for Automation & Grid

Dipl.-Ing. Jens Hempel

www.fs-products.com
www.tuv.com

TÜVRheinland®
Precisely Right.

Figure 1: TÜV Rheinland certificate for ProSafe-RS

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1.5 Hold List

Hold No.	Subject	Reason

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2 Functional Safety Management

2.1 Introduction

The main requirement with respect to Functional Safety Management (FSM) is to assure the execution of all steps of the lifecycle and to record this, so that it can be verified and audited at any time.

- Considering that the IEC 61508 and 61511 standards are internationally accepted in industrial safety nowadays, Yokogawa integrated the standards into the ISO 9001 quality system, which is subject to a periodical audit by a recognised certification body. The result of this integration is the Yokogawa Quality Management System includes an FSM system in accordance with the standards IEC 61508 and 61511.

2.2 The Safety Life Cycle

Requirements on the realisation of safety instrumented systems are given in IEC 61508 part 2 and IEC 61511 Clauses 11, 12 and 13.
Being a system integrator of industrial safety systems, these sections are of most interest in Yokogawa. The needed steps are included in the Yokogawa safety lifecycle model as illustrated in figure 2. This figure presents how Yokogawa has implemented this realisation phase into the organisation. Verification of all steps is done, enabling a continuous monitoring of working practices.

The steps to be taken for the realisation of the project are derived directly from the standard. Following figure 2, the (Basic) Design phase is of most interest. Here the Safety Validation Plan (SVP) will be produced, (this document) which is a comparison between the design and the Safety Requirement Specification (SRS).

The outputs (deliverables) of the realisation steps are called living documents. This means that, when needed, these documents will be updated/revised after any verification (review). After validation the documents are considered as being final.

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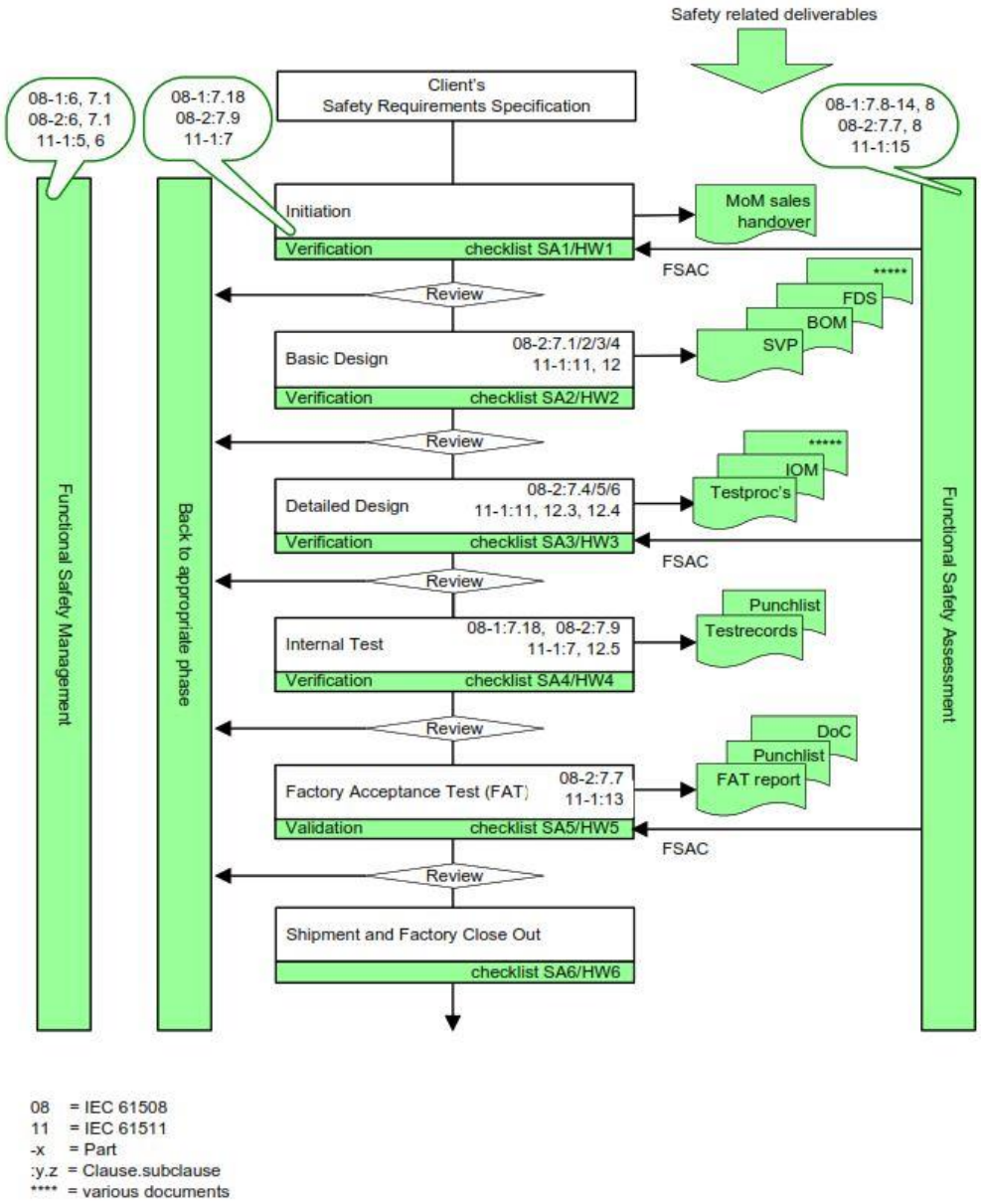

Figure 2: Yokogawa's implementation of the realisation phase of the safety lifecycle

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2.3 Safety Verification, Assessment and Validation

2.3.1 Introduction

In accordance with the procedures in the Quality System, safety verification will be an on-going process to fulfil the functional safety requirements during the realisation phase of the project. Because no SIFs and target SILs are provided as part of the SRS or a separate document part of the project specification, no PFDavg calculation will be performed. A table with PFDavg values for the logic solver is provided in section 4.

2.3.2 Verification

Verification will be done by means of document review, visual inspection and system tests. At the end of each project phase a review on deliverables and/or phase-related tests will be carried out. Applicable GES DRCs and phase gate check sheets will used for document reviews and project phase reviews. Verification will be done by a person independent from designer / originator. Details of applicable DRCs and Phase gate check sheets in each phase of the safety lifecycle are referenced in the local FSM procedures. For document review a review log will be kept. Applicable Test Specifications and/or checklists will be used to verify whether the system(s) complies/comply with the design documents.

2.3.3 Functional Safety Assessment

During the realisation of the safety related system usually two safety assessments will be carried out by a functional safety assessor, one after the design phase and one after the FAT. Details depend on the project phase and are defined in the checksheet FSAC. When a check fails, it will be documented in the checksheet. The functional safety assessor will verify the solution of the item during his next assessment.

2.3.4 Validation

The Test procedures combined with applicable test records, and/or checklists will be used to demonstrate the functioning of the system is in accordance with the customer requirement specifications. After the FAT the functional safety assessor carries out a validation assessment to ensure that the system is engineered and tested in accordance with the Quality System and the IEC requirements. At that time, when all outstanding items have been cleared, the FSAC will be signed by the Lead or Project Engineer and the Project Manager and countersigned by the functional safety assessor. Together with the approved SVP, this will be the basis on which the Declaration of Conformance of Functional Safety (DoC(FS)) will be issued. This DoC(FS) will be valid during the life cycle of the system on the condition that the operation and maintenance of the system will be in accordance with the required procedures.
The functional safety assessor is appointed by the GMS-600-14-01-GB and operates independently (which is highly recommended by the IEC 61508 and 61511 standards) from the project execution departments.

2.4 Systematic safety integrity

In IEC 61508 Ed 2 several ways are defined to achieve systematic safety integrity.
Yokogawa will apply Route 1S: avoidance of systematic faults and control of systematic faults.

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Yokogawa has their Functional Safety Management system in accordance with the requirements of IEC 61508 and IEC 61511. As such the Yokogawa organisation has a Systematic Capability 3 as per IEC 61508, part 2, 7.4.3.

2.5 Availability Calculations

As mentioned before, PFDavg calculations are not part of the functional safety assessment. Yokogawa uses the ProSafe-RS Safety Verifier (RSV) to assess the availability of the system. This report provides among others the following assessment results:

- The Mean Time Between Failures: MTBF
- The system (operational) Availability: A

The calculation takes place during the design phase. When necessary, the calculation will be repeated and presented in the re-issued SVP at the next project phases.

2.6 Installation and Commissioning

After delivery the system must be installed and commissioned, after which it can be operated. Yokogawa instructions to be considered for these activities are referred to in 1.2.3.

2.7 Operation and Maintenance

Operation and maintenance is the end-user's responsibility. Yokogawa instructions to be considered for these activities are referred to in 1.2.3. Yokogawa provides the combined document: Instructions for Operation and Maintenance (IOM). This document provides typical maintenance override and system information. The IOM can be used by the client to develop plant maintenance and testing procedures. The maintenance activities and proof testing shall be executed by safety competent personnel.

2.8 Modifications

For the execution of modifications Yokogawa provides the document: Procedure for Site Modifications and Test (PSMT). The execution of modifications shall be by safety trained and skilled engineers. Safety validation must be done after implementation and testing of the modification on site.

2.9 Decommissioning

De-commissioning will not be Yokogawa's responsibility.

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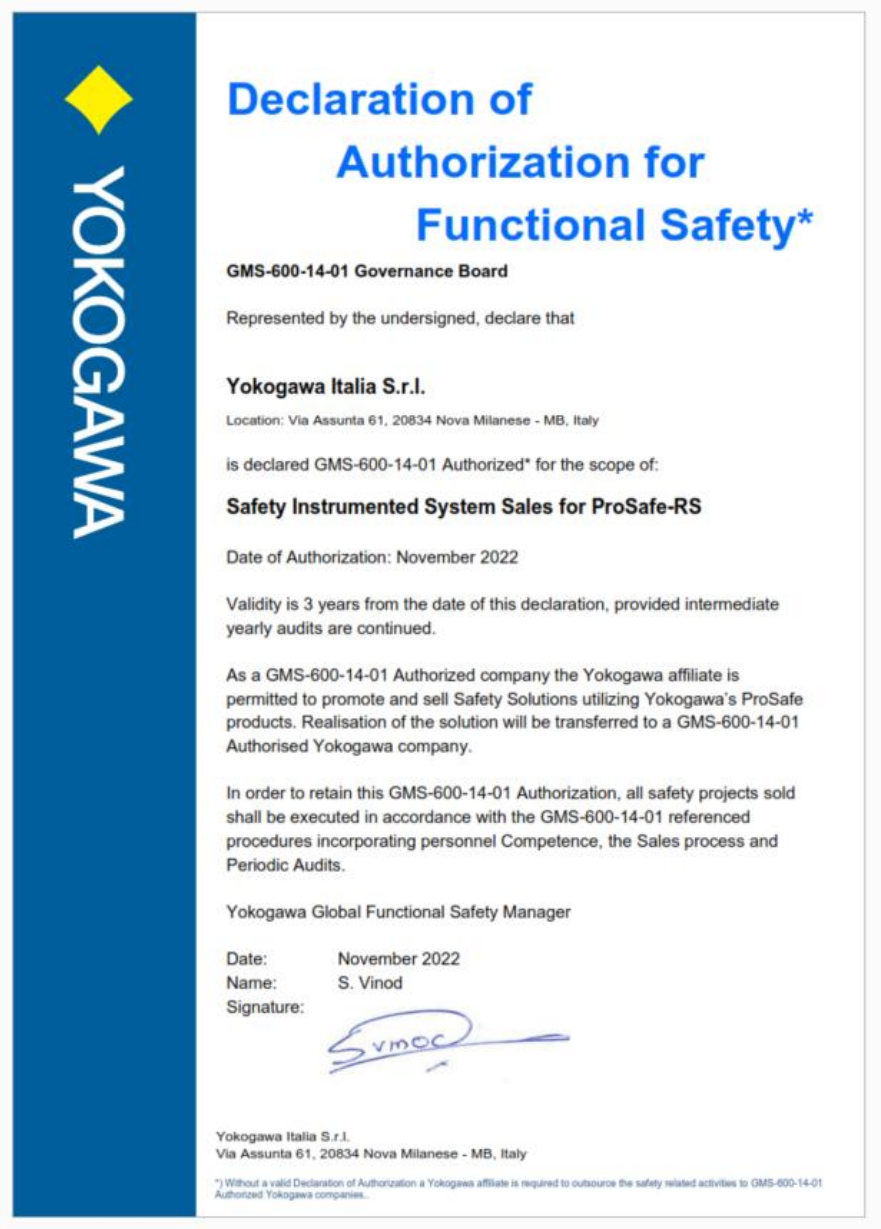
2.10 GMS-600-14-01 Authorization

Yokogawa's Governance Board (GMS-600-14-01) has appointed several local Yokogawa Offices worldwide for execution of safety projects. These offices are therefore obliged to have their Local Functional Safety Management System in accordance with IEC 61511 and IEC 61508 and are internally audited every year.
The GMS-600-14-01 Declaration of Authorization for Functional Safety for realization certificate (DoA(FS)R) will indicate which ProSafe products apply to the authorization.
Please note that the FSM system of the local office may be identical to the FSM system of a TÜV Rheinland certified office.



YOKOGAWA

Declaration of Authorization for Functional Safety*

GMS-600-14-01 Governance Board

Represented by the undersigned, declare that

Yokogawa Italia S.r.l.

Location: Via Assunta 61, 20834 Nova Milanese - MB, Italy

is declared GMS-600-14-01 Authorized* for the scope of:

Safety Instrumented System Sales for ProSafe-RS

Date of Authorization: November 2022

Validity is 3 years from the date of this declaration, provided intermediate yearly audits are continued.

As a GMS-600-14-01 Authorized company the Yokogawa affiliate is permitted to promote and sell Safety Solutions utilizing Yokogawa's ProSafe products. Realisation of the solution will be transferred to a GMS-600-14-01 Authorised Yokogawa company.

In order to retain this GMS-600-14-01 Authorization, all safety projects sold shall be executed in accordance with the GMS-600-14-01 referenced procedures incorporating personnel Competence, the Sales process and Periodic Audits.

Yokogawa Global Functional Safety Manager

Date: November 2022
Name: S. Vinod
Signature:

Yokogawa Italia S.r.l.
Via Assunta 61, 20834 Nova Milanese - MB, Italy

*) Without a valid Declaration of Authorization a Yokogawa affiliate is required to outsource the safety related activities to GMS-600-14-01 Authorized Yokogawa companies.

Figure 3-A: Declaration of Authorization for Functional Safety certificate (DoA(FS)R)

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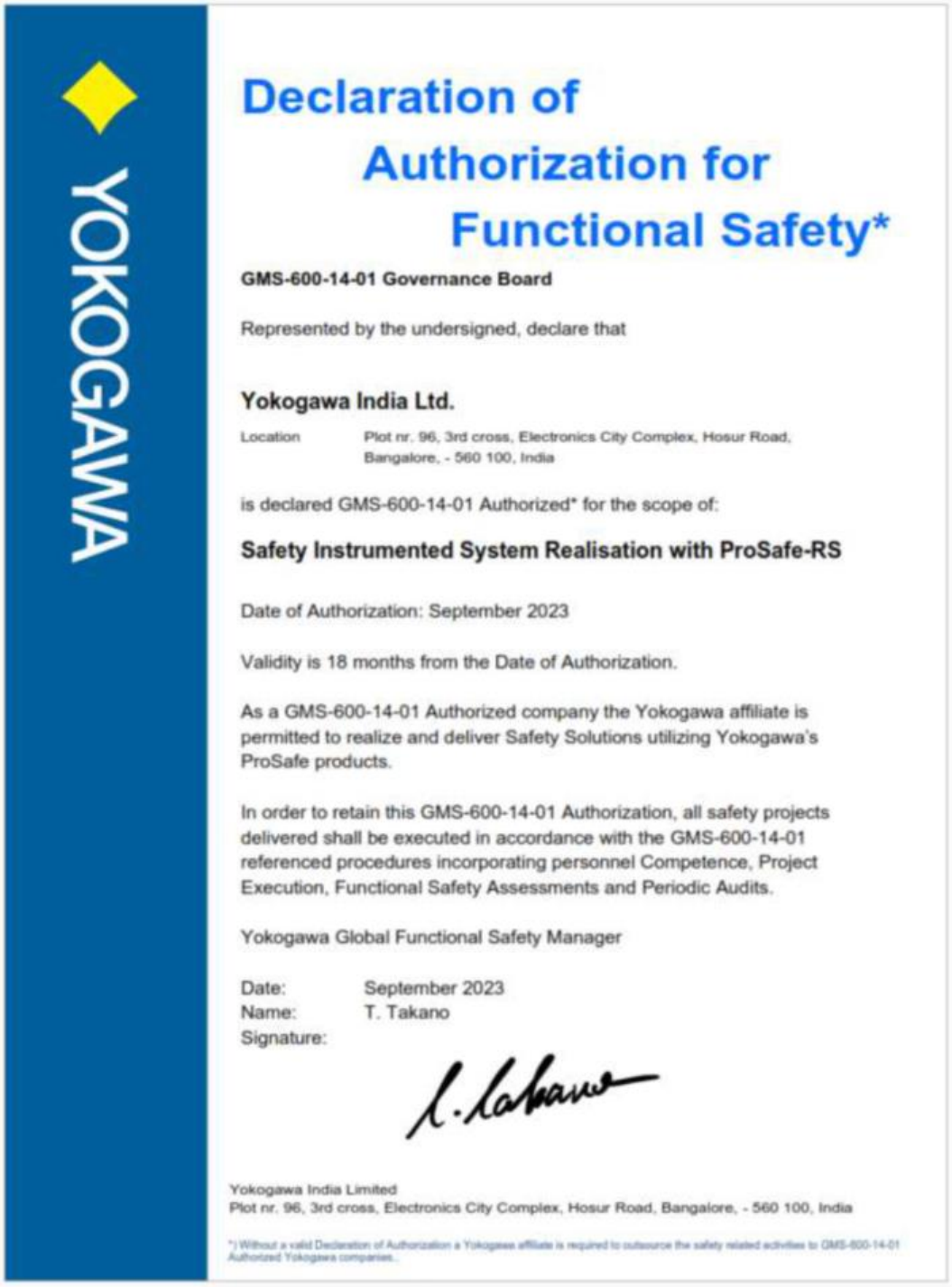

YOKOGAWA

Declaration of Authorization for Functional Safety*

GMS-600-14-01 Governance Board

Represented by the undersigned, declare that

Yokogawa India Ltd.

Location Plot nr. 96, 3rd cross, Electronics City Complex, Hosur Road, Bangalore, - 560 100, India

is declared GMS-600-14-01 Authorized* for the scope of:

Safety Instrumented System Realisation with ProSafe-RS

Date of Authorization: September 2023

Validity is 18 months from the Date of Authorization.

As a GMS-600-14-01 Authorized company the Yokogawa affiliate is permitted to realize and deliver Safety Solutions utilizing Yokogawa's ProSafe products.

In order to retain this GMS-600-14-01 Authorization, all safety projects delivered shall be executed in accordance with the GMS-600-14-01 referenced procedures incorporating personnel Competence, Project Execution, Functional Safety Assessments and Periodic Audits.

Yokogawa Global Functional Safety Manager

Date: September 2023
Name: T. Takano
Signature:

Yokogawa India Limited
Plot nr. 96, 3rd cross, Electronics City Complex, Hosur Road, Bangalore, - 560 100, India

*) Without a valid Declaration of Authorization a Yokogawa affiliate is required to outsource the safety related activities to GMS-600-14-01 Authorized Yokogawa companies.

Figure 3-B: Declaration of Authorization for Functional Safety certificate (DoA(FS)R)

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2.11 TÜV Rheinland Certification

On top of the GMS-600-14-01 authorization, several offices have applied for individual certification by TÜV Rheinland for having their Functional Safety Management system in accordance with IEC 61511 and IEC 61508:

- Yokogawa Europe Solutions B.V, The Netherlands
- Yokogawa Romania, Bucharest
- Yokogawa Industrial Safety Systems Sdn. Bhd., Malaysia
- Yokogawa India Ltd, Bangalore
- Yokogawa Engineering Asia Pte Ltd, Singapore
- Yokogawa Electric International Pte Ltd, Singapore
- Yokogawa Middle East & Africa B.S.C. (c), Kingdom of Bahrain
- Yokogawa Corporation of America
- Yokogawa Electric Korea Co. Ltd.
- Yokogawa Solution Service Corporation, Japan

Information can be found on the TÜV Rheinland website:
https://www.tuv.com/world/en/functional-safety-management-certification.html

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Certificate

Functional Safety Management

FS Management (TÜV Rheinland)
IEC 61511-1:2016 - SIS Integration (Phase 4)
FSM 104

Certificate No.	**968/FSM 104.20/22**
Certified Company & Location	**Yokogawa Europe Solutions B.V.** Euroweg 2 3825 HD Amersfoort **The Netherlands**
Scope of Certification	**Safety Instrumented Systems Integration, related to IEC 61511-1:2016 - Phase 4 (Design & Engineering)** The certified company has successfully demonstrated during an audit process that a Functional Safety Management System has been implemented and applied accordingly. Maturity Level confirmed is **Maturity Level 4 (ML4) - "Improved – Quantitatively Managed"**. The Scope of Certification **SIS Integration** covers integration of **Safety Instrumented Systems (limited to Logic Solver)** for the **Process Industry** up to and including **Safety Integrity Level 3 (SIL3)** and **Systematic Capability 3 (SC3)**. The following phase activities are considered: **SIS design, configuration, application programming, assembly** and **test** as well as **safety loop calculations**. The IEC 61511 is the basic standard for this FSM Certification; however relevant clauses of the **IEC 61508:2010** standard are used complementarily. As part of the audit process organizational and informational exchange / supply related to other respective Safety Lifecycle Phases between the Certified Company and its customer is considered. This FSM Certification only refers to the listed company locations and their involved departments, which comply with the organizational FSM requirements for the listed Scope of Certification. It does not replace approval or certification for specific SIS Integrations.
Validity	This certificate is valid until 2024-04-30

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln

Cologne, 2022-06-17

Dipl.-Ing. (FH) Wolf Rückwart

TÜV Rheinland
Industrie Service GmbH
Automation and Functional Safety
Am Grauen Stein
51105 Cologne - Germany

Certification Body Safety & Security for Automation & Grid
Further information referring to the scope of certification, see http://www.tuvasi.com

www.fs-products.com
www.tuv.com

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Figure 4-A: TÜV Rheinland FSM certificate

NOTE: TUV Audit has successfully completed. Renewed Certificate shall be replaced in next revision.



Certificate

Functional Safety Management

FS Management (TÜV Rheinland)
IEC 61511-1:2016 - SIS Integration (Phase 4)
FSM 115

Certificate No. 968/FSM 115.15/21

Certified Company & Location
Yokogawa India Ltd.
Plot No. 96, 3rd Cross Electronics City Complex
Hosur Road
Bangalore 560 100
India

YOKOGAWA

Scope of Certification
Safety Instrumented Systems Integration, related to IEC 61511-1:2016 - Phase 4 (Design & Engineering)

The certified company has successfully demonstrated during an audit process that a Functional Safety Management System has been implemented and applied accordingly.

Maturity Level confirmed is **Maturity Level 4 (ML4) - "Improved – Quantitatively Managed"**.

The Scope of Certification **SIS Integration** covers integration of **Safety Instrumented Systems (limited to Logic Solver)** for the **Process Industry** up to **Systematic Capability (SC3)** and **Safety Integrity Level 3 (SIL3)**.

The following phase activities are considered: **SIS design, configuration, application programming, assembly** and **test** as well as **safety loop calculations**.

The IEC 61511 is the basic standard for this FSM Certification; however relevant clauses of the **IEC 61508:2010** standard are used complementarily.

As part of the audit process organizational and informational exchange / supply related to other respective Safety Lifecycle Phases between the Certified Company and its customer is considered.

This FSM Certification only refers to the listed company locations and their involved departments, which comply with the organizational FSM requirements for the listed Scope of Certification. It does not replace approval or certification for specific SIS Integrations.

Validity This certificate is valid until 2024-11-30

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln

Cologne, 2021-11-29

Dipl.-Ing. (FH) Wolf Rückwart

TÜV Rheinland
Industrie Service GmbH
Automation and Functional Safety
Am Grauen Stein
51105 Cologne - Germany

Certification Body Safety & Security for Automation & Grid
Further information referring to the scope of certification, see http://www.tuvasi.com

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www.tuv.com

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Figure 4-B: TÜV Rheinland FSM certificate

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3 Safety Requirements - Safety Solutions

3.1 Introduction

The verification of the system design is carried out by comparing it with the safety requirements, as explained before. The comparison is based on splitting up the safety requirements into a number of significant items, such as logic solver integrity level, field interfaces, etc., which is presented in section 3.4.

3.2 Safety Requirement Specification

IEC61511-1 (2016) requires a description of all the SIFs necessary to achieve the required functional safety. In this case client did not specify any SIFs. The relevant safety requirement items of the system are derived from the specification document refer section 1.2.2 [a].

3.3 System Design

3.3.1 System Overview

BLPH is intended to be a greenfield platform whose purpose is to balance the power supply from HKN wind farm primarily through hydrogen generation and storage. The platform shall provide short-term energy storage through a BESS and long-term energy production and storage by producing and storing green hydrogen through electrolysis.

The facility shall receive power by external means from the Dutch grid (through the HKN wind park) and a floating solar farm. The facility is directly coupled to WTG57 through an inter array cable string that connects to the Dutch grid.

Power production from BLPH will be governed by the real-time forecast out data signals coming from Wind.

Turbine Generator number 57 (WTG57).

Additionally, BLPH shall receive power from an external floating solar farm, by others.

The PACO control system developed for BLPH shall comprise of two (2) interconnected, but independent systems:

- A Central Control System (PCS); and
- A combined Fire and Gas System (FGS) and Safety Instrumented System (SIS), which shall be referred to collectively as the Safety System.

The PCS shall be responsible for the monitoring and control of the facility, whilst the Safety System shall be responsible for the overall safeguarding of BLPH.

The wind farm system is operated by an independent SCADA system called CI Server (Collaborative Information Server). The PCS and the Safety System shall operate independently but shall interface fully with the CI Server. via the Vnet/IP Yokogawa network.

Yokogawa's Integrated Control and Safety System consists of Operator Workstations, Engineering Workstations, Field Control Stations, Safety Control Stations, etc., connected via the Vnet/IP control bus and

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collectively call a domain. PCS, SIS, FGS and CI server will be in same domains depending on the total number of stations and/or process segregation (or other) requirements.

Domain segregation is as below,

Domain/Station	System
SCS0110	SIS
SCS0120	FGS

Table 1 – Domain Segregation

Refer Attachment-1 for PACO network configuration and major components is shown in the overall System Architecture Drawing (Doc No - 1724000594-IN-DD-00015).

3.3.2 Design Principles

Safety Instrumented System (SIS) / Fire and Gas (FGS) Design is based on the following principles:

- The scan time of the SIS and FG logic solver shall be a maximum of 300 msec and 500msec.
- Integrated PCS, SIS and FGS with CI server SCADA function.
- Sequence of events (SOE) recording and analysis via CI server (In build Historian) and EWS.
- The SIS shall be fail-safe, normally energized, de-energized to trip and any energise to trip SIS/FGS field circuits shall be continuously line monitored by the system for fault conditions, i.e., device faults, open and short circuit faults, etc. EPC to provide detailed information.
- Proof test will be standardized, the test intervals for proof testing the sensors, logic solver and final elements shall be detailed out by the EPCC contractor.
- SIS/FGS shall create “First up fault” alarm that allow control room operator to quickly interrogate trips through HMI with one Keystroke.
- Each SIS/FGS input shall have the facility for a maintenance inhibit to enable testing without causing a shutdown. The inhibits shall be selected and applied through the operator workstation displays. The inhibit shall only become active when the CAP is enabled. The inhibit state shall be indicated on the SIS/FGS Graphic displays. Input inhibits shall only affect SIS/FGS logic, not input alarming, i.e., inhibited inputs shall alarm to the operator.
- The FGS will be designed as a normally de-energized system with line monitoring (as per input from EPC on requirements of line monitoring functionality, including discrete alarm inputs, such as detector or manual call points).
- All relevant subsystems and Field I/O shall interface with FGS through hardwired signals.

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- Any single system fault shall not cause unwanted and unsafe actions, and such faults shall be revealed on occurrence.
- Every possible dangerous failure (fault detected only when the system is called upon to operate), which shall prevent an executive action from taking place in the event of a genuine trip input, shall be identified and exterminated.
- No single fault shall prevent the entire system from working normally i.e. no common mode failures.
- Replacement of I/O modules shall not require any kind of bypassing, either in hardware or software. To achieve such capability, it shall not be necessary to externally wire inputs and outputs to multiple I/O modules. Programming must be for the single I/O point only. Explicit programming of voting and module replaceability shall be unacceptable.
- Input and output signals shall be voted independently. The output-voting network shall be automatically tested at a regular interval.
- Maintenance inhibits, with only one input to any voted system being allowed to be overridden at any one time (Maintenance overrides shall not be provided on output devices).
- The FGS shall have the capability of on-line software download from the programming terminal without shutdown of the process. This capability shall be approved by EPC for class SIL 3 applications. Live/On-line download shall require security password to avoid unauthorized access.
- The FGS shall be provided with redundant communication and processor architecture to provide uninterrupted automatic Fire & Gas Detection and Protection and increased reliability.
- The FGS shall seamlessly interface with the PCS system. This will allow the operator to monitor the Fire & Gas detection status of the entire OGP Complex via PCS operator consoles located in the CCR.
- Fire protection operator commands (e.g. starting fire water pumps, initiating extinguishing agent discharge, deluge system, etc.) that may be required in case of black out of all operator workstations.
- The FGS system hardware will be separated from all other control and safety systems (PCS, SIS, etc.) and will not require the correct operation of any other system to fulfil its own function. However, to optimize facilities spare inventory and ease maintenance, the FGS shall use the same hardware as the SIS system.

Further detailed information on the system is given in the FDS (E366772C00-FDS_SW).

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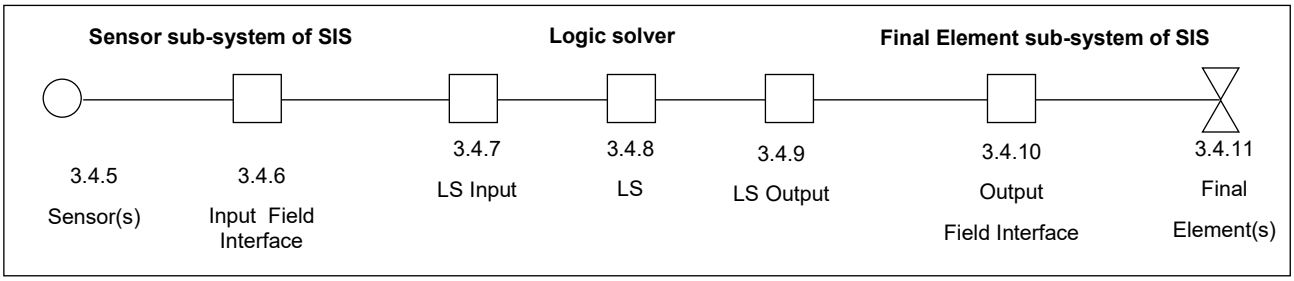
3.4 Requirements versus Solutions



Model to clarify the used terms

Safety Instrumented Functions/Loops

Requirement	Solution
No Safety Instrumented Functions (SIFs) with SIL targets are specified by the client.	A quantitative assessment (PFDavg calculation) is not carried out as there is no customer specified safety requirement for the project. General PFDavg values for the logic solver can be found in section 4.

3.4.1 Safety Parameters

Requirement	Solution
Logic solver ▪ SIL = 3 (Refer section 1.2.2. [a])	The ProSafe-RS is certified by TÜV Rheinland for use in applications up to and including SIL3 according to IEC 61508. See 1.4.
▪ Proof test interval T = n.s.	Proof test interval of 1 year is assumed for the calculation purpose.
Overall ▪ System life time T_L = n.s	System Life Time TL of 10 year is assumed for the calculation purpose.

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3.4.2 Safety Related Parameters

Requirement	Solution
▪ System availability A = n.s ▪ MTTR = n.s ▪ MTBF = n.s ▪ LS scan time = n.s ▪ LS response time = n.s ▪ Process safety time = n.s	See section 4.3 for the availability calculation result. MTTR of 8 hours is assumed for the calculation purpose. The SIS & FGS ProSafe-RS scan time is set to 300msec and 500msec respectively. The SIS ProSafe-RS response time is (worst case) twice the scan time, being 300 msec scan time, LS Response time is 600 msec. The FGS ProSafe-RS response time is (worst case) twice the scan time, being 500 msec scan time, LS Response time is 1000 msec. For SIS to FGS SCS Link transmission safety communication, Transmission delay is 100 ms. The LS response time is (Considering Link transmission communication) Sender Tscan x 2 + Receiver Tscan x 2 + Transmission Delay, which is 300 x 2 + 500 x 2 + 100 = 1700 msec For FGS to SIS SCS Link transmission safety communication, Transmission delay is 100 ms. The LS response time is (Considering Link transmission communication) Sender Tscan x 2 + Receiver Tscan x 2 + Transmission Delay, which is 500 x 2 + 300 x 2 + 100 = 1700 msec Yokogawa is only responsible for the SIF response time with respect to logic solver and interfaces. However this SIF response time is mostly determined by the selection of the sensors and final elements. It is client responsibility to check the SIF response time with the inclusion of sensors and valves against the process safety time.

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3.4.3 Segregation

Requirement	Solution
Functional separation: ▪ Subsystems: n.s ▪ BPCS: Yokogawa Centum VP	SIS and FGS Systems are implemented in separate controllers. The Prosafe-RS is integrated over Vnet/IP network with Centum-VP, EMCS and CI serve. CI server is used to control and monitor the status on SCADA.
Galvanic isolation: ▪ I/O-groups: n.s ▪ SIS I/O channels: n.s ▪ FGS I/O channels: Yes (Refer section 1.2.2. [e]))	For FGS - AI IS signal barriers (Smoke Detector Signals) are used & For SIS - DO VFC IO's are used. Barriers and Relays are assigned based on customer Instrument I/O List (123A90-DDL-IN-LIS-40089) requirement. Based on FGS C&E, voting has segregated with different channel/module.
▪ Power supplies: Power supplies shall be considered for system, IS barriers and field instruments.	SIS and FGS Marshalling Cabinets are equipped with external 24VDC Redundant Power Supply units which serve as external source for Terminal Boards.

3.4.4 Sensors

Requirement	Solution
▪ Analogue: 4-20mA with HART ▪ Digital: VFC and NO/NC contacts ▪ Type transmitters: Pressure	The sensors are not in the scope of supply and not included in the safety assessment.
▪ FGS Safety architecture: Yes	Based on FGS, Refer section 1.2.2. [f], voting signals has segregated.
▪ SIS Safety architecture: n.s	

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3.4.5 Input Field Interfaces

Requirement	Solution
▪ IS isolators/barriers: Yes (Refer section 1.2.2.[d])	Following IS Barriers are used for FGS system: Make: P&F Model: P+F - HIC2025 IS barrier for AI
▪ Signal splitters: n.s	No Signal Splitters are used.
▪ HART interfaces: n.s ▪ Interposing relays: n.s	
▪ Line monitoring: Yes	Diagnostics included: Yes Line Monitoring will be achieved for IS and NIS signal up to the System from Field. Isolators used for DI and AI have pass through capability for line monitoring. For SIS & FGS Line monitoring has enabled based on customer Instrument I/O List (123A90-DDL-IN-LIS-40089) Safety certificates and/or safety manuals of the applied interfaces are included in Appendix II.

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3.4.6 LS Input Channels

Requirement	Solution
▪ Analogue: 4-20mA with HART	SAI143-H is used for all Analogue Inputs. Analogue inputs module SAI143-H are HART compatible. Analogue Input barriers used are HART compatible.
▪ Digital: VFC and NO/NC contacts	SDV144 is used as Digital Input Card. All Digital Inputs to the system are potential free contacts.
▪ Line monitoring: Yes	Line Monitoring for AI is enabled at IO Parameter builder using Detect IOP. Line Monitoring for DI enabled at IO Parameter for NO signals using Detect disconnection and Detect short Circuit. Diagnostics included: Yes For Analog inputs, line monitoring shall be provided by configuring over and under range using ProSafe-RS IO parameter builder. For Non-IS digital inputs, line monitoring shall be provided by using Yokogawa SCB100 and SCB110 end of line devices. For SIS & FGS Line monitoring has enabled based on customer Instrument I/O List (123A90-DDL-IN-LIS-40089)
▪ Fusing: n.s	Fuse terminal provided for the field input (NIS signal) for AI 250 mA and for DI 250 mA fuse.

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3.4.7 Logic Solver(s)

Requirement	Solution
▪ Dual Inputs ▪ Dual CPU ▪ Dual Outputs	ProSafe-RS is used in a configuration with dual Inputs, dual CPU and dual Outputs. The safety manuals of the ProSafe-RS are included in the Workbench installation package.

3.4.8 LS Output Channels

Requirement	Solution
▪ Power: 24VDC ▪ Lamp driver: n.s ▪ VFC:Yes (Refer section 1.2.2. [a] and [c]) ▪ Line monitoring: Yes ▪ Fusing: n.s	SDV541 module is used for the DOs of the Safety Systems. Relays are used to provide volt free contact to interface signals. Diagnostics included: Yes Line diagnostics (detect disconnection / short circuit) will be enabled for Normally De-energized DO signals. Field DO's are Line monitored up to the field Device. For SIS & FGS Line monitoring has enabled based on customer Instrument I/O List (123A90-DDL-IN-LIS-40089) Wherever relays are used for any Digital Outputs, then Line Monitoring shall be provided only up to Relay Coil and not up to the field device.

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3.4.9 Output Field Interfaces

Requirement	Solution
▪ IS isolators/barriers: n.s	Interposing relay used for SIS Interface signals. Make: P&F Model: KFD0-RSH-1.4S.PS2
▪ Interposing relays: Yes	Relays are used to provide volt free contact to interface signals.
▪ Line monitoring: Yes	Diagnostics included: Yes Line diagnostics (detect disconnection / short circuit) will be enabled for Normally De-energized DO signals. Field DO's are Line monitored up to the field Device. Wherever relays are used for any Digital Outputs, then Line Monitoring shall be provided only up to Relay Coil and not up to the field device. Safety certificates and/or safety manuals of the applied interfaces are included in Appendix II
▪ Fusing: n.s ▪ Surge protection: n.s	

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3.4.10 Final Elements

Requirement	Solution
▪ Solenoid(s): Yes Safety architecture: n.s ▪ Valve(s): Yes Safety architecture: n.s Is Partial Stroke testing applied: NO ▪ Contactors: n.s Safety architecture: n.s ▪ Alarms indicators: n.s Safety architecture: n.s	The final elements are not in the scope of supply and not included in the safety assessment.

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3.4.11 Overrides and Inhibits

Requirement	Solution
▪ Input overrides: Yes (Refer section 1.2.2. [a]),section 6.5) ▪ Input inhibits: n.s ▪ Output overrides: n.s	**MAINTENANCE OVERRIDE FUNCTION**: Throughout the operational lifetime of the SIS/FGS overrides for sensors and other input devices are required from time to time. Maintenance override switches (MOS) shall be used to inhibit trip initiators to enable maintenance or on-line functional testing. For safety reasons, these maintenance overrides shall be allowed for input signals with only one and not for output signals. Maintenance overrides should not prevent actual input status from being alarmed.
▪ Start up override: Yes ▪ (Refer section 1.2.2. [a]), section 6.5)	**START UP OVERRIDE:** The start-up overrides shall normally be automatic reset type. Some services will require manual start up overrides. Failure of a start-up override to reset shall be alarmed to the operator. Whenever an override is placed the safety function in question no longer offers protection. Operational precautions must be taken in line with the requirements of the standards. This is not in Yokogawa's scope or responsibility.
▪ Override groups: n.s ▪ HW override: …n.s ▪ Override from BPCS: n.s ▪ Override enable: n.s	

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3.4.12 Environment

Requirement	Solution
Environmental conditions and EMC requirements, as per client specification. In the event of a failure of the HVAC system the conditions will be more severe. The equipment shall therefore be designed to operate under the following conditions: • Design Temperature range: 5 to 45 ºC • Design Relative Humidity :10 to 93% RH	ProSafe-RS modules are Compliant with the requirements (Refer Hardware FDS). ProSafe-RS Hardware: Temperature: -20 to 70˚C and Relative humidity: 5 to 95% EMC Compliance meets EN55011, Class A, Group 1, EN61000-6-2, EN61000-3-2, EN61000-3-3 - RFI is 10 V/m maximum (80 MHz to 1 GHz) Power supply and Diode unit: Puls:Temperature: -25 to 70˚C (>60 derating) Relative Humidity: < 95% (at 25˚C, no condensation) Isolator: Temperature: -40 to 70˚C and Relative humidity: 5 to 95% (at 25˚C, no condensation) EMC Compliance: EN61326 Safety Relay: Temperature: -20 to 60˚C Relative humidity: 5 to 95% (at 25˚C, no condensation) The SIS & FGS System and Marshalling cabinets are designed to operate at an optimal temperature of 26°C. In the event of HVAC failure, internal temperature exceeds this threshold, a temperature alarm will be triggered, requiring immediate attention and corrective action by the operator to restore safe operating conditions.

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3.4.13 Communication Interfaces

Requirement	Solution
▪ BPCS communication: Yes (Refer section 1.2.2. [a]), section 6.7)	All the stations on the V-net/IP platform will be connected and communication with each other via redundant Vnet/IP. No safety related information will be communicated over this connection. No subsystem interface via Modbus communication is applicable in this project Remote I/O Communication is not used in this project Critical Action Panel (CAP) IO's are provided as software based IO's as part of SCADA/HMI (CI View). It consists of soft signals pushbutton, switches and lamps.
▪ Comm. between sub-systems: n.s ▪ Remote I/O communication: n.s ▪ Matrix panels: n.s ▪ Mimic panels: n.s	

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3.4.14 Application Programming

Requirement	Solution
▪ Ladder diagram, acc. IEC 61131-3: n.s ▪ Function blocks, acc. IEC 61131-3: Yes (Refer section 1.2.2. [a]), section 6.4) ▪ Structured text, acc. IEC 61131-3: n.s	The ProSafe-RS engineering tools and application programming (Ladder diagram, Function block and Structured text), are approved by TÜV Rheinland (ref. ProSafe-RS Safety Manual and Engineering guide) and are in accordance with IEC 61131. In this system FB programming is used. For the obvious non-safety related application logic function blocks/parts may be used which is not part of the SIL3 certified function block library. Examples of obvious non-safety related application logic are: Totalizers, Alarms, Diagnostics, Matrix panel outputs etc.

3.4.15 Security

Requirement	Solution
To protect against cyber-attacks it is required to	
▪ Install a switch to inhibit downloads: Yes	A hardwired (key) switch has been implemented to inhibit changing the security level of the SIS so that an unauthorised download to a ProSafe-RS controller is prevented
▪ Install a virus scanner: Yes	Virus scanner provided in all PC.
▪ Install a firewall:Yes (Refer section 1.2.2. [a]), section 7)	Firewall deployed between control (PCS) and safety(SIS and FGS) network.

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4 Safety Assessment Notes for the SIS system

4.1 Introduction

In 0 and 3.4.1 it was concluded that no Safety Instrumented Functions are specified.

One of the few safety related specifications is “Safety PLC to be SIL 3 compliant”
The ProSafe-RS logic solver meets that specification (see 1.4).

4.2 Safety Architecture

As no SIFs are specified Yokogawa has no possibilities to assess the hardware fault tolerance. Whenever certain SIL requirements arise the hardware fault tolerance has to be re-assessed.

4.3 Reliability Calculations

4.3.1 Scope

As no SIFs are specified Yokogawa has no possibilities to assess the PFDavg in detail.

For reference, typical values for the PFDavg of the logic solver can be found in 4.3.2

Based on the assumptions and restrictions as indicated in this SVP the Availability of the logic solver has been calculated using the Yokogawa RSV tool.

4.3.2 Results

Typical values for the PFDavg of the logic solver, based on one year proof test interval, can be found in the table below.

Loop structure	Input	CPU	Output	PFDavg
DI－CPU－DO	SDV144	S2CP471	SDV541	6.623E-07
AI－CPU－DO	SAI143-H	S2CP471	SDV541	6.754E-06

The results of the Availability calculations can be found in the calculation report (appendix 1)

Availability of logic solver (excluding field interfaces): 99.99996
Availability of logic solver (including field interfaces): 99.99991

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5 Safety Assessment Notes for FGS Systems

5.1 Introduction

In 0 and 3.4.1 it was concluded that no Safety Instrumented Functions for FGS are specified.

Since FGS are mainly mitigation systems, where both sensor coverage and human factor are dominant, no assumed loops are considered for calculation purposes.

One of the few safety related specifications is “Safety PLC to be SIL 3 compliant”
The ProSafe-RS logic solver meets that specification (see 1.4).

5.2 Safety Architecture

As no SIFs are specified Yokogawa has no possibilities to assess the hardware fault tolerance. Whenever certain SIL requirements arise the hardware fault tolerance has to be re-assessed.

5.3 Reliability Calculations

5.3.1 Scope

As no SIFs are specified Yokogawa has no possibilities to assess the PFDavg in detail.

For reference, typical values for the PFDavg of the logic solver can be found in 5.3.2

Because no target for Availability has been specified, calculations have not been performed.

5.3.2 Results

Typical values for the PFDavg of the logic solver, based on one year proof test interval, can be found in the table below.

Loop structure	Input	CPU	Output	PFDavg
DI－CPU－DO	SDV144	S2CP471	SDV541	6.623E-07
AI－CPU－DO	SAI143-H	S2CP471	SDV541	6.754E-06

The results of the Availability calculations can be found in the calculation report (appendix 1)

Availability of logic solver (excluding field interfaces): 99.99993
Availability of logic solver (including field interfaces): 99.99680

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6 Miscellaneous

Reliability Data
Yokogawa's independent group of Functional Safety specialists has assessed the reliability data from manufacturers of devices and prepared a Reliability Datasheet per device with reliability data to be used in the calculations performed by Yokogawa.
Yokogawa's approach is to use the reliability data provided by manufacturers of devices in a conservative way, thus minimizing the chance of a too optimistic calculation.

Installation
All installation instructions as stated in the Installation Manuals, Instructions for Operation and Maintenance Manuals and/or Safety Manuals have to be followed up to ensure the validity of their associated failure rates.

Proof Testing
Procedures for testing of Yokogawa's logic solver can be found in the Instructions for Operation and Maintenance. It is end-user's responsibility to execute the tests and to keep records thereof.

System alarms
System alarms like line fault message, module failures, etc. have to be followed up by operators and/or maintenance engineers. Procedures for this must be developed by the end-user, some guidance for the Yokogawa equipment can be found in the Instructions for Operation and Maintenance.

Configurable system parts
For all configurable system parts, such as transmitters (HART), protection against unauthorised modification should be used at all times.

Life time restrictions
An overall life time has been specified in section 3.4.1. For certain, mostly mechanical, devices a shorter life time might apply. It is end-user's responsibility to identify and replace these devices at the end of their specified life time to ensure the validity of their associated failure rates. The Yokogawa Power supply modules in the rack have an expected life time of 8 years. The replacement of devices within the expected life time will not affect the associated failure rates and the overall life time of the SIS.

Overrides
The human factor will not be included in the Yokogawa reliability calculations. As a consequence unsafe operating of overrides as far as they may be caused by mistake and/or wrong procedures are not part of the safety assessment.

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7 Modifications

This section is not applicable yet.

End of document

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Appendix I

Availability Calculation results for SIS

Number of pages that follow: 2

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ProSafe-RS Reliability Calculation

Project: Base Load Power Hub (BLPH)
SCS0110

Rev: 2

Date: 10/2/2026

Author: Manojkumar P

tool info : revision 16

1. Availability

System configuration

Model name	Model type	Single	Duplex
		Number of modules	Number of Duplex sets (=1/2 # of modules)
Digital Input Module	SDV144		5
Digital Output Module (8ch, 24VDC)	SDV531-S/L		
Digital Output Module (8ch, 48VDC)	SDV53A		
Digital Output Module (16ch, 24VDC)	SDV541		4
Digital Output Module (4ch, 24VDC)	SDV521		
Digital Output Module (4ch, 100VAC)	SDV526		
Analog Input Module (4～20mA)	SAI143-S		
Analog Input Module (4～20mA, with HART)	SAI143-H		1
Analog Input Module (1-5V/1-10V)	SAV144		
Analog Input Module (mV/TC)	SAT145		
Analog Input Module (RTD)	SAR145		
Analog Output Module (4～20mA, with HART)	SAI533		
Analog Digital I/O Module (Analog Input 2-wire)	S2MMM843 AI 2Wire		
Analog Digital I/O Module (Analog Input 4-wire)	S2MMM843 AI 4Wire		
Analog Digital I/O Module (Analog Output)	S2MMM843 AO		
Analog Digital I/O Module (Digital Input)	S2MMM843 DI		
Digital I/O Module (Digital Input)	S2MDV843 DI		
Analog Digital I/O Module (Digital Output)	S2MMM843 DO		
Digital I/O Module (Digital Output)	S2MDV843 DO		
Fire and Gas Communication Module	S2LP131		
Safety Control Unit (Single CPU for V net)	SSC10S		
Safety Control Unit (Dual redundant CPU for V net)	SSC10D		
Safety Control Unit (Single CPU for Vnet/IP)	SSC50S		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC50D		
Safety Control Unit (Single CPU for Vnet/IP)	SSC57S		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC57D		
Safety Control Unit (Single CPU for Vnet/IP)	SSC60S / S2SC70S (SCP461)		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC60D / S2SC70D (SCP461)		
Safety Control Unit (Single CPU for Vnet/IP)	SSC60S / S2SC70S (S2CP471)		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC60D / S2SC70D (S2CP471)	1	
Safety Node Unit	SNB10D / S2NN30D	2	
Unit for Optical Bus Repeater Module	SNT10D		
Optical ESB Bus Repeater Master Module (! Enter 1/2 #of Mdl) *1	SNT401/411		

*1 Failure rates of SNT501/511 are automatically calculated.

Parameters

Proof test interval (T) : 1 **years** 8760 **hours**

Mean Time To Restoration (MTTR) : 8 **hours**

Results

Availability: 99.99996 **%**

MTBFspurious: 2534.78 **years**

document info
file: ProSafe-RS Safety Verifier RSV-16.185 - ESD.xlsm
tab: System_Availability
page 2 of 2

General Reliability Configurator™ for SIS
DTS: De-energize To Safe state

YOKOGAWA
Safety Assurance and Consultancy

tool info : revision 18.4
custodian: SA
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project no.:	E366772C00	system:	SCS0110
project name:	Base Load Power Hub (BLPH)	sub-system:	SIS System
	SCS0110	scope:	Overall System Availability
client name:	ROSETTI MARINO S.p.A	revision no.:	2
client P.O. no.:	CW-I-WP4-2023-05	executed by:	Manojkumar P
end user name:	Crosswind Hollandse Kust Noord	date:	10/02/2026

assumptions:

legend

MTBF = mean time between failure
MTTR = mean time to restoration
FTR = false trip rate
I/O = input / output
SE = sensor element
LS = logic solver
FE = final element

Normally sensors and final elements are not included in availability calculations unless specified.

calculation scope

- ☐ sensor(s)
- ☐ SE interface(s)
- ☑ LS incl. I/O module(s)
- ☑ FE interface(s)
- ☐ final element(s)

inputs

result from ext. calc.		FTR		MTBF		availability	
MTBF (year)	**targets**		1/year		year		%
ProSafe-RS availability							
99.99996 %	set MTTR	8	hour				

results

	FTR		MTBF		availability	
	0.00	1/year	992.35	year	99.99991	%
	1.150E-01	E-6/hr				
targets met?	n.a		n.a		n.a	

manufacturer	model	Type (A/B)	failure rates per circuit (E-6/hr)			total number of circuits for SIS Availability calculation, based on below voting principles					
			λ_S	λ_{Dd}	λ_{Du}	1oo1	1oo2	1oo3	2oo2	2oo3	2oo4
Final Element Interface Modules											
P&F	KFD0-RSH-1.4S.PS2 (1oo1)	A	3.50E-02	0.00E+00	1.83E-03	2					

Availability Calculation results for FGS

Number of pages that follow: 2

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ProSafe-RS Reliability Calculation

tool info : revision 16

Project: Base Load Power Hub (BLPH)
SCS0120

Rev: 2

Date: 10-02-2026

Author: Manojkumar P

1. Availability

System configuration

Model name	Model type	Single	Duplex
		Number of modules	Number of Duplex sets (=1/2 # of modules)
Digital Input Module	SDV144		5
Digital Output Module (8ch, 24VDC)	SDV531-S/L		
Digital Output Module (8ch, 48VDC)	SDV53A		
Digital Output Module (16ch, 24VDC)	SDV541		6
Digital Output Module (4ch, 24VDC)	SDV521		
Digital Output Module (4ch, 100VAC)	SDV526		
Analog Input Module (4～20mA)	SAI143-S		
Analog Input Module (4～20mA, with HART)	SAI143-H		9
Analog Input Module (1-5V/1-10V)	SAV144		
Analog Input Module (mV/TC)	SAT145		
Analog Input Module (RTD)	SAR145		
Analog Output Module (4～20mA, with HART)	SAI533		
Analog Digital I/O Module (Analog Input 2-wire)	S2MMM843 AI 2Wire		
Analog Digital I/O Module (Analog Input 4-wire)	S2MMM843 AI 4Wire		
Analog Digital I/O Module (Analog Output)	S2MMM843 AO		
Analog Digital I/O Module (Digital Input)	S2MMM843 DI		
Digital I/O Module (Digital Input)	S2MDV843 DI		
Analog Digital I/O Module (Digital Output)	S2MMM843 DO		
Digital I/O Module (Digital Output)	S2MDV843 DO		
Fire and Gas Communication Module	S2LP131		
Safety Control Unit (Single CPU for V net)	SSC10S		
Safety Control Unit (Dual redundant CPU for V net)	SSC10D		
Safety Control Unit (Single CPU for Vnet/IP)	SSC50S		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC50D		
Safety Control Unit (Single CPU for Vnet/IP)	SSC57S		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC57D		
Safety Control Unit (Single CPU for Vnet/IP)	SSC60S / S2SC70S (SCP461)		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC60D / S2SC70D (SCP461)		
Safety Control Unit (Single CPU for Vnet/IP)	SSC60S / S2SC70S (S2CP471)		
Safety Control Unit (Dual redundant CPU for Vnet/IP)	SSC60D / S2SC70D (S2CP471)	1	
Safety Node Unit	SNB10D / S2NN30D	5	
Unit for Optical Bus Repeater Module	SNT10D		
Optical ESB Bus Repeater Master Module (! Enter 1/2 #of Mdl) *1	SNT401/411		

*1 Failure rates of SNT501/511 are automatically calculated.

Parameters

Proof test interval (T) : 1 **years** 8760 **hours**

Mean Time To Restoration (MTTR) : 8 **hours**

Results

Availability: 99.99993 **%**

MTBFspurious: 1281.70 **years**

document info
file: ProSafe-RS Safety Verifier RSV-16.185 - FGS.xlsm
tab: System_Availability
page 2 of 2

General Reliability Configurator™ for SIS
DTS: De-energize To Safe state

YOKOGAWA
Safety Assurance and Consultancy

tool info : revision 18.4
custodian: SA
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project no.:	E366772C00	system:	SCS0120
project name:	Base Load Power Hub (BLPH)	sub-system:	FGS System
	SCS0120	scope:	Overall System Availability
client name:	ROSETTI MARINO S.p.A	revision no.:	2
client P.O. no.:	CW-I-WP4-2023-05	executed by:	Manojkumar P
end user name:	Crosswind Hollandse Kust Noord	date:	10-02-2026

assumptions:

legend

MTBF = mean time between failure
MTTR = mean time to restoration
FTR = false trip rate
I/O = input / output
SE = sensor element
LS = logic solver
FE = final element

Normally sensors and final elements are not included in availability calculations unless specified.

calculation scope

- ☐ sensor(s)
- ☑ SE interface(s)
- ☑ LS incl. I/O module(s)
- ☐ FE interface(s)
- ☐ final element(s)

inputs

result from ext. calc.		FTR		MTBF		availability	
MTBF (year)	**targets**		1/year		year		%
ProSafe-RS availability							
99.99993 %	set MTTR	8	hour				

results

	FTR		MTBF		availability	
	0.04	1/year	28.53	year	99.99680	%
	4.001E+00	E-6/hr				
targets met?	n.a		n.a		n.a	

manufacturer	model	Type (A/B)	failure rates per circuit (E-6/hr)			total number of circuits for SIS Availability calculation, based on below voting principles					
			λ_S	λ_{Dd}	λ_{Du}	1oo1	1oo2	1oo3	2oo2	2oo3	2oo4
Sensor Interface Modules											
P&F	HiC2025 (1oo1)	A	0.00E+00	1.63E-01	4.09E-02	24					

Attachment -1

System Architecture

1724000594-IN-DD-00015_Rev 04

Number of pages that follow: 4

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	System Architecture	Sheet 1 of 4 Date: 28/07/2025 Rev: 06

Base Load Power Hub (BLPH)

System Architecture

Document Number: 1724000594-IN-DD-00015

Supplier Document Number: E366772C00-SA

Document Class: 2

Rev.	Date	Description	Prepared	Reviewed	Approved
06	28/07/2025	As Built (ASB)	MDO	MGA	MDO
05	16/05/2025	Accepted for Construction (AFC)	SKR	MP/AB	SC
04	14/02/2025	Issue for Review (IFR)	SKR	MP/AB	SC
03	26/08/2024	Issue for Review (IFR)	SKR	MP/AB	SC
02	28/06/2024	Issue for Review (IFR)	SKR	MP/AB	SC
01	24/05/2024	Issue for Review (IFR)	SKR	MP/AB	SC
00	23/04/2024	Issue for Review (IFR)	SKR	AB	SC

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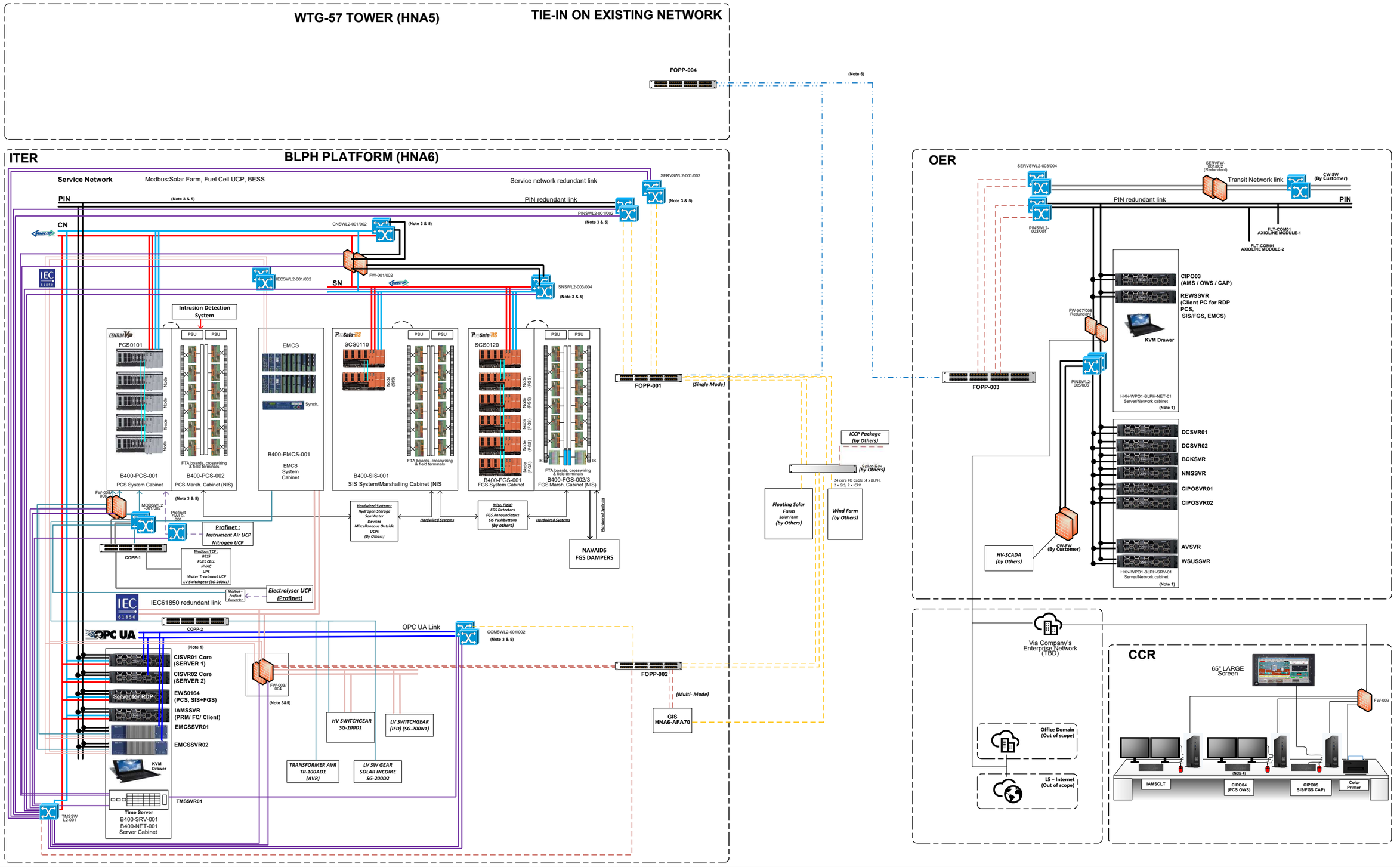
CROSSWIND BLPH PROJECT - SYSTEM ARCHITECTURE



AMS	: Alarm Management System	FCS	: Field Control Station
AV	: Anti-virus	FGS	: Fire & Gas System
BCK	: Backup Server	FO	: Fiber Optic
BESS	: Battery Energy Storage System	FOPP	: Fiber Optic Patch Panel (by others)
BLPH	: Base Load Power Hub	FTA	: Field Termination Assembly
CAP	: Critical Alarm Panel	HIST	: Historian
CCR	: Central Control Room	HKN	: Hollandse Kust Noord
CI	: Collaborative Information	IAMS	: Instrument Asset Management System
CN	: Control Network	ITER	: Instrument & Telecom Equipment Room
DC	: Domain Controller	LHVS	: Land High Voltage Station
DMZ	: De-militarized Zone	MCC	: Motor Control Center
ESB	: IO communication bus	MODB	: Modbus
EWS	: Engineering Work Station	MQTT	: Network Queuing Telemetry Transport
FC	: Field Communication (Vnet/IP)	NMS	: Network Management System

OER	: Onshore Equipment Room		
OHVS	: Offshore High Voltage Station		
OWS	: Operator Work Station		
PIN	: Plant Information Network		
PKG	: Package		
RDP	: Remote Desktop Protocol		
SCS	: Safety Control Station		
SIS	: Safety Instrumented System		
SN	: Safety Network		
SW	: Switch		
UCP	: Unit Control Panel (3rd party systems)		
VM	: Virtual Machine		
Vnet/IP	: Yokogawa's Control network		
WSUS	: Windows Security Update Services		

LEGEND:

- PIN (Plant Information Network)
- Vnet/IP BUS 1 PCS
- Vnet/IP BUS 2 PCS
- Vnet/IP BUS 1 SIS/FGS
- Vnet/IP BUS 2 SIS/FGS
- ESB bus connection
- IEC61850 connection
- OPC UA connection
- Service Network connection
- Modbus TCP connection
- Profinet (non redundant)
- Fiber Optic Single Mode
- Fiber Optic Multi Mode
- Fiber Optic backbone (by Crosswind)
- System Cable connection
- NTP Connection

Note 1 : Exact assignment of Servers per cabinet to be defined in cabinet General Arrangement Drawing.
Note 2 : For IP Addresses refer to 1724000594-IN-RE-00043 Cyber Security Settings
Note 3 : All Network Components will be installed in Network Cabinet.
Note 4 : Supply of Console Desk in CCR is in Customer Scope.
Note 5 : All Network Switches and Firewall is configured in VLAN.
Note 6 : Intermediate FO Connection between HNA5 and OER Intentionally not shown.

Zone-1	: PCS Control Zone	Zone-2	: Safety Control Zone
Zone-3	: PCS Zone	Zone-4	: Application Server Facility Zone
Zone-5	: Security Management Zone-1	Zone-6	: Security Management Zone-2
Zone-7	: Demilitirized Zone	Zone-8	: Croswind Zone
Zone-9	: Service Network Zone	Zone-10	: Application Server Facility Zone-OD
Zone-11	: Third Party System Zone		: Out of Scope

REV	DWG BY	CHK BY	APP BY	DATE
06	MDO	MGA	MDO	28-Jul-25
05	SKR	AB	SC	16-May-25
04	SKR	MP/AB	SC	17-Dec-24
03	SKR	MP/AB	SC	26-Aug-24
02	SKR	MP/AB	SC	28-Jun-24
01	SKR	MP/AB	SC	24-May-25

Doc No : 1724000594-IN-DD-00015
Doc Name : System Architecture

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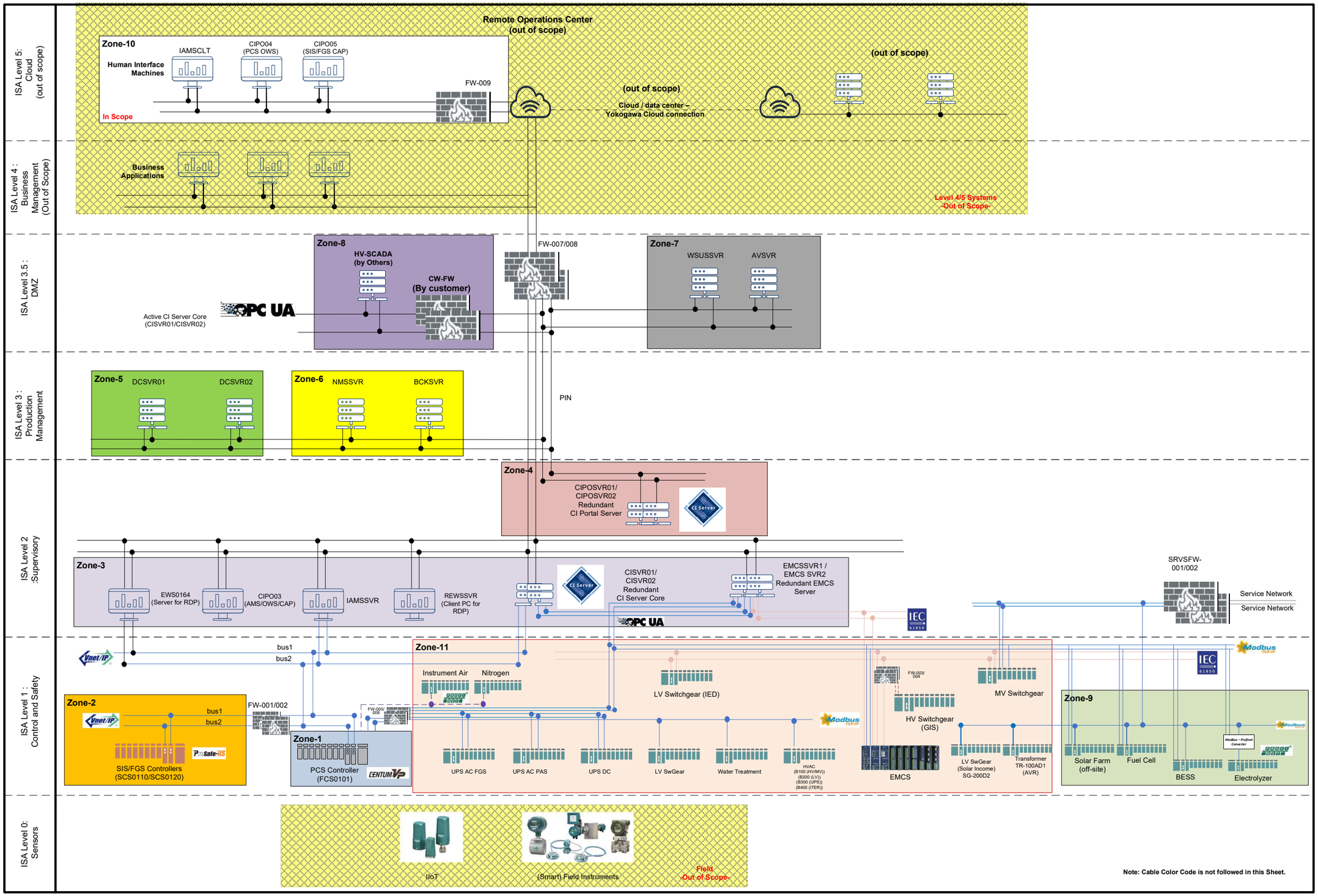
CROSSWIND BLPH PROJECT - CYBER ARCHITECTURE



AMS	: Alarm Management System	FCS	: Field Control Station	OER	: Onshore Equipment Room
AV	: Anti-virus	FGS	: Fire & Gas System	OHVS	: Offshore High Voltage Station
BCK	: Backup Server	FO	: Fiber Optic	OWS	: Operator Work Station
BESS	: Battery Energy Storage System	FOPP	: Fiber Optic Patch Panel (by others)	PIN	: Plant Information Network
BLPH	: Base Load Power Hub	FTA	: Field Termination Assembly	PKG	: Package
CAP	: Critical Alarm Panel	HIST	: Historian	RDP	: Remote Desktop Protocol
CCR	: Central Control Room	HKN	: Hollandse Kust Noord	SCS	: Safety Control Station
CI	: Collaborative Information	IAMS	: Instrument Asset Management System	SIS	: Safety Instrumented System
CN	: Control Network	ITER	: Instrument & Telecom Equipment Room	SN	: Safety Network
DC	: Domain Controller	LHVS	: Land High Voltage Station	SW	: Switch
DMZ	: De-militarized Zone	MCC	: Motor Control Center	UCP	: Unit Control Panel (3rd party systems)
ESB	: IO communication bus	MODB	: Modbus	VM	: Virtual Machine
EWS	: Engineering Work Station	MQTT	: Message Queuing Telemetry Transport	Vnet/IP	: Yokogawa's Control network
FC	: Field Communication (Vnet/IP)	NMS	: Network Management System	WSUS	: Windows Security Update Services

LEGEND:
- PIN (Plant Information Network)
- Vnet/IP BUS 1 PCS
- Vnet/IP BUS 2 PCS
- Vnet/IP BUS 1 SIS/FGS
- Vnet/IP BUS 2 SIS/FGS
- ESB bus connection
- IEC61850 connection
- OPC UA connection
- Service Network connection
- Modbus TCP connection
- Profinet (non redundant)
- Fiber Optic Single Mode
- Fiber Optic Multi Mode
- Fiber Optic backbone (by Crosswind)
- System Cable connection
- NTP Connection

Note 1 : Exact assignment of Servers per cabinet to be defined in cabinet General Arrangement Drawing.
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Zone-9	: Service Network Zone	Zone-10	: Application Server Facility Zone-OD
Zone-11	: Third Party System Zone		: Out of Scope

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Doc No : 1724000594-IN-DD-00015
Doc Name : System Architecture

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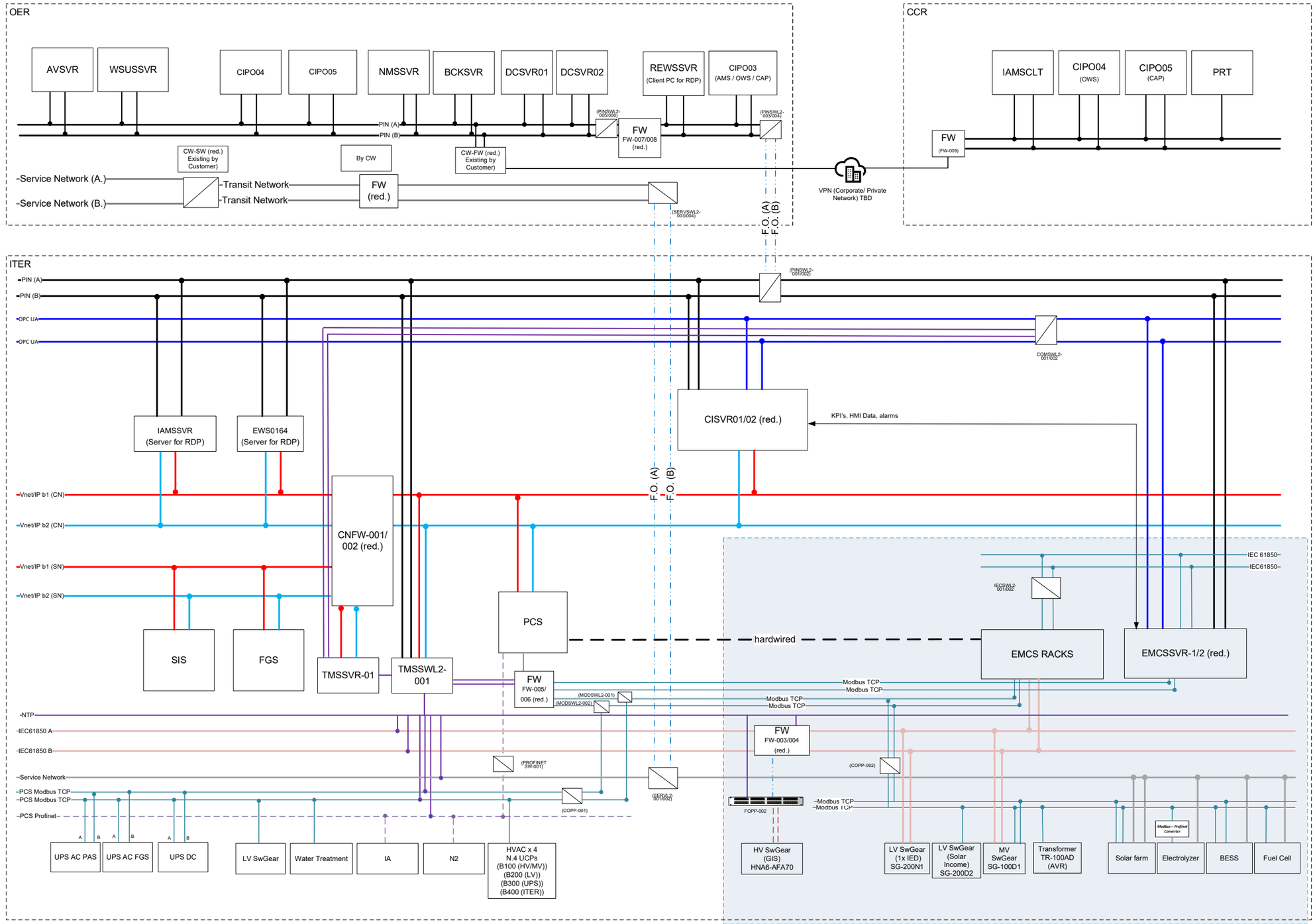
CROSSWIND BLPH PROJECT - SYSTEM BLOCK DIAGRAM



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Zone-9 : Service Network Zone
Zone-10: Application Server Facility Zone-OD
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REV	DWG BY	CHK BY	APP BY	DATE
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04	SKR	MP/AB	SC	17-Dec-24
03	SKR	MP/AB	SC	26-Aug-24
02	SKR	MP/AB	SC	28-Jun-24
01	SKR	MP/AB	SC	24-May-24

Doc No : 1724000594-IN-DD-00015
Doc Name : System Architecture

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Appendix II

Safety Certificates and Safety Manuals

Number of pages that follow: 44

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D	D	D	R	
D	9	M	0 0	

Yokogawa's d d r d r d r d d d d d d r 0 r

M r r	M d		λ	λDD	λD
r	D 1 d 0		0	1 01	09 0

d r r r d d r r d d r 0 1 1 r d r d r 0 r r r 0 r d d d r d r d r d r d r 0 r d

kogawa's approach is to use the reliability data in a conservative way, thus minimizing the chance r d

M r r 9 r d r R 1

r 08 1 0 0			r 08 1 0 0
R d r r			r
R d 1 190 1			R d 08 0 0 M

Functional Safety

SMART Transmitter Power Supply KCD2-STC-(Ex)1(.SP), HiC2025(A)

Manual

SIL

IEC 61508/61511

ISO9001

CE SIL 2

Your automation, our passion.

PEPPERL+FUCHS

With regard to the supply of products, the current issue of the following document is applicable:
The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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https://www.pepperl-fuchs.com

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3.1 System Structure 10
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Functional Safety KCD2-STC-(Ex)1(.SP), HiC2025(A)

Contents

1 Introduction

1.1 Content of this Document

This document contains information for usage of the device in functional safety-related applications. You need this information to use your product throughout the applicable stages of the product life cycle. These can include the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal

Note

This document does not substitute the instruction manual.

Note

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.

The documentation consists of the following parts:

- Present document
- Instruction manual
- Manual
- Datasheet

Additionally, the following parts may belong to the documentation, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- FMEDA report
- Assessment report
- Additional documents

For more information about Pepperl+Fuchs products with functional safety, see www.pepperl-fuchs.com/sil.

1.2 Safety Information

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

The device is developed, manufactured and tested according to the relevant safety standards.

Use the device only

- for the application described
- with specified environmental conditions
- with devices that are suitable for this safety application

Improper Use

Protection of the personnel and the plant is not ensured if the device is not used according to its intended use.

1.3 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:



Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.



Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.



Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols



Note

This symbol brings important information to your attention.



Action

This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

2 Product Description

2.1 Validity

This manual is only valid for devices with a part number **greater than #310000**.

Contact your Pepperl+Fuchs representative for information about older devices.

2.2 Function

KCD2-STC-1(.SP)

This signal conditioner provides the galvanic isolation between field circuits and control circuits.

The device supplies 2-wire transmitters in the field, and can also be used with current sources.

The device transfers the analog input signal to the control side as an isolated current value.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data. If the HART communication resistance in the loop is too low, the internal resistance can be used.

Test sockets for the connection of HART communicators are integrated into the terminals of the device.

The output is selected as a current source, current sink, or voltage source via DIP switches.

The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

SP version

The devices are available with screw terminals or spring terminals. The type code of the versions of the devices with spring terminals has the extension ".SP".

KCD2-STC-Ex1(.SP)

This isolated barrier is used for intrinsic safety applications.

The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources.

The device transfers the analog input signal to the non-hazardous area as an isolated current value.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data. If the HART communication resistance in the loop is too low, the internal resistance can be used.

Test sockets for the connection of HART communicators are integrated into the terminals of the device.

The output is selected as a current source, current sink, or voltage source via DIP switches.

The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

SP version

The devices are available with screw terminals or spring terminals. The type code of the versions of the devices with spring terminals has the extension ".SP".

HiC2025(A)

This isolated barrier is used for intrinsic safety applications.

The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources.

The device transfers the analog input signal to the non-hazardous area as an isolated current value.

Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.

The output is selected as a current source, current sink, or voltage source via DIP switches.

This device mounts on a HiC termination board.

A version

Device version A has reduced intrinsically safe parameters.

2.3 Interfaces

The device has the following interfaces.

- Safety relevant interfaces: input I, output I
- Non-safety relevant interfaces: none
  The HART communication is not relevant for functional safety.

Note

For corresponding connections see datasheet.

2.4 Marking

Pepperl+Fuchs Group Lilienthalstraße 200, 68307 Mannheim, Germany
Internet: www.pepperl-fuchs.com

KCD2-STC-1(.SP)	Up to SIL 2
KCD2-STC-Ex1(.SP)	
HiC2025(A)	

2.5 Standards and Directives for Functional Safety

Device specific standards and directives

Functional safety	IEC/EN 61508, part 1 – 7, edition 2010: Functional safety of electrical/electronic/programmable electronic safety-related systems (manufacturer)

System-specific standards and directives

Functional safety	IEC 61511-1:2016+COR1:2016+A1:2017 EN 61511-1:2017+A1:2017 Functional safety – Safety instrumented systems for the process industry sector (user)

3 Planning

3.1 System Structure

3.1.1 Low Demand Mode of Operation

If there are two control loops, one for the standard operation and another one for the functional safety, then usually the demand rate for the safety loop is assumed to be less than once per year.

The relevant safety parameters to be verified are:

- the PFD_{avg} value (average **P**robability of dangerous **F**ailure on **D**emand) and the T_1 value (proof test interval that has a direct impact on the PFD_{avg} value)
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance)

3.1.2 High Demand or Continuous Mode of Operation

If there is only one safety loop, which combines the standard operation and safety-related operation, then usually the demand rate for this safety loop is assumed to be higher than once per year.

The relevant safety parameters to be verified are:

- the PFH value (**P**robability of dangerous **F**ailure per **H**our)
- Fault reaction time of the safety system
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance)

3.1.3 Safe Failure Fraction

The safe failure fraction describes the ratio of all safe failures and dangerous detected failures to the total failure rate.

$SFF = (\lambda_s + \lambda_{dd}) / (\lambda_s + \lambda_{dd} + \lambda_{du})$

A safe failure fraction as defined in IEC/EN 61508 is only relevant for elements or (sub)systems in a complete safety loop. The device under consideration is always part of a safety loop but is not regarded as a complete element or subsystem.

For calculating the SIL of a safety loop it is necessary to evaluate the safe failure fraction of elements, subsystems and the complete system, but not of a single device.

Nevertheless the SFF of the device is given in this document for reference.

3.2 Assumptions

The following assumptions have been made during the FMEDA:

- Failure rate based on the Siemens standard SN 29500.
- Failure rates are constant, wear is not considered.
- External power supply failure rates are not included.
- The safety-related device is considered to be of type **A** device with a hardware fault tolerance of **0**.
- The device will be used under average industrial ambient conditions comparable to the classification "stationary mounted" according to MIL-HDBK-217F.

  Alternatively, operating stress conditions typical of an industrial field environment similar to IEC/EN 60654-1 Class C with an average temperature over a long period of time of 40 °C may be assumed. For a higher average temperature of 60 °C, the failure rates must be multiplied by a factor of 2.5 based on experience. A similar factor must be used if frequent temperature fluctuations are expected.
- The application program in the programmable logic controller (PLC) is configured to detect underrange and overrange failures.
- The device do not has a fault bus.

SIL 2 Application

- To build a SIL safety loop for the defined SIL, it is assumed as an example that this device uses 10 % of the available budget for PFD_{avg}/PFH.
- For a SIL 2 application operating in low demand mode the total PFD_{avg} value of the SIF (**S**afety **I**nstrumented **F**unction) should be smaller than 10^{-2}, hence the maximum allowable PFD_{avg} value would then be 10^{-3}.
- For a SIL 2 application operating in high demand mode the total PFH value of the SIF should be smaller than 10^{-6} per hour, hence the maximum allowable PFH value would then be 10^{-7} per hour.
- Since the safety loop has a hardware fault tolerance of **0** and it is a type **A** device, the SFF must be > 60 % according to table 2 of IEC/EN 61508-2 for a SIL 2 (sub) system.

3.3 Safety Function and Safe State

Safety Function

The device transfers analog signals from the input to the output with a tolerance of 2 % related to the full signal range.

Use the following DIP switch settings for safety-relevant applications:

DIP Switch Settings KCD2-STC-(Ex)1(.SP)

Function	S1	S2	S3	S4
Current source 4 mA to 20 mA	II	II	I	II
Voltage source 1 V to 5 V	II	II	I	I
Current sink 4 mA to 20 mA	II	I	II	II

Table 3.1

DIP Switch Settings HiC2025(A)

Function	S1	S2	S3	S4
Current source 4 mA to 20 mA	OFF	OFF	ON	OFF
Voltage source 1 V to 5 V	OFF	OFF	ON	ON
Current sink 4 mA to 20 mA	OFF	ON	OFF	OFF

Table 3.2

Safe State

In the safe state, the following values must be reached at the output:

- < 3.6 mA or > 21.5 mA,
- < 0.9 V or > 5.375 V,

Reaction Times

The safety reaction time is the maximum time required from the occurrence of the fault to the reaction of the outputs in normal operation without faults.

The combined fault detection and fault reaction time is the time in which the device outputs react to an occurred fault. See chapter 3.4.

Note

See corresponding datasheets for further information.

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3.4 Characteristic Safety Values

Parameters	Characteristic values
Assessment type	Full assessment
Device type	A
Mode of operation	Low demand mode or high demand mode
HFT	0
SIL	2
SC	3
Safety function	Transfer of the analog signals
λ_s [1]	0 FIT
λ_{dd}	163 FIT
λ_{du}	40.9 FIT
$\lambda_{total\ (safety\ function)}$ [1]	204 FIT
$\lambda_{not\ part}$	18.6 FIT
SFF [1]	79 %
MTBF [2]	276 years
PFH	4.09×10^{-8} 1/h
PFD_{avg} for T_{proof} = 1 year	1.79×10^{-4}
PFD_{avg} for T_{proof} = 2 years	3.58×10^{-4}
PFD_{avg} for T_{proof} = 5 years	8.96×10^{-4}
PTC	100 %
Safety reaction time Fault reaction time [3]	< 20 ms < 100 ms

Table 3.3

1 "No effect failures" are not influencing the safety function and are therefore not included in SFF and in the failure rates of the safety function.

2 acc. to SN29500. This value includes failures which are not part of the safety function/MTTR = 24 h.

3 Time between fault occurence and fault reaction

The characteristic safety values like PFD, SFF, HFT and T_1 are taken from the SIL report/FMEDA report. Observe that PFD and T_1 are related to each other.

The function of the devices has to be checked within the proof test interval (T_1).

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3.5 Useful Lifetime

Although a constant failure rate is assumed by the probabilistic estimation this only applies provided that the useful lifetime of components is not exceeded. Beyond this useful lifetime, the result of the probabilistic estimation is meaningless as the probability of failure significantly increases with time. The useful lifetime is highly dependent on the component itself and its operating conditions – temperature in particular. For example, electrolytic capacitors can be very sensitive to the operating temperature.

This assumption of a constant failure rate is based on the bathtub curve, which shows the typical behavior for electronic components.

Therefore it is obvious that failure calculation is only valid for components that have this constant domain and that the validity of the calculation is limited to the useful lifetime of each component.

It is assumed that early failures are detected to a huge percentage during the installation and therefore the assumption of a constant failure rate during the useful lifetime is valid.

However, according to IEC/EN 61508-2, a useful lifetime, based on general experience, should be assumed. Experience has shown that the useful lifetime often lies within a range period of about 8 to 12 years.

As noted in DIN EN 61508-2:2011 note N3, appropriate measures taken by the manufacturer and plant operator can extend the useful lifetime.

Our experience has shown that the useful lifetime of a Pepperl+Fuchs product can be higher if the ambient conditions support a long life time, for example if the ambient temperature is significantly below 60 °C.

Please note that the useful lifetime refers to the (constant) failure rate of the device. The effective life time can be higher.

The estimated useful lifetime is greater than the warranty period prescribed by law or the manufacturer's guarantee period. However, this does not result in an extension of the warranty or guarantee services. Failure to reach the estimated useful lifetime is not a material defect.

4 Mounting and Installation

Mounting and Installing the Device

1. Observe the safety instructions in the instruction manual.
2. Observe the information in the manual.
3. Observe the requirements for the safety loop.
4. Connect the device only to devices that are suitable for this safety application.
5. Check the safety function to ensure the expected output behavior.

4.1 Configuration

Configuring the Devices with DIP Switches on the Device Side

The device is configured via DIP switches. The DIP switches for setting the safety functions are on the side of the device.

1. De-energize the device before configuring the device.
2. Remove the device.
3. Configure the device for the required safety function via the DIP switches, see chapter 3.3.
4. Secure the DIP switches to prevent unintentional adjustments.
5. Mount the device.
6. Connect the device again.

Configuring the Devices with DIP Switches on the Front Side

The device is configured via DIP switches. The DIP switches for setting the safety functions are on the front of the device.

1. De-energize the device before configuring the device.
2. Open the cover.
3. Configure the device for the required safety function via the DIP switches, see chapter 3.3.
4. Close the cover.
5. Secure the DIP switches to prevent unintentional adjustments.
6. Connect the device again.

Note

See corresponding datasheets for further information.

5 Operation



Danger!

Danger to life from missing safety function

If the safety loop is put out of service, the safety function is no longer guaranteed.

- Do not deactivate the device.
- Do not bypass the safety function.
- Do not repair, modify, or manipulate the device.



Operating the device

1. Observe the safety instruction in the instruction manual.
2. Observe the information in the manual.
3. Use the device only with devices that are suitable for this safety application.
4. Correct any occurring safe failures within 24 hours. Take measures to maintain the safety function while the device is being repaired.

5.1 Proof Test Procedure

This section describes a possible proof test procedure. The user is not obliged to use this proposal. The user may consider different concepts with an individual determination of the respective effectiveness, e. g. concepts according to NA106:2018.

According to IEC/EN 61508-2 a recurring proof test shall be undertaken to reveal potential dangerous failures that are not detected otherwise.

Check the function of the subsystem at periodic intervals depending on the applied PFD_{avg} in accordance with the characteristic safety values. See chapter 3.4.

It is under the responsibility of the plant operator to define the type of proof test and the interval time period.

Equipment required:

- Digital multimeter with an accuracy better than 0.1 %

  Use for the proof test of the intrinsic safety side of the device a special digital multimeter for intrinsically safe circuits.

  If intrinsically safe circuits are operated with non-intrinsically safe circuits, they must no longer be used as intrinsically safe circuits.
- Power supply set to nominal voltage of 24 V DC
- Process calibrator with current source and current sink function with an accuracy better than 20 µA

Proof Test Procedure

1. Put out of service the entire safety loop. Protect the application by means of other measures.
2. Prepare a test set-up, see figures below.
3. Test the devices. Verify the current values as given in table below.
4. Set back the device to the original settings for the application after the test.

Step No.	Input	Output		
	Input value (mA)	Output value (mA)	Output value for 2-wire Tx (V)	Output value for 4-wire Tx (V)
1	20.00	20.00 ± 0.4	15.3 ± 0.6	4.1 ± 1.5
2	12.00	12.00 ± 0.4	17.3 ± 0.6	4.1 ± 1.5
3	4.00	4.00 ± 0.4	19.3 ± 0.6	4.1 ± 1.5
4 [1]	23.00	23.00 ± 0.4	14.4 ± 0.6	4.1 ± 1.5
5 [1]	0	< 0.2	22.0 ± 2.0	n. a.
6	12.00			

Table 5.1 Steps to be performed for the proof test

[1] The output shall detect a fail high or fail low condition.

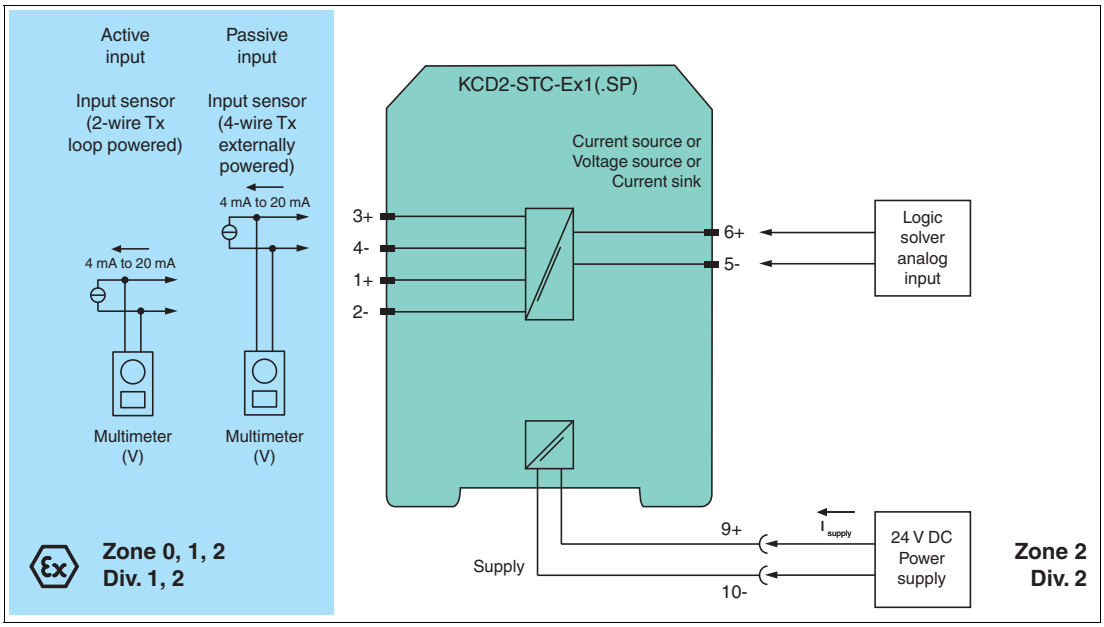

Figure 5.1 Proof test set-up for KCD2-STC-(Ex)1(.SP)

Usage in Zone 0, 1, 2/Div. 1, 2 only for KCD2-STC-Ex1(.SP)

2020-04

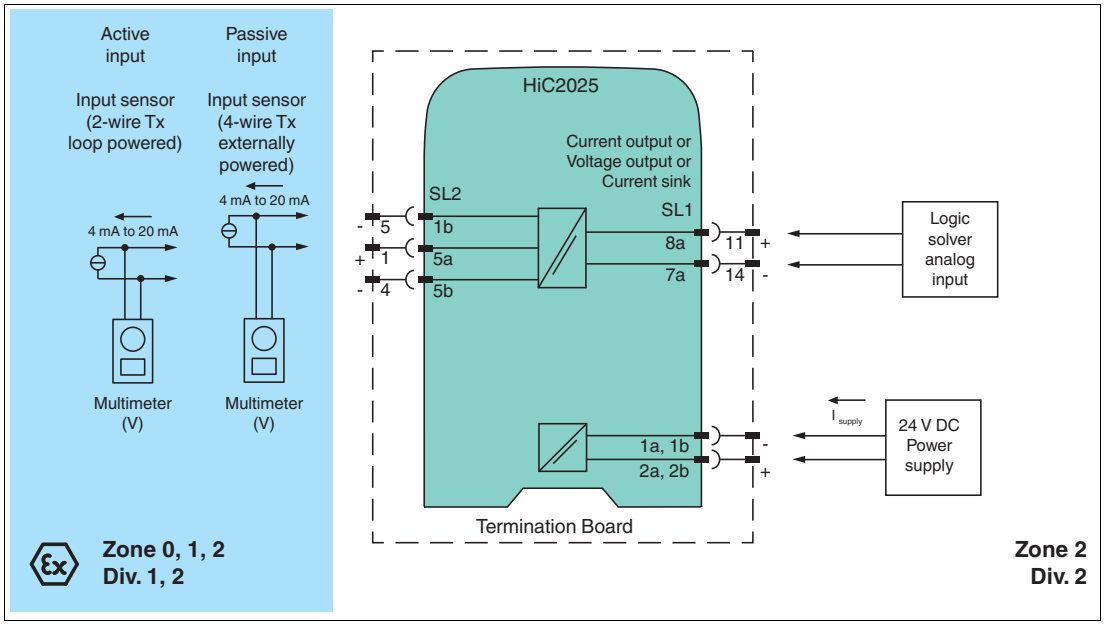

Figure 5.2 Proof test set-up for HiC2025(A)

Tip

The easiest way to test HiC devices is by using a stand-alone HiCTB**-SCT-***-**-** termination board. In this test, it is not necessary to disconnect the wiring of the existing application. Faults in a subsequent wiring can be avoided.

2020-04

6 Maintenance and Repair



Danger!

Danger to life from missing safety function

Changes to the device or a defect of the device can lead to device malfunction.
The function of the device and the safety function is no longer guaranteed.

Do not repair, modify, or manipulate the device.



Maintaining, Repairing or Replacing the Device

In case of maintenance, repair or replacement of the device, proceed as follows:

1. Implement appropriate maintenance procedures for regular maintenance of the safety loop.
2. While the device is maintained, repaired or replaced, the safety function does not work.
   Take appropriate measures to protect personnel and equipment while the safety function is not available.
   Secure the application against accidental restart.
3. Do not repair a defective device. A defective device must only be repaired by the manufacturer.
4. If there is a defect, always replace the device with an original device.

7 List of Abbreviations

ESD	**E**mergency **S**hut**d**own
FIT	**F**ailure **I**n **T**ime in 10^{-9} 1/h
FMEDA	**F**ailure **M**ode, **E**ffects, and **D**iagnostics **A**nalysis
λ_s	Probability of safe failure
λ_{dd}	Probability of dangerous detected failure
λ_{du}	Probability of dangerous undetected failure
$\lambda_{no\ effect}$	Probability of failures of components in the safety loop that have no effect on the safety function.
$\lambda_{not\ part}$	Probability of failure of components that are not in the safety loop
$\lambda_{total\ (safety\ function)}$	Probability of failure of components that are in the safety loop
HFT	**H**ardware **F**ault **T**olerance
MTBF	**M**ean **T**ime **B**etween **F**ailures
MTTR	**M**ean **T**ime **T**o **R**estoration
PCS	**P**rocess **C**ontrol **S**ystem
$\mathbf{PFD}_{avg}$	Average **P**robability of dangerous **F**ailure on **D**emand
PFH	Average frequency of dangerous failure per hour
PLC	**P**rogrammable **L**ogic **C**ontroller
PTC	**P**roof **T**est **C**overage
SC	**S**ystematic **C**apability
SFF	**S**afe **F**ailure **F**raction
SIF	**S**afety **I**nstrumented **F**unction
SIL	**S**afety **I**ntegrity **L**evel
SIS	**S**afety **I**nstrumented **S**ystem
$\mathbf{T}_1$	Proof Test Interval

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

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Safety Assessment
by Safety Assurance

Device Front Sheet: Revision 5

Pepperl+Fuchs - Relay Module				
Device Type No. KFD0-RSH-1.4S.PS2				
Doc. ref.	Document name	Date	Revision	Institute
225538	Safety Manual SIL	04-01-2011	-	P+F
P+F 100397R1C P0006 C04.2	Certificate	03-05-2011	-	Exida

Yokogawa's independent group of Safety Experts has assessed the reliability data in the attached report and proposes to use these data as follows (values in E-06/hr):

Manufacturer	Model	Type	λ_S (*)	λ_{DD} (*)	λ_{DU} (*)
Pepperl+Fuchs	KFD0-RSH-1.4S.PS2 **DTS**	A	3.50E-02	0	1.83E-03
Pepperl+Fuchs	KFD0-RSH-1.4S.PS2 **ETS**	A	5.71E-02	0	7.10E-03

(*) The listed failure rates are valid for operating stress conditions typical of an industrial field environment similar to IEC 60541-1 class C (sheltered location) with an average temperature of 40°C. For a higher average temperature of 60°C, the failure rates should be multiplied by 2,5. A similar multiplier should be used if frequent temperature fluctuation must be assumed.

Yokogawa's approach is to use the reliability data in a conservative way, thus minimizing the chance of a too optimistic calculation. On request the calculation can always be repeated with less conservative data.

Manufacturer claims compliance to Systematic Capability: SC3(*)
(*) P+F 090535 P0006 C011.2, Exida (or more recent)

Considerations

The attached report clearly refers to IEC61508:2000 (see 1.4)

Currently the reference should be to IEC61508: 2010 and consequently some failures that have been included in the λ_{total} should be left out of the calculation (this results in the value of λ_S above).

The failures that have been left out of the calculation were established in a discussion with P&F in November 2010; however they did not find their way into above report of April 2011.

Amersfoort, 15 – 10 – 2019
Rob van der Harst
Functional Safety Consultant
FS Eng (TÜV Rheinland, #13190/16, SIS)

Amersfoort, 15 – 10 – 2019
Arjan Kroon
Functional Safety Consultant
FS Eng (TÜV Rheinland, #4458/19, SIS)

PROCESS AUTOMATION



SAFETY MANUAL SIL

RELAY MODULE

KFD0-RSH-1.4S.PS2

SIL

IEC 61508/61511

ISO9001

CE

SIL3

PEPPERL+FUCHS

PROTECTING YOUR PROCESS

With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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225538 2011-04

1 Introduction

1.1 General Information

This manual contains information for application of the device in functional safety related loops.

The corresponding data sheets, the operating instructions, the system description, the Declaration of Conformity, the EC-Type-Examination Certificate, the Functional Safety Assessment and applicable Certificates (see data sheet) are integral parts of this document.

The documents mentioned are available from **www.pepperl-fuchs.com** or by contacting your local Pepperl+Fuchs representative.

Mounting, commissioning, operation, maintenance and dismounting of any devices may only be carried out by trained, qualified personnel. The instruction manual must be read and understood.

When it is not possible to correct faults, the devices must be taken out of service and action taken to protect against accidental use. Devices should only be repaired directly by the manufacturer. De-activating or bypassing safety functions or failure to follow the advice given in this manual (causing disturbances or impairment of safety functions) may cause damage to property, environment or persons for which Pepperl+Fuchs GmbH will not be liable.

The devices are developed, manufactured and tested according to the relevant safety standards. They must only be used for the applications described in the instructions and with specified environmental conditions, and only in connection with approved external devices.

1.2 Intended Use

This signal conditioner is a loop powered safety relay module with a logic input and two different relay outputs:

It can be used as an interface in output loops for fire and gas systems classified as SIL3. The safe state in this application is **e**nergized **t**o **s**afe (ETS). Output I with two relays in parallel must be used, no fuse available.

It can also be used as an interface in output loops for ESD (**E**mergency **S**hut **D**own) systems classified as SIL3. The safe state in this application is **d**e-energized **t**o **s**afe (DTS). Output II with two relays in series must be used. An additional fuse in series to the relay contacts is available (see chapter 3).

With both outputs in combination a non safety application for dual pole switching (DPS) is possible.

Additionally a test input for proof tests is available. The proof test checks if each single relay is working correctly.

The device is usually mounted on a DIN rail in cabinets with access for qualified personnel only.

225538 2011-04

1.3 Manufacturer Information

Pepperl+Fuchs GmbH

Lilienthalstrasse 200
68307 Mannheim/Germany

KFD0-RSH-1.4S.PS2

Up to SIL3 (for DTS), up to SIL3 (for ETS)

1.4 Relevant Standards and Directives

Device specific standards and directives

- Functional safety IEC 61508 part 1 – 7, edition 2000:
  Standard of functional safety of electrical/electronic/programmable electronic safety-related systems (product manufacturer)
- Electromagnetic compatibility:
  - EN 61326-1:2006
  - NE 21:2006

System specific standards and directives

- Functional safety IEC 61511 part 1 – 3, edition 2003:
  Standard of functional safety: safety instrumented systems for the process industry sector (user)

2 Planning

2.1 System Structure

2.1.1 Low Demand Mode

If there are two loops, one for the standard operation and another one for the functional safety, then usually the demand rate for the safety loop is assumed to be less than once per year.

The relevant safety parameters to be verified are:

- the PFD_{avg} value (average **P**robability of **F**ailure on **D**emand) and T_{proof} (proof test interval that has a direct impact on the PFD_{avg})
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance architecture)

2.1.2 High Demand Mode

If there is only one loop, which combines the standard operation and safety related operation, then usually the demand rate for this loop is assumed to be higher than once per year.

The relevant safety parameters to be verified are:

- PFH (**P**robability of dangerous **F**ailure per **H**our)
- Fault reaction time of the safety system
- the SFF value (**S**afe **F**ailure **F**raction)
- the HFT architecture (**H**ardware **F**ault **T**olerance architecture)

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2.2 Assumptions

The following assumptions have been made during the FMEDA analysis:

- Failure rates are constant, wear out mechanisms are not included.
- The stress levels are average for an industrial environment and can be compared to the Ground Fixed Classification of MIL-HNBK-217F. Alternatively, the assumed environment is similar to:
  - IEC 60654-1 Class C (sheltered location) with temperature limits within the manufacturer's rating and an average temperature over a long period of time of 40 °C. Humidity levels are assumed within manufacturer's rating. For a higher average temperature of 60 °C, the failure rates should be multiplied with an experience based factor of 2.5. A similar multiplier should be used if frequent temperature fluctuation must be assumed.
- Failure rate based on the Siemens SN29500 data base.
- It was assumed that the appearance of a safe error (e. g. output in safe state) would be repaired within 8 hours.
- During the absence of the device for repairing, measures have to be taken to ensure the safety function (for example: substitution by an equivalent device).
- For high currents and high ambient temperature the de-rating given in the data sheet needs to be considered.
- The input of the device must be connected to a safety PLC which has minimum the SIL needed in the loop.
- The device shall claim less than 10 % of the total failure budget for a SIL3 safety loop.
- For a SIL3 application operating in Low Demand Mode the total PFD_{avg} value of the SIF (**S**afety **I**nstrumented **F**unction) should be smaller than 10^{-3}, hence the maximum allowable PFD_{avg} value would then be 10^{-4}.
- For a SIL3 application operating in High Demand Mode of operation the total PFH value of the SIF should be smaller than 10^{-7} per hour, hence the maximum allowable PFH value would then be 10^{-8} per hour.
- Since the circuit has a Hardware Fault Tolerance of **0** and it is a type **A** component, the SFF must be > 90 % according to table 2 of IEC 61508-2 for SIL3 (sub)system.

2.3 Safety Function and Safe State

DTS

Safety Function

The safety function of the device is defined: Whenever the input of the device is de-energized, the DTS output is not conducting.

Safe State

For the DTS safety function the safe state is defined as the DTS output being open (not conducting).

Reaction Time

The reaction time is < 20 ms.

ETS

Safety Function

The safety function of the device is defined: Whenever the input of the device is energized, the ETS output is conducting.

Safe State

For the ETS safety function the safe state is defined as the ETS output being closed (conducting).

Reaction Time

The reaction time is < 20 ms.

DPS

The dual pole switching application is no safety application.

General

For all applications the maximum switching frequency is limited to 10 Hz.

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2.4 Characteristic Safety Values

Parameters acc. to IEC 61508	Variables	
Assessment type and documentation	Full assessment	
Pepperl+Fuchs FMEDA report [1]	FS-0042EA-20A	
Device type	A	
Demand mode	Low Demand Mode or High Demand Mode	
Safety function [2]	ETS [4]	DTS
HFT	0	0
SIL	3	3
$\lambda_{sd} + \lambda_{su}$	139.7 FIT	144.77 FIT
λ_{dd}	0 FIT	0 FIT
λ_{du}	7.1 FIT	1.83 FIT
$\lambda_{total\ (safety\ function)}$	146.6 FIT	146.6 FIT
SFF	95.2 %	98.7 %
MTBF [3]	639 years	560 years
PFH	7.1×10^{-9} 1/h	1.83×10^{-9} 1/h
PFD_{avg} for T_1 = 1 year	3.1×10^{-5}	8.01×10^{-6}
T_{proof} max.	3 years	12 years
Reaction time	< 20 ms	

[1] Pepperl+Fuchs documentation number

[2] The device can be used in two safety functions, ETS (energized to safe) and DTS (de-energized to safe).

[3] acc. to SN29500. This value includes failures which are not part of the safety function/MTTR = 8 h.

[4] For ETS in SIL2 applications no proof test has to be carried out, the calculated proof time is higher than the useful time (T_{proof} max. for ETS SIL2 is 32 years).

The characteristic safety values like PFD/PFH, SFF, HFT and T_{proof} are taken from the SIL report/FMEDA report. Please note, PFD and T_{proof} are related to each other.

The function of the devices has to be checked within the proof test interval (T_{proof}).

3 Safety Recommendation

3.1 Interfaces

The device has the following interfaces. For corresponding terminals see data sheet.

- Safety relevant interfaces: input, output I (ETS), output II (DTS)
- To avoid contact welding in DTS application we recommend to use a serial fuse in the load circuit. This can be the internal fuse F1 or any external fuse of max. 5 A nominal value.
- Test input interface may not be used during normal operation (only for proof test)

3.2 Configuration

A configuration of the device is not necessary and not possible.

ETS, DTS and DPS can be selected by using the referring terminals. See data sheet. The fuse in delivery status (2.5 A) can be changed to max 5 A. Please note the temperature derating according to the data sheet.

3.3 Useful Life Time

Although a constant failure rate is assumed by the probabilistic estimation this only applies provided that the useful life time of components is not exceeded. Beyond this useful life time, the result of the probabilistic calculation is meaningless as the probability of failure significantly increases with time. The useful life time is highly dependent on the component itself and its operating conditions – temperature in particular (for example, the electrolytic capacitors can be very sensitive to the working temperature).

This assumption of a constant failure rate is based on the bathtub curve, which shows the typical behavior for electronic components.

Therefore it is obvious that failure calculation is only valid for components that have this constant domain and that the validity of the calculation is limited to the useful life time of each component.

It is assumed that early failures are detected to a huge percentage during the installation period and therefore the assumption of a constant failure rate during the useful life time is valid.

However, according to IEC 61508-2, a useful life time, based on experience, should be assumed. Experience has shown that the useful life time often lies within a range period of about 8 ... 12 years.

Our experience has shown that the useful life time of a Pepperl+Fuchs product can be higher

- if there are no components with reduced life time in the safety path (like electrolytic capacitors, relays, flash memory, opto coupler) which can produce dangerous undetected failures and
- if the ambient temperature is significantly below 60 °C.

Please note that the useful life time refers to the (constant) failure rate of the device. The effective life time can be higher.

Maximum Switching Power of Output Contacts

The useful life time is limited by the maximum switching cycles under load conditions. You can see the relationship between the maximum switching power and the load conditions in the diagram below.

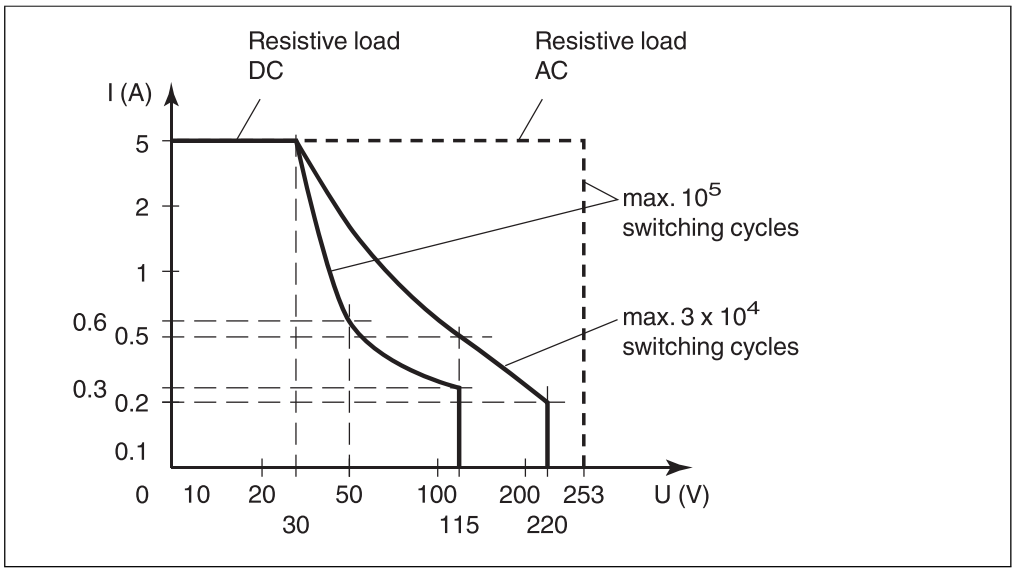

Figure 3.1

3.4 Installation and Commissioning

Installation has to consider all aspects regarding the SIL level of the loop. During installation or replacement of the device the loop has to shut down. Devices have to be replaced by the same type of devices.

4 Proof Test

4.1 Proof Test Procedure

According to IEC 61508-2 a recurring proof test shall be undertaken to reveal potential dangerous fails that are otherwise not detected by diagnostic test.

The functionality of the subsystem must be verified at periodic intervals depending on the applied PFD_{avg} in accordance with the data provided in see chapter 2.4.

It is under the responsibility of the operator to define the type of proof test and the interval time period.

The ancillary equipment required:

- A digital multimeter (without special accuracy) will be used as ohmmeter (mid range recommended) to check the relay outputs. Closed contacts are shown with 0 Ω (low impedance), open contacts are shown with OL (overload/high impedance).
- Power supply set at nominal voltage of 24 V DC

Procedure:

For the proof test five tests have to be done as shown in the following table and pictures:

Test No.	Input or Test Input	Output (mA)
1	$V_{test\ input}$ = 24 V DC between terminals 10+, 11-	■ DTS output (terminals 5, 6): OL (overload) ■ ETS output (terminals 2, 3): shows 0 Ω ■ Red LED TST1 is flashing.
2	$V_{test\ input}$ = 24 V DC between terminals 11-, 12+	■ DTS output (terminals 5, 6): OL (overload) ■ ETS output (terminals 2, 3): shows 0 Ω ■ Red LED TST2 is flashing.
3	$V_{test\ input}$ = 24 V DC between terminals 10+, 11- and between terminals 11-, 12+	■ DTS output (terminals 5, 6): shows 0 Ω ■ ETS output (terminals 2, 3): shows 0 Ω ■ Both red LEDs are flashing.
4	$V_{test\ input}$ = 0 V DC between terminals 10+, 11- and between terminals 11-, 12+	■ DTS output (terminals 5, 6): OL (overload) ■ ETS output (terminals 2, 3): OL (overload) ■ Both red LEDs are off.
5	V_{input} = 24 V DC between terminals 7+ and 8- and with changed input polarity between terminals 7-, 8+	■ DTS output (terminals 5, 6): shows 0 Ω ■ ETS output (terminals 2, 3): shows 0 Ω ■ Yellow LED is on.

Table 4.1 Expected test results for a successful proof test

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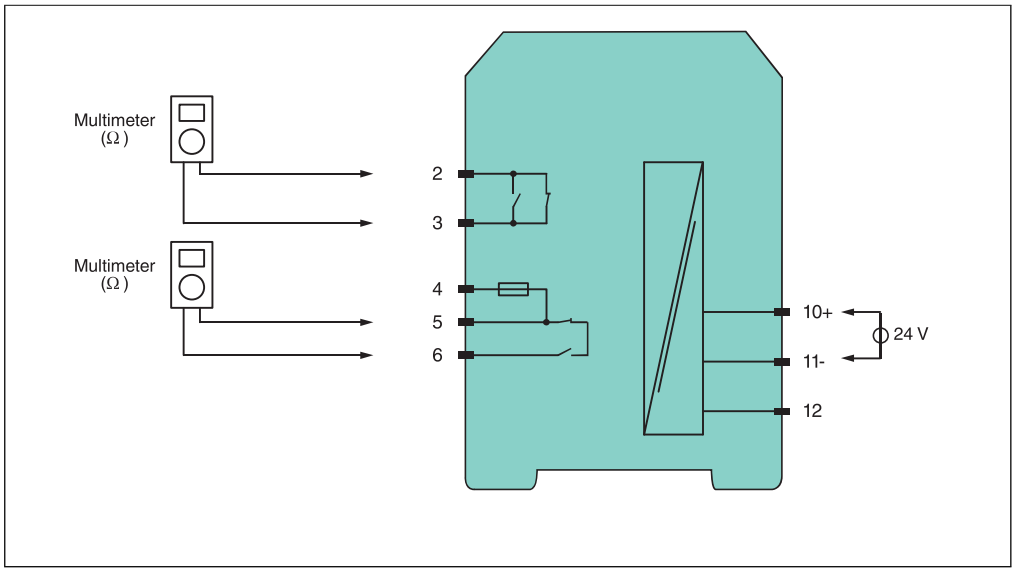

Figure 4.1 Proof test set-up for KFD0-RSH-1.4S.PS2, test 1

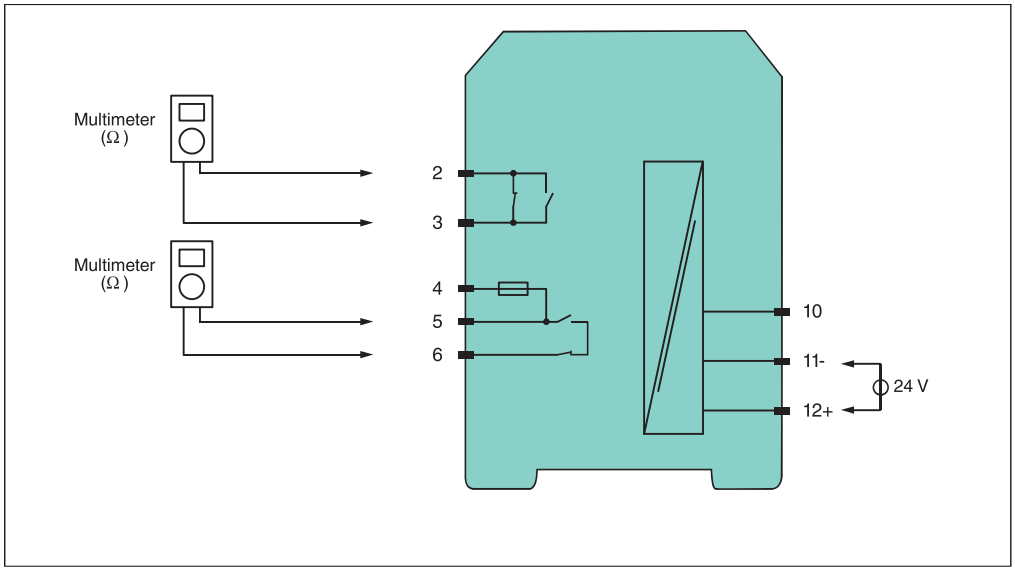

Figure 4.2 Proof test set-up for KFD0-RSH-1.4S.PS2, test 2

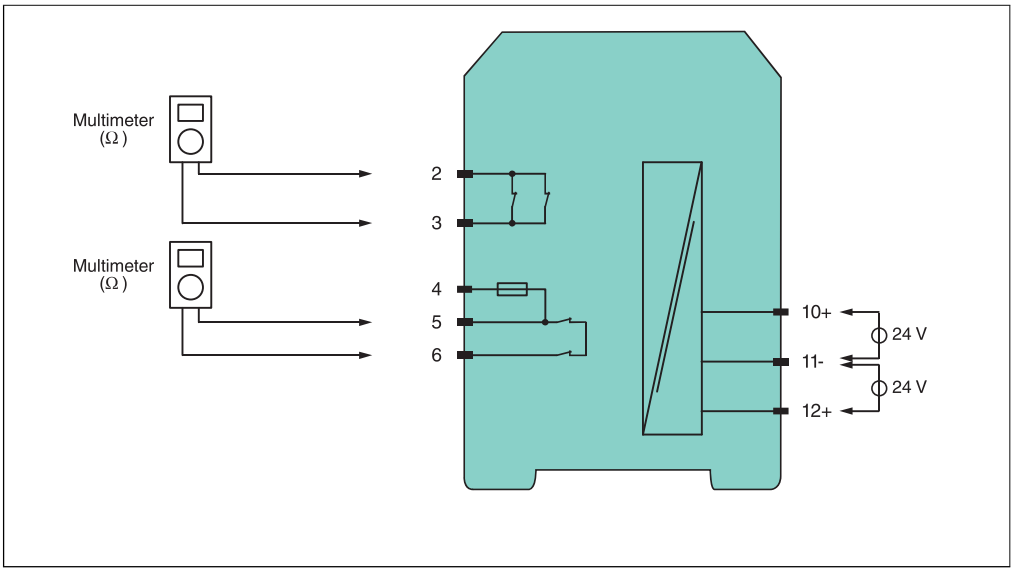

Figure 4.3 Proof test set-up for KFD0-RSH-1.4S.PS2, test 3

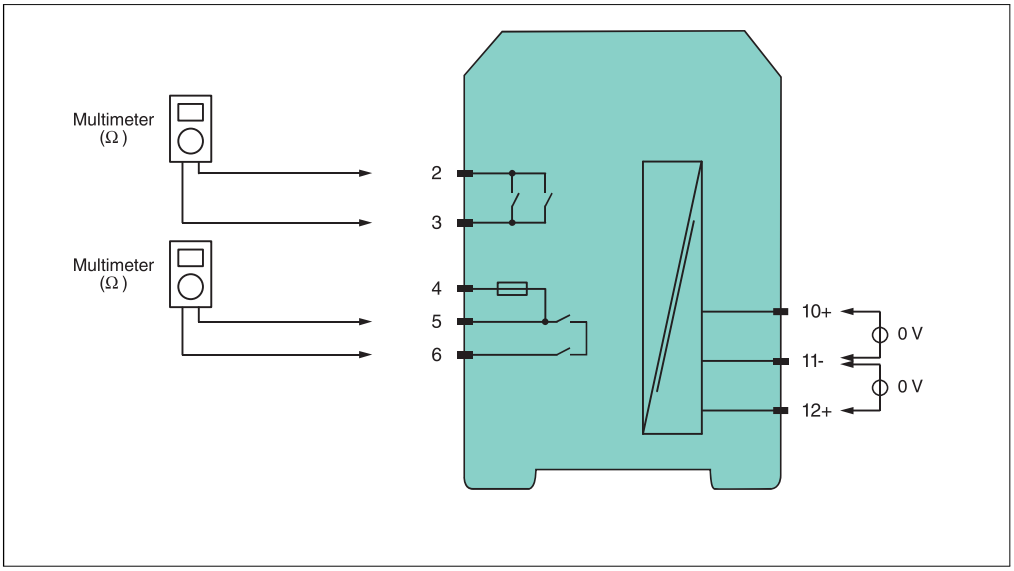

Figure 4.4 Proof test set-up for KFD0-RSH-1.4S.PS2, test 4

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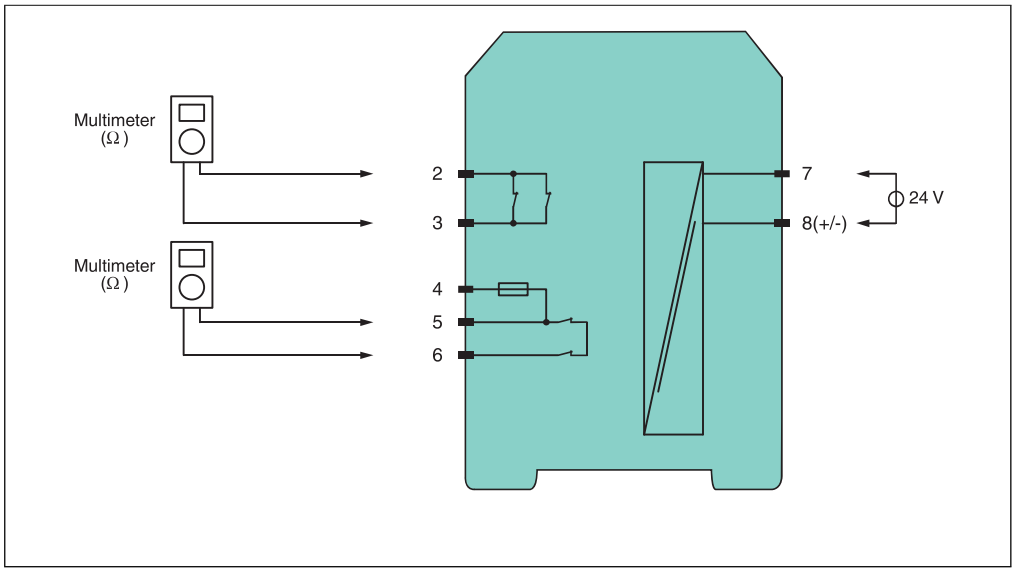

Figure 4.5 Proof test set-up for KFD0-RSH-1.4S.PS2, test 5

Only if all tests are successfully done, the proof test is successfull.

5 Abbreviations

FMEDA	**F**ailure **M**ode, **E**ffects and **D**iagnostics **A**nalysis
HFT	**H**ardware **F**ault **T**olerance
PFD_{avg}	Average **P**robability of **F**ailure on **D**emand
PFH	**P**robability of dangerous **F**ailure per **H**our
PTC	**P**roof **T**est **C**overage
SFF	**S**afe **F**ailure **F**raction
SIF	**S**afety **I**nstrumented **F**unction
SIL	**S**afety **I**ntegrity **L**evel
SIS	**S**afety **I**nstrumented **S**ystem
T_{proof}	Proof Test Interval
DPS	**D**ual **P**ole **S**witching
DTS	**D**e-energized **T**o **S**afe State
ESD	**E**mergency **S**hut **D**own
ETS	**E**nergized **T**o **S**afe State

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PROCESS AUTOMATION – PROTECTING YOUR PROCESS





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225538 TDOCT-2052CENG
04/2011

exida® CERTIFICATION

CERTIFICATE

P+F 100397R1C P0006 C04.2

exida Certification S.A. hereby confirms that the

Relay Module KFD0-RSH-1.4S.PS2

Product Version: 05-6166

Pepperl+Fuchs GmbH

Mannheim, Germany

Has been assessed per the relevant requirements of

IEC 61508:2000

Parts 1 - 2, and meets requirements providing a level of integrity to

Systematic Integrity : SIL 3 Capable

Random Integrity : SIL 3 Capable

Safety function

The Relay Module KFD0-RSH-1.4S.PS2 shall provide the following two Type A safety functions for applications in low or high demand mode of operation:

1. DTS - De-energize To trip (Safe) the relay output when the input is de-energized..
2. ETS - Energize To activate (Safe) the relay output when the input is energized.

Application Restrictions

The unit must be properly designed and validated in a Safety Instrumented Function per the requirements in the Safety Manual.

Assessors

Certifying Assessor

Date: 3 May 2011

exida Certification SA, Nyon, Switzerland

CERTIFICATE / CERTIFICAT / ZERTIFIKAT / 合格証

exida® CERTIFICATION

CERTIFICATE / CERTIFICAT / ZERTIFIKAT / 合格証

Systematic Integrity: SIL 3 Capable

SIL 3 Capability

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer. A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than the statement.

Random Integrity: SIL 3 Capable

Summary for KFD0-RSH-1.4S.PS2
Type A device,
IEC 61508 failure rates:

Failure category	DTS	ETS
Fail Safe (λ_{SAFE})	144.77	139.5
Fail Dangerous Detected (λ_{DD})	0	0
Fail Dangerous Undetected (λ_{DU})	1.83	7.1
Total failure rate (safety function)	146.6	146.6
SFF	98.7 %	95.2 %

All failure rates are given in FIT=10^{-9}/h

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{AVG} / PFH considering the architecture, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each subsystem must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are mandatory part of this certificate:

P+F 1003-97R1-C R017 V1R2 Assessment Report
Safety Manual Relay Module KFD0-RSH-1.4S.PS2 Ver: 225538 DOCT-2052C 04 2011

The holder of this certificate may use this mark.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

1-4 CYBER SECURITY SETTINGS

CONFIDENTIAL DOCUMENT
AVAILABLE ONLY DIGITAL VERSION
PASSWORD PROTECTED

1724000594-IN-RE-00043

Base Load Power Hub (BLPH)

CYBER SECURITY SETTINGS

Document Number: 1724000594-IN-RE-00043
Supplier Document Number: E366772C00-CSS
Document Class: 2

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	18/09/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
3	24/07/2025	Accepted for Construction (AFC)	Chandan M Badiger	Rao/ Alessandro	Sonia Corradi
2	06/05/2025	Issue for Review (IFR)	Bhoomika K R	Rao/ Alessandro	Sonia Corradi
1	02/21/2025	Issue for Review (IFR)	Bhoomika K R	Rao/ Alessandro	Sonia Corradi
0	03/09/2024	Issue for Review (IFR)	Bhoomika K R	Rao/ Alessandro	Sonia Corradi

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Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2 TEST CERTIFCATES

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-1 HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

1724000594-QC-PRO-00030

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 1 of 121 Date: 04/02/2025 Rev: 02

Base Load Power Hub (BLPH)

HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

Document Number: 1724000594-QC-PRO-00030

Supplier Document Number: E366772C00-HW_FAT

Document Class: 2

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4	APPROVAL NOT REQUIRED

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Sign	Date
	10/03/2025

02	04/02/2025	Accepted for Construction (AFC)	AG	AB	SC
01	11/09/2024	Accepted for Construction (AFC)	MP	KS/AB	SC
00	26/06/2024	Issue for Review (IFR)	MP	KS/AB	SC
Rev.	Date	Description	Prepared	Reviewed	Approved

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Construction (AFC)
02	Accepted for Construction (AFC)

HOLDS LIST

No.	Description

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1 Introduction

1.1 General

The purpose of this document is to define the methods and documentation that will be used to carry out the Factory Acceptance Test (FAT) on YOKOGAWA's PCS, SIS , FGS and SCADA. The FAT is performed to ensure that the system is properly configured, assembled and functional in accordance with the intended design as specified in the approved documents.

The objective of FAT is to demonstrate to CROSSWIND that the system hardware and software is built in accordance to requirements as specified in the approved documents.

Crosswind and Rosetti Marino would witness to verify the test. Upon successful completion of the test, a FAT Test Certificate and Shipping Release Notice would be signed by both YOKOGAWA as MAC and Crosswind /Rosetti Marino to signify the acceptance of the test and approval of shipment of the equipment.

1.2 Scope and Objective

The Factory Acceptance Test referred to as FAT applies to the PCS, SIS , FGS and SCADA Hardware and Software supplied by Yokogawa.

The objective of the FAT is to verify the conformance of the system against the approved specifications and FAT procedure before delivery to site. The FAT shall be conducted to test and verify the main items listed below:

- System Hardware
- Network and Communication Tests
- Cabinets (system, network, server)
- Other Hardware (KVM, etc..)

2 Reference Documents

2.1 Input Documents

The PCS, SIS and F&G systems are configured using input documents such as IO Database, P&IDs, Cause & Effect Diagrams, F&G Layouts, Process Control Narratives, etc. These input documents shall be used as reference documents for FAT. These documents are listed in Appendix 8.3 – Approved Document List.

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2.2 Codes, Standards and References

[1] IEC 60529: Specification for Degrees of protection provided by enclosures (IP Code)

[2] IEC 61000: Electromagnetic Compatibility of Industrial - Process Measurement and Control Equipment

[3] IEEE 802.3: Information Processing Systems – Local Area Networks

[4] IEC 61508 Functional Safety of Electrical/Electronic/Programmable Electronic Safety – Related Systems

[5] IEC 61511 Functional Safety- Safety instrumented systems for the process industry sector

2.5 Approved Document List (Detail Design Specification)

The Detail Design Specification used for construction shall be listed in this approved document list, and shall be used as reference in the FAT. In principle, the Detail Design Specification documents as included in this list shall form the basis for checking the PCS, SIS, FGS and SCADA system. The approved Detail Design Specification document list used for construction is listed in Appendix-3.

Hold-1: Appendix-8.3 To be provided during the project execution phase.

3 Definitions and Abbreviations

PROJECT:	HOLLANDSE KUST NOORD WIND PARK PROJECT
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
COMPANY or Client (CPY):	CROSSWIND
VENDOR	YOKOGAWA ITALIA S.R.L.

Doc. No.	Description
ALARP	As Low as Reasonably Praticable
AMS	Alarm Management System
ATEX	Appareils destinés à être utilisés en ATmosphères Explosibles (Equipment intended for use in explosive atmospheres)
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
CAPEX	Capital Expenditure

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CAT	Category
CCN	Central Control Network
CCR	Central Control Room
CCS	Central Control System
CCTV	Closed Circuit Television
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
CTV	Crew Transfer Vessel
DEM	Design Engineering Manual
DEP	Design and Engineering Practice
DMZ	Demilitarised-Zone
DOCUMENT NAME	Document Title
ELM	Earth Leakage Monitor
EMC	Electromagnetic Compatibility
EMCS	Electrical Monitoring & Control System
EN	Engineering Notice
EPC	Engineering Procurement Construction
EPIRB	Emergency Position Indicating Radio Beacon
EWS	Engineering Workstation
Ex	Explosion Proof
FC	Fuel Cell
FCS	Field Control Station
FEED	Front End Engineering Design
FEED CONTRACTOR	Organisation contracted directly by COMPANY to provide engineering, design, or other services.
FGS	Fire & Gas System
FIO	Field Input/Output
FNU	Field Node Unit
FO	Fibre Optic
FOPP	Fibre Optic Patch Panel
GMDSS	Global Maritime Distress and Safety System

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GPS	Global Positional Satellite
HART	Highway Addressable Remote Transducer
HAZOP	Hazardous Operability Study
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system fwind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA.
IACS	Industrial Automation and Control Systems
IAMS	Instrument Asset Management System
ICSS	Integrated Control and Safety System
IDCS	Intrusion Detection Control System
IEC	International Electrotechnical Commission
IP	Ingress Protection
IP	Internet Protocol
IS	Intrinsically Safe
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
LACS	Local Access Control System
LAN	Local Area Network
LOPA	Layers of Protection Analysis
LHVS	Land High Voltage Station
LV	Low Voltage
MAC	Main Automation Contractor
MCC	Motor Control Centre
NAMUR	Interessengemeinschaft Automatisierungstechnik der Prozessindustrie (User Association of Automation Technology in Process Industries)
NIS	Non-Intrinsically Safe
NU	Node Unit

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OHVS	Offshore High Voltage Station
OPC	Open Platform Communications
OWS	Operator Workstation
PAGA	Public Address and General Alarm
P&ID	Piping and Instrument Diagram
PACO	Process, Automation, Control and Optimisation (PACO) is the term used to describe all functionality required for the monitoring and controlling of all process, safety and fire and gas systems selected for the project.
PCN	Process Control Network
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
PV	Photo Voltaic
PURCHASER	The organisation placed a purchase order for the supply of equipment or services for the Project. The Purchaser could be the Company or the Contractor or some other party appointed by the COMPANY or Contractor.
RVO	Rijksdienst voor ondernemend Nederland – The Netherlands Enterprise Agency
SART	Search and Rescue Transponder
SCADA	Supervisory Control and Data Acquisition
SCS	Safety Control System
SGSI	Shell Global Solutions International
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
SNU	Safety Node Unit
SOLAS	Safety of Life at Sea
TB	Terminal Board

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TETRA	Terrestrial Trunked Radio
TSO	Transmission System Operator
TQ	Technical Query
UCP	Unit Control Panel
UHF	Ultra-High Frequency
UPS	Uninterruptible Power Supply
VENDOR	Manufacturer/Supplier of equipment and services to perform the duties specified by the Purchaser.
VHF	Very High Frequency
VLAN	Virtual Local Area Network
VNET	Virtual Network
WAN	Wide Area Network
WTG	Wind Turbine Generator

Table 1 – Definitions and Abbreviations

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4 Responsibility

Responsibilities for each party involved in the FAT are defined here-under to ensure that the FAT is carried out in accordance with an agreed procedure. It also ensures that there shall be authorized personnel(s) from CROSSWIND, ROSETTI MARINO and YOKOGAWA to facilitate any decisions and schedule changes resulted from the FAT.

4.1 CROSSWIND

The full participation of CROSSWIND in the FAT is essential. CROSSWIND shall appoint an Inspector cum Test Approver to witness the FAT. The Test Approver would have the authority to sign-off upon the successful completion of all tests. Once signed off, the test will be deemed accepted and the decision will be final. The Inspector shall participate in the test and observe the test results on a daily basis. The Test Approver shall approve the inspection items based on the approved specification and the test results recorded.

4.2 ROSETTI MARINO

ROSETTI MARINO shall appoint a FAT Manager for the FAT. The FAT Manager representing ROSETTI MARINO shall co-ordinate with CROSSWIND and YOKOGAWA FAT Managers and to facilitate the smooth implementation of the FAT activities and schedule. The role of the FAT Manager is also to resolve FAT issues on a regular basis.

ROSETTI MARINO representatives will participate in the FAT for the complex controls, sequences and logics. For PCS controlled equipment packages containing complex controls, sequences and logics, ROSETTI MARINO at their discretion, may invite their package equipment supplier representatives to participate in the testing.

4.3 MAC

YOKOGAWA as MAC shall appoint a Test Conductor to organize and manage all aspects of the FAT. YOKOGAWA shall carry out the testing and record the test results on a daily basis together with CROSSWIND Inspector and ROSETTI MARINO representative.

The Project Manager representing YOKOGAWA shall be the FAT Manager. The FAT Manager shall co-ordinate with ROSETTI MARINO's FAT Manager and shall amend the test schedule whenever necessary to ensure the smooth running of the FAT. The FAT Manager shall also ensure that all tests are conducted in accordance with the approved FAT documents. If changes/modifications are required in the implementation, the FAT Managers of Yokogawa and ROSETTI MARINO shall discuss and arrive at the action plan.

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5 General Administration

5.1 FAT Venue

All the PCS, SIS and FGS equipment's will be staged at YOKOGAWA Sub-contractor Staging area, equipped with all needs for FAT (Tools, Instruments, power supply, grounding connections, etc):

PREI srl

Via Pascoli, 150

22040 Alzate Brianza – COMO (Italy)

5.2 FAT Organization Chart

A specific detailed Organization Chart shall be issued for each project, with all positions and names filled in. In addition, a FAT roster of the participants shall be issued, with following details for each person; full name, company, responsibility, samples of the signature and initials, actual start and finish date of participation in the FAT. The FAT Managers (one from RM and one from Yokogawa) will be responsible for maintaining the roster and keeping it updated.

Refer to Appendix-1 for FAT organization chart and FAT roster.

5.3 Kick-off Meeting

An initial kick-off meeting will be held prior to starting the FAT to brief the participants, confirm the organization and responsibilities, and review the FAT schedule. At the same time, HSE briefing for all participants will be provided by YOKOGAWA. YOKOGAWA FAT Manager will prepare the presentation and explain the organization and work practices. All FAT documentation prepared by YOKOGAWA prior to FAT will be inspected for completeness.

5.4 Daily Working Schedule

The FAT will be conducted in YOKOGAWA premises from Monday to Friday (working days).

The following timing is recommended for the testing:

0915 to 1200 hrs	Inspection and test
1200 to 1300 hrs	Lunch
1300 to 1700 hrs	Inspection and test
1700 to 1730 hrs	Daily review meeting including next day's schedule planning

Table 2 – Daily Working Time

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5.5 Daily Review Meeting

YOKOGAWA FAT Manager shall conduct a daily review meeting at the end of each FAT day. The meeting will involve all the parties taking part in the FAT. The purpose of this review meeting is to update all parties the progress and status of the FAT.

The punch list will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the recovery work involved is minor (identified in the daily meeting) and agreed by all parties, the work will be carried out on the same day and will be verified the following day by all the concerned parties and signed off in the punch list. If the recovery work involves major change/modification, The FAT Manager will advise the schedule for retesting.

Refer to section 6.4 for details in punch record.

The FAT Manager should also ensure that PCS Engineers make a backup of the application program to an external storage every day after the daily review meeting, so that old backups can be retrieved, if necessary.

5.6 Weekly Progress Meeting

YOKOGAWA FAT Managers shall conduct weekly progress meeting every Friday. The purpose of the weekly meeting is to report the progress of the FAT in the same week and planned activity the following week. It shall also be the forum for resolving any issue arises from punch list.

In the weekly progress meeting, The FAT Manager will present detailed weekly progress report, containing details of activities and achievements for the week, plan for the next week, area of concern, list of punches raised (solved and open) and detailed formal overall progress assessment. The format and content details of the weekly progress report and the underlining planning, progress monitoring and measurement methodology shall be in accordance with the FAT planning, Progress Monitoring Report. After the joint review in the weekly progress meeting and any necessary amendments, The FAT Manager will issue the weekly progress report.

All FAT roster will be invited to the meeting.

5.7 FAT Wrap-up Meeting

At the completion of the FAT, a final wrap-up meeting will be held. The overall status of the FAT shall be reported. Upon all parties' agreement that the FAT is completed satisfactorily, the FAT Completion Certificate and Shipping Release Notes shall be signed off by CROSSWIND/ROSETTI MARINO.

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5.8 Integrated Factory Acceptance Test (IFAT)

Upon completion of Hardware FAT, the testing moves to the next stage, the Integrated Factory Acceptance Test that will be part of Software FAT. At this stage, integrity of infrastructures or interfaces that are shared by multiple systems, components and/or applications within the scope of Yokogawa will be demonstrated. 3rd party sub-systems I/O mapping will be simulated using existing options in YOKOGAWA system/Tools for HMI and control functions. No dedicated IFAT shall be conducted, 3rd party Sub-systems connected with CI Server shall be simulated and demonstrated as a part of Software FAT.

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6 FAT Report Documentation

The Factory Acceptance Test (FAT) shall be conducted in accordance with the test procedures detailed in this document. The test results shall be recorded in the check sheet. To prevent from any check sheet getting lost, each Check sheet shall be given a unique reference number.

6.1 FAT Documentation

All FAT documentation shall be prepared by YOKOGAWA prior to the start of the FAT. All forms, check sheets, sign-off sheets, drawings, etc. as listed in this procedure shall be organized in indexed binders. A master index for the FAT will be provided and maintained by YOKOGAWA FAT Manager.

The documentation for hardware checks shall include all relevant documents for each individual cabinet in a separate indexed binder or a binder section. This shall include Internal hardware check and test records performed during internal Factory Hardware Test.

The documentation for software checks shall be organized by individual process units in indexed binders. The documentation for graphics checks shall also be organized, separately by individual process units in indexed binders.

All FAT reference documents (latest issue) as listed in this procedure originated by other parties (CROSSWIND, ROSETTI MARINO), which were issued formally to YOKOGAWA will form a part of the FAT documentation and shall be printed out, and organized in indexed binders by YOKOGAWA.

All FAT reference documents as mentioned above shall be stamped "FAT MASTER" on every page/sheet. Any additional documents that may be necessary and generated later during FAT shall also be stamped, and indexes amended accordingly.

The structure of the FAT folders and typical indices shall be defined by YOKOGAWA, issued for approval and included in the Appendix-8.3.

6.2 Internal Test/Pre-FAT

Prior to the FAT, YOKOGAWA shall conduct internal test (Pre-FAT) to verify the system and application software. The internal test shall be based on the approved FAT procedure and covers the complete system functionality check, hardware healthiness check and 100% I/O check of marshalled cross-wirings.

The internal test result will be recorded and documented. CROSSWIND/ROSETTI MARINO may review/reference the test records of these internal tests before or during the FAT.

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Complex control loops, specialized sequential controls and batch control applications shall also be completely tested during Pre-FAT. The result of the test shall be recorded and made available for reference before or during FAT.

As a part of the pre-FAT, the project team consisting of application engineers from YOKOGAWA, ROSETTI MARINO and CROSSWIND conduct electronic (paper) check using the PCS tag/tuning report generated from the system. During this paper check pre-FAT, ROSETTI MARINO/ CROSSWIND will verify the configuration parameters by using engineering documents. This will enable the FAT crew to concentrate on the control functions and Graphic functionality during the actual FAT and will also help in reducing the duration of the FAT.

Refer to PCS application software sections for detail procedure on paper check.

It is also preferred that CROSSWIND and ROSETTI MARINO representatives participate in the pre-FAT for complex controls, sequences and logics checks, especially in projects that has multiple equipments with identical control strategy, to facilitate smooth execution of the FAT.

6.3 Method of Testing

Detailed test procedure for each test item is described in this document. Check sheet shall be provided, listing the equipment to be tested. All test results shall be recorded in the Check sheets. The following color codes shall be used in the testing:

a) Yellow marker – Items that were checked and cleared

b) Pink marker – Items that were having problems.

c) Green marker – Items that were checked after completion of recovery.

The color marking will be used on the print-outs of the control drawings, graphics and supporting design documents such as P&IDs, narratives, etc.

For PCS Hardware, 10% I/O check shall be done for conventional I/O (including HART) using signal injector.

The internal test records will be inspected prior to FAT. In the event that the records are deficient, retest will be performed.

PCS, SIS and FGS Software Function Test will be conducted using Test Function tool, without connection to any physical I/O. Test Function will be used to simulate process input, digital signal and alarms to FCS so that typical loops, logic sequence blocks can be tested without connecting to physical input and output devices. Dynamic graphics check shall be a part of the PCS, SIS and FGS Software function test.

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6.4 Punch Record

All shortcomings found during the test shall be noted in the FAT Punch Record (Appendix-8.9). Each punch Record shall cover one punch item/fault. A Punch Record Ledger shall be used to summarize all the punch records.

Punch record items shall be classified as follows:

M = Modification, item is to be modified, deleted, added due to design input changes.

C = Correction, item is to be corrected by YOKOGAWA.

If the recovery work involves change/modification, it is to be recorded on the punch record and the recovery undertaken as soon as possible after the agreement of both the FAT Managers after signing of the punch record. YOKOGAWA shall clear all correction items (Code C) at factory before shipment, informing RM and CW for each solved items. For recovery work that involves modification (Code M), it will be regularly jointly reviewed by all parties involved in FAT, on at least weekly basis and resolved whether to be implemented during FAT or later, depending on complexity and potential schedule and/or cost impact. After verification, the same will be signed off by all concerned parties in the punch record.

The punch record will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the modification request were deemed deviated from the original design, it would be considered as change order.

6.5 FAT Completion Certificate & Shipping Release Note

Upon completion of the FAT, FAT Completion Certificate and Shipping Release Note will be signed by CROSSWIND, ROSETTI MARINO and YOKOGAWA. The purpose of these two documents is to certify that the FAT has been completed and accepted by CROSSWIND. Both CROSSWIND and YOKOGAWA agree that the system is in order and can be released for shipment to site. However, if the tested system is to be shipped out in partial, CROSSWIND/ROSETTI MARINO shall advise and issue the Shipping Release Note accordingly. Refer to Appendix-8.10 for a FAT Completion Certificate and to Appendix-8.11 for a Shipping Release Note.

Note: Once the FAT completion certificate and Shipping release note signatures are in place, no internal cabinet wiring, labeling, reconfiguration, or hardware swap outs shall be carried out unless the signatory parties are notified in advance and given an opportunity to inspect any recommended changes.

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6.6 Test Equipment

YOKOGAWA will provide all test equipments (e.g. Digital Multimeter, Signal Generators etc.) for the FAT. The details of the test equipment for FAT with certification (if necessary) shall be provided using format attached in Appendix-8.4.

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7 Testing Description for Hardware

7.1 General Hardware Check – Earthing Check (valid for all cabinets)

Outline	The Earthing connections shall be verified in all the System/Marshalling cabinets and Network/Server.
Objective	Verify that all Earthing connections are wired as per the specification.
Reference	SIS/FGS, EMCS and PCS System/Marshalling Cabinet GA/IA Drawing Refer Appendix 8.3 - Approved Document List
Procedure	This test shall be carried out using a Multimeter or Ohm-meter to confirm the continuity of the following: a. P.E. – Protection earth • To verify continuity between the earth and all part of the cabinet including instrument chassis. b. IE - Instrument Earth • To verify continuity between the instrument earth bar connection and instrument cable screens. c. I.S.E. – Intrinsically Safe Earth (if present) • To verify continuity between the instrument safe earth bar connection and instrument safe cable screens. The test can be considered acceptable if the resistance measured is < 1 Ohm. Also using a Multimeter or Ohm-meter the P.E., I.E. and I.S.E. earth bars are to be confirmed isolated from each other. I.E. and I.S.E. bars must be isolated from the external cabinet chassis. The test can be considered acceptable if the resistance measured is > 10 MOhm.
Test Record Reference	- GA/IA Drawings - Refer Appendix 8.5 – FAT Check sheet

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

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ROSETTI MARINO Representative	:	Date:	
CROSSWIND Representative	:	Date:	

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7.2 PCS Physical Hardware Check

7.2.1 PCS System/Marshalling Appearance, Construction and Wiring Check

Outline	All the System/Marshalling cabinets and installed components are to be checked and verified for their appearance and construction.
Objective	- Verify that all the cabinets are manufactured as per the specification. - Verify that all the components and accessories installed in the cabinets are manufactured as per the specification. - Verify cabinet high temperature alarm. - Verify proper functioning of the redundant power supply units. This test ensures that the interface board functions properly upon Power up.
Reference	- Bill of Material - PCS System/Marshalling Cabinet GA/IA Drawing Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that all the SYSTEM/MARSHALLING CABINET are as per the GA/IA drawings. Check items as follows: 1. General Cabinet Construction – lifting construction, Plinth, cabinet color and side panel (if applicable). - enclosure damages (scratches, dents) - cleaning and absence of burning marks or other residue - connection tightness (spot-on pull test) - labeling of devices and cables - IP rating - wiring separation (different voltage levels as per specs) 2. Layout – components layout on the front, rear and sides of cabinet. • FCU – mounting and termination. • ESB Node Unit – I/O module quantity. • Power Supply Unit (PSU) rating. 3. Interface Boards – mounting, termination, installed spare and space for spare. 4. Doors – handle, lock with key and document pocket. 5. Labeling – cabinet, terminals, devices, earth bars, attention symbols and cable marker.

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	6. Earthing – bolt types, location, wiring type, screen terminals, grounding of devices and doors. 7. Cable handling – routing, trays/duct, clamp rails and termination. • Control Bus (Vnet/IP) • ESB Bus, Optical ESB Bus • System cables • Field cables from junction boxes 8. Signal termination • Terminal – terminal and wiring types, installed spare and space for spare. 9. Power distribution – isolator and circuit breakers rating, fused terminal types and wiring sizes. 10. Others: Fans, thermostat and if applicable, utility socket. Temperature Alarm Check 11. Note Thermostat setting in the cabinet. Check that the contact at the terminal is closed circuit. 12. Set the Temperature setting of thermostat to a lower setting (e.g. 18 DegC). 13. Check that the contact is now open. Verify alarm at the OWS. 14. Recover the alarm by setting the temperature setting back to above room temperature. Power Supply Check 15. Take measurement of voltage output from PSU individually. The voltage should be 24 ~ 26VDC. 16. Measure voltage output from PSU02 and switch "OFF" circuit breaker for PSU01. 17. The voltage measured at PSU02 output should remain within the voltage limit (24 ~ 26VDC). Verify PSU fail alarm at the OWS. 18. Measure and record the DC voltage ripple with an oscilloscope. 19. Recover PSU01. Verify PSU alarm recovery at the OWS. 20. Repeat test for PSU01 by switching "OFF" PSU02. Functional Check (for all equipments) 21. Switch on the 24VDC power supply to the interface board one-by-one. 22. Observe the LED indication on the interface board.

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	23. Check that the contact is now returned to closed position. Verify alarm recovery at the OWS.
Criteria	The quantity, type and location of all the cabinets and installed components should match the Bill of Material, GA/IA Drawings and I/O Assignment without any scratches and deformations.
Test Record Reference	- GA/IA Drawings - Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all Field Control Station cabinets and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.2.2 Field Control Station (FCS) Module Assignment Check

Outline	All ESB Bus Node Units, I/O Modules (for FIO), ESB Bus Coupler Modules and ESB Bus Repeater Modules are assigned according to the I/O assignments. The position and quantity of these items in the Field Control Station and expansion cabinets shall be verified.
Objective	- Verify that all the ESB Bus Node Units, I/O Modules (for FIO) and ESB Bus Coupler Modules and ESB Bus Repeater Modules are correctly supplied and installed.
Reference	- I/O Assignment Documents Refer to Approved Document List
Procedure	Visually check that all ESB Bus Node Units, I/O Modules (for FIO), ESB Bus Coupler Modules and ESB Bus Repeater Modules are installed in each of the Field Control Stations according to the PCS I/O Assignments for various areas as per reference documents.
Criteria	The quantity, type and location of all ESB Bus Node Units, I/O Modules (for FIO), ESB Bus Coupler Modules and ESB Bus Repeater Modules including the spares must match the approved I/O Assignment documents.
Test Record Reference	- I/O Assignment Documents

The above checks are conducted for all Field Control Stations and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.2.3 PCS System Architecture and BOM Check

Outline	The PCS System is configured as per System Architecture Drawing and the associated BOM is derived accordingly.
Objective	- Verify that the PCS System staged for testing is as per the System Architecture Drawing and corresponding BOM.
Reference	- System Architecture Drawing - BOM Refer to Approved Document List
Procedure	1. Visually check that all the PCS components are staged as per System Architecture. 2. Verify the BOM. • PCS Hardware • PCS Software
Criteria	The quantity and model of the components should match the BOM.

The above checks are conducted for all PCS equipments and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.2.4 PCS System Cables Check

Outline	The PCS System cables are supplied as per the PCS System Cable Schedule document. The supplied cables are to be physically checked.
Objective	- Verify that the PCS System cables are supplied and installed as per the System Cable Schedule document.
Reference	- PCS System Cable Schedule Refer to Approved Document List
Procedure	1. Visually check that all the PCS System Cables are supplied and installed as per the System Cable Schedule. The following shall be checked: • Cable Model • Length • Cable markers
Criteria	The Cable model, length and markers shall be as per the PCS System Cable Schedule.

The above checks are conducted for all PCS System Cables and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3 PCS Standard System Function Check

7.3.1 System Start-up Test (FCS and EWS/OWS)

Outline	Field Control Stations (FCS) and Operator Work Stations (OWS) go to the operating state automatically upon powering up, provided that all application software and image are properly loaded in the system.
Objective	- Verify that the above components automatically boot up when going from 'stop' state to 'operating' state.
Reference	- System Architecture Drawing Refer to Approved Document List - CENTUM VP Instruction Manual
Procedure	1. Power down components individually or for the whole system. 2. Power up each component individually and observe its boot up sequence. 3. Check station status from EWS0164 System Maintenance panel when each station boots up. Note: For each FCS, verify the random IO state and tuning data prior to power down. After power up, verify that the FCS initializes the application program as desired and retains the tuning data.
Criteria	1. Each component must boot up automatically. 2. Station status indication on HIS(EWS0164) System Maintenance panel should change from red to green.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted on random basis for selected FCS/HIS(EWS0164) and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3.2 FCS CPU Backup Function Test

Outline	The two CPUs in the FCS back up each other. During operation, one CPU is active while the other CPU is on hot standby. The standby CPU is updated at every memory write-cycle.
Objective	- Verify that FCS operation is uninterrupted when the active CPU fails and the standby CPU takes over.
Reference	- CENTUM VP Instruction Manual
Procedure	1. Display a tuning panel of a selected PID tag (from related FCS) And change the output value (MV) to view tuning trend. 2. Display FCS station status panel (system maintenance panel) on OWS. 3. Stop the active CPU by using the 'Start/Stop' button on the front panel from FCS. 4. Check the system alarm messages at the OWS. 5. Check the tuning panel data for the selected tag to confirm FCS control functions are normal. 6. Check the actual output at the I/O module. 7. Start the CPU by using the 'Start/Stop' button on the front panel from FCS 8. Wait for the copy to finish. 9. Repeat the test for other CPU module.
Criteria	1. FCS control functions should be unaffected. 2. All data in the related FCS should be unaffected. 3. All control loops continue to perform normally. 4. FCS run status remains unaffected as observed at HIS (EWS0164) System Maintenance panel. 5. The output of I/O module will remain unaffected.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

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The above checks are conducted on random basis for selected FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative	:	_____	Date:	_____
ROSETTI MARINO Representative	:	_____	Date:	_____
CROSSWIND Representative	:	_____	Date:	_____

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7.3.3 FCS ESB Bus Redundancy Test

Outline	1. The ESB Bus that facilitates data communication between FCU and each of the ESB Bus Node Unit is dual redundant. 2. The ESB Bus Coupler module (EC401 or EC402 in FCU) and ESB Bus Interface Slave module (SB401 in Local ESB Bus Node Unit) facilitate data communication between the FCU and each local ESB Bus Node Unit. The following operations apply : - Normally, redundant ESB Buses are used in an alternating fashion. - If an error occurs in a ESB Bus module on one side, the error is notified to the user via a diagnostic information message. If both interface modules fail, the error is treated as a node failure. - If an error occurs in one ESB Bus or ESB Bus module, the FCU continues communication using the other normal ESB Bus. - An erroneous ESB Bus is monitored for recovery at regular intervals.
Objective	- Verify that FCS operation is uninterrupted when one ESB Bus module fails and the other interface module takes over.
Reference	- CENTUM VP Instruction Manual
Procedure	1. Disable one of the EC401 or EC402 (ESB Bus Coupler module) by removing it from the FCU. 2. Check the system alarm messages at the OWS. 3. Check the FCS control functions are normal. 4. Revive the ESB Bus to normal condition. 5. Repeat the test for the other ESB Bus Coupler module. 6. Disable one of the SB401 (ESB Bus Interface Slave module) by removing it from the node. 7. Check the system alarm messages at the OWS. 8. Check the FCS control functions are normal. 9. Revive the ESB Bus to normal condition. 10. Repeat the test for the other SB401. 11. If necessary, repeat the above procedures for the pair of Optical ESB Bus Repeater modules.
Criteria	1. Operation shall not be affected when either one of the ESB Bus fails. 2. The FCS control function should not be interrupted.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

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Note	- EC40x is installed in FCU - SB401 is installed in Local ESB Bus Node Unit

The above checks are conducted on random basis for selected FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARIN Representative : _____ Date: _____

CROSSWIN Representative : _____ Date: _____

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7.3.4 FCU/Node Unit Power Supply Module Redundancy Test

Outline	The dual redundant power supply modules on the Field Control Unit and the ESB Node Unit supply power to the respective nodes.
Objective	- Verify the redundant functionality of the power supply modules.
Reference	- CENTUM VP Instruction Manual
Procedure	1. Wire up one control loop, output to input, to make a closed loop. (*Recommendation is to use long jumper yellow wire that can be easily identified)* 2. Display the tuning panel for this tag to observe the control action. 3. Put the loop in "AUTO" mode. 4. Change the set point and observe the control action of the controller. 5. Remove the power to the FCU power supply module by removing the power from UPS power source. 6. Check the system alarm messages at the OWS. 7. Check the control action of the test controller at the OWS, to confirm FCS control functions are normal during removal of power supply. 8. Revive the Power supply module to normal operation condition. 9. Repeat for the other FCU power supply module by removing the power from UPS power source. 10. Repeat the test for ESB Node Unit power supply modules.
Criteria	1. The FCS should be unaffected by the failure of any one power supply module. 2. FCS control functions should remain unaffected. 3. STATUS LED on each I/O module should remain ON.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet
Note	Power Supply Unit for CPU Node/ESB Node Unit - PW482 (220-240V AC)

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The above checks are conducted on random basis for selected FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3.5 I/O Module Redundancy Test (for FIO)

Outline	The PCS I/O modules are configured as redundant depending on the project requirement. Typically, all I/O related to control points are assigned to redundant modules and I/O related to Indication only are assigned to non-redundant modules. In an FCS for FIO, it is possible to mount input/output modules of the same type in two adjacent slots to make them redundant. In the case of redundant configuration, one side becomes the control side and the other becomes the standby side. Switching of the control right is performed by input/output modules. The switching has no influence on the application program.
Objective	- Verify the redundant functionality of the redundant modules.
Reference	- PCS I/O Assignment Refer to Approved Document List - CENTUM VP Instruction Manual
Procedure	1. Wire up one control loop (input and output) device to the I/O module and setup the controller to be in AUTO mode and normal operation. 2. Remove one of the redundant modules from the FCU or ESB Bus Node Unit. 3. Check the system alarm messages at the OWS. 4. Check that the status of the controller on the OWS is maintained. 5. Install back the removed I/O module. 6. Check the I/O module recovery messages at the OWS. 7. Repeat the test by removing the other redundant module.
Criteria	1. The FCS should be unaffected by the failure of one of the redundant modules. 2. FCS control functions should remain unaffected.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

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The above checks are conducted on random basis for selected pair of I/O modules in each FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative	:	_____	Date:	_____
ROSETTI MARINO Representative	:	_____	Date:	_____
CROSSWIND Representative	:	_____	Date:	_____

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7.3.6 Vnet/IP Bus Redundancy Test

Outline	The Vnet/IP bus is the communication channel for communication between the HIS(EWS0164) and the FCS. The Vnet/IP bus is dual redundant. This test will be carried out for the PCS system that is set up as per system configuration.
Objective	- Verify the redundant functionality of the system communication network Vnet/IP bus.
Reference	- CENTUM VP Instruction Manual
Procedure	For FCS: 1. For FCS CPU-1: Remove the cable that is connected to Bus-1. 2. Check the system alarm messages at the OWS. 3. Observe whether there is any break in trend gathering for any signal. 4. Re-connect the cable and check that the Bus-1 is healthy. 5. Repeat the above tests for CPU-1 Bus-2 and for CPU-2 Bus-1/2. For HIS(EWS0164): 1. For HIS(EWS0164): Remove the cable that is connected to Bus-1. 2. Check the system alarm message at the OWS. 3. Observe whether there is any break in trend gathering for any signal. 4. Re-connect the cable and check that the Bus-1 is healthy 5. Repeat the above for Bus-2. For Layer2 switch: 1. Fail one of the L2 switches that is connected on Vnet/IP Bus-1. 2. Check the system alarm messages at the OWS. 3. Observe whether there is any break in trend gathering for any signal. 4. Power back the L2 switch and check that the switch and the connected Vnet/IP network are healthy. 5. If applicable, repeat the test for the other L2 switch that is connected to Vnet/IP Bus-1. 6. Repeat the test for the L2 switch connected on Vnet/IP Bus-2.
Criteria	1. The HIS(EWS0164) should be able to monitor and operate loops in the FCS without interruption even on a single Vnet/IP bus. 2. System alarm messages should be correctly displayed. 3. There should not be any break in trend gathering for any of the signals.

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Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted on random basis for selected FCS/HIS/L2SW and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3.7 FCS Resource Capacity Check

Outline	FCS Resources refers to the FCS memory usage. Sufficient spare capacity for future expansion should be available at each FCS. The Field Control Station resource usage depends on the application software configured in that particular FCS.
Objective	- Verify that overall FCS resource capacity is sufficient. This result can be used as a reference while checking the FCS memory usage at the completion of commissioning.
Reference	- PCS Technical Specification - PCS FDS Software Refer to Approved Document List
Procedure	1. The check will be carried out for the related FCS. 2. Call up the FCS resources information panel at the engineering station. 3. Confirm the FCS resources consumed and the remaining resources available at the related FCS.
Criteria	The overall FCS resources consumed should meet project requirement.
Test Record Reference	- The printout from the system for each FCS resources. - Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3.8 FCS CPU Loading Check

Outline	The loading of the CPU of the Field Control Station depends on the application software configured in the FCS and communication loads with other devices (HIS/FCS/OPC). CPU loading of the FCS is an important factor for deciding the system performance.
Objective	- Record the loading of the CPU of the FCS at the completion of FAT. This result can be used as a reference while checking the FCS CPU idle time at the completion of commissioning.
Reference	- PCS Technical Specification - FDS Software Refer to Approved Document List
Procedure	1. Select an FCS for which the CPU load needs to be verified. 2. On each of the HIS, belonging to that FCS operation group, call up 4 Graphic windows (no screens configured in EWS0164 so Not Applicable), a faceplate or a tuning window. The selected Graphic windows should predominantly have tags from the selected FCS for which the CPU load is being measured. 3. Call up the status display of the FCS, for which the CPU idle time is being measured and note down the displayed CPU idle time 4. Printout a hardcopy of the FCS status display for records.
Criteria	The CPU idle time shown on the System Maintenance panel for each FCS should meet project requirement.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3.9 FCS Online/Offline Loading Test

Outline	During the course of plant operation, it may become necessary to modify certain tag definitions, parameters, loop configurations, sequence tables, etc. There are two types of loading procedures. These are: • On-line loading • Off-line loading (save tuning parameters) Modifications made at the engineering station followed subsequently by on-line loading to the FCS have no effect on FCS operation. The modifications become effective on completion of the loading procedure. Modifications made at the engineering station followed subsequently by off-line loading to the FCS will cause the FCS to go off-line for the duration of the loading procedure. The modifications become effective on completion of the loading procedure, and the FCS returns to normal on-line status.
Objective	- Verify FCS on-line and off-line loading function
Reference	- CENTUM VP Instruction Manual
Procedure (On-line)	1. Modify any of the parameters permitted for on-line loading. 2. Execute FCS on-line loading via engineering workstation. 3. Observe FCS trend, look for any effect to FCS operation during FCS on-line loading. 4. Confirm that the modified parameters are loaded and functioning properly. 5. Confirm that all the HIS(EWS0164) are equalized properly.
Criteria (On-line)	1. There should be no effect on FCS operation during FCS on-line loading. 2. The modified parameters should be loaded without any errors and the post download changes are reflected as desired.
Procedure (Off-line)	1. Modify any system parameters (e.g. FCS properties). 2. Change some tag tuning parameters (e.g. alarm setting) and the execute FCS off-line loading via engineering workstation. 3. When “Save tuning parameters of project” prompt appear, click “Yes” to save tuning parameters. 4. Observe FCS fail status from system panel during off-line loading. 5. Confirm that the modified FCS parameters are effectively loaded and functioning properly. 6. Verify the new alarm setting is retained, which confirms that the tuning parameters were successfully saved by the system. 7. Confirm that all the HIS(EWS0164) are equalized properly.

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Criteria (Off-line)	1. The modified FCS parameters should be effectively loaded and functioning properly. 2. The tuning parameters was successfully saved and loaded to the FCS.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted on selected FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.3.10 Media Backup/Restore Function Test (VP Project)

Outline	The CENTUM VP EWS PC is equipped with backup storage device for application program backup onto backup storage/media.
Objective	- Verify that the backup storage/media will back-up/restore CENTUM VP project database.
Reference	- CENTUM VP Instruction Manual - Workstation/Server Instruction Manual
Procedure (Backup)	Backup the project application database in EWS PC to backup storage/media.
Criteria (Backup)	The project folder is copied onto the backup storage/media without interruption and any errors.
Procedure (Restore)	Restore the project application database backup files in the backup storage/media to EWS PC.
Criteria (Restore)	The project folder is restored back to the desired location in EWS PC without interruption and any errors.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted the CENTUM VP project folder and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.4 Other Cabinets

7.4.1 Server/Network Cabinet Check

Outline	The Server/Network Cabinet contains Rackmount Workstation/ Server PCs, KVM Console/Extender, FO converter, Switches and other Network components.
Objective	- Verify that the Server/Network Cabinet is manufactured as per the specification. - Verify cabinet high temperature alarm. - Verify functioning of redundant AC power source - Verify that FO Converters and all other Network components are functioning properly.
Reference	- Server/Network Cabinet GA/IA Drawing. - System Architecture Drawing Refer to Approved Document List
Procedure	A. Visual Check Visually check that the Server Cabinet is as per the GA/IA drawings. Check items as follows: 1. General Cabinet Construction – lifting construction, Plinth & Bakelite, cabinet color and side panel (if applicable). - enclosure damages (scratches, dents) - cleaning and absence of burning marks or other residue - connection tightness (spot-on pull test) - labeling of devices and cables - IP rating - wiring separation (different voltage levels as per specs) 2. Layout – components layout on the front, rear and sides of cabinet. • Rackmount Workstation/Server PCs • KVM Console/Extender • Network Components 3. Doors – handle, lock with key and document pocket. 4. Labeling – cabinet, terminals, devices, earth bars, attention symbols and cable marker.

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5. Earthing – bolt types, location, wiring type, screen terminals, grounding of devices and doors.
6. Cable handling – routing, trays/duct, clamp rails and termination.
   - System cables – Vnet, Vnet/IP, Ethernet etc.
   - Power supply cables.
7. Signal termination
   - Terminal – terminal and wiring types, installed spare and space for spare.
8. Power distribution – isolator and circuit breakers rating, power sockets/receptacles, fused terminal types and wiring sizes.
9. Others
   - For FO/Network – mounting and termination.
     - FO converter
     - Ethernet Switches.
     - L2/L3 switches
     - Fiber Optic Patch Panel

B. Power Supply Check

1. Remove UPS power source to Server Cabinet by turning off UPS feed circuit breaker.
2. Verify power supply 1 fail indication on all server PCs and other network components that is powered from UPS source.
3. Verify power supply fail on L2/L3 Switches that is powered from UPS source and check for appropriate messages at the OWS.
4. Turn ON the UPS feed circuit breaker; check the power supply recovery on Server PCs and L2/L3 switches.

   Repeat the test for Normal power source by turning ON & OFF the Normal feed circuit breaker.

C. Functional Check (for KVM Console/Extender)

1. KVM Console: Verify monitoring and operation of the selected workstation/server from KVM Console.
2. KVM Extender: Verify monitoring and operation of the KVM extended workstation/server from remote KVM via KVM Extender.

D. Functional Check (for Network)

1. Ethernet Switches

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	- Verify the Port connection is as per design, connection/speed LED is lit. - Execute "ping" command between two OWS connected to the Ethernet switches. a. Ethernet switch powered "ON": Normal reply from the OWS. b. Ethernet switch powered "OFF": Time out reply from OWS. If applicable, c. FO convertor powered "ON": Normal reply from the OWS. d. FO convertor powered "OFF": Time out reply from OWS. 2. L2 /L3 Switches (Vnet/IP) - Verify the Port connection is as per design, connection/speed LED is lit. - Disconnect each cable from port and verify system alarm and System Status Overview on EWS/OWS.
Criteria	Server PCs, L2/L3 switches, FO converter and all other network components should function properly.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all server/network cabinets and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.5 PCS I/O Check

7.5.1 PCS I/O Check Procedure

Outline	Functionality of All I/O modules installed in the Field Control Station. During internal test, 10% sample checks for selected I/O will be conducted without marshalled cross-wiring. With marshalled cross-wirings, 100% I/O tests are carried out and records for the same are maintained. During FAT, these records will be reviewed and 10% sample checks for selected I/O will be conducted. The I/O check is performed to verify circuit integrity within individual panels and also between panels. The I/O check is also performed to verify that the I/O is correctly assigned in the FCS.
Objective	- Verify Pre-FAT record to confirm all I/O modules are checked. - Perform random IO check (1 channel per module).
Reference	- I/O Assignment Documents Refer to Approved Document List
Procedure	1. Input signals to be simulated from terminals at MDF. 2. Output measurements to be taken from terminals at MDF. 3. Refer to procedure below.
Criteria	- For Analog Inputs: Reading should be within +/- 0.1 of scale*. - For Analog Outputs: Reading should be within +/- 0.3 of scale*. - For Digital Inputs: The correct faceplate indication to be checked on the OWS. - For Digital Outputs: The correct contact status/voltage to be checked at the MDF field terminals. Note*: Accuracy of Yokogawa I/O Modules at normal condition (23°C ± 2 °C)
Test Record Reference	- Pre-FAT Test Record (Internal I/O check test record) Refer Appendix 8.6 – I/O Check sheet (Check sheet are generated from master database to ensure that there is no I/O tags been left out).

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➢ Analog input (Conventional 4 to 20mA):

Simulate appropriate analog input signals to the PCS using the portable calibrator and record PCS reading displayed in the corresponding faceplate at the OWS.

For Analog Input points, 3 input signals shall be simulated:

- Signal 1 = 4.00mA, corresponding to 0% at OWS.
- Signal 2 = 12.00mA, corresponding to 50% at OWS.
- Signal 3 = 20.00mA, corresponding to100% at OWS.

The result shall be recorded in I/O Check sheet Appendix-7 Analog.

Note: If applicable, verify the FIO Analog IO module dip switch setting for all 4 wire transmitters. Instrument Index to provide the list of all field powered transmitters.

➢ Analog output:

From the faceplate at the OWS, set the output (MV) of the tag and measure the corresponding signal output at the output terminals using an ammeter. For Analog Output points, 3 output signals shall be set:

- Signal 1 = 0.1%, corresponding to 4mA at output terminals.
- Signal 2 = 50%, corresponding to 12mA at output terminals.
- Signal 3 = 99.9%, corresponding to 20mA at output terminals.

The result to be recorded in I/O Check sheet Appendix-7 Analog.

➢ Digital input:

Open or close the input point at the input terminals and record the PCS status indication for the corresponding tag faceplate at the OWS. For Digital Input points, 2 input states shall be simulated:

- Signal 1 = 0 or open contact input signal.
- Signal 2 = 1 or close contact input signal.

The result to be recorded in I/O Check sheet Appendix-7 Digital.

➢ Digital output:

Set or reset the PCS output point through the faceplate at the OWS and observe the status of the output point on the PCS IO module. The channel number shall be displayed on the PCS IO module when that channel is turned ON. For Digital Output points, 2 output states shall be set:

- Signal 1 = 0 or open contact output signal.
- Signal 2 = 1 or close contact output signal.

The result to be recorded in I/O Check sheet Appendix-7 Digital.

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Note: For non-Yokogawa terminal boards, verify the board jumper settings for each channel to ensure the channels are properly set for wet or dry contact depending on the application requirement. Instrument Index to provide the list of all PCS and field powered field devices.

The above checks are conducted for the randomly selected I/O (one channel per module).

TEST RESULT: PASS / FAIL

YOKOGAWA Representative	:	_____	Date:	_____
ROSETTI MARINO Representative	:	_____	Date:	_____
CROSSWIND Representative	:	_____	Date:	_____

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7.6 SIS & FGS Physical Hardware Check

7.6.1 System/Marshalling Cabinets Appearance, Construction & Wiring Check

Outline	All the System/Marshalling cabinets and installed components are to be checked and verified for their appearance and construction.
Objective	1. To verify that all the System and Marshalling cabinet are manufactured as per the specification. 2. To verify Cabinet high temperature alarm. 3. To verify the proper function of the redundant power supply units. 4. This test ensures that the interface boards function properly upon power up.
Reference	System and Marshalling cabinet GA/IA Drawing. - Refer Appendix 8.3 - Approved Document List
Procedure	A. Visual Check. (all cabinets) Visually check that all the Marshalling cabinet are as per the GA/IA drawings. Check items as follows: 1. General Cabinet Construction – lifting construction, Plinth & Insulation, cabinet color and side panel (if applicable). - enclosure damages (scratches, dents) - cleaning and absence of burning marks or other residue - connection tightness (spot-on pull test) - labeling of devices and cables - IP rating - wiring separation (different voltage levels as per specs) 2. Layout – components layout on the front, rear and sides of cabinet. • Power Supply Unit (PSU) rating. • Interface Boards – mounting, termination, installed spare and space for spare. • I.S./Proximity Switch interface board. 3. Doors – handle, lock with key and document pocket. 4. Labeling – cabinet, terminals, devices, earth bars, attention symbols and cable marker. 5. Earthing – bolt types, location, wiring type, screen terminals, grounding of devices and doors. 6. Cable handling – routing, trays/duct, clamp rails and termination. • System cable. • Field cables from junction boxes. • Power supply cables. 7. Signal termination.

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	• Terminal – terminal and wiring types, installed spare and space for spare. • Surge arrestor (if applicable) – termination, installed spare and space for spare. 8. Power distribution – isolator and circuit breakers rating, fused terminal types and wiring sizes. 9. Others: Fans, thermostat and if applicable, utility socket. B. Temperature Check (for all cabinets) 1. Note Thermostat setting in the cabinet. Check that the contact at the terminal is closed circuit. 2. Set the Temperature setting of thermostat to a lower setting (e.g. 18 ^{0}C). 3. Check that the contact is now open. 4. Recover the alarm by setting the temperature setting back to above room temperature. 5. Check that the contact is now returned to closed position. C. Power Supply and (if applicable) ELM Check 1. Take measurement of voltage output from PSU individually. The voltage should be 24 ~ 26VDC. 2. Measure voltage output from PSU02 and switch "OFF" circuit breaker for PSU01. 3. The voltage measured at PSU02 output should remain within the voltage limit (24 ~ 26VDC). 4. Measure and record the DC voltage ripple with an oscilloscope. 5. Recover PSU01. 6. Repeat test for PSU01 by switching "OFF" PSU02. 7. Reset ELM alarm if any. Ensure that the contact is closed. 8. Activate earth fault by using a jumper wire to short one of the field connection terminals to earth bar. 9. Check alarm status at ELM and verify open contact. 10. Remove the jumper wire and reset the ELM as necessary. 11. Ensure the alarm status at ELM and contact returns to close. D. Functional Check (for all equipment) 1. Switch on the 24VDC power supply to the interface board one-by-one. 2. Observe the LED indication on the interface board.
Criteria (Expected Results)	1. Quantity, type, Model and location match with the approved / final GA/IA Drawings 2. Cabinet temperature switch contact opens when thermostat is set to a lower setting

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	3. PSU voltages remain within the voltage limit (24 ~ 26VDC) in single operation. 4. ELM is activated on a simulated ground fault. (if ELM is applicable) 5. The LED indication on the respective interface board is lighted up, when 24V is applied.
Test Record Reference	GA/IA Drawings (Approved Document List) Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted for all SCS Cabinets and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.6.2 Safety Control Station (SCS) Nest Loading Check

Outline	All Safety I/O nodes and modules are assigned according to the I/O assignments. The position and quantity of these items in the Safety Control Station shall be verified.
Objective	To verify that all the Safety I/O nodes and modules are correctly supplied and installed.
Reference	I/O Assignment Documents Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that all the Safety I/O nodes and modules are installed in each of the Safety Control Stations according to the I/O Assignments for various areas as per reference documents.
Criteria (Expected Result)	The quantity, type and location of all the Safety Control Units (SCU), Safety I/O nodes and modules including the spares must match the approved / Final I/O Assignment documents.
Test Record Reference	I/O Assignment Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted for all Safety Control Stations and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.6.3 EWS/SOE Workstation Check

Outline	The EWS/SOE PC is supplied in accordance with the Bill of Materials along with applicable system software licenses.
Objective	To verify the EWS/SOE PC is supplied in accordance with the approved Bill of Materials and installed with applicable system software licenses.
Reference	- Bill of Material - System Architecture Drawing - Software Licenses Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that the EWS/SOE PC is as per the Reference documents and verify the following. • Domain and Station Number • Quantity, Model number, Make, Type, Revision • System software revisions • Installed System software • Installed Software Licenses
Criteria (Expected Results)	1. Domain and Station settings must match the Approved / Final System Architecture Drawing. 2. Installed software revision numbers must be as per the Approved / Final BOM. 3. Installed /Assigned software license must be as per the Approved / Final BOM. 4. Model number of the EWS/SOE workstation must be as per the Approved / Final BOM
Test Record Reference	Bill of Material. Refer Appendix 8.7 – FAT Check sheet

The above check will be conducted for all EWS/SOE PCs and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.6.4 System Architecture and BOM Check

Outline	The SIS system is configured as per the System Architecture Drawing and the associated BOM is derived accordingly.
Objective	Verify that the SIS system staged for testing is as per the System Architecture Drawing and corresponding BOM.
Reference	- SIS BOM - System Architecture Drawing - Safety Validation Plan (SVP) Refer Appendix 8.3 - Approved Document List
Procedure	1. Visually check that all the SIS components are staged as per the System Architecture. 2. Verify the BOM. • SIS Hardware. • SIS Software. 3. Verify Domain and Station numbers according to System Architecture. 4. Confirm that components (Model/Revision numbers) as built are in accordance with reliability calculation of SVP for specified SIFs.
Criteria (Expected Results)	1. SIS components staged must be as per the approved / Final System Architecture drawing. 2. Components (Model/ Revision numbers) used for SIFs should be in accordance to the SVP reliability calculations 3. Make and Model of SIS hardware and SIS software must match the approved / final BOM and SVP
Test Records	Refer Appendix 8.7 - System Architecture and Bill of Material. (BOM checks are done separately for hardware and Software) Refer Appendix 8.7 – FAT Check sheet

The above check has been conducted for all SIS equipment's and witnessed by the following:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.6.5 System Cables Check

Outline	The System cables are manufactured as per the System Cable Schedule document. The manufactured cables are to be physically checked.
Objective	Verify that the SIS System is manufactured as per the System Cable Schedule document.
Reference	System Cable Schedule Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that all the System Cables are manufactured according to the specification. The following shall be checked: • Cable Model. • Length. • Cable markers
Criteria (Expected Results)	1. Cable model and length must be as per the final Cable schedule. 2. Every cable must have cable markers at both ends.
Test Records	System Cable Schedule Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted for all SIS System Cables and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7 Standard System Function Check

7.7.1 System Start-up Test (SCS and I/O cards)

Outline	Each of the Safety Control Stations and its I/O cards shall go to their operating mode 'Waiting' automatically upon powering up, provided that the application software is properly loaded in the system. Regardless of the duration of a power failure, the initial cold start processing is performed when power is supplied to the CPU nodes. On SCS power up, input/output module startup processing is performed, and the operating mode shifts to the Waiting mode and '0' is output from the DO modules. The user should perform the output enable operation from the EWS after confirming that all output modules have been started successfully. Once the output enable operation is completed, output values of the application logic are output to the field. When all outputs are placed in the Output Enable status, the operating mode shifts to the Running mode.
Objective	To verify that the above components automatically boot up when going from power-off state to 'Waiting' mode.
Reference	- System Architecture Drawing - ProSafe-RS Instruction Manual (Safety Control Station) - SIS Instruction for Operation and Maintenance Refer Appendix 8.3 - Approved Document List
Procedure	1. Power down the whole system. 2. Power up and observe its boot up sequence until 'Waiting' mode is confirmed. 3. Check status/operating mode from SCS State Management panel on EWS PC after each station completes the boot up. 4. Check one or two IO loops by hardwired signal injection to check the status of the system after boot-up is completed. 5. Perform output enable operation after all output modules have been started successfully
Criteria (Expected Results)	1. System should boot up automatically. 2. System status indication on SCS State Management panel should show 'Ready'/'Waiting'. 3. The status of IO loops after system boot up must reflect the signal values injected and changes thereafter.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.2 SCS CPU Backup Function Test

Outline	The two CPUs in the SCS back up each other. During operation, one CPU is active while the other CPU is on hot standby. The standby CPU is updated at every memory write-cycle.
Objective	To verify that SCS operation is uninterrupted when the active CPU fails and the standby CPU takes over.
Reference	- ProSafe-RS Instruction Manual (Safety Control Station)
Procedure	1. Wire up one test logic block with trip reset / latch function, inject hardwired signal input, and measure / monitor the output. 2. Display the POU in Debug mode on EWS PC for this logic block as applicable to observe the logic control action and status. 3. Energize the logic block (i.e. create status "trip") 4. Stop the active CPU by using the 'Start/Stop' button on the front panel (Switchover the CPU). 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Revive the CPU to normal operation mode. 8. Repeat for the test for the other CPU card.
Criteria (Expected Results)	1. The SCS Logic functions and data must be unaffected on simulation of active CPU failure. 2. SCS State Management panel shows SCS status.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.3 SCS ESB Bus Redundancy Test

Outline	The dual redundant ESB Bus interface modules, allow I/O data to be communicated between the Safety Control Unit and each Safety Node Unit. The following operations apply : - Normally, redundant ESB Buses are used in an alternating fashion. - If an error occurs in an ESB Bus interface module on one side, the error is notified to the user via a diagnostic information message. If both interface modules fail, the error is treated as a node failure. - If an error occurs in one ESB Bus or interface module, the SCU continues communication using the other normal ESB Bus. - An erroneous bus is monitored for recovery at regular intervals. - Errors in communication with all I/O nodes, except CPU node, are related to ESB Bus error.
Objective	To verify that SCS operation is uninterrupted when one ESB Bus interface module fails and the other interface module takes over.
Reference	- ProSafe-RS Instruction Manual (Safety Control Station)
Procedure	1. Wire up one test logic block with trip reset / latch function, inject hardwired signal inputs, and monitor the output, preferably in the Safety Node Unit than in the Safety Control Unit Node. 2. Display the POU in Debug mode on EWS PC for this logic block as applicable to observe the logic control action and status. 3. De-Energize or Energize the logic block (i.e. create status "trip"). 4. Disconnect the connector unit of one of the ESB Bus interface module in the SCU. 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Revive the ESB Bus to normal operation condition. 8. Repeat the same test procedure by disconnecting the connector unit of the other ESB Bus Interface module.
Criteria (Expected Result)	The SCS Logic functions and data must be unaffected on simulation on single ESB Bus failure.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

ROSETTI MARINO
Representative : _____ Date: _____

CROSSWIND
Representative : _____ Date: _____

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7.7.4 SCS Power Supply Module Redundancy Test

Outline	The dual redundant power supply modules on the Safety Control Unit and the Safety Node Unit supply power to the respective nodes.
Objective	To verify the redundant functionality of the power supply cards.
Reference	- ProSafe-RS Instruction Manual (Safety Control Station)
Procedure	1. Wire up one test logic block, with hardwired signal injection input, and monitor the output. 2. Display the POU in Debug mode on EWS PC for this logic block as applicable to observe the logic control action and status. 3. De-Energize or Energize the logic block (i.e., make status "trip"). 4. Remove the power to the active CPU nest power supply card by removing power from the UPS power source. 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Revive the Power Supply Card to normal operation condition. 8. Repeat for the other CPU nest power supply card by removing the power from normal power source. 9. Repeat the test for Safety Node unit power supply cards.
Criteria (Expected Result)	The SCS Logic functions must be unaffected on simulation on failure of single Power Supply module in SCS.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.5 I/O Module Redundancy Test

Outline	The SIS I/O modules are configured as redundant for all I/O. In an SCS, it is possible to mount input/output modules of the same type in two adjacent slots to make them redundant. In the case of redundant configuration, one side becomes the control side and the other becomes the standby side. When control side fails, the standby automatically takes over, when standby module fails, it will be alarmed.
Objective	To verify the redundancy of I/O modules.
Reference	- I/O Assignment - ProSafe-RS Instruction Manual
Procedure	1. Wire up one test logic block with trip reset / latch function, inject hardwired signal input, and monitor the output. 2. Display the POU in Debug mode on the EWS PC for this logic block as applicable, to observe the logic control action and status. 3. De-Energize or Energize the logic block (i.e., create status "trip"). 4. Remove the active I/O module which has the I/O that has been set up for the logic block function monitoring as per Step 1. 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Install back the removed I/O module. 8. Check the I/O module recovery messages at the OWS. 9. Repeat the test by removing the other IO module
Criteria (Expected Result)	The SCS Logic functions must be unaffected on simulation of failure of active IO module in a redundant configuration.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.6 Field Power Supply Redundancy Test

Outline	SIS 24V DC Field Power supplies provide power to field input and output devices. The Field power supplies are installed in redundant configuration with each field power supply designed to cater field power to 100% of the IO in that cabinet
Objective	To verify the redundancy of 24V DC Field power supplies Refer Appendix 8.3 - Approved Document List
Reference	- SIS Cabinet power distribution drawings
Procedure	1. Select an SCS controller and reset all logics in that controller. 2. Remove AC power input to one of the 24V DC Power supply 3. Verify that the power to Terminal Board (TB)/Field IO is still normal. 4. Verify SIS System common trouble alarm in OWS is normal. 5. Revive AC power input and verify recovery of system common trouble alarm. 6. Repeat the test by removing AC power input to other 24V DC power supply.
Criteria (Expected Result)	Field power to SCS IO must be unaffected on simulation on failure of single 24V DC Field Power Supply unit.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted for all Marshalling cabinets equipped with 24DC power supplies.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.7 System Key Function Test

Outline	The SIS systems are equipped with a System Key. The System Key provides protections against unauthorized access and modification to system logics. • System key is normally set to Disable position. The ProSafe-RS logic security level is set and locked in at level 2, which is read only mode. • When System key is set to Enable position, security level remains at 2 but can be changed by user to 1 or 0 for online or offline download respectively. When System key is switched from Enable to Disable position, the logic will enable all locked or disabled variables then set security level back to 2. Enabling disabled variables is necessary to ensure that System key input will not be kept in locked state which will cause security level and variable enable locked down.
Objective	To verify: System key REMOTE (Disable) & PROGRAM (Enable) functionality
Reference	SIS Cabinet wiring drawings Refer Appendix 8.3 - Approved Document List
Procedure	1. Verify security level is set to 1 and at least one variable is locked. Turn System key position to DISABLE (REMOTE) position. • Verify lock variable is enabled and security level is set to 2 • Verify that the System Common Trouble alarm is cleared. 2. Return System key position to ENABLE (PROGRAM) position. • Verify security level remains at 2 • Verify System Common Trouble alarm in OWS 3. Change security level to 1 and verify that online download is possible. 4. Change security level to 0 and verify that offline load is possible.
Criteria (Expected Result)	SCS Security level change is possible only in Enable position. Switching from Enable to Disable position enables all locked or disabled variables and set security level to 2.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted for all SCS Controllers and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA

Representative : _____ Date: _____

ROSETTI MARINO

Representative : _____ Date: _____

CROSSWIND

Representative : _____ Date: _____

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7.7.8 Vnet/IP Bus Redundancy Test

Outline	The Vnet/IP bus is an important communication channel for communication between the EWS/OWS and the SCS/FCS. It also provides peer-to-peer communication between SCS/FCS. The Vnet/IP bus is dual redundant. This test will be carried out for the SIS system that is set up as per system configuration.
Objective	To verify the redundant functionality of the system communication network Vnet/IP bus.
Reference	ProSafe-RS Instruction Manual. Centum VP Instruction Manual
Procedure	For SCS: 1. For SCS CPU-1: Remove the cable that is connected to Bus-1. 2. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS). 3. Observe whether there is any break in trend gathering for any signal. 4. Re-connect the cable and check that the Bus-1 is healthy. 5. Repeat the above tests for CPU-1 Bus-2 and for CPU-2 Bus-1/2. For Layer2 switch: 7. Fail one of the L2 switches that is connected on Vnet/IP Bus-1. 8. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 9. Observe whether there is any break in trend gathering for any signal. 10. Power back the L2 switch check that the switch and the connected Vnet/IP network are healthy 11. If applicable, repeat the test for the other L2 switch that is connected to Vnet/IP Bus-1. 12. Repeat the test for the L2 switch connected on Vnet/IP Bus-2.
Criteria (Expected Results)	1. The SCS should be monitored from EWS and/or OWS without interruption even on a single Vnet/IP bus. 2. System alarm messages should be correctly displayed. 3. There should not be any break in trend gathering for any of the signals.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS/L2SW/L3SW and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.9 SCS Resource Capacity Check

Outline	SCS Resources refers to the SCS memory usage. Sufficient spare capacity for future expansion should be available at each SCS. The Safety Control Station resource usage depends on the application software configured in that particular SCS.
Objective	To verify that overall SCS resource capacity is sufficient. This result can be used as a reference while checking the SCS memory usage at the completion of commissioning.
Reference	- ProSafe-RS Instruction Manual (Engineering Guide) - SIS FDS Software Refer Appendix 8.3 - Approved Document List
Procedure	1. The check will be carried out for the related SCS. 2. Call up the SCS Information panel at the EWS. 3. Confirm the SCS resources consumed and the remaining resources available at the related SCS.
Criteria (Expected Result)	The overall SCS resources consumed must meet project requirement.
Test Record Reference	The printout from the system for each SCS Information. Refer Appendix 8.7 – FAT Check sheet

The above check will be conducted for all SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.10 SCS CPU Loading Check

Outline	The loading of the CPU of each Safety Control Station depends on the size and complexity of the application software configured in that particular SCS, the specified scan cycle and communication loads with other devices (EWS / OWS / FCS / SCS). CPU loading of the SCS is an important factor for deciding the system performance.
Objective	To record the loading of the CPU of the SCS at the completion of FAT. This result can be used as a reference while checking the SCS CPU idle time at the completion of commissioning.
Reference	- ProSafe-RS Instruction Manual (Engineering Guide) - SIS FDS Software Refer Appendix 8.3 - Approved Document List
Procedure	1. Select an SCS for which the CPU load needs to be verified. 2. (If the system is integrated with the PCS), on each of the OWSs, belonging to that SCS operation group, call up 4 Graphic windows, a faceplate or a tuning window. The selected Graphic windows should pre-dominantly have tags from the selected SCS for which the CPU load is being measured. 3. Call up the status display of the SCS, for which the CPU idle time is being measured and note down the displayed CPU idle time 4. Printout a hardcopy of the SCS status display for records.
Criteria (Expected Result)	The CPU idle time shown on the System Maintenance panel for each SCS should meet the project requirement.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above check will be conducted for all other SCSs.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.11 SCS Online/Offline Loading Test

Outline	During the course of plant operation, it may become necessary to modify certain tag definitions, parameters and logic configurations etc. There are two types of loading procedures. These are: • On-line loading. • Off-line loading Modifications (within specified restrictions as per engineering guide) made at the EWS followed subsequently by on-line loading to the SCS have no effect on SCS operation. The modifications become effective on completion of the loading procedure. Modifications made at the EWS followed subsequently by off-line loading to the SCS will cause the SCS to go off-line for the duration of the loading procedure. The modifications become effective on completion of the loading procedure, and the SCS returns to normal on-line status.
Objective	To verify SCS on-line and off-line loading function.
Reference	- ProSafe-RS Instruction Manual (Engineering Guide)
Procedure. (On-line Load).	1. Modify any of the parameters permitted for on-line loading. 2. Execute SCS on-line loading via the EWS. 3. Observe whether any effect to SCS operation during SCS on-line loading. 4. Confirm that the modified parameters are loaded and functioning properly.
Criteria. (Expected Results) (On-line).	1. SCS operation is not affected during SCS on-line loading. 2. The modified parameters should be loaded without any errors and the post download changes are reflected as desired
Procedure. (Off-line Load).	1. Modify any of the logics required for off-line load. 2. Execute SCS off-line loading via the EWS. 3. Observe SCS fail status from the system panel during off-line loading. 4. Confirm that the modified logics are effectively loaded and functioning properly.
Criteria. (Expected Result) (Off-line).	The modified parameters should be loaded without any errors and the post offline load changes are reflected as desired.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on a selected SCS and witnessed by following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.7.12 Media Backup/Restore Function Test (ProSafe-RS Project)

Outline	The ProSafe-RS EWS PC is equipped with backup storage device for application program backup onto backup storage/media.
Objective	- Verify that the backup storage/media will back-up/restore ProSafe-RS project database.
Reference	- ProSafe-RS Instruction Manual
Procedure (Backup)	Backup the project application database in EWS PC to backup storage/media.
Criteria (Backup)	The project folder is copied onto the backup storage/media without interruption and any errors.
Procedure (Restore)	Restore the project application database backup files in the backup storage/media to EWS PC.
Criteria (Restore)	The project folder is restored back to the desired location in EWS PC without interruption and any errors. There should be no effect on ProSafe-RS generation after restoration
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted the ProSafe-RS project folder and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.8 SIS & FGS I/O Check

7.8.1 I/O Check Procedure

Outline	During the internal test, 100% I/O tests are carried out and records for the same are maintained. During FAT, 100% IO checks are performed to verify that the I/O is correctly assigned in the SCS.
Objective	1. To verify all the SIS input and output signals and circuits and their assignment in the SCS. 2. To verify IO parameter settings in the SCS with I/O tag list. 3. To verify Trip points /Dead band /Range of analog signals on logic sheet against project requirement. 4. To verify Tag number, tag comment, range, and engineering unit on OWS faceplate (If the system is integrated with the PCS). 5. To verify SOE records on the SOE viewer installed in the EWS PC.
Reference	- I/O Assignment - Termination Wiring Drawing Refer Appendix 8.3 - Approved Document List
Procedure	1. Analog Input signals to be simulated at test panel or at the Marshalling terminals using signal generators (For redundant modules, switch over to standby module and test redundant path). 2. Digital Input signals to be simulated using test panel and/or switches hardwired to terminals at Marshalling (For redundant modules, switch over to standby module and test redundant path). 3. Digital Output signals shall be tested by forcing the output from the EWS and observing the LEDs on test panel and/or voltage hardwired to terminals at Marshalling (For redundant modules, switch over to standby module and test redundant path).
Criteria (Expected Results)	1. The circuit for every I/O point is completed from simulator test panel (or terminals at Marshalling if test panel is not used) to SCS. 2. Signal values of all I/Os are correct. 3. Tag number, tag comment, alarm/trip settings, range and engineering units are configured correctly and match the data in Instrument Index.
Test Record Reference	1. Pre-FAT Test Record (100% of I/O). 2. Refer Appendix 8.8 – I/O Check sheet (Check sheet are generated from master database to ensure that there is no I/O tag been left out).

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Analog input:

Simulate appropriate analog input signals using the hardware simulation test panel or the signal generator and record SCS reading displayed in the corresponding workbench at EWS and/or faceplate at the OWS. For Analog Input points, the following signal levels shall be injected and verified:

- Signal 1 = 0%
- Signal 2 = 50%
- Signal 3 = 100%
- Out of range IOP+
- Out of range IOP-
- Trans+
- Trans-

Additional points for FGS Detectors:

- Calibration
- Beam block
- Dirty Optics

Verify the tag number, tag comment, range and engineering unit on OWS faceplate.

Verify the Process Alarms on the OWS.

Verify the alarm & trip related setting, transmitter fault, failsafe value, etc. on the EWS and annunciation of the same on the OWS.

Verify alarm and trip signals on the SOE and time stamps as applicable.

The result shall be recorded in the I/O Check sheet.

Note: If applicable, verify the IO card dip switch setting for all 4 wire transmitters. Instrument Index to provide the list of all field powered transmitters.

Analog output:

From the workbench at EWS, force the output (MV) of the tag and measure the corresponding signal output at the output terminals using an ammeter. For Analog Output points, 3 output signals shall be set:

- Signal 1 = 0.1%, corresponding to 4mA at output terminals.
- Signal 2 = 50%, corresponding to 12mA at output terminals.
- Signal 3 = 99.9%, corresponding to 20mA at output terminals.

The result to be recorded in I/O Check sheet.

Digital input:

- Open or close the input point using the toggle switches on the Simulator test panel and record the input status indication in the corresponding logic display at EWS. For Digital Input points, the following input states shall be simulated:
  - Signal 1 = 0 or open contact input signal.
  - Signal 2 = 1 or close contact input signal.

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  - Signal Fault : Wire break and / or short circuit as applicable for line monitored inputs
- Verify the Trip Signals on the SOE and SOE time stamps as applicable.
- The result to be recorded in the I/O Check sheet.

Digital output:

Using EWS, force the Digital output point to ON and confirm that the LED on the test panel is turned ON. Force the Digital output point to OFF and confirm that the LED on the test panel is turned OFF. Short the wires at the LED and confirm that the System automatically disables the DO channel.

If applicable, verify the Trip Signals on the SOE and SOE time stamps.

The result to be recorded in the I/O Check sheet.

The above check will be conducted for 100% of the IO and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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8 EMCS Physical Hardware Check

8.1 Test purposes

The tests covered in this document are related only to acquire and generate the IO hardwired signals provided by EMCS and the hardware redundancy.

8.2 Test prerequisites EMCS

The test must check:

- the correct wiring of the signals of the IO card to terminal strips
- the correct acquisition of input signals (digital and analog) by the control system
- the correct generation of output signals (digital and analog) by the control system
- the hardware redundancy in case of one control system fault or network failure

To perform the test, Yokogawa will use laptop PC to connect, through software to programming SEL Industrial PC, at the control system with the scope to verify the correct internal status of the signals.

Availability of documents concerning the communication interface is a necessary prerequisite, in order to proceed with the actual test. The minimum provided information is :

- Communication parameters (IP address, subnet mask, device parameters, device tag when applicable, communication speed when applicable).
- IO signal maps, specifying for each signal to be tested :
  - Tag
  - Address
  - Description
  - Data type
  - Data access (read/write)
  - Range
  - Scale
  - Offset
  - Engineering Unit (if applicable)

8.3 Hardware link validation

This chapter describes the tests that will be executed during the “Hardware Link Communication tests”. The following tests shall be performed for each IO card in the EMCS and for each control system component.

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8.3.1 TEST Form 1.1 - Communication and configuration check				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY				
SCOPE	Verify the correct connectivity between EMCS and Engineering Workstation interface.			
REF. DOCUMENTS				
PROCEDURE	After the connection, using Engineering Workstation interface, is established, verify that the connections are Healthy and permanent for each component of the EMCS.			

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EXPECTED RESULT	Observe that there is no communication fault on each component of the EMCS. For each component, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐		FAI☐	
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

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8.3.2 TEST Form 1.2 - **Hard Link Digital Input/Output test**				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Hard Link Digital Input/Output test			
PRELIMINARY				
SCOPE	Verify the communication for all digital signals acquired and generated by EMCS on Engineering Workstation interface. Verify that it is possible to read and write signals as specified in Signal List: • "read" signals will be generated/forced by an external electrical jump on the terminal strip and checked the corresponding internal signal on Engineering Workstation interface. • "write" signals will be generated/forced through Engineering Workstation interface and checked, using proper electrical instrumentation, the status of the signal on the corresponding terminal strip.			
REF. DOCUMENTS				
PROCEDURE	Verify that each digital input signal value corresponds to the same internal signal value on Engineering Workstation interface. Verify that each digital output			

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	signal value generated on Engineering Workstation interface corresponds to the value measured on corresponding terminal strip.			
EXPECTED RESULT	No mismatch occurs during acquisition and generation of digital signals.			
TEST RESULTS	PASS ☐	FAI☐		
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

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8.3.3 TEST Form 1.3 - **Hard Link analog Input/Output test**				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Hard Link analog Input/Output test			
PRELIMINARY				
SCOPE	Verify the communication for all analog signals acquired and generated by EMCS on Engineering Workstation interface. Verify that it is possible to read and write signals as specified in Signal List: • "read" signals will be generated/forced by an proper electrical instrumentation on the terminal strip and checked the corresponding internal signal on Engineering Workstation interface. • "write" signals will be generated/forced through Engineering Workstation interface and checked, using proper electrical instrumentation, the status of the signal on the corresponding terminal strip.			
REF. DOCUMENTS				

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PROCEDURE	Verify that each analog input signal value corresponds to the same internal signal value on Engineering Workstation interface. Verify that each analog output signal value generated on Engineering Workstation interface corresponds to the value measured on corresponding terminal strip.			
EXPECTED RESULT	No mismatch occurs during acquisition and generation of analog signals.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

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8.3.4 TEST Form 1.4 - **Redundancy EMCS test**				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Redundancy EMCS test			
PRELIMINARY	The EMCS is composed by two different Control System working in redundant mode.			
SCOPE	Verify the EMCS can work properly during a fault of one of its control system. Verify that the alive control system ensures the proper operations of the EMCS trying to write digital and analog output signals and check, using proper electrical instrumentation, if the signals are generated properly.			
REF. DOCUMENTS				
PROCEDURE	Write the digital and analog output signals through Engineering Workstation interface and verify that them are generated properly, measuring them with an			

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	electrical instrumentation on terminal strip.			
EXPECTED RESULT	No mismatch occurs during generation of digital and analog output signals.			
TEST RESULTS	PASS ☐ FAI☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

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9 Appendices

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9.1 FAT Organization Chart

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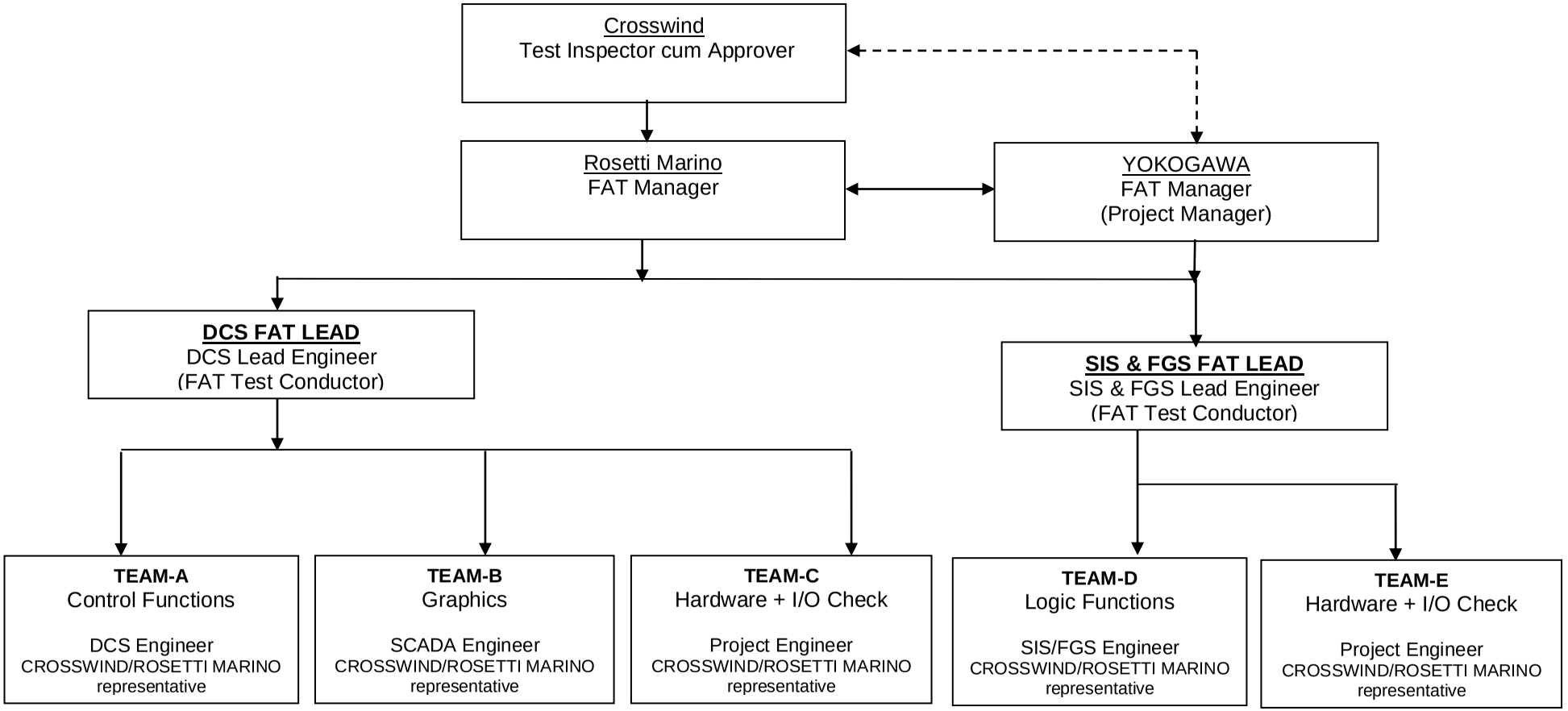
FAT ORGANIZATION



Note: Team C & E shall conduct Hardware FAT

9.2 FAT Schedule

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PSC, SIS and FGS FAT Schedule

Task Name	Duration	Start	Finish
FAT HW	1wk	04/10/24	11/10/24

9.3 Approved Document List (Detail Design Specification)

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A Input Document

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
A.1.1	Electrical Control, Protection and Metering Diagrams	123A90-DDL-EL-DG-20014	01
A.1.2	Overall-Key Single Line Diagram	123A90-DDL-EL-DG-20158	02
A.1.3	Electrical Single Line Diagram HV Systems	123A90-DDL-EL-DG-20185	01
A.1.4	BASE LOAD POWER HUB (BLPH) - 66kV Switchgear (GIS) - Single line diagram	1723001595-EL-DG-00013	03
A.1.5	SG-100D1 HV SWBD 6,6kV - ELECTRICAL SINGLE LINE DIAGRAM	1723002197-EL-DG-00010	02
A.1.6	SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM	1723002197-EL-DG-00011	03
A.1.7	SG-200D2-LV SWBD 800V-ELECTRICAL SINGLE LINE DIAGRAM	1723002197-EL-DG-00012	02
A.1.8	DC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM	1724000372-EL-DG-00006	01
A.1.9	AC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM	1724000372-EL-DG-00007	00
A.1.10	BASE LOAD POWER HUB - OFFSHORE ITER - EQUIPMENT LAYOUT	123A90-DDL-IN-DL-40012	02
A.1.11	Master Alarm Database	123A90-DDL-IN-LIS-40027	00
A.1.12	Instrument I-O List	123A90-DDL-IN-LIS-40089	03
A.1.13	SG-200N1 IO LIST - Lv Switchgear	1723002197-EL-LIS-00042	01
A.1.14	DC UPS IO LIST	1724000372-EL-LIS-00014	02
A.1.15	IO LIST - INSTRUMENT AIR PACKAGE	1724000428-IN-LIS-00016	03
A.1.16	IO LIST - NITROGEN GENERATION PACKAGE U-64000	1724000437-IN-LIS-00015	03
A.1.17	PACKAGE PID - INSTRUMENT AIR PACKAGE	1724000428-PR-PID-00019	02
A.1.18	PACKAGE PID - NITROGEN GENERATION PACKAGE	1724000437-PR-PID-00018	02
A.1.19	WATER TREATMENT PACKAGE-PID DIAGRAM	1724000448-PR-PID-00013	01
A.1.20	BLPH UTILITY FLOW DIAGRAM WATER TREATMENT PLANT	ROSMA-INN-BPH-DWG-00008	01
A.1.21	BLPH UTILITY FLOW DIAGRAM INSTRUMENT AIR AND NITROGEN SYSTEMS	ROSMA-INN-BPH-DWG-00009	01
A.1.22	BLPH UTILITY FLOW DIAGRAM VENT SYSTEMS	ROSMA-INN-BPH-DWG-00010	01
A.1.23	BLPH PIPING AND INSTRUMENTATION DIAGRAM GENERAL NOTES	ROSMA-INN-BPH-DWG-00031	02

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
A.1.24	BLPH PIPING AND INSTRUMENTATION DIAGRAM PIPING SYMBOLOGY	ROSMA-INN-BPH-DWG-00032	02
A.1.25	BLPH PIPING AND INSTRUMENTATION DIAGRAM ELECTROLYSER PACKAGE	ROSMA-INN-BPH-DWG-00033	02
A.1.26	BLPH PIPING AND INSTRUMENTATION DIAGRAM FUEL CELL PACKAGE	ROSMA-INN-BPH-DWG-00034	02
A.1.27	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (INLET)	ROSMA-INN-BPH-DWG-00035	02
A.1.28	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (OUTLET)	ROSMA-INN-BPH-DWG-00036	02
A.1.29	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL A	ROSMA-INN-BPH-DWG-00037	02
A.2.1	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 1	ROSMA-INN-BPH-DWG-00038	02
A.2.2	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 2	ROSMA-INN-BPH-DWG-00039	02
A.2.3	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 1	ROSMA-INN-BPH-DWG-00040	02
A.2.4	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 2	ROSMA-INN-BPH-DWG-00041	02
A.2.5	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 1	ROSMA-INN-BPH-DWG-00042	02
A.2.6	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 2	ROSMA-INN-BPH-DWG-00043	02
A.3.1	BLPH PIPING AND INSTRUMENTATION DIAGRAM INSTRUMENT AIR PACKAGE	ROSMA-INN-BPH-DWG-00044	02
A.3.2	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT HEADER	ROSMA-INN-BPH-DWG-00045	02
A.3.3	BLPH PIPING AND INSTRUMENTATION DIAGRAM Instrument air distribution header	ROSMA-INN-BPH-DWG-00046	02
A.3.4	BLPH PIPING AND INSTRUMENTATION DIAGRAM instrumentation SYMBOLOGY	ROSMA-INN-BPH-DWG-00047	02
A.3.5	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT DRUM	ROSMA-INN-BPH-DWG-00061	02
A.3.6	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL B	ROSMA-INN-BPH-DWG-00062	02
A.3.7	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL C	ROSMA-INN-BPH-DWG-00063	02
A.3.8	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL D	ROSMA-INN-BPH-DWG-00064	02
A.3.9	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL E	ROSMA-INN-BPH-DWG-00065	02
A.3.10	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL F	ROSMA-INN-BPH-DWG-00066	02
A.4.1	BLPH PIPING AND INSTRUMENTATION DIAGRAM -	ROSMA-INN-BPH-DWG-	00

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
	OPEN DRAIN SYSTEM	00306	
A.4.2	BALLARD - BLPH Project - P&IDs	K559-2254-CWIWP4202202-C03-001	04
A.4.3	ELOGEN BLPH Project - Process and Instrumentation Diagrams	K559-2254-CWIWP4202302-C03-001	07
A.4.4	Process Safety Cause and Effect Matrix	ROSMA-INN-BPH-REG-00007	02
A.4.5	Fire and Gas Cause and Effect Matrix	ROSMA-INN-BPH-REG-00021	01

B Yokogawa Deliverables

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
B1.	Bill of Material	1724000594-IN-LIS-00003	02
B2.	PCS and Safety System IO List (HW and SW)	1724000594-IN-LIS-00004	03
B3.	EMCS IO List (HW and SW)	1724000594-IN-LIS-00005	00
B4.	Power Consumption and Heat Dissipation	1724000594-IN-CA-00006	01
B5.	Systems Cables List	1724000594-IN-LIS-00007	01
B6.	Safety Controller loading estimation	1724000594-IN-RE-00008	01
B7.	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00009	02
B8.	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00010	01
B9.	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00011	02
B10.	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00012	02
B11.	EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00013	01
B12.	Project Execution Plan (PEP)	1724000594-PM-PL-00014	01
B13.	System Architecture	1724000594-IN-DD-00015	03
B14.	Network Connection Diagram	1724000594-IN-DG-00016	01
B15.	PAS Hardware Functional Design Specification (FDS-HW)	1724000594-IN-SP-00017	01
B16.	PCS and SAFETY SISTEMS Software Functional Design Specification (FDS-SW)	1724000594-IN-SP-00018	01
B17.	EMCS Software Functional Design Specification (FDS-SW)	1724000594-IN-SP-00019	02
B18.	PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00020	01
B19.	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00021	01

S/N	DOCUMENT TITLE	DOC. NO.	REV
B20.	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00022	01
B21.	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00023	01
B22.	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00024	01
B23.	Logic diagram print out PCS	1724000594-IN-DG-00025	00
B24.	Logic diagram print out SIS and FGS	1724000594-IN-DG-00026	00
B25.	Logic diagram print out EMCS	1724000594-IN-DG-00027	00
B26.	HMI screens print out	1724000594-IN-DD-00028	01
B27.	Safety Validation Plan (SVP)	1724000594-IN-PL-00029	00
B28.	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	1724000594-QC-PRO-00030	01
B29.	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	1724000594-QC-PRO-00031	00
B30.	Site Acceptance Test (SAT) PROCEDURE	1724000594-QC-PRO-00032	00
B31.	THIRD PARTY COMMUNICATION TEST PROCEDURE	1724000594-IN-LIS-00003	02
B32.	INSTALLATION, OPERATING AND MAINTENANCE MANUAL (IOM)	1724000594-IN-MAN-00037	01
B33.	SPARE PART INDEX REGISTER (COMMISSIONING AND 2-YEARs OPERATION)	1724000594-COM-LIS-00039	01
B34.	ATEX REGISTER	1724000594-IN-LIS-00036	01
B35.	VENDOR ASSET AND TAG REGISTER	1724000594-IN-LIS-00040	00
B36.	Instructions for Operation and Maintenance for ProSafe-RS	1724000594-IN-MAN-00038	01
B37.	Cyber Security Risk Assessment REPORT	1724000594-IN-RE-00035	01
B38.	Cybersecurity Workshop Preparation	1724000594-IN-RE-00041	00
B39.	CYBER SECURITY SETTINGS	1724000594-IN-RE-00043	00

S/N	DOCUMENT TITLE	DOC. NO.	REV
B40.	SUPPLIER MASTER INDEX REGISTER (SMIR)	1724000594-MD-LIS-00001	04
B41.	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	1724000594-QC-DB-00033	00
B42.	INSPECTION AND TEST PLAN	1724000594-QC-ITP-00002	01
B43.	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX	1724000594-QC-LIS-00034	01

Note: Refer to Vendor Doc list document, document no. 1724000594-MD-LIS-00001 for all other list of Yokogawa project documents.

9.4 FAT Test Equipment Records

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Test Equipment Record

No.	Test Equipment Description	Manufacturer And Model	Serial No.	Test Cert. No.	Expiry Date
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

COMMENTS:

Verified By: _____ Date: _____
Crosswind / Rosetti Marino

9.5 FAT Check sheet for PCS Hardware

Copyright © Yokogawa Electric Corporation

Reference No: _____

System Cabinet Check

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Front	Rear	
1 FCS Appearance and Construction Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- FCU Mounting and termination				
- ESB Bus Node Unit - IO module quantity				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- Vnet/IP Bus				
- ESB Bus, Optical ESB Bus				
- N-ESB Bus				
- System Cable (e.g., KS1, AKB331 and AKB336)				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan and thermostat				
2 FCS Nest Loading Check				
- FCS Station No. (Front): _____				
- FCS Station No. (Rear): _____				
3 System Startup Test				
4 CPU Backup Test				
- Left CPU				
- Right CPU				
5 FIO Bus Redundancy Test				
- ESB Bus1				
- ESB Bus2				
- N-ESB Bus1				
- N-ESB Bus2				
- F-SB Bus1				
- F-SB Bus2				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

System Cabinet Check

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Front	Rear	
6 FCS Power Supply Module Redundancy Test				
6.1 FCU Power Supply				
- PW48x Left				
- PW48x Right				
6.2 ESB Node Power Supply				
- Node 2 (FIO)				
- Node 3 (FIO)				
- Node 4 (FIO)				
- Node 5 (FIO)				
- Node 6 (FIO)				
6.3 N-IO Node Interface Unit				
- Node 1 (N-IO)				
- Node 2 (N-IO)				
- Node 3 (N-IO)				
- Node 4 (N-IO)				
- Node 5 (N-IO)				
- Node 6 (N-IO)				
7 Vnet/IP Bus Redundancy Test				
Vnet/IP Bus1				
Vnet/IP Bus2				
8 FCS Resource Capacity Test				
FCS Front Capacity : %				
FCS Rear Capacity : %				
9 FCS CPU Loading Tests				
FCS Front Capacity : %				
FCS Rear Capacity : %				
10 Online / Offline Loading Test				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Reference No: _____

Marshalling Cabinet Check

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- Interface Board				
- Accessories				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- System cables				
- Field cables from Junction Boxes				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket				
2 Cabinet Temperature Check				
3 Power Supply and ELM check				
- Power Supply (Front)				
Voltage Check (PSU1only) : VDC				
Ripple Check (PSU1 only) : mV				
Voltage Check (PSU2only) : VDC				
Ripple Check (PSU2 only) : mV				
ELM Check				
- Power Supply (Rear)				
Voltage Check (PSU1only) : VDC				
Ripple Check (PSU1 only) : mV				
Voltage Check (PSU2only) : VDC				
Ripple Check (PSU2 only) : mV				
ELM Check				
4 Functional check				
4.1 LED Check				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Reference No: _____

Media Backup/Restore Function Test

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Media Backup Function Test				
1.1 Start Back-up				
1.2 Backup completed				
Error Message (if any):				
2 Media Restore Function Test				
2.1 Start Restore of data				
2.2 Restore completed				
Error Message (if any):				

Reference No: _____

Server Cabinet

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- Interface Board				
- Accessories				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- System cables				
- Field cables from Junction Boxes				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket				
2 Cabinet Temperature Check				
3 Functional check				
3.1 KVM Console/Extender test				
- Selection of PC / Server from KVM Console				
- KVM extension via KVM Extender				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Reference No: _____

Network Cabinet

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- Interface Board				
- Accessories				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- System cables				
- Field cables from Junction Boxes				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket				
2 Cabinet Temperature Check				
3 Power Supply and ELM check				
- Power Supply (Front)				
Voltage Check (PSU1only) : VDC				
Ripple Check (PSU1 only) : mV				
Voltage Check (PSU2only) : VDC				
Ripple Check (PSU2 only) : mV				
4 Functional check				
4.1 Ethernet switch test				
- L2 Switch				
- L3 Switch				
4.2 FO converter test				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

9.6 FAT Check sheet for SIS & FGS Hardware

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Reference No: _____

EWS/SOE Workstation Check

Station Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 PC Model				
Monitor				
Vnet/IP interface card (VI702)				
Domian:				
Station:				
Operation System (OS)				
Product Key				
Prosafe-RS system				
Version:				
License ID:				
License Details:				

SIS System Architecture and BOM Check

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 System Architecture Check				
(As per reference document)				
2 Bill of Materials Check				
(As per reference document)				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

SIS IO Nestloading and System Cable schedule Check

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 IO Assignment/Nest Loading Check				
(As per reference document)				
2 System Cable Schedule Check				
(As per reference document)				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

9.7 FAT Punch Record Ledger & Punch Record Form

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Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No.	Date
Process Area:	**System:**	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	**Classification :** **Correction (Code C)** ☐ **Modification (Code M)** ☐

Punch Item description: **(Attach Separate sheets/attachments, if necessary)**

Related to: **Hardware** ☐ **Software** ☐ **Documentation** ☐

Details of change required: **(Attach Separate sheets/attachments, if necessary)**

Tester (Name)	**Signature**	**Date**
Witness (Name)	**Signature**	**Date**

Repeat the test? : **YES** ☐ **NO** ☐

If NO, reason: _____

Resolution: **(Attach Separate sheets/attachments, if necessary)**

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By		YOKOGAWA		
Witnessed By		ROSETTI MARINO		
Approved By		CROSSWIND		

SAMPLE

FAT PUNCH LEDGER

Customer Group: _____
Project: _____
Record Date: _____

Recorded By: _____
Witnessed By: _____

Punch Record No.	Punch Description	Cause (C/M)	Initiated by	Action By	Date of Completion	Re-test By (MAC)	Witnessed by (EPC/End-User)

Legend for cause column:
C = Correction, items is to be corrected by YOKOGAWA
M = Modification, items is to be modified, deleted or added due to design input changes

SAMPLE

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No.

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System		Proc.Area/Unit	
Stage		Controller No.	

Punch Description

Noted By		Approved By		Date		Category	
Proposed/Agreed Solution						Action By	

Impact Analysis

Impacted Aspects	☐ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☐ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status			
Implemented By		Verified/Tested By	
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name			Name			Name	
	Date			Date			Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

YOKOGAWA

SIS Punch Record Summary

Project No.		Project Name	
Contractor		EMPLOYER	

Sl. No.	Punch Record Reference No	Date	Stage	System	Punch Description	Category	Action By	Safety Related	Proposed / Agreed Solution	Punch Status

Yokogawa Rosematti Marino Crosswind

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Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

9.8 FAT Completion Certificate

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FACTORY ACCEPTANCE TEST COMPLETION CERTIFICATE

JOB NAME	:	BASE LOAD POWER HUB
END USER	:	CROSSWIND
CUSTOMER	:	ROSETTI MARINO
PLANT	:	OFFSHORE HKN WIND FARM
SYSTEM DESCRIPTION	:	PCS/SIS/FGS INTEGRATED WITH CI SERVER

This is to certify that it is mutually agreed by all parties that the Factory Acceptance Test for PCS/SIS/FGS [Hardware] has been completed to the satisfaction of all parties concerned.

[Remarks]

_____

_____

_____

Signed in agreement by;

YOKOGAWA : _____ Date: _____

ROSETTI MARINO : _____ Date: _____

CROSSWIND : _____ Date: _____

9.9 Shipping Release Note

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SHIPPING RELEASE NOTE

JOB NAME	:	BASE LOAD POWER HUB
END USER	:	CROSSWIND
CUSTOMER	:	ROSETTI MARINO
PLANT	:	OFFSHORE HKN WIND FARM
SYSTEM DESCRIPTION	:	PCS/SIS/FGS INTEGRATED WITH CI SERVER

This is to certify that the FIO equipment's for this project can be released for shipment.

[Remarks]

_____

_____

_____

Signed in agreement by;

Crosswind/Rosetti Marino : _____ Date: _____

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-2 SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

1724000594-QC-PRO-00031

Base Load Power Hub (BLPH)

SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

Document Number: 1724000594-QC-PRO-00031

Supplier Document Number: E366772C00-SW_FAT

Document Class: 2

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	27/05/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
03	19/03/2025	Accepted for Construction (AFC)	AG	AB	SC
02	12/02/2025	Issue for Review (IFR)	KS	AB	SC
01	13/11/2024	Issue for Review (IFR)	KS	AB	SC
00	10/10/2024	Issue for Review (IFR)	KS	AB	SC

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Issue for Review (IFR)
02	Issue for Review (IFR)
03	Accepted for Construction (AFC)

HOLDS LIST

S No.	Description
1	
2	
3	
4	
5	
6	
7	

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1 INTRODUCTION

1.1 GENERAL

The purpose of this document is to define the methods and documentation that will be used to carry out the Integration Factory Acceptance Test (FAT) using Virtual Machine (VM)/Remote Access on Yokogawa's Distributed Control System (PCS) CENTUM VP, ProSafe-RS (SIS and FGS), SCADA (CI Servers) and EMCS. The FAT is performed to ensure that the system is properly configured, assembled and functional in accordance with the intended design as specified in the approved documents. The objective of FAT is to demonstrate to Crosswind that the system hardware and software is built in accordance to requirements as specified in the approved documents. Crosswind and Rosetti Marino (RM) would witness to verify the test. Upon successful completion of the test, a FAT Test Certificate and Shipping Release Notice would be signed by both Yokogawa as MAC and Crosswind/RM to signify the acceptance of the test and approval of shipment of the equipment.

1.2 SCOPE AND OBJECTIVE

The Factory Acceptance Test referred to as FAT applies to the PCS, SIS , FGS and EMCS Software supplied by Yokogawa . The objective of the FAT is to verify the conformance of the system against the approved specifications and FAT procedure before delivery to site. The FAT shall be conducted to test and verify the main items listed below:

- System Software

PCS- CentumVP Version R6 Software
SIS and FGS - Prosafe-RS Version R4 Software
SCADA – Collaborative Information (CI) Server R1

- Operator Station Application Software

SCADA – Collaborative Information (CI) Server R1

- Control Station Application Software

PCS, SIS, FGS and EMCS

- Alarm Management

SCADA – Collaborative Information (CI) Server R1

<u>Exclusion of test during this FAT</u>

- 3rd Party Package Communication Testing, EMCS integration test with CI-Server and PCS

2 REFERENCES

2.1.1 Project Reference Documents

Doc. No.	*Description*
123A90-DDL-IN-DD-40019 Rev.00	Data Network Architecture Drawings
123A90-DDL-EL-DG-20041 Rev.00	Block Diagram (EMCS)
123A90-PML-PM-TQ-00050 Rev.01	Reactive power control requirement for BLPH
123A90-DDL-EL-DS-20040 Rev.00	TDS - Electrical Monitoring and Control System (EMCS)
123A90-PML-PM-TQ-00052 Rev.00	Interface with Electrolyzer
123A90-PML-PM-TQ-00053 Rev.00	Interface with BESS
123A90-PML-PM-TQ-00054 Rev.00	Interface with WINDFARM and WTG-57
123A90-PML-PM-TQ-00055 Rev.01	Interface with SOLAR FARM
123A90-PML-QHSE-PRO-00113 Rev.01	Vendor final document requirements and management
123A90-PML-PM-RE-00038 Rev.01	PROJECT CODES AND STANDARDS REPORT
123A90-DDL-TL-SP-45007 Rev.02	Telecom System Philosophy and Specifications
123A90-DDL-SAF-DL-30027 Rev.00	FandG detection Layout - lower and upper deck
123A90-DDL-SAF-DL-30028 Rev.00	FandG detection Layout - Below Lower deck
123A90-DDL-PR-UFD-80006 Rev.01	BLPH UTILITY FLOW DIAGRAM WATER TREATMENT PLANT
123A90-DDL-PR-UFD-80007 Rev.01	BLPH UTILITY FLOW DIAGRAM INSTRUMENT AIR AND NITROGEN SYSTEMS
123A90-DDL-PR-UFD-80008 Rev.01	BLPH UTILITY FLOW DIAGRAM VENT SYSTEMS
123A90-DDL-IN-SP-40018 Rev. 00	Data Network Design Specification
123A90-DDL-IN-SP-40094 Rev. 00	Instrumentation for Package Unit Specification
123A90-DDL-IN-SP-40097 Rev.00	System Specification for Main Automation Contractor
123A90-DDL-IN-SP-40098 Rev.00	Control System (PCS) Specification
123A90-DDL-IN-SP-40100 Rev.00	Safety System (ESD, Fire and Gas) Specification
123A90-DDL-IN-RE-40023 Rev. 00	Cyber Security Design Philosophy
123A90-DDL-IN-RE-40093 Rev. 00	Control System Philosophy
123A90-DDL-IN-DL-40013 Rev.00	Earthing layouts drawings (Onshore CCR, Offshore ITER)
123A90-DDL-IN-DD-40096 Rev.00	Control System Architecture Detailed Drawings
123A90-DDL-IN-DD-40029 Rev.00	Automation Detailed Design and Construction Package

Doc. No.	*Description*
123A90-DDL-EL-SP-20039 Rev.00	Functional and Technical Design Specification, IDS and DDS for EMCS
123A90-DDL-PR-DG-80000 Rev.01	Process Safety Cause and Effect Block Diagram
123A90-DDL-IN-MR-40103 Rev.01	MR - Process Automation System
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix
123A90-DDL-PR-PID-80009 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM GENERAL NOTES
123A90-DDL-PR-PID-80010 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM PIPING SYMBOLOGY
123A90-DDL-PR-PID-80011 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM ELECTROLYSER PACKAGE
123A90-DDL-PR-PID-80012 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM FUEL CELL PACKAGE
123A90-DDL-PR-PID-80013 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (INLET)
123A90-DDL-PR-PID-80014 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (OUTLET)
123A90-DDL-PR-PID-80015 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL A
123A90-DDL-PR-PID-80016 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL B
123A90-DDL-PR-PID-80019 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL E
123A90-DDL-PR-PID-80017 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL C
123A90-DDL-PR-PID-80018 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL D
123A90-DDL-PR-PID-80020 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL F
123A90-DDL-PR-PID-80021 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 1
123A90-DDL-PR-PID-80022 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 2

Doc. No.	*Description*
123A90-DDL-PR-PID-80023 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 1
123A90-DDL-PR-PID-80024 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 2
123A90-DDL-PR-PID-80025 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 1
123A90-DDL-PR-PID-80026 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 2
123A90-DDL-PR-PID-80027 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM INSTRUMENT AIR PACKAGE
123A90-DDL-PR-PID-80029 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT DRUM
123A90-DDL-PR-PID-80028 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT HEADER
123A90-DDL-PR-PID-80041 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM Instrument air distribution header
123A90-DDL-PR-PID-80042 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM instrumentation SYMBOLOGY
123A90-DDL-PR-PID-80043 Rev.00	BLPH PIPING AND INSTRUMENTATION DIAGRAM - OPEN DRAIN SYSTEM
K559-2254-PM-PLN-003 Rev.02	BASIC DESIGN ENGINEERING PACKAGE
123A90-MOM-RM-OOE-CW-002 Rev.00	Solar Package – BLPH Network Redundancy discussion
CWHKN-INN-INP-SPC-00005 Rev.01	SCADA Functional Design Specification
Crosswind - System Security Requirements v1.0	SYSTEM SECURITY REQUIREMENTS
K559-2254-EL-PHI-002 Rev03	ELECTRICAL SYSTEM DESCRIPTION AND DESIGN PHILOSOPHY
K559-2254-IC-BLD-001 Rev.01	PRELIMINARY CONTROL SYSTEM ARCHITECTURE
K559-2254-IC-PHI-001 Rev.01	CONTROL SYSTEM PHILOSOPHY
K559-2254-IC-REP-003 Rev.00	CYBER SECURITY ASSESSMENT
K559-2254-IC-SPE-001 Rev.00	SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR
K559-2254-PR-BLD-001 Rev.01	BLOCK FLOW DIAGRAM SYSTEM OVERVIEW

Doc. No.	*Description*
K559-2254-EL-LST-001 Rev.00	CONTROL ALARM AND MONITORING TABLE
123A90-DDL-IN-LIS-40027 Rev.01	Master Alarm Database
123A90-DDL-IN-RE-40026 Rev.00	Alarm Management Workshop Report
123A90-DDL-IN-RE-40095 Rev.01	Process Control Logics Description
123A90-DDL-IN-PRO-40010 Rev.01	Override Procedures for Process Safeguarding Systems
123A90-DDL-IN-RE-40025 Rev.01	Alarm Management Workshop Terms of Reference
123A90-DDL-IN-SP-40024_Rev.00	Alarm System Requirements Specification
123A90-DDL-PR-RE-80031 Rev.02	Process Control, Operation, Start-up and Shutdown Philosophy
123A90-DDL-EL-DG-20014 Rev 01	Electrical Control, Protection and Metering Diagrams
123A90-DDL-EL-DG-20158 Rev.02	Overall-Key Single Line Diagram
123A90-DDL-EL-RE-20170 Rev.01	Electrical System Study Report - Load Flow
123A90-DDL-EL-RE-20171 REV.01	Electrical System Study Report - Short Circuit
123A90-DDL-EL-RE-20175 Rev.01	Electrical System Study Report - Power Factor Compensation
123A90-DDL-EL-RE-20176 Rev.01	Electrical System Study Report - Transient In-Rush
123A90-DDL-EL-SP-20141 Rev.01	Electrical System Description and Design Philosophy
1723001595-EL-DG-00012 Rev.02	Functional logic diagram
1723001595-EL-DG-00013 Rev.03	BASE LOAD POWER HUB (BLPH) - 66kV Switchgear (GIS) - Single line diagram
1723001595-EL-DG-00017 Rev.01	Inter-panel logic diagram
1723001697-EL-DG-00010 Rev.03	TR-100AD1 Termination and Wiring Diagram
1723002197-EL-DG-00010 Rev. 04	SG-100D1 HV SWBD 6,6kV - ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00011 Rev.04	SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00012 Rev.04	SG-200D2-LV SWBD 800V-ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00015 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - INCOMING FEEDER
1723002197-EL-DG-00016 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - BUS BAR METERING
1723002197-EL-DG-00017 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM BESS FEEDER A-8500

Doc. No.	*Description*
1723002197-EL-DG-00018 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00019 Rev.03	SG-100D1 HV SWBD 6,6kV- FUNCTIONAL DIAGRAM - FUEL CELL FEEDER A-80000
1723002197-EL-DG-00020 Rev.03	SG-100D1 HV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00021 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00022 Rev.01	SG-100D1 MV SWBD 6,6kV INTERCONNECTING
1723002197-EL-DG-00023 Rev.01	SG-100D1 MV SWBD 6,6kV-LOGIC DIAGRAM-INCOMING FEEDER TR-100AD1
1723002197-EL-DG-00025 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - BESS FEEDER A-85000
1723002197-EL-DG-00026 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00027 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM -FUEL CELL FEEDER A-80000
1723002197-EL-DG-00028 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00029 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00030 Rev.02	SG-200N1 LV SWBD 400-230V FUNCTIONAL DIAGRAMS - INCOMINGS AND INTERCONNECTING AND AUX DISTRIBUTION
1723002197-EL-DG-00031 Rev.02	SG-200N1 LV SWBD 400-230V - FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
1723002197-EL-DG-00032 Rev.01	SG-200D2 LV SWBD - ELECTRICAL FUNCTIONAL DIAGRAM
1724000428-IN-LIS-00016 Rev.03	IO LIST - INSTRUMENT AIR PACKAGE
1724000437-IN-LIS-00015 Rev.03	IO LIST - NITROGEN GENERATION PACKAGE U-64000
1724000372-EL-LIS-00014 Rev.02	IO LIST
1723002197-EL-LIS-00041 Rev.02	SG-100D1 IO LIST- Hv Switchgear
1723002197-EL-LIS-00042 Rev.02	SG-200N1 IO LIST - Lv Switchgear
1723002197-EL-LIS-00043 Rev.01	SG-200D2 IO LIST (HARDWARE -SOFTWARE)

Doc. No.	*Description*
1723001595-EL-LIS-00011 Rev.02	Switchgear IO list
1724000448-IN-LIS-00019 Rev.01	INPUT-OUTPUT LIST
123A90-DDL-EL-DG-20185 Rev.01	Electrical Single Line Diagram HV Systems
1724000372-EL-DG-00006 Rev.02	DC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM
1724000372-EL-DG-00007 Rev.02	AC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM
123A90-DDL-IN-LIS-40089 Rev.03	Instrument I-O List
123A90-DDL-EL-DL-20100 Rev 01	Base Load Power Hub - Electrical Equipment Layout - Top Deck
123A90-DDL-EL-DL-20101 Rev 01	BASE LOAD POWER HUB (BLPH) - Electrical Equipment Layout - Lower Deck
123A90-DDL-EL-DL-20104 Rev.02	Base Load Power Hub (BLPH) - Electrical Equipment Layout - HV Switch room
123A90-DDL-EL-DL-20105 Rev.02	Electrical Equipment Layout - LV Switch room
123A90-DDL-EL-DL-20106 Rev.01	Base Load Power Hub (BLPH) - Electrical Equipment Layout - UPSs & Batteries Switch room
123A90-DDL-IN-DL-40012_Rev.03	BASE LOAD POWER HUB - OFFSHORE ITER - EQUIPMENT LAYOUT
1724000049-HV-PID-00039.Rev.00	B-100 PID - E&I SHELTERS
1724000049-HV-PID-00040.Rev.00	B-200 PID - E&I SHELTERS
1724000049-HV-PID-00041.Rev.00	B-300 PID - E&I SHELTERS
1724000049-HV-PID-00042.Rev.00	B-400 PID - E&I SHELTERS
1724000428-PR-PID-00019 Rev.02	PACKAGE PID - INSTRUMENT AIR PACKAGE
1724000437-PR-PID-00018 Rev.02	PACKAGE PID - NITROGEN GENERATION PACKAGE
1724000448-PR-PID-00013_Rev.01	WATER TREATMENT PACKAGE-PID DIAGRAM
HKN1-04-DWG-312 RevD	HKN1-04-DWG-312 Power Export System Single Line Diagram
K559-2254-CWIWP4202201-C06-001 Rev.01	Electrical Single Line Diagrams
K559-2254-CWIWP4202202-C03-001 Rev.05	BALLARD - BLPH Project - P&IDs
C63-PID-001_Rev.07	ELOGEN BLPH Project - Process and Instrumentation Diagrams
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix

Doc. No.	*Description*
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix

Table 1 – Project Reference Documents

2.1.2 Yokogawa Project Document

Doc. No.	Description
1724000594-IN-RE-00041 Rev00	Cybersecurity Workshop Preparation
1724000594-QC-ITP-00002 Rev01	INSPECTION AND TEST PLAN
1724000594-QC-PRO-00031 Rev00	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-SP-00018 Rev02	PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW)
1724000594-QC-DB-00033 Rev00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
1724000594-IN-LIS-00040 Rev00	VENDOR ASSET AND TAG REGISTER
1724000594-IN-DG-00023 Rev01	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-MD-LIS-00001 Rev03	SUPPLIER MASTER INDEX REGISTER (SMIR)
1724000594-IN-MAN-00038 Rev00	Instructions for Operation and Maintenance for ProSafe-RS
1724000594-IN-DA-00009 Rev01	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-QC-PRO-00030 Rev01	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-RE-00008 Rev01	Safety Controller loading estimation
1724000594-IN-DD-00028 Rev01	HMI screens print out
1724000594-COM-LIS-00039 Rev01	SPARE PART INDEX REGISTER (COMMISSIONING AND 2-YEARs OPERATION)
1724000594-IN-PL-00029 Rev00	Safety Validation Plan (SVP)
1724000594-IN-CA-00006 Rev01	Power Consumption and Heat Dissipation
1724000594-IN-LIS-00005 Rev00	EMCS IO List (HW and SW)
1724000594-IN-RE-00035 Rev01	Cyber Security Risk Assessment REPORT
1724000594-IN-RE-00043 Rev00	CYBER SECURITY SETTINGS
1724000594-IN-DG-00021 Rev01	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DA-00010 Rev01	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-LIS-00036 Rev01	ATEX REGISTER

1724000594-IN-DA-00011 Rev02	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-SP-00019 Rev02	EMCS Software Functional Design Specification (FDS-SW)
1724000594-QC-LIS-00034 Rev00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX
1724000594-IN-DA-00012 Rev01	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-QC-PRO-00042 Rev00	THIRD PARTY COMMUNICATION TEST PROCEDURE
1724000594-IN-DD-00015 Rev03	System Architecture
1724000594-IN-LIS-00004 Rev03	PCS and Safety System IO List (HW and SW)
1724000594-IN-DG-00022 Rev01	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00016 Rev01	Network Connection Diagram
1724000594-IN-LIS-00007 Rev01	Systems Cables List
1724000594-IN-SP-00017 Rev01	PAS Hardware Functional Design Specification (FDS-HW)
1724000594-IN-DG-00024 Rev01	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DA-00013 Rev01	EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

Table 2 – Yokogawa Reference Documents.

2.2 DEFINITIONS AND ABBREVIATIONS

ALE	Yokogawa Ethernet Communication Module
AMS	Alarm Management System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
Centum VP	Yokogawa's DCS Product
PCS	Process Control System
CI	Collaborative Information
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
DCS	Distributed Control System
DEP	Design and Engineering Practice
DOCUMENT NAME	Document Title
EMCS	Electrical Monitoring and Control System
EPC	Engineering, Procurement Construction

EWS	Engineering Workstation
FCS	Field Control Station
FGS	Fire & Gas System
GSD	General Station Description
HART	Highway Addressable Remote Transducer
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA.
IAMS	Instrument Asset Management System
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
ITP	Inspection and Test Plan
MAC	Main Automation Contractor
MCC	Motor Control Centre
NA	Not Applicable
OER	Onshore Equipment Room
OPC	OLE (Object Linking Embedded) for Process Control
P&ID	Piping and Instrument Diagram
PCS	Process Control System
PIN	Plant Information Network
PRM	Plant Resource Manager
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
SCADA	Supervisory Control and Data Acquisition
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function

SIL	Safety Instrumented Level
SIS	Safety Instrumented System
TCP/IP	Transmission Control Protocol/Internet Protocol
Vnet/IP	Yokogawa Virtual Network
WSUS	Window Security Update Services

Table 3 – Definitions and Abbreviations

2.3 APPLICABLE DESIGN ENGINEERING PRACTICES

Design Engineering Practices (DEP) have a limited rollout on BLPH.

2.3.1 Fully Applicable DEP

The following DEP are identified as being fully applicable to the project.

Document Name	Document Title
DEP 32.01.20.12	Industrial Automation and Control Systems (IACS) Security
DEP 30.00.60.15	Humans Factors Engineering – Control Room Design
DEP 33.64.10.32	Electrical Network Monitoring and Control System for Global Application
DEP 37.76.10.10	HVAC for Offshore Installations (Amendments/Supplements to ISO 15138)

Table 4 – Applicable DEPs

DEP 32.01.20.12 shall be applied to the project in full, in conjunction with IEC 62443, for the cybersecurity design.

2.3.2 DEM-1 Process Safety Only DEP

The following DEPs shall have the DEM-1 'Process Safety' requirements applied to the project.

Document Name	Document Title
DEP 32.30.20.11	Fire, Gas and Smoke Detections
DEP 32.80.10.10	Safety Instrumented Systems
DEP 32.80.10.14	Alarm Management (Amendment/Supplements to IEC 62682)
DEP 62.10.08.11	Inspection and Function Testing of Instruments

Table 5 – Applicable DEPs

2.4 INDUSTRY STANDARDS

Document Name	Document Title
IEC 61508	Functional safety of electrical/electronic/programmable electronic safety-related systems
IEC 61511	Functional Safety – Safety Instrumented Systems for the Process Industry Sector – Framework, Definitions, System, Hardware, and Application Programming Requirements
IEC 61850	Communication Networks and Systems for Power Utility Automation

IEC 62443	Cyber Security for Industrial Automation and Control Systems
IEC 62682	Management of Alarm Systems for the Process Industries
ISO 9001	Certifications of Quality Management System

Table 6 – Industry Standards

3 RESPONSIBILITY

Responsibilities for each party involved in the FAT are defined here-under to ensure that the FAT is carried out in accordance with an agreed procedure. It also ensures that there shall be authorized personnel(s) from Crosswind, RM and YOKOGAWA to facilitate any decisions and schedule changes resulted from the FAT as per ITP.

3.1 CROSSWIND

The full participation of Crosswind in the FAT is essential. Crosswind shall appoint an Inspector cum Test Approver to witness the FAT. The Test Approver would have the authority to sign-off upon the successful completion of all tests. Once signed off, the test will be deemed accepted and the decision will be final. The Inspector shall participate in the test and observe the test results on daily basis. The Test Approver shall approve the inspection items based on the approved specification and the test results recorded.

3.2 ROSETTI MARINO (RM)

RM shall appoint a FAT Manager for the FAT. The FAT Manager representing RM shall coordinate with Crosswind and YOKOGAWA FAT Managers and to facilitate the smooth implementation of the FAT activities and schedule. The role of the FAT Manager is also to resolve FAT issues on a regular basis. RM representatives will participate in the FAT for the complex controls, sequences and logics. For PCS controlled equipment packages containing complex controls, sequences and logics, RM at their discretion, may invite their package equipment supplier representatives to participate in the testing.

3.3 MAC SUPPLIER

YOKOGAWA as MAC shall appoint a Test Conductor to organize and manage all aspects of the FAT. YOKOGAWA shall carry out the testing and record the test results daily basis together with Crosswind Inspector and RM representative. The Project Manager representing YOKOGAWA shall be the FAT Manager. The FAT Manager shall coordinate with RM's FAT Manager and shall amend the test schedule whenever necessary to ensure the smooth running of the FAT. The FAT Manager shall also ensure that all tests are conducted in accordance with the approved FAT documents. If changes/modifications are required in the implementation, the FAT Managers of YOKOGAWA and RM shall discuss and arrive at the action plan.

4 GENERAL ADMINISTRATION

4.1 FAT VENUE

Remote FAT shall be carried out using Virtual Machine (VM)/Remote Access on Yokogawa's Distributed Control System (PCS) CENTUM VP HMI, Controller, EMCS, Prosafe-RS (SIS and FGS) and SCADA (CI Servers) OWS, CI Servers.

4.2 ORGANIZATION CHART

A specific detailed Organization Chart shall be issued for each project, with all positions and names filled in. In addition, a FAT roster of the participants shall be issued, with the following details for each person; full name, company, responsibility, samples of the signature and initials, actual start and finish date of participation in the FAT. The FAT Manager will be responsible for maintaining the roster and keeping it updated.

4.3 KICK-OFF MEETING

An initial kick-off meeting will be held prior to starting the FAT to brief the participants, confirm the organization and responsibilities, and review the FAT schedule. At the same time, HSE briefing for all participants will be provided by YOKOGAWA. YOKOGAWA FAT Manager will prepare the presentation and explain the organization and work practices. All FAT documentation prepared by YOKOGAWA prior to FAT will be inspected for completeness.

4.4 DAILY WORKING SCHEDULE

The FAT will be conducted using Virtual Machine (VM)/Remote Access from YOKOGAWA premises from Monday to Friday (working days).

The following timing (CET) is recommended for the testing:

0900 to 1230 hrs	Inspection and test
1230 to 1330 hrs	Lunch
1330 to 1530 hrs	Inspection and test
1530 to 1600 hrs	Daily review meeting including next day's schedule planning

4.5 DAILY REVIEW MEETING

YOKOGAWA FAT Manager shall conduct a daily review meeting at the end of each FAT day. The meeting will involve all the parties taking part in the FAT. The purpose of this review meeting is to update all parties the progress and status of the FAT. The punch list will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the recovery work involved is minor (identified in the daily meeting) and agreed by all parties, the work will be carried out on the same day and will be verified the following day by all the concerned parties and signed off in the punch list. If the recovery work involves major change/modification, The FAT Manager will advise the schedule for retesting.
Refer to section 5.4 for details in punch record.
The FAT Manager should also ensure that PCS, SIS, FGS, SCADA and EMCS Engineers make a backup of the application program to an external storage & other PC every day after the daily review meeting, so that old backups can be retrieved, if necessary.
White board will be provided to record progress & pending item.

4.6 WEEKLY PROGRESS MEETING

YOKOGAWA FAT Managers shall conduct weekly progress meeting every Friday. The purpose of the weekly meeting is to report the progress of the FAT in the same week and planned activity the following week. It shall also be the forum for resolving any issue arises from punch list. In the weekly progress meeting, The FAT Manager will present detailed weekly progress report, containing details of activities and achievements for the week, plan for the next week, area of concern, and detailed formal overall progress assessment. The format and content details of the weekly progress report and the underlining planning, progress monitoring and measurement methodology shall be in accordance with the FAT planning, Progress Monitoring Report. After the joint review in the weekly progress meeting and any necessary amendments, The FAT Manager will issue the weekly progress report.

4.7 FAT WRAP-UP MEETING

At the completion of the FAT, a final wrap-up meeting will be held. The overall status of the FAT shall be reported. Upon all parties' agreement that the FAT is completed satisfactorily, the FAT Completion Certificate and Shipping Release Notes shall be signed off by Crosswind/RM.

5 FAT DOCUMENTATION

The Factory Acceptance Test (FAT) shall be conducted in accordance with the test procedures detailed in this document. The test results shall be recorded in the check sheet. To prevent from any check sheet getting lost, each Check sheet shall be given a unique reference number.

5.1 FAT WRAP-UP MEETING

All FAT documentation shall be prepared by YOKOGAWA prior to the start of the FAT. All forms, check sheets, sign-off sheets, drawings, etc. as listed in this procedure shall be organized in indexed binders. A master index for the FAT will be provided and maintained by YOKOGAWA FAT Manager.
The documentation for software checks shall be organized by individual process units in indexed binders. The documentation for graphics checks shall also be organized, separately by individual process units in indexed binders.
All FAT reference documents (latest issue) as listed in this procedure originated by other parties (Crosswind, RM), which were issued formally to YOKOGAWA will form a part of the FAT documentation and shall be printed out and organized in indexed binders by YOKOGAWA.
All FAT reference documents as mentioned above shall be stamped "FAT MASTER" on every page/sheet. Any additional documents that may be necessary and generated later during FAT shall also be stamped, and indexes amended accordingly.

5.2 INTERNAL TEST/PRE-FAT WRAP

Prior to the FAT, YOKOGAWA shall conduct internal test (Pre-FAT) to verify the system and application software.

PCS Complex control loops, specialized sequential controls and batch control applications shall also be completely tested during Pre-FAT using Simulation Software (Test Function) in VMs.

The entire SIS, FGS application software will also be completely tested during Pre-FAT using Simulation Software (Test function) in VMs.

The result of the test shall be recorded and made available for reference before or during FAT. As a part of the pre-FAT, the project team consisting of application engineers from YOKOGAWA, RM and Crosswind conduct electronic (paper) check using the PCS tag/tuning report generated from the system.

During this paper check Pre-FAT, Crosswind/RM will verify the configuration parameters by using engineering documents. This will enable the FAT crew to concentrate on the control functions and Graphic functionality during the actual FAT and will also help in reducing the duration of the FAT.

Refer to PCS, SIS, FGS and SCADA application software sections for detailed procedure on paper check. It is also preferred that Crosswind and RM representatives participate in the pre-FAT for complex controls, sequences and logics checks, especially in projects that has multiple equipment's with identical control strategy, to facilitate smooth execution of the FAT.

5.3 METHOD OF TESTING

Detailed test procedure for each test item is described in this document. Check sheet shall be provided, listing the equipment to be tested. All test results shall be recorded in the Check sheets. The following color codes shall be used in the testing:

a) Yellow marker/highlighter – Items that were checked and cleared

b) Pink marker/highlighter – Items that were having problems.

c) Green marker/highlighter – Items that were checked after completion of recovery.

The color marking on the printouts or pdf file highlighting shall be done on the control drawings, graphics and supporting design documents such as P&IDs, narratives, etc.

During PRE-FAT/FAT sample check of SIS, FGS Logics can be demonstrated with target hardware. Complete software and Hardware Integration Test shall be performed during SAT.

PCS/SIS/FGS/EMCS Software Function Test will be conducted using Test Function tool/applicable simulation software's, without connection to any physical I/O. Simulation Software (PCS/SIS/FGS/SCADA Specific) will be used to simulate process input, digital signal and alarms to FCS/SCS so that typical loops, logic sequence blocks can be tested without connecting to physical input and output devices. Dynamic graphics check shall be a part of the PCS/SIS/FGS/SCADA Software function test. In case of EMCS application simulations shall be done to demonstrate the functionality.

5.4 PUNCH RECORD

All shortcomings found during the test shall be noted in the FAT Punch Record. Each punch Record shall cover one punch item/fault. A Punch Record Ledger shall be used to summarize all the punch records. Punch record items shall be classified as follows:

M = Modification, item is to be modified, deleted, added due to design input changes.

C = Correction, item is to be corrected by YOKOGAWA.

If the recovery work involves change/modification, it is to be recorded on the punch record and the recovery undertaken as soon as possible after the agreement of both the FAT Managers after signing of the punch record. YOKOGAWA shall clear all correction items (Code-C) at factory before shipment. For recovery work that involves modification (Code-M), it will be regularly jointly reviewed by all parties on at least weekly basis and resolved whether to be implemented during FAT or later, depending on complexity and potential schedule and/or cost impact. After verification, the same will be signed off by all concerned parties in the punch record.

Each Punch Record Shall include the expected completion Date within which the punch shall be implemented and ready for re-testing.

-Each "Code-M" punch requiring a minor or negligible effort to be cleared and shall be considered as included in lump-sum.

-Each" Code-M" punch deemed not included in lump-sum Yokogawa scope shall be subject to preliminary agreement between the parties before proceeding for implementation.

-Such Classification of "Code-M" punches shall be reflected either in FAT punch record sheets or in FAT punch ledger/SIS Punch Record Summary.

5.5 FAT COMPLETION CERTIFICATE & SHIPPING RELEASE NOTE

Upon completion of the FAT, FAT Completion Certificate and Shipping Release Note will be signed by Crosswind, Rosetti Marino and YOKOGAWA. The purpose of these two documents is to certify that the FAT has been completed and accepted by Rosetti Marino . Both Rosetti Marino and YOKOGAWA agree that the system is in order and can be released for software to site. The software will be accepted and released by Rosetti Marino. In any case, the release note will be issued by Rosetti Marino using its own template .

5.6 TEST EQUIPMENT

For SW FAT Virtual Machines with required software shall be used to demonstrate software applications configured using screen sharing and audio. Hence no dedicated measuring/Calibrating Test equipment shall be used.

6 PCS APPLICATION SOFTWARE

6.1 PROJECT OVERALL FUNCTION

6.1.1 Project Common Setting Check

Outline	Application inspection of project overall function include verifying project common configuration like plant hierarchy, alarm table, operation mark, and FCS properties/constants.
Objective	- Verify that the project overall function of CENTUM VP project is defined according to the FDS requirements.
Reference	- Functional Specifications like; - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW - CENTUMVP system view - 123A90-DDL-IN-SP-40097 Rev.00 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Rev.00 Control System (PCS) Specification - 123A90-DDL-IN-RE-40093 Rev. 00 Control System Philosophy - 123A90-DDL-IN-DD-40096 Rev.00 Control System Architecture Detailed Drawings - K559-2254-IC-SPE-001 Rev.00 SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR - K559-2254-PR-BLD-001 Rev.01 BLOCK FLOW DIAGRAM SYSTEM OVERVIEW - K559-2254-EL-LST-001 Rev.00 CONTROL ALARM AND MONITORING TABLE - 123A90-DDL-IN-SP-40024_Rev.00 Alarm System Requirements Specification - 123A90-DDL-IN-DD-40019 Rev.00 Data Network Architecture Drawings
Procedure	Verify following CENTUM VP configuration files as a part of paper check during pre-FAT; • Plant hierarchy • Alarm table • Operation mark • FCS properties/constants
Criteria	Plant hierarchy, alarm table, operation mark, and FCS properties/constants are configured according to the FDS.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

6.2 FCS FUNCTION

6.2.1 Application Software Test for Typical Loops

Outline	This application inspection includes typical loops such as simple indicators, simple control loops, manual loader, etc. Therefore, the accuracy of the PCS configuration relies on the accuracy of the data entry in the database.
Objective	- Verify that that regulatory control loops are configured according to the database and FDS requirements.
Reference	Functional Specifications like; - 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW - 1724000594-IN-LIS-00004- PCS and Safety System IO List (HW and SW) Refer to Documents - 123A90-DDL-IN-LIS-40089 Instrument IO List - P&IDs of Process and third-party communication packages (WTP, HVAC, LV SWGR, UPS) - 123A90-DDL-IN-RE-40095 Process Control Logic Description - 123A90-DDL-IN-CE-40000 ESD/PSD Cause and Effect Diagram - 123A90-DDL-IN-LIS-40027 Master Alarm Database PCS I/O Database - 123A90-DDL-IN-RE-40093 Rev. 00 Control System Philosophy
Procedure	1. Identify each type of application module from P&IDs and FDS. 2. If necessary, perform function test for selected application modules. 3. Verify configuration data for application, by reviewing CENTUM VP system view. Sample tags checked during FAT shall be logged for test record. The accuracy of the PCS configuration relies on the accuracy of the data in the I/O List.
Criteria	Each loop in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

6.2.2 Application Software Test for Complex Loops

Outline	PCS application test involves functionality check for all complex loops that is described in the functional specification, control narratives and P&IDs.
Objective	Verify that the complex control configuration functions as defined in the approved functional specifications.
Reference	Functional Specifications like; - 1724000594-IN-SP-00018 PCS and SAFETY SYSTEMS Software FDS-SW - 1724000594-IN-LIS-00004 PCS and Safety System IO List (HW and SW) Refer to Documents - 123A90-DDL-IN-LIS-40089 Instrument IO List - P&IDs of Process and third-party communication packages (WTP, - HVAC, LV SWGR, UPS) - 123A90-DDL-IN-RE-40095 Process Control Logic Description - 123A90-DDL-IN-CE-40000 ESD/PSD Cause and Effect Diagram - 123A90-DDL-IN-LIS-40027 Master Alarm Database
Procedure	1. Using Test function tool, simulate process input signals to check control loop functions. 2. Check following applicable control functions for each complex loop. • Control Action • Bumpless transfer • Tracking functions • Ratio/Calculations • Annunciator message output • Data quality Propagation • ESD/PSD Interlock Shutdown Controller action • Operational Interlock Controller action • Initial functional status of loops on FCS startup • Operator Graphical Interface • Alarm & Trip settings • Other specific functional requirements according to complex loop description
Criteria	Complex loops in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, C&E and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

6.2.3 Application Software Test for Sequence and Logic

Outline	FCS sequence control functions include sequence table, logic chart or SEBOL (Sequence and Batch Oriented Language) configuration. These are configured in accordance with plant logic requirements as described in the FDS, control narrative and any sequence/logic diagrams. Sequence control functions are checked by simulating field inputs using the test function software tool and confirming the corresponding expected outputs.
Objective	Verify that the specified functions perform control as defined in the approved functional specifications.
Reference	Functional Specifications like; - 1724000594-IN-SP-00018 PCS and SAFETY SYSTEMS Software FDS-SW - 1724000594-IN-LIS-00004 PCS and Safety System IO List (HW and SW) Refer to Documents - 123A90-DDL-IN-LIS-40089 Instrument IO List - P&IDs of Process and third-party communication packages (WTP, HVAC, LV SWGR, UPS) - 123A90-DDL-IN-RE-40095 Process Control Logic Description - 123A90-DDL-IN-CE-40000 ESD/PSD Cause and Effect Diagram
Procedure	1. Using Test function tool, simulate process input signals to check logic/sequence configuration. 2. Check that the sequence/logic performs correctly, and the correct digital outputs are set. 3. Check valves open/shut, pumps start/stop, appropriate alarm message display etc. 4. Check the initial functional status of sequence logics on FCS start-up. 5. For each sequence/logic, check operator interface Graphic functions. Detail checklists are described on the Check sheet.
Criteria	Sequence and logic should be configured in accordance to the functional specifications, Control/Logic narrative, P&IDs, SLDs, C&E and PCS I/O Database and any sequence or logic diagram.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

6.2.4 Application Software Test for non-Typical Loops

Outline	This application inspection includes non-typical loops such as control loops, etc. that are generated. Non-Typical loops can be simple Analog outputs, Value comparison, average, deviation alarm or process alarm based on analog values etc.
Objective	- Verify that that regulatory control loops are configured according to the FDS requirements.
Reference	Functional Specifications like; - 1724000594-IN-SP-00018 PCS and SAFETY SYSTEMS Software FDS-SW - 1724000594-IN-LIS-00004 PCS and Safety System IO List (HW and SW) Refer to Documents Refer to Documents - 123A90-DDL-IN-LIS-40089 Instrument IO List - P&IDs of Process and third-party communication packages (WTP, HVAC, LV SWGR, UPS) - 123A90-DDL-IN-RE-40095 Process Control Logic Description - 123A90-DDL-IN-CE-40000 ESD/PSD Cause and Effect Diagram
Procedure	1. Identify each type of Typical from P&IDs and FDS. 2. If necessary, perform function test for selected loops. Detail checklists are described on the check sheet. Sample tags checked during FAT shall be logged in this check sheet for test record. The check sheet used for this test shall be from the Excel spreadsheet as the test record. Non-Typical loop Pre-FAT paper check will be sufficient to test all the application loops. The accuracy of the PCS configuration relies on the accuracy of the data in the I/O List. Detail checklists are described on the Check sheet.
Criteria	Each loop in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA

Representative : _____ Date: _____

RM

Representative : _____ Date: _____

Crosswind

Representative : _____ Date: _____

6.2.5 Alarm and Trip Setpoints

Outline	This application inspection includes non-typical loops such as control loops, etc. that are generated.
Objective	- Verify that alarm and setpoints are as per Alarm/Trip Setpoints.
Reference	Functional Specifications like - 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW - CENTUMVP system view - 123A90-DDL-IN-SP-40097 Rev.00 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Rev.00 Control System (PCS) Specification - 123A90-DDL-IN-RE-40093 Rev. 00 Control System Philosophy - K559-2254-IC-SPE-001 Rev.00 SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR - K559-2254-PR-BLD-001 Rev.01 BLOCK FLOW DIAGRAM SYSTEM OVERVIEW - K559-2254-EL-LST-001 Rev.00 CONTROL ALARM AND MONITORING TABLE Refer to Documents - 123A90-DDL-IN-SP-40024_Rev.00 Alarm System Requirements Specification - 123A90-DDL-IN-LIS-40089 Instrument IO List - 123A90-DDL-IN-LIS-40027 Master Alarm Database
Procedure	1. Identify each Alarm/trip for each required Tag. 2. Simulate the value to create alarm 3. Verify the alarm/trip setpoints on the check sheet. Detail checklists are described on the check sheet.
Criteria	Each loop in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

7 CI SERVER CONFIGURATION

7.1 NAMING CONVENTION

Outline	To verify the agreed naming conventions are implemented
Objective	To confirm that the naming conventions is correctly implemented for the following: ▪ Plant hierarchy ▪ Item names ▪ Displays ▪ Symbols (static and dynamic)
Reference	Functional Specifications - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW - CENTUMVP system view - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-DD-40096 Control System Architecture Detailed Drawings - K559-2254-IC-SPE-001 SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR - K559-2254-PR-BLD-001 BLOCK FLOW DIAGRAM SYSTEM OVERVIEW - K559-2254-EL-LST-001 CONTROL ALARM AND MONITORING TABLE - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-IN-DD-40019 Data Network Architecture Drawings System Architecture Drawing Refer documents - 1724000594-IN-LIS-00003 Bill Of Material - Section 8.3,9, 24, 28.5.2, 28.10.1 of Reference PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW) 1724000594-IN-SP-00018 - Instrument IO list 1724000594-IN-LIS-00004
Procedure	Check the naming conventions for the following are in accordance with the FDS: ▪ Plant hierarchy – check the section naming and structure under the node in CI Server Engineering module and confirm that it conforms to the FDS plant hierarchy convention. ▪ Items – review the item names under the sections and confirm that the naming conforms to the FCS tag naming convention (e.g.: A, SH, SL). ▪ Displays – check the graphic names in the Edit Module and confirm that they conform to the FDS graphic naming convention. The display name shall be followed as per the P&ID/SLDs.

	▪ Static and dynamic symbols – check the symbol names in the Edit Module and confirm that they conform to the FDS graphics naming convention.
Criteria	The naming conventions match the customer convention requirements
Test Record Reference	HMI Screen and Engineering Module Printout

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

7.2 AUDIT TRAIL

Outline	The generated events are recorded and can be traced
Objective	To verify the event generated by the operator can be traced
Reference	Functional Specifications - Section 14.8, 28.5.7 of Reference PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW) 1724000594-IN-SP-00018 Refer Documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-SP-40100 Safety System (ESD, Fire and Gas) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-PR-RE-80031 Process Control, Operation, Start-up and Shutdown Philosophy
Procedure	Generate some events which have to be recorded in the audit trail window in the operator interface.
Criteria	The generated events are logged in the respective display.
Test Record Reference	Audit Trail Window printout

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

7.3 HISTORISATION

Outline	History data is acquired for applications like reporting, alarm pages and trending and therefore the correct configuration is very important to trace significant events in the past.
Objective	To verify the history configuration meets the customer requirements.
Reference	Functional Specifications - Section 28.5.1 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018 - History Storage calculation sheet Refer Documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-SP-40100 Safety System (ESD, Fire and Gas) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-PR-RE-80031 Process Control, Operation, Start-up and Shutdown Philosophy
Procedure	▪ Verify the history storage path ▪ Check the lifetime for the following history groups: - Item storage groups: SCAN/ITEM EVENT/EVENT EVENT/ITEM Generate randomly events for items in each storage groups to verify the timestamp of the generated events.
Criteria	The storage drive has enough space to match the size of the total history lifetime. This could be verified by using a history calculation sheet. The lifetime of the history groups is correctly implemented. Generated events could be observed using reports or trend displays.
Test Record Reference	Trend Display printout and generated csv report file

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

7.4 AUTHORIZATION

Outline	The level of authorization for the typical is verified in typical FAT prior to the FAT. E.g., the operator can modify a setpoint but is not able to set the tag in calibration mode. In this test case the general CI Server configuration part will be tested which is the framework for the application typical.
Objective	Verify if all authorization groups and users are configured according to the design documentation
Reference	Functional Specifications - Section 28.8 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018 Refer Documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-SP-40100 Safety System (ESD, Fire and Gas) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-PR-RE-80031 Process Control, Operation, Start-up and Shutdown Philosophy
Procedure	▪ Authorization groups are configured correctly. ▪ All the required users are added in CI Server with the proper authorization groups. ▪ Users are authorized to modify items within their process area (e.g., acknowledge, value) ▪ Users are authorized to open displays within their process area
Criteria	All Authorization levels are configured properly. All required users are configured properly. Users have (only) access to their process area
Test Record Reference	NA

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

8 GRAPHICAL USER INTERFACE

8.1 GENERAL LAYOUT AND NAVIGATION

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The live status of the plant can be observed on the graphics and these data are obtained from the Centum VP and SIS controller.
Objective	The purpose of this test is to confirm that the frames of the general layout are configured according to the design specification.
Reference	Functional Specifications - Section 30 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc. No. 1724000594-IN-SP-00018 Refer Documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-IN-DD-40096 Rev.00 Control System Architecture Detailed Drawings - 123A90-DDL-IN-DD-40029 Rev.00 Automation Detailed Design and Construction Package - P&IDs and Single line diagrams
Procedure	Verify the general layout of the display area: ▪ Windows heading ▪ Menu area ▪ Toolbar area ▪ Display area ▪ Display Navigation Verify the display navigation is in accordance with the design document.
Criteria	Graphics layout, display navigation are according to what was approved and correctly displayed as specified in the reference document.
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

8.2 PROCESS DISPLAYS

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The live status of the plant can be observed on the graphics and these data are obtained from the CENTUM VP and SIS controller. All dynamic process data and alarms shall be simulated from the test panels or from software (forcing).
Objective	The purpose of this test is to confirm that: ▪ Correct process flow is shown on the process displays and popups. ▪ Correct process data is shown on the process displays and popups.
Reference	Functional Specifications - Reference PCS and SAFETY SYSTEMS Software Functional Design 1724000594-IN-SP-00018 - Reference Instrument IO List 1724000594-IN-LIS-00004 - Reference HMI screens print out 1724000594-QC-PRO-00032 - P&IDs & SLDs. Refer Documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-IN-DD-40096 Rev.00 Control System Architecture Detailed Drawings - 123A90-DDL-IN-DD-40029 Rev.00 Automation Detailed Design and Construction Package - P&IDs and Single line diagrams
Procedure	The test environment shall include Test Function FCSs with project configuration to provide data to the tags on each display. Check the following for the process display: ▪ Correct representation of the process flow ▪ Correct representation of the process data points. ▪ Dynamic data and element modifiers by simulating process data.
Criteria	All process displays and popups are according to what was approved and correctly implemented as specified in the reference document(s).
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

8.3 SYMBOLS AND FACEPLATES

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The live status of the plant can be observed on the graphics and these data are obtained from the CENTUM VP controller. All dynamic process data and alarms shall be simulated from the test panels or from software (forcing).
Objective	The purpose of this test is to confirm that: ▪ Symbols, faceplates, and tuning panels are generated and functioning according to specifications.
Reference	Functional Specifications - Reference PCS and SAFETY SYSTEMS Software Functional Design Doc. No. 1724000594-IN-SP-00018 Refer Documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-RE-40093 Control System Philosophy - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-IN-DD-40096 Rev.00 Control System Architecture Detailed Drawings - 123A90-DDL-IN-DD-40029 Rev.00 Automation Detailed Design and Construction Package - P&IDs and Single line diagrams
Procedure	The test environment shall include Test Function FCSs with project configuration to provide data to the tags on each display. Check the following for the symbols and faceplates: ▪ The sizes, colours, lines, fonts and shapes for the symbols, faceplates. ▪ Process Value and Engineering unit. ▪ Forcing the value from HMI, by changing the operation Modes. ▪ Alarm and status indication.
Criteria	All static and dynamic symbols and related faceplates are according to what was approved and correctly implemented as specified in the reference document.
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

8.4 ALARMS PAGES

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The related graphics shall show the generated alarm, time-stamp, Alarm text and Priority upon forcing the values from test panels.
Objective	The purpose of this test is to confirm that: ▪ The layout and function of the alarm pages is according to specifications.
Reference	Functional Specifications: - - 1724000594-IN-SP-00018 PCS and SAFETY SYSTEMS Software Functional Design. Section 28.6 - 1724000594-IN-LIS-00004 - Reference Instrument IO List Input documents - 123A90-DDL-IN-SP-40097 Reference Documents - 123A90-DDL-IN-SP-40098 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40024 Control System (PCS) Specification - 123A90-DDL-IN-LIS-40027 Alarm System Requirements Specification - 1724000594-IN-LIS-00004 Reference Instrument IO List - Section Master Alarm Database 123A90-DDL-IN-LIS-40027 - P&IDs & SLDs
Procedure	Check the following for the process display: ▪ Layout ▪ Colours and priorities ▪ Alarm sorting ▪ Available columns ▪ Column width ▪ Alarm time format ▪ Available filters (fixed or changeable) ▪ Alarm line layout (for different state transitions) ▪ Alarm Description
Criteria	The alarm overview displays are according to what was approved and correctly implemented as specified in the reference document(s).
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

8.5 ALARM FUNCTION

Outline	All the alarm functions within CI Server and the related project specific configuration are implemented.
Objective	To verify all the alarm requirements are correctly implemented.
Reference	Functional Specifications: - 1724000594-IN-SP-00018 PCS and SAFETY SYSTEMS Software - Functional Design. Section 30.2.5 - 1724000594-IN-LIS-00004 Reference Instrument IO List Refer documents - 123A90-DDL-IN-SP-40097 System Specification for Main Automation Contractor - 123A90-DDL-IN-SP-40098 Control System (PCS) Specification - 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification - 123A90-DDL-IN-LIS-40027 Master Alarm Database
Procedure	Verify the following is implemented correctly: ▪ Acknowledgement types ▪ Alarm collection behaviour ▪ First-out group behaviour ▪ Alarm group behaviour ▪ Alarm Selection area ▪ Areas of interest ▪ Alarm priority ▪ Alarm destinations e.g., audible alarm annunciation, alarm notification SMTP, alarm pages, alarm printers, … ▪ Historical alarm lifetime
Criteria	The alarm portion within CI Server is configured in accordance with the reference document
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

8.6 TREND FUNCTION

Outline	All the trend functions within CI Server and the related project specific configuration are implemented.
Objective	To verify all the Trend Group requirements are correctly implemented. ▪ Group ▪ Label ▪ Description ▪ Sampling Time ▪ Duration ▪ Pen assignment
Reference	Functional Specifications: ▪ Section 30.2.5 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018 ▪ Reference Instrument IO List 1724000594-IN-LIS-00004 Refer documents ▪ System Specification for Main Automation Contractor 123A90-DDL-IN-SP-40097 ▪ 123A90-DDL-IN-SP-40098 Control System (PCS) Specification ▪ 123A90-DDL-IN-SP-40024 Alarm System Requirements Specification ▪ 123A90-DDL-IN-LIS-40027 Master Alarm Database
Procedure	Verify the following is implemented correctly as per the "Trend Group" in latest Project database Tag List Reference Document. The trend group shall be as per the P&ID ▪ Trend generation for over a period by selecting the date and time range.
Criteria	The trend groups within CI Server are implemented in accordance with the reference document.
Test Record Reference	Graphic Printout

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

9 SIS AND FGS APPLICATION SOFTWARE

9.1 SCS PROJECT OVERALL FUNCTION

Outline	Application inspection of project overall function include verifying SCS Resource Properties, SCS Project Properties and SCS Constants Builder.
Objective	To verify that the project overall function of SCS project is defined according to the FDS requirements.
Reference	1. SW Functional Design Specifications 2. ProSafe-RS system print out (Self documentation)
Procedure	Verify ProSafe-RS Project configuration files for SCS Resource properties, SCS Project Properties, and SCS Constants Builder as a part of paper check during pre-FAT. Refer to detail checklists are in Check sheet Appendix-10.5
Criteria (Expected Result)	The SCS Resource Properties, SCS Project Properties and SCS Constants Builder are defined according to the FDS. Refer attached highlighted printout.
Test Record Reference	Appendix-10.5 Application Software Test Case & Record (Project Overall Check)

The above check will be conducted for all SCSs and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

9.2 SCS FUNCTION

9.2.1 Application Software Test for Typical Logics

Outline	Typical logic functions are those which are defined under software Typicals such as MOS logic, Reset logic, AI blocks, Voted input blocks, Gas detector typical logic etc. as listed in the software typical design specification document. These are checked by selecting a sample loop and simulating inputs using the test panel (and/or software simulation tool as option) and observing the behavior of the logic / outputs.
Objective	To verify that the software typical logic functions are configured according to the project requirement.
Reference	1. Software Functional Design Specifications 2. Instrument I/O List 123A90-DDL-IN-LIS-40089 3. P&IDs
Procedure	1. Verify the latest Typicals are used by document check. 2. Simulate input signals to check software typical logic function. 3. Check other related functions: • Trips • Communication signals to PCS. • First Up Alarm, Process Alarms / Annunciator messages on HIS • SOE output • IOP (Bad Status) 4. Check other specific functions, if any. Detail checklists are described on the Check sheet Appendix-10.5
Criteria (Expected Result)	The logic functionalities are achieved in accordance to Typical Software Design Specifications. Refer attached highlighted logic printout.
Test Record Reference	Appendix-10.5 Application Software Test Case & Record (Typical Logic Check)

The above check will be conducted for all Typical logics and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

9.2.2 Application Software Test for Logics

Outline	SCS Application Logic functions are implemented using the FBD (Functional Block Diagram) language. These are configured in accordance with plant logic requirements as described in the C&E (Cause & Effect) Matrix prepared by the RM. Logic functions are checked by simulating field inputs using the test panel (and/or software simulation tool as option) and confirming the logic functions together with expected outputs.
Objective	To verify that the application logic functions are configured according to C&E Matrix and/or Safeguarding narratives.
Reference	1. Cause & Effect Matrix 2. Safety validation Plan 3. Software Functional Specification.
Procedure	1. Check the initial functional status of logic upon SCS startup. 2. Normalize all inputs with simulation signals by the test panel (and/or software simulation tool as option) and reset logic to energize output(s) in the case of De-energize to trip logic. (In case of Energize to trip logic, the outputs are de-energized when normalized) 3. Simulate trip condition for a trip input signal using the test panel (and/or software simulation tool as option). 4. Check output trip status, appropriate alarm messages, etc. 5. Normalize and Repeat test for all trip inputs one after another. 6. Check Bypass functions and abnormal situations (Fault conditions). 7. Check the status on Interlock and/or Cause & Effects Graphics 8. Voted logic configuration is as per identified Safety Analysis Function Evaluation (SAFE) charts as per requirements in SVP. Note: For Projects using T/C and/or RTD input modules, the field signals shall be simulated using software simulation for logic test. If the logic test is done using hardwired test panel, the SIS will run in simulation mode with T/C and/or RTD input modules disconnected to facilitate software simulation and rest of the IO modules connected for simulation from test panel. Detail checklists are described on the Check sheet Appendix-10.5
Criteria (Expected Results)	1. Logic functions is functioning correctly according to Cause & Effects. Refer attached highlighted logic printout
Test Record Reference	Appendix-10.5 Application Software Test Case & Record (Safety Logic check)

The above check will be conducted for all Safety Logics/Interlocks

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

9.2.3 Application Software Test for Non-Safety Logics

Outline	The IEC standards 61508 and 61511 require ensuring that program logic has been programmed in a safe way. Checks below are additional tests to the build-in checks in the ProSafe-RS workbench.
Objective	To verify that the application logic functions are configured according to C&E Matrix.
Reference	Cause & Effect Matrix
Procedure	1. Check if any inverter blocks are used and if any check the logic is programmed fail-safe. 2. Check if DIV blocks are not or cannot be divided by zero (0). Variables used should not be allowed to get to zero (0) 3. Check if SR and RS blocks are chosen correctly. The trip condition should always have a higher priority than the reset of that trip. 4. Check on F_TRIG and R_TRIG blocks in trip functions that trips are latched or extended by a timer function. 5. Safety communication blocks or field input channels should not be configured to go to "HOLD" in case of a failure. 6. Structured text, preferably avoided, and if used well documented and preferably only in non-safety related applications. 7. Has diagnostic information from logic solver, sensors, inputs, outputs and final elements been followed-up with alarming to the operator, sequence of event recording or a system trip? 8. The results of the Cross-reference check should be checked for secondary write actions on variables. Detail checklists are described on the Check sheet Appendix-10.5
Criteria (Expected Results)	Logic functions is functioning correctly according to Cause & Effects. Refer attached highlighted logic printout
Test Record Reference	Appendix-10.5 Application Software Test Case & Record (Non – Safety Logic Check)

The above check will be conducted for all Non Safety Logics

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

9.2.4 Inter-SCS Safety Communication and Interference-free Communication between SCS & FCS

Outline	For some applications, the Safety Instrumented Function may include I/Os from different SCS and the logic may extend from one SCS to another SCS. In such cases, safety data need to be exchanged between different SCSs while maintaining the SIL as part of the Safety Loop. This can be achieved via SCS Link Transmission function within domain. Such safety communication is TÜV certified up to SIL3. For other applications, non-safety related data may be required to be exchanged between SCS and FCS. In this case, the SCS Global Switch Communication and the External Communication Function Blocks can also be used for interference-free Communications.
Objective	To verify that both the Inter-SCS Safety Communication and Interference-free Communication function properly and the associated logic is executed as desired.
Reference	1. ProSafe-RS Instruction Manual (Safety Manual, Safety Control Station and Engineering Reference) 2. Cause & Effect Matrix 3. SW FDS 4. ProSafe-RS system print out
Procedure	1. From SENG/HIS, monitor the "NORMAL" state of logic for which trip inputs/outputs comprise of Inter-SCS Safety Communication. 2. Trigger the logic / value changes on the Sending Side either through direct IO injection or forcing to simulate a 'Trip' condition. 3. From SENG/HIS, monitor the "TRIP" state of logic on the receiver side of the Destination SCS 4. Repeat the same steps above for SCS with Redundant CPUs while one CPU is in 'STOP' mode. (Both CPUs to be tested alternately). 5. From HIS logic chart or sequence table display, monitor the Normal state of a Trip bit of an SCS Interlock that is referenced in an FCS. 6. By using SENG IO force function, force the Interlock Trip bit to "Trip" state and verify that the FCS reads the Trip bit status change and execute the desired logic. 7. Fail both the redundant V net or Vnet/IP buses and test the Safety Communication Timeout/Delay and Failsafe Value settings to examine safe state is achieved. Detail checklists are described on the Check sheet Appendix-10.5
Criteria (Expected Results)	1. The Inter-SCS Safety / Interference-free Communications are configured and executed as per application requirement. 2. Failsafe values are output on failure of both buses of V net or Vnet/IP
Test Record Reference	Appendix-10.5 Application Software Test Case & Record (Inter-SCS, SCS_FCS Comm. Check)

The above check will be conducted for all applicable Safety Logics/Interlocks and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

9.3 APPLICATION REVISION CHECK

Outline	Register the revision of the safety application at the end of internal FAT and End of FAT.
Objective	Register final application revision at end of FAT. Register FAT starting application revision
Reference	n/a
Procedure	1. In the workbench open the revision control sheet of the controller and update the revision 2. Open Database validity check tool and record the CRC. 3. Record the application revision in Appendix- 10.4 Application revision Record.
Criteria (Expected Results)	End of Internal-FAT revision and CRC will be used to verify at start of FAT. End of FAT revision and CRC will be used to verify at start of SAT. Refer attached highlighted printout (Revision control and database validity tool result).

The above check will be conducted for all the controllers and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : _____ Date: _____

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

10 EMCS APPLICATION SOFTWARE

10.1 PROJECT OVERALL FUNCTION

10.1.1 Project Common Setting Check

Outline	Inspection of project overall function include verifying project common configuration like OPC UA interface Signals, Data exchange/Receive from OPC UA server to CCS SCADA, Transition of Modes, and Configuration of parameters.
Objective	- Verify that the project overall SW function of RTAC is defined according to the EMCS FDS-SW requirements.
Reference	- Functional Specifications like; - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW - 1724000594-IN-LIS-00005_R00- EMCS_IO_List
Procedure	Verify following configuration as a part of paper check during FAT: • Software Test for OPC UA interface Signals • Software Test for Data exchange/Receive from OPC UA server to CCS SCADA Operation mark • Software Test for Transition of Modes Sequence & Logic • Software Test for Configuration of Parameters
Criteria	OPC UA interface Signals, Data exchange/Receive from OPC UA server to CCS SCADA, Transition of Modes, and Configuration test of parameters are configured according to the EMCS FDS-SW.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YEF-I Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

10.2 EMCS FUNCTION

10.2.1 Software Test for OPC UA Interface Signals

Outline	OPC UA interface signals match the signals that have been identified in the EMCS IO list.
Objective	- Visualize and compare the matching signals in the OPC UA server address space
Reference	- Functional Specifications like; - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW - 1724000594-IN-LIS-00005_R00- EMCS_IO_List
Procedure	By browsing the OPC UA server address space, it is possible to visualize all the available signals of the EMCS and compare them with the signals defined in the EMCS IO list.
Criteria	The signals in the OPC UA address space are the same as those defined in the EMCS IO list

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YEF-I Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

10.2.2 Software Test for Data Exchanged from OPC UA server to CCS SCADA

Outline	EMCS has an OPC UA server that provides data to the CCS SCADA and receives commands from the CCS SCADA. A test dashboard, developed on purpose, will be connected to the OPC UA server. The test dashboard tool is intended to be used only for FAT and IFAT.
Objective	Verify that the complex control configuration functions work as defined in the approved functional specifications.
Reference	- Functional Specifications like; - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW - 1724000594-IN-LIS-00005_R00- EMCS_IO_List
Procedure	Visualize the test dashboard and simulate the change of the process variables using the GUI. Follow the change of the EMCS state machine, and verify the actuations performed in each company provided package. Visualize each package in terms of setpoints and measurements.
Criteria	The modes and status of the EMCS match what is mentioned in the EMCS FDS-SW

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YEF-I Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

10.2.3 Software Test for Transition of Modes Sequence & Logic

Outline	Transitions in the modes of the EMCS software logic, both Automatic and Manual, change the status of the current mode following the transition in each package.
Objective	Performing the TEST to verify the logic for the transition from EMCS Automatic to EMCS Manual (Maintenance & Research)
Reference	- Functional Specifications like; - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW - 1724000594-IN-LIS-00005_R00- EMCS_IO_List
Procedure	- Using the test GUI, change the EMCS mode from automatic to manual (Maintenance & Research) and verify the correctness of the reached mode.
Criteria	The modes and status of the EMCS match what is mentioned in the EMCS FDS-SW

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YEF-I Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

10.2.4 Software Test for Configuration of Parameters

Outline	The configuration test of the EMCS parameters.
Objective	- Verify the configuration test of the EMCS parameters identifying that EMCS can be configured via the OPC UA interface
Reference	- Functional Specifications like; - 1724000594-IN-DD-00015- System Architecture Drawing - 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW - 1724000594-IN-LIS-00005_R00- EMCS_IO_List
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

YEF-I Representative : _____ Date: _____

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

11 APPENDICES

11.1 Fat Organization Chart

11.2 Fat Schedule

11.3 Fat Punch Record Form

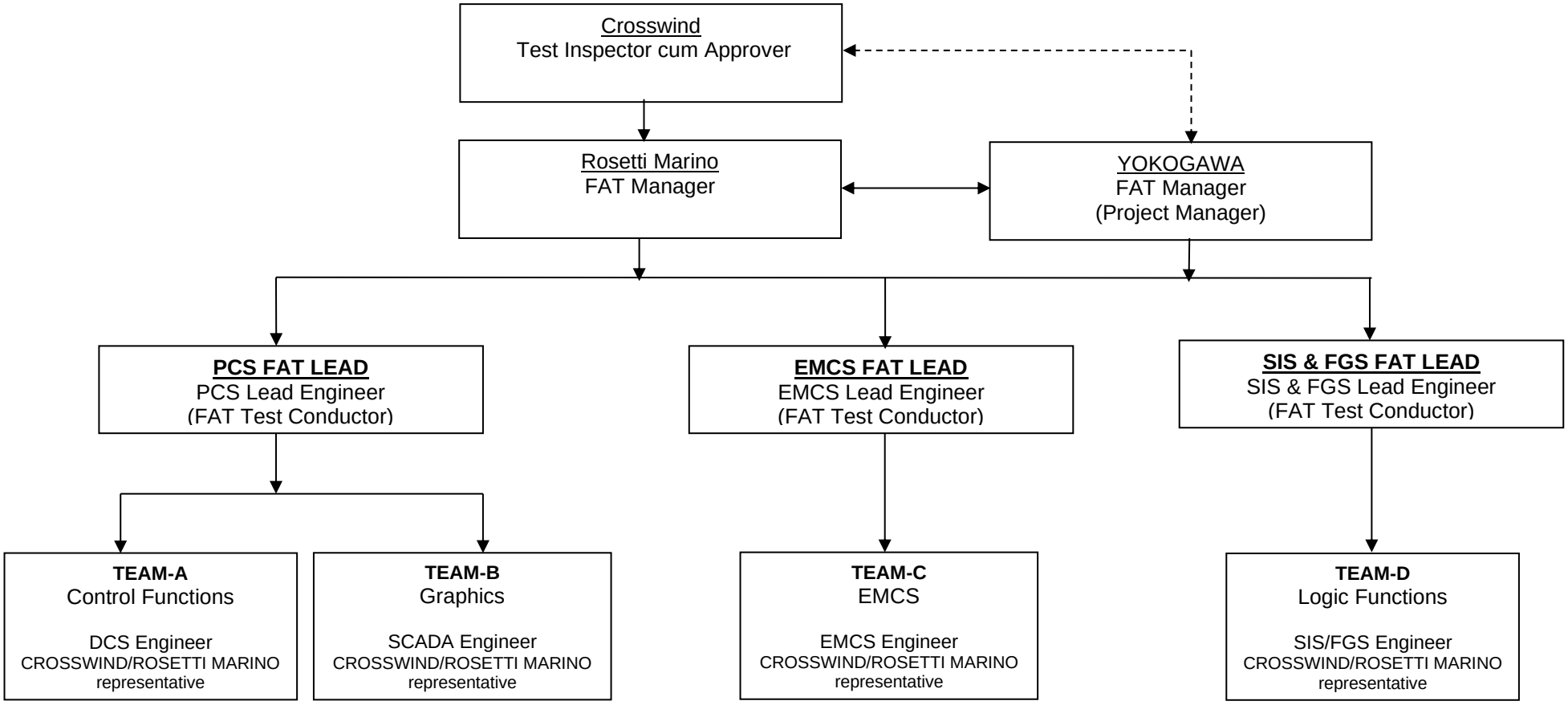
11.4 Application Revision Record

11.5 Application Software Test Case And Record

11.6 Fat Completion Certificate

11.7 EMCS Software FAT Procedure

FAT ORGANIZATION



Note: Team A, B, C & D shall conduct Software FAT

PSC, SIS and FGS FAT Schedule

Task Name	Duration	Start	Finish
FAT HW	1wk	09/20/24	09/27/24
Integrated FAT	4 wk	09/18/24	10/15/24
FAT SW	9 wk	10/23/24	12/24/24

Note:- Post 5th week planned, no full day activity planned.

Appendix – 11.3 A - FAT Punch Record Form for PCS, HMI, EMCS

FAT PUNCH RECORD	Punch Record No.	Date
Process Area:	**System:**	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	**Classification :** **Correction (Code C)** ☐ **Modification (Code M)** ☐

Punch Item description: **(Attach Separate sheets/attachments, if necessary)**

Related to: **Hardware** ☐ **Software** ☐ **Documentation** ☐

Details of change required: **(Attach Separate sheets/attachments, if necessary)**

Tester (Name)	**Signature**	**Date**
Witness (Name)	**Signature**	**Date**

Repeat the test? : **YES** ☐ **NO** ☐

If NO, reason: _____

Resolution: **(Attach Separate sheets/attachments, if necessary)**

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By		YOKOGAWA		
Witnessed By		ROSETTI MARINO		
Approved By		CROSSWIND		

SAMPLE

Appendix 11.3 B - FAT Punch Record Ledger for PCS, HMI, EMCS

FAT PUNCH LEDGER

Customer : _____
Project: _____
Record Date: _____

Recorded By: _____
Witnessed By: _____

Punch Record No.	Punch Description	Cause (C/M)	Initiated by	Action By	Date	Re-test By (MAC)	Witnessed by (EPC/End-User)	Punch Closed Date

Legend for cause column:
C = Correction, items is to be corrected by YOKOGAWA
M = Modification, items is to be modified, deleted or added due to design input changes

YOKOGAWA	Appendix 11.3 C - FAT Punch Record (SIS AND FGS) SIS/FGS Punch Record	Ref. No.

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System		Proc.Area/Unit	
Stage		Controller No.	

Punch Description

Noted By		Approved By		Date		Category	
Proposed/Agreed Solution						Action By	

Impact Analysis

Impacted Aspects	☐ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☐ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status			
Implemented By		Verified/Tested By	
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name			Name			Name	
	Date			Date			Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Appendix 11.3 D - FAT Punch Record Summary (SIS AND FGS)

YOKOGAWA

SIS/FGS Punch Record Summary

Project No.		**Project Name**	
Contractor		**EMPLOYER**	

Sl. No.	Punch Record Reference No	Date	Stage	System	Punch Description	Category	Recorded by	Action By	Safety Related	Proposed / Agreed Solution	Punch Status	Punch Closed Date

Yokogawa **Rosematti Marino** **Crosswind**

FAT Procedures

FAT Check Sheet for Revision Record

Reference No: _____

Application Revision Record Sheet Start FAT

No.	Controller	Revision	CRC (Attached Database Validity Tool result)	NA	Checked		Remarks / Punch No.
					Pass	Fail	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

Reference No: _____

Application Revision Record Sheet End FAT

No.	Controller	Revision	CRC (Attached Database Validity Tool result)	NA	Checked		Remarks / Punch No.
					Pass	Fail	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

Project: _____ **Area:** _____

Project Overall Check

* All the check item must have highlighted copy as a test proof

No.	Item	Chk Req.	Results	Remark
1	SCS Resource Properties	X		
2	SCS Project Propeties	X		
3	SCS Constants Builder	X		
4		X		
5		X		
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Responsible party	Representative	Signature	Date
YOKOGAWA			
Rosetti Marino			
Crosswind			

Note:
1. "X" mark means checking is required
2. Highlight the "X" mark after checking
3. Comment shall be recorded in punch sheet and reference number shall be filled in punch reference column.

Project: _____ **Area:** _____

Typical Logic Check

* All the check item must have highlighted copy as a test proof

Typical Type:

No.	Item	Typical Rev	Chk Req.	Results	Remark
1	Project to list typical logics.				
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Responsible party	Representative	Signature	Date
YOKOGAWA			
Rosetti Marino			
Crosswind			

Note:
1. "X" mark means checking is required
2. Highlight the "X" mark after checking
3. Comment shall be recorded in punch sheet and reference number shall be filled in punch reference column.

Project: _____ **Area:** _____

Safety Logic Check

* All the check item must have highlighted copy as a test proof

Logic Function

No.	Item	Chk Req.	Results	Remark
1	Project to list all Interlocks			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Responsible party	Representative	Signature	Date
YOKOGAWA			
Rosetti Marino			
Crosswind			

Note:
1. "X" mark means checking is required
2. Highlight the "X" mark after checking
3. Comment shall be recorded in punch sheet and reference number shall be filled in punch reference column.

Project: _____ **Area:** _____

Non Safety Logic Check

* All the check item must have highlighted copy as a test proof

Logic Function

No.	Item	Chk Req.	Results	Remark
1	Project to list all Non Safety Logics			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Responsible party	Representative	Signature	Date
YOKOGAWA			
Rosetti Marino			
Crosswind			

Note:
1. "X" mark means checking is required
2. Highlight the "X" mark after checking
3. Comment shall be recorded in punch sheet and reference number shall be filled in punch reference column.

Project: _____ **Area:** _____

Inter-SCS Safety Communication and Interference-free Communication between SCS and FCS

* All the check item must have highlighted copy as a test proof

No.	Item	Criteria	Chk Req.	Results	Remark
1	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'NORMAL' State	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'NORMAL' state is maintained.			
2	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'TRIP' State	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'TRIP' state is achieved.			
3	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'NORMAL' State, CPU-L Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'NORMAL' state is maintained.			
4	SCS-SCS Safety Inter-Comm. SCS0110 & SCS0120) – 'TRIP' State, CPU-L Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'TRIP' state is achieved.			
5	SCS-SCS Safety Inter-Comm. SCS0110 & SCS0120) – 'NORMAL' State, CPU-R Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'NORMAL' state is maintained.			
6	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'TRIP' State, CPU-R Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'TRIP' state is achieved.			
7	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'NORMAL' State, Bus1 Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'NORMAL' state is maintained.			
8	SCS-SCS Safety Inter-Comm. SCS0110 & SCS0120) – 'TRIP' State, Bus1 Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'TRIP' state is achieved.			
9	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'NORMAL' State, Bus2 Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'NORMAL' state is maintained.			
10	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'TRIP' State, Bus2 Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'TRIP' state is achieved.			
11	SCS-SCS Safety Inter-Comm. (SCS0110 & SCS0120) – 'TRIP' State, Bus1 & Bus2 Fail	Safety Communucation between the SCSs involved is functioning properly and associated logic in 'TRIP' state is observed after expected timeout and safe state is achieved.			
12	SCS-FCS Interference-Free Communication (SCS0110 & FCS0101) – Logic / Value Changes	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
13	SCS-FCS Interference-Free Communication (SCS0110 & FCS0101) – Logic / Value Changes, CPU-L Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
14	SCS-FCS Interference-Free Communication (SCS0110 & FCS0101) – Logic / Value Changes, CPU-R Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
15	SCS-FCS Interference-Free Communication (SCS0110 & FCS0101) – Logic / Value Changes, Bus1 Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
16	SCS-FCS Interference-Free Communication (SCS0110 & FCS0101) – Logic / Value Changes, Bus2 Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
17	SCS-FCS Interference-Free Communication (SCS0120 & FCS0101) – Logic / Value Changes	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
18	SCS-FCS Interference-Free Communication (SCS0120 & FCS0101) – Logic / Value Changes, CPU-L Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
19	SCS-FCS Interference-Free Communication (SCS0120 & FCS0101) – Logic / Value Changes, CPU-R Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
20	SCS-FCS Interference-Free Communication (SCS0120 & FCS0101) – Logic / Value Changes, Bus1 Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			
21	SCS-FCS Interference-Free Communication (SCS0120 & FCS0101) – Logic / Value Changes, Bus2 Fail	Interference-Free Communucation between the SCS & FCS involved is functioning properly and associated logic states / value changes is observed.			

Responsible party	Representative	Signature	Date
YOKOGAWA			
Rosetti Marino			
Crosswind			

Note:
1. "X" mark means checking is required
2. Highlight the "X" mark after checking
3. Comment shall be recorded in punch sheet and reference number shall be filled in punch reference column.

FACTORY ACCEPTANCE TEST COMPLETION CERTIFICATE

JOB NAME	:	BASE LOAD POWER HUB
END USER	:	CROSSWIND
CUSTOMER	:	ROSETTI MARINO
PLANT	:	OFFSHORE HKN WIND FARM
SYSTEM DESCRIPTION	:	PCS/SIS/FGS/EMCS INTEGRATED WITH CI SERVER

This is to certify that it is mutually agreed by all parties that the Factory Acceptance Test for PCS/SIS/FGS/EMCS [Software] has been completed to the satisfaction of all parties concerned.

[Remarks]

_____

_____

_____

Signed in agreement by;

YOKOGAWA : _____ Date: _____

ROSETTI MARINO : _____ Date: _____

CROSSWIND : _____ Date: _____

APPENDIX 11.7

EMCS SOFTWARE FAT PROCEDURE

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

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EMCS APPLICATION SOFTWARE

1.1 PROJECT OVERALL FUNCTION

1.1.1 Project Common Setting Check

Outline	Inspection of project overall function include verifying project common configuration like OPC UA interface Signals, Data exchange/Receive from OPC UA server to CCS SCADA, Transition of Modes, and Configuration of parameters.
Objective	- Verify that the project overall SW function of RTAC is defined according to the EMCS FDS-SW requirements.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Verify following configuration as a part of paper check during FAT: • Software Test for OPC UA interface Signals • Software Test for Data exchange/Receive from OPC UA server to CCS SCADA Operation mark • Software Test for Transition of Modes Sequence & Logic • Software Test for Configuration of Parameters
Criteria	OPC UA interface Signals, Data exchange/Receive from OPC UA server to CCS SCADA, Transition of Modes, and Configuration test of parameters are configured according to the EMCS FDS-SW.

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The above checks are conducted and witnessed by following representatives

TEST RESULT	PASS/FAIL		
YEF-I Representative	:	Date:	
RM Representative	:	Date:	
Crosswind Representative	:	Date:	

.

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1.2 EMCS FUNCTION

1.2.1 Software Test for OPC UA Interface Signals

Outline	OPC UA interface signals match the signals that have been identified in the EMCS IO list.
Objective	- Visualize and compare the matching signals in the OPC UA server address space
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	By browsing the OPC UA server address space, it is possible to visualize all the available signals of the EMCS and compare them with the signals defined in the EMCS IO list.
Criteria	The signals in the OPC UA address space are the same as those defined in the EMCS IO list

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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1.2.2 Software Test for Data Exchanged from OPC UA server to CCS SCADA

Outline	EMCS has an OPC UA server that provides data to the CCS SCADA and receives commands from the CCS SCADA. A test dashboard, developed on purpose, will be connected to the OPC UA server. The test dashboard tool is intended to be used only for FAT and IFAT.
Objective	Verify that the complex control configuration functions work as defined in the approved functional specifications.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Visualize the test dashboard and simulate the change of the process variables using the GUI. Follow the change of the EMCS state machine, and verify the actuations performed in each company provided package. Visualize each package in terms of setpoints and measurements.
Criteria	The modes and status of the EMCS match what is mentioned in the EMCS FDS- SW

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

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1.2.3 Software Test for Transition of Modes Sequence & Logic

Outline	Transitions in the modes of the EMCS software logic, both Automatic and Manual, change the status of the current mode following the transition in each package.
Objective	Performing the TEST to verify the logic for the transition from EMCS Automatic to EMCS Manual (Maintenance & Research)
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	- Using the test GUI, change the EMCS mode from automatic to manual (Maintenance & Research) and verify the correctness of the reached mode.
Criteria	The modes and status of the EMCS match what is mentioned in the EMCS FDS- SW

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date: _____ _____

RM Representative : Date: _____ _____

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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1.2.4 Software Test for Configuration of Parameters

Outline	The configuration test of the EMCS parameters.
Objective	- Verify the configuration test of the EMCS parameters identifying that EMCS can be configured via the OPC UA interface
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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1.2.5 Software Test for Configuration of Electrolyzer State Machine

Outline	The configuration test of the Electrolyzer Package State Machine.
Objective	- Verify the configuration test of the Electrolyzer State Machine identifying that State Machine is configured as per transitions between these states based on conditions like running duration and PCS permission.(For Example: the system will transition to Stop state if PCS permission is revoked (i.e., Tanks are full).
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic, The BLPH State Machine will correspond with Electrolyzer State Machine, to do the following: • EMCS requires permissive signal from PCS to start the Electrolyzer. (i.e. PCS.PermToStartEL). • EMCS shall not partialize the Electrolyzer, requiring it either to not produce or to produce at full power (EL_MAX_SET_POINT). • If the PCS.PermToStartEL is not fulfilled the Electrolyzer will be stopped by EMCS.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.6.

The above checks are conducted and witnessed by following representatives.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

Crosswind Representative : Date:

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1.2.6 Software Test for Configuration of Fuel Cell State Machine

Outline	The configuration test of the Fuel Cell Package State Machine.
Objective	- Verify the configuration test of the Fuel Cell State Machine identifying that State Machine is configured as per transitions between these states including Running, Stoppable, Unstoppable, Start-able, Unstart-able, and Stop. Transitions are dictated by conditions such as PCS permission (i.e., hydrogen level). The Fuel Cell can start if the PCS permission is granted, while the system will stop if PCS permission is revoked.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic, The BLPH State Machine will correspond with Fuel Cell State Machine.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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Crosswind Representative : Date:

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1.2.7 Software Test for Configuration of BESS State Machine

Outline	The configuration test of the BESS Package State Machine.
Objective	- Verify the configuration test of the BESS State Machine identifying that State Machine is configured as per transitions between these States include Charging, Discharging, and Idle, influenced by the State of Charge (SoC) and PCS permissions via EMCS. The system will charge if the SoC is below the maximum threshold and PCS permission is granted via EMCS, and it will discharge if the SoC is above the minimum threshold and PCS permission is granted via EMCS. The system transitions to Idle if PCS permission is revoked via EMCS.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic, The BLPH State Machine will correspond with BESS State Machine to do the following: • Charge Transition • Discharge Transition • Stop Transition
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.8.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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YEF-I Representative : Date:

RM Representative : Date:

Crosswind Representative : Date:

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1.2.8 Software Test for Configuration of Solar Farm State Machine

Outline	The configuration test of the Solar Farm Package State Machine.
Objective	- Verify the configuration test of the Solar Farm State Machine identifying that State Machine is configured as per transitions between these States include transitions between "Started" and "Stopped" states within the broader context of "Operating." The "Started" state the system is actively managing or generating energy, whereas the "Stopped" state signifies that the system is not operating and has been shut down. the "Started" state, there is a loop indicating the "Curtail" action (EMERGENCY MODE only),
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic, The BLPH State Machine will correspond with Solar Farm State Machine.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.9.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

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Crosswind Representative : Date:

1.2.9 Software Test for Configuration of BLPH MODE 0 = IDLE (Power Import Only)

Outline	The configuration test of the BLPH MODE 0 = IDLE (Power Import Only)
Objective	- Verify the configuration test of the MODE 0 = IDLE, BLPH shall enter in the IDLE MODE if: • It is Grid Tied • Supply Guarantee is Active • HNA5 is unable to produce power
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to IDLE MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.1.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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1.2.10 Software Test for Configuration of BLPH MODE 1 = IMPORT

Outline	The configuration test of the BLPH MODE 1 = IMPORT
Objective	- Verify the configuration test of the MODE 1 = IMPORT, BLPH shall enter in the IMPORT MODE if: • It is Grid Tied • Supply Guarantee is Active • HNA5 is produce more than 1 MW for one minute • Check the BESS is NOT fully charged or NOT PCS:ProcessFullyCharge (H2 vessels not full)
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to IMPORT MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.2.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

1.2.11 Software Test for Configuration of BLPH MODE 1A = IMPORT (Charging)

Outline	The configuration test of the BLPH MODE 1A = IMPORT (Charging)
Objective	- Verify the configuration test of MODE 1A = IMPORT (Charging), BLPH shall enter in the IMPORT MODE 1A if: • HNA5.P > 2 MW for one minute (Power Surplus)
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to IMPORT (Charging) MODE 1A.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.3.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.12 Software Test for Configuration of BLPH MODE 1B = IMPORT (Not Able to Charge)

Outline	The configuration test of the BLPH MODE 1B = IMPORT (Not Able to Charge)
Objective	- Verify the configuration test of MODE 1B = IMPORT(Not Able to Charge), BLPH shall enter in the IMPORT MODE 1B if: • HNA5.P <= 2 MW for one minute (Power Deficit).
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to IMPORT MODE 1B.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.4.

The above checks are conducted and witnessed by following representatives.

TEST RESULT: PASS / FAIL

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

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1.2.13 Software Test for Configuration of BLPH MODE 2 = HOT STANDBY (Ready to Export)

Outline	The configuration test of the BLPH MODE 2 = HOT STANDBY (Ready to Export)
Objective	- Verify the configuration test of the MODE 2 = HOT STANDBY (Ready to Export), BLPH shall enter in the IMPORT MODE 2 if: • It is Grid Tied • Supply Guarantee is Active • HNA5 is produce more than 1 MW for one minute • Check the BESS is fully charged and PCS:ProcessFullyCharge (H2 vessels full)
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to HOT STANDBY MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.5.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.14 Software Test for Configuration of BLPH MODE 3 = EXPORT MODE (DISCHARGING)

Outline	The configuration test of the BLPH MODE 3 = EXPORT MODE (Discharging)
Objective	- Verify the configuration test of the MODE 3 = EXPORT, BLPH shall enter in the EXPORT MODE if: • It is Grid Tied • Supply Guarantee is Active • HNA5 is produce less than 1 MW for one minute • BESS is Healthy
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to EXPORT MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.6.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

1.2.15 Software Test for Configuration of BLPH MODE 4 = COLD STANDBY (Not Able to Export)

Outline	The configuration test of the BLPH MODE 4 = COLD STANDBY
Objective	- Verify the configuration test of the MODE 4 = COLD STANDBY, BLPH shall enter in the COLD STANDBY MODE if: • It is Grid Tied • Supply Guarantee is Active • HNA5 is produce less than 1 MW for one minute • BESS is NOT able to operate in Export (BESS Fault)
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to COLD STANDBY MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.7.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

1.2.16 Software Test for Configuration of BLPH MODE 4A = EMERGENCY (ISLAND)

Outline	The configuration test of the BLPH MODE 4A = EMERGENCY (ISLAND)
Objective	- Verify the configuration test of the MODE 4A = EMERGENCY, BLPH shall enter in the EMERGENCY MODE if: • It is Islanded (off-gid) • BESS is Healthy (NO Fault) • The BESS charge level is above the BESS-MINIMUM-OPERATING- RESERVE threshold.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to EMERGENCY MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.8.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

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1.2.17 Software Test for Configuration of BLPH MODE 5 = POWER OUT (Black Out)

Outline	The configuration test of the BLPH MODE 5 = POWER OUT (Black Out)
Objective	- Verify the configuration test of the MODE 5 = POWER OUT, BLPH shall enter in the POWER OUT MODE if: • It is Islanded (off grid) • Either the BESS charge level is below the BESS-MINIMUM- OPERATING-RESERVE threshold (BESS FAULT) or the SG-100D1 voltage measure on the BLPH 6.6kV distribution bus is absent. • EMCS is informed of ESD-1D activation (reference doc. "Process Safety Cause & Effect Matrix"). • BESS is NOT Healthy.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to POWER OUT MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.9.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.18 Software Test for Configuration of BLPH MODE 6 = MAINTENANCE

Outline	The configuration test of the BLPH MODE 6 = MAINTENANCE
Objective	- Verify the configuration test of the MODE 6 = MAINTENANCE, BLPH shall enter and remain in this MODE if receives the request to enter from CCS SCADA. The BLPH shall exit from the MAINTENANCE MODE if, and only if, the EMCS receives the request to return in automatic identification of the MODE from the data interface of the CCS SCADA through a software exit button. In MAINTENANCE MODE the EMCS shall not dispatch any command required by any automatic logic in the EMCS, including any open/close command, load shedding command, change in power setpoint. - Transition Conditions: Entrance on a command to get in the MANTENANCE MODE, Exit on a command to return in automation identification of the MODE.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to MAINTENANCE MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.10.

The above checks are conducted and witnessed by following representatives.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.19 Software Test for Configuration of BLPH MODE 7 = RESEARCH

Outline	The configuration test of the BLPH MODE 7 = RESEARCH
Objective	- Verify the configuration test of the MODE 7 = RESEARCH, BLPH shall enter and remain in the RESEARCH MODE, if the EMCS receives the request to enter in this MODE from the data interface of the CCS SCADA (protected under password). BLPH will ignore the power output of the HNA5 wind turbine. - The BLPH shall exit from the RESEARCH MODE if, and only if, the EMCS receives the request to return in automatic identification of the MODE from the data interface of the CCS SCADA through an exit button.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to RESEARCH MODE.
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.7.11.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.20 Software Test for Configuration of OPC-UA Communication Loss Between HV- SCADA & EMCS

Outline	The configuration test for the loss of OPC-UA communication between HV-SCADA & EMCS
Objective	- Verify the configuration test of the EMCS, in case of OPC-UA communication between the HV-SCADA and EMCS is lost, the EMCS does not take any automatic action on 66kV GIS. In conjunction with this communication loss, the EMCS will immediately command the platform in IDLE MODE "PCS.EnterMode(IDLE)"
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly interrupting an OPC-UA client communication, change the parameters of the EMCS. The parameter change directly affects the control logic and transit to IDLE MODE with "PCS.EnterMode(IDLE)".
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.4.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

1.2.21 Software Test for Configuration of 66kV GIS

Outline	The configuration test for the status of signals & electrical sequence to manage the closing of GIS on BLPH.
Objective	- Verify the configuration test of the EMCS, to manage the closing of GIS on BLPH, Wind Farm will have a direct connection to the BLPH 66 kV GIS CB for control & monitoring, the electrical sequence is as follows: • Q0(QA1) "CB Open" command, directly to the BLPH GIS from HV- SCADA • Q0(QA1) "Ready to close" permissive to EMCS from HV-SCADA • Full control of QZ92 line and earthing switches from HV-SCADA (not controlled by EMCS) BLPH Q0(QA1) "CB Close" command and "CB Open" commands will also be available to BLPH GIS by the EMCS.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.5.

The above checks are conducted and witnessed by following representatives.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
Document Title:	**SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE**	Sheet **128** of 134 Date: 19/03/2025 Rev: 03

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.22 Software Test for Configuration of Transformer OLTC/AVR

Outline	The configuration test for the AVR the set-point voltage reference for the secondary winding (the 6.6 kV side)
Objective	- Verify the configuration test of the EMCS, to manage the closing of GIS on BLPH, Wind Farm will have a direct connection to the BLPH 66 kV GIS CB for control & monitoring, the electrical sequence is as follows: • Q0(QA1) "CB Open" command, directly to the BLPH GIS from HV- SCADA • Q0(QA1) "Ready to close" permissive to EMCS from HV-SCADA • Full control of QZ92 line and earthing switches from HV-SCADA (not controlled by EMCS) BLPH Q0(QA1) "CB Close" command and "CB Open" commands will also be available to BLPH GIS by the EMCS.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.5.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

1.2.23 Software Test for Configuration Coordination Between PCS & EMCS

Outline	The configuration to test the Coordination between PCS & EMCS .
Objective	- Verify the configuration test of the EMCS, as follows: • PCS communicates with EMCS through serial internal communication and the necessary signals(commands, statuses and permissive) will be exchanged between two systems • EMCS requires PCS to enter in IDLE MODE with "PCS.EnterMode(IDLE)" • EMCS requires PCS to enter in IMPORT MODE with "PCS.EnterMode(IMPORT)". • EMCS requires PCS to enter in HOT STANDBY MODE with "PCS.EnterMode(HOT STANDBY)". • EMCS requires PCS to enter in EXPORT MODE with "PCS.EnterMode(EXPORT)". • EMCS requires PCS to enter in COLD STANDBY MODE with "PCS.EnterMode(STANDBY)". • EMCS requires PCS to enter in EMERGENCY MODE with "PCS.EnterMode(EMERGENCY)". • EMCS requires PCS to enter in RESEARCH MODE with "PCS.EnterMode(RESEARCH)". • The EMCS shall not run (i.e. not starting and stop if running) the BESS without a positive permissive signal from the PCS. • EMCS informs PCS for "Start Request" for Electrolyzer Package with "PermToStartEL" • EMCS requires PCS the "Permissive to start" for Fuel Cell Package with "PermToStartFC" • EMCS sends to PCS the "Command to Load shedding 1" – "Cmd.To.LoadShed" All the above control signals (status & commands) will be exchanged with BLPH control system (PCS) through a Modbus TCP communication

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Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark
	• BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.5.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

RM Representative : Date:

Crosswind Representative : Date:

1.2.24 Software Test for Configuration on the Energy Management Policy

Outline	The configuration to test the BLPH Energy Management Policy
Objective	- Verify the exposure of EMCS to CCS SCADA the following parameters: • EXPORT_POWER_SUPPLY_THRESHOLD (Default 1 MW) • IMPORT_POWER_SURPLUS_THRESHOLD (Default 2 MW) • POWER_SURPLUS_TIME_DURATION_IMPORT (Default 1 minute). • POWER_DEFICIT_TIME_DURATION_IMPORT (Default 1 minute). All the above control signals (status & commands) will be exchanged with BLPH control system (PCS) through a Modbus TCP communication
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00019- EMCS Software Functional Design Specification FDS-SW • 1724000594-IN-LIS-00005_R00- EMCS_IO_List • 123A90-DDL-IN-RE-40095 Process Control Logics Description • 1724000594-IN-DD-00028 HMI screen print out • 1723002197-EL-LIS-00043 - SG-200D2 I/O List Lv Switchgear • 23A2007_240628_PROFINET_Register BESS_V1_0_0_3 • 1723002197-EL-LIS-00041 - SG-100D1 I/O LIST HV Switchgear • 1723002197-EL-LIS-00042 - SG-200N1 I/O LIST Lv Switchgear • 1724000372-EL-LIS-00014 - I/O LIST • C63-AUT-002_03_Communication table • Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark • BAL_8249889_001_00_1_EN • EMCS-HNA5-SignalList-20240906
Procedure	Using the GUI, or directly an OPC-UA client, change the parameters of the EMCS. The parameter change directly affects the control logic
Criteria	Verify that the changed parameters will affect the control logic accordingly the EMCS FDS reference 4.2.1.10.

The above checks are conducted and witnessed by following representatives.

TEST RESULT PASS/FAIL

YEF-I Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project **Contract No. CW-I-WP4-2023-05**	ROSETTI MARINO
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RM Representative : Date:

Crosswind Representative : Date:

TLP:AMBER - Limited disclosure, restricted to participants' organizations.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-3 THIRD PARTY COMMUNICATION TEST PROCEDURE

1724000594-QC-PRO-00032

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	THIRD PARTY COMMUNICATION TEST PROCEDURE	Sheet 1 of 53 Date: 14/05/2025 Rev: 02

Base Load Power Hub (BLPH)

THIRD PARTY COMMUNICATION TEST PROCEDURE

Document Number: 1724000594-QC-PRO-00042

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	24/06/2025

Document Class: 3

02	14/05/2025	Issue for Information (IFI)	AB/CF	AB	SC
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Rev.	Date	Description	Prepared	Reviewed	Approved

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Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)
02	Issue for Information (IFI)

HOLDS LIST

No.	Description
1	
2	
3	
4	

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NONE

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

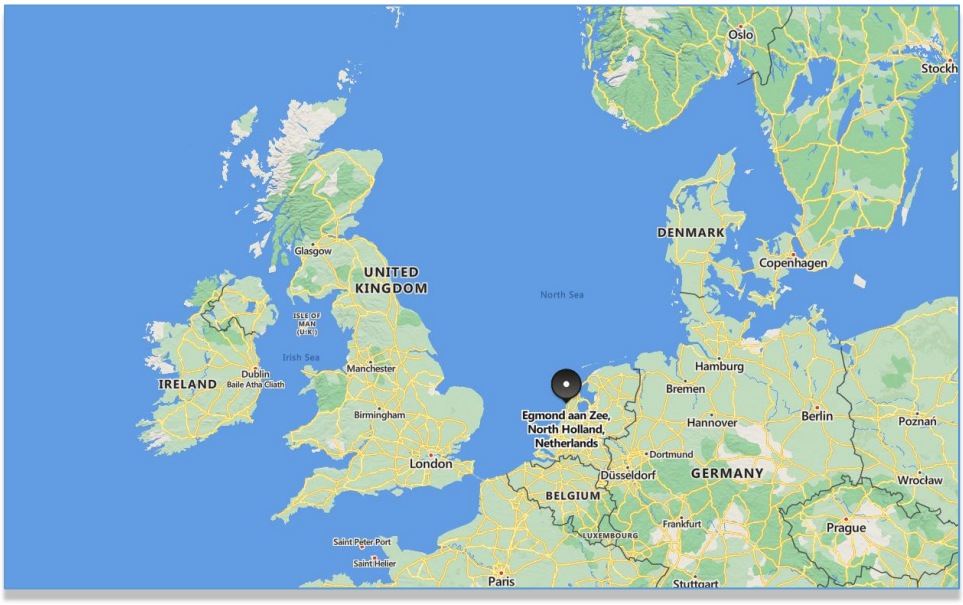

Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

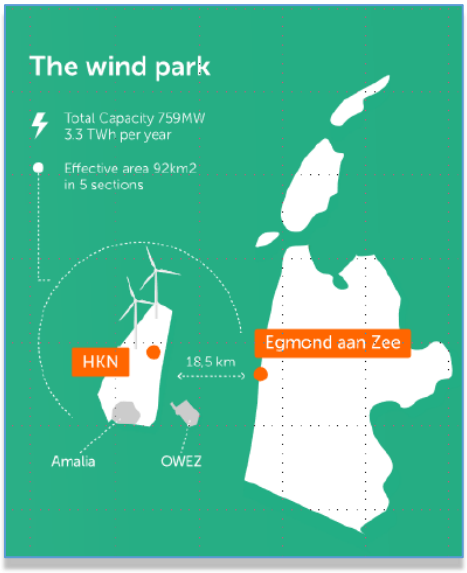

Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

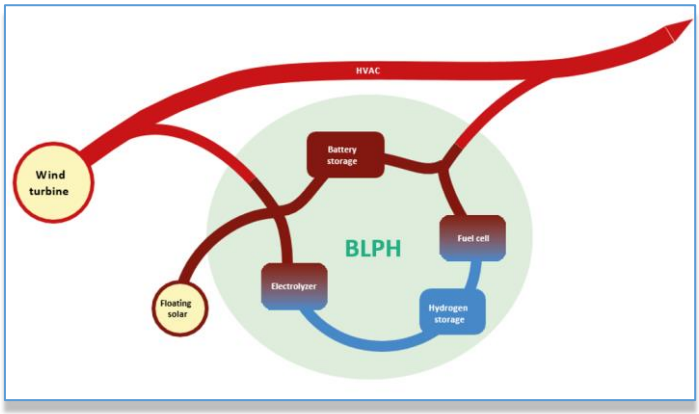

Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

The purpose of this package communication test procedure document is to define the check and test activities to be performed, in order to test communication of subsystem packages with Yokogawa PAS.

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3 CONTRACTOR REFERENCE DOCUMENTS

MAIN CONTRACTOR Project Documents :

Table 1 - Contractor Reference Documents

#	Company Doc. No.	TITLE
C01		
C02		
C03		
C04		
C05		
C06		
C07		
C08		
C09		
C10		
C12		
C13		
C14		
C15		
C17		
C18		
C19		
C20		
C21		
C22		
C23		
C24		
C25		
C26		

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4 VENDOR REFERENCE DOCUMENTS

MAIN VENDOR Project Documents:

Table 2 - Vendor Reference Documents

#	Company Doc. No.	TITLE
V01		
V02		
V03		
V04		
V05		
V06		
V07		
V08		
V09		
V10		
V11		
V12		
V13		
V14		
V15		
V16		
V17		
V18		
V19		
V20		
V21		
V22		
V23		
V24		
V25		
V26		

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#	Company Doc. No.	TITLE
V27		
V28		
V29		
V30		
V31		
V32		
V33		
V34		
V35		
V36		
V37		
V38		
V39		
V40		
V41		
V42		

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5 TEST PURPOSE

This Test Procedure is organized in a collection of Inspection Data Sheets that cover the test to be executed in customer or subsystem vendor premises.

The tests covered in this document are related only to serial communication between Yokogawa PAS (Process Automation System, including EMCS) and 3rd party systems.

6 TEST PREREQUISITES PCS

In order to perform the test, Yokogawa will use a demo system consisting of the subsequent components:

- Engineering Workstation (with CENTUM VP software) and monitor.
- AFV30D DCS rack with single CPU.
- Single or redundant communication card (ALE111 for Modbus TCP, A2PL131 for Profinet).

If the test will be performed at subsystem vendor premises, Yokogawa is expecting to have availability of :

- 240V 50Hz power supply.
- CAT5E or CAT6 network cables.
- Network apparatus (e.g. switches), if deemed necessary for the specific test.

Moreover, availability of documents concerning the serial link to be tested is a necessary prerequisite, in order to proceed with the actual test. The minimum required information is :

- Interface protocol to be used.
- Communication parameters (IP address, subnet mask, device parameters, device tag when applicable, communication speed when applicable).
- Communication maps, specifying for each signal to be tested :
  - Tag
  - Address
  - Description
  - Data type
  - Data access (read/write)
  - Range
  - Scale
  - Offset
  - Engineering Unit (if applicable)

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7 TEST PREREQUISITES EMCS

The test must check the connection and the data exchange between the EMCS and the BLPH packages and WindFarm server.

To perform the test, Yokogawa will use a system equivalent to the final system consisting of an industrial PC and the required protocol clients: MODBUS TCP, OPC-UA, PROFINET, IEC-61850.

If the test will be performed at subsystem vendor premises, Yokogawa is expecting to have availability of :

- 240V 50Hz power supply.
- CAT5E or CAT6 network cables.
- Network apparatus (e.g. switches), if deemed necessary for the specific test.

Availability of documents concerning the communication interface is a necessary prerequisite, in order to proceed with the actual test. The minimum required information is :

- Interface protocol to be used.
- Communication parameters (IP address, subnet mask, device parameters, device tag when applicable, communication speed when applicable).
- Communication maps, specifying for each signal to be tested :
    - Tag
    - Address
    - Description
    - Data type
    - Data access (read/write)
    - Range
    - Scale
    - Offset
    - Engineering Unit (if applicable)

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8 SERIAL LINK VALIDATION

This chapter describes the tests that will be executed during the "Serial Link Communication tests".

To perform the complete test, the subsystem Vendor's presence (and relevant hardware) is required.

The following tests shall be performed for each Serial Link Communication.

The protocols considered will be Modbus TCP, Profinet, and IEC61850.

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TEST Form 2.1				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Configuration capabilities file to be verified (applicable to Profinet and IEC61850)			
PRELIMINARY	The Capabilities file of the subsystem vendor should be available. It is recommended to make the file available before the actual test, for preliminary checks and configuration.			
SCOPE	Availability of correct capabilities file (i.e. GSDML file) should be verified.			
REF. DOCUMENTS	Relevant vendor document indicating the file name and version.			
PROCEDURE	The import of the correct capabilities file should be verified in PAS engineering station			

EXPECTED RESULT	The file is correct, and the revision is the same indicated by the subsystem vendor.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

TEST Form 2.2				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between PAS and subsystem.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides.			

EXPECTED RESULT	Observe that there is no communication fault on PCS and on subsystem. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐	FAIL ☐		
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

TEST Form 2.3				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Soft Link Digital Input/Output test (if any)			
PRELIMINARY	The test should be performed with subsystem vendor assistance.			
SCOPE	Verify the communication for all digital signals between PAS and subsystem on Engineering Workstation interface. Verify that it is possible to read and write signals as specified in Signal List: • "read" signals will be generated/forced by 3rd party and checked on Yokogawa test equipment side; • "write" signals will be generated/forced by Yokogawa and checked on 3rd party's side.			
REF. DOCUMENTS	Relevant Signal List Relevant Control Narrative			
PROCEDURE	With the subsystem vendor's assistance, verify that each subsystem digital signal corresponds to the same PAS digital signal.			

EXPECTED RESULT	No mismatch occurs between subsystem and PAS signals.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

TEST Form 2.4				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Soft Link analog Input/Output test (if any)			
PRELIMINARY	The test should be performed with subsystem Vendor assistance.			
SCOPE	Verify the communication for all analog signals between PAS and subsystem on Engineering Workstation interface. Verify that it possible to read and write signals as specified in Signal List: • "read" signals will be generated/forced by 3rd party and checked on Yokogawa test equipment side; • "write" signals will be generated/forced by Yokogawa and checked on 3rd party's side.			
REF. DOCUMENTS	Relevant Signal List Relevant Control Narrative			
PROCEDURE	With the subsystem vendor's assistance, verify that each subsystem analog signal corresponds to the same PAS analog signal.			

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EXPECTED RESULT	No mismatch occurs between subsystem and PAS signals.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

TEST Form 2.5				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Diagnostic routines, System alarms check			
PRELIMINARY	The PAS Engineering Workstation shall be available. The presence of subsystem Vendor is necessary to perform this test.			
SCOPE	Verify the correct detection of any fault of system under test.			
REF. DOCUMENTS	Yokogawa Instruction Manuals Vendor manuals			
PROCEDURE	Verify that in case of any fault/disconnection related to the communication with the package, the Yokogawa PAS generates an alarm that is available in PAS system alarm list. This will be verified on Engineering Workstation interface.			

EXPECTED RESULT	Each failure will be correctly identified and alarmed in the System Alarm view.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

TEST Form 2.6				
Vendor REFERENCE :				
PROJECT :		**System :**	PAS	Rev. 0
Item Description:	Redundancy test (applicable only for Floating Solar Farm)			
PRELIMINARY	The PAS engineering test station shall be available. The presence of Subsystem Vendor is necessary to perform this test.			
SCOPE	Verify the correct functionality of the system in case one of the redundant communication components fails.			
REF. DOCUMENTS	-			
PROCEDURE	1. Power off any redundant communication component any verify that the communication is still up. 2. Remove the Ethernet cable from Primary PAS card and observe that there is no failure in communication.			

EXPECTED RESULT	The redundancy functionality is achieved if there is no failure.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS	The test will pass if the above functionality is achieved.			
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

9 TEST EMCS COMMUNICATION WITH BESS PACKAGE

TEST Form 3.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and BESS Package through PROFINET protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

EXPECTED RESULT	Observe that there is no communication fault on EMCS and on BESS. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

10 TEST EMCS COMMUNICATION WITH FUEL CELL PACKAGE

TEST Form 4.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and FUEL CELL Package through MODBUS TCP protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

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EXPECTED RESULT	Observe that there is no communication fault on EMCS and on FUEL CELL. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

11 TEST EMCS COMMUNICATION WITH SOLAR FARM PACKAGE

TEST Form 5.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and Solar Farm Package through MODBUS TCP protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

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EXPECTED RESULT	Observe that there is no communication fault on EMCS and on Solar Farm. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

12 TEST EMCS COMMUNICATION WITH ELECTROLYZER PACKAGE

TEST Form 6.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and Electrolyzer Package through PROFINET protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

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EXPECTED RESULT	Observe that there is no communication fault on EMCS and on Electrolyzer. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

13 TEST EMCS COMMUNICATION WITH WIND FARM PACKAGE

TEST Form 7.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and Wind Farm Package through OPC-UA protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

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EXPECTED RESULT	Observe that there is no communication fault on EMCS and on Wind Farm. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

14 TEST EMCS COMMUNICATION WITH BLPH-GIS

TEST Form 8.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and GIS through IEC-61850 protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

EXPECTED RESULT	Observe that there is no communication fault on EMCS and on GIS. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

15 TEST EMCS COMMUNICATION WITH MV SWITCHGEAR SG-100D1

TEST Form 9.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and MV SWITCHGEAR SG-100D1 through IEC-61850 protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the package.			

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EXPECTED RESULT	Observe that there is no communication fault on EMCS and on MV SWITCHGEAR SG-100D1. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

16 TEST EMCS COMMUNICATION WITH LV SWITCHGEAR SG-200N1

TEST Form 10.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and LV SWITCHGEAR SG-200N1 through IEC-61850 protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the device.			

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	THIRD PARTY COMMUNICATION TEST PROCEDURE	Sheet 45 of 53 Date: 14/05/2025 Rev: 02

EXPECTED RESULT	Observe that there is no communication fault on EMCS and on LV SWITCHGEAR SG-200N1. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

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17 TEST EMCS COMMUNICATION WITH SOLAR LV SWITCHGEAR SG-200D2

TEST Form 11.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and SOLAR LV SWITCHGEAR SG-200D2 through MODBUS-TCP protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the device.			

EXPECTED RESULT	Observe that there is no communication fault on EMCS and on SOLAR LV SWITCHGEAR SG-200D2. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐	FAIL ☐		
COMMENTS				
TEST DATE :				
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

18 TEST EMCS COMMUNICATION WITH AVR OF TRANSFORMER TR-100AD

TEST Form 12.1				
Vendor REFERENCE :				
PROJECT :		**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY	To perform this test, it is necessary that the Vendor's subsystem with the hardware necessary for communication is present; otherwise, the test cannot proceed.			
SCOPE	Verify the correct connectivity between EMCS and AVR OF TRANSFORMER TR-100AD through MODBUS-TCP protocol.			
REF. DOCUMENTS	Relevant Signal List			
PROCEDURE	After subsystem soft link connection is established, verify that the connections are Healthy and permanent for both sides. Read the signals that are readable and check if the operations return a value. Write the commands and check if feedback is returned by the device.			

EXPECTED RESULT	Observe that there is no communication fault on EMCS and on AVR OF TRANSFORMER TE-100AD. For both systems, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☐ FAIL ☐			
COMMENTS				
TEST DATE :				
CLOSED DATE :				

19 PENDING POINT LIST

Pending Points List (Punch List)				
Vendor REF :				**PP n°:** P .
PROJECT :		**SYSTEM :**		

Pending Point Number	Description	Issued Date	Closed Date

	Yokogawa Signature	Signature	Signature	Signature	

20 PENDING POINT FORM

Pending Points Form		
		sheet of
Vendor REFERENCE :		
PROJECT :		
PENDING POINT NUMBER :		
TEST DESCRIPTION :		
SYSTEM :		
ISSUED DATE :		
DESCRIPTION :		
SOLUTION :		

COMMENTS :				
TEST DATE :				
CLOSED DATE :				
Vendors	**Yokogawa**			
Signature	Signature	Signature	Signature	Signature

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-4 FAT Records (Check Lists, Punches record, inspection record)

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 1 of 121 Date: 11/09/2024 Rev: 01

TOTAL NUMBER OF PAGES IS NOT 121!
PDF FILE IS COMPOSED BY 112 PAGES

L. PIGNATELLI ON BEHALF OF CROSSWIND

☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 24/9/2024

Base Load Power Hub (BLPH)

HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

Document Number: 1724000594-QC-PRO-00030

Supplier Document Number: E366772C00-HW_FAT

Document Class: 2

ROSETTI MARINO	
1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED
NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.	
Sign	Date
	01/10/2024

MACTEC
COPIA X REV FINALE
DATE 3/10/24

SAME DESCRIPTION ALSO FOR NEXT REVISION

01	11/09/2024	Accepted for Construction (AFC)	MP	KS/AB	SC
00	26/06/2024	Issue for Review (IFR)	MP	KS/AB	SC
Rev.	Date	Description	Prepared	Reviewed	Approved

YOKOGAWA Co-innovating tomorrow™

Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Construction (AFC)

HOLDS LIST

No.	Description

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Appendices or Attachment?

move this section before the appendix

Physical Hardware Check
System Cables Check
system start-up test
CPU Backup Function Test
Bus Redundancy Test
Loading test
online/offline loading test
I/O check (modul. redundancy, etc.)
etc. (according to other section)

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8.7 FAT Punch Record Ledger & Punch Record Form

8.8 FAT Completion Certificate

8.9 Shipping Release Note

Insert page numbers

FAT check sheet for EMCS Hardware

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1 Introduction

1.1 General

The purpose of this document is to define the methods and documentation that will be used to carry out the Factory Acceptance Test (FAT) on YOKOGAWA's PCS, SIS , FGS and SCADA. The FAT is performed to ensure that the system is properly configured, assembled and functional in accordance with the intended design as specified in the approved documents.

The objective of FAT is to demonstrate to CROSSWIND that the system hardware and software is built in accordance to requirements as specified in the approved documents.

Crosswind and Rosetti Marino would witness to verify the test. Upon successful completion of the test, a FAT Test Certificate and Shipping Release Notice would be signed by both YOKOGAWA as MAC and Crosswind /Rosetti Marino to signify the acceptance of the test and approval of shipment of the equipment.

1.2 Scope and Objective

The Factory Acceptance Test referred to as FAT applies to the PCS, SIS , FGS and SCADA Hardware and Software supplied by Yokogawa.

The objective of the FAT is to verify the conformance of the system against the approved specifications and FAT procedure before delivery to site. The FAT shall be conducted to test and verify the main items listed below:

- System Hardware
- Network and Communication Tests
- Cabinets (system, network, server)
- Other Hardware (KVM, etc..)

2 Reference Documents

2.1 Input Documents

The PCS, SIS and F&G systems are configured using input documents such as IO Database, P&IDs, Cause & Effect Diagrams, F&G Layouts, Process Control Narratives, etc. These input documents shall be used as reference documents for FAT. These documents are listed in Appendix 8.3 - Approved Document List.

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2.2 Codes, Standards and References

[1] IEC 60529: Specification for Degrees of protection provided by enclosures (IP Code)

[2] IEC 61000: Electromagnetic Compatibility of Industrial - Process Measurement and Control Equipment

[3] IEEE 802.3: Information Processing Systems – Local Area Networks

[4] IEC 61508 Functional Safety of Electrical/Electronic/Programmable Electronic Safety – Related Systems

[5] IEC 61511 Functional Safety- Safety instrumented systems for the process industry sector

2.5 Approved Document List (Detail Design Specification)

The Detail Design Specification used for construction shall be listed in this approved document list, and shall be used as reference in the FAT. In principle, the Detail Design Specification documents as included in this list shall form the basis for checking the PCS, SIS, FGS and SCADA system. The approved Detail Design Specification document list used for construction is listed in Appendix-3.

Hold-1: Appendix-8.3 To be provided during the project execution phase.

3 Definitions and Abbreviations

PROJECT:	HOLLANDSE KUST NOORD WIND PARK PROJECT
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
COMPANY or Client (CPY):	CROSSWIND
VENDOR	YOKOGAWA ITALIA S.R.L.

Doc. No.	Description
ALARP	As Low as Reasonably Praticable
AMS	Alarm Management System
ATEX	Appareils destinés à être utilisés en ATmosphères Explosibles (Equipment intended for use in explosive atmospheres)
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
CAPEX	Capital Expenditure

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CAT	Category
CCN	Central Control Network
CCR	Central Control Room
CCS	Central Control System
CCTV	Closed Circuit Television
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
CTV	Crew Transfer Vessel
DEM	Design Engineering Manual
DEP	Design and Engineering Practice
DMZ	Demilitarised-Zone
DOCUMENT NAME	Document Title
ELM	Earth Leakage Monitor
EMC	Electromagnetic Compatibility
EN	Engineering Notice
EPC	Engineering Procurement Construction
EPIRB	Emergency Position Indicating Radio Beacon
EWS	Engineering Workstation
Ex	Explosion Proof
FC	Fuel Cell
FCS	Field Control Station
FEED	Front End Engineering Design
FEED CONTRACTOR	Organisation contracted directly by COMPANY to provide engineering, design, or other services.
FGS	Fire & Gas System
FIO	Field Input/Output
FNU	Field Node Unit
FO	Fibre Optic
FOPP	Fibre Optic Patch Panel
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positional Satellite

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HART	Highway Addressable Remote Transducer
HAZOP	Hazardous Operability Study
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system fwind farm infrastructure. BLPH's control system shautonomously but will interface with HV-SCADA.
IACS	Industrial Automation and Control Systems
IAMS	Instrument Asset Management System
ICSS	Integrated Control and Safety System
IDCS	Intrusion Detection Control System
IEC	International Electrotechnical Commission
IP	Ingress Protection
IP	Internet Protocol
IS	Intrinsically Safe
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
LACS	Local Access Control System
LAN	Local Area Network
LOPA	Layers of Protection Analysis
LHVS	Land High Voltage Station
LV	Low Voltage
MAC	Main Automation Contractor
MCC	Motor Control Centre
NAMUR	Interessengemeinschaft Automatisierungstechnik der Prozessindustrie (User Association of Automation Technology in Process Industries)
NIS	Non-Intrinsically Safe
NU	Node Unit
OHVS	Offshore High Voltage Station

Typo "... system shall operate autonomously but ..."

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OPC	Open Platform Communications
OWS	Operator Workstation
PAGA	Public Address and General Alarm
P&ID	Piping and Instrument Diagram
PACO	Process, Automation, Control and Optimisation (PACO) is the term used to describe all functionality required for the monitoring and controlling of all process, safety and fire and gas systems selected for the project.
PCN	Process Control Network
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
PV	Photo Voltaic
PURCHASER	The organisation placed a purchase order for the supply of equipment or services for the Project. The Purchaser could be the Company or the Contractor or some other party appointed by the COMPANY or Contractor.
RVO	Rijksdienst voor ondernemend Nederland - The Netherlands Enterprise Agency
SART	Search and Rescue Transponder
SCADA	Supervisory Control and Data Acquisition
SGSI	Shell Global Solutions International
SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
SNU	Safety Node Unit
SOLAS	Safety of Life at Sea
TB	Terminal Board
TETRA	Terrestrial Trunked Radio
TSO	Transmission System Operator

Insert SCS = Safety Control Station

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TQ	Technical Query
UCP	Unit Control Panel
UHF	Ultra-High Frequency
UPS	Uninterruptible Power Supply
VENDOR	Manufacturer/Supplier of equipment and services to perform the duties specified by the Purchaser.
VHF	Very High Frequency
VLAN	Virtual Local Area Network
VNET	Virtual Network
WAN	Wide Area Network
WTG	Wind Turbine Generator

Table 1 – Definitions and Abbreviations

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4 Responsibility

Responsibilities for each party involved in the FAT are defined here-under to ensure that the FAT is carried out in accordance with an agreed procedure. It also ensures that there shall be authorized personnel(s) from CROSSWIND, ROSETTI MARINO and YOKOGAWA to facilitate any decisions and schedule changes resulted from the FAT.

4.1 CROSSWIND

The full participation of CROSSWIND in the FAT is essential. CROSSWIND shall appoint an Inspector cum Test Approver to witness the FAT. The Test Approver would have the authority to sign-off upon the successful completion of all tests. Once signed off, the test will be deemed accepted and the decision will be final. The Inspector shall participate in the test and observe the test results on a daily basis. The Test Approver shall approve the inspection items based on the approved specification and the test results recorded.

4.2 ROSETTI MARINO

ROSETTI MARINO shall appoint a FAT Manager for the FAT. The FAT Manager representing ROSETTI MARINO shall co-ordinate with CROSSWIND and YOKOGAWA FAT Managers and to facilitate the smooth implementation of the FAT activities and schedule. The role of the FAT Manager is also to resolve FAT issues on a regular basis.

ROSETTI MARINO representatives will participate in the FAT for the complex controls, sequences and logics. For PCS controlled equipment packages containing complex controls, sequences and logics, ROSETTI MARINO at their discretion, may invite their package equipment supplier representatives to participate in the testing.

4.3 MAC

YOKOGAWA as MAC shall appoint a Test Conductor to organize and manage all aspects of the FAT. YOKOGAWA shall carry out the testing and record the test results on a daily basis together with CROSSWIND Inspector and ROSETTI MARINO representative.

The Project Manager representing YOKOGAWA shall be the FAT Manager. The FAT Manager shall co-ordinate with ROSETTI MARINO's FAT Manager and shall amend the test schedule whenever necessary to ensure the smooth running of the FAT. The FAT Manager shall also ensure that all tests are conducted in accordance with the approved FAT documents. If changes/modifications are required in the implementation, the FAT Managers of Yokogawa and ROSETTI MARINO shall discuss and arrive at the action plan.

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5 General Administration

5.1 FAT Venue

All the PCS, SIS and FGS equipment's will be staged at YOKOGAWA Sub-contractor Premises:

PREI srl

Missing description of the premises and relevant requirement (e.g. tools, power supply, grounding etc)

Via Pascoli, 150

22040 Alzate Brianza – COMO (Italy)

5.2 FAT Organization Chart

A specific detailed Organization Chart shall be issued for each project, with all positions and names filled in. In addition, a FAT roster of the participants shall be issued, with following details for each person; full name, company, responsibility, samples of the signature and initials, actual start and finish date of participation in the FAT. The FAT Manager will be responsible for maintaining the roster and keeping it updated.

there are 2 managers, one for RM and one for MAC

Refer to Appendix-1 for FAT organization chart and FAT roster.

5.3 Kick-off Meeting

An initial kick-off meeting will be held prior to starting the FAT to brief the participants, confirm the organization and responsibilities, and review the FAT schedule. At the same time, HSE briefing for all participants will be provided by YOKOGAWA. YOKOGAWA FAT Manager will prepare the presentation and explain the organization and work practices. All FAT documentation prepared by YOKOGAWA prior to FAT will be inspected for completeness.

5.4 Daily Working Schedule

The FAT will be conducted in YOKOGAWA premises from Monday to Friday (working days). update

The following timing is recommended for the testing:

0915 to 1200 hrs	Inspection and test
1200 to 1300 hrs	Lunch
1300 to 1700 hrs	Inspection and test
1700 to 1730 hrs	Daily review meeting including next day's schedule planning

Table 2 - Daily Working Time

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5.5 Daily Review Meeting

YOKOGAWA FAT Manager shall conduct a daily review meeting at the end of each FAT day. The meeting will involve all the parties taking part in the FAT. The purpose of this review meeting is to update all parties the progress and status of the FAT.

The punch list will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the recovery work involved is minor (identified in the daily meeting) and agreed by all parties, the work will be carried out on the same day and will be verified the following day by all the concerned parties and signed off in the punch list. If the recovery work involves major change/modification, The FAT Manager will advise the schedule for retesting.

Refer to section 6.4 for details in punch record.

The FAT Manager should also ensure that PCS Engineers make a backup of the application program to an external storage every day after the daily review meeting, so that old backups can be retrieved, if necessary.

5.6 Weekly Progress Meeting

it doesn't make much sense, considering that the FAT starts on Friday and ends on Friday...

YOKOGAWA FAT Managers shall conduct weekly progress meeting every Friday. The purpose of the weekly meeting is to report the progress of the FAT in the same week and planned activity the following week. It shall also be the forum for resolving any issue arises from punch list.

In the weekly progress meeting, The FAT Manager will present detailed weekly progress report, containing details of activities and achievements for the week, plan for the next week, area of concern, list of punches raised (solved and open) and detailed formal overall progress assessment. The format and content details of the weekly progress report and the underlining planning, progress monitoring and measurement methodology shall be in accordance with the FAT planning, Progress Monitoring Report. After the joint review in the weekly progress meeting and any necessary amendments, The FAT Manager will issue the weekly progress report.

All FAT roster will be invited to the meeting.

5.7 FAT Wrap-up Meeting

At the completion of the FAT, a final wrap-up meeting will be held. The overall status of the FAT shall be reported. Upon all parties' agreement that the FAT is completed satisfactorily, the FAT Completion Certificate and Shipping Release Notes shall be signed off by CROSSWIND/ROSETTI MARINO.

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5.8 Integrated Factory Acceptance Test (IFAT)

Upon completion of Hardware FAT, the testing moves to the next stage, the Integrated Factory Acceptance Test that will be part of Software FAT. At this stage, integrity of infrastructures or interfaces that are shared by multiple systems, components and/or applications within the scope of Yokogawa will be demonstrated. 3rd party sub-systems I/O mapping will be simulated using existing options in YOKOGAWA system/Tools for HMI and control functions. No dedicated IFAT shall be conducted, 3rd party Sub-systems connected with CI Server shall be simulated and demonstrated as a part of Software FAT.

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6 FAT Report Documentation

The Factory Acceptance Test (FAT) shall be conducted in accordance with the test procedures detailed in this document. The test results shall be recorded in the check sheet. To prevent from any check sheet getting lost, each Check sheet shall be given a unique reference number.

6.1 FAT Documentation

All FAT documentation shall be prepared by YOKOGAWA prior to the start of the FAT. All forms, check sheets, sign-off sheets, drawings, etc. as listed in this procedure shall be organized in indexed binders. A master index for the FAT will be provided and maintained by YOKOGAWA FAT Manager.

The documentation for hardware checks shall include all relevant documents for each individual cabinet in a separate indexed binder or a binder section. This shall include Internal hardware check and test records performed during internal Factory Hardware Test.

The documentation for software checks shall be organized by individual process units in indexed binders. The documentation for graphics checks shall also be organized, separately by individual process units in indexed binders.

All FAT reference documents (latest issue) as listed in this procedure originated by other parties (CROSSWIND, ROSETTI MARINO), which were issued formally to YOKOGAWA will form a part of the FAT documentation and shall be printed out, and organized in indexed binders by YOKOGAWA.

All FAT reference documents as mentioned above shall be stamped "FAT MASTER" on every page/sheet. Any additional documents that may be necessary and generated later during FAT shall also be stamped, and indexes amended accordingly.

The structure of the FAT folders and typical indices shall be defined by YOKOGAWA, issued for approval and included in the Appendix-8.3.

6.2 Internal Test/Pre-FAT

Prior to the FAT, YOKOGAWA shall conduct internal test (Pre-FAT) to verify the system and application software. The internal test shall be based on the approved FAT procedure and covers the complete system functionality check, hardware healthiness check and 100% I/O check of marshalled cross-wirings.

The internal test result will be recorded and documented. CROSSWIND/ROSETTI MARINO may review/reference the test records of these internal tests before or during the FAT.

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Complex control loops, specialized sequential controls and batch control applications shall also be completely tested during Pre-FAT. The result of the test shall be recorded and made available for reference before or during FAT.

As a part of the pre-FAT, the project team consisting of application engineers from YOKOGAWA, ROSETTI MARINO and CROSSWIND conduct electronic (paper) check using the PCS tag/tuning report generated from the system. During this paper check pre-FAT, ROSETTI MARINO/ CROSSWIND will verify the configuration parameters by using engineering documents. This will enable the FAT crew to concentrate on the control functions and Graphic functionality during the actual FAT and will also help in reducing the duration of the FAT.

Refer to PCS application software sections for detail procedure on paper check.

It is also preferred that CROSSWIND and ROSETTI MARINO representatives participate in the pre-FAT for complex controls, sequences and logics checks, especially in projects that has multiple equipments with identical control strategy, to facilitate smooth execution of the FAT.

6.3 Method of Testing

Detailed test procedure for each test item is described in this document. Check sheet shall be provided, listing the equipment to be tested. All test results shall be recorded in the Check sheets. The following color codes shall be used in the testing:

a) Yellow marker - Items that were checked and cleared

b) Pink marker - Items that were having problems.

c) Green marker - Items that were checked after completion of recovery.

The color marking will be used on the print-outs of the control drawings, graphics and supporting design documents such as P&IDs, narratives, etc.

For PCS Hardware, 10% I/O check shall be done for conventional I/O (including HART) using signal injector.

The internal test records will be inspected prior to FAT. In the event that the records are deficient, retest will be performed.

PCS, SIS and FGS Software Function Test will be conducted using Test Function tool, without connection to any physical I/O. Test Function will be used to simulate process input, digital signal and alarms to FCS so that typical loops, logic sequence blocks can be tested without connecting to physical input and output devices. Dynamic graphics check shall be a part of the PCS, SIS and FGS Software function test.

All the panels will be available for test and connected to recreate as much as possible the final configuration.

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6.4 Punch Record

All shortcomings found during the test shall be noted in the FAT Punch Record (Appendix-8.9). Each punch Record shall cover one punch item/fault. A Punch Record Ledger shall be used to summarize all the punch records.

Punch record items shall be classified as follows:

M = **Modification**, item is to be modified, deleted, added due to design input changes.

C = **Correction**, item is to be corrected by YOKOGAWA.

If the recovery work involves change/modification, it is to be recorded on the punch record and the recovery undertaken as soon as possible after the agreement of both the FAT Managers after signing of the punch record. YOKOGAWA shall clear all correction items (**Code C**) at factory before shipment, informing RM and CW for each solved items. For recovery work that involves modification (**Code M**), it will be regularly jointly reviewed by all parties involved in FAT, on at least weekly basis and resolved whether to be implemented during FAT or later, depending on complexity and potential schedule and/or cost impact. After verification, the same will be signed off by all concerned parties in the punch record.

The punch record will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the modification request were deemed deviated from the original design, it would be considered as change order.

6.5 FAT Completion Certificate & Shipping Release Note

Upon completion of the FAT, FAT Completion Certificate and Shipping Release Note will be signed by CROSSWIND, ROSETTI MARINO and YOKOGAWA. The purpose of these two documents is to certify that the FAT has been completed and accepted by CROSSWIND. Both CROSSWIND and YOKOGAWA agree that the system is in order and can be released for shipment to site. However, if the tested system is to be shipped out in partial, CROSSWIND/ROSETTI MARINO shall advise and issue the Shipping Release Note accordingly. Refer to Appendix-8.10 for a FAT Completion Certificate and to Appendix-8.11 for a Shipping Release Note.

Note: Once the FAT completion certificate and Shipping release note signatures are in place, no internal cabinet wiring, labeling, reconfiguration, or hardware swap outs shall be carried out unless the signatory parties are notified in advance and given an opportunity to inspect any recommended changes.

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6.6 Test Equipment

YOKOGAWA will provide all test equipments (e.g. Digital Multimeter, Signal Generators etc.) for the FAT. The details of the test equipment for FAT with certification (if necessary) shall be provided using format attached in Appendix-8.4.

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7 Testing Description for Hardware

7.1 General Hardware Check – Earthing Check (valid for all cabinets)

Outline	The Earthing connections shall be verified in all the System/Marshalling cabinets and Network/Server.
Objective	Verify that all Earthing connections are wired as per the specification.
Reference	SIS/FGS, EMCS and PCS System/Marshalling Cabinet GA/IA Drawing Refer Appendix 8.3 - Approved Document List
Procedure	This test shall be carried out using a Multimeter or Ohm-meter to confirm the continuity of the following: a. P.E. – Protection earth • To verify continuity between the earth and all part of the cabinet including instrument chassis. b. IE - Instrument Earth • To verify continuity between the instrument earth bar connection and instrument cable screens. c. I.S.E. – Intrinsically Safe Earth (if present) (ONLY FOR B400-FGS-001/213) • To verify continuity between the instrument safe earth bar connection and instrument safe cable screens. The test can be considered acceptable if the resistance measured is < 1 Ohm. Also using a Multimeter or Ohm-meter the P.E., I.E. and I.S.E. earth bars are to be confirmed isolated from each other. I.E. and I.S.E. bars must be isolated from the external cabinet chassis. The test can be considered acceptable if the resistance measured is > 10 MOhm.
Test Record Reference	- GA/IA Drawings - Refer Appendix 8.5 – FAT Check sheet

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: 22/10/2024

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
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ROSETTI MARINO Representative : Date: 24/10/2024

CROSSWIND Representative : Date:

L. PIGNATELLI ON BEHALF OF CROSSWIND

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DATE 22/10/2024

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7.2 PCS Physical Hardware Check

7.2.1 PCS System/Marshalling Appearance, Construction and Wiring Check

Outline	All the System/Marshalling cabinets and installed components are to be checked and verified for their appearance and construction.
Objective	- Verify that all the cabinets are manufactured as per the specification. - Verify that all the components and accessories installed in the cabinets are manufactured as per the specification. - Verify cabinet high temperature alarm. - Verify proper functioning of the redundant power supply units. This test ensures that the interface board functions properly upon Power up.
Reference	- Bill of Material - PCS System/Marshalling Cabinet GA/IA Drawing Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that all the SYSTEM/MARSHALLING CABINET are as per the GA/IA drawings. Check items as follows: 1. General Cabinet Construction – lifting construction, Plinth, cabinet color and side panel (if applicable). 2. Layout - components layout on the front, rear and sides of cabinet. • FCU – mounting and termination. • ESB Node Unit – I/O module quantity. • Power Supply Unit (PSU) rating. 3. Interface Boards – mounting, termination, installed spare and space for spare. 4. Doors - handle, lock with key and document pocket. 5. Labeling – cabinet, terminals, devices, earth bars, attention symbols and cable marker. 6. Earthing – bolt types, location, wiring type, screen terminals, grounding of devices and doors. 7. Cable handling – routing, trays/duct, clamp rails and termination. • Control Bus (Vnet/IP) • ESB Bus, Optical ESB Bus • System cables (*)

Check:
- enclosure damages (scratches, dents)
- cleaning and absence of burning marks or other residue
- connection tightness (spot-on pull test)
- labeling of devices and cables
- IP rating
- wiring separation (different voltage levels as per specs)

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	• Field cables from junction boxes (+) 8. Signal termination • Terminal - terminal and wiring types, installed spare and space for spare. 9. Power distribution - isolator and circuit breakers rating, fused terminal types and wiring sizes. 10. Others: Fans, thermostat and if applicable, utility socket. **Temperature Alarm Check** 11. Note Thermostat setting in the cabinet. Check that the contact at the terminal is closed circuit. 12. Set the Temperature setting of thermostat to a lower setting (e.g. 18 DegC). 13. Check that the contact is now open. Verify alarm at the OWS. 14. Recover the alarm by setting the temperature setting back to above room temperature. **Power Supply Check** 15. Take measurement of voltage output from PSU individually. The voltage should be 24 ~ 26VDC. 16. Measure voltage output from PSU02 and switch "OFF" circuit breaker for PSU01. 17. The voltage measured at PSU02 output should remain within the voltage limit (24 ~ 26VDC). Verify PSU fail alarm at the OWS. N.A 18. Measure and record the DC voltage ripple with an oscilloscope. 19. Recover PSU01. Verify PSU alarm recovery at the OWS. 20. Repeat test for PSU01 by switching "OFF" PSU02. **Functional Check** (for all equipments) 21. Switch on the 24VDC power supply to the interface board one-by-one. 22. Observe the LED indication on the interface board. 23. Check that the contact is now returned to closed position. Verify alarm recovery at the OWS.
Criteria	The quantity, type and location of all the cabinets and installed components should match the Bill of Material, GA/IA Drawings and I/O Assignment without any scratches and deformations.

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Test Record Reference	- GA/IA Drawings - Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all Field Control Station cabinets and witnessed by the following representatives.

PENDING POINTS (SEE PUNCH LIST ISSUED)

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 04/10/2024

ROSETTI MARINO Representative : MAURO BOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 04/10/2024

(*) SIZE OF RACEWAYS FOR SYSTEM CABLES AND FIELD CABLES SHALL BE VERIFIED IN YARD AFTER INSTALLATION

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.2.2 Field Control Station (FCS) Module Assignment Check

Outline	All ESB Bus Node Units, I/O Modules (for FIO), ESB Bus Coupler Modules and ESB Bus Repeater Modules are assigned according to the I/O assignments. The position and quantity of these items in the Field Control Station and expansion cabinets shall be verified.
Objective	- Verify that all the ESB Bus Node Units, I/O Modules (for FIO) and ESB Bus Coupler Modules and ESB Bus Repeater Modules are correctly supplied and installed.
Reference	- I/O Assignment Documents Refer to Approved Document List
Procedure	Visually check that all ESB Bus Node Units, I/O Modules (for FIO), ESB Bus Coupler Modules and ESB Bus Repeater Modules are installed in each of the Field Control Stations according to the PCS I/O Assignments for various areas as per reference documents.
Criteria	The quantity, type and location of all ESB Bus Node Units, I/O Modules (for FIO), ESB Bus Coupler Modules and ESB Bus Repeater Modules including the spares must match the approved I/O Assignment documents.
Test Record Reference	- I/O Assignment Documents

The above checks are conducted for all Field Control Stations and witnessed by the following representatives.

TEST RESULT (PASS) / FAIL

YOKOGAWA Representative : A.GIORGERI Date: 04/10/2024

ROSETTI MARINO Representative : M.DOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 04/10/2024

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.2.3 PCS System Architecture and BOM Check

Outline	The PCS System is configured as per System Architecture Drawing and the associated BOM is derived accordingly.
Objective	- Verify that the PCS System staged for testing is as per the System Architecture Drawing and corresponding BOM.
Reference	- System Architecture Drawing - BOM Refer to Approved Document List
Procedure	1. Visually check that all the PCS components are staged as per System Architecture. 2. Verify the BOM. • PCS Hardware • PCS Software
Criteria	The quantity and model of the components should match the BOM.

The above checks are conducted for all PCS equipments and witnessed by the following representatives.

PENDING POO8

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : D. GIORGETTI Date: 04/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI SIGNATELLI Date: 04/10/2024

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7.2.4 PCS System Cables Check

Outline	The PCS System cables are supplied as per the PCS System Cable Schedule document. The supplied cables are to be physically checked.
Objective	- Verify that the PCS System cables are supplied and installed as per the System Cable Schedule document.
Reference	- PCS System Cable Schedule Refer to Approved Document List
Procedure	1. Visually check that all the PCS System Cables are supplied and installed as per the System Cable Schedule. The following shall be checked: • Cable Model • Length • Cable markers
Criteria	The Cable model, length and markers shall be as per the PCS System Cable Schedule.

The above checks are conducted for all PCS System Cables and witnessed by the following representatives.

TEST RESULT: PASS / FAIL (N.A. DURING FAT)

YOKOGAWA Representative : A. GIORGETTI Date: 04/10/2024

ROSETTI MARINO Representative : M. ROSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 04/10/2024

SYSTEM CABLES NOT AVAILABLE, TEST TO BE DONE AT YARD. (PUNCH P008)

FAT PERFORMED WITH TEMPORARY CABLES.

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7.3 PCS Standard System Function Check

7.3.1 System Start-up Test (FCS and EWS/OWS)

Outline	Field Control Stations (FCS) and Operator Work Stations (OWS) go to the operating state automatically upon powering up, provided that all application software and image are properly loaded in the system.
Objective	- Verify that the above components automatically boot up when going from 'stop' state to 'operating' state.
Reference	- System Architecture Drawing Refer to Approved Document List - CENTUM VP Instruction Manual
Procedure	1. Power down components individually or for the whole system. 2. Power up each component individually and observe its boot up sequence. 3. Check station status from EWS0164 System Maintenance panel when each station boots up. **Note: For each FCS, verify the random IO state and tuning data prior to power down. After power up, verify that the FCS initializes the application program as desired and retains the tuning data.**
Criteria	1. Each component must boot up automatically. 2. Station status indication on HIS(EWS0164) System Maintenance panel should change from red to green.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted on random basis for selected FCS/HIS(EWS0164) and witnessed by the following representatives.

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : D.GIORGETTI Date: 04/10/2024

ROSETTI MARINO Representative : M.DOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 04/10/2024

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7.3.2 FCS CPU Backup Function Test

Outline	The two CPUs in the FCS back up each other. During operation, one CPU is active while the other CPU is on hot standby. The standby CPU is updated at every memory write-cycle.
Objective	- Verify that FCS operation is uninterrupted when the active CPU fails and the standby CPU takes over.
Reference	- CENTUM VP Instruction Manual
Procedure	1. Display a tuning panel of a selected PID tag (from related FCS) And change the output value (MV) to view tuning trend. 2. Display FCS station status panel (system maintenance panel) on OWS. 3. Stop the active CPU by using the 'Start/Stop' button on the front panel from FCS. 4. Check the system alarm messages at the OWS. 5. Check the tuning panel data for the selected tag to confirm FCS control functions are normal. 6. Check the actual output at the I/O module. 7. Start the CPU by using the 'Start/Stop' button on the front panel from FCS 8. Wait for the copy to finish. 9. Repeat the test for other CPU module.
Criteria	1. FCS control functions should be unaffected. 2. All data in the related FCS should be unaffected. 3. All control loops continue to perform normally. 4. FCS run status remains unaffected as observed at HIS (EWS0164) System Maintenance panel. 5. The output of I/O module will remain unaffected.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

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The above checks are conducted on random basis for selected FCS and witnessed by the following representatives.

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Marko Lyytä Date: 04/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI SIGNATELLI Date: 4/10/2024

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.3.3 FCS ESB Bus Redundancy Test

Outline	1. The ESB Bus that facilitates data communication between FCU and each of the ESB Bus Node Unit is dual redundant. 2. The ESB Bus Coupler module (EC401 or EC402 in FCU) and ESB Bus Interface Slave module (SB401 in Local ESB Bus Node Unit) facilitate data communication between the FCU and each local ESB Bus Node Unit. The following operations apply : - Normally, redundant ESB Buses are used in an alternating fashion. - If an error occurs in a ESB Bus module on one side, the error is notified to the user via a diagnostic information message. If both interface modules fail, the error is treated as a node failure. - If an error occurs in one ESB Bus or ESB Bus module, the FCU continues communication using the other normal ESB Bus. - An erroneous ESB Bus is monitored for recovery at regular intervals.
Objective	- Verify that FCS operation is uninterrupted when one ESB Bus module fails and the other interface module takes over.
Reference	- CENTUM VP Instruction Manual
Procedure	1. Disable one of the EC401 ~~or EC402~~ (ESB Bus Coupler module) by removing it from the FCU. 2. Check the system alarm messages at the OWS. 3. Check the FCS control functions are normal. 4. Revive the ESB Bus to normal condition. 5. Repeat the test for the other ESB Bus Coupler module. 6. Disable one of the SB401 (ESB Bus Interface Slave module) by removing it from the node. 7. Check the system alarm messages at the OWS. 8. Check the FCS control functions are normal. 9. Revive the ESB Bus to normal condition. 10. Repeat the test for the other SB401. 11. If necessary, repeat the above procedures for the pair of Optical ESB Bus Repeater modules.
Criteria	1. Operation shall not be affected when either one of the ESB Bus fails. 2. The FCS control function should not be interrupted.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

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Note	- EC40x is installed in FCU - SB401 is installed in Local ESB Bus Node Unit

The above checks are conducted on random basis for selected FCS and witnessed by the following representatives.

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 04/10/2024

ROSETTI MARIN Representative : M. DOSSENA Date: 04/10/2024

CROSSWIN Representative : LUIGI PIGNATELLI Date: 04/10/2024

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.3.4 FCU/Node Unit Power Supply Module Redundancy Test

Outline	The dual redundant power supply modules on the Field Control Unit and the ESB Node Unit supply power to the respective nodes.
Objective	- Verify the redundant functionality of the power supply modules.
Reference	- CENTUM VP Instruction Manual
Procedure	1. Wire up one control loop, output to input, to make a closed loop. *(Recommendation is to use long jumper yellow wire that can be easily identified)* 2. Display the tuning panel for this tag to observe the control action. 3. Put the loop in "AUTO" mode. 4. Change the set point and observe the control action of the controller. 5. Remove the power to the FCU power supply module by removing the power from UPS power source. 6. Check the system alarm messages at the OWS. 7. Check the control action of the test controller at the OWS, to confirm FCS control functions are normal during removal of power supply. 8. Revive the Power supply module to normal operation condition. 9. Repeat for the other FCU power supply module by removing the power from UPS power source. 10. Repeat the test for ESB Node Unit power supply modules.
Criteria	1. The FCS should be unaffected by the failure of any one power supply module. 2. FCS control functions should remain unaffected. 3. STATUS LED on each I/O module should remain ON.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet
Note	Power Supply Unit for CPU Node/ESB Node Unit - PW482 (220-240V AC)

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The above checks are conducted on random basis for selected FCS and witnessed by the following representatives.

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : D. GIORGETTI Date: 04/10/2024

ROSETTI MARINO Representative : M. [illegible] Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 4/10/2024

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.3.5 I/O Module Redundancy Test (for FIO)

Outline	The PCS I/O modules are configured as redundant depending on the project requirement. Typically, all I/O related to control points are assigned to redundant modules and I/O related to Indication only are assigned to non-redundant modules. In an FCS for FIO, it is possible to mount input/output modules of the same type in two adjacent slots to make them redundant. In the case of redundant configuration, one side becomes the control side and the other becomes the standby side. Switching of the control right is performed by input/output modules. The switching has no influence on the application program.
Objective	- Verify the redundant functionality of the redundant modules.
Reference	- PCS I/O Assignment Refer to Approved Document List - CENTUM VP Instruction Manual
Procedure	1. Wire up one control loop (input and output) device to the I/O module and setup the controller to be in AUTO mode and normal operation. 2. Remove one of the redundant modules from the FCU or ESB Bus Node Unit. 3. Check the system alarm messages at the OWS. 4. Check that the status of the controller on the OWS is maintained. 5. Install back the removed I/O module. 6. Check the I/O module recovery messages at the OWS. 7. Repeat the test by removing the other redundant module.
Criteria	1. The FCS should be unaffected by the failure of one of the redundant modules. 2. FCS control functions should remain unaffected.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

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The above checks are conducted on random basis for selected pair of I/O modules in each FCS and witnessed by the following representatives.

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. Giorgetti Alberto Cagetti Date: 04/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 4/10/2024

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.3.6 Vnet/IP Bus Redundancy Test

Outline	The Vnet/IP bus is the communication channel for communication between the HIS(EWS0164) and the FCS. The Vnet/IP bus is dual redundant. This test will be carried out for the PCS system that is set up as per system configuration.
Objective	- Verify the redundant functionality of the system communication network Vnet/IP bus.
Reference	- CENTUM VP Instruction Manual
Procedure	**For FCS:** 1. For FCS CPU-1: Remove the cable that is connected to Bus-1. 2. Check the system alarm messages at the OWS. 3. Observe whether there is any break in trend gathering for any signal. 4. Re-connect the cable and check that the Bus-1 is healthy. 5. Repeat the above tests for CPU-1 Bus-2 and for CPU-2 Bus-1/2. **For HIS(EWS0164):** 1. For HIS(EWS0164): Remove the cable that is connected to Bus-1. 2. Check the system alarm message at the OWS. 3. Observe whether there is any break in trend gathering for any signal. 4. Re-connect the cable and check that the Bus-1 is healthy 5. Repeat the above for Bus-2. **For Layer2 switch:** 1. Fail one of the L2 switches that is connected on Vnet/IP Bus-1. 2. Check the system alarm messages at the OWS. 3. Observe whether there is any break in trend gathering for any signal. 4. Power back the L2 switch and check that the switch and the connected Vnet/IP network are healthy. 5. If applicable, repeat the test for the other L2 switch that is connected to Vnet/IP Bus-1. 6. Repeat the test for the L2 switch connected on Vnet/IP Bus-2.
Criteria	1. The HIS(EWS0164) should be able to monitor and operate loops in the FCS without interruption even on a single Vnet/IP bus. 2. System alarm messages should be correctly displayed. 3. There should not be any break in trend gathering for any of the signals.

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Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted on random basis for selected FCS/HIS/L2SW and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : [signature] Date: 04/10/2024

ROSETTI MARINO Representative : M. BOSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 4/10/2024

(*) TEST PERFORMED WITH TEMPORARY SWITCHES TO BE REPEATED IN YARD WITH ACTUAL EQUIPMENT

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.3.7 FCS Resource Capacity Check

Outline	FCS Resources refers to the FCS memory usage. Sufficient spare capacity for future expansion should be available at each FCS. The Field Control Station resource usage depends on the application software configured in that particular FCS.
Objective	- Verify that overall FCS resource capacity is sufficient. This result can be used as a reference while checking the FCS memory usage at the completion of commissioning.
Reference	- PCS Technical Specification - PCS FDS Software Refer to Approved Document List
Procedure	1. The check will be carried out for the related FCS. 2. Call up the FCS resources information panel at the engineering station. 3. Confirm the FCS resources consumed and the remaining resources available at the related FCS.
Criteria	The overall FCS resources consumed should meet project requirement.
Test Record Reference	- The printout from the system for each FCS resources. - Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

NOT MEANINGFUL DUE TO APPLICATION SOFTWARE STILL UNDER DEVELOPMENT

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 41 of 121 Date: 11/09/2024 Rev: 01

7.3.8 FCS CPU Loading Check

Outline	The loading of the CPU of the Field Control Station depends on the application software configured in the FCS and communication loads with other devices (HIS/FCS/OPC). CPU loading of the FCS is an important factor for deciding the system performance.
Objective	- Record the loading of the CPU of the FCS at the completion of FAT. This result can be used as a reference while checking the FCS CPU idle time at the completion of commissioning.
Reference	- PCS Technical Specification - FDS Software Refer to Approved Document List
Procedure	1. Select an FCS for which the CPU load needs to be verified. 2. On each of the HIS, belonging to that FCS operation group, call up 4 Graphic windows (no screens configured in EWS0164 so Not Applicable), a faceplate or a tuning window. The selected Graphic windows should predominantly have tags from the selected FCS for which the CPU load is being measured. 3. Call up the status display of the FCS, for which the CPU idle time is being measured and note down the displayed CPU idle time 4. Printout a hardcopy of the FCS status display for records.
Criteria	The CPU idle time shown on the System Maintenance panel for each FCS should meet project requirement.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGIONI Date: 04/10/2024

ROSETTI MARINO Representative : M. ROSSENA Date: 04/10/2024

CROSSWIND Representative : LUIGI PIGNATELLI Date: 4/10/2024

CPU IDLE TIME DURING FAT: 53 SEC (88 %)

TO BE VERIFIED AT YARD.

L. PIGNATELLI ON BEHALF OF crosswind

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7.3.9 FCS Online/Offline Loading Test

Outline	During the course of plant operation, it may become necessary to modify certain tag definitions, parameters, loop configurations, sequence tables, etc. There are two types of loading procedures. These are: • On-line loading • Off-line loading (save tuning parameters) Modifications made at the engineering station followed subsequently by on-line loading to the FCS have no effect on FCS operation. The modifications become effective on completion of the loading procedure. Modifications made at the engineering station followed subsequently by off-line loading to the FCS will cause the FCS to go off-line for the duration of the loading procedure. The modifications become effective on completion of the loading procedure, and the FCS returns to normal on-line status.
Objective	- Verify FCS on-line and off-line loading function
Reference	- CENTUM VP Instruction Manual
Procedure (On-line)	1. Modify any of the parameters permitted for on-line loading. 2. Execute FCS on-line loading via engineering workstation. 3. Observe FCS trend, look for any effect to FCS operation during FCS on-line loading. 4. Confirm that the modified parameters are loaded and functioning properly. 5. Confirm that all the HIS(EWS0164) are equalized properly.
Criteria (On-line)	1. There should be no effect on FCS operation during FCS on-line loading. 2. The modified parameters should be loaded without any errors and the post download changes are reflected as desired.
Procedure (Off-line)	1. Modify any system parameters (e.g. FCS properties). 2. Change some tag tuning parameters (e.g. alarm setting) and the execute FCS off-line loading via engineering workstation. 3. When "Save tuning parameters of project" prompt appear, click "Yes" to save tuning parameters. 4. Observe FCS fail status from system panel during off-line loading. 5. Confirm that the modified FCS parameters are effectively loaded and functioning properly. 6. Verify the new alarm setting is retained, which confirms that the tuning parameters were successfully saved by the system. 7. Confirm that all the HIS(EWS0164) are equalized properly.

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Criteria (Off-line)	1. The modified FCS parameters should be effectively loaded and functioning properly. 2. The tuning parameters was successfully saved and loaded to the FCS.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted on selected FCS and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 04/10/2024

ROSETTI MARINO Representative : M. BOSSENA Date: 04/10/2024

CROSSWIND Representative : L. G. SIGNATELLI Date: 4/10/2024

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.3.10 Media Backup/Restore Function Test (VP Project)

Outline	The CENTUM VP EWS PC is equipped with backup storage device for application program backup onto backup storage/media.
Objective	- Verify that the backup storage/media will back-up/restore CENTUM VP project database.
Reference	- CENTUM VP Instruction Manual - Workstation/Server Instruction Manual
Procedure (Backup)	Backup the project application database in EWS PC to backup storage/media.
Criteria (Backup)	The project folder is copied onto the backup storage/media without interruption and any errors.
Procedure (Restore)	Restore the project application database backup files in the backup storage/media to EWS PC.
Criteria (Restore)	The project folder is restored back to the desired location in EWS PC without interruption and any errors.
Test Record Reference	- Refer Appendix 8.5 - FAT Check sheet

The above checks are conducted the CENTUM VP project folder and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.4 Other Cabinets

7.4.1 Server/Network Cabinet Check

Outline	The Server/Network Cabinet contains Rackmount Workstation/ Server PCs, KVM Console/Extender, FO converter, Switches and other Network components.
Objective	- Verify that the Server/Network Cabinet is manufactured as per the specification. - Verify cabinet high temperature alarm. - Verify functioning of redundant AC power source - Verify that FO Converters and all other Network components are functioning properly.
Reference	- Server/Network Cabinet GA/IA Drawing. - System Architecture Drawing Refer to Approved Document List
Procedure	**A. Visual Check** Visually check that the Server Cabinet is as per the GA/IA drawings. Check items as follows: 1. General Cabinet Construction – lifting construction, Plinth & Bakelite, cabinet color and side panel (if applicable). 2. Layout – components layout on the front, rear and sides of cabinet. • Rackmount Workstation/Server PCs • KVM Console/Extender • Network Components 3. Doors – handle, lock with key and document pocket. 4. Labeling – cabinet, terminals, devices, earth bars, attention symbols and cable marker. 5. Earthing – bolt types, location, wiring type, screen terminals, grounding of devices and doors. 6. Cable handling – routing, trays/duct, clamp rails and termination. • System cables – Vnet, Vnet/IP, Ethernet etc. • Power supply cables. 7. Signal termination

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- Terminal – terminal and wiring types, installed spare and space for spare.

8. Power distribution – isolator and circuit breakers rating, power sockets/receptacles, fused terminal types and wiring sizes.
9. Others
   - For FO/Network – mounting and termination.
     - FO converter
     - Ethernet Switches.
     - L2/L3 switches
     - Fiber Optic Patch Panel

B. Power Supply Check

1. Remove UPS power source to Server Cabinet by turning off UPS feed circuit breaker.
2. Verify power supply 1 fail indication on all server PCs and other network components that is powered from UPS source.
3. Verify power supply fail on L2/L3 Switches that is powered from UPS source and check for appropriate messages at the OWS.
4. Turn ON the UPS feed circuit breaker; check the power supply recovery on Server PCs and L2/L3 switches.

   Repeat the test for Normal power source by turning ON & OFF the Normal feed circuit breaker.

C. Functional Check (for KVM Console/Extender)

1. KVM Console: Verify monitoring and operation of the selected workstation/server from KVM Console.
2. KVM Extender: Verify monitoring and operation of the KVM extended workstation/server from remote KVM via KVM Extender.

D. Functional Check (for Network)

1. Ethernet Switches

- Verify the Port connection is as per design, connection/speed LED is lit.
- Execute "ping" command between two OWS connected to the Ethernet switches.
  a. Ethernet switch powered "ON": Normal reply from the OWS.
  b. Ethernet switch powered "OFF": Time out reply from OWS.

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	If applicable, c. FO convertor powered "ON": Normal reply from the OWS. d. FO convertor powered "OFF": Time out reply from OWS. 2. L2 /L3 Switches (Vnet/IP) - Verify the Port connection is as per design, connection/speed LED is lit. - Disconnect each cable from port and verify system alarm and System Status Overview on EWS/OWS.
Criteria	Server PCs, L2/L3 switches, FO converter and all other network components should function properly.
Test Record Reference	- Refer Appendix 8.5 – FAT Check sheet

The above checks are conducted for all server/network cabinets and witnessed by the following representatives.

TEST RESULT: PASS / FAIL PENDING PUNCHES

YOKOGAWA Representative : _____ Date: 22/10/2024

ROSETTI MARINO Representative : _____ Date: 24/10/2024

CROSSWIND Representative : _____ Date: _____

L. PIGNATELLI ON BEHALF OF CROSSWIND
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DATE 22/10/2024

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7.5 PCS I/O Check

7.5.1 PCS I/O Check Procedure

Outline	Functionality of All I/O modules installed in the Field Control Station. During internal test, 10% sample checks for selected I/O will be conducted without marshalled cross-wiring. With marshalled cross-wirings, 100% I/O tests are carried out and records for the same are maintained. During FAT, these records will be reviewed and 10% sample checks for selected I/O will be conducted. The I/O check is performed to verify circuit integrity within individual panels and also between panels. The I/O check is also performed to verify that the I/O is correctly assigned in the FCS.
Objective	- Verify Pre-FAT record to confirm all I/O modules are checked. - Perform random IO check (1 channel per module).
Reference	- I/O Assignment Documents Refer to Approved Document List
Procedure	1. Input signals to be simulated from terminals at MDF. 2. Output measurements to be taken from terminals at MDF. 3. Refer to procedure below.
Criteria	- For Analog Inputs: Reading should be within +/- 0.1 of scale*. - For Analog Outputs: Reading should be within +/- 0.3 of scale*. - For Digital Inputs: The correct faceplate indication to be checked on the OWS. - For Digital Outputs: The correct contact status/voltage to be checked at the MDF field terminals. Note*: Accuracy of Yokogawa I/O Modules at normal condition (23°C ± 2 °C)
Test Record Reference	- Pre-FAT Test Record (Internal I/O check test record) Refer Appendix 8.6 – I/O Check sheet (Check sheet are generated from master database to ensure that there is no I/O tags been left out).

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➢ **Analog input (Conventional 4 to 20mA):**

Simulate appropriate analog input signals to the PCS using the portable calibrator and record PCS reading displayed in the corresponding faceplate at the OWS.

For Analog Input points, 3 input signals shall be simulated:

- Signal 1 = 4.00mA, corresponding to 0% at OWS.
- Signal 2 = 12.00mA, corresponding to 50% at OWS.
- Signal 3 = 20.00mA, corresponding to100% at OWS.

The result shall be recorded in I/O Check sheet Appendix-7 Analog.

Note: If applicable, verify the FIO Analog IO module dip switch setting for all 4 wire transmitters. Instrument Index to provide the list of all field powered transmitters.

➢ **Analog output:**

From the faceplate at the OWS, set the output (MV) of the tag and measure the corresponding signal output at the output terminals using an ammeter. For Analog Output points, 3 output signals shall be set:

- Signal 1 = 0.1%, corresponding to 4mA at output terminals.
- Signal 2 = 50%, corresponding to 12mA at output terminals.
- Signal 3 = 99.9%, corresponding to 20mA at output terminals.

The result to be recorded in I/O Check sheet Appendix-7 Analog.

➢ **Digital input:**

Open or close the input point at the input terminals and record the PCS status indication for the corresponding tag faceplate at the OWS. For Digital Input points, 2 input states shall be simulated:

- Signal 1 = 0 or open contact input signal.
- Signal 2 = 1 or close contact input signal.

The result to be recorded in I/O Check sheet Appendix-7 Digital.

➢ **Digital output:**

Set or reset the PCS output point through the faceplate at the OWS and observe the status of the output point on the PCS IO module. The channel number shall be displayed on the PCS IO module when that channel is turned ON. For Digital Output points, 2 output states shall be set:

- Signal 1 = 0 or open contact output signal.
- Signal 2 = 1 or close contact output signal.

The result to be recorded in I/O Check sheet Appendix-7 Digital.

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Note: For non-Yokogawa terminal boards, verify the board jumper settings for each channel to ensure the channels are properly set for wet or dry contact depending on the application requirement. Instrument Index to provide the list of all PCS and field powered field devices.

The above checks are conducted for the randomly selected I/O (one channel per module).

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A GIORGETTI Date: 09/10/2024

ROSETTI MARINO Representative : MOSSERINA Date: 09/10/2024

CROSSWIND Representative : _____ Date: _____

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.6 SIS & FGS Physical Hardware Check

7.6.1 System/Marshalling Cabinets Appearance, Construction & Wiring Check

Outline	All the System/Marshalling cabinets and installed components are to be checked and verified for their appearance and construction.
Objective	1. To verify that all the System and Marshalling cabinet are manufactured as per the specification. 2. To verify Cabinet high temperature alarm. 3. To verify the proper function of the redundant power supply units. 4. This test ensures that the interface boards function properly upon power up.
Reference	System and Marshalling cabinet GA/IA Drawing. - Refer Appendix 8.3 - Approved Document List
Procedure	**A. Visual Check**. (all cabinets) Visually check that all the Marshalling cabinet are as per the GA/IA drawings. Check items as follows: 1. General Cabinet Construction – lifting construction, Plinth & Insulation, cabinet color and side panel (if applicable). 2. Layout – components layout on the front, rear and sides of cabinet. • Power Supply Unit (PSU) rating. • Interface Boards – mounting, termination, installed spare and space for spare. • I.S./Proximity Switch interface board. 3. Doors – handle, lock with key and document pocket. 4. Labeling – cabinet, terminals, devices, earth bars, attention symbols and cable marker. 5. Earthing – bolt types, location, wiring type, screen terminals, grounding of devices and doors. 6. Cable handling – routing, trays/duct, clamp rails and termination. • System cable. • Field cables from junction boxes. } (*) • Power supply cables. 7. Signal termination. • Terminal – terminal and wiring types, installed spare and space for spare. • Surge arrestor (if applicable) – termination, installed spare and space for spare. 8. Power distribution – isolator and circuit breakers rating, fused terminal types and wiring sizes.

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	9. Others: Fans, thermostat and if applicable, utility socket. B. **Temperature Check** (for all cabinets) 1. Note Thermostat setting in the cabinet. Check that the contact at the terminal is closed circuit. 2. Set the Temperature setting of thermostat to a lower setting (e.g. 18 ^{0}C). 3. Check that the contact is now open. 4. Recover the alarm by setting the temperature setting back to above room temperature. 5. Check that the contact is now returned to closed position. C. **Power Supply and (if applicable) ELM Check** 1. Take measurement of voltage output from PSU individually. The voltage should be 24 ~ 26VDC. 2. Measure voltage output from PSU02 and switch "OFF" circuit breaker for PSU01. 3. The voltage measured at PSU02 output should remain within the voltage limit (24 ~ 26VDC). 4. Measure and record the DC voltage ripple with an oscilloscope. 5. Recover PSU01. 6. Repeat test for PSU01 by switching "OFF" PSU02. 7. Reset ELM alarm if any. Ensure that the contact is closed. 8. Activate earth fault by using a jumper wire to short one of the field connection terminals to earth bar. 9. Check alarm status at ELM and verify open contact. 10. Remove the jumper wire and reset the ELM as necessary. 11. Ensure the alarm status at ELM and contact returns to close. D. **Functional Check** (for all equipment) 1. Switch on the 24VDC power supply to the interface board one-by-one. 2. Observe the LED indication on the interface board.
Criteria (Expected Results)	1. Quantity, type, Model and location match with the approved / final GA/IA Drawings 2. Cabinet temperature switch contact opens when thermostat is set to a lower setting 3. PSU voltages remain within the voltage limit (24 ~ 26VDC) in single operation. 4. ELM is activated on a simulated ground fault. (if ELM is applicable) 5. The LED indication on the respective interface board is lighted up, when 24V is applied.

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Test Record Reference	GA/IA Drawings (Approved Document List) Refer Appendix 8.7 - FAT Check sheet

The above checks are conducted for all SCS Cabinets and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : D. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. BOSSENA Date: 11/10/2024

CROSSWIND Representative : Date:

(*) SIZE OF RACEWAYS FOR SYSTEM CABLES AND FIELD CABLES SHALL BE VERIFIED IN YARD AFTER INSTALLATION

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.6.2 Safety Control Station (SCS) Nest Loading Check

Outline	All Safety I/O nodes and modules are assigned according to the I/O assignments. The position and quantity of these items in the Safety Control Station shall be verified.
Objective	To verify that all the Safety I/O nodes and modules are correctly supplied and installed.
Reference	I/O Assignment Documents Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that all the Safety I/O nodes and modules are installed in each of the Safety Control Stations according to the I/O Assignments for various areas as per reference documents.
Criteria (Expected Result)	The quantity, type and location of all the Safety Control Units (SCU), Safety I/O nodes and modules including the spares must match the approved / Final I/O Assignment documents.
Test Record Reference	I/O Assignment Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted for all Safety Control Stations and witnessed by the following representatives:

PENDING PUNCH N. S003

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : GIORGIETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. BOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

L. PIGNATELLI ON BEHALF OF CROSSWIND

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7.6.3 EWS/SOE Workstation Check

Outline	The EWS/SOE PC is supplied in accordance with the Bill of Materials along with applicable system software licenses.
Objective	To verify the EWS/SOE PC is supplied in accordance with the approved Bill of Materials and installed with applicable system software licenses.
Reference	- Bill of Material - System Architecture Drawing - Software Licenses Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that the EWS/SOE PC is as per the Reference documents and verify the following. ✓ • Domain and Station Number ✓ • Quantity, Model number, Make, Type, Revision ✓ • System software revisions ✓ • Installed System software • Installed Software Licenses TO BE VERIFIED AT YARD
Criteria **(Expected Results)**	1. Domain and Station settings must match the Approved / Final System Architecture Drawing. 2. Installed software revision numbers must be as per the Approved / Final BOM. 3. Installed /Assigned software license must be as per the Approved / Final BOM. 4. Model number of the EWS/SOE workstation must be as per the Approved / Final BOM
Test Record Reference	Bill of Material. Refer Appendix 8.7 – FAT Check sheet

The above check will be conducted for all EWS/SOE PCs and witnessed by the following representatives:

PENDING INSTALLED SOFTWARE LICENSES

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : D. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.6.4 System Architecture and BOM Check

Outline	The SIS system is configured as per the System Architecture Drawing and the associated BOM is derived accordingly.
Objective	Verify that the SIS system staged for testing is as per the System Architecture Drawing and corresponding BOM.
Reference	- SIS BOM - System Architecture Drawing - Safety Validation Plan (SVP) Refer Appendix 8.3 - Approved Document List
Procedure	1. Visually check that all the SIS components are staged as per the System Architecture. 2. Verify the BOM. • SIS Hardware. • SIS Software. 3. Verify Domain and Station numbers according to System Architecture. 4. Confirm that components (Model/Revision numbers) as built are in accordance with reliability calculation of SVP for specified SIFs.
Criteria (Expected Results)	1. SIS components staged must be as per the approved / Final System Architecture drawing. 2. Components (Model/ Revision numbers) used for SIFs should be in accordance to the SVP reliability calculations 3. Make and Model of SIS hardware and SIS software must match the approved / final BOM and SVP
Test Records	Refer Appendix 8.7 - System Architecture and Bill of Material. (BOM checks are done separately for hardware and Software) Refer Appendix 8.7 – FAT Check sheet

The above check has been conducted for all SIS equipment's and witnessed by the following:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : _____ Date: _____

ROSETTI MARINO Representative : _____ Date: _____

CROSSWIND Representative : _____ Date: _____

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7.6.5 System Cables Check

Outline	The System cables are manufactured as per the System Cable Schedule document. The manufactured cables are to be physically checked.
Objective	Verify that the SIS System is manufactured as per the System Cable Schedule document.
Reference	System Cable Schedule Refer Appendix 8.3 - Approved Document List
Procedure	Visually check that all the System Cables are manufactured according to the specification. The following shall be checked: • Cable Model. • Length. • Cable markers
Criteria (Expected Results)	1. Cable model and length must be as per the final Cable schedule. 2. Every cable must have cable markers at both ends.
Test Records	System Cable Schedule Refer Appendix 8.7 - FAT Check sheet

The above checks are conducted for all SIS System Cables and witnessed by the following representatives:

TEST RESULT: PASS / FAIL N.A. DURING FAT

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

SYSTEM CABLES NOT AVAILABLE, TEST TO BE DONE AT YARD (PUNCH F004)
FAT PERFORMED WITH TEMPORARY CABLES

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7.7 Standard System Function Check

7.7.1 System Start-up Test (SCS and I/O cards)

Outline	Each of the Safety Control Stations and its I/O cards shall go to their operating mode 'Waiting' automatically upon powering up, provided that the application software is properly loaded in the system. Regardless of the duration of a power failure, the initial cold start processing is performed when power is supplied to the CPU nodes. On SCS power up, input/output module startup processing is performed, and the operating mode shifts to the Waiting mode and '0' is output from the DO modules. The user should perform the output enable operation from the EWS after confirming that all output modules have been started successfully. Once the output enable operation is completed, output values of the application logic are output to the field. When all outputs are placed in the Output Enable status, the operating mode shifts to the Running mode.
Objective	To verify that the above components automatically boot up when going from power-off state to 'Waiting' mode.
Reference	- System Architecture Drawing - ProSafe-RS Instruction Manual (Safety Control Station) - SIS Instruction for Operation and Maintenance Refer Appendix 8.3 - Approved Document List
Procedure	1. Power down the whole system. 2. Power up and observe its boot up sequence until 'Waiting' mode is confirmed. 3. Check status/operating mode from SCS State Management panel on EWS PC after each station completes the boot up. 4. Check one or two IO loops by hardwired signal injection to check the status of the system after boot-up is completed. 5. Perform output enable operation after all output modules have been started successfully
Criteria (Expected Results)	1. System should boot up automatically. 2. System status indication on SCS State Management panel should show 'Ready'/'Waiting'. 3. The status of IO loops after system boot up must reflect the signal values injected and changes thereafter.
Test Record Reference	Refer Appendix 8.7 - FAT Check sheet

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The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.7.2 SCS CPU Backup Function Test

Outline	The two CPUs in the SCS back up each other. During operation, one CPU is active while the other CPU is on hot standby. The standby CPU is updated at every memory write-cycle.
Objective	To verify that SCS operation is uninterrupted when the active CPU fails and the standby CPU takes over.
Reference	- ProSafe-RS Instruction Manual (Safety Control Station)
Procedure	1. Wire up one test logic block with trip reset / latch function, inject hardwired signal input, and measure / monitor the output. 2. Display the POU in Debug mode on EWS PC for this logic block as applicable to observe the logic control action and status. 3. Energize the logic block (i.e. create status "trip") 4. Stop the active CPU by using the 'Start/Stop' button on the front panel (Switchover the CPU). 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Revive the CPU to normal operation mode. 8. Repeat for the test for the other CPU card.
Criteria (Expected Results)	1. The SCS Logic functions and data must be unaffected on simulation of active CPU failure. 2. SCS State Management panel shows SCS status.
Test Record Reference	Refer Appendix 8.7 - FAT Check sheet

The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT (PASS) / FAIL

YOKOGAWA Representative : Giorgetti Marco Luca Date: 11/10/2024

ROSETTI MARINO Representative : M. DORENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.7.3 SCS ESB Bus Redundancy Test

Outline	The dual redundant ESB Bus interface modules, allow I/O data to be communicated between the Safety Control Unit and each Safety Node Unit. The following operations apply : - Normally, redundant ESB Buses are used in an alternating fashion. - If an error occurs in an ESB Bus interface module on one side, the error is notified to the user via a diagnostic information message. If both interface modules fail, the error is treated as a node failure. - If an error occurs in one ESB Bus or interface module, the SCU continues communication using the other normal ESB Bus. - An erroneous bus is monitored for recovery at regular intervals. - Errors in communication with all I/O nodes, except CPU node, are related to ESB Bus error.
Objective	To verify that SCS operation is uninterrupted when one ESB Bus interface module fails and the other interface module takes over.
Reference	- ProSafe-RS Instruction Manual (Safety Control Station)
Procedure	1. Wire up one test logic block with trip reset / latch function, inject hardwired signal inputs, and monitor the output, preferably in the Safety Node Unit than in the Safety Control Unit Node. 2. Display the POU in Debug mode on EWS PC for this logic block as applicable to observe the logic control action and status. 3. De-Energize or Energize the logic block (i.e. create status "trip"). 4. Disconnect the connector unit of one of the ESB Bus interface module in the SCU. 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Revive the ESB Bus to normal operation condition. 8. Repeat the same test procedure by disconnecting the connector unit of the other ESB Bus Interface module.
Criteria (Expected Result)	The SCS Logic functions and data must be unaffected on simulation on single ESB Bus failure.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.7.4 SCS Power Supply Module Redundancy Test

Outline	The dual redundant power supply modules on the Safety Control Unit and the Safety Node Unit supply power to the respective nodes.
Objective	To verify the redundant functionality of the power supply cards.
Reference	- ProSafe-RS Instruction Manual (Safety Control Station)
Procedure	1. Wire up one test logic block, with hardwired signal injection input, and monitor the output. 2. Display the POU in Debug mode on EWS PC for this logic block as applicable to observe the logic control action and status. 3. De-Energize or Energize the logic block (i.e., make status "trip"). 4. Remove the power to the active CPU nest power supply card by removing power from the UPS power source. 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Revive the Power Supply Card to normal operation condition. 8. Repeat for the other CPU nest power supply card by removing the power from normal power source. 9. Repeat the test for Safety Node unit power supply cards.
Criteria (Expected Result)	The SCS Logic functions must be unaffected on simulation on failure of single Power Supply module in SCS.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Alessio Cupelli Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.7.5 I/O Module Redundancy Test

Outline	The SIS I/O modules are configured as redundant for all I/O. In an SCS, it is possible to mount input/output modules of the same type in two adjacent slots to make them redundant. In the case of redundant configuration, one side becomes the control side and the other becomes the standby side. When control side fails, the standby automatically takes over, when standby module fails, it will be alarmed.
Objective	To verify the redundancy of I/O modules.
Reference	- I/O Assignment - ProSafe-RS Instruction Manual
Procedure	1. Wire up one test logic block with trip reset / latch function, inject hardwired signal input, and monitor the output. 2. Display the POU in Debug mode on the EWS PC for this logic block as applicable, to observe the logic control action and status. 3. De-Energize or Energize the logic block (i.e., create status "trip"). 4. Remove the active I/O module which has the I/O that has been set up for the logic block function monitoring as per Step 1. 5. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 6. Check the "trip" status of the test logic block on the EWS to confirm SCS logic functions are normal. 7. Install back the removed I/O module. 8. Check the I/O module recovery messages at the OWS. 9. Repeat the test by removing the other IO module
Criteria (Expected Result)	The SCS Logic functions must be unaffected on simulation of failure of active IO module in a redundant configuration.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.7.6 Field Power Supply Redundancy Test

Outline	SIS 24V DC Field Power supplies provide power to field input and output devices. The Field power supplies are installed in redundant configuration with each field power supply designed to cater field power to 100% of the IO in that cabinet
Objective	To verify the redundancy of 24V DC Field power supplies Refer Appendix 8.3 - Approved Document List
Reference	- SIS Cabinet power distribution drawings
Procedure	1. Select an SCS controller and reset all logics in that controller. 2. Remove AC power input to one of the 24V DC Power supply 3. Verify that the power to Terminal Board (TB)/Field IO is still normal. 4. Verify SIS System common trouble alarm in OWS is normal. 5. Revive AC power input and verify recovery of system common trouble alarm. 6. Repeat the test by removing AC power input to other 24V DC power supply.
Criteria (Expected Result)	Field power to SCS IO must be unaffected on simulation on failure of single 24V DC Field Power Supply unit.
Test Record Reference	Refer Appendix 8.7 - FAT Check sheet

The above checks are conducted for all Marshalling cabinets equipped with 24DC power supplies.

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : Date:

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7.7.7 System Key Function Test

Outline	The SIS systems are equipped with a System Key. The System Key provides protections against unauthorized access and modification to system logics. • System key is normally set to Disable position. The ProSafe-RS logic security level is set and locked in at level 2, which is read only mode. • When System key is set to Enable position, security level remains at 2 but can be changed by user to 1 or 0 for online or offline download respectively. When System key is switched from Enable to Disable position, the logic will enable all locked or disabled variables then set security level back to 2. Enabling disabled variables is necessary to ensure that System key input will not be kept in locked state which will cause security level and variable enable locked down.
Objective	To verify: System key REMOTE (Disable) & PROGRAM (Enable) functionality
Reference	SIS Cabinet wiring drawings Refer Appendix 8.3 - Approved Document List
Procedure	1. Verify security level is set to 1 and at least one variable is locked. Turn System key position to DISABLE (REMOTE) position. • Verify lock variable is enabled and security level is set to 2 • Verify that the System Common Trouble alarm is cleared. 2. Return System key position to ENABLE (PROGRAM) position. • Verify security level remains at 2 • Verify System Common Trouble alarm in OWS 3. Change security level to 1 and verify that online download is possible. 4. Change security level to 0 and verify that offline load is possible.
Criteria (Expected Result)	SCS Security level change is possible only in Enable position. Switching from Enable to Disable position enables all locked or disabled variables and set security level to 2.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted for all SCS Controllers and witnessed by the following representatives:

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative	: A. GIORGETTI	Date:	11/10/2024
ROSETTI MARINO Representative	: M. DOSSENA	Date:	11/10/2024
CROSSWIND Representative	:	Date:	

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7.7.8 Vnet/IP Bus Redundancy Test

Outline	The Vnet/IP bus is an important communication channel for communication between the EWS/OWS and the SCS/FCS. It also provides peer-to-peer communication between SCS/FCS. The Vnet/IP bus is dual redundant. This test will be carried out for the SIS system that is set up as per system configuration.
Objective	To verify the redundant functionality of the system communication network Vnet/IP bus.
Reference	ProSafe-RS Instruction Manual. Centum VP Instruction Manual
Procedure	**For SCS:** 1. For SCS CPU-1: Remove the cable that is connected to Bus-1. 2. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS). 3. Observe whether there is any break in trend gathering for any signal. 4. Re-connect the cable and check that the Bus-1 is healthy. 5. Repeat the above tests for CPU-1 Bus-2 and for CPU-2 Bus-1/2. **For Layer2 switch:** 7. Fail one of the L2 switches that is connected on Vnet/IP Bus-1. 8. Check the diagnostic information message on the EWS or the system alarm message from the OWS. (If the system is integrated with the PCS) 9. Observe whether there is any break in trend gathering for any signal. 10. Power back the L2 switch check that the switch and the connected Vnet/IP network are healthy 11. If applicable, repeat the test for the other L2 switch that is connected to Vnet/IP Bus-1. 12. Repeat the test for the L2 switch connected on Vnet/IP Bus-2.
Criteria (Expected Results)	1. The SCS should be monitored from EWS and/or OWS without interruption even on a single Vnet/IP bus. 2. System alarm messages should be correctly displayed. 3. There should not be any break in trend gathering for any of the signals.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on random basis for selected SCS/L2SW/L3SW and witnessed by the following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DESSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.7.9 SCS Resource Capacity Check

Outline	SCS Resources refers to the SCS memory usage. Sufficient spare capacity for future expansion should be available at each SCS. The Safety Control Station resource usage depends on the application software configured in that particular SCS.
Objective	To verify that overall SCS resource capacity is sufficient. This result can be used as a reference while checking the SCS memory usage at the completion of commissioning.
Reference	- ProSafe-RS Instruction Manual (Engineering Guide) - SIS FDS Software Refer Appendix 8.3 - Approved Document List
Procedure	1. The check will be carried out for the related SCS. 2. Call up the SCS Information panel at the EWS. 3. Confirm the SCS resources consumed and the remaining resources available at the related SCS.
Criteria **(Expected Result)**	The overall SCS resources consumed must meet project requirement.
Test Record Reference	The printout from the system for each SCS Information. Refer Appendix 8.7 – FAT Check sheet

The above check will be conducted for all SCS and witnessed by the following representatives:

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. BOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

FGS :
TOTAL SIZE OF VARIABLES = 33% OF MAXIMUM NUMBER
POU = 11% OF MAXIMUM NUMBER

SIS :
TOTAL SIZE OF VARIABLES: 7% OF MAXIMUM NUMBER
POU = 8% OF MAXIMUM NUMBER

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7.7.10 SCS CPU Loading Check

Outline	The loading of the CPU of each Safety Control Station depends on the size and complexity of the application software configured in that particular SCS, the specified scan cycle and communication loads with other devices (EWS / OWS / FCS / SCS). CPU loading of the SCS is an important factor for deciding the system performance.
Objective	To record the loading of the CPU of the SCS at the completion of FAT. This result can be used as a reference while checking the SCS CPU idle time at the completion of commissioning.
Reference	- ProSafe-RS Instruction Manual (Engineering Guide) - SIS FDS Software Refer Appendix 8.3 - Approved Document List
Procedure	1. Select an SCS for which the CPU load needs to be verified. 2. (If the system is integrated with the PCS), on each of the OWSs, belonging to that SCS operation group, call up 4 Graphic windows, a faceplate or a tuning window. The selected Graphic windows should pre-dominantly have tags from the selected SCS for which the CPU load is being measured. 3. Call up the status display of the SCS, for which the CPU idle time is being measured and note down the displayed CPU idle time 4. Printout a hardcopy of the SCS status display for records.
Criteria (Expected Result)	The CPU idle time shown on the System Maintenance panel for each SCS should meet the project requirement.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above check will be conducted for all other SCSs.

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TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

FGS:
CPU IDLE TIME DURING FAT = 35" (~58%) - TO BE VERIFIED AT YARD

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SIS:
CPU IDLE TIME DURING FAT = 53" (~88%) - TO BE VERIFIED AT YARD

7.7.11 SCS Online/Offline Loading Test

Outline	During the course of plant operation, it may become necessary to modify certain tag definitions, parameters and logic configurations etc. There are two types of loading procedures. These are: • On-line loading. • Off-line loading Modifications (within specified restrictions as per engineering guide) made at the EWS followed subsequently by on-line loading to the SCS have no effect on SCS operation. The modifications become effective on completion of the loading procedure. Modifications made at the EWS followed subsequently by off-line loading to the SCS will cause the SCS to go off-line for the duration of the loading procedure. The modifications become effective on completion of the loading procedure, and the SCS returns to normal on-line status.
Objective	To verify SCS on-line and off-line loading function.
Reference	- ProSafe-RS Instruction Manual (Engineering Guide)
Procedure. (On-line Load).	✓1. Modify any of the parameters permitted for on-line loading. ✓2. Execute SCS on-line loading via the EWS. ✓3. Observe whether any effect to SCS operation during SCS on-line loading. ✓4. Confirm that the modified parameters are loaded and functioning properly.
Criteria. (Expected Results) (On-line).	✓1. SCS operation is not affected during SCS on-line loading. ✓2. The modified parameters should be loaded without any errors and the post download changes are reflected as desired
Procedure. (Off-line Load).	✓1. Modify any of the logics required for off-line load. ✓2. Execute SCS off-line loading via the EWS. ✓3. Observe SCS fail status from the system panel during off-line loading. ✓4. Confirm that the modified logics are effectively loaded and functioning properly.
Criteria. (Expected Result) (Off-line).	The modified parameters should be loaded without any errors and the post offline load changes are reflected as desired.
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

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The above checks are conducted on a selected SCS and witnessed by following representatives:

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : Date:

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7.7.12 Media Backup/Restore Function Test (ProSafe-RS Project)

Outline	The ProSafe-RS EWS PC is equipped with backup storage device for application program backup onto backup storage/media.
Objective	- Verify that the backup storage/media will back-up/restore ProSafe-RS project database.
Reference	- ProSafe-RS Instruction Manual
Procedure (Backup)	Backup the project application database in EWS PC to backup storage/media.
Criteria (Backup)	The project folder is copied onto the backup storage/media without interruption and any errors.
Procedure (Restore)	Restore the project application database backup files in the backup storage/media to EWS PC.
Criteria (Restore)	The project folder is restored back to the desired location in EWS PC without interruption and any errors. There should be no effect on ProSafe-RS generation after restoration
Test Record Reference	Refer Appendix 8.7 – FAT Check sheet

The above checks are conducted the ProSafe-RS project folder and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGETTI Date: 11/10/2024

ROSETTI MARINO Representative : M. BOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

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7.8 SIS & FGS I/O Check

7.8.1 I/O Check Procedure

Outline	During the internal test, 100% I/O tests are carried out and records for the same are maintained. During FAT, 100% IO checks are performed to verify that the I/O is correctly assigned in the SCS.
Objective	1. To verify all the SIS input and output signals and circuits and their assignment in the SCS. 2. To verify IO parameter settings in the SCS with I/O tag list. 3. To verify Trip points /Dead band /Range of analog signals on logic sheet against project requirement. 4. To verify Tag number, tag comment, range, and engineering unit on OWS faceplate (If the system is integrated with the PCS). 5. To verify SOE records on the SOE viewer installed in the EWS PC.
Reference	- I/O Assignment - Termination Wiring Drawing Refer Appendix 8.3 - Approved Document List
Procedure	1. Analog Input signals to be simulated at test panel or at the Marshalling terminals using signal generators (For redundant modules, switch over to standby module and test redundant path). 2. Digital Input signals to be simulated using test panel and/or switches hardwired to terminals at Marshalling (For redundant modules, switch over to standby module and test redundant path). 3. Digital Output signals shall be tested by forcing the output from the EWS and observing the LEDs on test panel and/or voltage hardwired to terminals at Marshalling (For redundant modules, switch over to standby module and test redundant path).
Criteria (Expected Results)	1. The circuit for every I/O point is completed from simulator test panel (or terminals at Marshalling if test panel is not used) to SCS. 2. Signal values of all I/Os are correct. 3. Tag number, tag comment, alarm/trip settings, range and engineering units are configured correctly and match the data in Instrument Index.
Test Record Reference	1. Pre-FAT Test Record (100% of I/O). 2. Refer Appendix 8.8 – I/O Check sheet (Check sheet are generated from master database to ensure that there is no I/O tag been left out).

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Analog input: ✓FGS ✓SIS (PENDING PONCH 5003)

Simulate appropriate analog input signals using the hardware simulation test panel or the signal generator and record SCS reading displayed in the corresponding workbench at EWS and/or faceplate at the OWS. For Analog Input points, the following signal levels shall be injected and verified:

- Signal 1 = 0%
- Signal 2 = 50%
- Signal 3 = 100%
- Out of range IOP+
- Out of range IOP-
- Trans+
- Trans-

Additional points for FGS Detectors:

- Calibration
- Beam block
- Dirty Optics

Verify the tag number, tag comment, range and engineering unit on OWS faceplate.

Verify the Process Alarms on the OWS.

Verify the alarm & trip related setting, transmitter fault, failsafe value, etc. on the EWS and annunciation of the same on the OWS.

Verify alarm and trip signals on the SOE and time stamps as applicable.

The result shall be recorded in the I/O Check sheet.

Note: If applicable, verify the IO card dip switch setting for all 4 wire transmitters. Instrument Index to provide the list of all field powered transmitters.

N.A. **Analog output:**

From the workbench at EWS, force the output (MV) of the tag and measure the corresponding signal output at the output terminals using an ammeter. For Analog Output points, 3 output signals shall be set:

- Signal 1 = 0.1%, corresponding to 4mA at output terminals.
- Signal 2 = 50%, corresponding to 12mA at output terminals.
- Signal 3 = 99.9%, corresponding to 20mA at output terminals.

The result to be recorded in I/O Check sheet.

Digital input: ✓ FGS ✓SIS

- Open or close the input point using the toggle switches on the Simulator test panel and record the input status indication in the corresponding logic display at EWS. For Digital Input points, the following input states shall be simulated:
  - Signal 1 = 0 or open contact input signal.
  - Signal 2 = 1 or close contact input signal.

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- Signal Fault : Wire break and / or short circuit as applicable for line monitored inputs
- Verify the Trip Signals on the SOE and SOE time stamps as applicable.
- The result to be recorded in the I/O Check sheet.

Digital output: ✓FGS ✓SIS

Using EWS, force the Digital output point to ON and confirm that the LED on the test panel is turned ON. Force the Digital output point to OFF and confirm that the LED on the test panel is turned OFF. Short the wires at the LED and confirm that the System automatically disables the DO channel.

If applicable, verify the Trip Signals on the SOE and SOE time stamps.

The result to be recorded in the I/O Check sheet.

The above check will be conducted for 100% of the IO and witnessed by the following representatives:

PENDING PUNCH N. 5003

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : A. GIORGIERI Date: 11/10/2024

ROSETTI MARINO Representative : M. DOSSENA Date: 11/10/2024

CROSSWIND Representative : _____ Date: _____

L. PIGNATELLI ON BEHALF OF CROSSWIND

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8 Appendices

8.1 FAT Organization Chart

8.2 FAT Schedule

8.3 Approved Document List (Detail Design Specification)

8.4 FAT Test Equipment Records

8.5 FAT Check sheet for PCS Hardware

8.6 FAT Check sheet for SIS & FGS Hardware

8.7 FAT Punch Record Ledger & Punch Record Form

8.8 FAT Completion Certificate

8.9 Shipping Release Note

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9 EMCS

please redo all the paragraph according to the other section of this procedure and according to comments on sheet 5 (comment are not hexaustive)

9.1 Test purposes

The tests covered in this document are related only to acquire and generate the IO hardwired signals provided by EMCS and the hardware redundancy.

9.2 Test prerequisites EMCS

The test must check:

- the correct wiring of the signals of the IO card to terminal strips
- the correct acquisition of input signals (digital and analog) by the control system
- the correct generation of output signals (digital and analog) by the control system
- the hardware redundancy in case of one control system fault or network failure

To perform the test, Yokogawa will use laptop PC to connect, through software to programming SEL Industrial PC, at the control system with the scope to verify the correct internal status of the signals.

Availability of documents concerning the communication interface is a necessary prerequisite, in order to proceed with the actual test. The minimum provided information is :

- Communication parameters (IP address, subnet mask, device parameters, device tag when applicable, communication speed when applicable).
- IO signal maps, specifying for each signal to be tested :
  - Tag
  - Address
  - Description
  - Data type
  - Data access (read/write)
  - Range
  - Scale
  - Offset
  - Engineering Unit (if applicable)

9.3 Hardware link validation

This chapter describes the tests that will be executed during the "Hardware Link Communication tests". The following tests shall be performed for each IO card in the EMCS and for each control system component.

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NOT ALL CHECK SHEET ARE PRESENT, please redo

TEST Form 1.1				
Vendor REFERENCE :				
PROJECT :	CW	**System :**	EMCS	Rev. 0
Item Description:	Communication and configuration check			
PRELIMINARY				
SCOPE	Verify the correct connectivity between EMCS and Engineering Workstation interface.			
REF. DOCUMENTS	N.A.			
PROCEDURE	After the connection, using Engineering Workstation interface, is established, verify that the connections are Healthy and permanent for each component of the EMCS.			

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 82 of 121 Date: 11/09/2024 Rev: 01

EXPECTED RESULT	Observe that there is no communication fault on each component of the EMCS. For each component, diagnostics information indicates no errors.			
TEST RESULTS	PASS ☒	FAI ☐		
COMMENTS				
TEST DATE :	07/10/24	07/10/2024		
CLOSED DATE :	07/10/2024	07/10/2024	07/10/2024	
	Vendors	ROSETTI MARINO	CROSSWIND	
	Signature	Signature	Signature	Signature

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 7/10/2024

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TEST Form 1.2				
Vendor REFERENCE :				
PROJECT :	CW	**System :**	EMCS	Rev. 0
Item Description:	Hard Link Digital Input/Output test			
PRELIMINARY				
SCOPE	Verify the communication for all digital signals acquired and generated by EMCS on Engineering Workstation interface. Verify that it is possible to read and write signals as specified in Signal List: • "read" signals will be generated/forced by an external electrical jump on the terminal strip and checked the corresponding internal signal on Engineering Workstation interface. • "write" signals will be generated/forced through Engineering Workstation interface and checked, using proper electrical instrumentation, the status of the signal on the corresponding terminal strip.			
REF. DOCUMENTS	1724000594-IN-DG-00024 (EMCS WIRING DIAGRAMS)			
PROCEDURE	Verify that each digital input signal value corresponds to the same internal signal value on Engineering Workstation interface. Verify that each digital output signal value generated on Engineering Workstation			

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	interface corresponds to the value measured on corresponding terminal strip.			
EXPECTED RESULT	No mismatch occurs during acquisition and generation of digital signals.			
TEST RESULTS	PASS ☒	FAI ☐		
COMMENTS				
TEST DATE :	07/10/2024	07/10/2024		
CLOSED DATE :	07/10/2024	07/10/2024	07/10/2024	
	Vendors	ROSETTI MARINO	CROSSWIND	
	Signature	Signature	Signature	Signature

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 7/10/2024

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TEST Form 1.3				
Vendor REFERENCE :				
PROJECT :	CW	**System :**	~~PAS~~ EMCS	Rev. 0
Item Description:	Hard Link analog Input/Output test			
PRELIMINARY				
SCOPE	Verify the communication for all analog signals acquired and generated by EMCS on Engineering Workstation interface. Verify that it is possible to read and write signals as specified in Signal List: • "read" signals will be generated/forced by an proper electrical instrumentation on the terminal strip and checked the corresponding internal signal on Engineering Workstation interface. • "write" signals will be generated/forced through Engineering Workstation interface and checked, using proper electrical instrumentation, the status of the signal on the corresponding terminal strip.			
REF. DOCUMENTS	1724000594-IN-DG-00024 (EMCS WIRING DIAGRAM)			
PROCEDURE	Verify that each analog input signal value corresponds to the same internal signal value on Engineering Workstation interface. Verify that each analog output signal value generated on Engineering Workstation			

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	interface corresponds to the value measured on corresponding terminal strip.			
EXPECTED RESULT	No mismatch occurs during acquisition and generation of analog signals.			
TEST RESULTS	PASS ☐ FAI ☐			
COMMENTS	AI SIGNALS TEST NOT EXECUTED, SIGNAL SPLITTERS NOT INSTALLED. AO FULLY TESTED: OK. 07/10/24			
TEST DATE :	07/10/2024	07/10/2024		
CLOSED DATE :				
	Vendors			
	Signature	Signature	Signature	Signature

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TEST Form 1.4				
Vendor REFERENCE :				
PROJECT :	CW	**System :**	EMCS	Rev. 0
Item Description:	Redundancy EMCS test			
PRELIMINARY	The EMCS is composed by two different Control System working in redundant mode.			
SCOPE	Verify the EMCS can work properly during a fault of one of its control system. Verify that the alive control system ensures the proper operations of the EMCS trying to write digital and analog output signals and check, using proper electrical instrumentation, if the signals are generated properly.			
REF. DOCUMENTS	N.A.			
PROCEDURE	Write the digital and analog output signals through Engineering Workstation interface and verify that them are generated properly, measuring them with an electrical instrumentation on terminal strip.			

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	HARDWARE FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 88 of 121 Date: 11/09/2024 Rev: 01

EXPECTED RESULT	No mismatch occurs during generation of digital and analog output signals.			
TEST RESULTS	PASS ☒ FAI ☐			
COMMENTS	SYSTEM DOESN'T PROVIDE NATIVE HOT BACK-UP FUNCTIONALITY, IT IS ACHIEVED BY SOFTWARE IMPLEMENTATION. TIME INTERVAL TO RESUME REDUNDANCY AFTER FIRST FAILURE IS AROUND 4 MINUTES			
TEST DATE :	07/10/2024	07/10/2024		
CLOSED DATE :		07/10/2024	7/10/2024	
	Vendors	ROSETTI MARINO	CROSSWIND	
	Signature	Signature	Signature	Signature

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 7/10/2024

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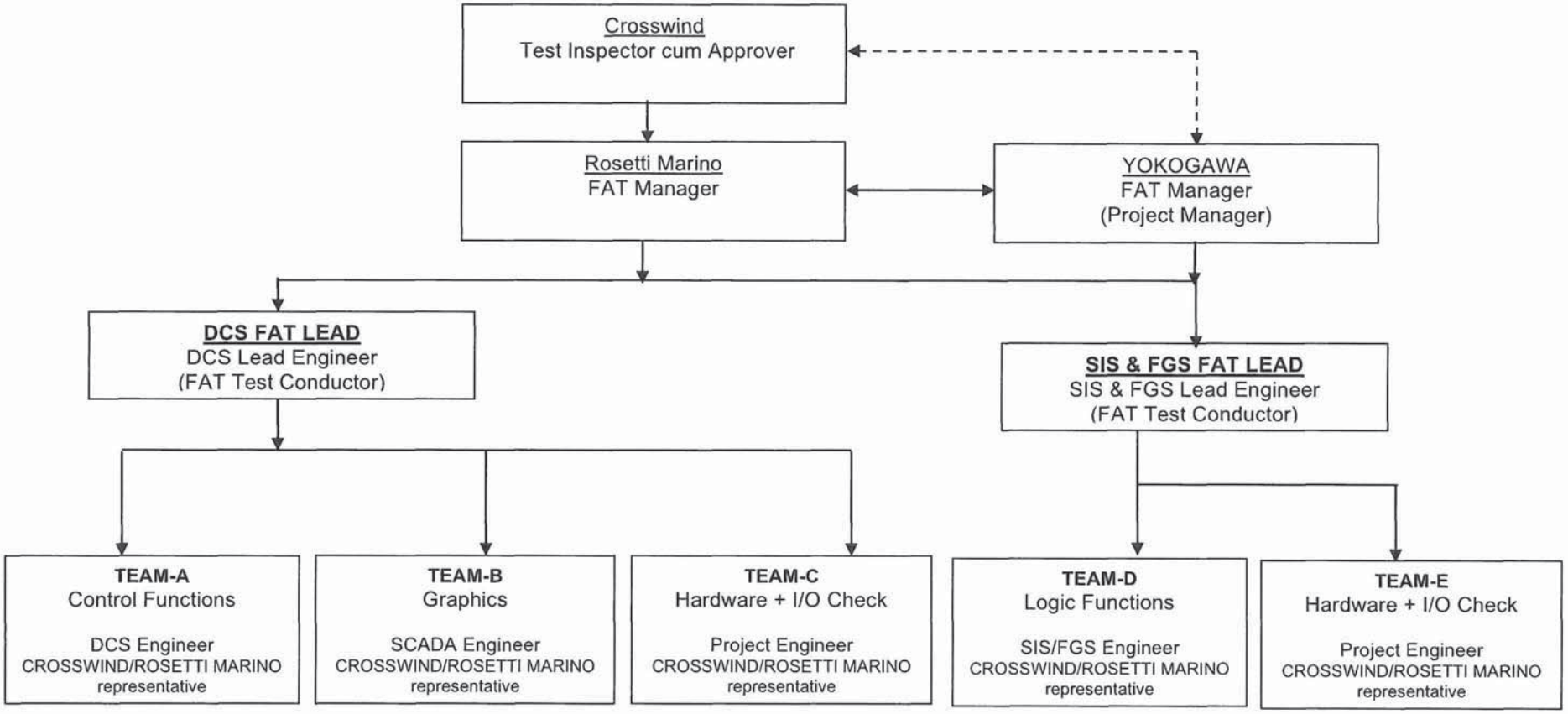
FAT ORGANIZATION



Note: Team C & E shall conduct Hardware FAT

PSC, SIS and FGS FAT Schedule

Task Name	Duration	Start	Finish
FAT HW	1wk	04/10/24	11/10/24
FAT SW	5wk	23/10/24	26/11/24

THIS DOCUMENT REFERS TO HARDWARE FAT ONLY.

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

A Input Document

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
A.1.1	Electrical Control, Protection and Metering Diagrams	123A90-DDL-EL-DG-20014	01
A.1.2	Overall-Key Single Line Diagram	123A90-DDL-EL-DG-20158	02
A.1.3	Electrical Single Line Diagram HV Systems	123A90-DDL-EL-DG-20185	01
A.1.4	BASE LOAD POWER HUB (BLPH) - 66kV Switchgear (GIS) - Single line diagram	1723001595-EL-DG-00013	03
A.1.5	SG-100D1 HV SWBD 6,6kV - ELECTRICAL SINGLE LINE DIAGRAM	1723002197-EL-DG-00010	02
A.1.6	SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM	1723002197-EL-DG-00011	03
A.1.7	SG-200D2-LV SWBD 800V-ELECTRICAL SINGLE LINE DIAGRAM	1723002197-EL-DG-00012	02
A.1.8	DC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM	1724000372-EL-DG-00006	01
A.1.9	AC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM	1724000372-EL-DG-00007	00
A.1.10	BASE LOAD POWER HUB - OFFSHORE ITER - EQUIPMENT LAYOUT	123A90-DDL-IN-DL-40012	02
A.1.11	Master Alarm Database	123A90-DDL-IN-LIS-40027	00
A.1.12	Instrument I-O List	123A90-DDL-IN-LIS-40089	03
A.1.13	SG-200N1 IO LIST - Lv Switchgear	1723002197-EL-LIS-00042	01
A.1.14	DC UPS IO LIST	1724000372-EL-LIS-00014	02
A.1.15	IO LIST - INSTRUMENT AIR PACKAGE	1724000428-IN-LIS-00016	03
A.1.16	IO LIST - NITROGEN GENERATION PACKAGE U-64000	1724000437-IN-LIS-00015	03
A.1.17	PACKAGE PID - INSTRUMENT AIR PACKAGE	1724000428-PR-PID-00019	02
A.1.18	PACKAGE PID - NITROGEN GENERATION PACKAGE	1724000437-PR-PID-00018	02
A.1.19	WATER TREATMENT PACKAGE-PID DIAGRAM	1724000448-PR-PID-00013	01
A.1.20	BLPH UTILITY FLOW DIAGRAM WATER TREATMENT PLANT	ROSMA-INN-BPH-DWG-00008	01
A.1.21	BLPH UTILITY FLOW DIAGRAM INSTRUMENT AIR AND NITROGEN SYSTEMS	ROSMA-INN-BPH-DWG-00009	01
A.1.22	BLPH UTILITY FLOW DIAGRAM VENT SYSTEMS	ROSMA-INN-BPH-DWG-00010	01
A.1.23	BLPH PIPING AND INSTRUMENTATION DIAGRAM GENERAL NOTES	ROSMA-INN-BPH-DWG-00031	02

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
A.1.24	BLPH PIPING AND INSTRUMENTATION DIAGRAM PIPING SYMBOLOGY	ROSMA-INN-BPH-DWG-00032	02
A.1.25	BLPH PIPING AND INSTRUMENTATION DIAGRAM ELECTROLYSER PACKAGE	ROSMA-INN-BPH-DWG-00033	02
A.1.26	BLPH PIPING AND INSTRUMENTATION DIAGRAM FUEL CELL PACKAGE	ROSMA-INN-BPH-DWG-00034	02
A.1.27	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (INLET)	ROSMA-INN-BPH-DWG-00035	02
A.1.28	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (OUTLET)	ROSMA-INN-BPH-DWG-00036	02
A.1.29	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL A	ROSMA-INN-BPH-DWG-00037	02
A.2.1	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 1	ROSMA-INN-BPH-DWG-00038	02
A.2.2	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 2	ROSMA-INN-BPH-DWG-00039	02
A.2.3	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 1	ROSMA-INN-BPH-DWG-00040	02
A.2.4	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 2	ROSMA-INN-BPH-DWG-00041	02
A.2.5	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 1	ROSMA-INN-BPH-DWG-00042	02
A.2.6	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 2	ROSMA-INN-BPH-DWG-00043	02
A.3.1	BLPH PIPING AND INSTRUMENTATION DIAGRAM INSTRUMENT AIR PACKAGE	ROSMA-INN-BPH-DWG-00044	02
A.3.2	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT HEADER	ROSMA-INN-BPH-DWG-00045	02
A.3.3	BLPH PIPING AND INSTRUMENTATION DIAGRAM Instrument air distribution header	ROSMA-INN-BPH-DWG-00046	02
A.3.4	BLPH PIPING AND INSTRUMENTATION DIAGRAM instrumentation SYMBOLOGY	ROSMA-INN-BPH-DWG-00047	02
A.3.5	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT DRUM	ROSMA-INN-BPH-DWG-00061	02
A.3.6	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL B	ROSMA-INN-BPH-DWG-00062	02
A.3.7	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL C	ROSMA-INN-BPH-DWG-00063	02
A.3.8	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL D	ROSMA-INN-BPH-DWG-00064	02
A.3.9	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL E	ROSMA-INN-BPH-DWG-00065	02
A.3.10	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL F	ROSMA-INN-BPH-DWG-00066	02
A.4.1	BLPH PIPING AND INSTRUMENTATION DIAGRAM -	ROSMA-INN-BPH-DWG-	00

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
	OPEN DRAIN SYSTEM	00306	
A.4.2	BALLARD - BLPH Project - P&IDs	K559-2254-CWIWP4202202-C03-001	04
A.4.3	ELOGEN BLPH Project - Process and Instrumentation Diagrams	K559-2254-CWIWP4202302-C03-001	07
A.4.4	Process Safety Cause and Effect Matrix	ROSMA-INN-BPH-REG-00007	02
A.4.5	Fire and Gas Cause and Effect Matrix	ROSMA-INN-BPH-REG-00021	01

B Yokogawa Deliverables

S/N	DOCUMENT TITLE	DOC. NO.	REV NO.
B1.	Bill of Material	1724000594-IN-LIS-00003	02
B2.	PCS and Safety System IO List (HW and SW)	1724000594-IN-LIS-00004	03
B3.	EMCS IO List (HW and SW)	1724000594-IN-LIS-00005	00
B4.	Power Consumption and Heat Dissipation	1724000594-IN-CA-00006	01
B5.	Systems Cables List	1724000594-IN-LIS-00007	01
B6.	Safety Controller loading estimation	1724000594-IN-RE-00008	01
B7.	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00009	02
B8.	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00010	01
B9.	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00011	02
B10.	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00012	02
B11.	EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT	1724000594-IN-DA-00013	01
B12.	Project Execution Plan (PEP)	1724000594-PM-PL-00014	01
B13.	System Architecture	1724000594-IN-DD-00015	03
B14.	Network Connection Diagram	1724000594-IN-DG-00016	01
B15.	PAS Hardware Functional Design Specification (FDS-HW)	1724000594-IN-SP-00017	01
B16.	PCS and SAFETY SISTEMS Software Functional Design Specification (FDS-SW)	1724000594-IN-SP-00018	01
B17.	EMCS Software Functional Design Specification (FDS-SW)	1724000594-IN-SP-00019	02
B18.	PCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00020	01
B19.	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00021	01
B20.	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00022	01

S/N	DOCUMENT TITLE	DOC. NO.	REV
B21.	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00023	01
B22.	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DG-00024	01
B23.	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS Logic diagram print out PCS	1724000594-IN-DG-00025	00
B24.	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS Logic diagram print out SIS and FGS	1724000594-IN-DG-00026	00
B25.	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS Logic diagram print out EMCS	1724000594-IN-DG-00027	00
B26.	HMI screens print out WIRING DIAGRAMS AND TERMINAL STRIPS	1724000594-IN-DD-00028	01
B27.	Safety Validation Plan (SVP) PCS	1724000594-IN-PL-00029	00
B28.	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	1724000594-QC-PRO-00030	01
B29.	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	1724000594-QC-PRO-00031	00
B30.	Site Acceptance Test (SAT) PROCEDURE	1724000594-QC-PRO-00032	00
B31.	THIRD PARTY COMMUNICATION TEST PROCEDURE	1724000594-QC-PRO-00042 03	02
B32.	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	1724000594-IN-LIS-00004	03
B33	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	1724000594-IN-LIS-00005	00
B34	Site Acceptance Test (SAT) PROCEDURE	1724000594-IN-QA-00006	01
B35.	INSTALLATION, OPERATING AND MAINTENANCE MANUAL (IOM)	1724000594-IN-MAN-00037	01
B36.	SPARE PART INDEX REGISTER (COMMISSIONING AND 2-YEARs OPERATION)	1724000594-COM-LIS-00039	01
B37.	ATEX REGISTER	1724000594-IN-LIS-00036	01
B38.	VENDOR ASSET AND TAG REGISTER	1724000594-IN-LIS-00040	00
B39.	Instructions for Operation and Maintenance for ProSafe-RS	1724000594-IN-MAN-00038	01
B40.	Cyber Security Risk Assessment REPORT	1724000594-IN-RE-00035	01

S/N	DOCUMENT TITLE	DOC. NO.	REV
B41.	Cybersecurity Workshop Preparation	1724000594-IN-RE-00041	00
B42.	CYBER SECURITY SETTINGS	1724000594-IN-RE-00043	00
B43.	SUPPLIER MASTER INDEX REGISTER (SMIR)	1724000594-MD-LIS-00001	04
B44.	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	1724000594-QC-DB-00033	00
B45.	INSPECTION AND TEST PLAN	1724000594-QC-ITP-00002	01
B46.	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX	1724000594-QC-LIS-00034	01

Note: Refer to Vendor Doc list document, document no. 1724000594-MD-LIS-00001 for all other list of Yokogawa project documents.

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Media Backup/Restore Function Test

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Media Backup Function Test				
1.1 Start Back-up				
1.2 Backup completed				
Error Message (if any):				
2 Media Restore Function Test				
2.1 Start Restore of data				
2.2 Restore completed				
Error Message (if any):				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Server Cabinet

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- Interface Board				
- Accessories				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- System cables				
- Field cables from Junction Boxes				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket				
2 Cabinet Temperature Check				
3 Functional check				
3.1 KVM Console/Extender test				
- Selection of PC / Server from KVM Console				
- KVM extension via KVM Extender				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Network Cabinet

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- Interface Board				
- Accessories				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- System cables				
- Field cables from Junction Boxes				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket				
2 Cabinet Temperature Check				
3 Power Supply and ELM check				
- Power Supply (Front)				
Voltage Check (PSU1only) : VDC				
Ripple Check (PSU1 only) : mV				
Voltage Check (PSU2only) : VDC				
Ripple Check (PSU2 only) : mV				
4 Functional check				
4.1 Ethernet switch test				
- L2 Switch				
- L3 Switch				
4.2 FO converter test				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.7 - FAT Check Sheet for Hardware (SIS & FGS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

EWS/SOE Workstation Check

Station Number :

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 PC Model				
Monitor				
Vnet/IP interface card (VI702)				
Domian:				
Station:				
Operation System (OS)				
Product Key				
Prosafe-RS system				
Version:				
License ID:				
License Details:				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.7 - FAT Check Sheet for Hardware SIS & FGS

End User: Crosswind
EPC: Rosetti Marino

SIS System Architecture and BOM Check

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 System Architecture Check				
(As per reference document)				
2 Bill of Materials Check				
(As per reference document)				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.7 - FAT Check Sheet for Hardware SIS & FGS

End User: Crosswind
EPC: Rosetti Marino

SIS IO Nestloading and System Cable schedule Check

Description	NA	Checked		Remarks / Punch No.
		Pass	Fail	
1 IO Assignment/Nest Loading Check				
(As per reference document)				
2 System Cable Schedule Check				
(As per reference document)				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No.	Date
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification : Correction (Code C) ☐ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
Witness (Name)	Signature	Date

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By		YOKOGAWA		
Witnessed By		ROSETTI MARINO		
Approved By		CROSSWIND		

SAMPLE

FAT PUNCH LEDGER

Customer Group: _____
Project: _____
Record Date: _____

Recorded By: _____
Witnessed By: _____

Punch Record No.	Punch Description	Cause (C/M)	Initiated by	Action By	Date of Completion	Re-test By (MAC)	Witnessed by (EPC/End-User)

Legend for cause column:
C = Correction, items is to be corrected by YOKOGAWA
M = Modification, items is to be modified, deleted or added due to design input changes

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System		Proc.Area/Unit	
Stage		Controller No.	

Punch Description

Noted By		Approved By		Date		Category	
Proposed/Agreed Solution						Action By	

Impact Analysis

Impacted Aspects	☐ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☐ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status			
Implemented By		Verified/Tested By	
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name			Name			Name	
	Date			Date			Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338 Rev. 1.1
Date: 19-Oct-2021

YOKOGAWA

SIS Punch Record Summary

Project No.		Project Name	
Contractor		EMPLOYER	

Sl. No.	Punch Record Reference No	Date	Stage	System	Punch Description	Category	Action By	Safety Related	Proposed / Agreed Solution	Punch Status

Yokogawa Rosematti Marino Crosswind

Page 4197 of 4406

Document Nr. 1724000594-QC-DB-00033 - Rev.01

MANUFACTURERS RECORD BOOK (FINAL DOSSIER)

Test Equipment Record

No.	Test Equipment Description	Manufacturer And Model	Serial No.	Test Cert. No.	Expiry Date
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

COMMENTS:

Verified By: _____ Date: _____
Crosswind / Rosetti Marino

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

System Cabinet Check

Cabinet Number :

Description	NA	Checked		Remarks / Punch No.
		Front	Rear	
1 FCS Appearance and Construction Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				
- Color				
- Side Panel				
1.2 Internal Layout				
- FCU Mounting and termination				
- ESB Bus Node Unit - IO module quantity				
1.3 Doors				
- Handle and document pocket				
1.4 Labeling				
- Cabinet				
- Devices & interface boards				
- Terminals, Earth bars etc.				
1.5 Earthing				
- Bolt type & locations				
- Wire types				
- connection to doors and devices				
1.6 Cable Routing				
- Vnet/IP Bus				
- ESB Bus, Optical ESB Bus				
- N-ESB Bus				
- System Cable (e.g., KS1, AKB331 and AKB336)				
1.7 Signal terminations				
- Terminal and wiring types, spare				
1.8 Power Distribution				
- Isolators and Circuit Breakers				
- Fuse terminal and rating				
1.9 Others				
- Fan and thermostat				
2 FCS Nest Loading Check				
- FCS Station No. (Front): _____				
- FCS Station No. (Rear): _____				
3 System Startup Test				
4 CPU Backup Test				
- Left CPU				
- Right CPU				
5 FIO Bus Redundancy Test				
- ESB Bus1				
- ESB Bus2				
- N-ESB Bus1				
- N-ESB Bus2				
- F-SB Bus1				
- F-SB Bus2				

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

System Cabinet Check

Cabinet Number :

Description			NA	Checked Front	Checked Rear	Remarks / Punch No.
6 FCS Power Supply Module Redundancy Test						
6.1 FCU Power Supply						
- PW48x Left						
- PW48x Right						
6.2 ESB Node Power Supply						
- Node 2 (FIO)						
- Node 3 (FIO)						
- Node 4 (FIO)						
- Node 5 (FIO)						
- Node 6 (FIO)						
6.3 N-IO Node Interface Unit						
- Node 1 (N-IO)						
- Node 2 (N-IO)						
- Node 3 (N-IO)						
- Node 4 (N-IO)						
- Node 5 (N-IO)						
- Node 6 (N-IO)						
7 Vnet/IP Bus Redundancy Test						
Vnet/IP Bus1						
Vnet/IP Bus2						
8 FCS Resource Capacity Test						
FCS Front	Capacity :	%				
FCS Rear	Capacity :	%				
9 FCS CPU Loading Tests						
FCS Front	Capacity :	%				
FCS Rear	Capacity :	%				
10 Online / Offline Loading Test						

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Marshalling Cabinet Check

Cabinet Number :

Description			NA	Checked		Remarks / Punch No.
				Pass	Fail	
1 Physical Check						
1.1 General Construction						
- Lifting Construction, Plinth, Bakelite						
- Color						
- Side Panel						
1.2 Internal Layout						
- Interface Board						
- Accessories						
1.3 Doors						
- Handle and document pocket						
1.4 Labeling						
- Cabinet						
- Devices & interface boards						
- Terminals, Earth bars etc.						
1.5 Earthing						
- Bolt type & locations						
- Wire types						
- connection to doors and devices						
1.6 Cable Routing						
- System cables						
- Field cables from Junction Boxes						
1.7 Signal terminations						
- Terminal and wiring types, spare						
1.8 Power Distribution						
- Isolators and Circuit Breakers						
- Fuse terminal and rating						
1.9 Others						
- Fan, thermostat, Telephone jack & Utility Socket						
2 Cabinet Temperature Check						
3 Power Supply and ELM check						
- Power Supply (Front)						
Voltage Check (PSU1only)	:	VDC				
Ripple Check (PSU1 only)	:	mV				
Voltage Check (PSU2only)	:	VDC				
Ripple Check (PSU2 only)	:	mV				
ELM Check						
- Power Supply (Rear)						
Voltage Check (PSU1only)	:	VDC				
Ripple Check (PSU1 only)	:	mV				
Voltage Check (PSU2only)	:	VDC				
Ripple Check (PSU2 only)	:	mV				
ELM Check						
4 Functional check						
4.1 LED Check						

Responsible Party	Representative	Date:	Signature
YOKOGAWA			
ROSETTI MARINO			
CROSSWIND			

FACTORY ACCEPTANCE TEST COMPLETION CERTIFICATE

JOB NAME	:	BASE LOAD POWER HUB
END USER	:	CROSSWIND
CUSTOMER	:	ROSETTI MARINO
PLANT	:	OFFSHORE HKN WIND FARM
SYSTEM DESCRIPTION	:	PCS/SIS/FGS INTEGRATED WITH CI SERVER

This is to certify that it is mutually agreed by all parties that the Factory Acceptance Test for PCS/SIS/FGS [Hardware] has been completed to the satisfaction of all parties concerned.

[Remarks]

_____

_____

_____

Signed in agreement by;

YOKOGAWA : _____ Date: _____

ROSETTI MARINO : _____ Date: _____

CROSSWIND : _____ Date: _____

SHIPPING RELEASE NOTE

JOB NAME	:	BASE LOAD POWER HUB
END USER	:	CROSSWIND
CUSTOMER	:	ROSETTI MARINO
PLANT	:	OFFSHORE HKN WIND FARM
SYSTEM DESCRIPTION	:	PCS/SIS/FGS INTEGRATED WITH CI SERVER

This is to certify that the FIO equipment's for this project can be released for shipment.

[Remarks]

_____

_____

_____

Signed in agreement by;

Crosswind/Rosetti Marino : _____ Date: _____

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

System Cabinet Check PCS

Reference No: _____

Cabinet Number : B400-PCS-001

Description	NA	Checked Front	Checked Rear	Remarks / Punch No.
1 FCS Appearance and Construction Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- FCU Mounting and termination		✓		
- ESB Bus Node Unit - IO module quantity		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- Vnet/IP Bus		✓		
- ESB Bus, Optical ESB Bus		✓		
- N-ESB Bus		✓		
- System Cable (e.g., KS1, AKB331 and AKB336)		✓		
1.7 Signal terminations				
- Terminal and wiring types, spare		✓		
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		REFER TO PUNCH P005
- Fuse terminal and rating				
1.9 Others				
- Fan and thermostat		✓		
2 FCS Nest Loading Check				
- FCS Station No. (Front):		✓		
- FCS Station No. (Rear):	✓			
3 System Startup Test		✓		
4 CPU Backup Test				
- Left CPU				
- Right CPU				
5 FIO Bus Redundancy Test				
- ESB Bus1		✓		
- ESB Bus2		✓		
- N-ESB Bus1		✓		
- N-ESB Bus2		✓		
- F-SB Bus1		✓		
- F-SB Bus2		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

System Cabinet Check PCS

Cabinet Number : B400-PCS-001

Description			NA	Checked Front	Checked Rear	Remarks / Punch No.
6 FCS Power Supply Module Redundancy Test						
6.1 FCU Power Supply						
- PW48x Left				✓		
- PW48x Right				✓		
6.2 ESB Node Power Supply						
- Node 2 (FIO)				✓		
- Node 3 (FIO)				✓		
- Node 4 (FIO)				✓		
- Node 5 (FIO)			✓			
- Node 6 (FIO)			✓			
6.3 N-IO Node Interface Unit			✓			
- Node 1 (N-IO)			✓			
- Node 2 (N-IO)			✓			
- Node 3 (N-IO)			✓			
- Node 4 (N-IO)			✓			
- Node 5 (N-IO)			✓			
- Node 6 (N-IO)			✓			
7 Vnet/IP Bus Redundancy Test						
Vnet/IP Bus1				✓		
Vnet/IP Bus2				✓		
8 FCS Resource Capacity Test						
FCS Front	Capacity :	%				
FCS Rear	Capacity :	%	✓			
9 FCS CPU Loading Tests						
FCS Front	Capacity :	%				
FCS Rear	Capacity :	%	✓			
10 Online / Offline Loading Test						

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Marshalling Cabinet Check PCS

Cabinet Number : B400-PCS-002

Description	NA	Checked Pass	Checked Fail	Remarks / Punch No.
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- Interface Board		✓		
- Accessories		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- System cables		✓		CABLES TO BE INSTALLED, REFER TO PUNCH POO8
- Field cables from Junction Boxes		✓		
1.7 Signal terminations				
- Terminal and wiring types, spare		✓		
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		
- Fuse terminal and rating		✓		
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket		✓		
2 Cabinet Temperature Check				
3 Power Supply and ELM check				
- Power Supply (Front)		✓		
Voltage Check (PSU1only) : VDC		✓		
Ripple Check (PSU1 only) : mV	✓			
Voltage Check (PSU2only) : VDC		✓		
Ripple Check (PSU2 only) : mV	✓			
ELM Check	✓			
- Power Supply (Rear)	✓			
Voltage Check (PSU1only) : VDC	✓			
Ripple Check (PSU1 only) : mV	✓			
Voltage Check (PSU2only) : VDC	✓			
Ripple Check (PSU2 only) : mV	✓			
ELM Check	✓			
4 Functional check				
4.1 LED Check				

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGIOT	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No.	Date
	PR01	4/10/24
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MISSING CABELS: DETAILS IN MARKUP CAB. GA DRAWING PAG.6. DRAWING POCKET TO BE ADDED ✓ (SEE PAG.6)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

INSTALL MISSING CABELS.

INSTALL DRAWING POCKET ✓ INSTALLED 09/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		14/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		14/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No.	Date
	P002	04/10/24
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

ROOFS SHALL BE INSTALLED.
MCT SHALL ALSO BE INSTALLED.
DETAILS IN CAB. DRAWING. PAG. 12 (GA DRAWING)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

INSTALL ROOFS AND MCT

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		14/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		14/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P003	Date 04/10/24
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

TERMINAL STRIP TB-00-JE-12003 SHALL BE ADDED NO. 12 TERMINALS

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

ADD TERMINALS

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		10/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		10/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P004	Date 04/10/2024
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

BREAKER "Q3" TO BE REPLACED WITH RIGHT RATING "2A-C".

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

REPLACE BREAKER

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		04/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		04/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P005	Date 04/10/2024
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

BREAKERS Q18/Q19 TO BE REPLACED WITH RIGHT RATING (32A)

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

INSTALL RIGHT BREAKERS

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	A. IVESON	ROSETTI MARINO		06/03/2025
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P006	Date 04/10/24
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

FAN CIRCUIT COMPONENTS: MISSING LABELS, SEE DETAIL IN CAB. DRAWING. PAG.12 (WIRING DGRM)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

ADD LABELS ADDED 09/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		09/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		09/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P007	Date 04/10/24
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CAB. B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

FOR RELAYS KA1, KA2 COILS SHALL BE CHANGED TO 12V (NOW IS 24V). SEE CAB. DRAWING. PAG.15

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

REPLACE KA1, KA2 COILS WITH 12V INSTALLED 04/10/2024 & TESTED

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		04/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		04/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P008	Date 04/10/24
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CAB 3400-PCS-901/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

SYSTEM CABLES ARE NOT INSTALLED.
(TEST IS EXECUTED WITH TEMPORARY CABLES).

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

TO VERIFY THE PROPER SIZE OF CABLE TRAYS WHEN PROJECT CABLES WILL BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

INSTALL PROJECT SYSTEM CABLES

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	M. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. P009	Date 04/10/2024
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item: SYS CABINETS B400-PCS-001/002

Classification : Correction (Code C) ☐ Modification (Code M) ☒

Punch Item description: (Attach Separate sheets/attachments, if necessary)

NEW TAGS TO BE CONFIGURED AND WIRED:
50-XY-005 → TB-00-JE-13003, 9/10 CARD 4-7-29
50-ZSL-005 → TB-00-JE-12006, 17/18 CARD 3-5-25
50-ZSH-005 → TB-00-JE-12006, 19/20 CARD 3-5-26

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

NEW TAGS REQUIRED BY RM.

Tester (Name)	Signature	Date
A. GIORGETTI		04/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		04/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

TAGS TO BE WIRED → DONE 09/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		10/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		10/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. PO10	Date 11/10/2024
Process Area:	System: PCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYS CABINETS B400-PCS-001/002	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

FAULT CONTACT OF BOARDS FOR DIGITAL SIGNALS TO BE ADDED TO DIAGNOSTIC SIGNALS (SERIES)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

FAULT CONTACTS TO BE WIRED IN SERIES AND CONNECTED TO SPARE DIGITAL INPUT N4 S5 ch.20 TAG 87-XA-055

Tester (Name)	Signature	Date
A. GIORGETTI		11/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		11/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		14/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		14/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (~~PCS~~ SIS)

End User: Crosswind
EPC: Rosetti Marino

System Cabinet Check SIS (SYSTEM + MARSHALLING) **Reference No:** _____

Cabinet Number : B400-SIS-001

Description	NA	Checked Front	Checked Rear	Remarks / Punch No.
1 FCS Appearance and Construction Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- FCU Mounting and termination		✓		
- ESB Bus Node Unit - IO module quantity		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices				
1.6 Cable Routing				
- Vnet/IP Bus		✓		
- ESB Bus, Optical ESB Bus		✓		
- N-ESB Bus		✓		
- System Cable (e.g., KS1, AKB331 and AKB336)		✓		CABLES TO BE INSTALLED. REFER TO PUNCH 5005
1.7 Signal terminations				
- Terminal and wiring types, spare		✓		
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		REFER TO PUNCH 5002
- Fuse terminal and rating		✓		
1.9 Others				
- Fan and thermostat		✓		
2 FCS Nest Loading Check				
- FCS Station No. (Front):		✓		REFER TO PUNCH 5003
- FCS Station No. (Rear):	✓			
3 System Startup Test		✓		
4 CPU Backup Test				
- Left CPU		✓		
- Right CPU				
5 FIO Bus Redundancy Test				
- ESB Bus1		✓		
- ESB Bus2		✓		
- N-ESB Bus1		✓		
- N-ESB Bus2		✓		
- F-SB Bus1		✓		
- F-SB Bus2		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS) SIS

End User: Crosswind
EPC: Rosetti Marino

System Cabinet Check SIS (SYSTEM + MARSHALLING)

Cabinet Number : B400-SIS-001

Description	NA	Checked Front	Checked Rear	Remarks / Punch No.
6 FCS Power Supply Module Redundancy Test				
6.1 FCU Power Supply				
- PW48x Left		✓		
- PW48x Right		✓		
6.2 ESB Node Power Supply				
- Node 2 (FIO)		✓		
- Node 3 (FIO)		✓		
- Node 4 (FIO)	✓			
- Node 5 (FIO)	✓			
- Node 6 (FIO)	✓			
6.3 N-IO Node Interface Unit				
- Node 1 (N-IO)	✓			
- Node 2 (N-IO)	✓			
- Node 3 (N-IO)	✓			
- Node 4 (N-IO)	✓			
- Node 5 (N-IO)	✓			
- Node 6 (N-IO)	✓			
7 Vnet/IP Bus Redundancy Test		✓		
Vnet/IP Bus1		✓		
Vnet/IP Bus2				
8 FCS Resource Capacity Test				
FCS Front Capacity : %		✓		
FCS Rear Capacity : %	—			
9 FCS CPU Loading Tests				
FCS Front Capacity : %		✓		
FCS Rear Capacity : %	✓			
10 Online / Offline Loading Test				

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No. S001

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	SIS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

MISSING CABINET NAME PLATE

Noted By	A. GIORGETTI	Approved By		Date	11/10/24	Category	C
Proposed/Agreed Solution						Action By	YOKOGAWA

NAME PLATE TO BE INSTALLED - ~~ON SITE~~

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

DONE DURING FAT 14/10/2024

Safety Related	NO	Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	CLOSED		
Implemented By	YOKOGAWA	Verified/Tested By	A. GIORGETTI
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A. GIORGETTI		Name	M. DOSSENA		Name	
	Date	14/10/2024		Date	14/10/2024		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

YOKOGAWA

Appendix 8.9 - FAT Punch Record (SIS FGS)

SIS Punch Record

Ref. No. 5002

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System		Proc.Area/Unit	
Stage		Controller No.	

Punch Description

BREAKERS TO BE REPLACED WITH RIGHT RATING:
Q65, Q66, Q59, Q64

Noted By	D. GIORGETTI	Approved By		Date	11/02/2026

Proposed/Agreed Solution

Category	C
Action By	YOKOGAWA

RIGHT RATING TO BE INSTALLED ON SITE

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

Safety Related	NO	Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	
Implemented By	Done during SAT activities
Implemented Version (VC)	Verified/Tested By

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A.Giorgetti		Name	IVESON		Name	
	Date	03/06/2025		Date	06/03/2026		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

Rev. 1.1
Date: 19-Oct-2021

YOKOGAWA

Appendix 8.9 - FAT Punch Record (SIS FGS)

SIS Punch Record

Ref. No. 5003

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	SIS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

MISSING NR. 1 SAI143 (REDUNDANT) TO BE INSTALLED IN N1, S1/2

Noted By	A. GIORGETTI	Approved By		Date	18/10/2024	Category	C
						Action By	YOKOGAWA

Proposed/Agreed Solution

MISSING CARDS TO BE INSTALLED

Impact Analysis

Impacted Aspects: ☒ Hardware ☐ Software ☐ Documentation ☐ Graphics ☐ Other Non-Safety Items ☒ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	Done during SAT activities		
Implemented By		Verified/Tested By	
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A.Giorgetti		Name	A. IVESON		Name	
	Date	03/06/2025		Date	06/03/2026		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No ENG-FSM-SF-EP-338

Rev. 1.1
Date: 19-Oct-2021

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No. S004

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	SIS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

QUANTITY OF MCT TO BE CHECKED AND ALIGNED WITH DOCUMENTATION (Nr.1 MCT MODULE MISSING)

Noted By	A. GIORGETTI	Approved By		Date	11/10/2024	Category	C
Proposed/Agreed Solution						Action By	YOKOGAWA

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☐ No Impact

Safety Related	NO	Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

NO NEED TO ADD AN ADDITIONAL MCT MODULE.
DOCUMENT UPDATED.

Punch Record Status

Status	CLOSED		
Implemented By	YOKOGAWA	Verified/Tested By	A. GIORGETTI
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A. GIORGETTI		Name	M. DOSSENA		Name	
	Date	14/10/24		Date	14/10/2024		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 16/10/2024

YOKOGAWA

Appendix 8.9 - FAT Punch Record (SIS FGS)

SIS Punch Record

Ref No. S005

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	SIS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

MISSING FINAL SYSTEM CABLES (KS1 - AKB331)

Noted By: A. GIORGETTI | Approved By: | Date: 11/10/24 | Category: C | Action By: YOKOGAWA

Proposed/Agreed Solution

CABLES TO BE INSTALLED ON SITE

Impact Analysis

Impacted Aspects: ☐ Hardware ☐ Software ☐ Documentation ☐ Graphics ☐ Other Non-Safety Items ☑ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	Done during SAT activities		
Implemented By			
Implemented Version (VC)		Verified/Tested By	

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A.Giorgetti		Name			Name	
	Date	03/06/2025		Date	06/03/2026		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

Rev. 1.1
Date: 19-Oct-2021

YOKOGAWA

Appendix 8.9 - FAT Punch Record (SIS FGS)

SIS Punch Record

Ref. No. 5006

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	SIS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

FAULT CONTACT OF BOARDS FOR DIGITAL SIGNALS TO BE ADDED TO DIAGNOSTIC SIGNALS (SERIES)

Noted By	A. GIORGETTI	Approved By		Date	11/10/2024	Category	C
Proposed/Agreed Solution						Action By	YOKOGAWA

FAULT CONTACTS TO BE WIRED IN SERIES AND CONNECTED TO SPARE DIGITAL INPUT: N3 S7 ch. 5

TAG: 79-XA-055

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

TAG WIRED AND TESTED DURING FAT

Punch Record Status

Status	CLOSED		
Implemented By	YOKOGAWA	Verified/Tested By	A. GIORGETTI
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A. GIORGETTI		Name	M. DOSSENA		Name	
	Date	14/10/2024		Date	14/10/2024		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

L. PIGNATELLI ON BEHALF OF Crosswind
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (~~PCS~~ FGS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

System Cabinet Check FGS

Cabinet Number : B400-FGS-001

Description	NA	Checked Front	Checked Rear	Remarks / Punch No.
~~FCS~~ FGS **1 Appearance and Construction Check**				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- FCU Mounting and termination		✓		
- ESB Bus Node Unit - IO module quantity		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- Vnet/IP Bus		✓		
- ESB Bus, Optical ESB Bus		✓		
- N-ESB Bus		✓		
- System Cable (e.g., KS1, AKB331 and AKB336)		✓		
1.7 Signal terminations				
- Terminal and wiring types, spare		✓		
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		REFER TO PUNCH F003
- Fuse terminal and rating		✓		
1.9 Others				
- Fan and thermostat		✓		
2 FCS Nest Loading Check				
- FCS Station No. (Front):		✓		
- FCS Station No. (Rear):	✓			
3 System Startup Test		✓		
4 CPU Backup Test				
- Left CPU				
- Right CPU				
5 FIO Bus Redundancy Test				
- ESB Bus1		✓		
- ESB Bus2		✓		
- N-ESB Bus1		✓		
- N-ESB Bus2		✓		
- F-SB Bus1		✓		
- F-SB Bus2		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF Crosswind
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS) FGS

End User: Crosswind
EPC: Rosetti Marino

System Cabinet Check ~~FGS~~

Cabinet Number : B400-FGS-001

Description			NA	Checked Front	Checked Rear	Remarks / Punch No.
6 FCS Power Supply Module Redundancy Test						
6.1 FCU Power Supply						
- PW48x Left				✓		
- PW48x Right				✓		
6.2 ESB Node Power Supply						
- Node 2 (FIO)				✓		
- Node 3 (FIO)				✓		
- Node 4 (FIO)				✓		
- Node 5 (FIO)				✓		
- Node 6 (FIO)				✓		
6.3 N-IO Node Interface Unit			✓			
- Node 1 (N-IO)			✓			
- Node 2 (N-IO)			✓			
- Node 3 (N-IO)			✓			
- Node 4 (N-IO)			✓			
- Node 5 (N-IO)			✓			
- Node 6 (N-IO)			✓			
7 Vnet/IP Bus Redundancy Test						
Vnet/IP Bus1				✓		
Vnet/IP Bus2				✓		
8 FCS Resource Capacity Test						
FCS Front	Capacity :	%		✓		
FCS Rear	Capacity :	%	✓			
9 FCS CPU Loading Tests						
FCS Front	Capacity :	%		✓		
FCS Rear	Capacity :	%	✓			
10 Online / Offline Loading Test				✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	D. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS) FGS

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Marshalling Cabinet Check FGS

Cabinet Number : B400-FGS-002/003

Description	NA	Checked Pass	Checked Fail	Remarks / Punch No.
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- Interface Board		✓		
- Accessories		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- System cables		✓		CABLES TO BE INSTALLED, REFER TO PUNCH FG04
- Field cables from Junction Boxes		✓		
1.7 Signal terminations				
- Terminal and wiring types, spare		✓		
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		
- Fuse terminal and rating		✓		
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket		✓		
2 Cabinet Temperature Check				
3 Power Supply and ELM check				
- Power Supply (Front)				
Voltage Check (PSU1only) : VDC		✓		
Ripple Check (PSU1 only) : mV	✓			
Voltage Check (PSU2only) : VDC		✓		
Ripple Check (PSU2 only) : mV	✓			
ELM Check	✓			
- Power Supply (Rear)	✓			
Voltage Check (PSU1only) : VDC	✓			
Ripple Check (PSU1 only) : mV	✓			
Voltage Check (PSU2only) : VDC	✓			
Ripple Check (PSU2 only) : mV	✓			
ELM Check				
4 Functional check				
4.1 LED Check		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	14/10/2024	
ROSETTI MARINO	M. DOSSENA	14/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF Crosswind
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No. F001

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	FGS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

LABEL MISSING : DETAILS IN MARK-UP CABINET GA (Sh.06)

Noted By	A.GIORGETTI	Approved By		Date	04/10/2024	Category	
Proposed/Agreed Solution						Action By	YOKOGAWA

LABELS TO BE INSTALLED

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

LABELS INSTALLED

Punch Record Status

Status	CLOSED		
Implemented By	YOKOGAWA	Verified/Tested By	A.GIORGETTI
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A.GIORGETTI		Name	M. DOSSENA		Name	
	Date	14/10/2024		Date	14/10/2024		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

L. PIGNATELLI ON BEHALF OF Crosswind
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

YOKOGAWA ◆	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No. F002

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	FGS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

ROOF SHALL BE INSTALLED
MCT SHALL ALSO BE INSTALLED
DETAILS IN CABINET DRAWINGS (Sh.01) GA DRAWING

Noted By	A. GIORGETTI	Approved By		Date	09/10/2024	Category	
Proposed/Agreed Solution						Action By	

MATERIALS TO BE INSTALLED

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	CLOSED		
Implemented By	YOKOGAWA	Verified/Tested By	A. GIORGETTI
Implemented Version (VC)	-		

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A. GIORGETTI		Name	M. DOSSENA		Name	
	Date	14/10/2024		Date	14/10/2024		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

L. PIGNATELLI ON BEHALF OF Crosswind
☐ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Scansionato con CamScanner

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No FQ03

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	FGS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

CIRCUIT BREAKERS Q22 / Q23 TO BE REPLACED WITH RIGHT RATING (32A)

Noted By	A. GIORGETTI	Approved By		Date	04/10/2024	Category	
Proposed/Agreed Solution						Action By	

HCB TO BE REPLACED

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

Safety Related		Re-Test Required?		Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	Done during SAT activities		
Implemented By		Verified/Tested By	
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A.Giorgetti		Name	IVECO		Name	
	Date	03/06/2025		Date	06/03/2026		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

Rev. 1.1
Date: 19-Oct-2021

YOKOGAWA	Appendix 8.9 - FAT Punch Record (SIS FGS) SIS Punch Record	Ref. No F004

Project No.		Project Name	
Contractor			
EPC Subcontractor			
Employer			
System	FGS	Proc.Area/Unit	
Stage		Controller No.	

Punch Description

SYSTEM CABLES TO BE REPLACED WITH FINAL CABLES WHEN AVAILABLE

Noted By	A.GIORGETTI	Approved By		Date	09/10/2024	Category	C
Proposed/Agreed Solution						Action By	

INSTALL FINAL CABLES - TO BE DONE ON SITE

Impact Analysis

Impacted Aspects	☒ Hardware	☐ Software	☐ Documentation	☐ Graphics	☐ Other Non-Safety Items	☒ No Impact

Safety Related		Re-Test Required?	Yes	Impact Analysis By	

Impacted Documents and Revision Details

Punch Record Status

Status	Done during SAT activities		
Implemented By		Verified/Tested By	
Implemented Version (VC)			

Yokogawa	Sign		Rosemetti Marino	Sign		Crosswind	Sign	
	Name	A.Giorgetti		Name	A.IVESON		Name	
	Date	03/06/2025		Date	06/03/2026		Date	

Notes:
1) Safety Impact defined by any hardware or software change in the safety path of the applicable SIF.
2) Detailed Impact analysis shall be elaborated in Impact analysis section including Impacted Documents with Revision Details.
3) Punch Description should include summary of the issue including deviations to project specifications - if any.

Document No:ENG-FSM-SF-EP-338

Rev. 1.1
Date. 19-Oct-2021

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

ETCS System Cabinet Check

Cabinet Number : B400-ETCS-001

Description	NA	Checked Front	Checked Rear	Remarks / Punch No.
1 FCS Appearance and Construction Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite				REFER PUNCH E002
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
RTAC - FCU Mounting and termination		✓		
- ESB Bus Node Unit - IO module quantity	✓			
1.3 Doors				
- Handle and document pocket				REFER PUNCH E001
1.4 Labeling				
- Cabinet				REFER PUNCH E001
- Devices & interface boards				REFER PUNCH E005
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- Vnet/IP Bus				
- ESB Bus, Optical ESB Bus SERIAL CABLES		✓		
- N-ESB Bus				
- System Cable (e.g., KS1, AKB331 and AKB336)				
1.7 Signal terminations				
- Terminal and wiring types, spare		✓		
1.8 Power Distribution				
- Isolators and Circuit Breakers				REFER PUNCH E003
- Fuse terminal and rating		✓		
1.9 Others				
- Fan and thermostat		✓		
- INTERNAL DEVICES				REFER PUNCH E004 + E006
RTAC 2 FCS Nest Loading Check (CARD ASSIGNMENT)		✓		
- FCS Station No. (Front):				
- FCS Station No. (Rear):				
3 System Startup Test		✓		
4 CPU Backup Test				
- Left CPU				
- Right CPU				
5 FIO Bus Redundancy Test I/O		✓		
- ESB Bus1				
- ESB Bus2				
- N-ESB Bus1				
- N-ESB Bus2				
- F-SB Bus1				
- F-SB Bus2				

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	07/10/2024	
ROSETTI MARINO	M. DOSSENA	07/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF Crosswind
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ EMCS

FAT PUNCH RECORD	Punch Record No.	Date
	E001	07/10/24
Process Area:	System: EMCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINET B400-EMCS-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MISSING LABELS : DETAILS IN MARKEUP CAB.GA DRAWING PAG. 6. DRAWING POCKET TO BE ADDED (SEE PAG. 6)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
V. ORLANDO		07/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		07/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

INSTALL MISSING LABELS.
INSTALL DRAWING POCKET → INSTALLED 09/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		14/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		14/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PGS~~ EMCS

FAT PUNCH RECORD	Punch Record No.	Date
	E002	07/10/24
Process Area:	System: EMCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINET B400- EMCS- 001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

ROOF SHALL BE INSTALLED
MCT SHALL ALSO BE INSTALLED
DETAILS IN CABINET DRAWINGS (PAG.11) GA DRAWING

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
V. ORLANDO		07/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		07/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

INSTALL ROOF AND MCT

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		14/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		14/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ EMCS

FAT PUNCH RECORD	Punch Record No. E003	Date 07/10/24
Process Area:	System: EMCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINET BG20-EMCS-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

Q10 AND Q11 BREAKERS NOT INSTALLED

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
ORLANDO V.		07/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		07/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

INSTALL BREAKERS

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	A.IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ EMCS

FAT PUNCH RECORD	Punch Record No.	Date
	E004	07/10/24
Process Area:	System: EMCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINET B400-EMCS-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

SSP1 ÷ SSP16 ANALOG SIGNAL SPLITTERS NOT INSTALLED

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
V. ORLANDO		07/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		07/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

ANALOG SIGNAL SPLITTERS ~~NOT~~ INSTALL → INSTALLED & TESTED 09/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		09/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		09/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ EMCS

FAT PUNCH RECORD	Punch Record No. E005	Date 07/10/24
Process Area:	System: EMCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
SYSTEM CABINET B400 - EMCS-001	Correction (Code C) ☐ Modification (Code M) ☒

Punch Item description: (Attach Separate sheets/attachments, if necessary)

RACE WAY FOR FIELD CABLE

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

TO REPLACE WITH 100x80 (E005)

Tester (Name)	Signature	Date
V. ORLANDO		07/10/24
Witness (Name)	**Signature**	**Date**
M. DOSSENA		07/10/2024

Repeat the test? : YES ☒ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

~~TO REP~~ RACE WAY INSTALLED 09/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		10/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		10/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND
☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 14/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ EMCS

FAT PUNCH RECORD	Punch Record No. E006	Date 14/10/2024
Process Area:	System: EMCS	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
SYSTEM CABINET B400-EMCS-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MISSING NR.1 MCT MODULE TO BE INSTALLED ON SITE (REFER TO GA DRAWING sh.011)

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI		14/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		14/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

MCT MODULE TO BE INSTALLED

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	A. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Network Cabinet OER

Cabinet Number : HKN-WP01-BLPH-NET-04

Description	NA	Checked Pass	Checked Fail	Remarks / Punch No.
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- Interface Board	✓			
- Accessories		✓		
1.3 Doors				
- Handle and document pocket		✓		PUNCH 105
1.4 Labeling				
- Cabinet		✓		PUNCH N106
- Devices & interface boards		✓		PUNCH N104, N109,
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- System cables (NETWORK ETH / FO)		✓		
- Field cables from Junction Boxes	✓			
1.7 Signal terminations				
- Terminal and wiring types, spare	✓			
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		
- Fuse terminal and rating		✓		
1.9 Others				
- Fan, thermostat, ~~Telephone jack &~~ Utility Socket		✓		~~XXXXXXX~~
2 Cabinet Temperature Check		✓		
3 Power Supply and ELM check				
- Power Supply (Front)				
Voltage Check (PSU1only) : VDC		✓		
Ripple Check (PSU1 only) : mV	✓			
Voltage Check (PSU2only) : VDC		✓		
Ripple Check (PSU2 only) : mV	✓			
4 Functional check				
4.1 Ethernet switch test		✓		
- L2 Switch		✓		
- L3 Switch		✓		
4.2 FO converter test		✓		
4.3 THIRD PARTIES SWITCHES		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	22/10/2024	
ROSETTI MARINO	M. DOSSENA	22/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF
CROSSWIND

☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Server Cabinet OER

Reference No: _____

Cabinet Number : HKN-WP01-BLPH-SRV-01

Description	NA	Checked Pass	Checked Fail	Remarks / Punch No.
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- Interface Board	✓			
- Accessories		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet				PUNCH N106
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- System cables (NETWORK ETH/FO)		✓		
- Field cables from Junction Boxes	✓			
1.7 Signal terminations				
- Terminal and wiring types, spare	✓			
1.8 Power Distribution				
- Isolators and Circuit Breakers	✓			
- Fuse terminal and rating	✓			
1.9 Others				
- ~~Fan~~, thermostat, ~~Telephone jack~~ & Utility Socket		✓		PUNCH M10
2 Cabinet Temperature Check	✓			OPEN CABINET
3 Functional check				
3.1 KVM Console/Extender test		✓		
- Selection of PC / Server from KVM Console		✓		
- KVM extension via KVM Extender		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	22/10/2024	
ROSETTI MARINO	M. DOSSENA	22/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND

☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV OER

FAT PUNCH RECORD	Punch Record No. N101	Date 18/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
HKN-WP01-BLPH-NET-Ø1 SRV-Ø1	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

LABELS OF NETWORK CABLES TO BE REPLACED WITH TYPE USED FOR INTERNAL WIRINGS

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

NEW LABELS TO BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI	A. Giorgetti	18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA	M. Dossena	18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

DONE

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA	A. Giorgetti	22/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO	M. Dossena	22/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRU OER

FAT PUNCH RECORD	Punch Record No.	Date
	N102	18/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
HKN-WP01-BLPH-NET-Φ1 -SRU-Φ1	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

LABEL TO BE ADDED TO EACH PLUG TO IDENTIFY CONNECTED DEVICES

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

LABELS TO BE ADDED

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

LABELS ADDED ON BOTH ENDS OF POWER CABLES

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		22/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		22/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRU OER

FAT PUNCH RECORD	Punch Record No.	Date
	N103	18/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
HKN-WP01-BLPH-NET-Φ1 -SRV-Φ1	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

BREAKERS Q11/Q12 TO BE REPLACED WITH MAGNETOTHERMIS WITH AUX CONTACT

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

REPLACE INSTALLED BREAKERS

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	ALESSANDRO BERRA	YOKOGAWA		21/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		21/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 21/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ X NET/SRV OER

FAT PUNCH RECORD	Punch Record No.	Date
	N 104	18/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
HKN-WP01-BLPH-NET-01 SRV-01	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MULTISOCKET SK5 MISSING

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

MULTISOCKET TO BE INSTALLED

Tester (Name)	Signature	Date
D. GIORGETTI		18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

MULTISOCKET SK5 INSTALLED 21/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	D.GIORGETTI	YOKOGAWA		21/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		21/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 21/10/2024

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. N105	Date 18/10/2024
Process Area:	System:	

Please enter all fields or Indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
HKN-WP01-BLPH-NET-01 SRV-01	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

LOCKS WITH COMBINATION DEVICE ARE MISSING FOR ALL DOORS (4 PIECES)

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

LOCK DEVICE TO BE MODIFIED

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	J. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV OER

FAT PUNCH RECORD	Punch Record No. N106	Date 18/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
HKN-WP01-BLPH-NET-01 SRV-01	Correction (Code C) ☐ Modification (Code M) ☒

Punch Item description: (Attach Separate sheets/attachments, If necessary)

CABINET NAMEPLATE MISSING

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

NEW LABEL TO BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By		ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. N107	Date 18/10/2024
Process Area:	System:	

Please enter all fields or Indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
HKN-WP01-BLPH-NET-01 -SRV-01	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

MISSING AXIOLINE MODULE (PHOENIX CONTACT) TO BE USED TO CONNECT DIAGNOSTIC SIGNALS TO BE EXCHENGED VIA MODBUS

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

MODULES TO BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By		ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRU OER

FAT PUNCH RECORD	Punch Record No. N 108	Date 18/10/2024
Process Area:	System:	

Please enter all fields or Indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
HKN-WP01-BLPH-NET-ϕ1 SRU-ϕ1	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

CHECK DIAGNOSTIC SIGNALS FROM HIRSCHMANN SWITCHES:
THROUGH W.A. GOLD OR THROUGH WIRINGS
WHATSUP GOLD STILL TO BE CONFIGURED.

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

VERIFY DIAGNOSTIC ACQUISITION

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	M. DOSSENA	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SUR DER

FAT PUNCH RECORD	Punch Record No. N109	Date
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
HKN-WP01-BLPH-NET-01	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

1 SFP MODULE MISSING ON SERVSWL2-004 PORT 1 (SINGLE MODE)

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

SFP MODULE TO BE INSTALLED

Tester (Name)	Signature	Date
ALESSANDRO BERRA	AB	21/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA	M. Dossena	21/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA	A. Giorgetti	03/06/2025
Witnessed By	A. IVESON	ROSETTI MARINO	M. Dossena	04/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. NMO	Date 21/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
HKN-WP01-BLPH-NET-01 SRV-01	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MULTISOCKETS SK6 AND SK7 MISSING

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

MULTISOCKETS TO BE INSTALLED AND WIRED

Tester (Name)	Signature	Date
D. GIORGETTI	A. Giorgetti	21/10/2024
Witness (Name)	Signature	Date
M. DOSSENA	M. Dossena	21/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. Giorgetti	YOKOGAWA	A. Giorgetti	23/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		23/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV OER

FAT PUNCH RECORD	Punch Record No. N 111	Date 22/10/2024
Process Area:	System:	

Please enter all fields or Indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
HKN-WP01-BLPH-NET-Φ1 SRV-Φ1	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

VEEMA BACKUP ESSENTIALS SOFTWARE LICENCE IS EXPIRING ON 28/02/2025

Related to: Hardware ☐ Software ☒ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

Tester (Name)	Signature	Date
A. GIORGETTI	A. Giorgetti	22/10/2024
Witness (Name)	Signature	Date
M. DOSSENA	M. Dossena	22/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

Updated during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA	A. Giorgetti	03/06/2025
Witnessed By	M. IVESON	ROSETTI MARINO	M. Iveson	06/03/2026
Approved By		CROSSWIND		

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Network Cabinet ITER

Cabinet Number : B400-NET-001

Description	NA	Checked Pass	Checked Fail	Remarks / Punch No.
1 Physical Check				
1.1 General Construction				REFER TO PUNCHES N001, N011
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- Interface Board	✓			
- Accessories		✓		REFER TO PUNCHES N006, N009, N010, N012
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		PUNCH N013
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- System cables (NETWORK ETH/FO)		✓		
- Field cables from Junction Boxes	✓			
1.7 Signal terminations				
- Terminal and wiring types, spare	✓			
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		
- Fuse terminal and rating		✓		
1.9 Others				
- Fan, thermostat, ~~Telephone jack &~~ Utility Socket		✓		
2 Cabinet Temperature Check		✓		
3 Power Supply and ELM check				
- Power Supply (Front)				
Voltage Check (PSU1only) : VDC		✓		
Ripple Check (PSU1 only) : mV	✓			
Voltage Check (PSU2only) : VDC		✓		
Ripple Check (PSU2 only) : mV	✓			
4 Functional check				
4.1 Ethernet switch test		✓		
- L2 Switch		✓		
- L3 Switch		✓		
4.2 FO converter test		✓		
4.3 THIRD PARTIES SWITCHES		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	22/10/2024	A. Giorgetti
ROSETTI MARINO	M. DOSSENA	22/10/2024	M. Dossena
CROSSWIND			

L. PIGNATELLI ON BEHALF OF
CROSSWIND
☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 22/10/2024

Project Name: BLPH
Doc. No. 1724000594-QC-PRO-00030

Appendix 8.5 - FAT Check Sheet for Hardware (PCS)

End User: Crosswind
EPC: Rosetti Marino

Reference No: _____

Server Cabinet ITER

Cabinet Number : B400-SRV-001

Description	NA	Checked Pass	Checked Fail	Remarks / Punch No.
1 Physical Check				
1.1 General Construction				
- Lifting Construction, Plinth, Bakelite		✓		
- Color		✓		
- Side Panel		✓		
1.2 Internal Layout				
- Interface Board	✓			
- Accessories		✓		
1.3 Doors				
- Handle and document pocket		✓		
1.4 Labeling				
- Cabinet		✓		
- Devices & interface boards		✓		
- Terminals, Earth bars etc.		✓		
1.5 Earthing				
- Bolt type & locations		✓		
- Wire types		✓		
- connection to doors and devices		✓		
1.6 Cable Routing				
- System cables (NETWORK ETH)		✓		
- Field cables from Junction Boxes	✓			
1.7 Signal terminations				
- Terminal and wiring types, spare	✓			
1.8 Power Distribution				
- Isolators and Circuit Breakers		✓		
- Fuse terminal and rating		✓		
1.9 Others				
- Fan, thermostat, Telephone jack & Utility Socket		✓		
2 Cabinet Temperature Check	✓			(OPEN CABINET)
3 Functional check				
3.1 KVM Console/Extender test		✓		
- Selection of PC / Server from KVM Console		✓		
- KVM extension via KVM Extender		✓		

Responsible Party	Representative	Date:	Signature
YOKOGAWA	A. GIORGETTI	22/10/2024	
ROSETTI MARINO	M. DOSSENA	22/10/2024	
CROSSWIND			

L. PIGNATELLI ON BEHALF OF CROSSWIND

☑ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No. N001	Date 17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

ROOF TO BE INSTALLED IN NET CAB
HCT MODULE MISSING IN NET CAB (FRAME "C")

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

ROOF TO BE INSTALLED → INSTALLED
HCT TO BE SUPPLIED AND INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		17/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

ROOF ~~INSTALLED~~ INSTALLED 21/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		22/10/2024
Witnessed By	A. IVESON	ROSETTI MARINO		03/06/2026
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF
CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 24/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No.	Date
	N002	17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MISSING FRONT DOOR ON SRV CABINET (PERFORATED)

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

DOORS TO BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		17/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

DOOR INSTALLED

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		18/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		18/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 18/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No. N003	Date 17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

SIDE PANEL PERFORATED TO BE INSTALLED IN SRV CABINET

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

PERFORATED LATERAL PANEL TO BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		17/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

SIDE PANEL INSTALLED

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		18/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		18/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 18/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No.	Date
	N004	17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

LABELS OF NETWORK CABLES TO BE REPLACED WITH TYPE USED FOR INTERNAL WIRINGS

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

NEW LABELS TO BE INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		17/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

NEW LABELS INSTALLED 22/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		22/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		22/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No. N005	Date 17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

LABEL TO BE ADDED TO EACH PLUG TO IDENTIFY CONNECTED DEVICE

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

LABELS TO BE ADDED

Tester (Name)	Signature	Date
A. GIORGETTI	Alberto Giorgetti	17/10/2024
Witness (Name)	Signature	Date
M. DOSSENA	M. Dossena	17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

LABELS INSTALLED 22/10/2024 ON BOTH ENDS OF POWER CABLES

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A GIORGETTI	YOKOGAWA	Alberto Giorgetti	22/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		23/20/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS
DATE 22/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV

FAT PUNCH RECORD	Punch Record No. N0006	Date 17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

CLOSING PANEL WITH BRUSH TO BE ADDED ON ETH CABLES PASSTHROUGH POINT.
BLIND PANEL TO BE ADDED ON FREE SPACES

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

ADD ~~BA~~ CLOSING PANELS

Tester (Name)	Signature	Date
A. GIORGETTI		17/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

BLIND PANELS INSTALLED 22/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		22/10/2024
Witnessed By	A. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV

FAT PUNCH RECORD	Punch Record No.	Date
	N007	17/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

BREAKERS Q61-Q62 TO BE REPLACED WITH MAGNETOTHERMICS WITH AUX CONTACT

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

REPLACE INSTALLED BREAKERS

Tester (Name)	Signature	Date
A. GIORGETTI		17/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		17/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

DEVICES INSTALLED 21/10/2024

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. GIORGETTI	YOKOGAWA		21/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		21/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 21/10/2024

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No.	Date
	N008	18/10/2024
Process Area:	System:	

Please enter all fields or Indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
B400-NET-001 / B400-SRV-001	Correction (Code C) ☐ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

CHECK DIAGNOSTIC SIGNALS FROM HIRSCHMANN SWITCHES:
THROUGH W.A.GOLD OR THROUGH WIRING
WHATSUP GOLD STILL TO BE CONFIGURED.

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

VERIFY DIAGNOSTIC ACQUISITION

Tester (Name)	Signature	Date
A. GIORGETTI		18/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		18/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	M. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SVR ITER

FAT PUNCH RECORD	Punch Record No. NO10	Date 21/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
B400-NET-0021	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

1 SFP MODULE MISSING ON SERVSWL2-0021 PART 1 (SINGLE MODE)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

SFP MODULE TO BE INSTALLED

Tester (Name)	Signature	Date
ALESSANDRO BERRA	AB	21/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		21/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A. Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	L. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No.	Date
	N011	22/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B600-NET-001 / B600-SRV-001	Correction (Code C) ☐ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

MCT MODULE MISSING IN NET CAB (FRAME "D") WITH RELATED RUBBER DEVICES

Related to: Hardware ☐ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

MCT TO BE SUPPLIED AND INSTALLED

Tester (Name)	Signature	Date
A. GIORGETTI		22/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		22/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	A. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for PCS

FAT PUNCH RECORD	Punch Record No. NO12	Date 22/10/2024
Process Area:	System:	

Please enter all fields or Indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
B400-NST-001 / B400-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

MISSING NV.4 SRP MODULE (MULTIMODE) TO BE INSTALLED IN FW003 (P13, P14) AND FW004 (P13, P14)

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

Tester (Name)	Signature	Date
ALESSANDRO BERRA		22/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		22/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	A. IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SRV ITER

FAT PUNCH RECORD	Punch Record No. NO13	Date 22/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / Item:	Classification :
B600-NET-001 / B600-SRV-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, If necessary)

ADD DEVICES AND WIRING TO IMPLEMENT POWER CUT-OFF OF SWITCHES/FW RELATED TO NETWORK CONNECTION IN OPEN AREA (EXTERNAL) BY 79-XS-010 FROM SIS.

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, If necessary)

ENGINEERING DETAILS TO BE PROVIDED AFTER FAT AND IMPLEMENTATION TO BE DONE ON SITE.

Tester (Name)	Signature	Date
A. GIORGETTI		22/10/2024
Witness (Name)	Signature	Date
M. DOSSENA		22/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, If necessary)

Done during SAT activities

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	A.Giorgetti	YOKOGAWA		03/06/2025
Witnessed By	A-IVESON	ROSETTI MARINO		06/03/2026
Approved By		CROSSWIND		

Appendix – 8.9 - FAT Punch Record Form for ~~PCS~~ NET/SVR ITER

FAT PUNCH RECORD	Punch Record No.	Date
	N°09	21/10/2024
Process Area:	System:	

Please enter all fields or indicate 'Not Applicable' where appropriate

Test reference / item:	Classification :
B400-NET-001/B400-SER-001	Correction (Code C) ☒ Modification (Code M) ☐

Punch Item description: (Attach Separate sheets/attachments, if necessary)

FO PATCHES MISSING.
3 MM PATCHES LENGHT 5M.
2 SM PATCHES LENGHT 5M

Related to: Hardware ☒ Software ☐ Documentation ☐

Details of change required: (Attach Separate sheets/attachments, if necessary)

PATCHES TO BE INSTALLED

Tester (Name)	Signature	Date
ALESSANDRO BERRA	AB	21/10/2024
Witness (Name)	**Signature**	**Date**
M. DOSSENA		21/10/2024

Repeat the test? : YES ☐ NO ☐

If NO, reason: _____

Resolution: (Attach Separate sheets/attachments, if necessary)

PATCHES INSTALLED

FAT CLOSURE APPROVAL SIGNATORIES BY :

	Names	Company	Signatures	Date
Prepared By	D. GIORGIO	YOKOGAWA		22/10/2024
Witnessed By	M. DOSSENA	ROSETTI MARINO		22/10/2024
Approved By		CROSSWIND		

L. PIGNATELLI ON BEHALF OF CROSSWIND

☒ WITNESS ☐ INFORMATION
☐ REVIEW ☐ SPOT WITNESS

DATE 22/10/2024

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 1 of 71 Date: 13/11/2024 Rev: 01

Base Load Power Hub (BLPH)

SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE

Document Number: 1724000594-QC-PRO-00031

Supplier Document Number: E366772C00-SW_FAT

Document Class: 2

01	13/11/2024	Issue for Review (IFR)	KS	AB	SC
00	10/10/2024	Issue for Information (IFI)	KS	AB	SC
Rev.	Date	Description	Prepared	Reviewed	Approved

YOKOGAWA Co-innovating tomorrow™

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 2 of 71 Date: 13/11/2024 Rev: 01

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Review (IFR)

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1 INTRODUCTION

1.1 GENERAL

The purpose of this document is to define the methods and documentation that will be used to carry out the Integration Factory Acceptance Test (FAT) using Virtual Machine (VM)/Remote Access on Yokogawa's Distributed Control System (PCS) CENTUM VP, ProSafe-RS (SIS and FGS), SCADA (CI Servers) and EMCS. The FAT is performed to ensure that the system is properly configured, assembled and functional in accordance with the intended design as specified in the approved documents. The objective of FAT is to demonstrate to Crosswind that the system hardware and software is built in accordance to requirements as specified in the approved documents. Crosswind and Rosetti Marino (RM) would witness to verify the test. Upon successful completion of the test, a FAT Test Certificate and Shipping Release Notice would be signed by both Yokogawa as MAC and Crosswind/RM to signify the acceptance of the test and approval of shipment of the equipment.

1.2 SCOPE AND OBJECTIVE

The Factory Acceptance Test referred to as FAT applies to the PCS, SIS , FGS and EMCS Software supplied by Yokogawa . The objective of the FAT is to verify the conformance of the system against the approved specifications and FAT procedure before delivery to site. The FAT shall be conducted to test and verify the main items listed below:

- System Software

PCS- CentumVP Version R6 Software
SIS and FGS - Prosafe-RS Version R4 Software
SCADA – Collaborative Information (CI) Server R1

- Operator Station Application Software

SCADA – Collaborative Information (CI) Server R1

- Control Station Application Software

PCS, SIS, FGS and EMCS

- Alarm Management

SCADA – Collaborative Information (CI) Server R1

<u>Exclusion of test during this FAT</u>

- 3rd Party Package Communication Testing, EMCS integration test with CI-Server and PCS

2 REFERENCES

2.1.1 Project Reference Documents

Doc. No.	*Description*
123A90-DDL-IN-DD-40019 Rev.00	Data Network Architecture Drawings
123A90-DDL-EL-DG-20041 Rev.00	Block Diagram (EMCS)
123A90-PML-PM-TQ-00050 Rev.01	Reactive power control requirement for BLPH
123A90-DDL-EL-DS-20040 Rev.00	TDS - Electrical Monitoring and Control System (EMCS)
123A90-PML-PM-TQ-00052 Rev.00	Interface with Electrolyzer
123A90-PML-PM-TQ-00053 Rev.00	Interface with BESS
123A90-PML-PM-TQ-00054 Rev.00	Interface with WINDFARM and WTG-57
123A90-PML-PM-TQ-00055 Rev.01	Interface with SOLAR FARM
123A90-PML-QHSE-PRO-00113 Rev.01	Vendor final document requirements and management
123A90-PML-PM-RE-00038 Rev.01	PROJECT CODES AND STANDARDS REPORT
123A90-DDL-TL-SP-45007 Rev.02	Telecom System Philosophy and Specifications
123A90-DDL-SAF-DL-30027 Rev.00	FandG detection Layout - lower and upper deck
123A90-DDL-SAF-DL-30028 Rev.00	FandG detection Layout - Below Lower deck
123A90-DDL-PR-UFD-80006 Rev.01	BLPH UTILITY FLOW DIAGRAM WATER TREATMENT PLANT
123A90-DDL-PR-UFD-80007 Rev.01	BLPH UTILITY FLOW DIAGRAM INSTRUMENT AIR AND NITROGEN SYSTEMS
123A90-DDL-PR-UFD-80008 Rev.01	BLPH UTILITY FLOW DIAGRAM VENT SYSTEMS
123A90-DDL-IN-SP-40018 Rev. 00	Data Network Design Specification
123A90-DDL-IN-SP-40094 Rev. 00	Instrumentation for Package Unit Specification
123A90-DDL-IN-SP-40097 Rev.00	System Specification for Main Automation Contractor
123A90-DDL-IN-SP-40098 Rev.00	Control System (PCS) Specification
123A90-DDL-IN-SP-40100 Rev.00	Safety System (ESD, Fire and Gas) Specification
123A90-DDL-IN-RE-40023 Rev. 00	Cyber Security Design Philosophy
123A90-DDL-IN-RE-40093 Rev. 00	Control System Philosophy
123A90-DDL-IN-DL-40013 Rev.00	Earthing layouts drawings (Onshore CCR, Offshore ITER)
123A90-DDL-IN-DD-40096 Rev.00	Control System Architecture Detailed Drawings

Doc. No.	*Description*
123A90-DDL-IN-DD-40029 Rev.00	Automation Detailed Design and Construction Package
123A90-DDL-EL-SP-20039 Rev.00	Functional and Technical Design Specification, IDS and DDS for EMCS
123A90-DDL-PR-DG-80000 Rev.01	Process Safety Cause and Effect Block Diagram
123A90-DDL-IN-MR-40103 Rev.01	MR - Process Automation System
123A90-DDL-IN-CE-40000 Rev.02	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.01	Fire and Gas Cause and Effect Matrix
123A90-DDL-PR-PID-80009 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM GENERAL NOTES
123A90-DDL-PR-PID-80010 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM PIPING SYMBOLOGY
123A90-DDL-PR-PID-80011 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM ELECTROLYSER PACKAGE
123A90-DDL-PR-PID-80012 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM FUEL CELL PACKAGE
123A90-DDL-PR-PID-80013 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (INLET)
123A90-DDL-PR-PID-80014 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSELS HEADER (OUTLET)
123A90-DDL-PR-PID-80015 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL A
123A90-DDL-PR-PID-80016 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL B
123A90-DDL-PR-PID-80019 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL E
123A90-DDL-PR-PID-80017 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL C
123A90-DDL-PR-PID-80018 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL D
123A90-DDL-PR-PID-80020 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN STORAGE VESSEL F
123A90-DDL-PR-PID-80021 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 1

Doc. No.	*Description*
123A90-DDL-PR-PID-80022 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM SEA-WATER INTAKE SYSTEM SHEET 2
123A90-DDL-PR-PID-80023 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 1
123A90-DDL-PR-PID-80024 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER TREATMENT PLANT SHEET 2
123A90-DDL-PR-PID-80025 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 1
123A90-DDL-PR-PID-80026 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM WATER DISPOSAL SHEET 2
123A90-DDL-PR-PID-80027 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM INSTRUMENT AIR PACKAGE
123A90-DDL-PR-PID-80029 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT DRUM
123A90-DDL-PR-PID-80028 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM HYDROGEN VENT HEADER
123A90-DDL-PR-PID-80041 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM Instrument air distribution header
123A90-DDL-PR-PID-80042 Rev.02	BLPH PIPING AND INSTRUMENTATION DIAGRAM instrumentation SYMBOLOGY
123A90-DDL-PR-PID-80043 Rev.00	BLPH PIPING AND INSTRUMENTATION DIAGRAM - OPEN DRAIN SYSTEM
K559-2254-PM-PLN-003 Rev.02	BASIC DESIGN ENGINEERING PACKAGE
123A90-MOM-RM-OOE-CW-002 Rev.00	Solar Package – BLPH Network Redundancy discussion
CWHKN-INN-INP-SPC-00005 Rev.01	SCADA Functional Design Specification
Crosswind - System Security Requirements v1.0	SYSTEM SECURITY REQUIREMENTS
K559-2254-EL-PHI-002 Rev03	ELECTRICAL SYSTEM DESCRIPTION AND DESIGN PHILOSOPHY
K559-2254-IC-BLD-001 Rev.01	PRELIMINARY CONTROL SYSTEM ARCHITECTURE
K559-2254-IC-PHI-001 Rev.01	CONTROL SYSTEM PHILOSOPHY
K559-2254-IC-REP-003 Rev.00	CYBER SECURITY ASSESSMENT

Doc. No.	*Description*
K559-2254-IC-SPE-001 Rev.00	SYSTEM SPECIFICATION FOR MAIN AUTOMATION CONTRACTOR
K559-2254-PR-BLD-001 Rev.01	BLOCK FLOW DIAGRAM SYSTEM OVERVIEW
K559-2254-EL-LST-001 Rev.00	CONTROL ALARM AND MONITORING TABLE
123A90-DDL-IN-LIS-40027 Rev.01	Master Alarm Database
123A90-DDL-IN-RE-40026 Rev.00	Alarm Management Workshop Report
123A90-DDL-IN-RE-40095 Rev.00	Process Control Logics Description
123A90-DDL-IN-PRO-40010 Rev.01	Override Procedures for Process Safeguarding Systems
123A90-DDL-IN-RE-40025 Rev.01	Alarm Management Workshop Terms of Reference
123A90-DDL-IN-SP-40024_Rev.00	Alarm System Requirements Specification
123A90-DDL-PR-RE-80031 Rev.02	Process Control, Operation, Start-up and Shutdown Philosophy
123A90-DDL-EL-DG-20014 Rev 01	Electrical Control, Protection and Metering Diagrams
123A90-DDL-EL-DG-20158 Rev.02	Overall-Key Single Line Diagram
123A90-DDL-EL-RE-20170 Rev.01	Electrical System Study Report - Load Flow
123A90-DDL-EL-RE-20171 REV.01	Electrical System Study Report - Short Circuit
123A90-DDL-EL-RE-20175 Rev.01	Electrical System Study Report - Power Factor Compensation
123A90-DDL-EL-RE-20176 Rev.01	Electrical System Study Report - Transient In-Rush
123A90-DDL-EL-SP-20141 Rev.01	Electrical System Description and Design Philosophy
1723001595-EL-DG-00012 Rev.02	Functional logic diagram
1723001595-EL-DG-00013 Rev.03	BASE LOAD POWER HUB (BLPH) - 66kV Switchgear (GIS) - Single line diagram
1723001595-EL-DG-00017 Rev.01	Inter-panel logic diagram
1723001697-EL-DG-00010 Rev.03	TR-100AD1 Termination and Wiring Diagram
1723002197-EL-DG-00010 Rev. 04	SG-100D1 HV SWBD 6,6kV - ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00011 Rev.04	SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00012 Rev.04	SG-200D2-LV SWBD 800V-ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00015 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - INCOMING FEEDER

Doc. No.	*Description*
1723002197-EL-DG-00016 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - BUS BAR METERING
1723002197-EL-DG-00017 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM BESS FEEDER A-8500
1723002197-EL-DG-00018 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00019 Rev.03	SG-100D1 HV SWBD 6,6kV- FUNCTIONAL DIAGRAM - FUEL CELL FEEDER A-80000
1723002197-EL-DG-00020 Rev.03	SG-100D1 HV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00021 Rev.01	SG-100D1 MV SWBD 6,6kV - FUNCTIONAL DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00022 Rev.01	SG-100D1 MV SWBD 6,6kV INTERCONNECTING
1723002197-EL-DG-00023 Rev.01	SG-100D1 MV SWBD 6,6kV-LOGIC DIAGRAM-INCOMING FEEDER TR-100AD1
1723002197-EL-DG-00025 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - BESS FEEDER A-85000
1723002197-EL-DG-00026 Rev.01	SG-100D1 MV SWBD 6,6kV - LOGIC DIAGRAM - ELECTROLYSER FEEDER A20000
1723002197-EL-DG-00027 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM -FUEL CELL FEEDER A-80000
1723002197-EL-DG-00028 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200ED1
1723002197-EL-DG-00029 Rev.03	SG-100D1 HV SWBD 6,6kV - LOGIC DIAGRAM - TRANSFORMER FEEDER TR200DE1
1723002197-EL-DG-00030 Rev.02	SG-200N1 LV SWBD 400-230V FUNCTIONAL DIAGRAMS - INCOMINGS AND INTERCONNECTING AND AUX DISTRIBUTION
1723002197-EL-DG-00031 Rev.02	SG-200N1 LV SWBD 400-230V - FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
1723002197-EL-DG-00032 Rev.01	SG-200D2 LV SWBD - ELECTRICAL FUNCTIONAL DIAGRAM
1724000428-IN-LIS-00016 Rev.03	IO LIST - INSTRUMENT AIR PACKAGE
1724000437-IN-LIS-00015 Rev.03	IO LIST - NITROGEN GENERATION PACKAGE U-64000

Doc. No.	*Description*
1724000372-EL-LIS-00014 Rev.02	IO LIST
1723002197-EL-LIS-00041 Rev.02	SG-100D1 IO LIST- Hv Switchgear
1723002197-EL-LIS-00042 Rev.02	SG-200N1 IO LIST - Lv Switchgear
1723002197-EL-LIS-00043 Rev.01	SG-200D2 IO LIST (HARDWARE -SOFTWARE)
1723001595-EL-LIS-00011 Rev.02	Switchgear IO list
1724000448-IN-LIS-00019 Rev.01	INPUT-OUTPUT LIST
123A90-DDL-EL-DG-20185 Rev.01	Electrical Single Line Diagram HV Systems
1724000372-EL-DG-00006 Rev.02	DC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM
1724000372-EL-DG-00007 Rev.02	AC UPS - SINGLE LINE DIAGRAM and INTERCONNECTING DIAGRAM
123A90-DDL-IN-LIS-40089 Rev.03	Instrument I-O List
123A90-DDL-EL-DL-20100 Rev 01	Base Load Power Hub - Electrical Equipment Layout - Top Deck
123A90-DDL-EL-DL-20101 Rev 01	BASE LOAD POWER HUB (BLPH) - Electrical Equipment Layout - Lower Deck
123A90-DDL-EL-DL-20104 Rev.02	Base Load Power Hub (BLPH) - Electrical Equipment Layout - HV Switch room
123A90-DDL-EL-DL-20105 Rev.02	Electrical Equipment Layout - LV Switch room
123A90-DDL-EL-DL-20106 Rev.01	Base Load Power Hub (BLPH) - Electrical Equipment Layout - UPSs & Batteries Switch room
123A90-DDL-IN-DL-40012_Rev.03	BASE LOAD POWER HUB - OFFSHORE ITER - EQUIPMENT LAYOUT
1724000049-HV-PID-00039.Rev.00	B-100 PID - E&I SHELTERS
1724000049-HV-PID-00040.Rev.00	B-200 PID - E&I SHELTERS
1724000049-HV-PID-00041.Rev.00	B-300 PID - E&I SHELTERS
1724000049-HV-PID-00042.Rev.00	B-400 PID - E&I SHELTERS
1724000428-PR-PID-00019 Rev.02	PACKAGE PID - INSTRUMENT AIR PACKAGE
1724000437-PR-PID-00018 Rev.02	PACKAGE PID - NITROGEN GENERATION PACKAGE
1724000448-PR-PID-00013_Rev.01	WATER TREATMENT PACKAGE-PID DIAGRAM
HKN1-04-DWG-312 RevD	HKN1-04-DWG-312 Power Export System Single Line Diagram

Doc. No.	*Description*
K559-2254-CWIWP4202201-C06-001 Rev.01	Electrical Single Line Diagrams
K559-2254-CWIWP4202202-C03-001 Rev.05	BALLARD - BLPH Project - P&IDs
C63-PID-001_Rev.07	ELOGEN BLPH Project - Process and Instrumentation Diagrams
123A90-DDL-IN-CE-40000 Rev.03	Process Safety Cause and Effect Matrix
123A90-DDL-IN-CE-40002 Rev.02	Fire and Gas Cause and Effect Matrix

Table 1 – Project Reference Documents

2.1.2 Yokogawa Project Document

Doc. No.	Description
1724000594-IN-RE-00041 Rev00	Cybersecurity Workshop Preparation
1724000594-QC-ITP-00002 Rev01	INSPECTION AND TEST PLAN
1724000594-QC-PRO-00031 Rev00	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-SP-00018 Rev02	PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW)
1724000594-QC-DB-00033 Rev00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
1724000594-IN-LIS-00040 Rev00	VENDOR ASSET AND TAG REGISTER
1724000594-IN-DG-00023 Rev01	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-MD-LIS-00001 Rev03	SUPPLIER MASTER INDEX REGISTER (SMIR)
1724000594-IN-MAN-00038 Rev00	Instructions for Operation and Maintenance for ProSafe-RS
1724000594-IN-DA-00009 Rev01	PCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-QC-PRO-00030 Rev01	HW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-RE-00008 Rev01	Safety Controller loading estimation
1724000594-IN-DD-00028 Rev01	HMI screens print out
1724000594-COM-LIS-00039 Rev01	SPARE PART INDEX REGISTER (COMMISSIONING AND 2-YEARs OPERATION)
1724000594-IN-PL-00029 Rev00	Safety Validation Plan (SVP)
1724000594-IN-CA-00006 Rev01	Power Consumption and Heat Dissipation
1724000594-IN-LIS-00005 Rev00	EMCS IO List (HW and SW)
1724000594-IN-RE-00035 Rev01	Cyber Security Risk Assessment REPORT
1724000594-IN-RE-00043 Rev00	CYBER SECURITY SETTINGS

1724000594-IN-DG-00021 Rev01	SAFETY SYSTEMS CABINETS (SIS AND FGS) WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DA-00010 Rev01	SAFETY SYSTEMS CABINETS (SIS AND FGS) GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-LIS-00036 Rev01	ATEX REGISTER
1724000594-IN-DA-00011 Rev02	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-SP-00019 Rev02	EMCS Software Functional Design Specification (FDS-SW)
1724000594-QC-LIS-00034 Rev00	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX
1724000594-IN-DA-00012 Rev01	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-QC-PRO-00042 Rev00	THIRD PARTY COMMUNICATION TEST PROCEDURE
1724000594-IN-DD-00015 Rev03	System Architecture
1724000594-IN-LIS-00004 Rev03	PCS and Safety System IO List (HW and SW)
1724000594-IN-DG-00022 Rev01	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DG-00016 Rev01	Network Connection Diagram
1724000594-IN-LIS-00007 Rev01	Systems Cables List
1724000594-IN-SP-00017 Rev01	PAS Hardware Functional Design Specification (FDS-HW)
1724000594-IN-DG-00024 Rev01	EMCS CABINETS WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-DA-00013 Rev01	EMCS CABINETS GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT

Table 2 – Yokogawa Reference Documents.

2.2 DEFINITIONS AND ABBREVIATIONS

ALE	Yokogawa Ethernet Communication Module
AMS	Alarm Management System
BLPH	Base Load Power Hub
CAP	Critical Action Panel
Centum VP	Yokogawa's DCS Product
PCS	Process Control System
CI	Collaborative Information
COMPANY	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.

DCS	Distributed Control System
DEP	Design and Engineering Practice
DOCUMENT NAME	Document Title
EMCS	Electrical Monitoring and Control System
EPC	Engineering, Procurement Construction
EWS	Engineering Workstation
FCS	Field Control Station
FGS	Fire & Gas System
GSD	General Station Description
HART	Highway Addressable Remote Transducer
HKN	Hollandse Kust Noord
HMI	Human Machine Interface
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
HV-SCADA	The given name for the COMPANY's control system for the HKN wind farm infrastructure. BLPH's control system shall operate autonomously but will interface with HV-SCADA.
IAMS	Instrument Asset Management System
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ITER	Instrument & Telecoms Equipment Room
ITP	Inspection and Test Plan
MAC	Main Automation Contractor
MCC	Motor Control Centre
NA	Not Applicable
OER	Onshore Equipment Room
OPC	OLE (Object Linking Embedded) for Process Control
P&ID	Piping and Instrument Diagram
PCS	Process Control System
PIN	Plant Information Network
PRM	Plant Resource Manager
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
SCADA	Supervisory Control and Data Acquisition

SHALL	An absolute requirement.
SHOULD	This word indicates a recommendation that whilst preferred may not be implemented provided some equivalent is proposed and agreed by COMPANY. The full implications must be understood and carefully weighed before choosing a different course.
SIF	Safety Instrumented Function
SIL	Safety Instrumented Level
SIS	Safety Instrumented System
TCP/IP	Transmission Control Protocol/Internet Protocol
Vnet/IP	Yokogawa Virtual Network
WSUS	Window Security Update Services

Table 3 – Definitions and Abbreviations

2.3 APPLICABLE DESIGN ENGINEERING PRACTICES

Design Engineering Practices (DEP) have a limited rollout on BLPH.

2.3.1 Fully Applicable DEP

The following DEP are identified as being fully applicable to the project.

Document Name	Document Title
DEP 32.01.20.12	Industrial Automation and Control Systems (IACS) Security
DEP 30.00.60.15	Humans Factors Engineering – Control Room Design
DEP 33.64.10.32	Electrical Network Monitoring and Control System for Global Application
DEP 37.76.10.10	HVAC for Offshore Installations (Amendments/Supplements to ISO 15138)

Table 4 – Applicable DEPs

DEP 32.01.20.12 shall be applied to the project in full, in conjunction with IEC 62443, for the cybersecurity design.

2.3.2 DEM-1 Process Safety Only DEP

The following DEPs shall have the DEM-1 'Process Safety' requirements applied to the project.

Document Name	Document Title
DEP 32.30.20.11	Fire, Gas and Smoke Detections
DEP 32.80.10.10	Safety Instrumented Systems
DEP 32.80.10.14	Alarm Management (Amendment/Supplements to IEC 62682)
DEP 62.10.08.11	Inspection and Function Testing of Instruments

Table 5 – Applicable DEPs

2.4 INDUSTRY STANDARDS

Document Name	Document Title
IEC 61508	Functional safety of electrical/electronic/programmable electronic safety-related systems
IEC 61511	Functional Safety – Safety Instrumented Systems for the Process Industry Sector – Framework, Definitions, System, Hardware, and Application Programming Requirements
IEC 61850	Communication Networks and Systems for Power Utility Automation
IEC 62443	Cyber Security for Industrial Automation and Control Systems
IEC 62682	Management of Alarm Systems for the Process Industries
ISO 9001	Certifications of Quality Management System

Table 6 – Industry Standards

3 RESPONSIBILITY

Responsibilities for each party involved in the FAT are defined here-under to ensure that the FAT is carried out in accordance with an agreed procedure. It also ensures that there shall be authorized personnel(s) from Crosswind, RM and YOKOGAWA to facilitate any decisions and schedule changes resulted from the FAT as per ITP.

3.1 CROSSWIND

The full participation of Crosswind in the FAT is essential. Crosswind shall appoint an Inspector cum Test Approver to witness the FAT. The Test Approver would have the authority to sign-off upon the successful completion of all tests. Once signed off, the test will be deemed accepted and the decision will be final. The Inspector shall participate in the test and observe the test results on daily basis. The Test Approver shall approve the inspection items based on the approved specification and the test results recorded.

3.2 ROSETTI MARINO (RM)

RM shall appoint a FAT Manager for the FAT. The FAT Manager representing RM shall coordinate with Crosswind and YOKOGAWA FAT Managers and to facilitate the smooth implementation of the FAT activities and schedule. The role of the FAT Manager is also to resolve FAT issues on a regular basis. RM representatives will participate in the FAT for the complex controls, sequences and logics. For PCS controlled equipment packages containing complex controls, sequences and logics, RM at their discretion, may invite their package equipment supplier representatives to participate in the testing.

3.3 MAC SUPPLIER

YOKOGAWA as MAC shall appoint a Test Conductor to organize and manage all aspects of the FAT. YOKOGAWA shall carry out the testing and record the test results daily basis together with Crosswind Inspector and RM representative. The Project Manager representing YOKOGAWA shall be the FAT Manager. The FAT Manager shall coordinate with RM's FAT Manager and shall amend the test schedule whenever necessary to ensure the smooth running of the FAT. The FAT Manager shall also ensure that all tests are conducted in accordance with the approved FAT documents. If changes/modifications are required in the implementation, the FAT Managers of YOKOGAWA and RM shall discuss and arrive at the action plan.

4 GENERAL ADMINISTRATION

4.1 FAT VENUE

All the PCS equipment's will be staged at YOKOGAWA and shall be carry out using Virtual Machine (VM)/Remote Access on Yokogawa's Distributed Control System (PCS) CENTUM VP, Prosafe-RS (SIS and FGS) and SCADA (CI Servers).

4.2 ORGANIZATION CHART

A specific detailed Organization Chart shall be issued for each project, with all positions and names filled in. In addition, a FAT roster of the participants shall be issued, with the following details for each person; full name, company, responsibility, samples of the signature and initials, actual start and finish date of participation in the FAT. The FAT Manager will be responsible for maintaining the roster and keeping it updated.

4.3 KICK-OFF MEETING

An initial kick-off meeting will be held prior to starting the FAT to brief the participants, confirm the organization and responsibilities, and review the FAT schedule. At the same time, HSE briefing for all participants will be provided by YOKOGAWA. YOKOGAWA FAT Manager will prepare the presentation and explain the organization and work practices. All FAT documentation prepared by YOKOGAWA prior to FAT will be inspected for completeness.

4.4 DAILY WORKING SCHEDULE

The FAT will be conducted using Virtual Machine (VM)/Remote Access from YOKOGAWA premises from Monday to Friday (working days).

The following timing (CET) is recommended for the testing:

0900 to 1230 hrs	Inspection and test
1230 to 1330 hrs	Lunch
1330 to 1530 hrs	Inspection and test
1530 to 1600 hrs	Daily review meeting including next day's schedule planning

4.5 DAILY REVIEW MEETING

YOKOGAWA FAT Manager shall conduct a daily review meeting at the end of each FAT day. The meeting will involve all the parties taking part in the FAT. The purpose of this review meeting is to update all parties the progress and status of the FAT. The punch list will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the recovery work involved is minor (identified in the daily meeting) and agreed by all parties, the work will be carried out on the same day and will be verified the following day by all the concerned parties and signed off in the punch list. If the recovery work involves major change/modification, The FAT Manager will advise the schedule for retesting.
Refer to section 5.4 for details in punch record.
The FAT Manager should also ensure that PCS, SIS, FGS, SCADA and EMCS Engineers make a backup of the application program to an external storage & other PC every day after the daily review meeting, so that old backups can be retrieved, if necessary.
White board will be provided to record progress & pending item.

4.6 WEEKLY PROGRESS MEETING

YOKOGAWA FAT Managers shall conduct weekly progress meeting every Friday. The purpose of the weekly meeting is to report the progress of the FAT in the same week and planned activity the following week. It shall also be the forum for resolving any issue arises from punch list. In the weekly progress meeting, The FAT Manager will present detailed weekly progress report, containing details of activities and achievements for the week, plan for the next week, area of concern, and detailed formal overall progress assessment. The format and content details of the weekly progress report and the underlining planning, progress monitoring and measurement methodology shall be in accordance with the FAT planning, Progress Monitoring Report. After the joint review in the weekly progress meeting and any necessary amendments, The FAT Manager will issue the weekly progress report.

4.7 FAT WRAP-UP MEETING

At the completion of the FAT, a final wrap-up meeting will be held. The overall status of the FAT shall be reported. Upon all parties' agreement that the FAT is completed satisfactorily, the FAT Completion Certificate and Shipping Release Notes shall be signed off by Crosswind/RM.

5 FAT DOCUMENTATION

The Factory Acceptance Test (FAT) shall be conducted in accordance with the test procedures detailed in this document. The test results shall be recorded in the check sheet. To prevent from any check sheet getting lost, each Check sheet shall be given a unique reference number.

5.1 FAT WRAP-UP MEETING

All FAT documentation shall be prepared by YOKOGAWA prior to the start of the FAT. All forms, check sheets, sign-off sheets, drawings, etc. as listed in this procedure shall be organized in indexed binders. A master index for the FAT will be provided and maintained by YOKOGAWA FAT Manager.
The documentation for software checks shall be organized by individual process units in indexed binders. The documentation for graphics checks shall also be organized, separately by individual process units in indexed binders.
All FAT reference documents (latest issue) as listed in this procedure originated by other parties (Crosswind, RM), which were issued formally to YOKOGAWA will form a part of the FAT documentation and shall be printed out and organized in indexed binders by YOKOGAWA.
All FAT reference documents as mentioned above shall be stamped "FAT MASTER" on every page/sheet. Any additional documents that may be necessary and generated later during FAT shall also be stamped, and indexes amended accordingly.

5.2 INTERNAL TEST/PRE-FAT WRAP

Prior to the FAT, YOKOGAWA shall conduct internal test (Pre-FAT) to verify the system and application software.

PCS Complex control loops, specialized sequential controls and batch control applications shall also be completely tested during Pre-FAT using Simulation Software (Test Function) in VMs.

The entire SIS, FGS application software will also be completely tested during Pre-FAT using Simulation Software (Test function) in VMs.

The result of the test shall be recorded and made available for reference before or during FAT. As a part of the pre-FAT, the project team consisting of application engineers from YOKOGAWA, RM and Crosswind conduct electronic (paper) check using the PCS tag/tuning report generated from the system.

During this paper check Pre-FAT, Crosswind/RM will verify the configuration parameters by using engineering documents. This will enable the FAT crew to concentrate on the control functions and Graphic functionality during the actual FAT and will also help in reducing the duration of the FAT.

Refer to PCS, SIS, FGS and SCADA application software sections for detailed procedure on paper check. It is also preferred that Crosswind and RM representatives participate in the pre-FAT for complex controls, sequences and logics checks, especially in projects that has multiple equipment's with identical control strategy, to facilitate smooth execution of the FAT.

5.3 METHOD OF TESTING

Detailed test procedure for each test item is described in this document. Check sheet shall be provided, listing the equipment to be tested. All test results shall be recorded in the Check sheets. The following color codes shall be used in the testing:

a) Yellow marker – Items that were checked and cleared

b) Pink marker – Items that were having problems.

c) Green marker – Items that were checked after completion of recovery.

The color marking will be used on the print-outs of the control drawings, graphics and supporting design documents such as P&IDs, narratives, etc.

During PRE-FAT/FAT sample check of SIS, FGS Logics can be demonstrated with target hardware. Complete software and Hardware Integration Test shall be performed during SAT.

PCS Software Function Test will be conducted using Test Function tool, without connection to any physical I/O. Simulation Software (PCS/SIS/FGS/SCADA Specific) will be used to simulate process input, digital signal and alarms to FCS so that typical loops, logic sequence blocks can be tested without connecting to physical input and output devices. Dynamic graphics check shall be a part of the PCS/SIS/FGS/SCADA Software function test.

5.4 PUNCH RECORD

All shortcomings found during the test shall be noted in the FAT Punch Record. Each punch Record shall cover one punch item/fault. A Punch Record Ledger shall be used to summarize all the punch records. Punch record items shall be classified as follows:

M = Modification, item is to be modified, deleted, added due to design input changes.

C = Correction, item is to be corrected by YOKOGAWA.

If the recovery work involves change/modification, it is to be recorded on the punch record and the recovery undertaken as soon as possible after the agreement of both the FAT Managers after signing of the punch record. YOKOGAWA shall clear all correction items (Code-C) at factory before shipment. For recovery work that involves modification (Code-M), it will be regularly jointly reviewed by all parties on at least weekly basis and resolved whether to be implemented during FAT or later, depending on complexity and potential schedule and/or cost impact. After verification, the same will be signed off by all concerned parties in the punch record.

The punch record will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the modification request were deemed deviated from the original design, it would be considered as change order. Punch will be recorded into punch list system.

5.5 FAT COMPLETION CERTIFICATE & SHIPPING RELEASE NOTE

Upon completion of the FAT, FAT Completion Certificate and Shipping Release Note will be signed by Crosswind, RM and YOKOGAWA. The purpose of these two documents is to certify that the FAT has been completed and accepted by RM. Both RM and YOKOGAWA agree that the system is in order and can be released for software to site. The software will be accepted and released by RM in any case, the release note will be issued by RM using its own template.

5.6 TEST EQUIPMENT

For SW FAT Virtual Machines with required software shall be used to demonstrate software applications configured using screen sharing and audio. Hence no dedicated measuring/Calibrating Test equipment shall be used.

6 PCS APPLICATION SOFTWARE

6.1 PROJECT OVERALL FUNCTION

6.1.1 Project Common Setting Check

Outline	Application inspection of project overall function include verifying project common configuration like plant hierarchy, alarm table, operation mark, and FCS properties/constants.
Objective	- Verify that the project overall function of CENTUM VP project is defined according to the FDS requirements.
Reference	- Functional Specifications like; • 1724000594-IN-DD-00015- System Architecture Drawing • 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW • CENTUMVP system view
Procedure	Verify following CENTUM VP configuration files as a part of paper check during pre-FAT; • Plant hierarchy • Alarm table • Operation mark • FCS properties/constants
Criteria	Plant hierarchy, alarm table, operation mark, and FCS properties/constants are configured according to the FDS.

The above checks are conducted and witnessed by following representatives.

OPMARK NOT USED

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : Kamalnath S Date: 20-12-2024.

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

Reference: GES_D0202 Rev. 5.00.00

Plant Hierarchy Builder

No.	Equipment ID	Equipment name	Comment	Equipment Format	Upper Equipment Name
1	74	BLPH		Site	
2	740	PCS		Unit	BLPH
3	79	ESD		Unit	BLPH
4	70	FGS		Unit	BLPH
5	87	EMCS		Unit	BLPH
6	20	ELECTROLYZER		Unit	BLPH
7	80	FUELCELL		Unit	BLPH
8	85	BESS		Unit	BLPH
9	77	HVAC		Unit	BLPH
10	50	WTP		Unit	BLPH
11	63	IA		Unit	BLPH
12	64	N2		Unit	BLPH
13	72	NAVAIDS		Unit	BLPH
14	25	H2		Unit	BLPH
15	43	VENT		Unit	BLPH
16	741	IDS		Unit	BLPH
17					
18					
19					
20					

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Alarm Processing Table Builder

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	Low-priority Alarm	B	Alarm Logging Only	OR	High-priority Alarm
	OR	Medium-priority Alarm	OR	Low-priority Alarm	B
	Alarm Logging Only	B	High-priority Alarm	B	Medium-priority Alarm
	B	Low-priority Alarm	B	Alarm Logging Only	B
	High-priority Alarm	B	Medium-priority Alarm	B	Low-priority Alarm
	B	Alarm Logging Only			
8	C	High-priority Alarm	C	Medium-priority Alarm	C
	Low-priority Alarm	C	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	C
	Alarm Logging Only	C	High-priority Alarm	C	Medium-priority Alarm
	C	Low-priority Alarm	C	Alarm Logging Only	C
	High-priority Alarm	C	Medium-priority Alarm	C	Low-priority Alarm
	C	Alarm Logging Only			
9	G	High-priority Alarm	G	Medium-priority Alarm	G
	Low-priority Alarm	G	Alarm Logging Only	G	High-priority Alarm
	G	Medium-priority Alarm	G	Low-priority Alarm	G
	Alarm Logging Only	G	High-priority Alarm	G	Medium-priority Alarm
	G	Low-priority Alarm	G	Alarm Logging Only	G
	High-priority Alarm	G	Medium-priority Alarm	G	Low-priority Alarm
	G	Alarm Logging Only			
10	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
11	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			

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	Color[16]	Priority[16]			
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	Low-priority Alarm	R	Alarm Logging Only	C	High-priority Alarm
	C	Medium-priority Alarm	C	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
13	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
14	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
15	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
16	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
17	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			

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	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]
	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]
	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
18	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
19	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
20	R	High-priority Alarm	R	Medium-priority Alarm	R
	Low-priority Alarm	R	Alarm Logging Only	R	High-priority Alarm
	R	Medium-priority Alarm	R	Low-priority Alarm	R
	Alarm Logging Only	R	High-priority Alarm	R	Medium-priority Alarm
	R	Low-priority Alarm	R	Alarm Logging Only	R
	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm
	R	Alarm Logging Only			
21	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
22	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
23	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	OR	High-priority Alarm
	OR	Medium-priority Alarm	OR	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			

PROJECT:	BLPH-CW1	FILE NAME:	AlmTbl.edf	SHEET:		YOKOGAWA
STATION:		SAVED DATE:	16-Dec-24 11:28:05 AM	COMMENT:		PAGE:3
SECTION:		PRINTED DATE:	24-Dec-24	DRAWER:		

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]
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	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]
	Color[16]	Priority[16]			
24	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
25	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
26	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
27	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
28	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			
29	Y	High-priority Alarm	Y	Medium-priority Alarm	Y
	Low-priority Alarm	Y	Alarm Logging Only	Y	High-priority Alarm
	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y
	Alarm Logging Only	Y	High-priority Alarm	Y	Medium-priority Alarm
	Y	Low-priority Alarm	Y	Alarm Logging Only	Y
	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm
	Y	Alarm Logging Only			

PROJECT:	BLPH-CW1	FILE NAME:	AlmTbl.edf	SHEET:		YOKOGAWA
STATION:		SAVED DATE:	16-Dec-24 11:28:05 AM	COMMENT:		PAGE:4
SECTION:		PRINTED DATE:	24-Dec-24	DRAWER:		

Bit	Color[1]	Priority[1]	Color[2]	Priority[2]	Color[3]	Priority[3]	Color[4]	Priority[4]	Color[5]	Priority[5]	Color[6]	Priority[6]	Color[7]	Priority[7]	Color[8]	Priority[8]	Color[9]	Priority[9]	Color[10]	Priority[10]	Color[11]	Priority[11]	Color[12]	Priority[12]	Color[13]	Priority[13]	Color[14]	Priority[14]	Color[15]	Priority[15]	Color[16]	Priority[16]
30	Y	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y	Alarm Logging Only																								
31	Y	High-priority Alarm	Y	Medium-priority Alarm	Y	Low-priority Alarm	Y	Alarm Logging Only																								
32	R	High-priority Alarm	R	Medium-priority Alarm	R	Low-priority Alarm	R	Alarm Logging Only																								

PROJECT:	BLPH-CW1	FILE NAME:	AlmTbl.edf	SHEET:		YOKOGAWA	PAGE:5
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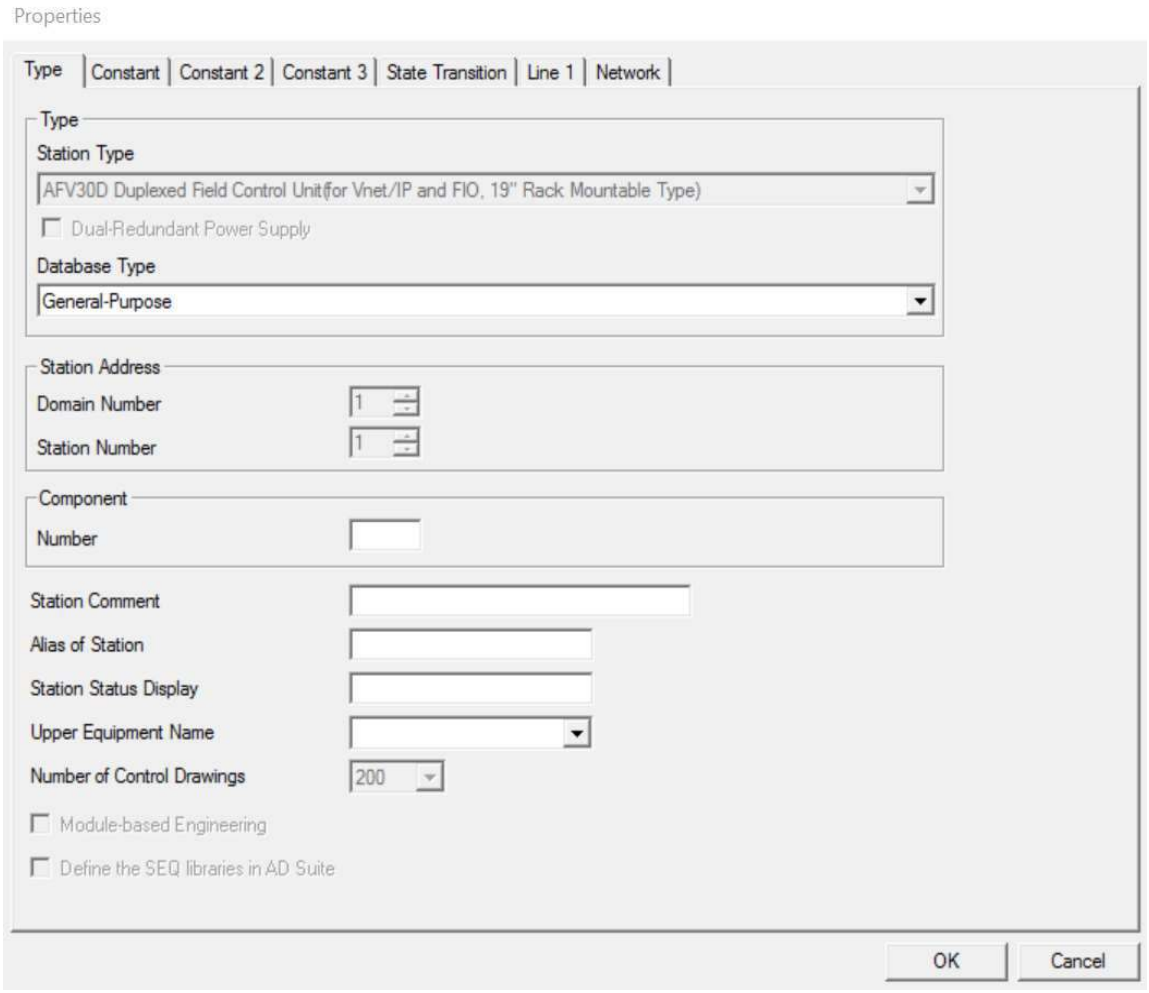
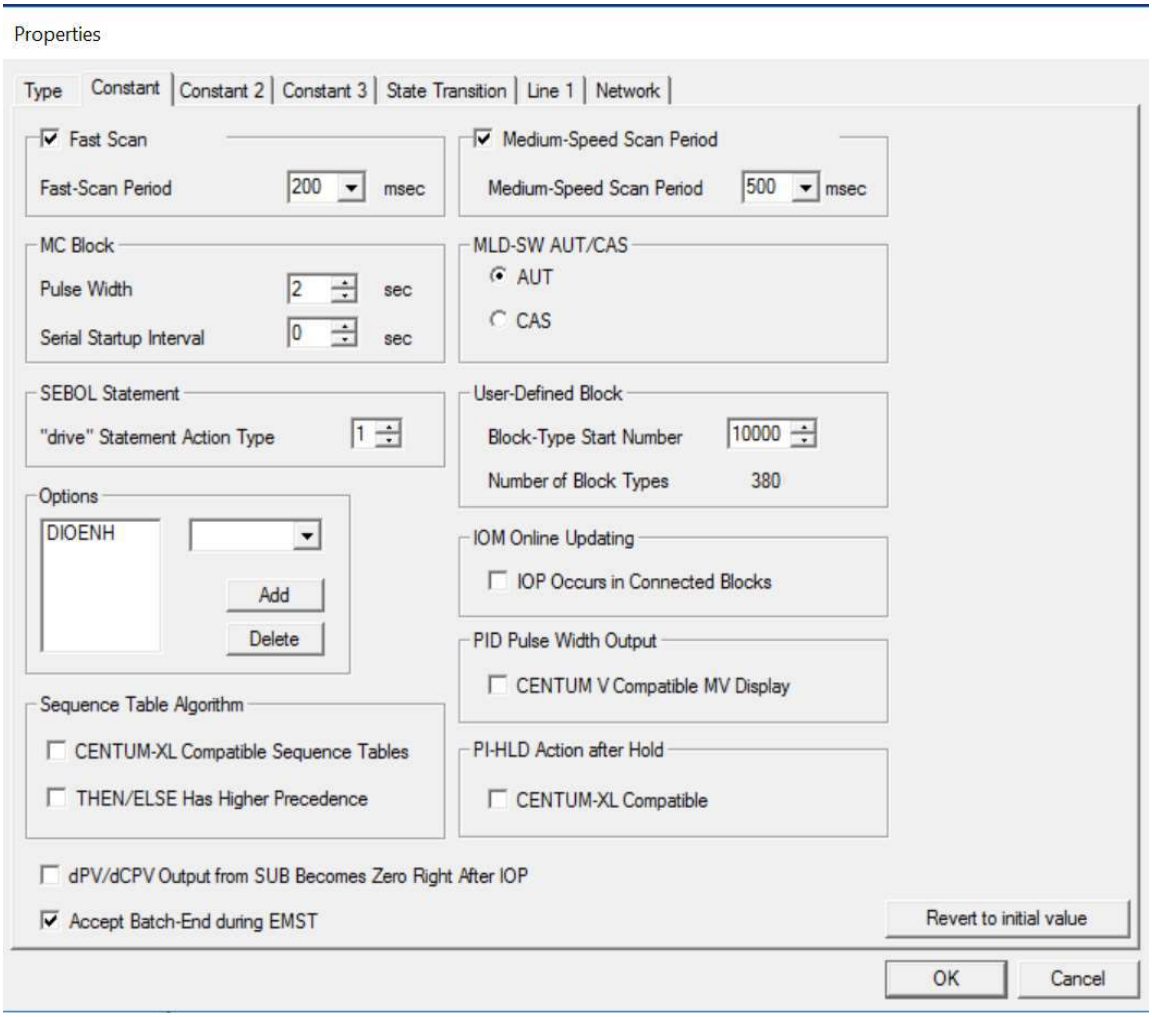
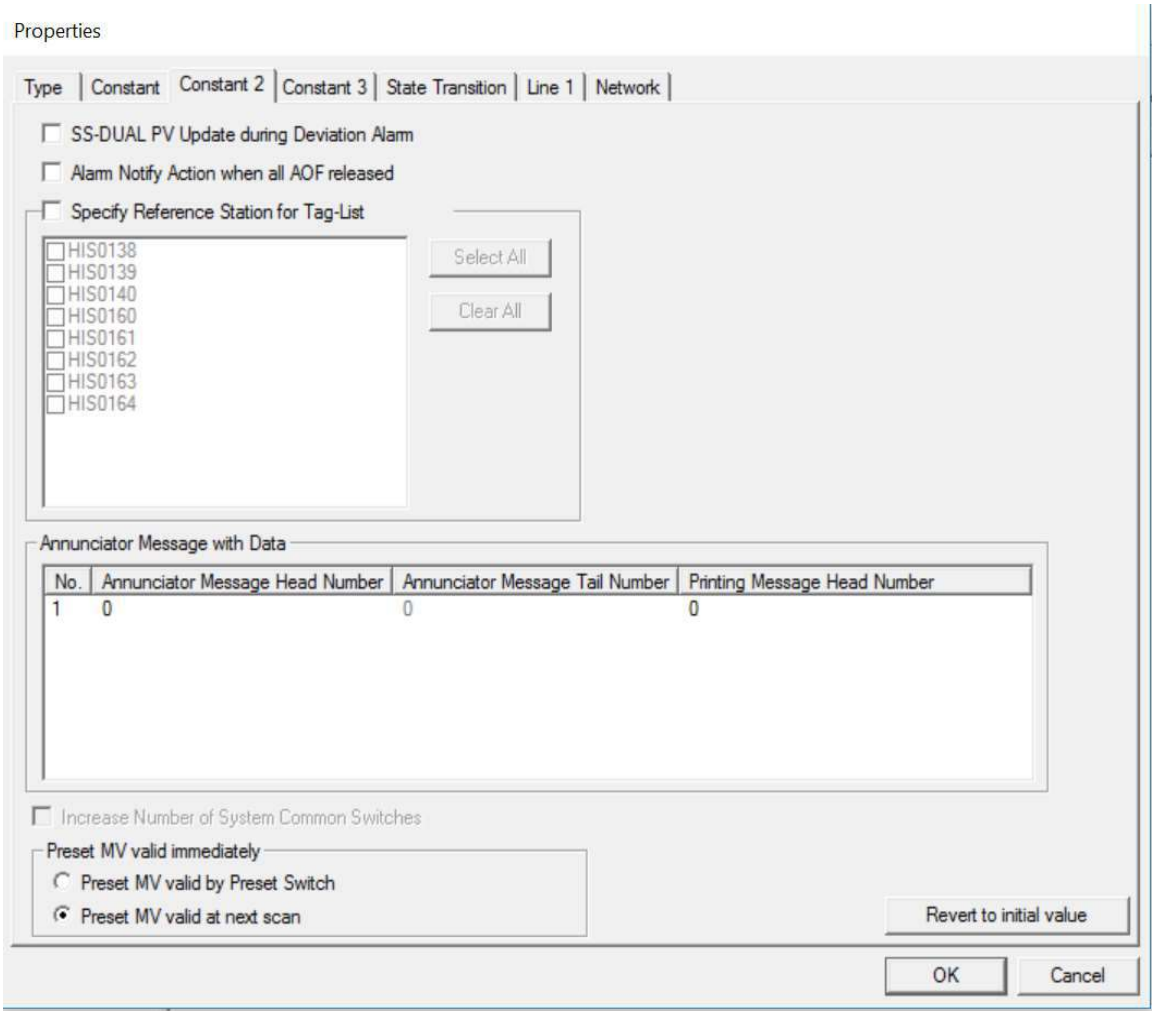
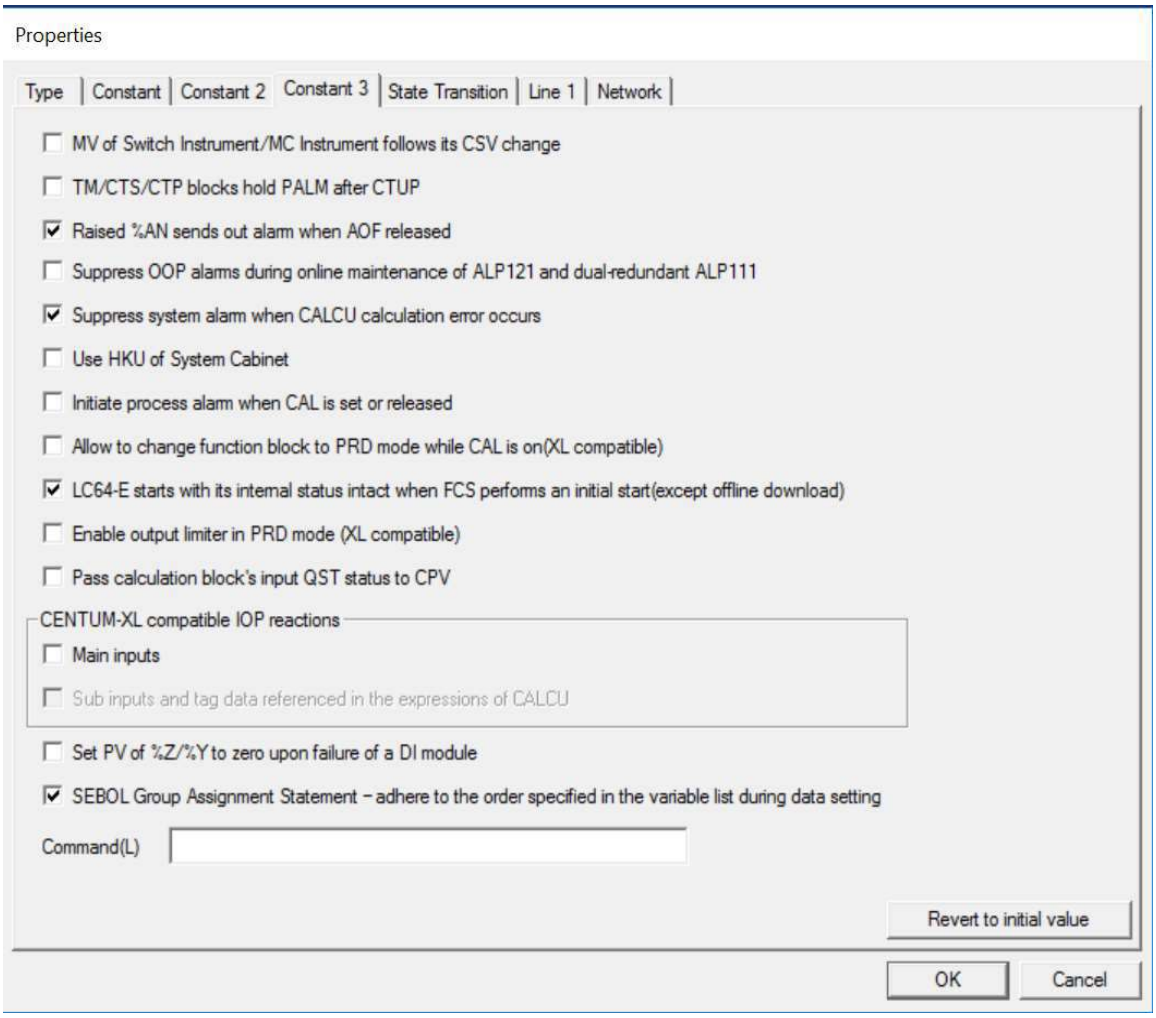
Operation Mark Builder

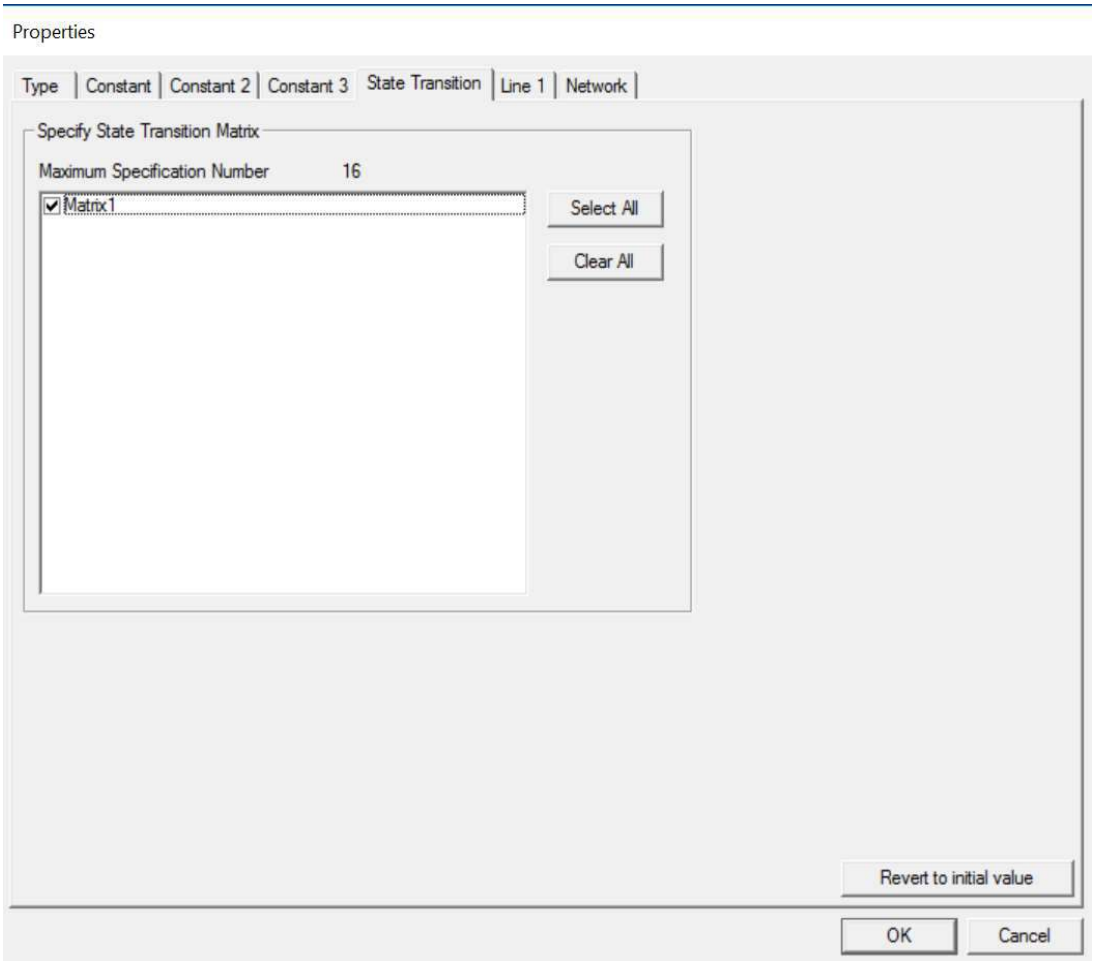
No.	Tag Label	Color	Tag Level	Install/Remove
0001	OPMARK01	W	Comment Type	All Privileges
0002	OPMARK02	W	Comment Type	All Privileges
0003	OPMARK03	W	Comment Type	All Privileges
0004	OPMARK04	W	Comment Type	All Privileges
0005	OPMARK05	W	Comment Type	All Privileges
0006	OPMARK06	W	Comment Type	All Privileges
0007	OPMARK07	W	Comment Type	All Privileges
0008	OPMARK08	W	Comment Type	All Privileges
0009	OPMARK09	W	Comment Type	All Privileges
0010	OPMARK10	W	Comment Type	All Privileges
0011	OPMARK11	W	Comment Type	All Privileges
0012	OPMARK12	W	Comment Type	All Privileges
0013	OPMARK13	W	Comment Type	All Privileges
0014	OPMARK14	W	Comment Type	All Privileges
0015	OPMARK15	W	Comment Type	All Privileges
0016	OPMARK16	W	Comment Type	All Privileges
0017	OPMARK17	W	Comment Type	All Privileges
0018	OPMARK18	W	Comment Type	All Privileges
0019	OPMARK19	W	Comment Type	All Privileges
0020	OPMARK20	W	Comment Type	All Privileges
0021	OPMARK21	W	Comment Type	All Privileges
0022	OPMARK22	W	Comment Type	All Privileges
0023	OPMARK23	W	Comment Type	All Privileges
0024	OPMARK24	W	Comment Type	All Privileges
0025	OPMARK25	W	Comment Type	All Privileges
0026	OPMARK26	W	Comment Type	All Privileges
0027	OPMARK27	W	Comment Type	All Privileges
0028	OPMARK28	W	Comment Type	All Privileges
0029	OPMARK29	W	Comment Type	All Privileges
0030	OPMARK30	W	Comment Type	All Privileges
0031	OPMARK31	W	Comment Type	All Privileges
0032	OPMARK32	W	Comment Type	All Privileges
0033	OPMARK33	W	Comment Type	All Privileges
0034	OPMARK34	W	Comment Type	All Privileges
0035	OPMARK35	W	Comment Type	All Privileges
0036	OPMARK36	W	Comment Type	All Privileges
0037	OPMARK37	W	Comment Type	All Privileges
0038	OPMARK38	W	Comment Type	All Privileges
0039	OPMARK39	W	Comment Type	All Privileges
0040	OPMARK40	W	Comment Type	All Privileges
0041	OPMARK41	W	Comment Type	All Privileges
0042	OPMARK42	W	Comment Type	All Privileges
0043	OPMARK43	W	Comment Type	All Privileges
0044	OPMARK44	W	Comment Type	All Privileges
0045	OPMARK45	W	Comment Type	All Privileges
0046	OPMARK46	W	Comment Type	All Privileges
0047	OPMARK47	W	Comment Type	All Privileges
0048	OPMARK48	W	Comment Type	All Privileges
0049	OPMARK49	W	Comment Type	All Privileges
0050	OPMARK50	W	Comment Type	All Privileges
0051	OPMARK51	W	Comment Type	All Privileges
0052	OPMARK52	W	Comment Type	All Privileges
0053	OPMARK53	W	Comment Type	All Privileges
0054	OPMARK54	W	Comment Type	All Privileges
0055	OPMARK55	W	Comment Type	All Privileges
0056	OPMARK56	W	Comment Type	All Privileges
0057	OPMARK57	W	Comment Type	All Privileges
0058	OPMARK58	W	Comment Type	All Privileges
0059	OPMARK59	W	Comment Type	All Privileges
0060	OPMARK60	W	Comment Type	All Privileges
0061	OPMARK61	W	Comment Type	All Privileges
0062	OPMARK62	W	Comment Type	All Privileges
0063	OPMARK63	W	Comment Type	All Privileges
0064	OPMARK64	W	Comment Type	All Privileges

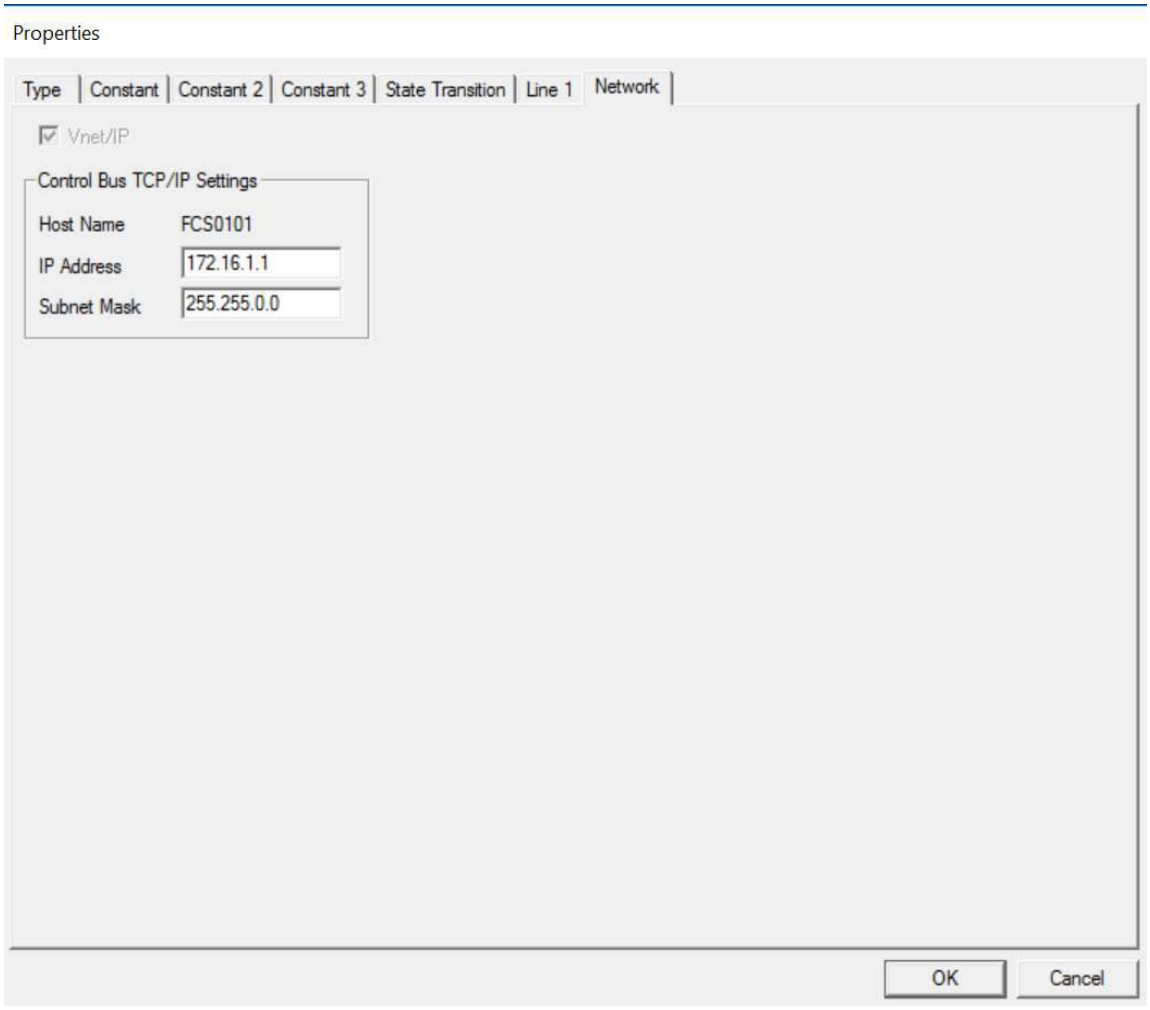

Properties
Type
Constant
Constant 2
Constant 3
State Transition
Line 1
Network
Type
Station Type
AFV30D Duplexed Field Control Unit(for Vnet/IP and FIO, 19" Rack Mountable Type)
Dual-Redundant Power Supply
Database Type
General-Purpose
Station Address
Domain Number
1
Station Number
1
Component
Number
Station Comment
Alias of Station
Station Status Display
Upper Equipment Name
Number of Control Drawings
200
Module-based Engineering
Define the SEQ libraries in AD Suite
OK
Cancel


Properties
Type
Constant
Constant 2
Constant 3
State Transition
Line 1
Network
Fast Scan
Fast-Scan Period
200
msec
Medium-Speed Scan Period
Medium-Speed Scan Period
500
msec
MC Block
Pulse Width
2
sec
Serial Startup Interval
0
sec
MLD-SW AUT/CAS
AUT
CAS
SEBOL Statement
"drive" Statement Action Type
1
User-Defined Block
Block-Type Start Number
10000
Number of Block Types
380
Options
DIOENH
Add
Delete
IOM Online Updating
IOP Occurs in Connected Blocks
PID Pulse Width Output
CENTUM V Compatible MV Display
Sequence Table Algorithm
CENTUM-XL Compatible Sequence Tables
THEN/ELSE Has Higher Precedence
PI-HLD Action after Hold
CENTUM-XL Compatible
dPV/dCPV Output from SUB Becomes Zero Right After IOP
Accept Batch-End during EMST
Revert to initial value
OK
Cancel


Properties
Type
Constant
Constant 2
Constant 3
State Transition
Line 1
Network
SS-DUAL PV Update during Deviation Alarm
Alarm Notify Action when all AOF released
Specify Reference Station for Tag-List
HIS0138
HIS0139
HIS0140
HIS0160
HIS0161
HIS0162
HIS0163
HIS0164
Select All
Clear All
Annunciator Message with Data
No.
Annunciator Message Head Number
Annunciator Message Tail Number
Printing Message Head Number
1
0
0
0
Increase Number of System Common Switches
Preset MV valid immediately
Preset MV valid by Preset Switch
Preset MV valid at next scan
Revert to initial value
OK
Cancel


Properties
Type
Constant
Constant 2
Constant 3
State Transition
Line 1
Network
MV of Switch Instrument/MC Instrument follows its CSV change
TM/CTS/CTP blocks hold PALM after CTUP
Raised %AN sends out alarm when AOF released
Suppress OOP alarms during online maintenance of ALP121 and dual-redundant ALP111
Suppress system alarm when CALCU calculation error occurs
Use HKU of System Cabinet
Initiate process alarm when CAL is set or released
Allow to change function block to PRD mode while CAL is on(XL compatible)
LC64-E starts with its internal status intact when FCS performs an initial start(except offline download)
Enable output limiter in PRD mode (XL compatible)
Pass calculation block's input QST status to CPV
CENTUM-XL compatible IOP reactions
Main inputs
Sub inputs and tag data referenced in the expressions of CALCU
Set PV of %Z/%Y to zero upon failure of a DI module
SEBOL Group Assignment Statement – adhere to the order specified in the variable list during data setting
Command(L)
Revert to initial value
OK
Cancel


Properties
Type
Constant
Constant 2
Constant 3
State Transition
Line 1
Network
Specify State Transition Matrix
Maximum Specification Number
16
Matrix1
Select All
Clear All
Revert to initial value
OK
Cancel


Properties
Type
Constant
Constant 2
Constant 3
State Transition
Line 1
Network
Vnet/IP
Control Bus TCP/IP Settings
Host Name
FCS0101
IP Address
172.16.1.1
Subnet Mask
255.255.0.0
OK
Cancel

6.2 FCS FUNCTION

6.2.1 Application Software Test for Typical Loops

Outline	This application inspection includes typical loops such as simple indicators, simple control loops, manual loader, etc. Therefore, the accuracy of the PCS configuration relies on the accuracy of the data entry in the database.
Objective	- Verify that that regulatory control loops are configured according to the database and FDS requirements.
Reference	• Functional Specifications like; • 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW • 1724000594-IN-LIS-00004- PCS and Safety System IO List (HW and SW) Refer to Approved Document List for • PCS I/O Database • P&IDs • Control Narratives
Procedure	1. Identify each type of application module from P&IDs and FDS. 2. If necessary, perform function test for selected application modules. 3. Verify configuration data for application, by reviewing CENTUM VP system view. Sample tags checked during FAT shall be logged for test record. The accuracy of the PCS configuration relies on the accuracy of the data in the I/O List.
Criteria	Each loop in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

REFER TO PUNCH LIST AND P&ID, NARRATIVE MARKUPS

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 25 of 71 Date: 13/11/2024 Rev: 01

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : Kamalhasan S Date: 20-12-2024

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

6.2.2 Application Software Test for Complex Loops

Outline	PCS application test involves functionality check for all complex loops that is described in the functional specification, control narratives and P&IDs.
Objective	Verify that the complex control configuration functions as defined in the approved functional specifications.
Reference	- Functional Specifications like; • 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW • 1724000594-IN-LIS-00004- PCS and Safety System IO List (HW and SW) Refer to Approved Document List for - I/O Database - P&IDs & PFD - Control Narratives - ESD/PSD Cause and Effect Diagram
Procedure	1. Using Test function tool, simulate process input signals to check control loop functions. 2. Check following applicable control functions for each complex loop. • Control Action • Bumpless transfer • Tracking functions • Ratio/Calculations • Annunciator message output • Data quality Propagation • ESD/PSD Interlock Shutdown Controller action • Operational Interlock Controller action • Initial functional status of loops on FCS startup • Operator Graphical Interface • Alarm & Trip settings • Other specific functional requirements according to complex loop description
Criteria	Complex loops in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, C&E and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 27 of 71 Date: 13/11/2024 Rev: 01

REFER CONTROL NARRATIVE MARKUP & PUNCH LIST

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : Kamalnath S Date: 20-12-2024

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

6.2.3 Application Software Test for Sequence and Logic

Outline	FCS sequence control functions include sequence table, logic chart or SEBOL (Sequence and Batch Oriented Language) configuration. These are configured in accordance with plant logic requirements as described in the FDS, control narrative and any sequence/logic diagrams. Sequence control functions are checked by simulating field inputs using the test function software tool and confirming the corresponding expected outputs.
Objective	Verify that the specified functions perform control as defined in the approved functional specifications.
Reference	- Functional Specifications like; ▪ 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW ▪ 1724000594-IN-LIS-00004- PCS and Safety System IO List (HW and SW) Refer to Approved Document List for - I/O Database - P&IDs & SLDs - Control Narratives - ESD/PSD Cause and Effect Diagram
Procedure	1. Using Test function tool, simulate process input signals to check logic/sequence configuration. 2. Check that the sequence/logic performs correctly, and the correct digital outputs are set. 3. Check valves open/shut, pumps start/stop, appropriate alarm message display etc. 4. Check the initial functional status of sequence logics on FCS start-up. 5. For each sequence/logic, check operator interface Graphic functions. Detail checklists are described on the Check sheet.
Criteria	Sequence and logic should be configured in accordance to the functional specifications, Control/Logic narrative, P&IDs, SLDs, C&E and PCS I/O Database and any sequence or logic diagram.

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 29 of 71 Date: 13/11/2024 Rev: 01

The above checks are conducted and witnessed by following representatives.

REFER TO CONTROL NARRATIVE MARKUPS AND PUNCH LIST

TEST RESULT: (PASS) / FAIL

YOKOGAWA Representative : Kamalhasan S Date: 20-12-2024

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

6.2.4 Application Software Test for non-Typical Loops

Outline	This application inspection includes non-typical loops such as control loops, etc. that are generated. Non-Typical loops can be simple Analog outputs, Value comparison, average, deviation alarm or process alarm based on analog values etc.
Objective	- Verify that that regulatory control loops are configured according to the FDS requirements.
Reference	- Functional Specifications like; ▪ 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW ▪ 1724000594-IN-LIS-00004- PCS and Safety System IO List (HW and SW) Refer to Approved Document List. - PCS I/O Database - P&IDs - Control Narratives
Procedure	1. Identify each type of Typical from P&IDs and FDS. 2. If necessary, perform function test for selected loops. Detail checklists are described on the check sheet. Sample tags checked during FAT shall be logged in this check sheet for test record. The check sheet used for this test shall be from the Excel spreadsheet as the test record. Non-Typical loop Pre-FAT paper check will be sufficient to test all the application loops. The accuracy of the PCS configuration relies on the accuracy of the data in the I/O List. Detail checklists are described on the Check sheet.
Criteria	Each loop in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, and PCS I/O Database.

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Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 31 of 71 Date: 13/11/2024 Rev: 01

The above checks are conducted and witnessed by following representatives.

REFER CONTROL NARATIVE MARKUPS AND PUNCH LIST.

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : Ramalingam S Date: 20-12-2024

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

6.2.5 Alarm and Trip Setpoints

Outline	This application inspection includes non-typical loops such as control loops, etc. that are generated.
Objective	- Verify that alarm and setpoints are as per Alarm/Trip Setpoints.
Reference	▪ Functional Specifications like; ▪ 1724000594-IN-SP-00018- PCS and SAFETY SYSTEMS Software FDS-SW ▪ 1724000594-IN-LIS-00004- PCS and Safety System IO List (HW and SW) ▪ K559-2254-EL-LST-001- Control Alarm and Monitoring Table Refer to Approved Document List for ▪ PCS I/O Database ▪ P&IDs ▪ Control Narratives
Procedure	1. Identify each Alarm/trip for each required Tag. 2. Simulate the value to create alarm 3. Verify the alarm/trip setpoints on the check sheet. Detail checklists are described on the check sheet.
Criteria	Each loop in control drawing should be configured in accordance to the functional specifications, control narrative, P&IDs, and PCS I/O Database.

The above checks are conducted and witnessed by following representatives.

REFER TO CONTROL NARRATIVE MARKUP & PUNCH LIST

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : Kamalnath S Date: 20-11-2024

RM Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

7 CI SERVER CONFIGURATION

7.1 NAMING CONVENTION

Outline	To verify the agreed naming conventions are implemented
Objective	To confirm that the naming conventions is correctly implemented for the following: ▪ Plant hierarchy ▪ Item names ▪ Displays ▪ Symbols (static and dynamic)
Reference	▪ Section 8.3,9, 24, 28.5.2, 28.10.1 of Reference PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW) 1724000594-IN-SP-00018 ▪ Refer Instrument IO list 1724000594-IN-LIS-00004_R02
Procedure	Check the naming conventions for the following are in accordance with the FDS: ▪ Plant hierarchy – check the section naming and structure under the node in CI Server Engineering module and confirm that it conforms to the FDS plant hierarchy convention. ▪ Items – review the item names under the sections and confirm that the naming conforms to the FCS tag naming convention (e.g.: A, SH, SL). ▪ Displays – check the graphic names in the Edit Module and confirm that they conform to the FDS graphic naming convention. The display name shall be followed as per the P&ID/SLDs. ▪ Static and dynamic symbols – check the symbol names in the Edit Module and confirm that they conform to the FDS graphics naming convention.
Criteria	The naming conventions match the customer convention requirements
Test Record Reference	HMI Screen and Engineering Module Printout

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS ✓ / FAIL

YOKOGAWA Representative : POOJA PAVITHRAN Date: 20/12/2024.

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

Reference: GES_D0202 Rev. 5.00.00

7.2 AUDIT TRAIL

Outline	The generated events are recorded and can be traced
Objective	To verify the event generated by the operator can be traced
Reference	▪ Section 14.8, 28.5.7 of Reference PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW) 1724000594-IN-SP-00018
Procedure	Generate some events which have to be recorded in the audit trail window in the operator interface.
Criteria	The generated events are logged in the respective display.
Test Record Reference	Audit Trail Window printout

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS ✓ / FAIL

YOKOGAWA Representative : POOJA PAVITHRAN Date: 20/12/2024

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

7.3 HISTORISATION

Outline	History data is acquired for applications like reporting, alarm pages and trending and therefore the correct configuration is very important to trace significant events in the past.
Objective	To verify the history configuration meets the customer requirements.
Reference	▪ Section 28.5.1 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018 ▪ History Storage calculation sheet
Procedure	▪ Verify the history storage path ▪ Check the lifetime for the following history groups: - Item storage groups: SCAN/ITEM EVENT/EVENT EVENT/ITEM Generate randomly events for items in each storage groups to verify the timestamp of the generated events.
Criteria	The storage drive has enough space to match the size of the total history lifetime. This could be verified by using a history calculation sheet. The lifetime of the history groups is correctly implemented. Generated events could be observed using reports or trend displays.
Test Record Reference	Trend Display printout and generated csv report file

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS ✓ / FAIL

YOKOGAWA Representative : Pooja Pavithran Pooja Date: 20/12/2024

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

7.4

7.4 AUTHORIZATION

Outline	The level of authorization for the typical is verified in typical FAT prior to the FAT. E.g., the operator can modify a setpoint but is not able to set the tag in calibration mode. In this test case the general CI Server configuration part will be tested which is the framework for the application typical.
Objective	Verify if all authorization groups and users are configured according to the design documentation
Reference	▪ Section 28.8 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018
Procedure	▪ Authorization groups are configured correctly. ▪ All the required users are added in CI Server with the proper authorization groups. ▪ Users are authorized to modify items within their process area (e.g., acknowledge, value) ▪ Users are authorized to open displays within their process area
Criteria	All Authorization levels are configured properly. All required users are configured properly. Users have (only) access to their process area
Test Record Reference	NA

The above checks are conducted and witnessed by the following representatives.

NOTE: CI Server default Authorisation and user groups are available ✓

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : POOJA PAVITHRAN Pooja Date: 20/12/2024

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

8 GRAPHICAL USER INTERFACE

8.1 GENERAL LAYOUT AND NAVIGATION

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The live status of the plant can be observed on the graphics and these data are obtained from the Centum VP and SIS controller.
Objective	The purpose of this test is to confirm that the frames of the general layout are configured according to the design specification.
Reference	▪ Section 30 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc. No. 1724000594-IN-SP-00018
Procedure	Verify the general layout of the display area: ▪ Windows heading ▪ Menu area ▪ Toolbar area ▪ Display area ▪ Display Navigation Verify the display navigation is in accordance with the design document.
Criteria	Graphics layout, display navigation are according to what was approved and correctly displayed as specified in the reference document.
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS ✓ / FAIL

YOKOGAWA Representative : Pooja Pavithran Date: 20/12/2024

Rosetti Marino Representative : Date:

Crosswind Representative : Date:

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

8.2 PROCESS DISPLAYS

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The live status of the plant can be observed on the graphics and these data are obtained from the CENTUM VP and SIS controller. All dynamic process data and alarms shall be simulated from the test panels or from software (forcing).
Objective	The purpose of this test is to confirm that: ▪ Correct process flow is shown on the process displays and popups. ▪ Correct process data is shown on the process displays and popups.
Reference	▪ Reference PCS and SAFETY SYSTEMS Software Functional Design Doc. No. 1724000594-IN-SP-00018 ▪ Reference Instrument IO List 1724000594-IN-LIS-00004_R02 ▪ Reference HMI screens print out 1724000594-QC-PRO-00032 ▪ P&IDs & SLDs.
Procedure	The test environment shall include Test Function FCSs with project configuration to provide data to the tags on each display. Check the following for the process display: ▪ Correct representation of the process flow ▪ Correct representation of the process data points. ▪ Dynamic data and element modifiers by simulating process data.
Criteria	All process displays and popups are according to what was approved and correctly implemented as specified in the reference document(s).
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE	Sheet 39 of 71 Date: 13/11/2024 Rev: 01

YOKOGAWA
Representative : POOJA PAVITHRAN Date: 20/12/2024

Rosetti Marino
Representative : Date:

Crosswind
Representative : Date:

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

8.3 SYMBOLS AND FACEPLATES

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The live status of the plant can be observed on the graphics and these data are obtained from the CENTUM VP controller. All dynamic process data and alarms shall be simulated from the test panels or from software (forcing).
Objective	The purpose of this test is to confirm that: ▪ Symbols, faceplates, and tuning panels are generated and functioning according to specifications.
Reference	▪ Reference PCS and SAFETY SYSTEMS Software Functional Design Doc. No. 1724000594-IN-SP-00018
Procedure	The test environment shall include Test Function FCSs with project configuration to provide data to the tags on each display. Check the following for the symbols and faceplates: ▪ The sizes, colours, lines, fonts and shapes for the symbols, faceplates. ▪ Process Value and Engineering unit. ▪ Forcing the value from HMI, by changing the operation Modes. ▪ Alarm and status indication.
Criteria	All static and dynamic symbols and related faceplates are according to what was approved and correctly implemented as specified in the reference document.
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

✓

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : Poosa Pavithran Date: 20/12/2024

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

Reference: GES_D0202 Rev. 5.00.00

8.4 ALARMS PAGES

Outline	CI Server graphics are used as the Human-Machine Interface for operating the plant. The related graphics shall show the generated alarm, time-stamp, Alarm text and Priority upon forcing the values from test panels.
Objective	The purpose of this test is to confirm that: ▪ The layout and function of the alarm pages is according to specifications.
Reference	▪ Section 28.6 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018 ▪ Reference Instrument IO List 1724000594-IN-LIS-00004_R02 ▪ Section Master Alarm Database 123A90-DDL-IN-LIS-40027 ▪ P&IDs & PFS. ▪ Alarm management information / alarm narratives
Procedure	Check the following for the process display: ▪ Layout ▪ Colours and priorities ▪ Alarm sorting ▪ Available columns ▪ Column width ▪ Alarm time format ▪ Available filters (fixed or changeable) ▪ Alarm line layout (for different state transitions) ▪ Alarm Description
Criteria	The alarm overview displays are according to what was approved and correctly implemented as specified in the reference document(s).
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.

TEST RESULT: PASS / FAIL ✓

YOKOGAWA Representative : POOJA PAVITHRAN Date: 20/12/2024

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

8.5 ALARM FUNCTION

Outline	All the alarm functions within CI Server and the related project specific configuration are implemented.
Objective	To verify all the alarm requirements are correctly implemented.
Reference	▪ Reference 28.6 of PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW) 1724000594-IN-SP-00018
Procedure	Verify the following is implemented correctly: ▪ Acknowledgement types ▪ Alarm collection behaviour ▪ First-out group behaviour ▪ Alarm group behaviour ▪ Alarm Selection area ▪ Areas of interest ▪ Alarm priority ▪ Alarm destinations e.g., audible alarm annunciation, alarm notification SMTP, alarm pages, alarm printers, … ▪ Historical alarm lifetime
Criteria	The alarm portion within CI Server is configured in accordance with the reference document
Test Record Reference	Graphic printouts.

The above checks are conducted and witnessed by the following representatives.
NOTE: First out Behaviour shall be configured at site

TEST RESULT: PASS / FAIL

YOKOGAWA
Representative : POOJA PAVITHRAN Pooja Date: 20/12/2024

Rosetti Marino
Representative : _____ Date: _____

Crosswind
Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

8.6 TREND FUNCTION

Outline	All the trend functions within CI Server and the related project specific configuration are implemented.
Objective	To verify all the Trend Group requirements are correctly implemented. ▪ Group ▪ Label ▪ Description ▪ Sampling Time ▪ Duration ▪ Pen assignment
Reference	▪ Section 30.2.5 of Reference PCS and SAFETY SYSTEMS Software Functional Design Doc.No. 1724000594-IN-SP-00018 ▪ Reference Instrument IO List 1724000594-IN-LIS-00004_R02
Procedure	Verify the following is implemented correctly as per the "Trend Group" in latest Project database Tag List Reference Document. The trend group shall be as per the P&ID ▪ Trend generation for over a period by selecting the date and time range.
Criteria	The trend groups within CI Server are implemented in accordance with the reference document.
Test Record Reference	Graphic Printout

The above checks are conducted and witnessed by the following representatives.

NOTE: Configured for all the process screen, and the electrical screen-respective trend information is available from Tuning plates. ✓

TEST RESULT: PASS / FAIL

YOKOGAWA Representative : POOJA PAVITHRAN Date: 20/12/2024.

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

FACTORY ACCEPTANCE TEST COMPLETION CERTIFICATE

JOB NAME	:	BASE LOAD POWER HUB
END USER	:	CROSSWIND
CUSTOMER	:	ROSETTI MARINO
PLANT	:	OFFSHORE HKN WIND FARM
SYSTEM DESCRIPTION	:	PCS/~~SIS/FGS~~/EMCS INTEGRATED WITH CI SERVER

This is to certify that it is mutually agreed by all parties that the Factory Acceptance Test for PCS/~~SIS/FGS~~/EMCS [Software] has been completed to the satisfaction of all parties concerned.

[Remarks]

Refer to Punch list and marked up documents

Signed in agreement by;

YOKOGAWA : Kamalan S. Ganeshan Date: 20-12-2024

ROSETTI MARINO : _____ Date: _____

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

CROSSWIND : _____ Date: _____

Punch Record No.	Punch Description	Cause	System	Initiated by	Action By	Date	Re-test By	Witnessed	Punch Status	Punch Closed Date
E366772C00-HMI-FAT-001	1. PID Controller – Background Color and Tex color appearance is not clear, Change the Background color of PID boxes on HMI screens (not those of "standard" pop-ups) for clear visibility of Mode Status.	M	PCS	RM/Dossena Mauro	Yokogawa	10/23/2024		RM/Dossena Mauro	Closed	12/6/2024
E366772C00-HMI-FAT-002	Circuit Breaker Faceplate- 1. Need to show status and Command of breaker signals in a single window.(Closed on 12/09/24) 2. Open/ Close status in Faceplate has outer box with red(Open)/Green(Close). The Box description color shall be invisible(or almost invisible, in light grey color) for inactive states of Breaker.(Closed on 12/09/24) 3. Open/ Close Command PB shall show the status of command ~~with~~ to identify active command status(Closed on 12/09/24) General 4. In Transformer Graphic object it is observed that Pop-up screen is vertical. In case of Pop-up screens square shape is suggested instead of vertical rectangular share of pop-up screens if it improves readability.(Closed on 12/09/24) 5. Merge all Transformer signals in a single screen, Add info button for Transformer(TR100AD1) in Transformer incomer screen, TX and CB signal to be seperated.(Closed on 12/12/24) 6. Mouse Pointer to be activated for Touch Area.(GENERAL COMMENT, APPLICABLE TO ALL TOUCH AREAS ON ALL HMI SCREENS) (Closed on 12/09/24) Surge Arrester 7. During Alarm Status (PV=0), complete Object color to be changed to Red Color instead of Changing the Alarm Text.(Closed on 12/09/24)	M	PCS	RM/Dossena Mauro	Yokogawa	10/23/2024		RM/Dossena Mauro	Closed	12/12/2024
E366772C00-HMI-FAT-004	1. SCADA (CI Servers) received all SG-200D2 QB1and QB2 via OPC Communication. Info button was missing in Screen to open related tags of SG-200D2 QB1 and QB2. 2. Verify All the applicable Info buttons opens based on signal list available in mapping list of EMCS over OPC UA, ~~and~~ Modbus bus to PCS and according to Electrical Control Alarm and Monitoring Table_123A90-DDL-EL-LIS-20156.	C	PCS	RM	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-005	1. (SG-200D2) breakers Info Need to show status of all related signals Screen and link not available. Info Buttons to be added in HMI Screen(Closed 12/09/24) 2. From Alarm Page to Graphic linking to be configured. 3. TR-100AD1: AVR transformer, neutral earthing resistor nor OLTC Tap changer missing in screen; pop-up Commands, ~~and~~ Tab changer position to be placed in Screen and also the info buttons. Refer SW-002 Sl.5 (Closed 12/09/24) 4. Include Q0(QA1) parameters refer attachment -1(BPLH-HMI-SW-005). Provide Faceplate to operate QA1 5.Earth switch QZ92 while close shall connect with incoming side side(top) . Earth switch QZ91 shall be conneted to bottom side while in close position. Provide Faceplate to operate ESQZ91 and DSQZ91. Qz92- HV scada command status to be shwon in HMI screen.(Closed 12/09/24) 6.Define AVR status is necessary or not in HMI screen to be confirmed by Bax Energy.(Closed 12/09/24) 7. Tap positoin need to be integer without decimal(+/-).(Closed 12/09/24) 8. AVR_VoltageDeviationPerc CMD to be differentiated from Status signals. AVR_VoltageSetPoint writable from Screen.(Closed 12/12/24) 9. In automatic mode tap position change commands to be disabled from screen. In manual mode AVR_VoltageSetPoin shall be disabled in screen (Closed 12/12/24)	C	PCS	RM	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/12/2024
E366772C00-HMI-FAT-006	SCADA (CI Servers) received all SG-200D2 QB1 and QB2 via OPC Communication. "Info" button was missing in Screen to open related tags of SG200D2 QB1 and QB2.	C	PCS	RM	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-007	Transformer incomer- Override Local Remote- etc signals to be moved to Breaker.DSQZ92	C	PCS	RM	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-008	In LV SWGR Screen (B200_SwitchGearRoom_1) SG-200N1 Electrolyser and other outgoing feeder related detail info window missing and command pop-ups.Rewrite the text related to the Selector position.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/12/2024
E366772C00-HMI-FAT-009	Missing all selector indication for each outgoing feeder on SG-100D1, according to Electrical Control Alarm and Monitoring Table_123A90-DDL-EL-LIS-20156.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-010	In LV SWGR Screen (B200_SwitchGearRoom_1) SG-200N1 Electrolyser and ~~Nitrogen package~~ other outgoing feeder related detail info window missing and command pop-ups.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/12/2024

Legend for cause column:
C = Correction, items is to be corrected by YOKOGAWA
M = Modification, items is to be modified, deleted or added due to design input changes

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

E366772C00-HMI-FAT-011	Missing in screen the indication of inter-trip from SG-200N1 to SG-100D1	C	PCS	RM/Madaschi Andrea	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/4/2024
E366772C00-HMI-FAT-012	Missing data of P/Q/V/A of switchgear for each incomer and outgoing feeder	C	PCS	RM/Madaschi Andrea	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-013	Not in all outgoing or incoming feeder screen is presented the correct switchgear TAG also in the overview screen, please insert and update	C	PCS	RM/Madaschi Andrea	Yokogawa	10/23/2024		RM/Madaschi Andrea	Closed	12/4/2024
E366772C00-HMI-FAT-016	Electrical Overview Screen 1. Missing information for 66 KV GIS,Transformer Commands(Closed 12/04/24) 2. Seperate navigation to GIS and Transformer. No more needed(Closed 12/09/12) 3. Seperate navigation to accesss TR-200ED1(Closed 12/04/24) 4. Provide SG200D2 QB1 Operation from Overview Screen(Closed 12/04/24) 5. Delete the Bus line SG200-N1 and add box to navigate to B-200_SwitchRoom (SG-200N1_400V refer Punch 18)(Closed 12/04/24)	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-017	Tranformer_Incomer 1. Missing Nuetral, Earthing resistor object	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-018	BESS_Fedder 1. Text to be corrected- BESS 1MW/5MWhe	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-019	Electrolyzer_Fedder(No Package electrical Data available in Electrolyzer IO List) (12/09/24) 1.Transformer To be included along with Electrolyzer in dotted box (Closed) 2. Info for Elctrolyzer package to be included. 3. Review with Bax energy for each signal in info screen and other signal coming from electrolyzer.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-020	Fuel_Cell Feeder 1. Info for Fuel Cell package to be included. Main current And voltage information to be included in the info button. 2. Review with Bax energy for each signal in info screen and other signal coming from Fuel Cell.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024				
E366772C00-HMI-FAT-021	Busbar_Temp 1. Voltage Tags are required to be placed in info button	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-022	Solar_Package_Feeder 1. Info forSolar Farm package to be included.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-023	Distribution Transformer_Feeder 1. CB symbol for LV side shall also be same as MV Breaker with available signals	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-024	B200_Switchroom 1. Rename the Screen to SG200N1_400 (Closed 12/04/24) 2. Breaker for Temporary Gen Mobile Battery Connection related info Button is missing(Closed 12/04/24 refer Punch-99) 3. Add Text for SG200N1 on the bus bar line(Closed 12/04/24) 4. Remore Power to N2 Package(Closed 12/04/24) 5. Redraw the feeder according Vendor SLDs SG-200N1 LV SWBD 400-230V ELECTRICAL SINGLE LINE DIAGRAM _ 1723002197-EL-DG-00011 _ Rev.04, add the modbus data points in pop-up screens(Closed 12/04/24 refer Punch-99) 6. Sea water pump symbol for each pump to be provided(Closed 12/04/24 refer Punch-99SL4) 7. Instrument Air Packages need to shown as two seperare compressor inside the box(Closed 12/04/24)	M	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-025	Solar Package Feeder QB2 and QB1 Breaker Open close Breaker not working propely.	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-027	BESS_Battery_Info window name to be changed to BESS_Info.	M	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/2/2024
E366772C00-HMI-FAT-028	Engineering Unit used shall be consistly E.g. kWh i.e. MKS symbols (Check for the complete HMI, for all parameters {correct engneering unit measure})(Info Provided by Bax is implemented- rest shall be checked at site -Closed 12/012/24)	C	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Transferred to Site	12/12/2024
E366772C00-HMI-FAT-029	SOC(State of Charge),SoH use Engg as %	M	PCS	RM/Madaschi Andrea	Yokogawa	10/25/2024		RM/Madaschi Andrea	Closed	12/9/2024
E366772C00-HMI-FAT-065	Hydrogen Storage vessel A 25-PV-035 CV symbol(Vetical) 25PY-035 Mode dynamic is wrong i.e. All Vertical Control Valve symbol has same point to attend	C	PCS	RM/Dossena Mauro	Yokogawa	11/5/2024		RM/Dossena Mauro	Closed	12/6/2024

Legend for cause column:
C = Correction, items is to be corrected by YOKOGAWA
M = Modification, items is to be modified, deleted or added due to design input changes

PROVIDED THAT ALL PUNCHES RECORDED DURING FAT WILL BE FIXED BEFORE SAT

E366772C00-HMI-FAT-066	25pi-002 inlet screen Interlock symbol to be linked to CE_PSD_1. Link to VSL D and Vessel F to be corrected	C	PCS	RM/Dossena Mauro	Yokogawa	11/5/2024		RM/Dossena Mauro	Closed	12/6/2024
E366772C00-HMI-FAT-067	Vessel Header inlet screen Auto man for 25xv-024 (Vertical Valve) not configured	C	PCS	RM/Dossena Mauro	Yokogawa	11/5/2024		RM/Dossena Mauro	Closed	12/6/2024
E366772C00-HMI-FAT-069	123A90-DDL-PR-PID-80014 rev 2 updates to be attended.	C	PCS	RM/Dossena Mauro	Yokogawa	11/5/2024		RM/Dossena Mauro	Closed	11/12/2024
E366772C00-HMI-FAT-071	Hydrogen Vent Header Fuel cell Package link not working	C	PCS	RM/Dossena Mauro	Yokogawa	11/5/2024		RM/Loredana	Closed	12/18/2024
E366772C00-HMI-FAT-073	p-50001A symbol Trip on motor Symbol blinking to indicate alarm status	C	PCS	RM/Dossena Mauro	Yokogawa	11/6/2024		RM/Loredana C	Closed	11/12/2024
E366772C00-HMI-FAT-074	Sea water intake Screen TI-001 signal linking to be shown Pump symbol Alarm specific Blinking on Trip, Aut/Man Status font size to same as other Equipment. Pump name static changes as per markup. Refer Other comments on Equipment appearance and dynamics	C	PCS	RM/Dossena Mauro	Yokogawa	11/6/2024		RM/Loredana	Closed	12/18/2024
E366772C00-HMI-FAT-075	Mode-0 Idle Screen refer attached comments to Mode-0 screen	C	PCS	RM/Dossena Mauro	Yokogawa	11/6/2024		RM/Loredana C	Closed	12/13/2024
E366772C00-HMI-FAT-076	Alarm Acknoledgement not working in M7_Pro_Charge_CSS	C	PCS	RM/Dossena Mauro	Yokogawa	11/6/2024		RM/Loredana C	Closed	12/13/2024
E366772C00-HMI-FAT-077	Research mode Screen has Check box which is not required and not working.Not necessary to be deleted the check box.	C	PCS	RM/Dossena Mauro	Yokogawa	11/6/2024		RM/Loredana C	Closed	12/13/2024
E366772C00-HMI-FAT-079	in P&ID , 172400063-PR-PID-00019, 63-PDI-062 and in mapping list it is 63-PDI-052, RM shall confirm	M	PCS	RM/Dossena Mauro	RM	11/15/2024				
E366772C00-HMI-FAT-080	in P&ID , 172400063-PR-PID-00019 refert to comments on P&ID markup attached.	C	PCS	RM/Dossena Mauro	Yokogawa	11/15/2024		RM/Dossena Mauro	Closed	12/6/2024
E366772C00-HMI-FAT-081	123A90-DDL-PR-PID-80027 (ROSMA-INN-BPH-DWG-00044) graphic to be generated.	C	PCS	RM/Dossena Mauro	Yokogawa	11/15/2024		RM/Dossena Mauro	Closed	12/6/2024
E366772C00-HMI-FAT-084	Mode 3 Export- Step7-Valve 25-XV055A/B closed , each valve status to be shown Step-5 Text & to be changed OR (either of 64-PT-031A , B condition to be checked).	M	PCS	RM/Dossena Mauro	Yokogawa	11/19/2024				
E366772C00-HMI-FAT-085	25PV-055a/b has limit switch for open and close FB. To be indicated in process screen H2_HDR_outlet, applicable for all CVs having limit switch.	C	PCS	RM/Dossena Mauro	Yokogawa	11/19/2024		RM/Dossena Mauro	Closed	12/6/2024
E366772C00-HMI-FAT-086	25-PIC-055A/B in H2 Header outlet screen EU and SP are to be corrected.	C	PCS	RM/Dossena Mauro	Yokogawa	11/19/2024		RM/Dossena Mauro	Closed	12/13/2024
E366772C00-HMI-FAT-087	Mode-7 Research mode Push Button Text description need to provide additional information mentioned in brackets Refer pg. 26 3.10 (For H2 displacement), (For air displacent)	M	PCS	RM/Dossena Mauro	Yokogawa	11/19/2024		RM/Loredana C	Closed	12/13/2024
E366772C00-HMI-FAT-088	Mode-7 Research mode Stop PB action shall be confirmed by RM subsequently PCS/SCADA HMI implementation shall be followed.	M	PCS	RM/Dossena Mauro	RM/Dossena Mauro	11/19/2024				
E366772C00-HMI-FAT-089	Mode7 Research mode PB status to be updated with color to understand which PB is pressed or sequence is running. Process charging mode and Process Startup Charging PB permissive to be configured in HMI screen and in logic. Maintenance to reasearch shall be disabled if any vessel has pressure less than 2 bar.	C	PCS	RM/Dossena Mauro	Yokogawa	11/19/2024		RM/Loredana C	Closed	12/13/2024
E366772C00-HMI-FAT-090	Process Control Logic Description pg. 38 sl. no. 5 Alarm "Process Charging Sequence Vessel A not completed" in M7_Pro_charge_CSS step 5-ii Alarm status to be shown	M	PCS	RM/Dossena Mauro	Yokogawa	11/19/2024				
E366772C00-HMI-FAT-092	In Screen M7_Shutdown_CSS_1 mention the vessel numbers in SL no 6,13, 20,27,34,41 Text description	C	PCS	RM/Dossena Mauro	Yokogawa	11/20/2024				
E366772C00-HMI-FAT-092	In Screen M7_Shutdown_CSS_1 Step 12, 19, 26 add pop-up screen for individual valve status and step status will be displayed	M	PCS	RM/Dossena Mauro	Yokogawa	11/20/2024				
E366772C00-HMI-FAT-093	In MODE4A in Step-7 analog indication to be provided, 63PT-003 to be added	C	PCS	RM/Dossena Mauro	Yokogawa	11/22/2024		RM/Loredana C	Closed	12/13/2024
E366772C00-HMI-FAT-097	Display Discrepancy Status of CB in HMI screens for All CBs. Both Open or Both Close signals of Breaker are close indicate disprepancy.	M	PCS	RM/Sirigu Fabio	Yokogawa	12/2/2024		RM/Madaschi Andrea	Closed	12/12/2024
E366772C00-HMI-FAT-098	Operator security level shall be configured and tested at site based on inputs during SAT.	M	PCS	RM/Sirigu Fabio	Yokogawa	12/2/2024		RM/Madaschi Andrea	Transfer to site	12/12/2024

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E366772C00-HMI-FAT-099	1. SG200N1 LV SWGR faceplates to be alligned similar to MV SWGR SG100D1(Closed 12/12/24) 2. Put all analog Parameters in Info Button , to be placed near the bottom Box and measures(Closed 12/12/24) 3. Put all digital status in Info button near to CB(Closed 12/12/24) 4. For pump Pump symbol used to be replaced with breaker. Pump symbol to be placed at bottom screen instead of Rectangular Box and no dynamics required to show related to pump.(Closed 12/12/24) 5. Add navigation from Menu Tab under electrical to SG200N1 400V screen(Closed 12/12/24)	C	PCS	RM/Madaschi Andrea	Yokogawa	12/4/2024		RM/Madaschi Andrea	Closed	12/12/2024
E366772C00-HMI-FAT-100	SG200N1 Spare breaker to be included in HMI (dyanmic shall be based on addition spare breakers from modbus list). Imesa need to compact the modbus register mapping.	M	PCS	RM/Madaschi Andrea	Yokogawa	12/4/2024		RM/Madaschi Andrea	Transferred to Site	12/12/2024
E366772C00-HMI-FAT-101	Need to configure the setpoint ranges for all the EMCS Write signals	M	PCS	RM/Madaschi Andrea	Yokogawa	12/9/2024				
E366772C00-HMI-FAT-102	Show the status of Mode-0 and Mode-1 action while permissive is lost in HMI screen. (Cancelled, only Step 17 with check box to be shown.)	C	PCS	RM/Calabrese Loredana	Yokogawa	12/11/2024		RM/Loredana C	Closed	11/12/2024
E366772C00-HMI-FAT-103	Provide Operation Control of Each pop-up and or Screen i.e. prohibit to operate based on Modes of Operation according to EMCS (Bax Energy) requirements.	M	PCS	RM/Madaschi Andrea	Yokogawa	12/12/2024				
E366772C00-HMI-FAT-104	Refer 123A90-DDL-IN-RE-40095, text shall be changed to " "Process Start-up Charging Sequence Vessel A not completed" Instead of Timer expired.... Process charging mode alarm need to be configured during timer expired and Pressure not achieved, Alarm text shall be red and blinking.	C	PCS	RM/Calabrese Loredana	Yokogawa	12/13/2024				

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Punch Record No.	Punch Description	Cause (C/M)	Initiated by	Action By	Date	Re-test By (MAC)	Witnessed by (EPC/End-User)	Punch Status	Punch Closed Date
E366772C00-PCS-FAT-001	1.Alarm Tag of 64XV-006-H, Annunciator not generated. Ensure all Valves of Nitrogen and IA is generating alarms	C	RM	Yokogawa	10/23/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-002	Latest revision of SG-200N1 I/O LIST LV Switchgear 1723002197-EL-LIS-00042 Rev 02 to be implemented(Including the whole set of signals for each and every Cubicle).	M	RM	Yokogawa	10/23/2024				
E366772C00-PCS-FAT-003	EMCS Modbus values shall follow the Narrative for convenience of Operator	C	RM	Yokogawa	11/4/2024				
E366772C00-PCS-FAT-004	Status shown in the Sequence need to show the actual status Field Equipment	C	RM	Yokogawa	11/4/2024			Closed	
E366772C00-PCS-FAT-005	Mode-0 N2 Package outlet Pressure Tag shall be used in 4ii) 64PT-003	C	RM	Yokogawa	11/4/2024			Closed(Loredana)	12/11/2024
E366772C00-PCS-FAT-006	123A90-DDL-IN-RE-40095, 3.2 SI 10 Electrolyzer Start Request to be added in Modbus.	C	RM	Yokogawa	11/4/2024			Closed(Loredana)	12/11/2024
E366772C00-PCS-FAT-007	3.2 Screen Mode_0: SI 12 SW Pump Running condition to be checked for status completion instead of Timer start	C	RM	Yokogawa	11/4/2024			Closed(Loredana)	12/11/2024
E366772C00-PCS-FAT-008	25-PV-055A/B control scheme to be reviewed by RM considering 23A90-DDL-PR-RE-80031_02 pg. 29 and 123A90-DDL-IN-RE-40095 rev 00 (4.4.10 Control Loop 25-PV-055A/B inlet to Fuel Cell package) provide different controls i.e. split and A or B valve.	M	RM	RM	11/5/2024				
E366772C00-PCS-FAT-009	P-50001A %GS02010 not communicated status in logic chart, Pump permissive trip window(Pump MCC Fault) not updated the status accordingly. Discharge Pressure low trip condition not functioned.	C	RM	Yokogawa	11/6/2024			Closed(Loredana)	12/3/2024
E366772C00-PCS-FAT-010	P-50001A/B:50PI-001 low alarm to suppressed during pump not running condition.	C	RM	Yokogawa	11/6/2024			Closed(Loredana)	12/3/2024
E366772C00-PCS-FAT-011	P-50001A/B:P-50001A Fail to start and fault to stop Fault status Box to be shown	C	RM	Yokogawa	11/6/2024			Closed(Loredana)	12/3/2024
E366772C00-PCS-FAT-012	P-50001A/B:P-50001A discharge valve XV-001 close FB should be added before DO is switched ON.	C	RM	Yokogawa	11/6/2024			Closed(Loredana)	12/3/2024
E366772C00-PCS-FAT-013	P-50001A/B: During start fail condition both Pump has start command status. Logic to be modified to avoid this condition.	C	RM	Yokogawa	11/6/2024			Closed(Loredana)	12/3/2024
E366772C00-PCS-FAT-014	P-50001A/B: Pump Auto Start post recovery From Hi Pressure to Normal Pump A should start. Observed Pump B started due to unexpected switchover.	C	RM	Yokogawa	11/6/2024			Closed(Loredana)	12/3/2024
E366772C00-PCS-FAT-015	P-50001A/B:"Stop of Duty Pump will be possible remotely when Pump Selection is in Local" shall be confirmed by RM. Automatic stop command shall act in Local mode and manual operation shall be prohibited.	C	RM	RM	11/6/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-016	P-50001A/B:PCS to inhibit Remote Start Command until Software Reset will be activated by Operator.	C	RM	Yokogawa	11/6/2024			Closed(Dosenna Mauro)	12/6/2024
E366772C00-PCS-FAT-017	P-50001A ESD trip signal should be correctly linked to 83XS-001A	C	RM	Yokogawa	11/7/2024			Closed(Dosenna Mauro)	12/6/2024
E366772C00-PCS-FAT-018	P-50001B ESD trip signal should be correctly linked to 83XS-001B	C	RM	Yokogawa	11/7/2024			Closed(Dosenna Mauro)	12/6/2024
E366772C00-PCS-FAT-019	refer 123A90-DDL-IN-RE-40095,3.2 mode 1 (Idle mode)SI 10 EMCS Informs to PCS Modbus signal to be configured from EMCS	C	RM	Yokogawa	11/7/2024			Closed(Dosenna Mauro)	12/11/2024
E366772C00-PCS-FAT-020	MOTOR current indication need to provide in SWIP process screen	C	RM/Dosenna Mauro	Yokogawa	11/8/2024			Closed(Dosenna Mauro)	12/6/2024
E366772C00-PCS-FAT-021	refer 123A90-DDL-IN-RE-40095,3.2 mode 1 (Idle mode)SI 17 Timer shall start to monitor Mode change	C	RM	Yokogawa	11/8/2024			Closed(Dosenna Mauro)	12/11/2024
E366772C00-PCS-FAT-022	refer 123A90-DDL-IN-RE-40095,3.2 mode 1 (Idle mode)SI 17 Electrolzer will stop by EMCS. (EMCS shall remove Start request to PCS).	M	RM	Yokogawa	11/8/2024			Closed(Dosenna Mauro)	12/11/2024
E366772C00-PCS-FAT-023	"refer 123A90-DDL-IN-RE-40095,3.2 mode 1 (Idle mode)SI 17 Electrolzer will stop by EMCS. PCS to send the EMCS remove Start request to PCS) "	M	RM	Yokogawa	11/8/2024			Closed(Dosenna Mauro)	12/12/2024
E366772C00-PCS-FAT-024	Refer 123A90-DDL-IN-RE-40095,Pg 38- 5) Alarm to be generated. Message on screen is provided can be maintained as is. (Inlet valve close action is verified, Alarm indication is pending.- 12/12/24)	C	RM	Yokogawa	11/8/2024			Closed	12/19/2024
E366772C00-PCS-FAT-025	Timer Value shall be changed to Hrs +Min (not seconds) i.e. Balance time.	M	RM	Yokogawa	11/8/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-026	Refer 123A90-DDL-IN-RE-40095,Pg 18 BDV has open command and Close FB not lost showing indication of interlock. H2 Filling was continued in Charging mode need to check	C	RM	Yokogawa	11/8/2024		RM/Loredana	Closed	12/20/2024

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E366772C00-PCS-FAT-027	Refer 123A90-DDL-IN-RE-40095,If During the Process Charging Mode the logic is required to Stop (see Section 3.2 and 3.3) or some feedback statuses are not achieved the above sequence will be interrupted and all inlet valves shall be closed.	M	RM	Yokogawa	11/8/2024			Closed	12/19/2024
E366772C00-PCS-FAT-028	Refer 123A90-DDL-IN-RE-40095, 4.4.3 Process Fully Charged Status (Indication on HMI) and Signal to EMCS to be configured. H2_VSL_Outlet Overview screen shall have the indication	C	RM	Yokogawa	11/8/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-029	Solar UCP Fault (83-XA-001) to be made available on Modbus from EMCS to PCS.	C	RM	Yokogawa	11/12/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-030	Refer 123A90-DDL-IN-RE-40095,3.3 sL. 17 after timer competed the permissive shall still continue to run. If Permissive is lost, stop process shall continue. Sl 17 to be added in HMI screen.	C	RM	Yokogawa	11/12/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-031	BESS Fault is received in SIS, same shall be sent via PCS to EMCS over Modbus	M	RM	Yokogawa	11/12/2024				
E366772C00-PCS-FAT-032	In Hot standby Mode H2 storage full digital bit to be sent from PCS to EMCS	M	RM	Yokogawa	11/12/2024				
E366772C00-PCS-FAT-033	Mode=3 Export , Step-7 25-PV-055A/B close FB Time to close 15 sec is information in the document (process Control logic description) pg. 22 . Delay of 15 from sequence logic to be deleted	M	RM	Yokogawa	11/12/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-034	Mode-3 Export- Step-12 Controller 25-PIC-055A/B fixed setpoint is 6 barg. Add text in Screen "Permissive to EMCS entering EXPORT Mode" and modify sequence accordingly	M	RM/Dossena Mauro	Yokogawa	11/19/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-035	Mode 3 Export- Step13 -Timer is running while Mode is changed/shifted between None and Mode-3. Timer is expected to pause or reset to 0 i.e. not running when step 13 not reached.	C	RM	Yokogawa	11/19/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-036	Refer Mode-3 Step 13- Start delay timer and start the discharging mode. When the delay time is expired logic moves the step 14.	M	RM/Dossena Mauro	Yokogawa	11/19/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-037	Refer Mode-3 Post step 14 while FC is running and Step 3 "Permissive to RUN" bit to be configured, it is AND of following condition -Export mode is active -BESS no fault -All BDV in closed position -64SDV-001 in closed position -25XV-024 and80XV-001 in closed position -IA no fault -63pt-003 >=7 bar -N2 package no fault -64PT-031A>=7 or 64-PT-031B>=7 -Water system treatment not running -both Seawater pumps not running -Electrolyzer not running -Fuel Cell no Fault	M	RM/Dossena Mauro	Yokogawa	11/19/2024				
E366772C00-PCS-FAT-038	Process Control Logic Description pg. 38 sl. no. 5 Alarm "Process Charging Sequence Vessel A not completed" to be configured	C	RM/Calabrese Loredana	Yokogawa	11/20/2024			Closed	12/19/2024
E366772C00-PCS-FAT-039	RM to confirm Step-12,19,26, 33,40 timer to be configured and in case of timer to be showing in Purge Sequence Screen. In case of time elapsed and desired result is not achieved. following action is required to be configured "If during this purging mode the logic is required to stop or some feedback statuses are not achieved, the above sequence will be interrupted, and all control valves (25-FV-031/032/033/034/038/036 and 25-PV- 035/037/040/043/046/049) and 64-SDV-001 valve shall be closed."	M	RM/Calabrese Loredana	Yokogawa	11/21/2024				

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E366772C00-PCS-FAT-040	Mode-7 Research mode Stop PB action to be configured and Logical requirement is mentioned below - Purge mode (After shutdown, Maintenance) "If during this purging mode the logic is required to stop or some feedback statuses are not achieved, the above sequence will be interrupted, and all control valves (25-FV-031/032/033/034/038/036 and 25-PV- 035/037/040/043/046/049) and 64-SDV-001 valve shall be closed." Sequence shall exit back to research mode. -Process charging mode If during the "Process Charging mode" the logic is required to stop (see section 3.2 and 3.3 and research mode) or some feedback statuses are not achieved, the above sequence will be interrupted, and all inlet 25-XV- 004/008/011/014/017/020 valves shall be closed (Closed-19-12-24) -Process Startup Charging Mode If during the "Process Start-up Charging mode" the logic is required to stop (see section 3.2 , 3.3 and Research Mode) or some feedback statuses are not achieved the above sequence will be interrupted and: All inlet 25-XV-004/008/011/014/017/020 valves shall be closed All the controllers 25-PIC-035/037/040/043/046/049 shall be put in Auto mode and forced the output to 0%. (Closed-19-12-24) -Discharging mode If during the "Discharging mode" the logic is required to stop (see section 3.5 and 3.7 and research mode) or some feedback statuses are not achieved, the above sequence will be interrupted, and all outlet 25-XV-006/009/012/015/018/021 valves shall be closed. (Closed-19-12-24)	M	RM/Calabrese Loredana	Yokogawa	11/21/2024				
E366772C00-PCS-FAT-041	In Purge sequence Step 35 and 42 , FIC controller numbers are exchanged with Vessel E and F in sequence configuration	C	RM/Dossena Mauro	Yokogawa	11/21/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-042	RM to confirm using both PT 64-PT-031A/B can be considered and discrepancy alarm to be generated.	M	RM/Dossena Mauro	RM	11/21/2024				
E366772C00-PCS-FAT-043	Refer 123A90-DDL-IN-RE-40095 ." a software interlock is provided to prevent 25-PV-035/037/040/043/046/049 being opened outside of a purging cycle operation and process start-up charging mode." Shall confirm at site if it can be controlled by user Access or now it is possible to operate the valve using Valve Output Tag e.g. PY-035, FY-031 this option shall be removed.	M	RM/Dossena Mauro	RM	11/21/2024			Transferred to Site	
E366772C00-PCS-FAT-044	Refer 123A90-DDL-IN-RE-40095 .page 50. "This low pressure alarm will be deactivated at beginning of the purging operation (during the pressurization phase), when the desired pressure is not yet reached. Once 2 barg has been reached, then the alarm will be activated. This is to prevent the low pressure alarm is triggered unnecessarily". To be verified along with Master alarm database. Start suppression of Vesssel PT's and disable once PIC starts purging example Step-10	M	RM/Dossena Mauro	RM	11/21/2024				
E366772C00-PCS-FAT-045	Load shedding 1 and load shedding 2 group interface to be provided in HMI in LV SWGR screen, individual equipment selection option to be provided in HMI with user security in HMI and Equipment shall be in either of the group Load sheding1 and 2 or None.	M	RMMadaschi Andrea	Yokogawa	11/22/2024				
E366772C00-PCS-FAT-046	Load shedding 1 and load shedding 2 signals to be added Modbus list comm with EMCS.Desired action step 1 and 15 to be configured with required Equipment stop commands	C	RM/Dossena Mauro	Yokogawa	11/22/2024				
E366772C00-PCS-FAT-047	Test and implement the logic according to the (BPLH-EMCS-SW-051)	C	RM/Madaschi Andrea	Yokogawa	11/26/2024				
E366772C00-PCS-FAT-048	In SW pump During low pressure Running pump A and dosing operation in Pump B ,XV004 was closed(correct) but Pump B was started and stopped. it should continue o run.	C	RM/Calabrese Loredana	Yokogawa	12/9/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-049	25-PI-12 and 25-PI-049 Discrepancy alarm description to be corrected.	C	RM/Calabrese Loredana	Yokogawa	12/9/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-050	for Deviation between 25-PI-055A and 25-PI-055B and 80-PI-002, 1 single alarm need to be generated instead of multiple alarms from compared transmitters. Similarly for 64 PI-031A, B and 64 PI-002 deviation alarm to be a single alarm.	C	RM/Calabrese Loredana	Yokogawa	12/9/2024		RM/Loredana	Closed	12/20/2024
E366772C00-PCS-FAT-051	Instrument Air Package Mapping list :Serial commands for operate Filters(S-63001A and S-63001B)Filters(S-63002A and S-63002B)dryers(D-63001A/B), (D-63002A/B)	M	RM/Calabrese Loredana	RM	12/19/2024				

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E366772C00-PCS-FAT-052	**123A90-DDL-IN-RE-40095** 4.3.2 Electrolyser Package Control Philosophy : information of water analyser 50-AT-024/026/027 are sent to electrolyzer from water treatment package through PCS control system:	C	RM/Calabrese Loredana	Yokogawa	12/19/2024				
E366772C00-PCS-FAT-053	123A90-DDL-IN-RE-40095: 4.8.2 Process Operation and Control Philosophy To divert nitrogen to six H2 Storage Vessels for purging operations (see par. 4.4.7 and 4.4.8). On such sub-header a shutdown valve (64-SDV-001) is provided, and it is normally left close. Valve 64-SDV-001 can also be operated from PCS system. In fact in case purging operation is required, then the valve is driven to open to allow sending nitrogen to the selected H2 Storage Vessel. In pg 51 item 5. Manual operatoin required for 64 SDV-001.	C	RM/Calabrese Loredana	Yokogawa	12/19/2024		RM/Loredana	Transferred to Site	12/19/2024
E366772C00-PCS-FAT-054	HVAC B-100,B-200,B-300 AND B-400, Auto/Manual, Local/Remore signal is not available in Mapping list. Revised mapping list shall be provided.	M	RM/Calabrese Loredana	RM	12/19/2024		RM/Loredana	Transferred to Site	12/20/2024
E366772C00-PCS-FAT-055	WTP Package does not have Local/Remote, Start stop signal in Mapping list. Revised mapping list shall be provided.	M	RM/Calabrese Loredana	RM	12/19/2024		RM/Loredana	Transferred to Site	12/20/2024

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)	

2-5 CYBER SECURITY SAT PROCEDURE

1724000594-QC-PRO-00044

Base Load Power Hub (BLPH)

CYBERSECURITY SAT PROCEDURE

Document Number: 1724000594-QC-PRO-00044

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1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED
NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.	
Sign	Date
AAB	30/05/2025

Document Class: 2

NEXT REVISION SHALL BE "Accepted for Construction (AFC)"

Rev.	Date	Description	Prepared	Reviewed	Approved
00	27/05/2025	Issue for Review (IFR)	CB	AB	SC

ADD YOKOGAWA LOGO

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File: 1724000594-QC-PRO-00044_R00

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	CYBERSECURITY SAT PROCEDURE	Sheet 2 of 74 Date: 27/05/2025 Rev: 00

Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)

HOLDS LIST

No.	Description
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1 INTRODUCTION

1.1 GENERAL

The purpose of this document is to define the methods and documentation that will be used to carry out the Site Acceptance Test (SAT) on YOKOGAWA's Network Security. The SAT is performed to ensure that the system is properly configured, assembled and functional in accordance with the intended design as specified in the approved documents.

The Objective of SAT is to demonstrate to CROSSWIND that the system hardware and software is built in accordance with requirements as specified in the approved documents.

CROSSWIND and Rosetti Marino would witness to verify the test. Upon successful completion of the test, a SAT Test Certificate to be signed for the acceptance of the test.

1.2 SCOPE AND OBJECTIVE

The Site Acceptance Test referred to as SAT applies to the Network Hardware and Software supplied by YOKOGAWA.

The objective of the SAT is to verify the conformance of the system against the approved specifications and SAT procedure before delivery to site. The SAT shall be conducted to test and verify the main items listed below:

- Security and Administration
- Windows Domain and Account Management
- Antivirus Management
- OS Patch Management
- Backup and Recovery Management
- Network Management System
- Network Infrastructure
- Application Whitelisting
- Firewall
- Switch
- Remote Access Facility

2 REFERENCE DOCUMENTS

2.1 INPUT DOCUMENTS

The OT Network and Systems security is configured by the reference of these documents in the below listed table.

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2.1.1 Project Reference Documents

Doc. No.	*Description*
123A90-DDL-IN-DD-40019 Rev.00	Data Network Architecture Drawings
123A90-DDL-IN-DD-40029 Rev.00	Automation Detailed Design and Construction Package
123A90-DDL-IN-RE-40023 Rev. 00	Cyber Security Design Philosophy
123A90-DDL-IN-RE-40093 Rev. 00	Control System Philosophy

2.1.2 YOKOGAWA Project Document

Doc. No.	*Description*
1724000594-IN-RE-00041 Rev00	Cyber security Workshop Preparation
1724000594-QC-ITP-00002 Rev01	INSPECTION AND TEST PLAN
1724000594-QC-PRO-00031 Rev00	SW FACTORY ACCEPTANCE TEST (FAT) PROCEDURE
1724000594-IN-SP-00018 Rev02	PCS and SAFETY SYSTEMS Software Functional Design Specification (FDS-SW)
1724000594-IN-DG-00023 Rev01	NETWORK AND SERVER CABINETS IN OER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS
1724000594-IN-RE-00035 Rev01	Cyber Security Risk Assessment REPORT
1724000594-IN-RE-00043 Rev00	CYBER SECURITY SETTINGS
1724000594-IN-DA-00011 Rev02	NETWORK AND SERVER CABINETS IN ITER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DA-00012 Rev01	NETWORK AND SERVER CABINETS IN OER ROOM GENERAL ARRANGEMENT DRAWINGS AND INTERNAL LAYOUT
1724000594-IN-DD-00015 Rev03	System Architecture
1724000594-IN-DG-00016 Rev01	Network Connection Diagram
1724000594-IN-LIS-00007 Rev01	Systems Cables List
1724000594-IN-DG-00022 Rev01	NETWORK AND SERVER CABINETS IN ITER ROOM WIRING DIAGRAMS AND TERMINAL STRIPS

2.2 APPROVED DOCUMENT LIST (DETAIL DESIGN SPECIFICATION)

The Detail Design Specification used for construction shall be listed in this approved document list, and shall be used as reference in the SAT. In principle, the Detail Design Specification documents as included in this list shall form the basis for checking the Network system. The approved Detail Design Specification document list used for construction is listed in 2.1.2.

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3 DEFINITIONS AND ABBREVIATIONS

COMPANY or Client (CPY):	Crosswind
CONTRACTOR (CTR):	ROSETTI MARINO
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project

Doc. No.	Description
• ICS	Industrial Control System
• IACS	Industrial Automation & Control System
• AD DS	Active Directory Domain Services
• DC	Domain Controller
• DNS	Domain Name System
• GPO	Group Policy object
• RID	Relative Identifier
• PDC	Primary Domain Controller
• PIN	Plant Information Network
• OU	Organizational Unit
• CMD	Command Prompt
• SQL	Structured Query Language
• SFP	Small Form-factor Pluggable
• HIS	Human Interface System
• Vlan	Virtual LAN
• USB	Universal Serial Bus
• GPS	Global Positioning System
• ePO	ePolicy Orchestrator
• DMZ	Demilitarized Zone
• ENS	End Point Network Security
• FTP	File Transfer Protocol
• NTDS	NT Directory Service
• SSL	Secure Socket Layer
• EPC	Engineering Procurement and construction Contract
• HTTPS	Hyper Text Transfer Protocol Secured
• VBR	Veeam Backup & Replication
• BRS	Backup and Recovery Server
• WL	Whitelisting

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• WUG	WhatsUp Gold
• TCP	Transmission Control Protocol
• UDP	User Datagram Protocol
• SNMP	Simple Network Management Protocol
• ACL	Access Control List
• NMSSVR	Network Management Server
• DCSVR01	Domain Controller Server 1
• DCSVR02	Domain Controller Server 2
• AVSVR	Antivirus Server
• WSUS	Windows Server Update Service
• CISVR01 & CISVR02	CI Server
• FDS	Functional Design Specification
• FAT	Factory Acceptance Test
• SAT	Site Acceptance Test

Table 1 – Definitions and Abbreviations

4 RESPONSIBILITY

Responsibilities for each party involved in the SAT are defined here-under to ensure that the SAT is carried out in accordance with the agreed procedure. It also ensures that there shall be authorized personnel(s) from Rosetti Marino, CROSSWIND and YOKOGAWA to facilitate any decisions and schedule changes that have resulted from the SAT.

4.1 CUSTOMER

The full participation of CROSSWIND in the SAT is essential. CROSSWIND shall appoint an Inspector cum Test Approver to witness the SAT. The Test Approver would have the authority to sign-off the check sheets on successful completion of all tests. Once signed off, the test will be deemed accepted and the decision will be final. The Test Approver shall participate in the test and observe the test results daily. The Test Approver shall approve the inspection items based on the test results recorded.

4.2 CONTRACTOR

Rosetti Marino shall appoint a SAT Manager for the SAT. Rosetti Marino SAT manager shall co-ordinate with CROSSWIND and YOKOGAWA SAT Managers to facilitate the smooth execution of the SAT activities and schedule. The role of the SAT Manager is also to resolve SAT issues on a regular basis.

4.3 MAC

YOKOGAWA as MAC shall appoint a Test Conductor to organize and manage all aspects of SAT. Yokogawa shall be responsible for carrying out the testing and recording the test results on a daily basis together with Rosetti Marino representative and CROSSWIND Inspector.

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The Site Manager representing YOKOGAWA shall be the SAT Manager and co-ordinate with Rosetti Marino SAT Manager and adjusts the test schedule whenever necessary to ensure the smooth running of the SAT. The SAT Manager shall also ensure that all tests are conducted in accordance with the SAT documents. If changes / modifications are required, the SAT Managers from YOKOGAWA and Rosetti Marino shall discuss and determine the action plan YOKOGAWA

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5 GENERAL ADMINISTRATION

5.1 SAT VENUE

All the Network Security equipment will be installed by Site Construction Contractor selected by Rosetti Marino. The tests shall be conducted on-site.

5.2 SAT ORGANIZATION CHART

A detailed Organization Chart shall be issued for SAT, with all positions and names filled in. In addition, a SAT roster of the participants shall be issued, with following details for each person: full name, company, responsibility, samples of the signature and initials, actual start and finish date of participation in the SAT. Rosetti Marino shall be responsible for maintaining the roster and keeping it updated.

Refer to Appendix-19.1 for SAT organization chart and SAT roster.

5.3 KICK-OFF MEETING

An initial kick-off Meeting will be held prior to starting the SAT to brief the participants, confirm the organization and responsibilities, and review the SAT schedule. At the same time HSE briefing for all participants will be provided by Rosetti Marino/CROSSWIND. YOKOGAWA SAT Manager will prepare the presentation and explain the organization and work practices.

All SAT documentation prepared by Rosetti Marino/CROSSWIND prior to SAT will be inspected for completeness.

5.4 DAILY WORKING SCHEDULE

The SAT will be conducted in Project Site premises from Monday to Friday (working days). The following timing is recommended for the testing:

0900 to 1200 hrs	Inspection and test
1200 to 1300 hrs	Lunch
1300 to 1700 hrs	Inspection and test
1700 to 1730 hrs	Daily review meeting including next day's schedule planning

Table 2 - Daily Working Time

5.5 SAT WRAP-UP MEETING

At the completion of the SAT, a final wrap-up meeting will be held. The overall status of the SAT shall be reported. Upon all parties' agreement that the SAT is completed satisfactorily, Rosetti Marino/CROSSWIND shall sign off SAT Completion Certificate and System Acceptance Certificate.

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6 SAT OVERVIEW

Cyber security solutions is a part of SAT. This SAT procedure describes the activities and the requirements that are necessary to confirm that all the cyber security solutions installed on-site meets the project standards and functions as per the approved design engineering / construction drawings. The main objectives of performing the SAT is to facilitate Rosetti Marino/CROSSWIND to check and verify the following.

There are no physical (visible) damages (during shipping and installation) to the system that was inspected during FAT and IFAT.

All manufacturing and assembly that were inspected during the FAT and IFAT remain so and are not affected during the shipment.

The Network components that were inspected during FAT and IFAT do function properly and are not affected during the shipment.

To ensure that all carried over punch items identified as per FAT and IFAT report are addressed.

The Software with proper revisions has been loaded on the respective systems.

All equipment and system cables that have been disconnected for shipment are properly reconnected and is working as expected.

The Site Acceptance Test (SAT) shall be conducted in accordance with the test procedures detailed in this document. The test results shall be recorded in the Check sheet. Each Check sheet shall be given a unique reference number.

6.1 SAT DOCUMENTATION

YOKOGAWA shall prepare all SAT documentation prior to the start of SAT of a particular plant or area. All forms, Check-sheets, sign off sheets, drawings, etc. as listed in this procedure shall be organized in indexed binders. A master index for the area will be provided and maintained by the individual site team(s).

The documentation for hardware checks shall include all relevant documents for each individual cabinet in a separate indexed binder or a binder section.

All SAT reference documents (latest issue) as listed in this procedure originated by other parties, which were issued formally to YOKOGAWA, will form a part of the SAT documentation and shall be printed out, and organized in indexed binders by YOKOGAWA.

All SAT reference documents as mentioned above shall be stamped "SAT MASTER" on every page/sheet (or printed with a watermark). Any additional documents as may be necessary and generated later during SAT shall also be stamped, and indexes amended accordingly.

6.2 METHOD OF TESTING

Detailed test procedure for each test item is described in this document. Check-sheet shall be provided, listing the equipment to be tested. All test results shall be recorded in the Check-sheets. The following color codes shall be used in the testing:

a) Yellow marker – Items that were checked and cleared

b) Pink marker – Items that were having issues

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c) Green marker – Items that were checked after completion of recovery/resolution of issue

6.3 PUNCH RECORD

Any deficiency found during the test shall be noted in the SAT Punch Record. Each punch Record shall cover one punch item/fault. A Punch Record Ledge shall be used to summarize all the punch records. Punch record items shall be classified as follows:

M = Modification, item is to be modified, deleted, added due to design input changes.

C = Correction, item is to be corrected by YOKOGAWA.

If the recovery work involves change/modification, it is to be recorded on the punch record and the recovery shall be carried out after the agreement of both the SAT managers. YOKOGAWA shall clear all correction items (**Code C**) as per the identified resolutions. For recovery work that involves modification (**Code M**), the item will be jointly reviewed by all parties on a daily basis and determined whether to be implemented during SAT or later, depending on complexity and potential schedule and/or cost impact. After verification, all concerned parties in the punch record will sign off the same.

The punch record will be reviewed during the daily meeting and the action to be taken will be discussed and finalized. If the modification request were deemed deviated from the original design, it would be considered as variation order.

6.4 SAT COMPLETION CERTIFICATE & SYSTEM ACCEPTANCE CERTIFICATE

Upon completion of the SAT, a SAT Completion Certificate and System Acceptance Certificate will be signed by CROSSWIND, Rosetti Marino and YOKOGAWA. The purpose of these two documents is to certify that the SAT has been completed and accepted by Rosetti Marino/CROSSWIND. Both Rosetti Marino/CROSSWIND and YOKOGAWA agree that the system is in order and can be released for the next stage of site activities. However, if the tested system is to be accepted in partial for whatever reasons, Rosetti Marino shall advise and issue the SAT documents accordingly.

6.5 SAFETY AT WORK

CROSSWIND site safety procedures shall form the basis for YOKOGAWA to conduct the SAT. Rosetti Marino/CROSSWIND shall provide necessary safety orientation to YOKOGAWA site team so that YOKOGAWA site engineers can follow the safety rules while working on-site.

6.6 TEST EQUIPMENT

Rosetti Marino/CROSSWIND will provide all test equipment (e.g. Digital Multimeter, Calibrator, Signal Generators, etc.) for the SAT.

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7 WINDOWS DOMAIN ENVIRONMENT SAT PROCEDURES

7.1 DOCUMENT UPDATE AND CONFIGURATION VERIFICATION

Objective	To verify that FDS is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Check FDS used is the latest version and approved by EPC or End User. 2. Check that current Domain Controller configurations are compliant with FDS documents.
Criteria	1. The following is true; FDS is of the latest version

TEST RESULT: PASS / FAIL

Remarks:

12/06/2025 FINAL FDS TO BE ISSUED. ('SEE PUNCH CS-01)

26/7: PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

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7.2 DOMAIN AND FOREST FUNCTIONAL LEVEL

Objective	To verify the Domain and Forest functional level.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. In the Domain controller, go to **Start -> All Programs -> Administrative Tools -> Active Directory Domains and Trusts.** 2. Right-click on the name of the domain -> click Properties. 3. Verify the Domain and Forest Functional Level.
Criteria	The result should show that the Domain and forest Functional level is Windows Server 2016

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGAN Date: 12/06/2025

Crosswind Representative : E. Hu - Date: 12/06/2025

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	CYBERSECURITY SAT PROCEDURE	Sheet 18 of 74 Date: 27/05/2025 Rev: 00

7.3 FORWARD LOOKUP AND REVERSE LOOKUP ZONE

Objective	To verify that DNS is installed on the domain controllers and the Forward and Reverse Lookup Zone is integrated to Active Directory.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	**Forward Lookup Zone** 1. On the Domain controller, go to **Start -> All Programs -> Administrative Tools -> DNS -> Forward Lookup Zone.** 2. Right-click on the zone which is the name of the domain and select properties. 3. Repeat steps on the redundant domain controller 4. Also check whether dynamic updates are in secure only mode **Reverse Lookup Zone** 1. On Domain controller, go to **Start -> All Programs -> Administrative Tools -> DNS -> Reverse Lookup Zone.** 2. Right-click on the zone which is the name of the domain and select properties. 3. Click on the Reverse Lookup Zone>[IP].in-addr.arpa 4. Repeat steps on the redundant domain controller. 5. Also check whether dynamic updates are in secure only mode
Criteria	1. The zone, which is the name of the domain, should be present under Forward Lookup Zone. ✓ 2. The properties of the zone, which is the name of the domain, should show Active Directory-Integrated. ✓ 3. The properties of the zone, which is the name of the domain, should show that it is configured to replicate to all DNS servers in the same Active Directory domain. ✓ 4. Hostname and IP should match as mentioned in FDS ✓ 5. Verify that all IP subnets should show in-addr.arpa under Reverse Lookup Zones ✓ 6. Verify whether dynamic updates are in secure only mode ✓

TEST RESULT: (PASS) / FAIL

Remarks: 12/06 REMOVE TEMPORARY STATIONS FROM DNS (SEE PUNCH CS_02)

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SPAGNOLI Date: 12/06/2025

Crosswind Representative : E Klom Date: 14/06/2025

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7.4 NAME RESOLUTION

Objective	To verify that hostnames can be resolved by the Active Directory DNS.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Open the command prompt on one of the domain controllers. 2. Type nslookup <LookupName/IP> <Nameserver/IP> 3. Type the name of the other domain controller. 4. Type the name of any other domain members. 5. Type in the IP address of the other domain controller. 6. Type the IP address of any other domain members.
Criteria	1. The nslookup should be able to resolve the name of the domain controller and other domain members to their correct IP addresses. 2. The nslookup should be able to resolve the IP address of the other domain controller and other domain members to its correct hostnames.

TEST RESULT: PASS / ~~FAIL~~

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SPIGAI Date: 12/06/2025

Crosswind Representative : E. Ilom Date: 12/06/25

7.5 ACTIVE DIRECTORY REPLICATION

Objective	To verify that replication can occur between 2 domain controllers.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. On domain controllers, go to **Start -> All Programs -> Administrative Tools -> Active Directory Sites and Services.** 2. Go to Default-First-Site-Name -> Servers 3. Expand the icon of the domain controller and select NTDS Settings. 4. On the right pane, right-click on the Automatically Generated connection -> Replicate Now. 5. Expand the icon of the redundant domain controller and select NTDS Settings. 6. On the right pane, right-click on the Automatically Generated connection -> Replicate Now.
Criteria	The dialog box "Active Directory has replicated the connections" should pop up when replication is successful.

TEST RESULT: (PASS) / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGA Date: 12/06/2025

Crosswind Representative : Ekkon Date: 12/06/25

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7.6 ACTIVE DIRECTORY REDUNDANCY

Objective	To verify that a user account can still log on to domain members if one of the domain controllers fails.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Shut down any one of the domain controllers. 2. Use a created account to log on to any of the domain members. 3. Log off the test account from the domain member. 4. Turn on the domain controller used in step 1.
Criteria	The test account should still be able to log on to the domain members.

TEST RESULT: PASS / ~~FAIL~~

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA, QB Date: 12/6/2025

Rosetti Marino Representative : FABIO SARIGU Date: 12/06/2025

Crosswind Representative : E Ilkan Date: 12-6-25

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7.7 NAME RESOLUTION REDUNDANCY

Objective	To verify that hostnames and IP addresses can still be resolved even if one of the DNS fails.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Shut down any one of the domain controllers. 2. On any of the domain members, open a command prompt and run "ipconfig /flushdns" to clear any cached entries. 3. Type ping. 4. Type the Hostname of any other domain member. 5. Type ping. 6. Type the IP address of any other domain member. 7. Turn on the shut domain controller.
Criteria	The host names and IP addresses should be resolved if either of them fails.

TEST RESULT: PASS / ~~FAIL~~

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGU Date: 12/06/2025

Crosswind Representative : Ehlen Date: 12-6-25

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7.8 ORGANIZATIONAL UNIT AND GROUP STRUCTURE

Objective	To verify that the OU and group structure is according to the project requirement as defined in the FDS.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Open the Active Directory Users and Computers tool on one of the domain controllers. 2. Verify that the structure of the OU is as mentioned in the FDS. 3. Navigate to the OU containing groups. 4. Verify that the proper descriptions are given under each of the group properties. 5. Verify proper group nesting as per FDS. 6. Verify that specified users as per FDS are created in the system
Criteria	1. The OU structure should be the same as what mentioned in the FDS. 2. All Microsoft OS workstations and servers are part of the domain. 3. Description of group and group nesting should be as per FDS. 4. Make evidence that there are no temporary users in the system.

TEST RESULT: (PASS) / FAIL

Remarks:

YOKOGAWA Representative : A. BERRA AB Date: 26/7/2025

Rosetti Marino Representative : FSURIGA Date: 26/7/2025

Crosswind Representative : Date:

7.9 VERIFY USER ACCOUNT COMPLIANCY, INCLUDING NON-REPUDIATION

Objective	Verification of user account compliance and non-repudiation.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	To verify that the current system user account and password are equal to the specification document, generic accounts are not created (default generic accounts are disabled). * Check: Login all account
Criteria	The current system user account and password tally with the specification document, no generic account is present.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 3/7/2025

Rosetti Marino Representative : FSWRIGHT Date: 3/7/25

Crosswind Representative : E. Klom Date: 3-7-25

7.10 GROUP POLICY OBJECT STRUCTURE

Objective	To verify that the GPO structure is created according to the project requirement as defined in the FDS.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Open the Group Policy Management Console (GPMC) tool on the domain controllers. 2. Verify that the naming conventions of the GPOs are as per FDS. 3. Verify that the unneeded GPO configuration category (Computer configurations or User Configurations) is disabled. 4. Verify that the default GPOs (default Domain and Domain Controllers GPOs) are not linked to any OUs and be modified upon. 5. Verify that the GPOs are linked to the appropriate OUs in the OU structure.
Criteria	1. The naming convention of the GPOs should be as per the FDS. 2. Unneeded GPO configuration category should be disabled to allow faster GPO processing. 3. Default Domain and Domain Controllers GPOs should not be modified and assigned to any OUs. 4. All GPOs should be linked to the appropriate OUs as per FDS for correct IT environment hardening on domain members.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 3/7/2025

Rosetti Marino Representative : [signature] Date: 3/7/25

Crosswind Representative : [signature] Date: 3-7-25

8 YOKOGAWA ANTIVIRUS SOFTWARE SAT PROCEDURES

8.1 DOCUMENT UPDATE AND CONFIGURATION VERIFICATION

Objective	To verify that the FDS document is up-to-date and are compliant with the actual configuration.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	1. Verify that the FDS used is the latest version and approved by EPC or End User. 2. Verify that the current anti-virus server and client configuration are compliant with FDS documents.
Criteria	1. The FDS is the latest version. 2. Anti-virus server and client configuration are compliant with the FDS document.

TEST RESULT: PASS / FAIL

Remarks:

12/06 FINAL FDS TO BE ISSUED (SEE PUNCH CS_06)

26/7 PASS

YOKOGAWA Representative	: A. BERRA	Date:	26/7/2025
Rosetti Marino Representative	: FSWRUGH	Date:	26/7/2025
Crosswind Representative	:	Date:	

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8.2 VIRUS DEFINITION UPDATE

8.2.1 The Trellix ePO Server (DMZ) and source site Synchronization

Objective	To verify that the Trellix ePO Server (DMZ) can synchronize the virus definition update from the defined source sever(Crosswind)
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	Verifying virus definition download between Trellix ePO Server (DMZ) and Trellix ePO Server (Office Domain) 1. On the Trellix ePO Server (DMZ), launch the Trellix ePolicy Orchestrator Console. 2. Go to the Master Repositor and click the "Pull Now" button. 3. Select the AMCore Content Package for YOKOGAWA Antivirus Software Management under the Signatures and Engines of Package Types. 4. Click Next and run the Update.
Criteria	The AMCore Content Package of the Trellix ePO Server (DMZ) Master Repository shall be updated following the Trellix ePO Server source site server version.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 13/6/2025

Rosetti Marino Representative : FABIO SURIGA Date: 13/06/2025

Crosswind Representative : E. Hum Date: 13-6-25

8.2.2 YOKOGAWA Antivirus Software Management Virus Definition Update

Objective	To verify that the YOKOGAWA Antivirus Software Management on the PIN and DMZ clients can download the virus definition update from the Trellix ePO Server (DMZ)
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	Verifying virus definition download between YOKOGAWA Antivirus Software Management PIN, DMZ clients and Trellix ePO Server (DMZ) 1. On the client, launch the YOKOGAWA Antivirus Software Console. 2. Open YOKOGAWA Antivirus Software Console. 3. Click the "Update Now" button. 4. Go to Server task menu in order to check whether updates are pushed to the systems
Criteria	The virus definition update on the PIN, DMZ client must be updated following the AV Server (DMZ) virus definition update version.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 13/6/2025

Rosetti Marino Representative : FABIO SIRIGU Date: 13/06/2025

Crosswind Representative : E. Klom Date: 13-6-25

8.3 YOKOGAWA ANTIVIRUS SOFTWARE MANAGEMENT

8.3.1 YOKOGAWA Antivirus Software Clients Communication

Objective	To verify that the YOKOGAWA Antivirus Software Management clients are reporting to the Trellix ePO Server (DMZ)
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	Verifying communication between YOKOGAWA Antivirus Software Management DMZ, PIN clients and Trellix ePO Server (DMZ) 1. On the Trellix ePO Server (DMZ), launch the ePolicy Orchestrator Console. 2. Go to the System Tree view. 3. Click the System Properties tab and select the target client, 4. Verify the "Last Communication" value.
Criteria	The last communication shows the client's last reporting scheduled date and time. The last communication value should show a recent date (approx. +/- 1 day) to confirm that the clients are communicating with the Trellix ePO server. ✓

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGA Date: 12/06/2025

Crosswind Representative : E. Kelen Date: 12-6-25

8.3.2 ePolicy Orchestrator Exclusion List

Objective	To verify that exclusion policy is configured in the AV Server
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Go to AV Server, and open the ePO console 2. Check the exclusion policy configuration.
Criteria	The current McAfee Product Version is tally with Project FDS.

TEST RESULT: (PASS) / FAIL

Remarks:
12/06- OPEN EXCLUSION SEEM TO BE TOO WIDE

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGU Date: 12/06/2025

Crosswind Representative : E. Klom Date: 12-06-2025

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8.3.3 YOKOGAWA Antivirus Software Full Scan Impact

Objective	To verify that YOKOGAWA Antivirus Software Management Full Scan impact is at an acceptable level.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	Verifying virus definition download between YOKOGAWA Antivirus Software Management of DMZ, PIN clients and Trellix ePO Server (DMZ) 1. On the DMZ & PIN client, launch the YOKOGAWA Antivirus Software Console. 2. Open YOKOGAWA Antivirus Software Console. 3. Click the "Scan System" button and run a "Full Scan". 4. Using the Windows inbuilt Performance monitor. 5. Check the Memory and CPU utilization.
Criteria	Confirm that the YOKOGAWA Antivirus Software Full scan impact is at an acceptable level following the FDS document.

TEST RESULT: PASS / FAIL

Remarks:

12/06 – NO FULL SCAN IS SCHEDULED FOR ALL MACHINES
– REMOTE TASKS ON REMOTE IS NOT EXECUTED

YOKOGAWA Representative : ALESSANDRO BERRA Date: 3/7/2025

Rosetti Marino Representative : Date: 3/7/25

Crosswind Representative : Date: 3-7-25

8.4 TRELLIX EPOLICY ORCHESTRATOR SERVER

8.4.1 Trellix ePO Server Policy Verification

Objective	To verify the YOKOGAWA Antivirus Software Policy is assigned to the YOKOGAWA System Group
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	Verifying the required YOKOGAWA Antivirus Software policy is assigned to the YOKOGAWA System Group 1. On the Trellix ePO Server (DMZ), launch the ePolicy Orchestrator Console. 2. Under the System Tree, click the YOKOGAWA System group. 3. Click the Assigned Policies tab and verify that the YOKOGAWA Advanced policy is applied.
Criteria	The YOKOGAWA Advanced policy is applied to the YOKOGAWA system group following the FDS document

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SARIGU Date: 12/06/2025

Crosswind Representative : E. Holm Date: 12-6-25

9 YOKOGAWA APPLICATION WHITELISTING SAT PROCEDURES

9.1 DOCUMENT SPECIFICATION AND CONFIGURATION VERIFICATION

Objective	To verify that FDS is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Verify that the FDS used is the latest version and approved by EPC or End User. 2. Verify that the current application whitelisting configuration is compliant with FDS document.
Criteria	FDS is of the latest version.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : A. BERRA QB Date: 26/7/2025

Rosetti Marino Representative : FERIGN Date: 26/7/2025

Crosswind Representative : Date:

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9.2 PROTECTION FROM EXECUTION OF UNMANAGED PROGRAM IN ENABLE MODE

Objective	To verify that the Whitelisting service can prohibit from execution of unmanaged programs during Enable Mode
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Verify to execute additional program 1. On the client machine, copy a test program/installer to the target machine's hard drive. (Ensure Solidcore status is enabled) 2. Execute the program. 3. Check the result
Criteria	The test program cannot execute

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : A. BtRRs QD Date: 3/7/2025

Rosetti Marino Representative : Fsuccm Date: 3/7/25

Crosswind Representative : E. Klom Date: 3-7-25

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9.4 TRELLIX EPOLICY ORCHESTRATOR SERVER

9.4.1 Trellix ePO Server Policy Verification

Objective	To verify the YOKOGAWA Application Whitelisting policy is assigned to the YOKOGAWA System Group
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Verifying the required YOKOGAWA Application Whitelisting policy is assigned to the YOKOGAWA System Group 1. On the Trellix ePO Server, launch the ePolicy Orchestrator Console. 2. Under the System Tree, click the YOKOGAWA System Group
Criteria	The Standard YOKOGAWA policy is applied to the YOKOGAWA system group following the FDS.

TEST RESULT: (PASS) / FAIL

Remarks:

YOKOGAWA Representative : A. BERRO Date: 3/7/2025

Rosetti Marino Representative : Date: 3/7/25

Crosswind Representative : E. Klom Date: 3-7-25

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9.3 CHANGE OPERATION MODE OF WHITELISTING

9.3.1 Changing to Observe Mode and Enable Mode

Objective	To verify that the Whitelisting status changes to update mode
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	**Verify Whitelisting status mode changes to "Observe Mode"** 1. Open the System Tree from the ePO management console and select the target machine from the System Tree. 2. Run a client task (YOKOGAWA Standard WL – Begin Update) on the selected station. 3. Once the agents apply the new policy, confirm that the systems have moved to observe mode. 4. Review the system's Solidcore status in the **ePO Console**. **Verify Whitelisting status mode changes to "Enable Mode"** 1. Open the System Tree from the ePO management console and select the target machine from the System Tree. 2. Run a client task (YOKOGAWA Standard WL – Begin Update) on the selected station. 3. Once the agents apply the new policy, confirm that the systems have moved to Enable mode. 4. Review the system's Solidcore status in the **ePO Console**.
Criteria	Verify if **Whitelisting Status** changes to Observe mode and Enable Mode

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative	: ALESSANDRO BERRA JP	Date:	3/4/2025
Rosetti Marino Representative	: FRANCESCO	Date:	3/4/25
Crosswind Representative	: E. Klom	Date:	3-3-25

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10 PATCH MANAGEMENT SAT PROCEDURES

10.1 DOCUMENT UPDATE AND CONFIGURATION VERIFICATION

Objective	To verify that FDS is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Check FDS used is the latest version and approved by EPC or End User. 2. Check that current WSUS servers and client's configurations are compliant with FDS.
Criteria	1. FDS is of the latest version. 2. WSUS servers and client's configurations are compliant with FDS.

TEST RESULT: PASS / FAIL

Remarks:

12/06 FINAL FDS TO BE ISSUED (SEE PUNCH CS_12)

YOKOGAWA Representative : A. BERRA Date: 26/6/2025

Rosetti Marino Representative : Date: 26/6/2025

Crosswind Representative : Date:

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10.2 OS PATCH MANAGEMENT SERVER

10.2.1 OS Patch Management Server Verification

Objective	To verify the WSUS server product version
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	WSUS Downstream Server Version Verification 1. On the WSUS server, click on Start and go to All Programs 2. Go to Administrative Tools and click on Windows Server Update Services. 3. Go to Help. 4. Click on the About Update Services 5. Look for the version number. WSUS Upstream Server Version Verification 1. On the WSUS server, click on Start and go to All Programs 2. Go to Administrative Tools and click on Windows Server Update Services. 3. Go to Help. 4. Click on the About Update Services 5. Look for the version number.
Criteria	The current WSUS server tallys with the project FDS.

TEST RESULT (PASS) / FAIL

Remarks:

NEWER VERSION ALREADY INSTALLED

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGUI Date: 12/06/2025

Crosswind Representative : E. Hom Date: 12-6-2025

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

10.2.2OS Patch Management Server Configuration Verification

Objective	To verify the WSUS Server (DMZ) configuration
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	1. Log on to the AV/WSUS Server. 2. From Start menu navigate to All Programs > Administrative Tools and click on Windows Server Update Services. 3. Click on Options > Product and Classifications 4. Verify the configuration setup.
Criteria	The current WSUS server setup tallys with the project FDS.

TEST RESULT (PASS) / FAIL

Remarks:

12/06 TEST FAILED BECAUSE FDS IS NOT UPDATED, BUT CONFIGURATION IS DONE CS_14

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGU Date: 12/06/2025

Crosswind Representative : e.h.lam Date: 12-6-25

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10.2.3WSUS Synchronization Check

Objective	To verify that the WSUS servers are synchronized;
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	**Login to the WSUS Upstream Server** 1. Start the WSUS Administration Console. 2. From the Update Services menu, click on Synchronizations. 3. From Synchronizations, check that all scheduled synchronizations have been completed. **Login to the WSUS Downstream Server** 1. Start the WSUS Administration Console. 2. From the Update Services menu, click on Synchronizations. 3. From Synchronizations, check that all scheduled synchronizations have been completed.
Criteria	Automatic or manual synchronizations should be successful if the configuration has been done properly.

TEST RESULT: PASS / FAIL

Remarks:

12/06 - FINAL UPSTREAM SERVER TO BE CONFIGURED

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SIRIGU Date: 12/06/2025

Crosswind Representative : E. Islam Date: 12-6-2025

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10.3 OS PATCH MANAGEMENT CLIENT

10.3.1 Client Configuration

Objective	To verify that all clients have been configured properly and report back to the dedicated WSUS server.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	**Login to the WSUS Downstream Server** 1. Start the WSUS Administration console. 2. Click on All Computers on the submenu of Computers. 3. From the list, verify that all clients have reported back to a WSUS Server based on the last maintenance window time. **Login to the WSUS Upstream Server** 1. Start the WSUS Administration console. 2. Click on All Computers on the submenu of Computers. 3. From the list, verify that all clients have reported back to the WSUS Server based on the last maintenance window time.
Criteria	The clients should report to WSUS servers based on project requirements.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIANO Date: 12/06/2025

Crosswind Representative : E Mon Date: 12-6-25

10.3.2 Patch Approval

Objective	To verify that the selected patch can be downloaded into clients and that clients are notified for installation.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	1. From the approved YOKOGAWA Validation Report, Select one patch for approval to the client-server and client workstation. 2. From the Updates menu, search for the selected patch on the WSUS server. 3. Right-click on the selected patch and approve the groups that the client-server and client workstation are members of. 4. Login to the client server and client workstation. 5. Click on Start and Run, type CMD, and enter the command prompt window. 6. Type wuauclt.exe /detect now to force the client-server and client workstation to detect the approved patch. 7. Wait for the Windows Update Icon [Yellow Icon] to appear on the right-hand side of the taskbar. 8. Verify that the downloaded patch is the correct patch. 9. Install the downloaded patch onto the Client Server and Client Workstation. 10. Check from Add and Remove Software that the patch has been installed.
Criteria	The patch should be available and can be approved for installation onto selected clients.

TEST RESULT: (PASS) / FAIL

Remarks:
12/06 NEW XML FILE TO BE IMPORTED (SEE PUNCH CS_16)

YOKOGAWA Representative	: A. BERRA AB	Date:	26/7/2025
Rosetti Marino Representative	: FSMRIGN	Date:	26/7/2025
Crosswind Representative	:	Date:	

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10.3.3 Installed Patch Verification

Objective	To verify that all recommended patches are installed on all clients.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-MAN-00037_R01
Procedure	1. From the approved YOKOGAWA Validation Report, list up all relevant patches whose recommended status is "Install". 2. Compare the above list with installed patches in all clients from the WSUS Administration Console or each client's control panel to verify that all the applicable patches are installed to the clients properly. 3. Create all installed patches list in all clients. Note: • If a new patch or not installed patch update is required while SAT is based on the site contract, a patch update list for each client should be created or updated and approved by the EPC or end user before installing the patches. • If the above new or not installed patch will require a reboot machine, confer with the EPC or end user about how to handle that patch before installing that patch.
Criteria	All recommended patches should be installed to all clients correctly.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 12/6/2025

Rosetti Marino Representative : FABIO SURIGNI Date: 12/06/2025

Crosswind Representative : E. Hlon Date: 12-6-25

11 BRS (BACKUP RECOVERY SYSTEM)

11.1 DOCUMENT VERIFICATION

Objective	To verify that FDS document is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Check FDS used is the latest version 2. Check that the current BRS configuration is compliant with FDS document.
Criteria	FDS is of the latest version.

TEST RESULT: (PASS) / FAIL

Remarks:

12/06 FINAL FDS TO BE ISSUED

YOKOGAWA Representative : A. BERRA AB Date: 26/7/2025

Rosetti Marino Representative : FSURIGU Date: 26/7/2025

Crosswind Representative : Date:

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File: 1724000594-QC-PRO-00044_R00

11.2 BACKUP SOFTWARE VERSION VERIFICATION

Objective	To verify the backup software product version.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Open Veeam backup and replication console 2. Connect as local host. 3. Click on Help at the left top most corner>click on 'about'. 4. Verify the version
Criteria	The result should display Veeam backup software product & version.

TEST RESULT: (PASS) / FAIL

Remarks: 13/06: BUILD 12.2.0.334

YOKOGAWA Representative : ALESSANDRO BERRA Date: 13/6/2025

Rosetti Marino Representative : FABIO SERIGNI Date: 13/06/2025

Crosswind Representative : E. Klom Date: 13-6-25

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11.3 BACKUP AND RECOVERY SYSTEM - SCHEDULE BACKUP POLICIES

Objective	To verify that all the systems deployed with backup agent are covered under Backup Policies.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Launch the Veeam Backup console. 2. Verify the Image backup policies and their schedules as well as their retention rules.
Criteria	All the systems shall be covered under backup policies.

TEST RESULT: PASS / ~~FAIL~~ PASS

Remarks:

13/06 - BACKUP JOBS ARE NOT SCHEDULED YET

- RETENTION TIME : 60 DAYS

16/07 PASS

YOKOGAWA Representative : ALESSANDRO BERRA Date: 16/7/25

Rosetti Marino Representative : FIRMA Date: 16/7/2025

Crosswind Representative : PP PAUL WILLIAMSON Date: 16/7/25

11.4 BACKUP AND RECOVERY SYSTEM - IMAGE BACKUPS

Objective	Objective is to create image backup plans.
Reference	**1724000594-IN-RE-00043-Cyber Security Settings**
Procedure	1. Select the desired machine in the list which you need to take the backup. 2. For full backup select the desired machine, right click and select active full. 3. For incremental backup select the desired machine, right click and select start button 4. The backup will be scheduled.
Criteria	System Image Backup plan created, and backup job completed.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 13/6/2025

Rosetti Marino Representative : FABIO SURIGA Date: 13/06/2025

Crosswind Representative : E. Ilom Date: 13-6-25

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11.5 BACKUP AND RECOVERY SYSTEM - IMAGE RECOVERY

Objective	Objective is to recover a system from disaster.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Boot from the Veeam Recovery Media. 2. Select the network adapter & configure appropriate settings 3. Launch the Veeam Recovery Media wizard and click Bare Metal Recovery 4. Specify the backup file location. 5. Select the remote storage type. 6. Specify remote storage settings. 7. Select a backup. 8. Select a restore point. 9. Select the data restore mode. 10. Map the restored disks. 11. Resize the restored volumes. 12. Start the restore process.
Criteria	Bare Metal Recovery is successful.

TEST RESULT: PASS / FAIL
Remarks:

YOKOGAWA Representative : A. BERRA Date: 17/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

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11.6 BACKUP AND RECOVERY SYSTEM - REPORT

Objective	To Verify the Report generation of the BRS.
Reference	**1724000594-IN-RE-00043-Cyber Security Settings**
Procedure	1. Open the Veeam Backup & Replication console. 2. In the **Home** view, expand the **Jobs** node in the inventory pane and click **Applications Plug-ins**. 3. In the working area, select the necessary job and click **Report** on the ribbon. You can also right-click the job and select **Report**.
Criteria	The Report is Generated successfully.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 13/6/2025

Rosetti Marino Representative : FABIO SVERGA Date: 13/06/2025

Crosswind Representative : E. Inbom Date: 13-6-25

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12 NETWORK MANAGEMENT SAT PROCEDURES

12.1 WUG SOFTWARE VERSION & LICENSE

Objective	To verify the Whatsup Gold product Version & License.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • E366772C00-BOM_Rev.03
Procedure	1. Login to NMS Server using administrator privilege. 2. Run the 'WhatsUp Gold Admin Console' from desktop. 3. Click on 'Help' and select 'About Whatsup'. 4. Verify the followings. 5. License Type: WhatsUp Gold Total Plus 6. Version: 24.x.x
Criteria	The shown Whatsup Gold software version should match as per BOM.

TEST RESULT: PASS / (FAIL)

Remarks:

13/06: VERSION IS "GOLD BUSINESS" AND IT WILL EXPIRE IN 99 DAYS (SEE PUNCH CS_22)

YOKOGAWA Representative : _____ Date: _____

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

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12.2 NMS LOG MANAGEMENT

Objective	To verify that the NMS Server is implemented with Log Management.
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Verifying the NMS Server (PIN) is using Log Management. 7. Login to the host server where WhatsUp® Gold is hosted. 8. Go to Settings>Log management>Log Management Source setup and check that all devices and software are configured. 9. Go to ANALYZE>Log Management>Log Viewer or Log Management dashboard to verify the logs from the assigned device.
Criteria	1. Confirm that the NMS Server is implemented with a Log Management Feature. 2. Validate that unsuccessful login attempts are logged by the Log Management Feature. 3. Validate that all used devices and software send the logs to NMS Log Management.

TEST RESULT: PASS / (FAIL)

Remarks:

13/06: LOG MANAGEMENT NOT INCLUDED, TO BE CHECKED WITH CORRECT VERSION (SEE PUNCH CS_23)

YOKOGAWA Representative : _____ Date: _____

Rosetti Marino Representative : _____ Date: _____

Crosswind Representative : _____ Date: _____

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12.3 NETWORK STATUS

Objective	To verify network status alert will be captured by NMS.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Network Interconnection Test 1. Physically disconnect cables that are specified as monitoring targets. 2. Check if the Network icon on the System Architecture Network 3. Explorer window will change its color from Green to Red color. 4. Check the Web Alarm list of alerts. 5. Physically reconnect the cable. Check the Web Alarm if there is a list with a UP message or status, and the System Architecture screen will back to green color. 6. Repeat the above steps for all the target cables of respective monitoring targets specified in the FDS.
Criteria	NMS should be able to display the device interface; UP or DOWN, and its detailed information.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : A. BERRA AB Date: 26/7/2025

Rosetti Marino Representative : FSWRGM Date: 26/7/2025

Crosswind Representative : Date:

12.4 RESOURCE MANAGEMENT AND UTILIZATION

Objective	To verify server resource management and utilization will be captured by NMS.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Monitoring the CPU/Memory/Hard Disk Utilization 1. Select DC01 on the Network Explorer right-click and select Device Status Report. 2. Open the task manager select the performance tab on the DC01 and confirm the CPU and memory usage. 3. Open Windows Explorer on DC01 and confirm the HDD usage. 4. Confirm the CPU/Memory/Hard Disk usage shown in the Device Status Report under Performance Monitor. 5. Repeat the above steps for all the target servers respectively which are specified in the FDS.
Criteria	NMS should be able to display the server's CPU, Memory, and Hard Disk usage on the NMS Device Status Window – Utilization Window.

TEST RESULT: PASS / ~~FAIL~~ PASS

Remarks:

13/06: - SERVICE NETWORK FW NOT RESPONDING
- TIME SERVER NOT CONFIGURED

16/07 PASS

YOKOGAWA Representative : ALESSANDRO BERRA AB Date: 16/7/25

Rosetti Marino Representative : [signature] Date: 16/7/2025

Crosswind Representative : [signature] PP PAUL WILLIAMSON Date: 16/7/25

12.5 NETWORK DEVICE RESOURCE MANAGEMENT AND UTILIZATION

Objective	To verify network device resource management and utilization captured by NMS.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Monitoring the CPU/Memory/Port Interface Utilization 1. Select any network device on the Network Explorer, right-click on the device icon, and select Device Status Report 2. Confirm the CPU/memory/port interface usage shown in the Device Status Report under Performance Monitor. 3. Repeat the above steps for all the target network devices respectively which are specified in the FDS.
Criteria	NMS should be able to display the network device's CPU, Memory, and Port Interface usage on the NMS Device Status Window – Utilization Window.

SEE CHAPTER 12.4

PASS 26/7

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : F. SURIGA Date: 26/7/2025

Crosswind Representative : Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	CYBERSECURITY SAT PROCEDURE	Sheet 55 of 74 Date: 27/05/2025 Rev: 00

12.6 WUG CONFIGURATION BACKUP TEST

Objective	To verify that WUG server backup is preforming successfully
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Login to NMS Server using administrator privilege. 2. Run the 'WhatsUp Gold Admin Console' from desktop 3. Click on Tools>Database Utility>Backup WhatsUp SQL Database 4. Mention the name and location to save backup file.
Criteria	Verify if the backup is done successfully. Message will be displayed regarding successful backup.

PASS

YOKOGAWA Representative : ALESSANDRO BERRA AB Date: 13/6/2025

Rosetti Marino Representative : [signature] Date: 3/7/25

Crosswind Representative : E. Holm Date: 13-6-25

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12.7 WUG CONFIGURATION RESTORE TEST

Objective	To verify that WUG server restores successfully from backup.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Login to NMS Server using administrator privilege. 2. Run the 'WhatsUp Gold Admin Console' from desktop 3. Click on Tools>Database Utility>Restore WhatsUp SQL Database 4. Mention the name and location of the database file to be restore.
Criteria	Verify if the restore is done successfully. Message will be displayed regarding successful restore.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA AB Date: 13/6/25

Rosetti Marino Representative : F BURGIN Date: 3/7/25

Crosswind Representative : E. Blom Date: 13-6-25

12.8 NETWORK SCAN TO DISCOVER SYSTEMS

Objective	To verify the network is not connected with unnecessary network devices or computers.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Network Scan 1. Before starting the network scan, obtain the approval of the NMS network scan function from the EPC or END User. The approval should include the possible impact caused by network scan such as network delay or application delay. 2. Select "Discover Devices" from File in the toolbar. Set the proper IP address range. Click "Start a discovery session". 3. Check all existing devices are shown and any newly discovered devices in the Devices Discovered Window. 4. If there is a newly discovered device, MAC should verify the reason.
Criteria	The network should not have unnecessary devices.

TEST RESULT: (PASS) / FAIL

Remarks:

13-6-25 : Skipped due to state of wwg config

26/7/25 : PASS

YOKOGAWA Representative : A. BERRA AB Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

13 NETWORK INFRASTRUCTURE SAT PROCEDURES

13.1 DOCUMENT UPDATE AND CONFIGURATION VERIFICATION

Objective	To verify that Network FDS is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Check FDS used is the latest version and approved by EPC or End User.
Criteria	FDS is of the latest version.

TEST RESULT: ~~PASS~~ / FAIL

Remarks:

13-6 : FDS Needs to Be sHared

26/7 : FDS UPDATED, PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

13.2 NETWORK ARCHITECTURE VERIFICATION

Objective	To verify the network architecture is implemented according to Network FDS (as per SL requirements)
Reference	• 1724000594-IN-RE-00043-Cyber Security Settings • 1724000594-IN-DD-00015_System Architecture_Native_R4
Procedure	1. Check if the Network implementation matches the design. 2. Check if the Safety Zone is separated from the DCS zone with VLANs and Firewalls.
Criteria	Network implementation is matching the approved design architecture from Network FDS

TEST RESULT: (PASS) / FAIL

Remarks:

13-6 skipped due to Fw config

3-7 Label list, + small punch to stand with Yoko

YOKOGAWA Representative : A. BEARA QB Date: 3/7/2025

Rosetti Marino Representative : Date: 3/7/25

Crosswind Representative : E. Klom Date: 3-7-25

13.3 LOGIN BANNER VERIFICATION

Objective	To verify that Network devices and components are configured with a Login Banner
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Login at all network devices and components: Switches, Workstations, Servers, 2. After login, a banner with disclaimer information about unauthorized access and its consequences.
Criteria	All network devices and components are configured to display a Login Banner.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA Date: 13/6/2025

Rosetti Marino Representative : Date: 13/6/25

Crosswind Representative : E. Klom Date: 13-6-25

13.4 VLANS

Objective	To verify that VLANs are implemented according to Cyber Security Settings FDS specifications.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. From Network FDS VLANs properties, test one VLAN implementation at a time. For each VLAN, check that the IP addresses of all devices connected to the respective VLAN are part of the Network IPs defined in the table. 2. Check IP Address in the Firewalls, Switches, Workstations, Servers, Printers, and Time Synchronization GPS Clock.
Criteria	1. The network devices are assigned to the proper VLAN based on Network Segmentation specifications. 2. All network devices and components (Firewalls, Switches, Workstations, Servers, Printers, and Time Synchronization GPS Clock) have an assigned IP address for communication and/or management purposes.

TEST RESULT: PASS / FAIL

Remarks:

13-6 : IPNAC is not configured CS_29

26/7 : PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

13.5 UN-USED PORTS MANAGEMENT

13.5.1 Physical Locks at network devices/components

Objective	Check all unused ports are restricted from physical access.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Check all un-used Ethernet ports, SFP ports, and USB ports from Firewalls, Switches, Workstations, Servers, Printers, and Time Synchronization GPS Clock are blocked with a dedicated physical lock (RJ45 lock, Fiber Optic lock, USB lock).
Criteria	All unused Ethernet ports, SFP ports, and USB ports are blocked accordingly.

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : A. BEKRA AB Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

13.5.2 Disabling unused ports

Objective	Check all unused ports are restricted from logical access.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Login to all Firewalls, Switches, Workstations, Servers, Printers, and Time Synchronization GPS Clock. Check that all unused Ethernet ports, SFP ports, and USB ports are disabled from the software configuration.
Criteria	All unused Ethernet ports, SFP ports, and USB ports are disabled accordingly.

TEST RESULT: PASS / FAIL

Remarks:

13-6 : Skipped due to switch config

3-7 : only TMP ports are open.

26/7: temp ports from BL00-NET-001 to HKN-WP01-BLPH-NET-001 (n. 4) will stay open (to be closed only once permanent control room will be defined

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : FERRIGNI Date: 26/7/2025

Crosswind Representative : Date:

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13.6 SWITCH REDUNDANCY

13.6.1 Turning off one of the Redundant Pair Network Switch and check the Network Connectivity

Objective	Turn of the any one switch in the Network which is Redundant
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Ping the Any End Devices in the Redundant Network continuously. 2. Turn off the Power supply for any one of the Switch in the Redundant pair. 3. Check for Continuous Network Connectivity and Ping. (1-4 ICMP Packet Drop may be observed) 4. Turn on the Testing Device of the Redundant Pair of the Network Switch. 5. Repeat the test for the other Network Device Note: Applicable Switches are PINSWL2-001, PINSWL2-002, PINSWL2-003, PINSWL2-004, PINSWL2-005, PINSWL2-006, MODSWL2-001, MODSWL2-002, IECSWL2-001. IECSWL2-002, COMSWL2-001, COMSWL2-002, CNSWL2-001, CNSWL2-002, SNSWL2-003, SNSWL2-004, SERVSWL2-001, SERVSWL2-002, SERVSWL2-003, SERVSWL2-004
Criteria	Continuous Ping of the end device is Observed with little to no Packet drop

TEST RESULT: PASS / FAIL

Remarks: CS-36 see Test sHeet

YOKOGAWA Representative : A. BERKA Date: 3/7/2025

Rosetti Marino Representative : Date: 3/7/25

Crosswind Representative : Date: 3-7-25

14 FIREWALL SAT PROCEDURES

14.1 DOCUMENT UPDATE AND CONFIGURATION VERIFICATION

Objective	To verify that FDS document is up-to-date and are compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Check FDS is the latest version and approved by EPC or End User. 2. Check that the current firewall configuration is compliant with FDS.
Criteria	1. FDS is the latest version. 2. Firewall configuration is compliant with FDS document.

TEST RESULT: (PASS) / FAIL

Remarks:

13-6 : FDS not final

YOKOGAWA Representative : A. BERRA — Date: 26/7/2025

Rosetti Marino Representative : — Date: 26/7/2025

Crosswind Representative : — Date:

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14.2 DEFAULT POLICY CONFIGURATION DENY ALL - ALLOW BY EXCEPTION

Objective	To verify that deny all - Allow by exception is applied on firewalls.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	**L3.5 Firewall** 1. Login in L3.5 Firewall with an administrative account. 2. Checking "deny all" policy is present and active at the bottom of the policies configuration list. 3. Check firewall policies (allowed by exception) are configured above the default "deny all" policy in the configuration list. **Vnet/IP Firewalls** 1. Login in Vnet/IP Firewalls with administrative account 2. Checking "deny all" policy is present and active at the bottom of the policies configuration list. 3. Check firewall policies (allowed by exception) are configured above the default "deny all" policy in the configuration list.
Criteria	1. The L3.5 Firewall is configured with deny all - allow by exception policies. 2. The Vnet/IP Firewalls are configured with deny all - allow by exception policies.

TEST RESULT: PASS / FAIL
Remarks:

YOKOGAWA Representative : ALESSANDRO BERRA AB Date: 13/6/2025

Rosetti Marino Representative : FRANCESCO Date: 13/6/25

Crosswind Representative : E. Hom Date: 13-6

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14.3 FIREWALL "OBJECTS" CONFIGURATION

Objective	To verify that the firewall objects (devices: workstations, servers, other network components with an IP address) are properly configured.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	L3.5 Firewall 1. Login in the L3.5 Firewall with an administrative account. 2. Navigate to Configuration -> Firewall -> Objects. 3. Check Objects configuration is implemented as per design documentation, with hostname and following IP Addressing scheme and Network Architecture. Vnet/IP Firewalls 1. Login in Vnet/IP Firewalls with an administrative account. 2. Navigate to Policy & Objects -> Addresses. 3. Check Objects configuration is implemented as per design documentation, with hostname and following IP Addressing scheme and Network Architecture.
Criteria	1. The L3.5 Firewall objects (devices) are configured according to design documents. 2. The Vnet/IP firewall objects (devices) are configured according to design documents.

TEST RESULT: PASS / FAIL

Remarks:

13-6 Shipped due to final config

26/7 PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

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14.4 FIREWALL NETWORK SEGMENTATION

Objective	To verify that the firewall is configured using the Network segmentation agreed design.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	L3.5 Firewall 1. Login in the L3.5 Firewall with an administrative account. 2. Check interfaces and VLANs configuration is implemented as per design documentation, following IP Addressing scheme and Network Architecture. Vnet/IP Firewalls 1. Login into Vnet/IP Firewalls with administrative account 2. Check interfaces and VLANs configuration is implemented as per design documentation, following IP Addressing scheme and Network Architecture.
Criteria	1. The L3.5 Firewall interfaces and Vlans are configured according to design documents. 2. The Vnet/IP firewall interfaces and Vlans are configured according to design documents.

TEST RESULT: PASS / FAIL

Remarks:

13-6 : Skipped due to final config and documentation

26/7 : PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

14.5 FIREWALL "FAIL CLOSE"

Objective	To verify that after the shutdown of Vnet/IP firewalls, the Safety systems will continue to safeguard the plant.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Vnet/IP Firewalls 1. Shutdown Vnet/IP Firewalls. 2. Check that the Safety System shall not move to Emergency Shutdown mode, due to lost communication with DCS, as per IACS Engineering design function.
Criteria	Safety System shall continue to function without moving to Shutdown mode if DCS communication is lost at Vnet/IP Level.

TEST RESULT: (PASS) / FAIL

Remarks:

13-6 : Shipped due to current plant operations

26/7 PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

14.6 FIREWALL LOGIN BANNER VERIFICATION

Objective	To verify that Firewalls are configured with a Login Banner
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Using NMS station, login to all firewalls. 2. After login, a banner with disclaimer information about unauthorized access and its consequences.
Criteria	All firewalls are configured to display a Login Banner.

TEST RESULT: (PASS) / FAIL

Remarks:

YOKOGAWA Representative : _____ Date: _____

Rosetti Marino Representative : F. Surian Date: 13/6/25

Crosswind Representative : E. Hom Date: 13-6-25

14.7 FIREWALL REDUNDANCY

14.7.1 Shut down any one of the firewall pairs to check the network redundancy.

Objective	Shut down any one firewall in the firewall pair which hosting the Redundant connections
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	1. Ping any end devices in the **Redundant Network** continuously. 2. Turn off the power supply for any one of the firewalls. 3. Check for Continuous Network Connectivity and Ping. (1-4 ICMP Packet Drop may be observed) 4. Turn on the Testing Device. 5. Repeat the test for the other firewall. Note: **Applicable to all the firewalls supplied by Yokogawa.**
Criteria	Continuous Ping of the end device is Observed with little to no Packet drop

TEST RESULT: PASS / FAIL

Remarks:

CS_36 See test sheet

A. BERRA QB 3/7/2025
FURIAN
E. Falcon 3/7/25

3-7-25

15 SWITCH SAT PROCEDURES

15.1 DOCUMENT SPECIFICATION AND CONFIGURATION VERIFICATION

Objective	To verify that FDS document is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Check FDS used is the latest version and approved by EPC or End User.
Criteria	FDS is of the latest version.

TEST RESULT: PASS / FAIL

Remarks:

26/7 : PASS

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

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15.2 SWITCH CONFIGURATION

Objective	To efficiently direct and manage data traffic between devices within a network, ensuring secure, reliable, and optimized communication by forwarding data to the correct destinations based on MAC addresses.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Check that the current switch configuration is compliant with the FDS document. 1. Confirm Switches are in managed state. 2. Confirm Hostnames are defined. 3. Confirm VLAN are configured as per IP addressing scheme. 4. Confirm Interface description is defined. 5. Confirm Switch ports are allocated as per the port allocation plan. 6. Confirm Switch ports access mode is configured. 7. Confirm network monitoring is enabled.
Criteria	Confirm that all the switch functions are compiled as per FDS

TEST RESULT: PASS / FAIL

Remarks:

YOKOGAWA Representative : A. BERRA — Date: 26/7/2025

Rosetti Marino Representative : — Date: 26/7/2025

Crosswind Representative : — Date:

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
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16 REMOTE ACCESS FACILITY SAT PROCEDURES

16.1 DOCUMENT SPECIFICATION AND CONFIGURATION VERIFICATION

Objective	To verify that FDS document is up-to-date and is compliant with the actual configuration.
Reference	1724000594-IN-RE-00043-Cyber Security Settings
Procedure	Check FDS used is the latest version and approved by EPC or End User.
Criteria	FDS is of the latest version.

TEST RESULT: PASS / FAIL

Remarks:

26/7: REMOTE ACCESS DEVICES IN RM'S YARD REMOVED AFTER SHUTDOWN BEFORE SAIL AWAY.
ANOTHER REMOTE ACCESS INFRASTRUCTURE TO BE IMPLEMENTED AT FINAL DESTINATION (EEMSHAVEN, NL) BY CPY.
FIREWALL RULES FOR CP1 / CP4 / YOK NOT DELETED BUT DISABLED. FW RULES FOR RM DELETED.

123A90-PML-COM-PRO-03064 - REMOTE ACCESS TRACKING REGISTER - GUIDELINES

YOKOGAWA Representative : A. BERRA Date: 26/7/2025

Rosetti Marino Representative : Date: 26/7/2025

Crosswind Representative : Date:

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