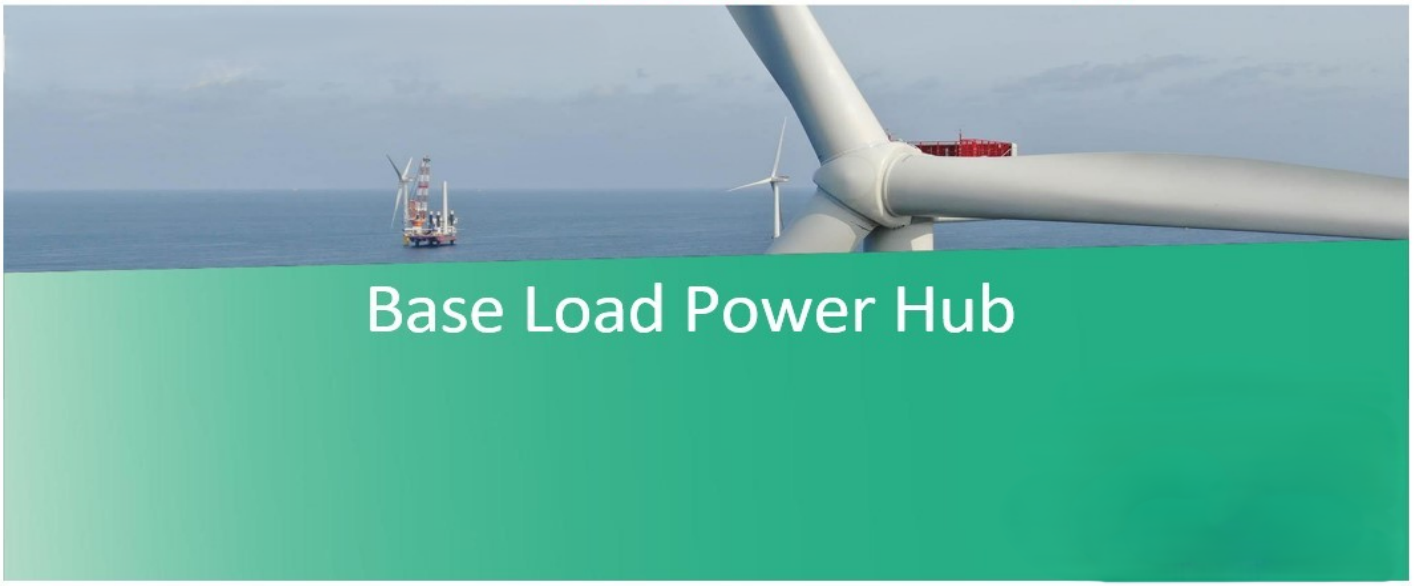
CROSSWIND

ROSETTI MARINO

PROVERLIS

PROJECT **123A90 - HOLLANDSE KUST NOORD WIND PARK**
BLPH Project



COMMISSIONING DOSSIER (ONSHORE)

SYSTEM	64 Nitrogen System
SUBSYSTEM	64-00 Nitrogen Generator Package (U-64000)

CROSSWIND

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

COMMISSIONING DOSSIER INDEX

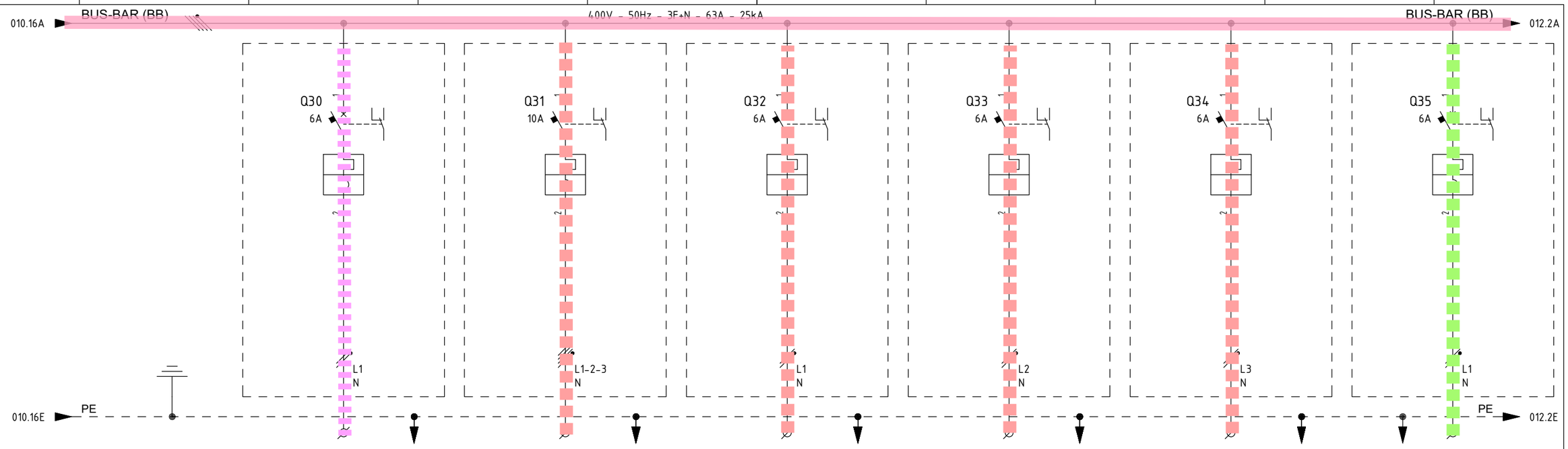
ROSETTI MARINO

Sub System N°:	64-00	**Tick as appropriate**	ONSHORE	OK
Description:	Nitrogen Generator Package (U-64000)		OFFSHORE	

1. *SUB-SYSTEM DEFINITION*	OK
1.1 Sub-System Description / Boundary Limit Drawings	
2. *READY FOR OPERATION CERTIFICATE*	OK
2.1 Achievement Of Ready for Operation Certificate (RFO)	
2.2 Exception Punch Lists (per discipline)	
2.3 “As-Commissioned” P&ID’s / SLD’s / D&ID’s / C&E’s	
3. *CONSOLIDATED PUNCH LISTS*	OK
3.1 Cleared and Residual Items (sorted by discipline)	
4. *FUNCTIONAL TESTS SHEETS*	OK
4.1 Electrical functional test sheets index	
4.2 Electrical “As-Commissioned” interconnection diagrams	
4.3 Instrumentation Functional Test Sheets Index	
4.4 Instrumentation “As-Commissioned” interconnection diagrams	
4.5 Telecommunication Functional Test Sheets Index	
4.6 Telecommunication “As-Commissioned” I.C.D. / TSLD’s	
5. *SITE / OPERATIONAL:*	OK
5.1 Operational Test Procedure	
5.2 Operational Test Certificates	
6. *PIPING AND VESSEL PREPARATION*	OK
6.1 Final Mechanical / Vessel Inspection Checks Index	
6.2 Leak Test / Drying / Inerting Test Sheets Index	
6.3 Chemical Loading & First Fill records Index	
6.4 Chemical Cleaning Reports and Records Index	
6.5 Lubrication Schedule	
7. *VENDORS*	OK
7.1 Vendor Package Summary Index	
7.2 SAT Procedure with associated punch list and reference (Front Page)	
7.3 Vendor Spares & Special Tools lists references	
7.4 Vendor Data / Operations / Maintenance Manuals References	
8. *LIST OF MODIFICATIONS*	NA
8.1 List of changes initiated during the WORKSITE Commissioning phase pertaining to the relevant Sub-System will be incorporated in this section with relevant references (with location and position of blinds/spades, isolation LO & LC valves, list of electrical isolation status, and remaining inhibits and overrides)	
9. *SUPPORTING DOCUMENTS*	NA
9.1 Other supporting documents (as applicable)	

	Contractor Commissioning Site Leader	Company Commissioning Site Leader
Name	Anthony Iveson	Martin Taylor
Date	2025-04-28	2025-04-28
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-04-28T11:10:30.033Z	PROVERLIS Digitaly signed by Martin Taylor 2025-04-28T12:01:21.996Z

Section 1 SUB-SYSTEM DEFINITION



ITEM			1	CP-640F1	CP-100E2	CP-100E3	CP-100E4	RR-100D1	CP-200E1
UTILITY			2	UCP - N2 PACKAGE - AUXILIARY	AUXILIARY TRAFO OLTC	AUXILIARY TRAFO AVR	AUXILIARY TRAFO 7MVA	AUXILIARY NER	AUXILIARY TRAFO 1.6MVA
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.5 KW | 2.72 A	1 KW | 1.81 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S304P-C10	S302P-C6	S302P-C6	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	4P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=10A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	-	-	-	-	-	-
		Range t	16	-	-	-	-	-	-
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G2.5	5G4	3G2.5	3G2.5	3G2.5	3G2.5

SUBSYSTEM 64-00

SUBSYSTEM 81-20

SUBSYSTEM 81-20

SUBSYSTEM 81-20

SUBSYSTEM 81-20

SUBSYSTEM 82-40

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/13

Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00013

SHEET 011

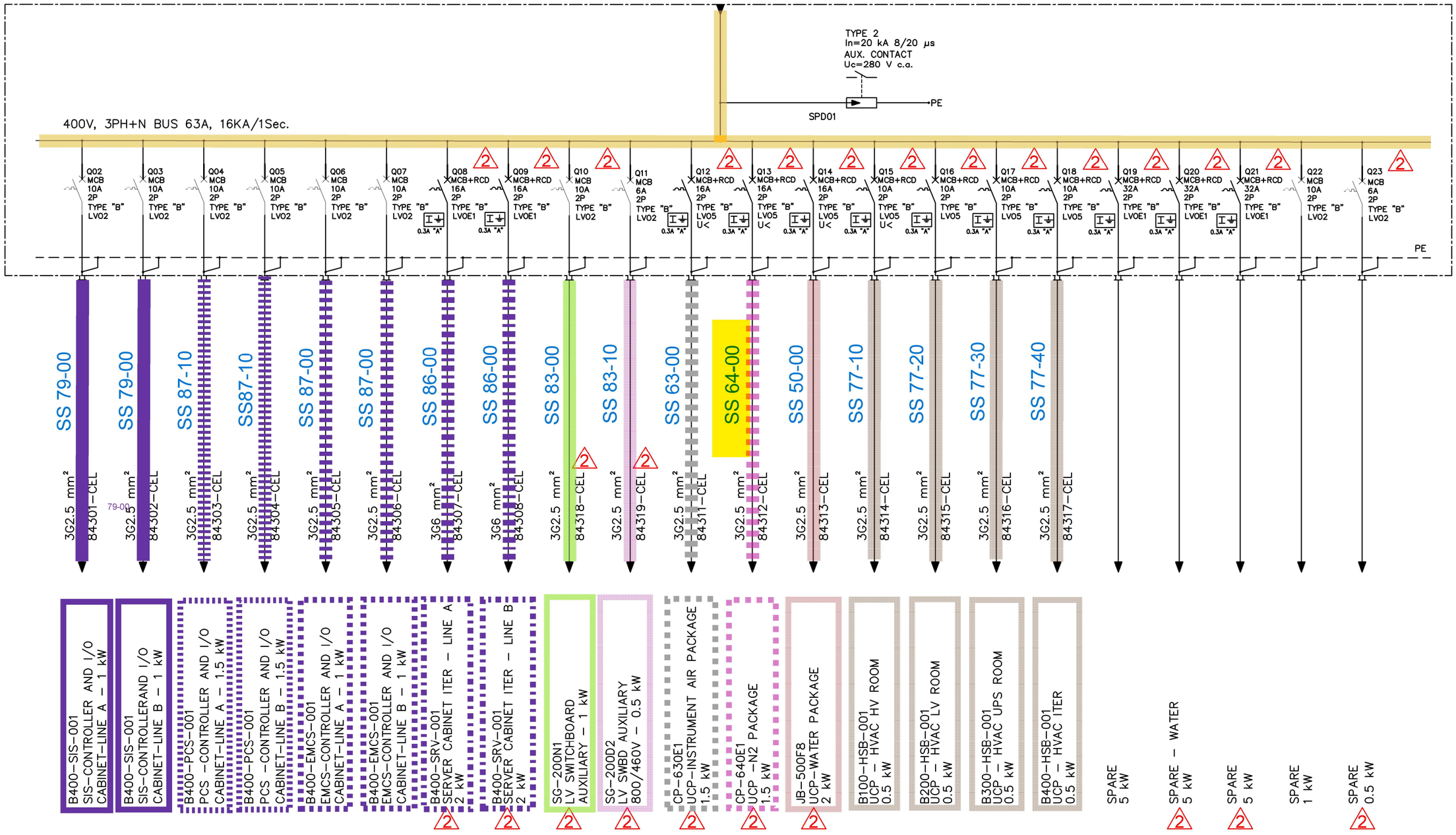
REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03

AC UPS – PAS SINGLE LINE DIAGRAM(UP–200F3) DISTRIBUTION BOARD DETAILS

AC UPS DISTRIBUTION BOARD–PAS
DP–200F3



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/09/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	12/04/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	14/02/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL SINGLE LINE DIAGRAMS AC UPS SYSTEMS
AC UPS – PAS DISTRIBUTION BOARD SLD (UP–200F3)

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90–DDL–EL–DG–20160 | SHEET 005 | REV. 02

File Name : 123A90–DDL–EL–DG–20160 Rev. 02

F.to UNI A3: 420mmx297mm

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm3/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm3/h (PRODUCTION)

Waste Water Brine Discharge System	SS 55-01
Instrument Air Distrubution Network	SS 63-30
Instrument Air Package	SS 63-00
Nitrogen Distribution Network	SS 64-10
Nitrogen Generator Package	SS 64-00

SUCTION 63 PI 001 | DISCHARGE 63 PI 002 | COMMON ALARM 63 XA 001 | MCC DEVICE COMMS FAIL 63 XI 001 | AVAILABLE STATUS 63 XI 002 | RUN/STOP STATUS 63 XI 003 | SHUTDOWN STATUS 63 XI 004 | SHUTDOWN ALARM 63 XA 002 | ESD I

FAULT PACKAGE 63 XA 003

ESD I — 63-XS-001 SHUT-DOWN

NOTE 14

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
SEE VENDOR DIAGRAM
NOTE 2, 3, 4, 5, 6

1-1/2"-IA-263-01SS-N

V-63001
AIR RECEIVER
C

63 PI 004 LL | 63 PI 003 L | ESD I

63 PT 003 | 63 PT 004

INSTR. PIPING

BLPH-MV-150 3/4" FLG x 1/2" NPTF | BLPH-MV-151 3/4" FLG x 1/2" NPTF

B — TP 041 — LO — BLPH-MV-149

1-1/2"-IA-108-01SS-N

123A90-DDL-PR-PID-80041
TO INSTRUMENT AIR DISTRIBUTION HEADER

A — TP 039 — BLPH-MV-269 — SB LO

1"-WW-079-01CS-H

123A90-DDL-PR-PID-80025
TO BRINE DISCHARGE CAISSON

BLPH-MV-270 LO 1.1/2"

1-1/2"-IA-204-01SS-N

TO SAFE LOCATION

ESD I — 2"-AV-224-01CS-N

TP 043 — A — TP 045 — C

A-64000
NITROGEN SYSTEM
SEE VENDOR DIAGRAM

B — TP 042 — BLPH-MV-271 SB LO — 3/4" BLPH-MV-275 — 1"-N-158-01CS-N

D — 1"-N-262-01CS-N

ESD I — 64-XS-001 SHUT-DOWN — ESD I — NOTE 14

64 XA 003 FAULT PACKAGE

V-64001
NITROGEN RECEIVER
E

64 HS 031 | 64 PIC 031A H L | 64 PIC 031B H L

64 PT 031A | 64 PT 031B | 64 PT 002

64 PV 031A — FL-DC TYP.6 1" — N-158

64 PV 031B — FL-DC TYP.6 1" — N-100

INSTR. PIPING

BLPH-MV-386 3/4" FLG x 1/2" NPTF | BLPH-MV-166 3/4" FLG x 1/2" NPTF | BLPH-MV-167 3/4" FLG x 1/2" NPTF

1"-N-100-01CS-N

64 PI 002 L — NOTE 15

64 PSV 001 — NOTE 1, 12 SET @ 30 barg — NOTE 10 TO ATM

2"-AV-160-01CS-N

1.5" x 1" — BLPH-MV-278 SB FB-LO 1.1/2" — 1-1/2"-N-197-01CS-N — 1.5" x 1"

1"-N-101-01CS-N — 123A90-DDL-PR-PID-80028 TO HYDROGEN VENT HEADER

1"-N-125-03HSS-N — 123A90-DDL-PR-PID-80017 TO HYDROGEN STORAGE VESSEL C

1"-N-124-03HSS-N — 123A90-DDL-PR-PID-80016 TO HYDROGEN STORAGE VESSEL B

1"-N-028-03HSS-N — 123A90-DDL-PR-PID-80015 TO HYDROGEN STORAGE VESSEL A

1"-N-257-03HSS-N

UPPER LEVEL
LOWER LEVEL

1"-N-126-03HSS-N — 123A90-DDL-PR-PID-80018 TO HYDROGEN STORAGE VESSEL D

1"-N-127-03HSS-N — 123A90-DDL-PR-PID-80019 TO HYDROGEN STORAGE VESSEL E

1"-N-128-03HSS-N — 123A90-DDL-PR-PID-80020 TO HYDROGEN STORAGE VESSEL F

1"-N-151-01CS-N — 123A90-DDL-PR-PID-80011 TO ELECTROLYSER PACKAGE

64 SDV 001 — NOTE 13 — NC FC TYP.2

64 SDY 001

01CS 03HSS

NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED. 02
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED. 02
12. 64PSV001 SIZED FOR UPSTREAM CV FAILURE.
13. 64SDV001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64SDV001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.

02

HOLDS

1. DELETED.
2. DELETED. 02
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE	
A1	DRAWING NO. 123A90-DDL-PR-PID-80027		SHEET 001	REV. 02

File Name : FILE_NAME

Section 2 READY FOR OPERATION

Section 2.1 Achievement Of Ready for Operation Certificate (RFO)

ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Operation (RFO) Certificate

COMPLETE	●	PARTIAL	

Revision:	1		Issued on:	2025-04-15	
System:	64	/	Nitrogen System		
SubSystem:	64-00	/	Nitrogen Generator Package (U-64000)		

We hereby confirm that all Mechanical Completion (MC) and Pre-Commissioning/Commissioning (Pre-Comm./Comm.) activities for the above-mentioned System/Sub-System have been successfully completed in accordance with project specifications, relevant standards and contractual requirements. The System/Sub-System has been tested and verified to ensure readiness for operation. Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.

	Mechanical Completion: All required MC activities have been completed and approved
	Pre-Commissioning & Commissioning: All required Pre-Comm. and Comm. activities and OTPs have been completed and approved (Status Index attached)
	Punch List: All Punch items categorized as A and B have been cleared (PL report attached)
	Documentation: As-built documentation and Commissioning dossier has been completed, reviewed and approved

PUNCH LIST	PENDING POINTS
Note: All Category "A" and "B" Items must be cleared prior to issuance of the Ready For Operation (RFO) Certificate	B: 3

REMARKS:

	CONTRACTOR Commissioning Manager	**COMPANY** Commissioning Lead
Name	Anthony Iveson	Martin Taylor
Date	2025-04-15	2025-04-28
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-04-15T11:43:54.221Z	PROVERLIS Digitaly signed by Martin Taylor 2025-04-28T08:03:29.239Z

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM

Electrical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
DP-200N1-Q30	BREAKER AUX UCP N2 PACKAGE-DP-200N1-Q30	ONSHORE	C10002863	FTR-2	100	2024-10-29	RFO 1
UP-200F3-QF35	UCP - N2 PACKAGE	ONSHORE	C10004574	FTR-2	100	2024-12-07	RFO 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM

Instrumental	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-XA-003	A-64000 Nitrogen PKG fault	ONSHORE	C10003766	FJ01D	100	2025-03-26	RFO 1
64-XS-001	SHUT-DOWN A-64000 Nitrogen PKG	ONSHORE	C10003767	FJ01D	100	2025-04-07	RFO 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM

Piping	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-00	Service Test Nitrogen Generation Package	ONSHORE	C10004910	4245	100	2025-03-28	RFO 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM

Miscellaneous	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
123A90-PML-COM-PRO-03055	OTP - Nitrogen Generator Package	ONSHORE	C10004616	5300	100	2025-04-14	-
		OFFSHORE	C10004940	5300	0	-	-

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	64	Nitrogen System
SUBSYSTEM	64-00	Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000500	A	A-64000	THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000501	A	A-64000	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000507	A	A-64000	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE		TEST WILL BE REPEATED ON SITE	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000511	A	A-64000	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR		NCR IS CLOSED	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30002642	A	V-64001 C10004520	Items 64-PSV-053 and 64-PSV-054 have not been installed.	.		KAlbonetti 2025-01-10	2025-01-16	KAlbonetti 2025-01-16	2025-01-16
C30002643	A	V-64001 C10004520	Valve BLPH-MV-819 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002644	A	V-64001 C10004520	Valve BLPH-MV-820 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30000499	B	A-64000	Package to be test with PLC set to REMOTE MODE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000502	B	A-64000	During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000503	B	A-64000	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		ACTIVITY DONE	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000504	B	A-64000	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.		PRESSURE 8 BARG	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000505	B	A-64000	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000506	B	A-64000	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000508	B	A-64000	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID		DONE	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000509	B	A-64000	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000510	B	A-64000	TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002		Re Issued	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000512	B	A-64000	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30
C30000513	B	A-64000	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000514	B	A-64000	MISSING TAG PLATE ON PSV 64-053 / PSV-64-054		Done	SLinari 2024-10-29	Vendor 2025-03-25	SLinari 2025-03-25	2025-03-25
C30002645	B	V-64001 C10004520	Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed. The Items are in Stainless steel but the fasteners are carbon steel,	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002646	B	V-64001 C10004520	Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is	.		KAlbonetti 2025-01-10	2025-03-25	Gtangianu 2025-03-25	2025-03-25
C30002648	B	V-64001 C10004520	Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002649	B	V-64001 C10004520	The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.	.		KAlbonetti 2025-01-10	2025-03-06	MBruschi 2025-03-06	2025-03-06
C30002650	B	V-64001 C10004520	Manhole has not been opened. Internal inspection not completed.	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002849	B	V-64001 C10004520	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14			
C30002851	B	A-64000 C10002357	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14			
C30004329	B	A-64000	During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with			GDelmissier 2025-04-15			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000963	A	64-LP-001/B400 -NET-001 C10004350	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000969	A	64-LP-001/B400 -NET-001 C10004350	Missing the Thermo-shrink of on the final destination cable end Bending radius is not within the specified limits.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000959	B	64-LP-001/B400 -NET-001 C10004350	The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-27	2025-02-04	APolo 2025-02-04	2025-02-04
C30000960	B	64-LP-001/B400 -NET-001 C10004350	Missing cable tag SS project, outside panel U-64000.	.		APolo 2024-11-27	2025-01-09	Gtangianu 2025-01-09	2025-01-09
C30000962	B	64-LP-001/B400 -NET-001 C10004350	The cable is not supported and fixed to the rack outside panel U-64000	.		APolo 2024-11-27	2025-02-08	Gtangianu 2025-02-08	2025-02-08

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001284	A	84312-CEL C10000588	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001290	A	83111-CEL C10000630	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001285	B	84312-CEL C10000588	Missing cable tag. side A-64000 / DP-200F3	.		APolo 2024-12-04	2025-02-03	APolo 2025-02-03	2025-02-03
C30001286	B	84312-CEL C10000588	Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001291	B	83111-CEL C10000630	Missing cable tag . side DP-200N1 / A-64000	.		APolo 2024-12-04	2025-02-27	JKrizanic 2025-02-27	2025-02-27
C30001292	B	83111-CEL C10000630	Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001311	B	A-64000 C10002355	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001312	B	A-64000 C10002355	The cables are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22
C30001380	B	84312-CEL C10000588	The cable gland are not closed in accordance with specification.	.		APolo 2024-12-05	2025-02-25	JKrizanic 2025-02-25	2025-02-25

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001021	B	64-00-TP-049 C10003600	General final touch-up to do.	-		MBruschi 2024-11-28	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30001022	B	64-00-TP-049 C10003600	Unmounted spool with its erection materials.	-		MBruschi 2024-11-28	2025-01-17	LNovaga 2025-01-17	2025-01-17
C30002638	B	64-00-TP-049 C10003601	Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.	.		KAlbonetti 2025-01-10	2025-01-31	KAlbonetti 2025-01-31	2025-01-31
C30003517	B	64-00-TP-063 C10003691	Isolation rubber on Support PS-01023.2 is damaged	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003518	B	64-00-TP-063 C10003691	Missing gap (2mm) between pipe and support PS-01057.1	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003556	B	64-00-TP-029 C10003452	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30003557	B	64-00-TP-029 C10003452	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21
C30003560	B	64-00-TP-063 C10003692	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-12	KAlbonetti 2025-02-12	2025-02-12
C30003561	B	64-00-TP-063 C10003692	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001272	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cable tag SS	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001273	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001274	B	C-64-XA-003/B400-SIS-001 C10001459	The cable is not supported and fixed to the rack (outside panel A-64000)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001277	B	C-64-XS-001/B400-SIS-001 C10001452	Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001278	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cable tag. B400-SIS-001 / A-64000	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001279	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001280	B	C-64-XS-001/B400-SIS-001 C10001452	The cable is not supported and fixed to the rack (outside panel A-6400)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001313	B	A-64000 C10002356	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001316	B	A-64000 C10002356	The tubing are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22

Section 2.2 Exception Punch Lists (per discipline)

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical									
CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004329	B	A-64000	During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with			GDelmissier 2025-04-15			

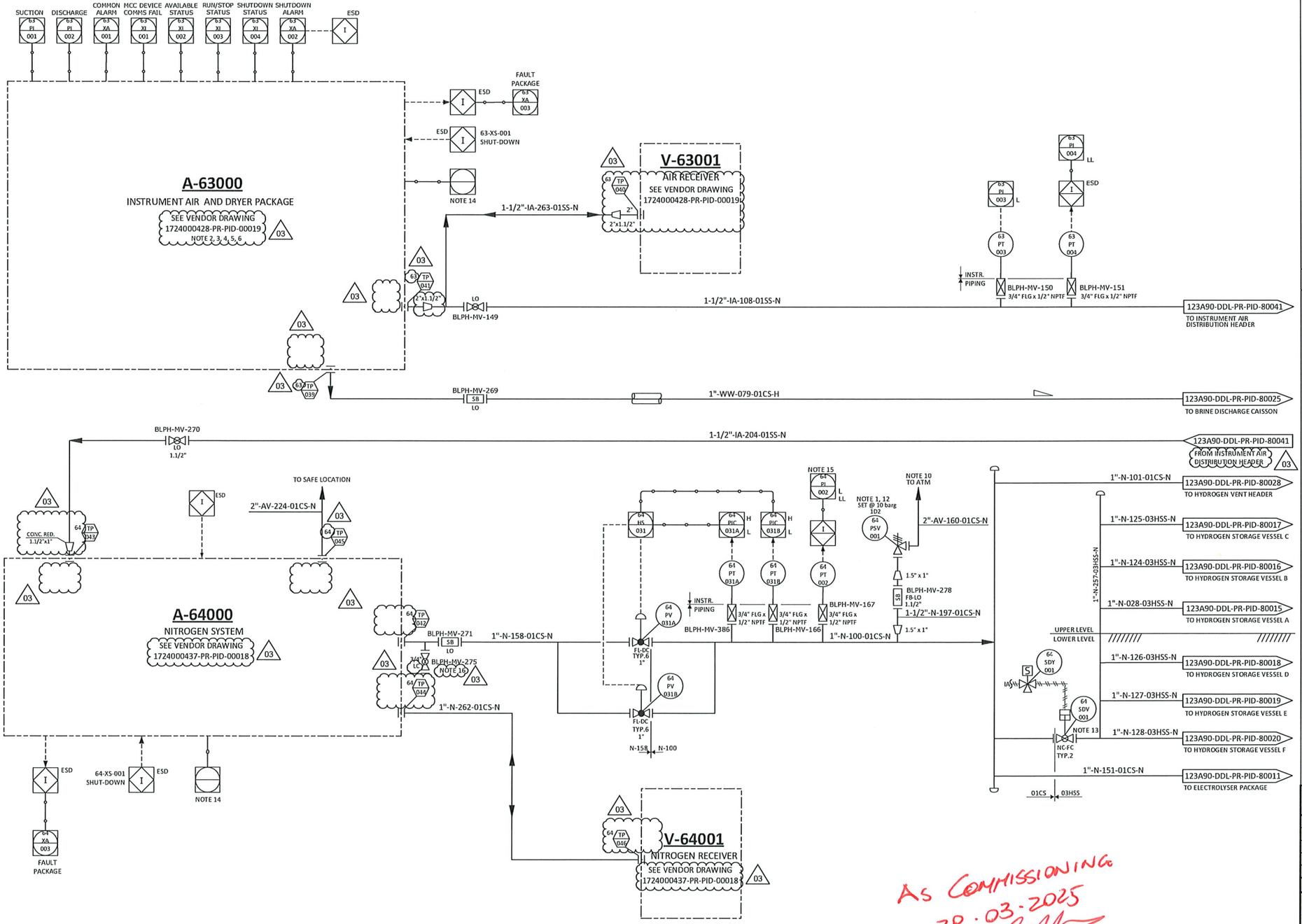
Section 2.3 “As-Commissioned” P&ID's / SLD's / D&ID's / C&E's

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm³/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm³/h (PRODUCTION)



NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED.
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED.
12. 64-PSV-001 SIZED FOR UPSTREAM 64-PV-031 CV FAILURE.
13. 64-SDV-001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64-SDV-001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.
16. MANUAL VALVE BLPH-MV-275 TO BE CONNECTED WITH MANUAL VALVE BLPH-MV-466 (INSTALLED ON ELECTROLYSER PACKAGE EXIT LINE) BY MEAN ON A FLEXIBLE HOSE DURING COMMISSIONING PHASE FOR PURGING OPERATION.

HOLDS

1. DELETED.
2. DELETED.
3. DELETED.
4. DELETED.

As Commissioning
28.03.2025
Giandonato De Nissier

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	09/09/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

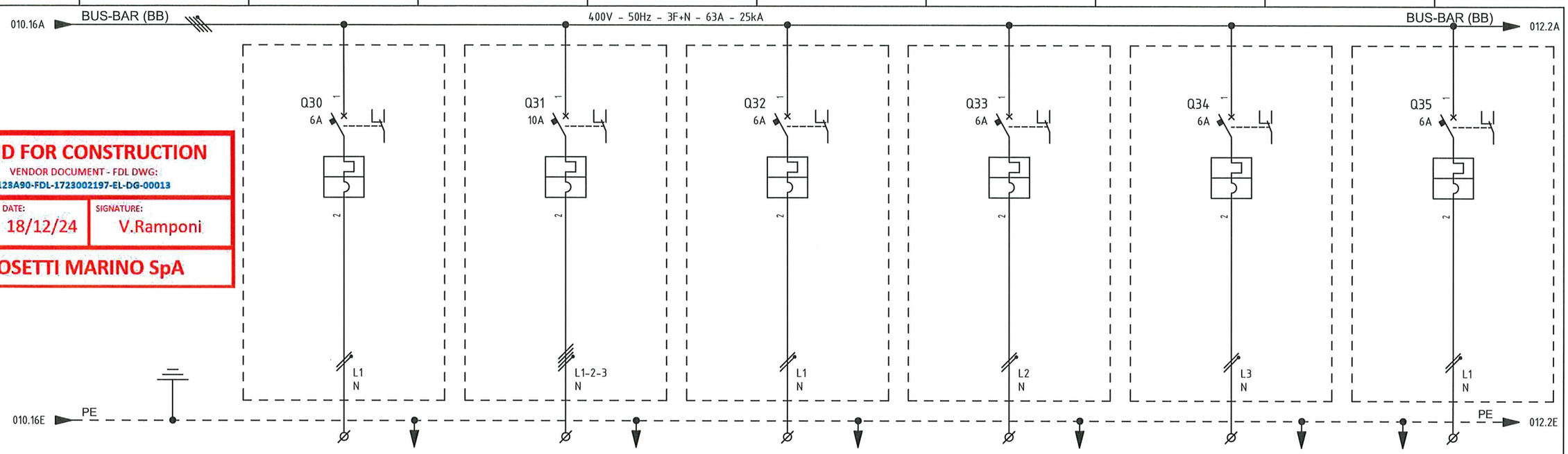
CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE NTS
DRAWN	CHECKED	APPROVED	DATE
A1	DRAWING NO. 123A90-DDL-PR-PID-80027		SHEET 001 / REV. 03

File Name : FILE_NAME



VALID FOR CONSTRUCTION

VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1723002197-EL-DG-00013

REV.:	DATE:	SIGNATURE:
4_A	18/12/24	V.Ramponi

ROSETTI MARINO SpA

ITEM			1	CP-640F1	CP-100E2	CP-100E3	CP-100E4	RR-100D1	CP-200E1
UTILITY			2	UCP - N2 PACKAGE - AUXILIARY	AUXILIARY TRAFO OLTC	AUXILIARY TRAFO AVR	AUXILIARY TRAFO 7MVA	AUXILIARY NER	AUXILIARY TRAFO 1.6MVA
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.5 KW | 2.72 A	1 KW | 1.81 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S304P-C10	S302P-C6	S302P-C6	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	4P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=10A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	-	-	-	-	-	-
		Range t	16	-	-	-	-	-	-
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G2.5	5G4	3G2.5	3G2.5	3G2.5	3G2.5

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DWG n° : 231298/SD/13
Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
4	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"
SINGLE LINE DIAGRAM
Single Line Drawing

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

A3 | DRAWING NO. 1723002197-EL-DG-00013 | SHEET 011 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 04

AS COMMISSIONED DAVIDE ZUCCARELLI NO MARKUP 21/03/2025

CAE EPLAN Electric P8

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AUXILIARY
From Lighting & Small Power DB BOP DP 200N1
(Cubicle 33 Q41)
100-240V/N/PE~50/60Hz
back-up fuse gG10A 3G2.5mm2

LINE A
From LV Switchgear SG-200N1
(Cubicle A3/Q1)
Mains 400V;3/PE~50Hz
gG63A 4G35mm2

From LV Switchgear SG 200N1
(Cubicle A7/Q2)
Bypass mains 400V;3/PE~50Hz
gG63A 4G35mm2

LINE B
From LV Switchgear SG 200N1
(Cubicle A4/Q1)
Mains 400V;3/PE~50Hz
gG63A 4G35mm2

Not included in the AEG shipment

Code	Description
Q1	Rectifier input mains breaker
T40	Rectifier input isolation transformer
A1	Rectifier
A2	Inverter
T1	Inverter output isolation transformer
A3-A4	Static by-pass switch
A18	Display control module
A85	Heater
H1	Light

+MBC1
BY-200F3
Bypass transformer cabinet 40 kVA
1000007883.020
10039757

-Q10 L=63/65A I=0,8kA Icu=50kA
-T8 400V/400V 40kVA
-X1 1U,1V,1W,PE
-X10 U,V,W,PE
-X13 U,N,PE
-X14 U,N
-A85
-H1

-Q28.1 NC
-Q28.2 NC

+UPS1
BC-200F3A
Protect 8.33 40-400-210-400
1000007883.010
10039756

+UPS2
BC-200F3B
Protect 8.33 40-400-210-400
1000007883.310
10039755

-Q1 L=100/85A I=1,0kA Icu=50kA
-T40
-A1 REC
-A2 INV
-T1
-F1,-F2,-F3
-A3 SBS
-A4
-A18 Display
-A20 Parallel Adapter
-X3 INV CAN
-X5 INV Sync
-L11,-L12,-L13 Parallel preventive choke coil
-A12,-A13 Remote signaling
-A24.1 BLU PRO
-F91

-X1 2U,2V,2W,PE
-X4 1U,1V,1W,1N,PE
-X4 2U,2V,2W,2N,PE
-X1 4U,4V,4W,PE
-X1 3U,3V,3W,PE
-E1-X1 U,V,W,PE
-E4-X4 U,V,W,N,PE
-E2-X2 L-,L+,PE
-E3-X3 U,V,W,N,PE
-X15 2,3
-X130 1,2
-X5 1U,1V,1W,1N,PE
-X5 2U,2V,2W,2N,PE
-X2 3L+,3L-,PE
-X15 5,7
-X91 3M

-Q71 NC
-Q72 NC
-Q29 INV operation / Manual bypass
-F25

DP-200F3
-QF31 B32A 300mA
-QF32 B32A 300mA
-QF33 B32A 300mA
-QF34 B16A 300mA (5pc)
-QF38 B16A 300mA
-QF39 B10A 300mA (4pc)
-QF42 B13A 300mA (8pc)
-QF43 B13A
-QF50 B10A
-QF51 B6A
-QF52 B6A
-X2 2L+,2L-,PE
-X15 4,5
-X91 2M
-X130 1,2,1PE
-X31 U,N,PE
-X32 U,N,PE
-X33 U,N,PE
-X34 U,N,PE
-X38 V,N,PE
-X39 V,N,PE
-X42 W,N,PE
-X43 W,N,PE
-X50 U,N,PE
-X51 V,N,PE
-X52 V,N,PE
-X2 4L+,4L-,PE
-X15 8,9
-X91 4M
-X130 3,4,2PE

Not included in the AEG shipment
max. gG16A
max. gG16A
Load
400/230V;3/N/PE~50Hz

+BFB1
CB-200F3A
Battery fuse box 200 A
-Q2 L=200A
DC 24V max. 300W
2(1x70 mm2)

+BFB2
CB-200F3B
Battery fuse box 200 A
-Q2 L=200A
DC 24V max. 300W
2(1x70 mm2)

+BAT1
BA-200F3A
Batteries installed on rack
18 x FLG 12-150
Battery voltage 216V
Battery capacity 150Ah
string 1
-RBTMN

+BAT2
BA-200F3B
Batteries installed on rack
18 x FLG 12-150
Battery voltage 216V
Battery capacity 150Ah
string 1
-RBTMN

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000372-EL-DG-00009

REV.:	DATE:	SIGNATURE:
3_A	15/11/24	G.Randi

ROSETTI MARINO SpA

AS-COMMISSIONED
DAVIDE ZUCCONELLI
NO MARK UP
21/03/2025

*1 Attention! In the event of battery undervoltage < 130 V, the UPS automatically switches off battery isolator Q2.
If this happens, switch X15:3 must be switched into the open position (undervoltage trip blocked).
For restart, please refer to the chapter in the UPS operating instructions (charging the DC link capacitors) attached.
Unlock the tripped switch Q2 by switching to open position.
After charging the DC link capacitors, switch on Q2.
Attention! When the battery voltage reaches > 200 V, switch X15:3 must be switched back to the closed position.

*2 Connection cables are not included.

1000007888_010

ROSETTI MARINO
Mohammed Bin Rashid Al Maktoum Port Farm
AEG
System 40 kVA
Single-line diagram
1000007888_310 en
A0

Section 3 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000500	A	A-64000	THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000501	A	A-64000	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000507	A	A-64000	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE		TEST WILL BE REPEATED ON SITE	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000511	A	A-64000	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR		NCR IS CLOSED	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30002642	A	V-64001 C10004520	Items 64-PSV-053 and 64-PSV-054 have not been installed.	.		KAlbonetti 2025-01-10	2025-01-16	KAlbonetti 2025-01-16	2025-01-16
C30002643	A	V-64001 C10004520	Valve BLPH-MV-819 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002644	A	V-64001 C10004520	Valve BLPH-MV-820 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30000499	B	A-64000	Package to be test with PLC set to REMOTE MODE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000502	B	A-64000	During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000503	B	A-64000	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		ACTIVITY DONE	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000504	B	A-64000	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.		PRESSURE 8 BARG	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000505	B	A-64000	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000506	B	A-64000	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000508	B	A-64000	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID		DONE	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000509	B	A-64000	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000510	B	A-64000	TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002		Re Issued	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000512	B	A-64000	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30
C30000513	B	A-64000	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000514	B	A-64000	MISSING TAG PLATE ON PSV 64-053 / PSV-64-054		Done	SLinari 2024-10-29	Vendor 2025-03-25	SLinari 2025-03-25	2025-03-25
C30002645	B	V-64001 C10004520	Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed. The Items are in Stainless steel but the fasteners are carbon steel,	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002646	B	V-64001 C10004520	Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is	.		KAlbonetti 2025-01-10	2025-03-25	Gtangianu 2025-03-25	2025-03-25
C30002648	B	V-64001 C10004520	Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002649	B	V-64001 C10004520	The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.	.		KAlbonetti 2025-01-10	2025-03-06	MBruschi 2025-03-06	2025-03-06
C30002650	B	V-64001 C10004520	Manhole has not been opened. Internal inspection not completed.	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002849	B	V-64001 C10004520	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14	2025-04-16	LNovaga 2025-04-16	2025-04-16
C30002851	B	A-64000 C10002357	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14	2025-04-16	LNovaga 2025-04-16	2025-04-16
C30004329	B	A-64000	During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with		Logic implemented and tested	GDelmissier 2025-04-15	GDelmissier 2025-05-15	GDelmissier 2025-05-15	2025-05-15

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000963	A	64-LP-001/B400 -NET-001 C10004350	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000969	A	64-LP-001/B400 -NET-001 C10004350	Missing the Thermo-shrink of on the final destination cable end Bending radius is not within the specified limits.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000959	B	64-LP-001/B400 -NET-001 C10004350	The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-27	2025-02-04	APolo 2025-02-04	2025-02-04
C30000960	B	64-LP-001/B400 -NET-001 C10004350	Missing cable tag SS project, outside panel U-64000.	.		APolo 2024-11-27	2025-01-09	Gtangianu 2025-01-09	2025-01-09
C30000962	B	64-LP-001/B400 -NET-001 C10004350	The cable is not supported and fixed to the rack outside panel U-64000	.		APolo 2024-11-27	2025-02-08	Gtangianu 2025-02-08	2025-02-08

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001284	A	84312-CEL C10000588	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001290	A	83111-CEL C10000630	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001285	B	84312-CEL C10000588	Missing cable tag. side A-64000 / DP-200F3	.		APolo 2024-12-04	2025-02-03	APolo 2025-02-03	2025-02-03
C30001286	B	84312-CEL C10000588	Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001291	B	83111-CEL C10000630	Missing cable tag . side DP-200N1 / A-64000	.		APolo 2024-12-04	2025-02-27	JKrizanic 2025-02-27	2025-02-27
C30001292	B	83111-CEL C10000630	Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001311	B	A-64000 C10002355	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001312	B	A-64000 C10002355	The cables are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22
C30001380	B	84312-CEL C10000588	The cable gland are not closed in accordance with specification.	.		APolo 2024-12-05	2025-02-25	JKrizanic 2025-02-25	2025-02-25

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001021	B	64-00-TP-049 C10003600	General final touch-up to do.	-		MBruschi 2024-11-28	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30001022	B	64-00-TP-049 C10003600	Unmounted spool with its erection materials.	-		MBruschi 2024-11-28	2025-01-17	LNovaga 2025-01-17	2025-01-17
C30002638	B	64-00-TP-049 C10003601	Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.	.		KAlbonetti 2025-01-10	2025-01-31	KAlbonetti 2025-01-31	2025-01-31
C30003517	B	64-00-TP-063 C10003691	Isolation rubber on Support PS-01023.2 is damaged	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003518	B	64-00-TP-063 C10003691	Missing gap (2mm) between pipe and support PS-01057.1	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003556	B	64-00-TP-029 C10003452	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30003557	B	64-00-TP-029 C10003452	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21
C30003560	B	64-00-TP-063 C10003692	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-12	KAlbonetti 2025-02-12	2025-02-12
C30003561	B	64-00-TP-063 C10003692	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001272	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cable tag SS	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001273	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001274	B	C-64-XA-003/B400-SIS-001 C10001459	The cable is not supported and fixed to the rack (outside panel A-64000)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001277	B	C-64-XS-001/B400-SIS-001 C10001452	Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001278	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cable tag. B400-SIS-001 / A-64000	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001279	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001280	B	C-64-XS-001/B400-SIS-001 C10001452	The cable is not supported and fixed to the rack (outside panel A-6400)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001313	B	A-64000 C10002356	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001316	B	A-64000 C10002356	The tubing are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004399	B	A-64000 C10002356	N.03 ITEMS OF EQUIPMENT UNINSTALLED AND SENT TO VENDOR COES SRL FOR ANALYSIS & REPAIR; 1) OXYGEN ANALYSER	FURTHER TO VENDOR ASSESSMENT, THE EQUIPMENT WILL BE REAPIRED / REPLACED.	Instrument sent to COES - To be closed after sail-away	Alveson 2025-07-23	RDegliEsposti 2025-08-01	RDegliEsposti 2025-08-01	2025-08-01

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003560

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003692	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

General touch up do to, especially near the supports of the piping line.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

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3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Touch-ups performed.

Name: Kangi Albonetti

Date: 2025-02-12

Signature:

6- CLEARANCE APPROVAL

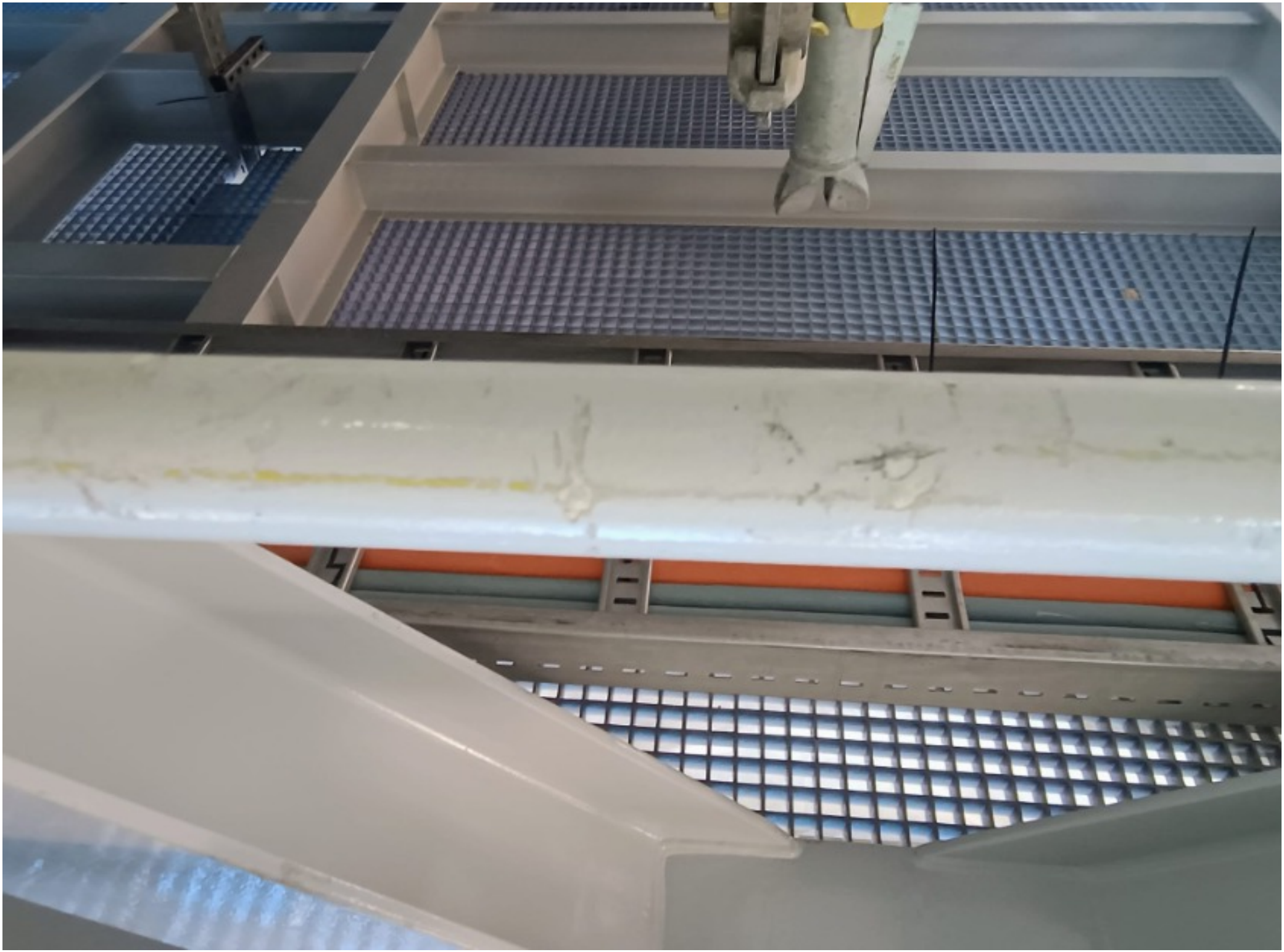
Name:

Date:

Signature:







ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003561

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003692	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Color coding and fluid direction are missing.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

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3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004329

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with a dedicated PLC controller, it was not possible to remotely reset the C&E trip command. Equipment package PLC internal logic to be updated and tested from Yokogawa workstation

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giandonato Delmissier
3.4 Activity code	COMM Commissioning	Date	2025-04-15
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Logic implemented and tested

Name Giandonato Delmissier

Date 2025-05-15

Signature

5 - CLEARANCE CHECK

Done

Name Giandonato Delmissier

Date 2025-05-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004399

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002356	1.4 Discipline	Instrumental
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

N.03 ITEMS OF EQUIPMENT UNINSTALLED AND SENT TO VENDOR COES SRL FOR ANALYSIS & REPAIR; 1) OXYGEN ANALYSER 64-AT-051, 2) PRESSURE CONTROL VALVE 64-CV-051, 3) SOLENOID VALVE 64-XV-055.

Name: Anthony Iveson
Date: 2025-07-23
Signature:

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal	FURTHER TO VENDOR ASSESSMENT, THE EQUIPMENT WILL BE REAPIRED / REPLACED.		
3.2 Material required			
3.3 Priority	B PL B	Name	Anthony Iveson
3.4 Activity code	COMM Commissioning	Date	2025-07-23
3.5 Action by	COMM Commissioning	Signature	

4 - PERFORMED ACTION

Instrument sent to COES - To be closed after sail-away

Name: Raffaele Degli Esposti
Date: 2025-08-01
Signature:

5 - CLEARANCE CHECK

Items received and installed on site in Eemshaven. The instrument cannot be tested after installation at this stage as BLPH is not operative .

Name: Raffaele Degli Esposti
Date: 2025-10-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-10-15
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001274

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001459	1.4 Discipline	Instrumental
1.2 Item	C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack (outside panel A-64000)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

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3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001277

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

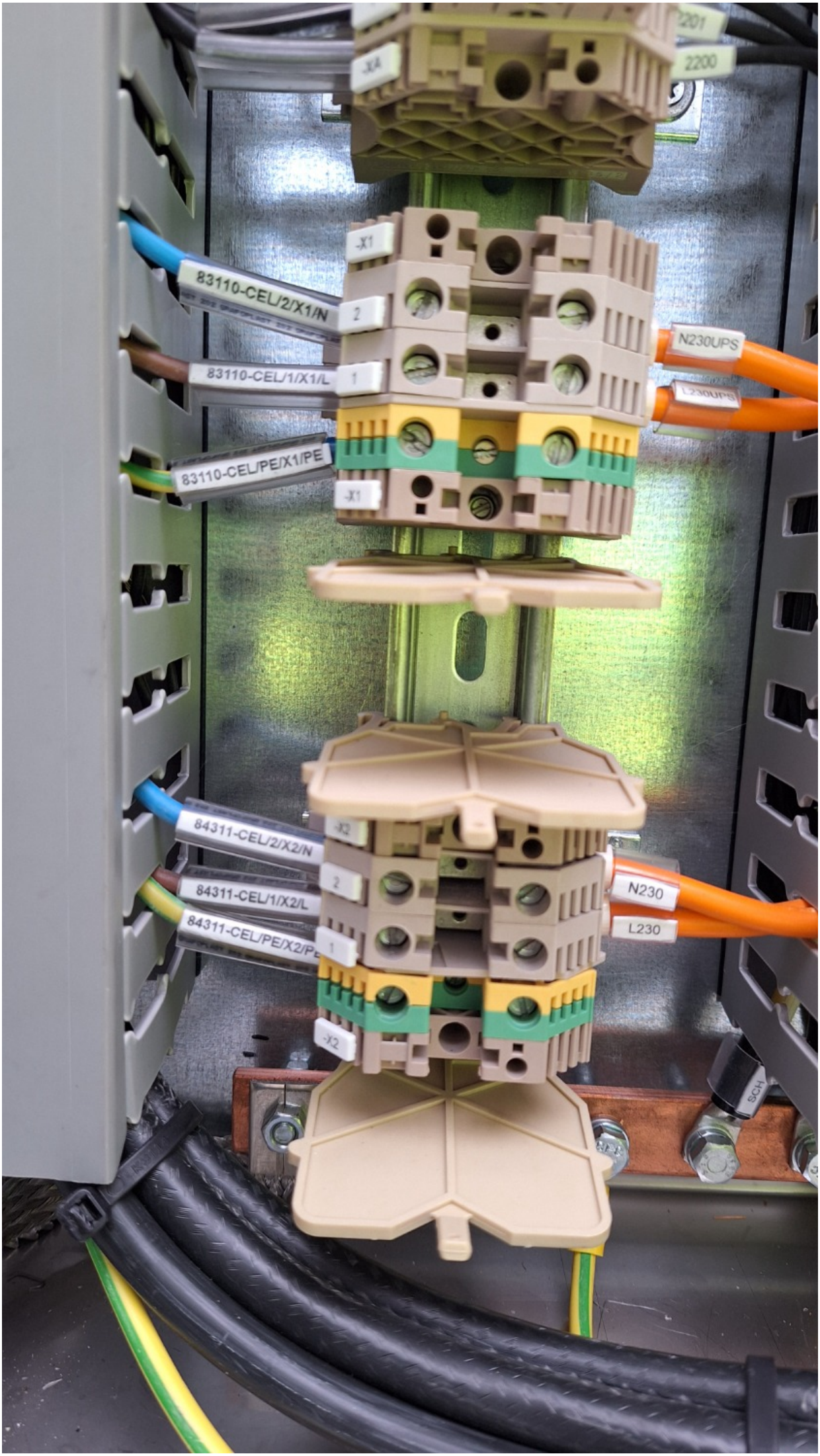
5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


2201
-XA
2200
-X1
83110-CEL/2/X1/N
2
N230UPS
83110-CEL/1/X1/L
1
L230UPS
83110-CEL/PE/X1/PE
-X1
84311-CEL/2/X2/N
-X2
2
N230
84311-CEL/1/X2/L
L230
1
-X2
SCH

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001278

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag. B400-SIS-001 / A-64000

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

C-63-PS-052
C-63-PS-064
C-63-ZSH-040
C-63-ZSL-040
C-63-XX-053

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001279

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-26
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001280

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack (outside panel A-6400)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001284

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

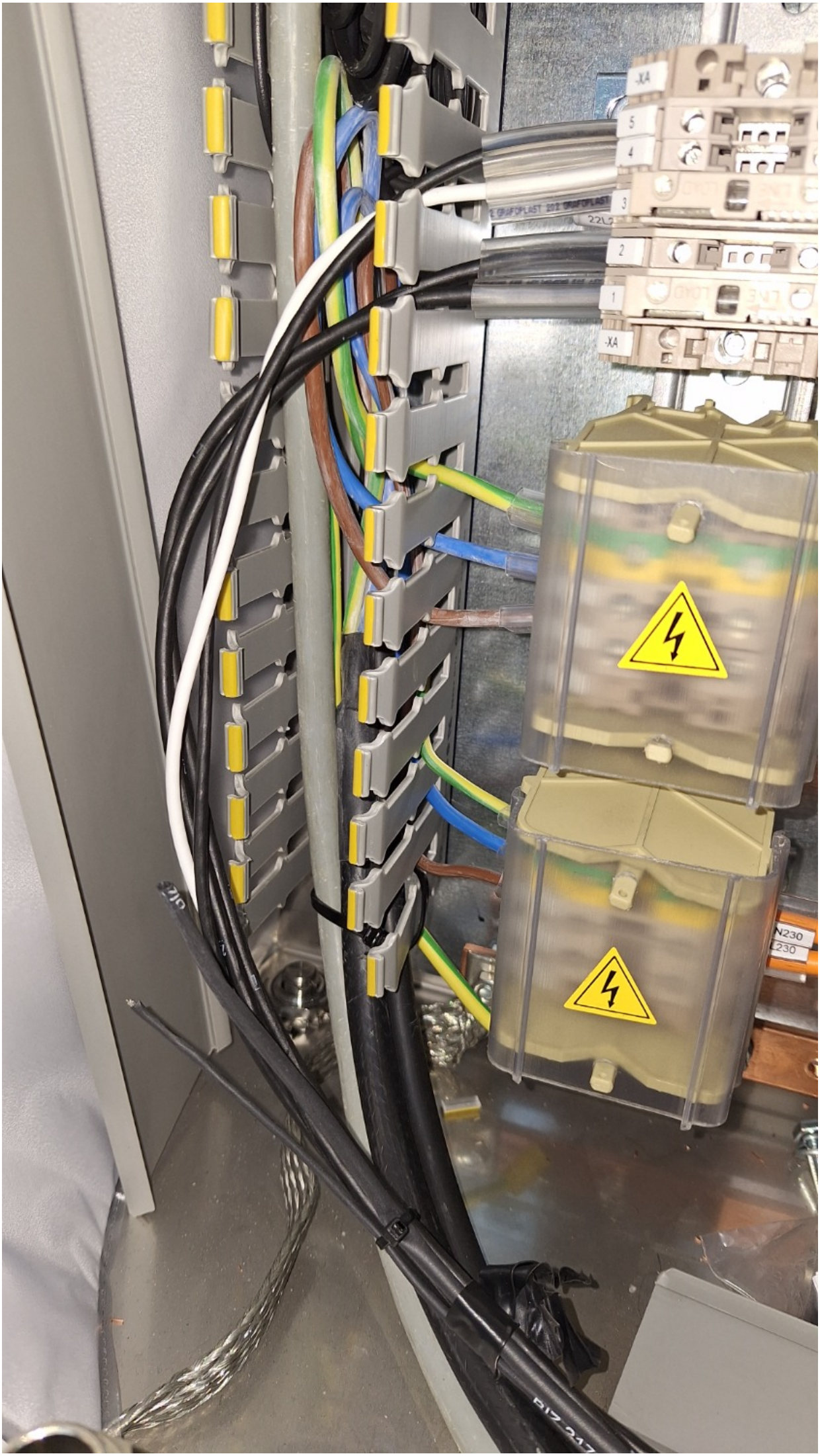
5 - CLEARANCE CHECK

The terminal earthing connection is grounded in the panel.

Name: Giovanni Tangianu
Date: 2024-12-06
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001285

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag. side A-64000 / DP-200F3

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


84312-CEL
84311-CEL
8431 4-CEL
8431 8-CEL



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001286

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

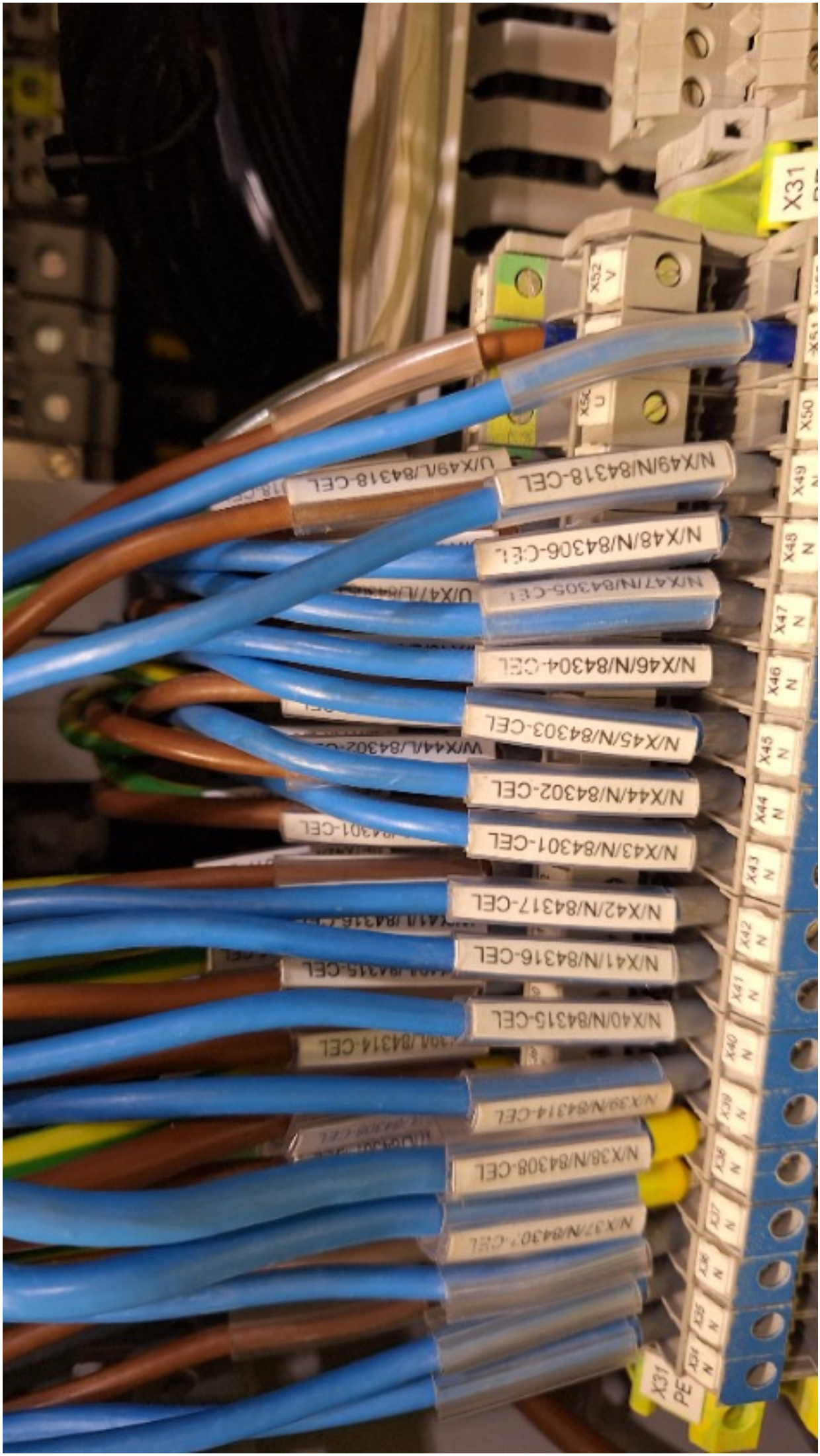
5 - CLEARANCE CHECK

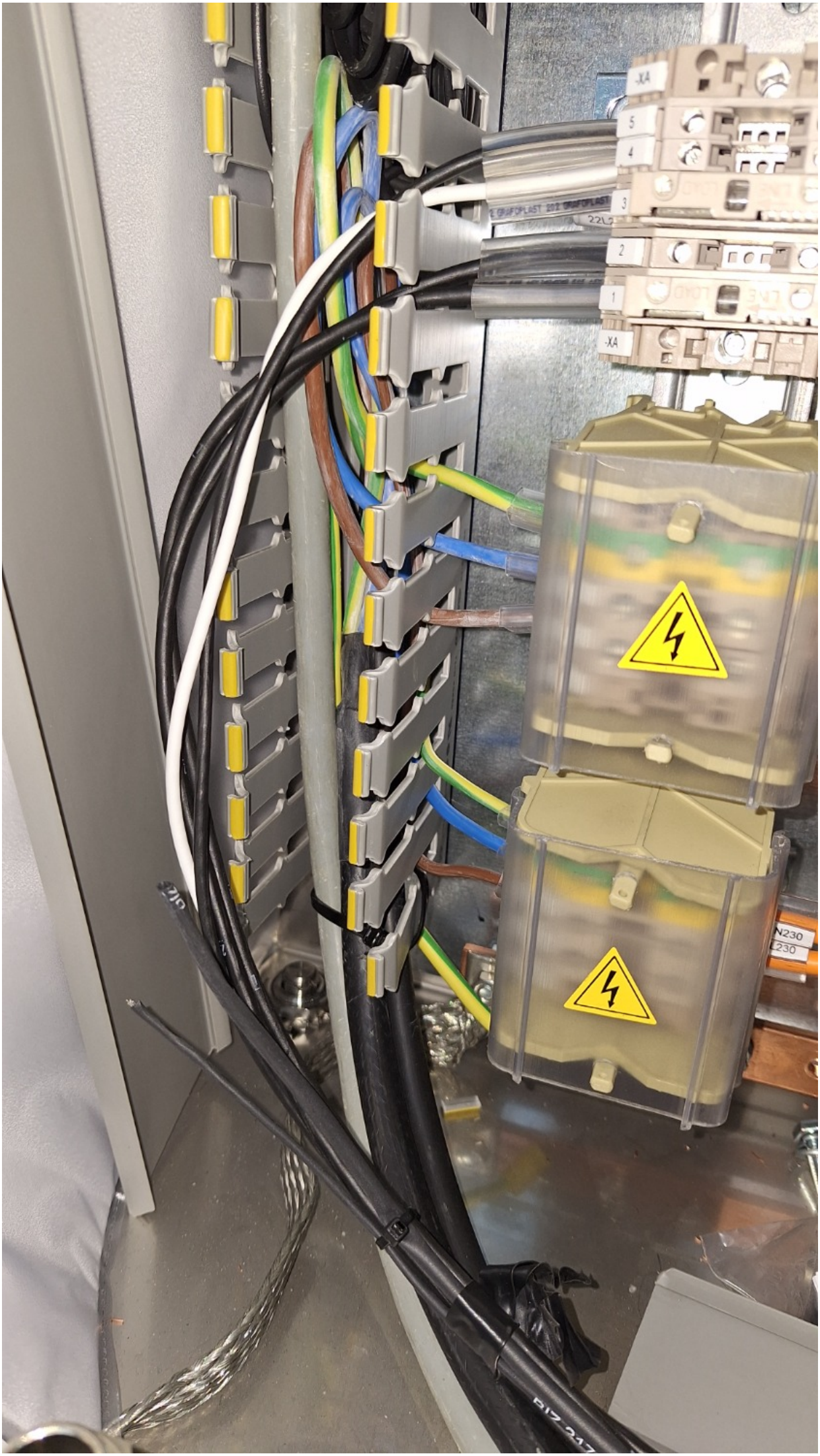
DONE

Name: Andrea Andreani
Date: 2025-02-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


X31
X52
X54
X50
X49
X48
X47
X46
X45
X44
X43
X42
X41
X40
N/X49/N/84318-CEL
N/X48/N/84306-CEL
N/X46/N/84304-CEL
N/X45/N/84303-CEL
N/X44/N/84302-CEL
N/X43/N/84301-CEL
N/X42/N/84317-CEL
N/X41/N/84316-CEL
N/X40/N/84315-CEL
X31
PE


XA
5
4
3
2
1
-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001290

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000630	1.4 Discipline	Electrical
1.2 Item	83111-CEL		Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

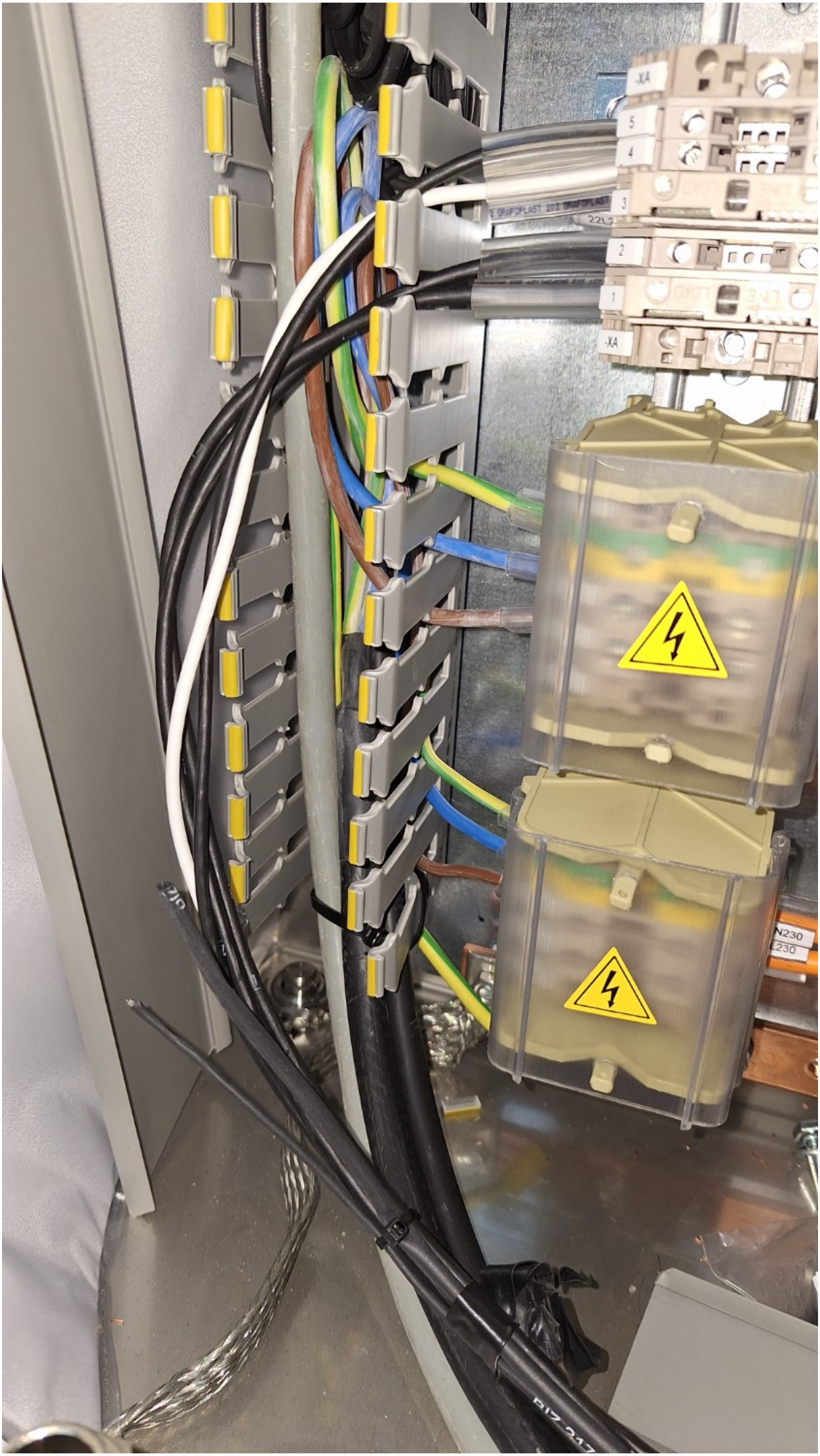
5 - CLEARANCE CHECK

The terminal earthing connection is grounded in the panel.

Name: Giovanni Tangianu
Date: 2024-12-06
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001291

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000630	1.4 Discipline	Electrical
1.2 Item	83111-CEL		Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Missing cable tag . side DP-200N1 / A-64000

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:




SSWIND

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001292

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000630	1.4 Discipline	Electrical
1.2 Item	83111-CEL		Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

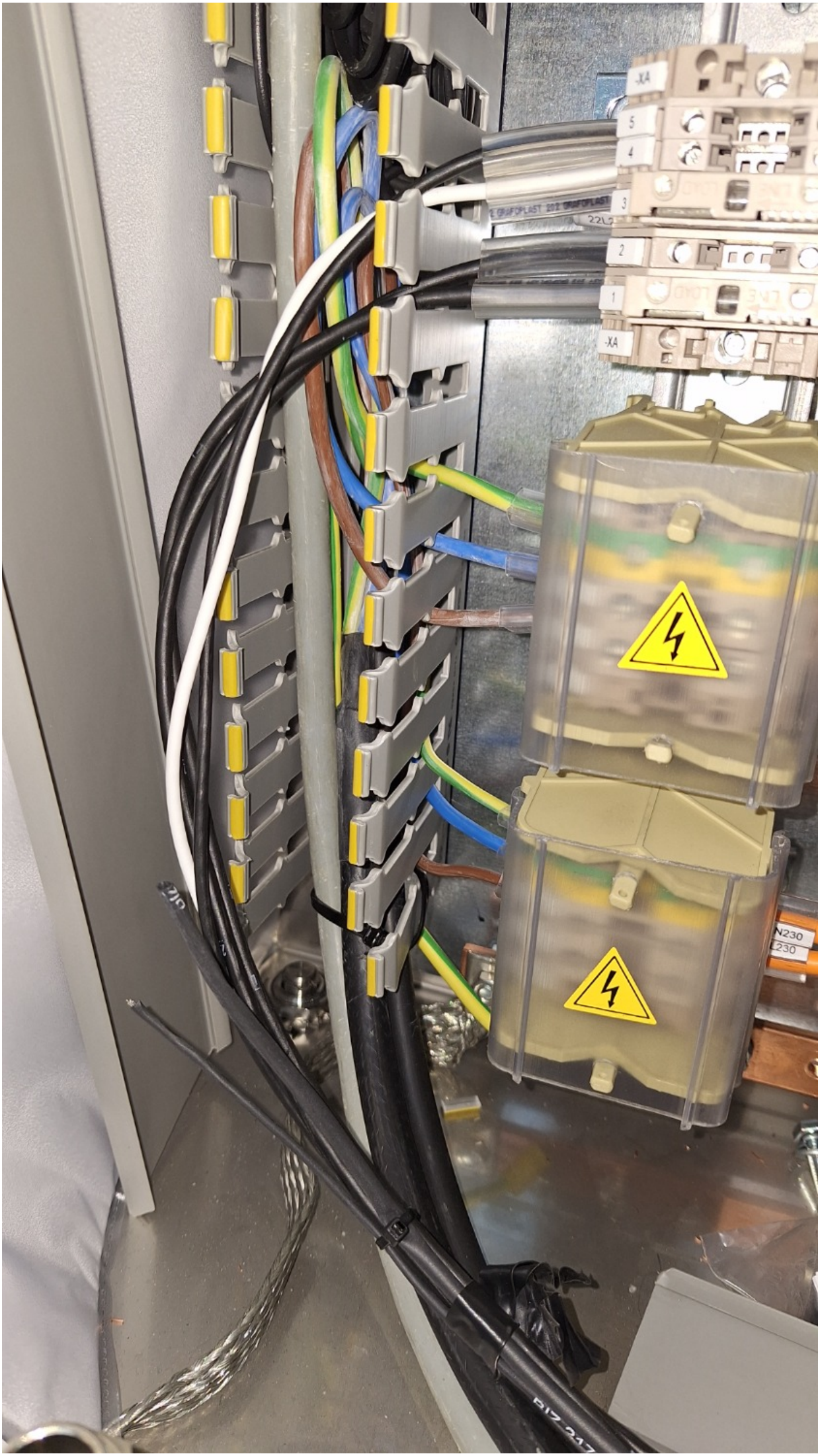
5 - CLEARANCE CHECK

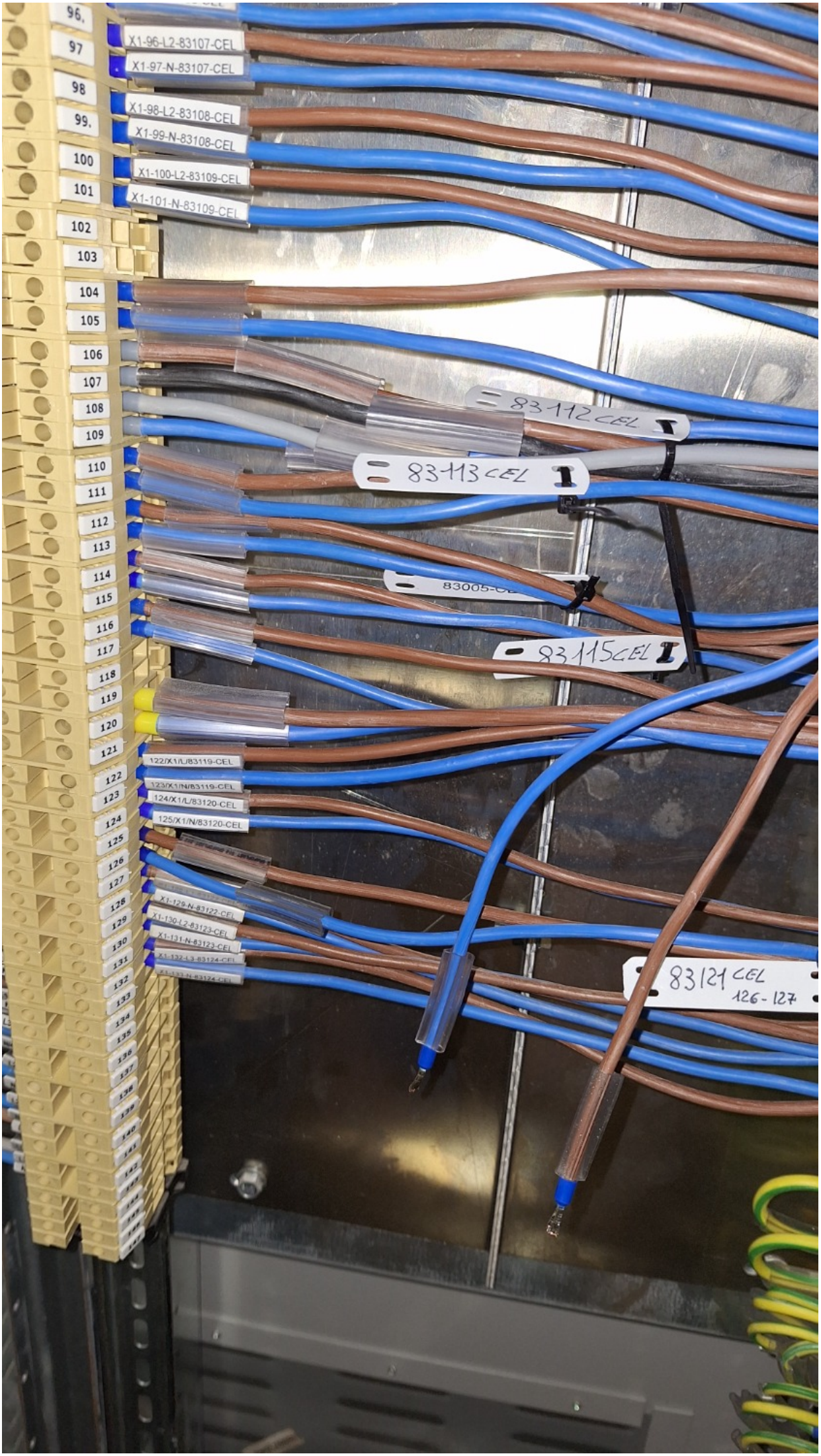
Installed.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230


96.
97
X1-96-L2-83107-CEL
X1-97-N-83107-CEL
98
X1-98-L2-83108-CEL
99.
X1-99-N-83108-CEL
100
X1-100-L2-83109-CEL
101
X1-101-N-83109-CEL
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122/X1/L/83119-CEL
123/X1/N/83119-CEL
124/X1/L/83120-CEL
125/X1/N/83120-CEL
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
X1-129-N-83122-CEL
X1-130-L2-83123-CEL
X1-131-N-83123-CEL
83112 CEL
83113 CEL
83005-CEL
83115 CEL
83121 CEL
126 - 127

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001311

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002355	1.4 Discipline	Electrical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001312

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002355	1.4 Discipline	Electrical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cables are not adequately preserved. inside Skid

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2025-01-22

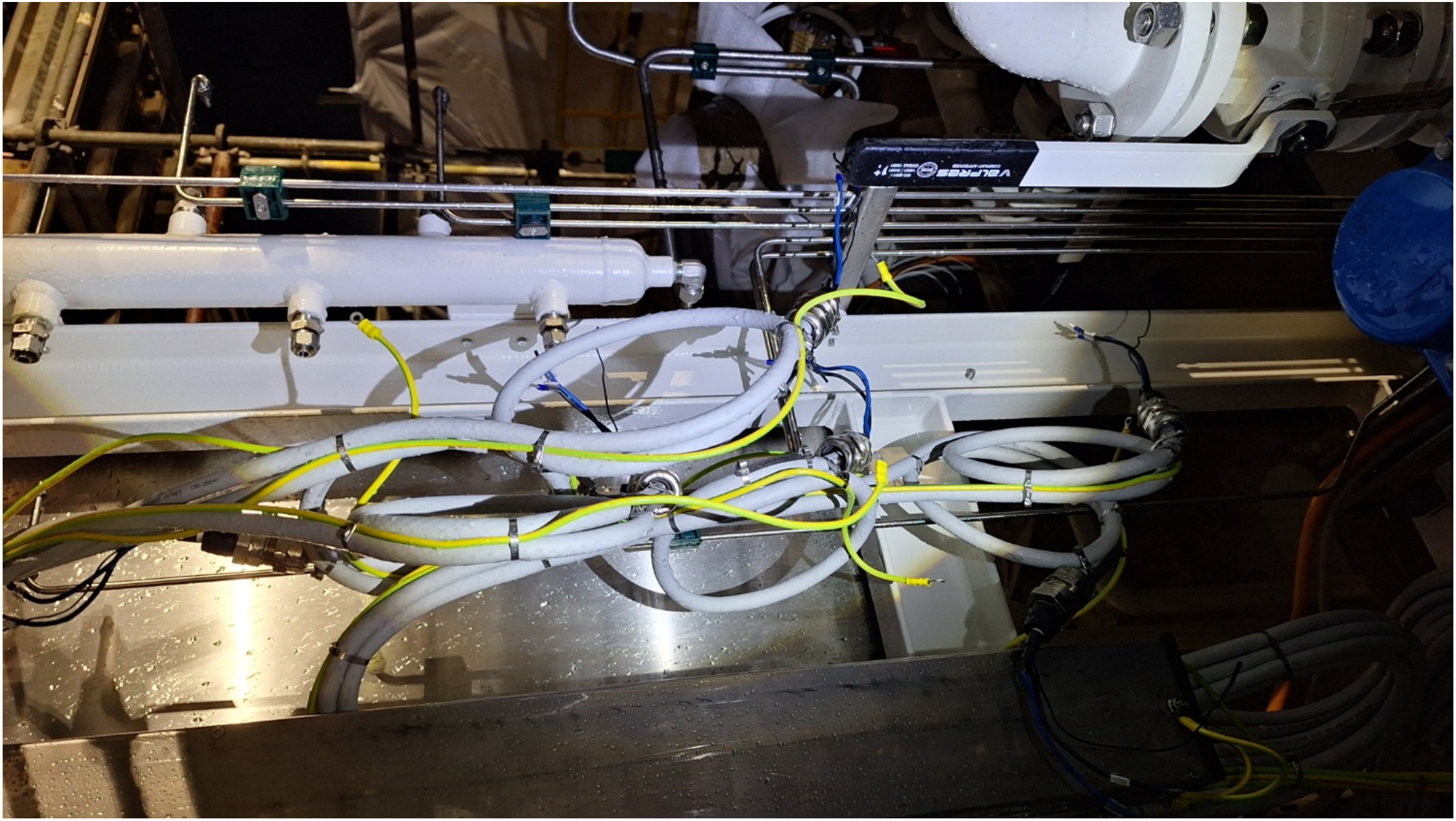
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001313

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002356	1.4 Discipline	Instrumental
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-23

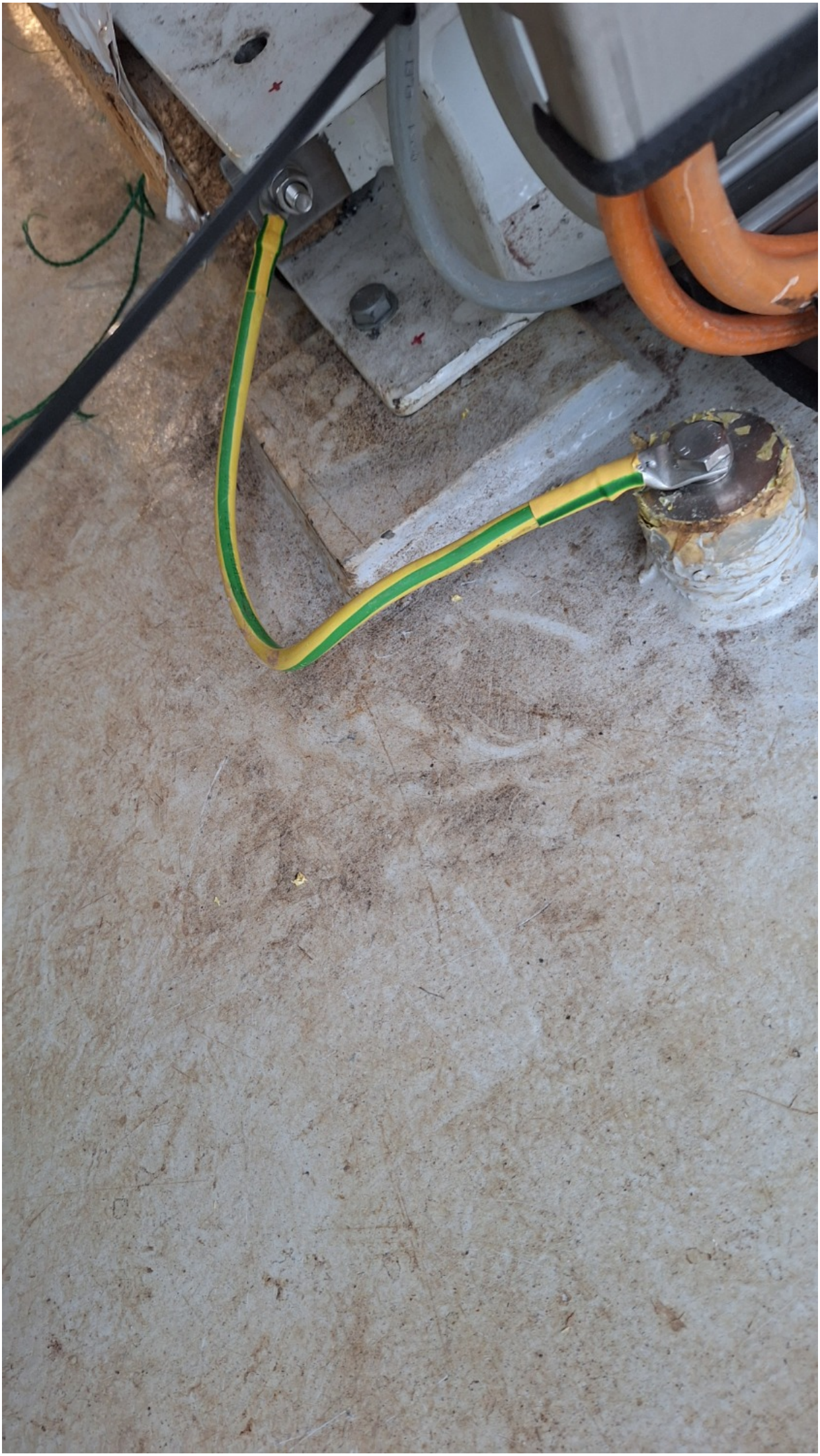
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001316

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002356	1.4 Discipline	Instrumental
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The tubing are not adequately preserved. inside Skid

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto
Date: 2025-01-22
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001380

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable gland are not closed in accordance with specification.

Name: Alessio Polo
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-25
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


84312-CEL
84311-CEL
8431 4-CEL
8431 8-CEL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002638

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003601	1.4 Discipline	Piping
1.2 Item	64-00-TP-049	Test Pack 64-00-TP-049	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Support assembled as for specification.

Name: Kangi Albonetti

Date: 2025-01-31

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002642

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Items 64-PSV-053 and 64-PSV-054 have not been installed.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

PSV' spool has been installed and tightened.

Name: Kangi Albonetti

Date: 2025-01-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002643

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Valve BLPH-MV-819 has not been installed.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-01-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002644

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Valve BLPH-MV-820 has not been installed.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-01-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002645

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed.
The Items are in Stainless steel but the fasteners are carbon steel, need insulation kit or different fasteners.

Name: Kangi Albonetti
Date: 2025-01-10
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga
Date: 2025-01-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002646

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is connected and is the one installed on the leg marked as "detail B", where the original one as for the drawing is diconnected.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-03-25

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002648

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been substituted by M30x65 and there is no item 44 because the assembly is "blind bottom hole" type.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Accepted by Rosetti Marino.

Name: Lorenzo Novaga

Date: 2025-03-06

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002649

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Massimo Bruschi

Date: 2025-03-06

Signature:

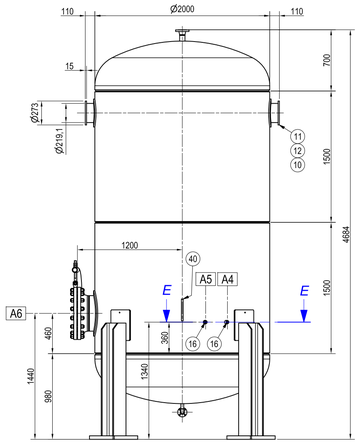
6- CLEARANCE APPROVAL

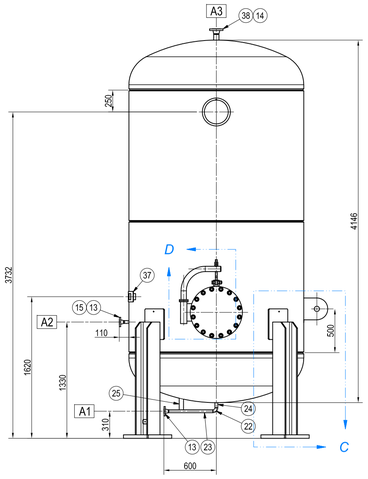
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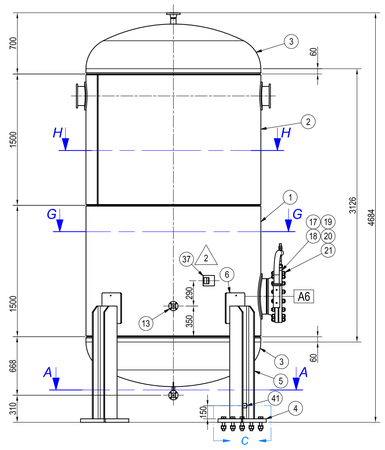
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Signature:

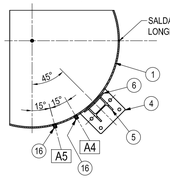
DRAWING NO. 1724000437-MAC-DD-00006 REV. 02



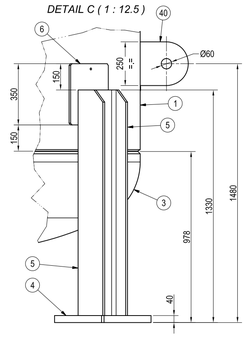


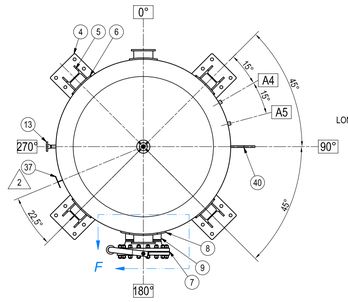


SECTION E-E (1 : 25)

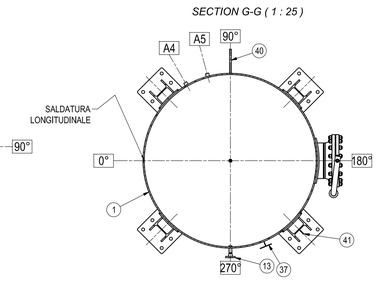


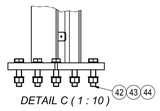
DETAIL C (1 : 12.5)





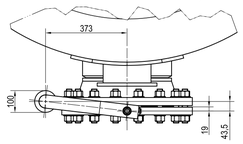
SECTION G-G (1 : 25)



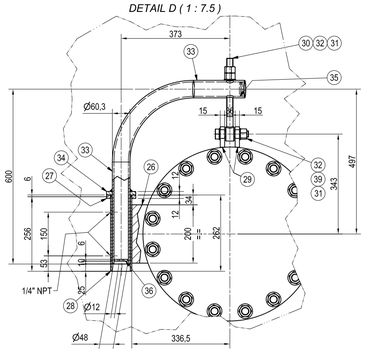


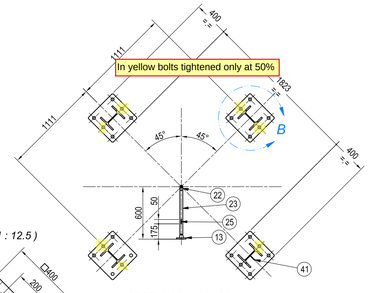
DETAIL C (1 : 10)

DETAIL F (1 : 10)



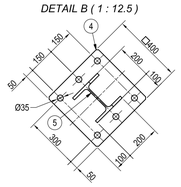
DETAIL D (1 : 7.5)

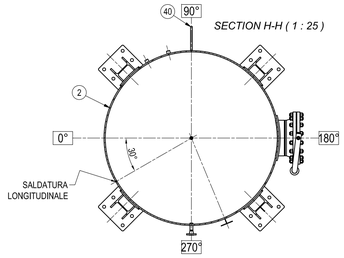




SECTION A-A (1 : 25)

DETAIL B (1 : 12.5)





NAMEPLATE DETAIL

MANUFACTURER	COES SRL - STEZZANO (BG)
EQUIPMENT	N2 RECEIVER V-64001
SERIAL NUMBER	S240120 YEAR 2024
DESIGN CODE	ASME VIII Div. 1 Ed. 2021 / PED 2014/68/UE
CONFORMITY	Category IV
FLUID	N2
DESIGN PRESSURE	12 barg
DESIGN TEMPERATURE	-29 / + 80°C
TEST PRESSURE	17.2 barg
CORROSION ALLOWANCE	3 mm
WEIGHT	4000 kg
VOLUME	11000 l

CE 0425

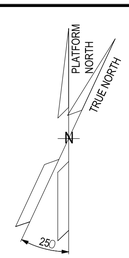
ELENCO PARTI / BILL OF MATERIAL

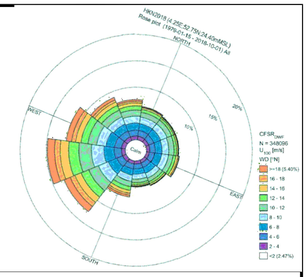
POS	QTY	DESCRIPTION	MATERIAL	WGT		TEST	COD. COES
1	1	SHELL øe2000 Thk. 15 L=1500 (Manhole 16" side)	SA 516 Gr.70	1080		B	L3723
2	1	SHELL øe2000 Thk. 15 L=1500	SA 516 Gr.70	1095,6		B	L3724
3	2	ELL. HEAD øl1970 Thk. 15mm (Thk. 12.75mm min.)	SA 516 Gr.70	1112,3		B	L3716
4	4	PLATE 400x400 thk=40 N° 6 HOLES Ø35	SA 516 Gr.70	194		C	L3719
5	5160,000 mm	PROFILE HEB 200 L=1290	S 355 J2	314,8		C	F7552
6	4	PAD 350x300 thk=15	SA 516 Gr.70	50		B	L3720
7	1	FLANGE W.N.16" Sch. 40 150# RF	SA 350 Gr. LF2 Cl.1	66,3		B	H1000
8	1	PAD Øe=510 Øi=410 thk=15 for Man Hole	SA 516 Gr.70	9,3		B	L3721
9	1	SHELL øe407 Thk. 15 L=110	SA 516 Gr.70	13,6		B	L3722
10	2	PAD Øe=320 Øi=220 thk=15 for Trunnion	SA 516 Gr.70	9,8		B	L3718
11	2	DISK Ø273 thk=15	SA 516 Gr.70	13,8		C	D2222
12	200,000 mm	PIPE SMLSS 8 Sch.80	SA 333 Gr. 6	12,5		C	D9560
13	2	FLANGE W.N.1" Sch. XXS 150# RF	SA 350 Gr. LF2 Cl.1	2,6		B	L3726
14	80,000 mm	PIPE SMLSS 2 Sch.160	SA 333 Gr. 6	0,9		B	C1399
15	80,000 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	0,4		B	D9604
16	2	COUPLING 1/2" NPT-F 6000#	SA 350 Gr. LF2 CL1	0,7		B	K1337
17	1	GKT SPIRAL WOUND 16" 150# Thk. 4.5mm	316L+GRAPHITE	2		C	F8428
18	1	FLANGE BLIND B16.5 16" 150# RF	SA 350 Gr. LF2 CL1	76,2		B	L3727
19	32	WASHER 1	C.S.	1,5		C	C5634
20	32	NUT 1" UNC	SA 194 Gr.7	5,6	*	B	J2840
21	16	STUD-BOLT 1" UNC x 155	SA 320 Gr.L7	9,9	*	B	H9373
22	1	ELBOW L.R. 90° 1" Sch. XXS	SA 420 WPL6	0,3		B	D9605
23	502,528 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	2,7		B	D9604
24	73,000 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	0,4		B	D9604
25	200,000 mm	PLATE 50 x 6 L=132,5 mm	SA 516 Gr.70	0,3		B	L4381
26	1	PLATE 200x55 thk=18 (DAVIT 16" 150#)	SA 516 Gr.70	1,2		B	L4382
27	1	ROD Øe=100 Øi=74 Thk=12	SA 516 Gr.70	0,3		C	L4016
28	256,000 mm	PIPE SMLSS 2 1/2 Sch.40 L=256	SA 333 Gr. 6	2,2		C	G6831
29	2	PLATE 50x70 Thk. 15 mm FOR DAVIT 16"	SA 516 Gr.70	0,6		B	L4383
30	1	LIFTING EYE M22x260	SA 350 Gr. LF2 Cl.1	1		C	L4375
31	3	WASHER A 22	C 40	0,1		C	3393
32	3	NUT M22 UNI 5587	SA 194 Gr.7	0,3		C	L1368
33	1	BENDING PIPE SMLSS 2" SCH. 40 L=920 (DAVIT 16" 150#)	SA 333 Gr. 6	6,8		C	L4385
34	1	ROD Øe=100 Øi=61 Thk=12	SA 516 Gr.70	0,5		C	L4376
35	1	DISK Øe=48 thk=6	SA 516 Gr.70	0,1		C	L4377
36	1	DISK Øe=48 Øi=12 thk=6	SA 516 Gr.70	0,1		C	L4378
37	1	SUPPORT NAMEPLATE 140x120 Thk.4mm	SA 516 Gr.70	0,5		B	E4247
38	1	FLANGE W.N.2" Sch. 160 150# RF	SA 350 Gr. LF2 Cl.1	3,1		B	F7664
39	1	SCREW - M22 x 100 - UNI 5739	SA 320 Gr.L7	0,4		C	L0436
40	1	LIFTING LUG A=250 E=150 HOLE Ø60 THK=20	SA 516 Gr.70	9,3		B	L3717
41	1	EARTHING LUG 70 x 50 Thk.6	SA 516 Gr.70	0,2		C	L5167
42	24	SCREW - M30 x 140 - UNI 5739	CL 8.8	0,4		C	L5163
43	48	WASHER A 30	C 40	9,3		C	9169
44	24	NUT M30 UNI 5587	CL 8	0,2		C	L5164

MATERIAL TEST SYMB. (according to EN 10204)

A	Tested material (3.2)
B	Material with certificate of manufacturer (3.1)
C	Material without certificate
D	Material with certificate of manufacturer (2.2)

POS	DESCRIPTION	PIPE CONN.
A1	DRAIN	WN 1" 150# RF SCH. XXS
A2	IN/OUT	WN 1" 150# RF SCH. XXS
A3	PSV	WN 2" 150# RF SCH. XXS
A4	PRESSURE GAUGE PG	COUPLING 1/2"NPTF 6000#
A5	PRESSURE TRANSMITTER PT	COUPLING 1/2" NPTF 6000#
A6	MAN HOLE	WNF 16" 150# RF SCH. 40





NOTES

NOTE:
1. QUANTITIES IN MATERIAL LIST FOR No. 1 VESSEL.
2. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
3. ALL THICKNESSES SHOWN ARE MINIMUM AFTER FORMING.
4. TOLERANCE OF VESSELS: ACCORDING TO COES PROCEDURE CTP03684 Rev.2
5. FLANGES DRILLED HOLES SHALL STRADDLE MAIN CENTER AXIS OF VESSEL.
6. FLANGES FACE FINISHING: 125-250 AARH.
   FLANGES AND BLIND FLANGES <= 24" ACC TO ASME B16.5 (2020).
7. VENT HOLES ON REINF. PAD: 1/4" NPT/F EACH PAD OR SEGMENT
   PERFORM TEST AT 1 bar(g) WITH AIR AND SOAPY SOLUTION.
8. ALL NOZZLES WITHOUT INTERNAL PROJECTION, TO BE FLUSHED WITH INSIDE SURFACE OF THE VESSEL. THE INSIDE EDGE OF ALL NOZZLES TO BE ROUNDED.
9. FOR WELDING DETAILS REFER TO THE RELATED WELDING BOOK.
10. BUTTWELDING FITTINGS ACCORDING TO ASME B16.9 (2018)
11. THREADED FITTINGS ACCORDING TO ASME B16.11 (2021)
12. QUANTITY 1: SEE ORIENTATION PLAN.

LEGEND

HOLDS

DESIGN DATA

Code	Applicable codes and standards		ASME VIII Div.1 Ed. 2021 / PED 2014/68/EU		
	Third party		ICIM GROUP		
	STAMP		No		
	NATIONAL BOARD		No		
	CRN REGISTRATION		N.A.		
Pressure	Design pressure internal		12	barg	
	Working pressure		8	barg	
	Hydrotest pressure vertical		17,2	barg	
	Hydrotest pressure horizontal		N.A.	barg	
	Static head in design		0	barg	
	MAWP		12,72	barg	at temperature of 80 °C
Temperat.	Design temperature		80	°C	
	Working temperature		-	°C	
	M.D.M.T. @ MAWP		-29	°C	
	Test temperature min.		10	°C	
Miscellaneous	Corrosion allowance		3	mm	
	Out of roundness		1%		
	Insulation		-	mm	
	Capacity		11000,0	l	
	Tollerance on thickness	Plates	0.25 (>4); 6% (<=4)	mm	
		Pipes	-12.5	%	
		Forgings	=0/1	mm	
Fluid	Nature		N2		
	Physical state		GAS		Group 2
	Specific weight		11,43	kg/m³	
Weldings	Joint efficiency (E)		0.85		
	Rad. Cat/class		RT 3		
	Test Coupons		NO		
	Radiographic Examination		SPOT	note:	
Heat treatement and testing	Head assembly in 1 piece		N.A.		
	Heat treatment		NO	note:	
	Liquid penetrant Examination (PT)		YES	note:	
	Ultrasonic Examination (UT)		NO	note:	
	Impact test		NO	note:	Exempt Para. UCS-66 / YES PED 2014/68/EU Annex 1
	External Finishing		According to Coating Specification no. 1724000437-MAT-PRO-00021		
	Internal Finishing		According to Coating Specification no. 1724000437-MAT-PRO-00021		
Ext. Loads	Wind		YES	note:	Project Spec. 123A90-DDL-ST-SP-90017
	Seismic		YES	note:	Project Spec. 123A90-DDL-ST-SP-90017
Weight	Empty		4000,0	kg	
	Hydrotest condition		15000,0	kg	

COES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	07/10/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)
01	05/07/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)
00	28/05/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EQUIPMENT SECTIONAL DRAWING WITH BILL OF MATERIAL
NITROGEN GENERATION PACKAGE N2 RECEIVER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:35

DRAWN STC | CHECKED GT | APPROVED TM | DATE 07/10/24

A1 | DRAWING NO. 1724000437-MAC-DD-00006 | SHEET 001 | REV. 02

File Name : 1724000437-MAC-DD-00006

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002650

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Manhole has not been opened. Internal inspection not completed.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Accepted by Rosetti Marino.

Name: Lorenzo Novaga

Date: 2025-03-06

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002849

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Minor damages to the painting due transportation and installation.

Name: Kangi Albonetti

Date: 2025-01-14

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-14
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-16

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-16

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002851

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002357	1.4 Discipline	Mechanical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Minor damages to the painting due transportation and installation.

Name: Kangi Albonetti

Date: 2025-01-14

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-14
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-16

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-16

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003517

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003691	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Isolation rubber on Support PS-01023.2 is damaged

Name: Andrea Mancini

Date: 2025-02-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Mancini
3.4 Activity code	MC Mechanical Completion	Date	2025-02-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003518

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003691	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing gap (2mm) between pipe and support PS-01057.1

Name: Andrea Mancini

Date: 2025-02-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Mancini
3.4 Activity code	MC Mechanical Completion	Date	2025-02-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003556

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003452	1.4 Discipline	Piping
1.2 Item	64-00-TP-029	Test Pack 64-00-TP-029	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

General touch up do to, especially near the supports of the piping line.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Kangi Albonetti

Date: 2025-02-06

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003557

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003452	1.4 Discipline	Piping
1.2 Item	64-00-TP-029	Test Pack 64-00-TP-029	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Color coding and fluid direction are missing.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000499

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Package to be test with PLC set to REMOTE MODE

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	RM Rosetti Marino Quality	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000500

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000501

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Mechanical

1.2 Item A-64000 Nitrogen Package

1.3 Subsystem 64-00 Nitrogen Generator Package (U-64000)

2 - OBSERVATION

ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID WILL BE RE INSTALLED

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority A PL A

3.4 Activity code FAT factory acceptance test

3.5 Action by

Name Stefano Linari

Date 2024-10-29

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000502

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000503

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Mechanical

1.2 Item A-64000 Nitrogen Package

1.3 Subsystem 64-00 Nitrogen Generator Package (U-64000)

2 - OBSERVATION

HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority B PL B

3.4 Activity code FAT factory acceptance test

3.5 Action by

Name Stefano Linari

Date 2024-10-29

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

ACTIVITY DONE

Name VENDOR COES

Date 2025-01-27

Signature

5 - CLEARANCE CHECK

ACTIVITY DONE

Name Stefano Linari

Date 2025-01-27

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000504

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Mechanical

1.2 Item A-64000 Nitrogen Package

1.3 Subsystem 64-00 Nitrogen Generator Package (U-64000)

2 - OBSERVATION

MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority B PL B

3.4 Activity code FAT factory acceptance test

3.5 Action by

Name Stefano Linari

Date 2024-10-29

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

PRESSURE 8 BARG

Name VENDOR COES

Date 2025-01-27

Signature

5 - CLEARANCE CHECK

PRESSURE 8 BARG

Name Stefano Linari

Date 2025-01-27

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000505

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE CLOSURE OF VALVE 64-XV-058 AND OPENING OF THE VALVE OF VENT 64-XV-059

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000506

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	RM Rosetti Marino Quality	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000507

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE MANDATORY BEFORE PERFORMING THE FUNCTIONAL AND PERFORMANCE TESTS OF THE PACKAGE. ALL PERFORMANCE MUST BE TESTED AND ACCEPTED AT THE CONSTRUCTION SITE

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

TEST WILL BE REPEATED ON SITE

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

TEST WILL BE REPEATED ON SITE

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000508

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

DONE

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000509

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	RM Rosetti Marino Quality	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000510

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Re Issued

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000511

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING.
SEE NCR 2024-Q-123A90-0009

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

NCR IS CLOSED

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

NCR IS CLOSED

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000512

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

CONTINUITY AND MEGGER TEST REPORTS ARE MISSING.
TO BE PROVIDE

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

done

Name VENDOR COES

Date 2025-01-30

Signature

5 - CLEARANCE CHECK

done

Name Stefano Linari

Date 2025-01-30

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

COES Srl
24040 STEZZANO - ITALY - Via Pontida, 265
tel +39 035 2050 511
e.mail: coes@coessrl.com

Sedi operative
24040 STEZZANO – Via Pontida, 265
24040 COMUN NUOVO – Via Europa, 9

CONTINUITY AND INSULATION RESISTANCE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000437
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	NITROGEN GENERATION PACKAGE
ITEM:	U-64000
INSPECTION AND TEST PLAN:	1724000437-QC-ITP-00002
FAT PROCEDURE:	1724000437-QC-PRO-00023
COES JOB:	167/24

ACTIVITY	**RESULT**
CHECK THE CONTINUITY OF THE PROTECTIVE BONDING CIRCUIT	**CONFORM**

Test parameters:

Open circuit voltage: 24Vac/dc
Test current: 10A
Test time: 5 s
Localization of the PE terminal: Earth bar

ACTIVITY	**RESULT**
INSULATION RESISTANCE TEST	**CONFORM**

Test parameters:

Test voltage: 500V
Localization of the PE terminal: Earth bar

(When performing the strength tests of insulation, the insulation resistance measured at 500V DC between conductors of the power circuit and the protective bonding circuit shall not be less than 1MΩ.)

COES SRL
W R

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000513

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

done

Name VENDOR COES

Date 2025-01-30

Signature

5 - CLEARANCE CHECK

done

Name Stefano Linari

Date 2025-01-30

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

COES Srl
24040 STEZZANO - ITALY - Via Pontida, 265
tel +39 035 2050 511
e.mail: coes@coessrl.com

Sedi operative
24040 STEZZANO – Via Pontida, 265
24040 COMUN NUOVO – Via Europa, 9

LEAKAGE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000428
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	INSTRUMENT AIR PACKAGE
ITEM:	A-63000
INSPECTION AND TEST PLAN:	1724000428-QC-ITP-00002
FAT PROCEDURE:	1724000428-QC-PRO-00024
COES JOB:	166/24

ACTIVITY	RESULT
PNEUMATIC LEAKAGE CHECK @ 7 barg	**CONFORM**

Notes:
Test performed at RM Piomboni Yard

COES SRL

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000514

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

MISSING TAG PLATE ON PSV 64-053 / PSV-64-054

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Done

Name COES

Date 2025-03-25

Signature

5 - CLEARANCE CHECK

Installed.

Name Stefano Linari

Date 2025-03-25

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000959

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

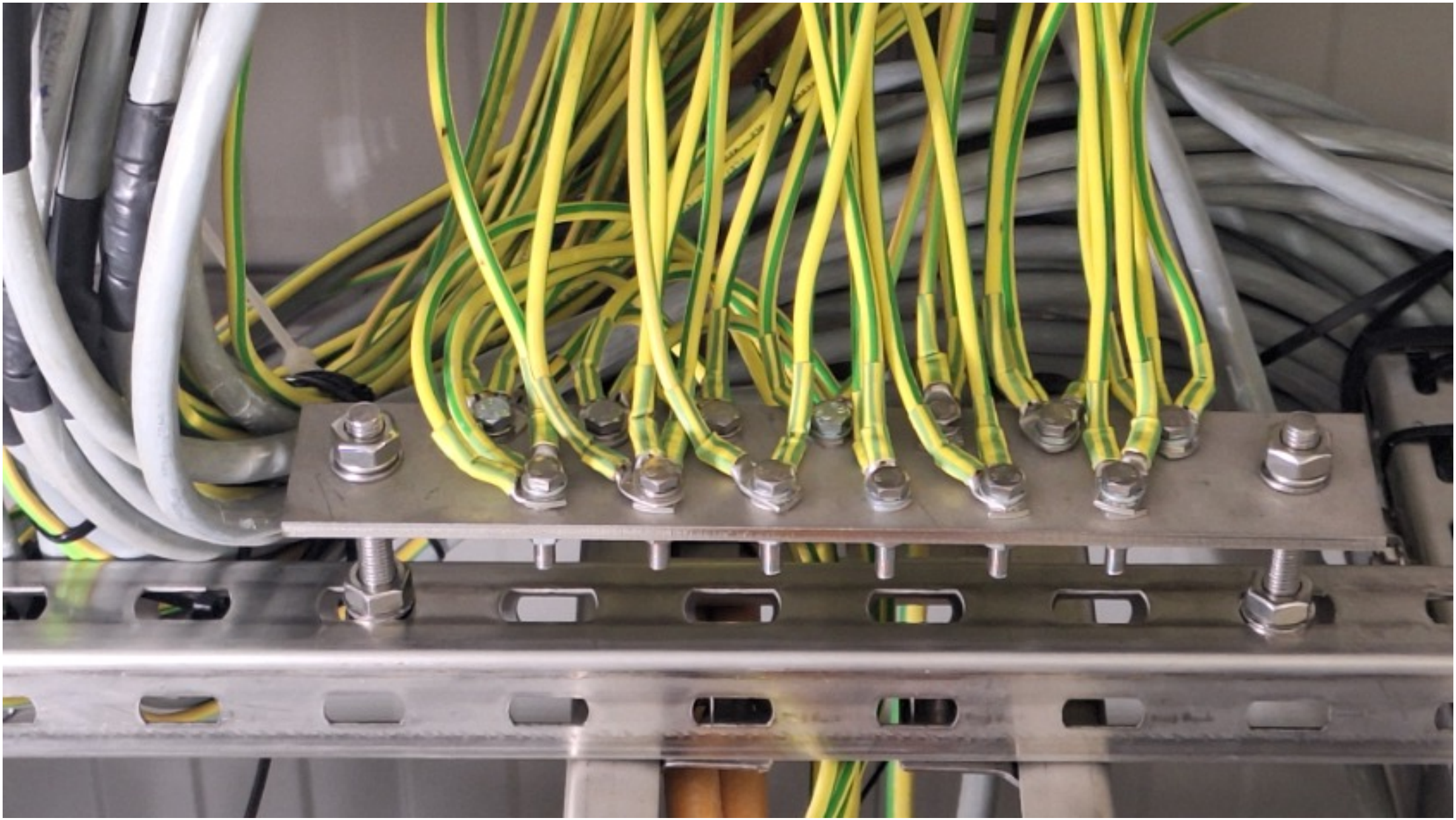
5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-02-04
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000960

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag SS project, outside panel U-64000.

Name: Alessio Polo

Date: 2024-11-27

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000962

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack outside panel U-64000

Name: Alessio Polo

Date: 2024-11-27

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-02-08

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000963

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29. (U-64000)

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

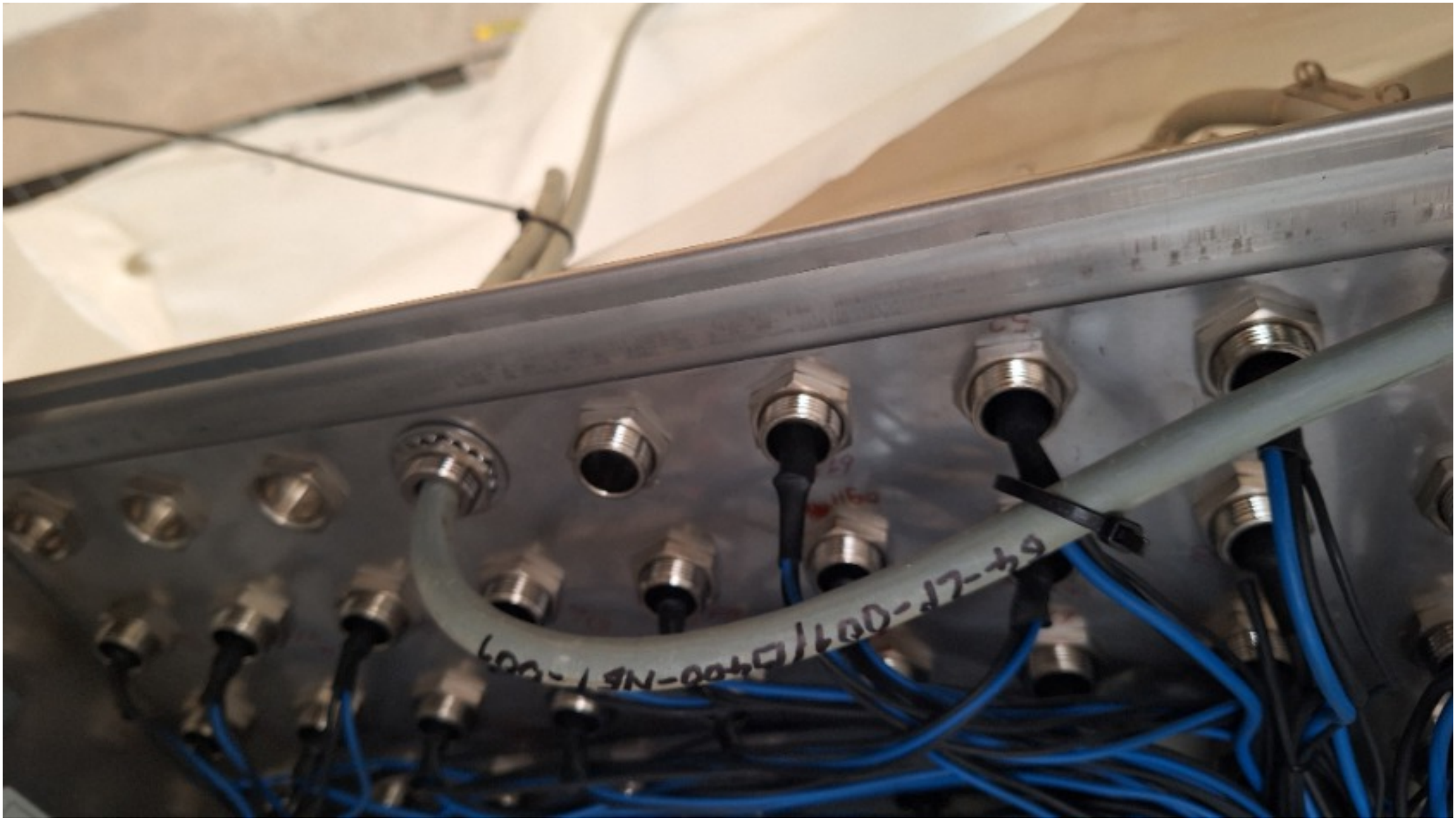
Done

Name: Alessio Polo
Date: 2024-12-05
Signature:

6- CLEARANCE APPROVAL

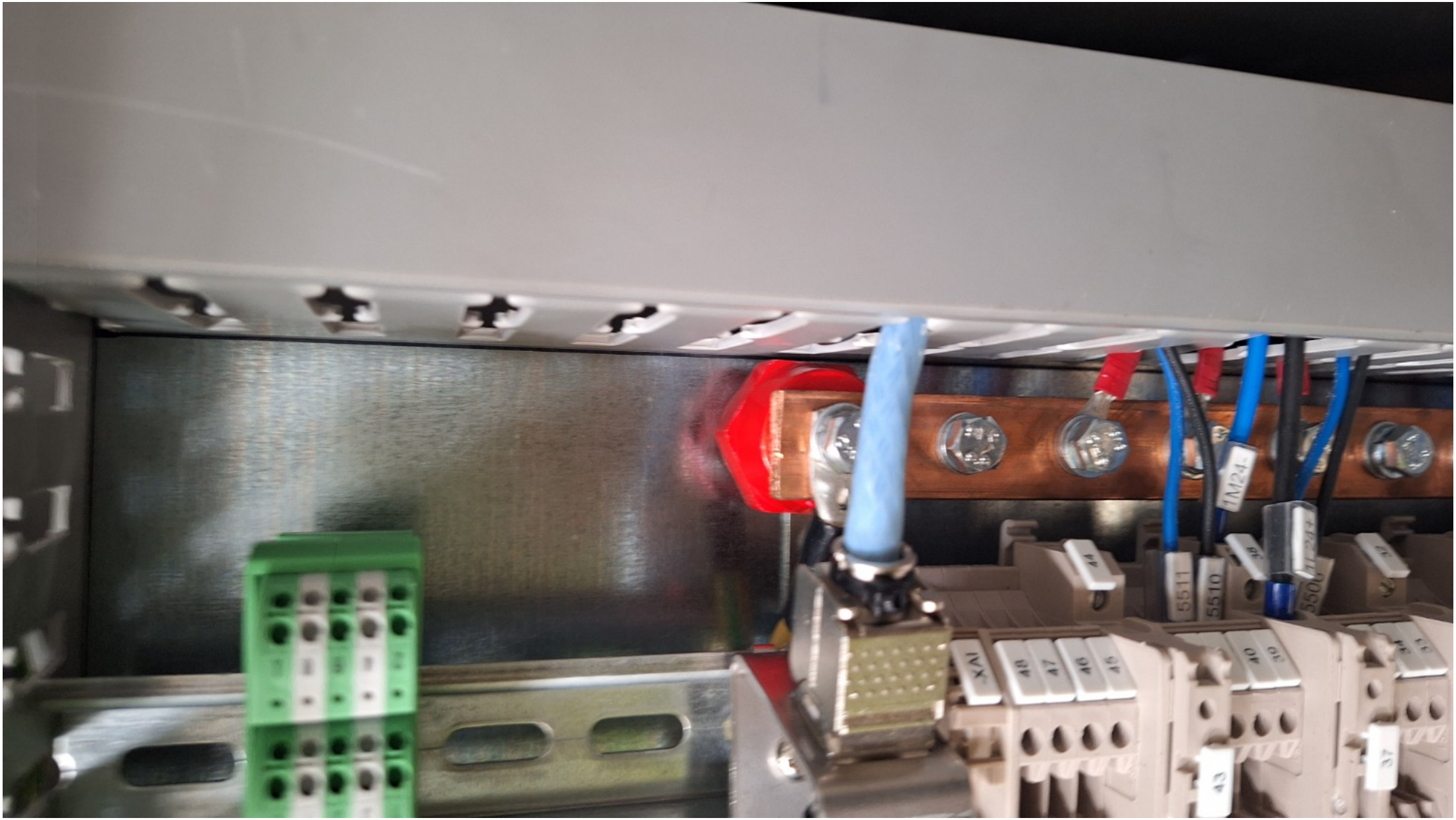
Name:
Date:
Signature:






SFG
6.8
SCH




XA1
48
47
46
45
5511
5510
1M24

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000969

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing the Thermo-shrink of on the final destination cable end
Bending radius is not within the specified limits.

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

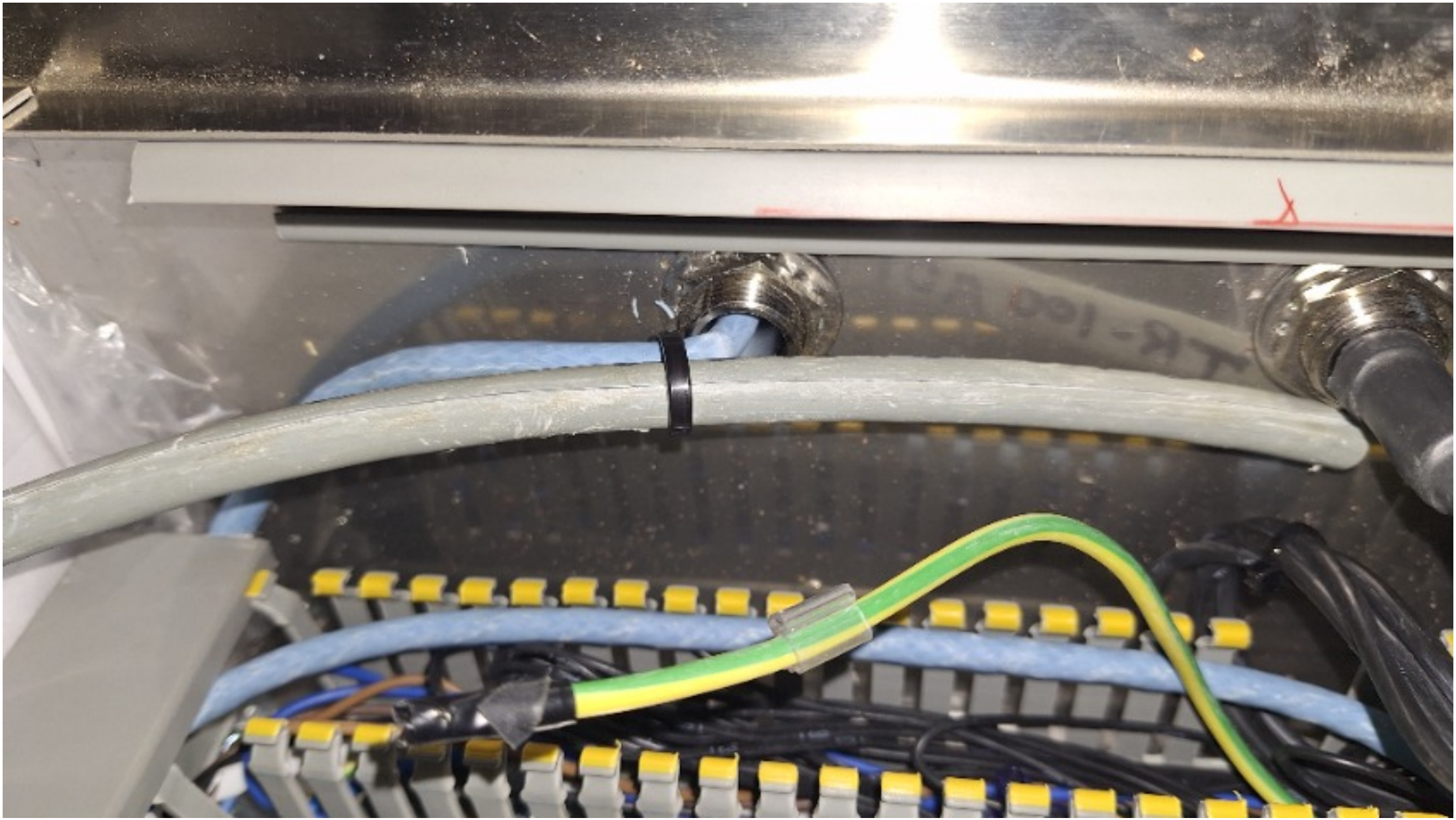
5 - CLEARANCE CHECK

Done

Name: Alessio Polo
Date: 2024-12-05
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001021

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003600	1.4 Discipline	Piping
1.2 Item	64-00-TP-049	Test Pack 64-00-TP-049	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

General final touch-up to do.

Name: Massimo Bruschi

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Massimo Bruschi
3.4 Activity code	MC Mechanical Completion	Date	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done

Name: Kangi Albonetti

Date: 2025-02-06

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001022

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003600	1.4 Discipline	Piping
1.2 Item	64-00-TP-049	Test Pack 64-00-TP-049	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Unmounted spool with its erection materials.

Name: Massimo Bruschi

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Massimo Bruschi
3.4 Activity code	MC Mechanical Completion	Date	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Flange management activities done for this test pack.

Name: Lorenzo Novaga

Date: 2025-01-17

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001272

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001459	1.4 Discipline	Instrumental
1.2 Item	C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag SS

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001273

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001459	1.4 Discipline	Instrumental
1.2 Item	C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

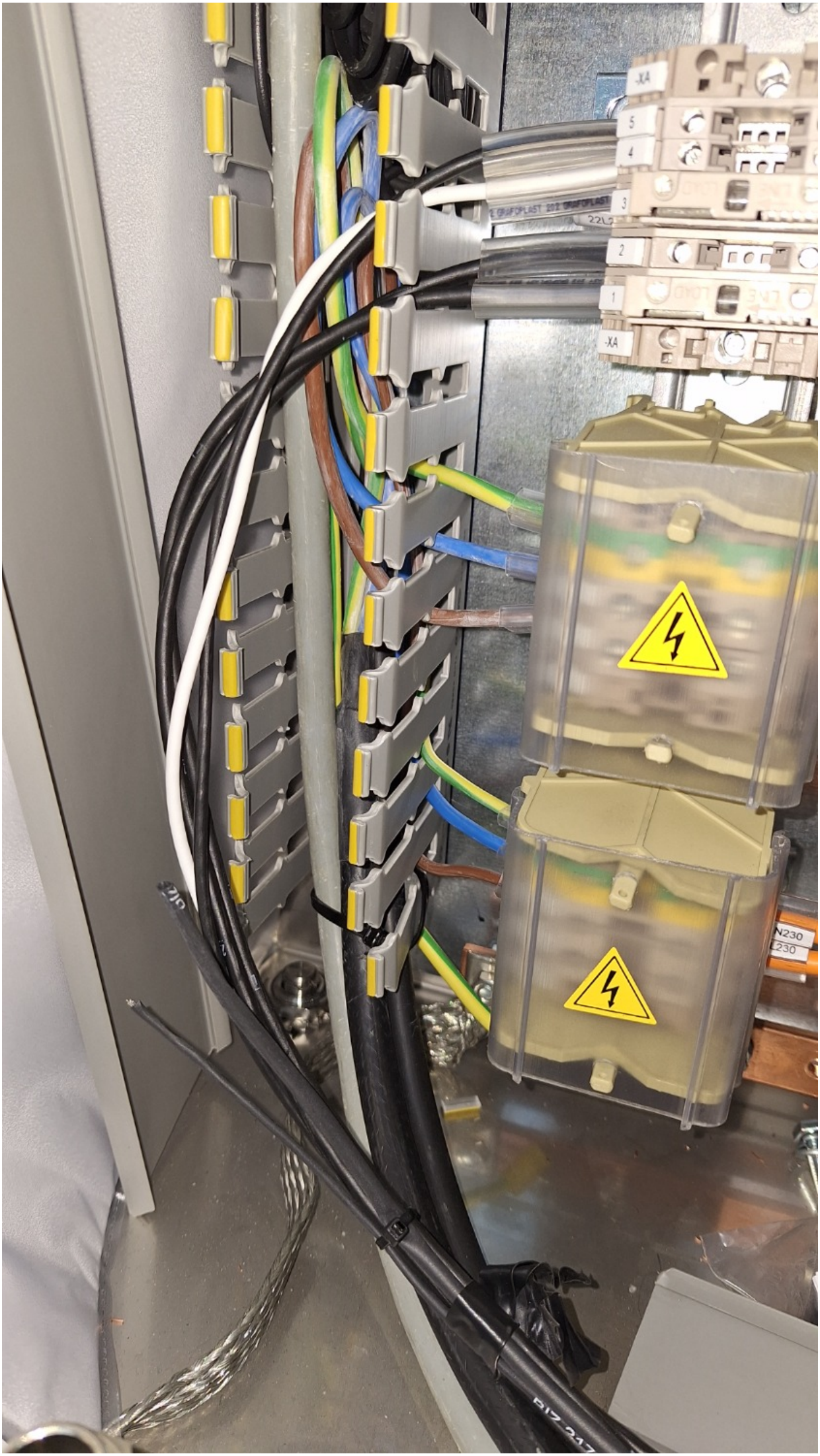
5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230

Section 4 FUNCTIONAL TESTS SHEETS

Section 4.1 Electrical functional test sheets index

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM & discipline : E

Electrical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
DP-200N1-Q30	BREAKER AUX UCP N2 PACKAGE-DP-200N1-Q30	ONSHORE	C10002863	FTR-2	100	2024-10-29	RFO 1
UP-200F3-QF35	UCP - N2 PACKAGE	ONSHORE	C10004574	FTR-2	100	2024-12-07	RFO 1

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	DP-200N1-Q30	: BREAKER AUX UCP N2 PACKAGE- DP-200N1-Q30	Dwg	1723002197-EL-DG-00013		
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)	Module			
TASK	code	C10002863	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Electrical	Form	FTR-2	Protection Relay

FTR2 - Protection relay
Record sheet

RELAY DATA

Manufacturer:	ABB	Serial N°:	NA	Relay type:	NA
Auxiliary supply:	NA	Location:	B200	Cubicle:	+03
Switchboard:	DP-200N1				

Current transformers

Tag	Number of	Ratio	Location

Voltage transformers

Tag	Number of	Ratio	Location

Test result (refer to manufacturer's procedure)

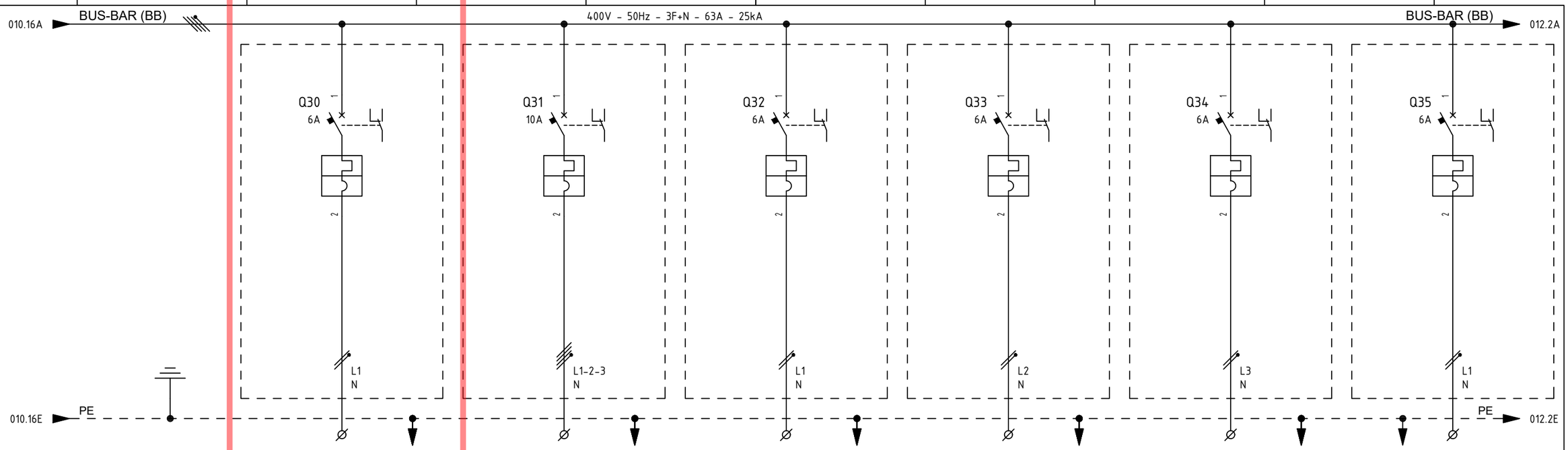
ANSI function	Setting	Injection	Trip value	Time delay	
				Setting	Trip value
I	6A	NA	NA	FIXED	NA

Testing & measurement instruments used

Type	Serial n°	Calibration certificate	Validity
FLUKE 1663	5380144	7727/24	10/07/2025

Comments:

Page 1/1	Performed by	☐ WITNESS ☉ REVIEW	☐ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CPY NOT PRESENT
Name	Mattia Girotti	Kristian Castellani	Witness waived
Date	2024-10-28	2024-10-29	2024-10-29
Signature	PROVERLIS Digitaly signed by Mattia Girotti 2024-10-28T13:31:56.433Z	PROVERLIS Digitaly signed by Kristian Castellani 2024-10-29T08:47:18.454Z	PROVERLIS Digitaly signed by Witness waived 2024-10-29T09:01:17.057Z



ITEM			1	CP-640F1	CP-100E2	CP-100E3	CP-100E4	RR-100D1	CP-200E1
UTILITY			2	UCP - N2 PACKAGE - AUXILIARY	AUXILIARY TRAFO OLTC	AUXILIARY TRAFO AVR	AUXILIARY TRAFO 7MVA	AUXILIARY NER	AUXILIARY TRAFO 1.6MVA
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.5 KW | 2.72 A	1 KW | 1.81 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S304P-C10	S302P-C6	S302P-C6	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	4P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=10A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	-	-	-	-	-	-
		Range t	16	-	-	-	-	-	-
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G2.5	5G4	3G2.5	3G2.5	3G2.5	3G2.5

=

+

DWG n° : 231298/SD/13

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
4	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

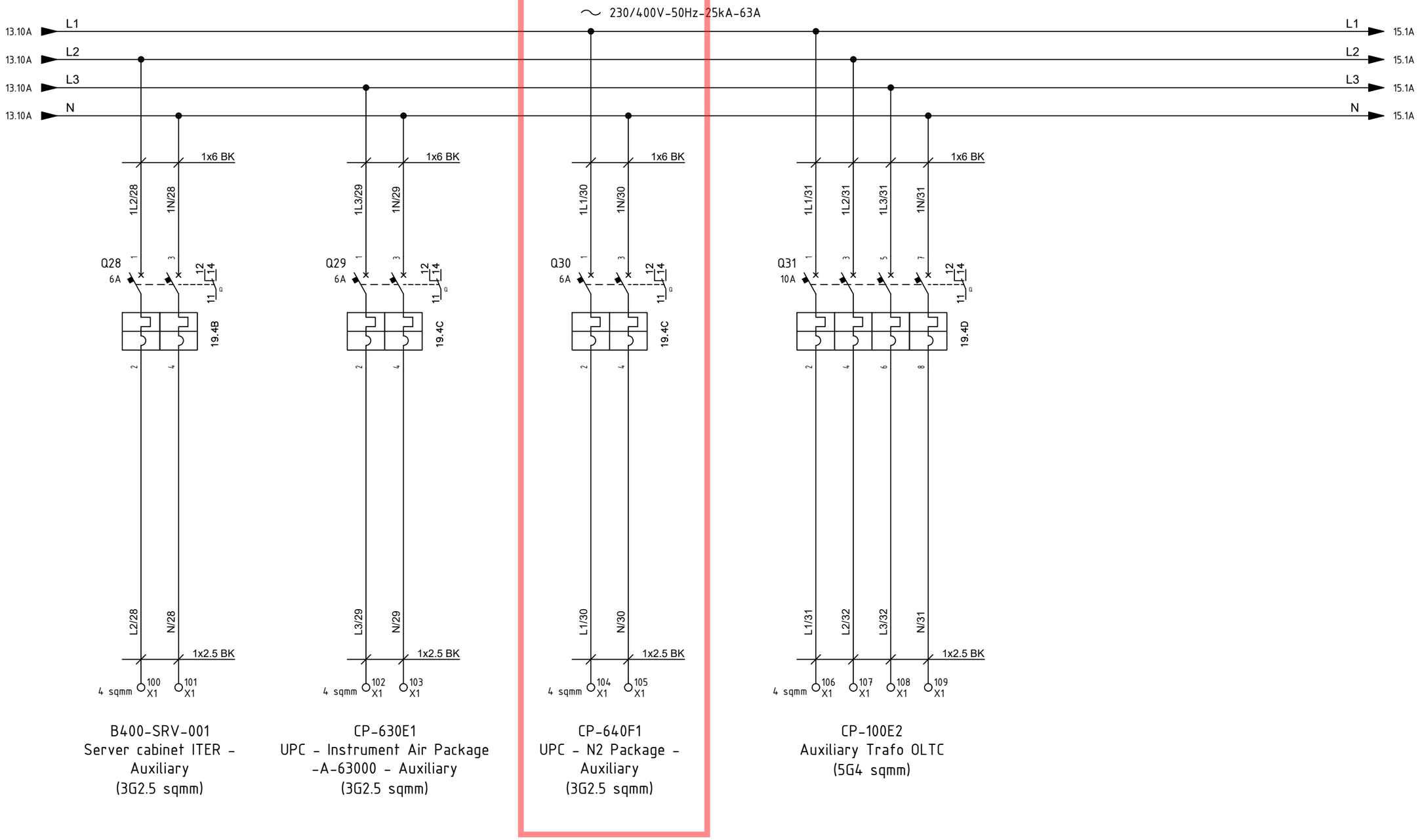
DRAWING NO. 1723002197-EL-DG-00013

SHEET 011

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 04



B400-SRV-001
Server cabinet ITER - Auxiliary
(3G2.5 sqmm)

CP-630E1
UPC - Instrument Air Package -A-63000 - Auxiliary
(3G2.5 sqmm)

CP-640F1
UPC - N2 Package - Auxiliary
(3G2.5 sqmm)

CP-100E2
Auxiliary Trafo OLTC
(5G4 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

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

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 14

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

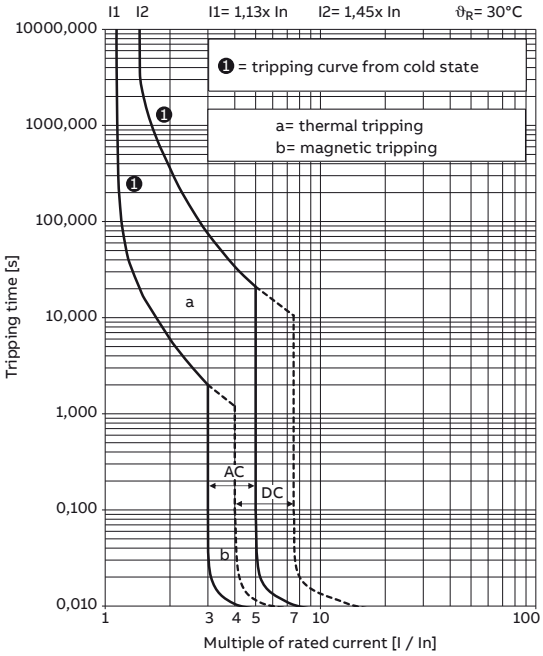
F.to UNI A3: 420mmx297mm

Miniature Circuit breakers S300P

Tripping characteristics

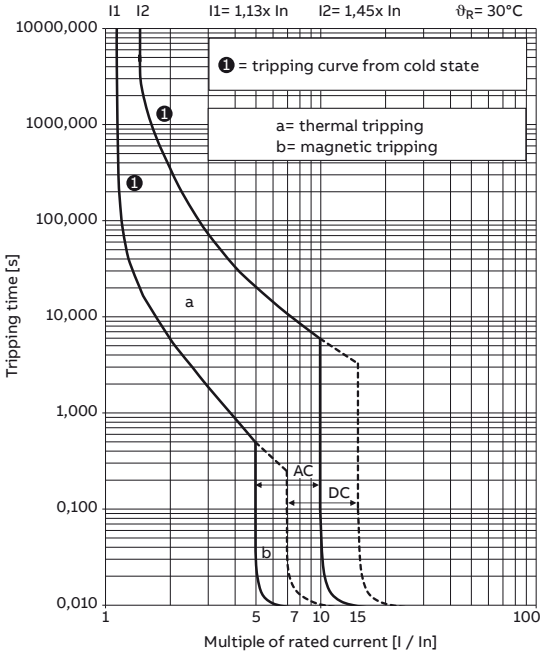
MCB Type S300P - B (3 ... 5 x I_n AC)

Tripping Characteristic IEC/EN 60898-1



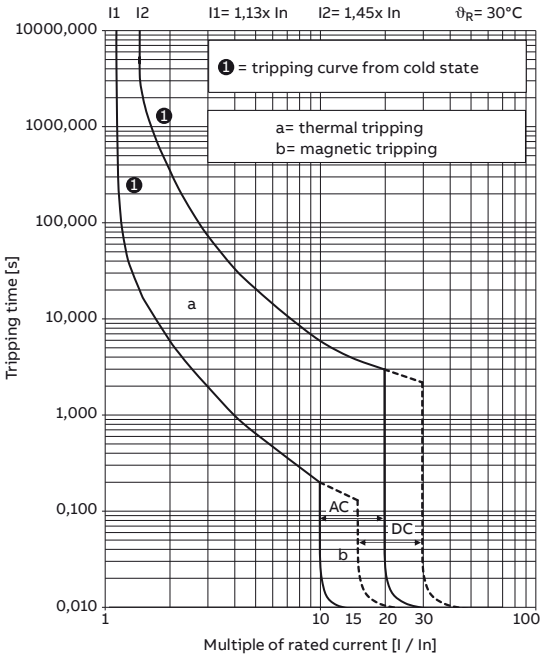
MCB Type S300P - C (5 ... 10 x I_n AC)

Tripping Characteristic IEC/EN 60898-1



MCB Type S300P - D (10 ... 20 x I_n AC)

Tripping Characteristic IEC/EN 60898-1



ITEM	Tag	UP-200F3-QF35	: UCP - N2 PACKAGE		Dwg	1724000372-EL-DG-00009	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module		
TASK	code	C10004574	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Electrical	Form	FTR-2	Protection Relay

FTR2 - Protection relay
Record sheet

RELAY DATA

Manufacturer:	ABB	Serial N°:	NA	Relay type:	A TYPE
Auxiliary supply:	24V	Location:	B300	Cubicle:	NA
Switchboard:	UP-200F3				

Current transformers

Tag	Number of	Ratio	Location

Voltage transformers

Tag	Number of	Ratio	Location

Test result (refer to manufacturer's procedure)

ANSI function	Setting	Injection	Trip value	Time delay	
				Setting	Trip value
64	300mA	300mA	240mA	FIXED	57.8ms

Testing & measurement instruments used

Type	Serial n°	Calibration certificate	Validity
FLUKE 1663	5380144	7727/24	10/07/2025

Comments:

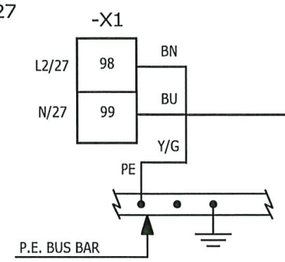
Page 1/1	Performed by	☐ WITNESS ☑ REVIEW	☐ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CPY NOT PRESENT
Name	Davide Zucconelli	Kristian Castellani	Witness waived
Date	2024-12-04	2024-12-05	2024-12-07
Signature	Digitaly signed by Davide Zucconelli 2024-12-04T12:51:49.405Z	Digitaly signed by Kristian Castellani 2024-12-05T09:33:51.911Z	Digitaly signed by Witness waived 2024-12-07T10:36:50.769Z

Section 4.2 Electrical
“As-Commissioned” interconnection diagrams

FROM	TO

DESCRIPTION: LIGHTING & SMALL POWER DB BOP
TAG NUMBER: DP-200N1

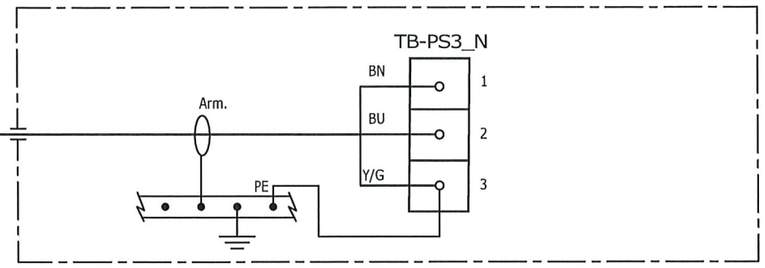
CUBICLE/CB: +03/Q27



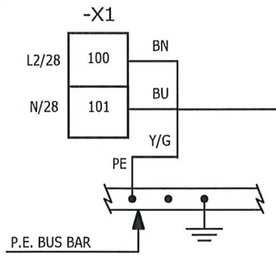
83108-CEL
3G2.5 mm²

NO MARK UP
MARCO MORETTO
20/3/25

DESCRIPTION: SYSTEM SERVER / NETWORK CABINET - AUXILIARY
TAG NUMBER: B400-NET-001



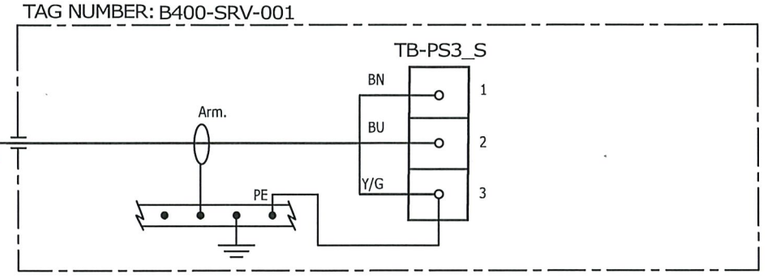
CUBICLE/CB: +03/Q28



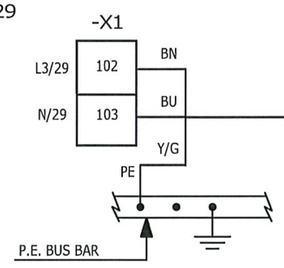
83109-CEL
3G2.5 mm²

NO MARK UP
MARCO MORETTO
20/3/25

DESCRIPTION: SERVER CABINER ITER - AUXILIARY
TAG NUMBER: B400-SRV-001



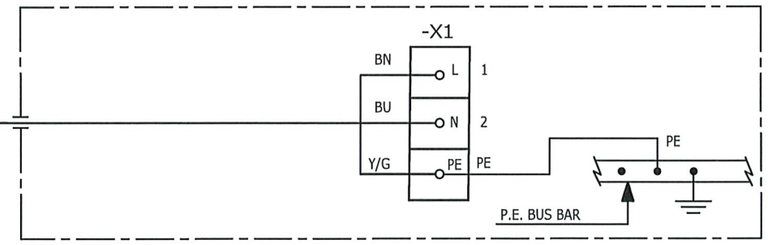
CUBICLE/CB: +03/Q29



83110-CEL
3G2.5 mm²

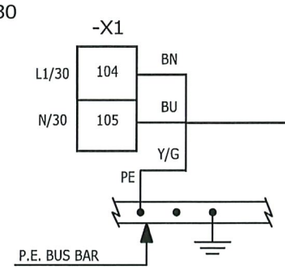
NO MARK UP
MARCO MORETTO
20/3/25

DESCRIPTION: UCP - INSTRUMENT AIR PACKAGE -A-63000 - AUXILIARY
TAG NUMBER: CP-630E1



DESCRIPTION: UCP - N2 PACKAGE - AUXILIARY
TAG NUMBER: CP-640E1 64-LP001
02

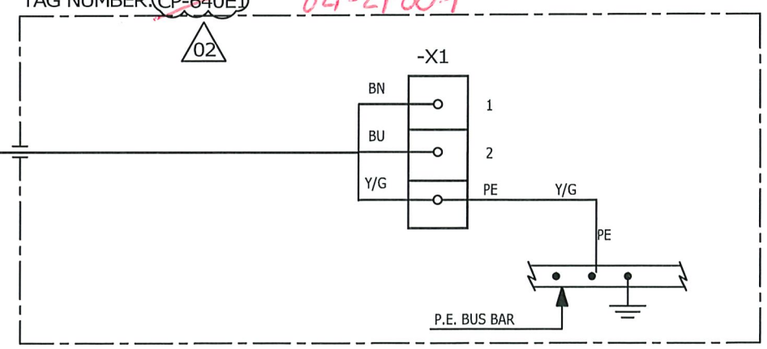
CUBICLE/CB: +03/Q30



83111-CEL
3G2.5 mm²

MARCO MORETTO
19/3/25

AS COMMISSIONED: MATRIA GIRL



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	19/11/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
LIGHTING & SMALL POWER DB BOP

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

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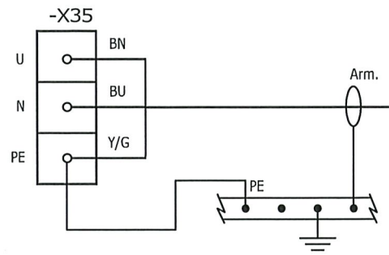
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File Name : 123A90-DDL-EL-DG-20149 Rev. 02

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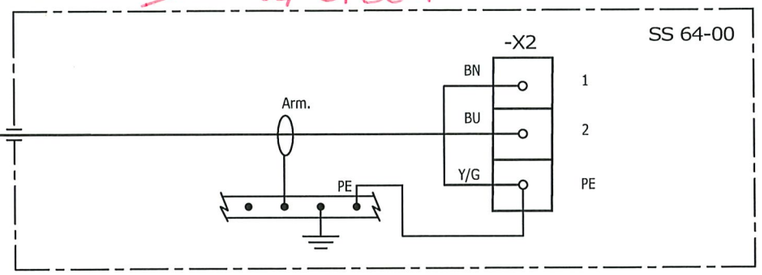
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TAG NUMBER: ~~DP-200F3~~ UP-200 F3 BY PASS

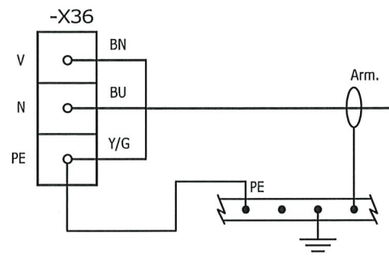
MARCO MORETTO 19/3/25



84312-CEL
3G2.5 mm²

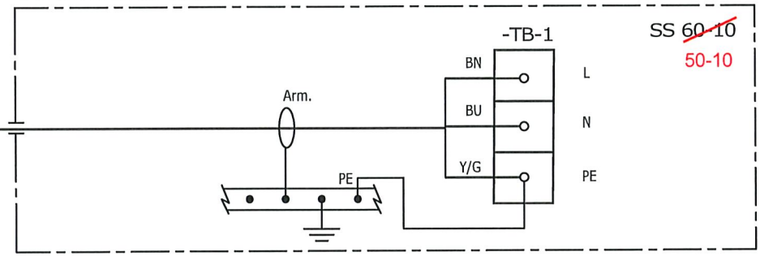
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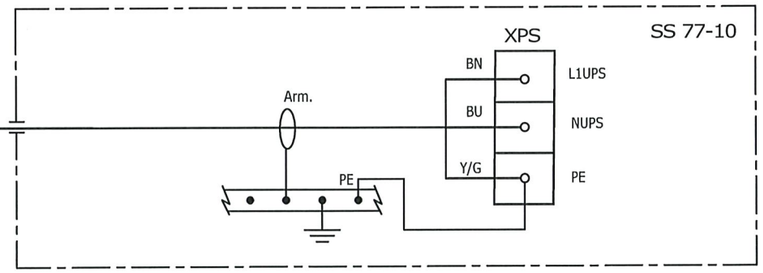


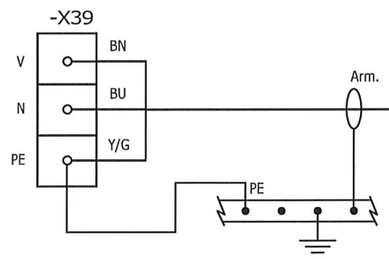
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3G2.5 mm²

DESCRIPTION: UCP - WATER PACKAGE
TAG NUMBER: JB-500F8



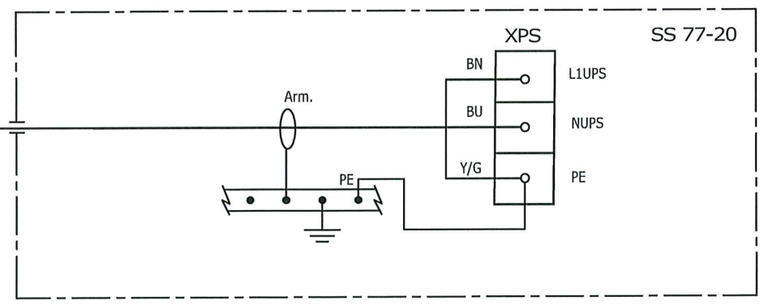
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TAG NUMBER: B100-HSB-001

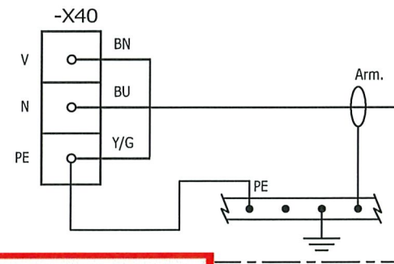




84314-CEL
3G2.5 mm²

DESCRIPTION: UCP - HVAC LV ROOM
TAG NUMBER: B200-HSB-001





84315-CEL
3G2.5 mm²

AS COMMISSIONED: MATTIA GIRTZ

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149

REV.:	DATE:	SIGNATURE:
2_F	09/01/25	G.Randi

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CROSSWIND

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REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	19/11/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
AC UPS – PAS DB DP-200F3

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	041	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20149 Rev. 02

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CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & discipline : I

Instrumental	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-XA-003	A-64000 Nitrogen PKG fault	ONSHORE	C10003766	FJ01D	100	2025-03-26	RFO 1
64-XS-001	SHUT-DOWN A-64000 Nitrogen PKG	ONSHORE	C10003767	FJ01D	100	2025-04-07	RFO 1

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ITEM	Tag	64-XA-003	: A-64000 Nitrogen PKG fault		Dwg	123A90-DDL-IN-LIS-40089	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module		
TASK	code	C10003766	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01D	Digital Loop

LOOP DATA

Loop TAG	64-XA-003			TSLD	123A90-FDL-IN-DG-40014 rev.1A		
IO Type	Input	Yes	Output	No	Energy by transmitter	No	Energy by system	Yes
Marshalling	B400-SIS-001	Terminal	06A/06B	Slot	01	Rack	03	Chanel	06

LOOP TEST

1	Check earth isolation of the loop.					OK
2	Connect loop to terminal					OK
3	Energise Loop (close loop) and record status	Normal	Yes	Alarm/trip	No	OK
4	De-Energise Loop (open loop) and record status	Normal	No	Alarm/trip	Yes	OK
5	Record Fail Safe position	Open	NA	Closed	NA	NA

LOOP SERVICE

		Action	Alarm / Control		Display	
		Trip	GA	DCS	SOE	DCS	
6	Loop energized	No		Yes		OK	OK
7	Loop not energized	Yes		Yes		OK	OK
8	Checking of line monitoring	No		No		OK	OK
9	Checking of Maintenance Inhibition	NA	NA	NA	NA	OK	NA
10	Associated safety Level / bar						
11	Associated outputs						

LOOP DOCUMENTATION

12	Loop diagram is marked up and attached to this test sheet	OK
13	Cause and effect chart is highlighted accordingly	
14	Any defect is recorded for punch list issuance	

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE	AW1/018 17140769	7715/24	10/07/2025

Comments:

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ROSETTI COM	RM COMM	
Name	Alejandro Sasia	Giandonato Delmissier	David Musgrove
Date	2025-03-18	2025-03-18	2025-03-26

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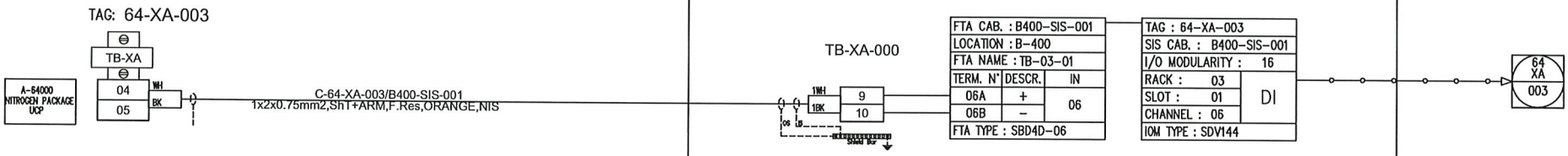
PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-18T15:54:40.070Z

PROVERLIS Digitaly signed by David Musgrove 2025-03-26T21:10:59.693Z

Signature			

DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	SAFETY INSTRUMENTED SYSTEM	OPERATOR CONSOLE



NO MARK UP
10/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

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TITLE : INSTRUMENT LOOP DIAGRAM
64-XA-003
A-64000 NITROGEN PKG FAULT

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024

A3	DRAWING NO. 123A90-DDL-IN-DG-40014	SHEET 132	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

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ITEM	Tag	64-XS-001	: SHUT-DOWN A-64000 Nitrogen PKG	Dwg	123A90-DDL-IN-LIS-40089		
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)	Module			
TASK	code	C10003767	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01D	Digital Loop

LOOP DATA

Loop TAG	64-XS-001			TSLD	123A90-FDL-IN-DG-40014 rev.1A		
IO Type	Input	No	Output	Yes	Energy by transmitter	No	Energy by system	Yes
Marshalling	B400-SIS-001	Terminal	10A/10B	Slot	05	Rack	02	Chanel	10

LOOP TEST

1	Check earth isolation of the loop.					OK
2	Connect loop to terminal					OK
3	Energise Loop (close loop) and record status	Normal	Yes	Alarm/trip	No	OK
4	De-Energise Loop (open loop) and record status	Normal	No	Alarm/trip	Yes	OK
5	Record Fail Safe position	Open	NA	Closed	NA	NA

LOOP SERVICE

		Action	Alarm / Control		Display	
		Trip	GA	DCS	SOE	DCS	
6	Loop energized	No		Yes		OK	OK
7	Loop not energized	Yes		Yes		OK	OK
8	Checking of line monitoring	No		No		OK	OK
9	Checking of Maintenance Inhibition	NA	NA	NA	NA	NA	NA
10	Associated safety Level / bar						
11	Associated outputs						

LOOP DOCUMENTATION

12	Loop diagram is marked up and attached to this test sheet	OK
13	Cause and effect chart is highlighted accordingly	
14	Any defect is recorded for punch list issuance	

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE	AW1/018 17140769	7715/24	10/07/2025

Comments:

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ROSETTI COM	RM COMM	CW
Name	Alejandro Sasia	Giandonato Delmissier	David Musgrove
Date	2025-03-18	2025-03-18	2025-04-07

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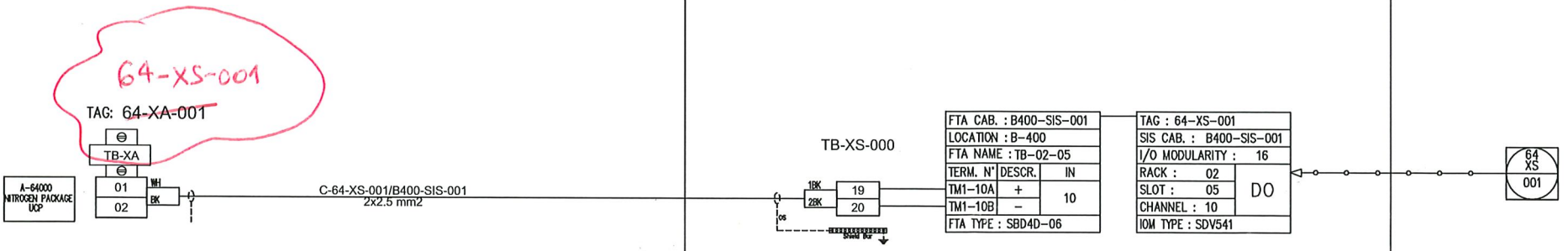
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Signature			

DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	SAFETY INSTRUMENTED SYSTEM	OPERATOR CONSOLE



L Cavagnaro
10/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

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TITLE : INSTRUMENT LOOP DIAGRAM
64–XS–001
SHUT–DOWN A–64000 NITROGEN PKG

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024
A3	DRAWING NO. 123A90–DDL–IN–DG–40014	SHEET 147	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

Section 4.4 Instrumentation “As-Commissioned” interconnection diagrams

NOT APPLICABLE

Section 4.5 Telecommunication functional test sheets index

NOT APPLICABLE

Section 4.6 Telecommunication
“As-Commissioned” I.C.D. / TSLD's

NOT APPLICABLE

Section 5 SITE / OPERATIONAL

Section 5.1 Operational Test Procedure

Section 5.2 Operational Test Certificates

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM

Miscellaneous	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
123A90-PML-COM-PRO-03055	OTP - Nitrogen Generator Package	ONSHORE	C10004616	5300	100	2025-04-14	-
		OFFSHORE	C10004940	5300	0	-	-

ITEM	Tag	123A90-PML-COM-PRO-03055 : OTP - Nitrogen Generator Package				Dwg	123A90-PML-COM-PRO-03055
	S/Sys	64-00 : Nitrogen Generator Package (U-64000)				Module	
TASK	code	C10004616		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	COMM	Activity OTS	Discipline	Miscellaneous Form 5300		Operational Test Procedure

OTP - OPERATIONAL TEST PROCEDURE

Attached procedure number: 123A90-PML-COM-PRO-03055

Associated subsystems: 64-00

Completion date: 18-03-2025

Comments/Remarks:

	Performed by	☐ WITNESS ☑ REVIEW	☑ WITNESS ☐ REVIEW
	COMMISSIONING DISCIPLINE LEAD	RM COMMISSIONING MANAGER	CPY COMMISSIONING MANAGER
Name	Giandonato Delmissier	Anthony Iveson	David Musgrove
Date	2025-04-08	2025-04-08	2025-04-14
Signature	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-04-08T07:57:05.372Z	PROVERLIS Digitaly signed by Anthony Iveson 2025-04-08T16:32:49.392Z	PROVERLIS Digitaly signed by David Musgrove 2025-04-14T14:48:38.268Z

Base Load Power Hub (BLPH)

OTP – Nitrogen Generation Package

Document Number: 123A90-PML-COM-PRO-03055

Document Class: 2

01	19/11/2024	Accepted for Construction (AFC)	G-DEL MISSIER	A. IVESON	M.BRUNELLI
00	20/09/2024	Issue for Review (IFR)	G-DEL MISSIER	A. IVESON	M.BRUNELLI
Rev.	Date	Description	Prepared	Reviewed	Approved

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Rev.	Description
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01	Accepted for Construction (AFC)

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No.	Description
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1. INTRODUCTION

1.1 Project Overview

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.2 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.



***Figure 1** - HOLLANDSE KUST NOORD WIND PARK Location Map*



***Figure 2** - Wind Park Details*

The wind farm will consist of No. 69 x 11.5MW wind turbine Generations each to be installed on a dedicated monopile structure. A 70th monopile is located on coordinates E 590719.1, N 5841602.3 and is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.3 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine Generation and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

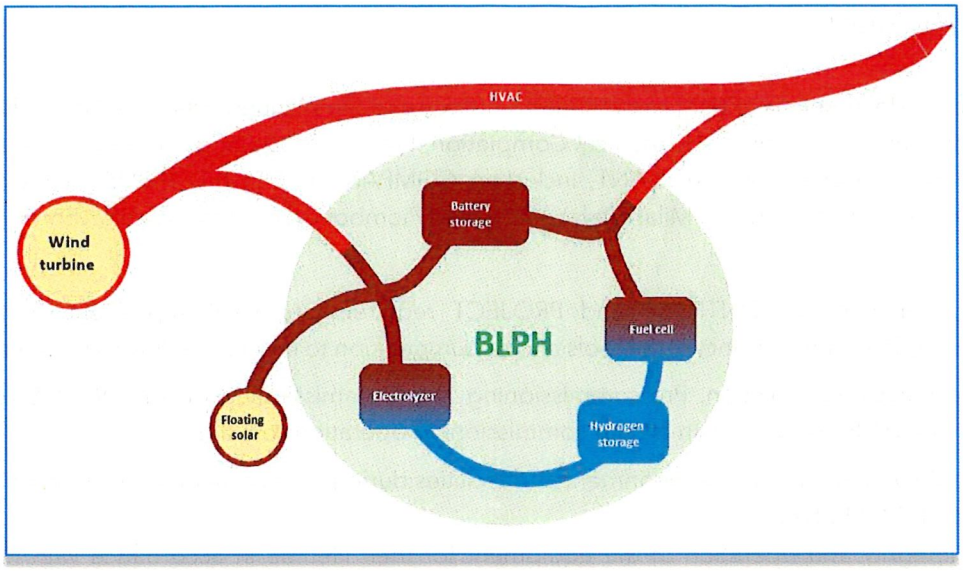


Figure 3 *– BLPH Concept*

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH is to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

2. DOCUMENT SCOPE

The purpose of this document is to describe the methodology and the planned actions to be implemented for the preparation and execution of Mechanical Completion, Pre-commissioning, Commissioning & Start-Up activities to be performed on the PLANT, including COMPANY PROVIDED ITEMS, at the onshore premises of CONTRACTOR located in Milan (Italy) offices and Piomboni yard - Marina di Ravenna (Italy).

CONTRACTOR, pursuant to CONTRACT and PROJECT requirements, shall implement an exacting methodology, complete with a distinct set of tools and documentation to meet the following key objectives:

Perform the Mechanical Completion, Pre-commissioning and Commissioning on the WORKSITE to the maximum extent possible so as to minimise the commissioning operations on SITE;

- Ensure safety for the people, environment and facilities during the execution of the Commissioning activities at WORKSITE,
- Ensure integrity and operation of the equipment for their lifetime in accordance with PROJECT design and specifications,
- Plan a smooth and flawless execution of the Commissioning activities avoiding unforeseen downtimes and delays.

Achievement of the above objectives shall be obtained by:

- Defining and prioritizing a predetermined sequence of the Mechanical Completion checks, Pre-commissioning and Commissioning tests and tasks,
- Checking, testing systematically and exhaustively all the components of PLANT in compliance with PROJECT approved procedures and CONTRACT terms, managed by a dedicated team of inspectors, technicians and field engineers who will perform the Mechanical Completion, Pre-commissioning, Commissioning and Start-Up tasks and subsequently record the results via discipline specific check, inspection and test sheets (ITR's) & where applicable via discrete Operational Test Procedures (OTP's).
- Ensuring full traceability of the performed checks and tests, through implementation of a dedicated Project Completions Management System (CMS) containing individual references to all tagged items.

3. OTP SUMMARY

3.1 Test Objective

The operating test of the Nitrogen Generation Package system is executed to ensure that the system is started up in a safe and controlled manner and to verify the correct operation according to the project requirements.

The scope of this document is to explain the principal procedure for inspection and test the Nitrogen Generation Package.

3.2 System Boundary Limits

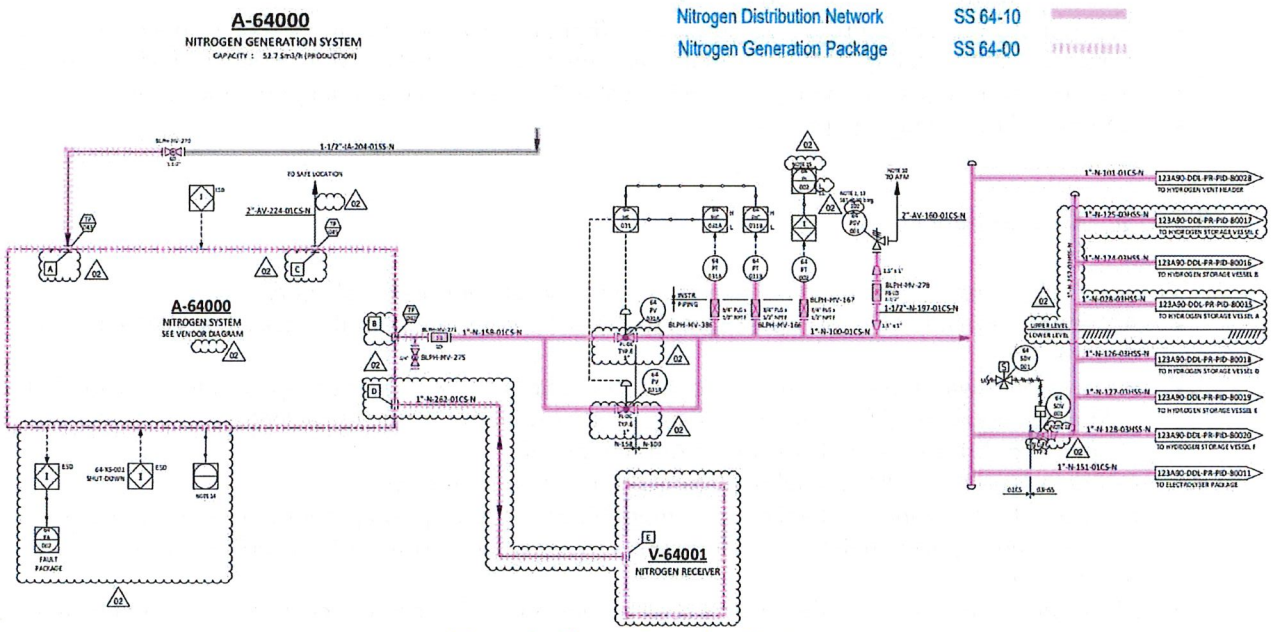


Figure 4 – System Boundary Limits

3.3 Test and System Description

This document is related to the following system:

- 64-00: Nitrogen Generation Package

All equipment must be properly installed in according with vendor document 1724000437-PR-PID-00018. The limits of the system are defined in document 1724000437-PR-PID-00018.

These parts of the system shall be tested on worksite and on site.

The Nitrogen Generation Package data are the following:

- Max Operating Pressure 12barg
- Operating Pressure 9 barg
- Operating Temperature range -10 / +80°C

Main components of the Package:

- C-64001A/B PSA (Pressure Swing Absorption) TOWERS
- S-64001A/B PSA AFTER - FILTERS
- V-64001 N2 RECEIVER

3.4 Safety Device

- Appropriate Personnel Protective Equipment (PPE) and safety equipment e.g., safety shoes, hand gloves, helmet, earplugs etc. are available and must be used in line with the site requirements.
- Warning safety signs are to be posted with restricted access to essential personnel only.
- Adequate firefighting equipment.

3.5 HSE Management

All necessary safety precautions must be taken to avoid any risk for personnel injury.

- All personnel involved in this operational test shall be competent for the tasks they will be required to undertake
- Place safety / warning signs and segregate the entire area with barrier tapes (safety barriers) of a colour distinguished (blue and white) from those used for construction activities
- Restrict access into area only to authorized personnel
- Conduct "Toolbox Talk" with all personnel prior to starting test work
- Appropriate Personnel Protective Equipment (PPE) and safety equipment e.g. safety shoes, safety glasses, hand gloves, helmet, earplugs etc. are available and must be used in line with the site requirements
- All activities carried out on the project shall be performed in accordance with the "Permit to Work" system Doc. PRO-HSE-23
- Electrical and mechanical isolations are to be assured as per Doc. PRO-HSE-08 and "Commissioning and start-up operation" procedure.
- Observe and enforce all international codes and regulations to safeguard personnel, plant and environment.
- Ensure that the working area is clean, tidy, well illuminated and that access and escape routes are free from obstructions.

Before starting work on any of the activities in this OTP it is the responsibility of the persons performing the work to:

- Familiarize themselves with the plant/equipment to be worked on
- Ensure they are aware of all other work activities that are taking place, or due to take place
- If necessary, re-plan any situation/activity
- Ensure proper communications between parties involved in the execution of the OTP
- Read the relevant Vendor documentation for the equipment covered by this OTP and observe any special requirements and limitations recommended or imposed by Vendor

- Verify that all personnel involved in the implementation of this procedure are familiar with its content as well as the associated safety requirements (Toolbox Talk)

3.6 Acceptance Criteria

Before Power ON:
Visual inspection and verification are a crucial step to identify any obvious issues with the installation, such as loose connections, missing components, or damage to the equipment.

Crosschecking the installation with engineering documentation ensures that the installation is done correctly and according to the manufacturer's guidelines. These steps can help identify any missing or incorrect components and connections.

After Power ON:
Turning on the units is an essential step in verifying the correct operation of the equipment. Observing that all wiring has been done correctly and in the event of an alarm will help us detect possible errors or malfunctions.

Phase 1: Preparation and Package Operations Tests

The Local Control Panel 64-LP-001 will be powered through power supply from AC 35KVA UPS (UP-200F3) 230V MCB Q42, Subsystem SS 84-10 and Auxiliary Power supply from Distribution Board DP-200N1 230V MCB Q30, Subsystem SS 83-20.

Phase 1 will prove correct:

- Verify the CPU & additional components there are in power on and the instrumentation on the Local Control Panel are in service.
- Loop check and C&E the Nitrogen Generation Package is completed.
- For the functional test of the Nitrogen Generation Package is required the SS 63-00 Instrument Air Package in service.

Phase 2: Validation of Communication and I/O

Remote control, monitoring and safety systems will be managed as follows:

- Profinet communication to Network Cabinet B-400-NET-00 and PCS System.
- Hardwired connections to SIS System.

Phase 2 will validate the following:

- Verify the Profinet Communication from PCS to Local Control Panel 64-LP-001 is operational.
- Verify loop check from SIS to Local Control Panel 64-LP-001 with C&E test.

Performing the steps in this OTP as per engineering documents is crucial to ensure that the equipment is operating correctly and that it meets the desired design specifications. Observing the results will help identify any issues that may arise during the operation.

Overall, following these steps shall provide a comprehensive and effective way to verify the equipment installation and functionality.

4. DOCUMENTS REFERENCES AND ABBREVIATIONS

4.1 Reference Documents

4.1.1 Company Documents and Standards

Document ID		Document Title
[1]	K559-2254-CG-PHI-001	Commissioning Philosophy
[2]	K559-2254-EL-ELL-002	BLPH Electrical Load List (CCS MODE 2(A) 'HOT STANDBY')
[3]	K559-2254-EL-ELL-003	BLPH Electrical Load List (CCS MODE 3(C) 'DISCHARGING')
[4]	K559-2254-EL-ELL-004	BLPH Electrical Load List (CCS MODE 4(A) 'COLD STANDBY')
[5]	K559-2254-EL-ELL-005	BLPH Electrical Load List (CCS MODE 4A(D) 'EMERGENCY MODE (Island))
[6]	K559-2254-EL-ELL-006	BLPH Electrical Load List (CCS MODE 5(D) 'POWER OUT (Blackout))
[7]	K559-2254-PR-PHI-001	Main process control philosophy

***Table 1**: Company documents And Standards*

These documents were produced in FEED and made available to RM for info. They have subsequently been superseded by Detailed Design, similar or same deliverables.

4.1.2 Project Documents

[1]	123A90-PML-PM-LIS-01001	Master Document Register
[2]	123A90-PML-COM-PL-03002	Mechanical Completion & Commissioning Execution Plan
[3]	123A90-PML-COM-LIS-03011	System/Sub-Systems List
[4]	123A90-PML-COM-LIS-03012	System/Sub-System Boundary Limit Diagrams
[5]	123A90-PML-COM-PRO-03007	Commissioning Strategy
[6]	123A90-PML-COM-PRO-03038	Leak Test Procedure
[7]	123A90-PML-COM-SP-03032	Pre-Commissioning Functional Test Sheet Template Collection (ITR-B)
[8]	123A90-PML-COM-SP-03014	Commissioning TDS - Temporary Equipment & Facilities
[9]	123A90-PML-COM-PRO-03019	OTP – Onshore Performance & Integrated Test Procedure

[10]	123A90-PML-COM-LIS-03034	Inhibit-Override Register
[11]	123A90-PML-COM-LIS-03035	PSV Calibration Register
[12]	123A90-PML-COM-PRO-03036	OTP - Black Start Procedure
[13]	123A90-PML-COM-LIS-03024	Commissioning Spare Parts and Consumables List
[14]	123A90-PML-COM-PRO-03022	Initial offshore START-UP procedures
[15]	123A90-PML-COM-RE-03001	Commissioning Final Dossier (ITR-B)
[16]	123A90-PML-QHSE-PRO-00116	Flushing and Cleaning Procedures
[17]	123A90-PML-QHSE-SP-00118	Mechanical Completion Check Sheet Template Collection (ITR-A)
[18]	123A90-PML-QHSE-RE-00115	Mechanical Completion Final Dossier (ITR-A)
[19]	123A90-PML-QHSE-PRO-00117	Punch list Management Procedure
[20]	123A90- 123A90-PML-COM-PRO-03041	OTP - Hydrogen Storage & Venting Systems
[21]	123A90- 123A90-PML-COM-PRO-03042	OTP - Sea Water Intake & Fresh Water Treatment Systems
[22]	123A90- 123A90-PML-COM-PRO-03043	OTP - Instrument Air System
[23]	123A90- 123A90-PML-COM-PRO-03055	OTP - Nitrogen Generation System
[24]	123A90- 123A90-PML-COM-PRO-03045	OTP - HV Switchgear & 66 kV Transformer Systems
[25]	123A90- 123A90-PML-COM-PRO-03046	OTP - 6.6 kV Switchgear & Transformer Systems
[26]	123A90- 123A90-PML-COM-PRO-03047	OTP - LV Switch Boards & LV Distribution Board Systems
[27]	123A90- 123A90-PML-COM-PRO-03048	OTP - Lighting & Small Power Systems
[28]	123A90- 123A90-PML-COM-PRO-03049	OTP - Electrical Heat Tracing Systems
[29]	123A90- 123A90-PML-COM-PRO-03050	OTP - DC UPS System 10KVA UP-200F1
[30]	123A90- 123A90-PML-COM-PRO-03051	OTP - Data Network Systems
[31]	123A90- 123A90-PML-COM-PRO-03053	OTP - Navaid System
[32]	123A90- 123A90-PML-COM-PRO-03054	OTP - F&G and ESD C&E Logics
[33]	123A90-PML-COM-SP-03057	Worksite WEF (Work Execution Flow Scheme)
[34]	123A90-PML-COM-SP-03058	Site WEF (Work Execution Flow Scheme)
[35]	123A90-PML-QHSE-PL-00001	Project HSE Plan
[36]	123A90-PML-QHSE-PRO-00120	Proverlis Management Procedure
[37]	123A90-PML-COM-PRO-03056	OTP – Document Template

[38]	123A90-PML-COM-PRO-03059	OTP - AC UPS System 35kVA UP-200F3
[39]	123A90-PML-COM-PRO-03060	OTP - AC UPS System 15kVA UP-200F4
[40]	123A90-PML-COM-PRO-03061	OTP – Electrolyser (CPI)
[41]	123A90-PML-COM-PRO-03062	OTP – Fuel Cell (CPI)
[42]	123A90-PML-COM-PRO-03063	OTP – BESS (CPI)

***Table 2**: Project Documents*

4.1.3 Vendor Documents

Document ID	Document Title
[1] 1724000437-MD-LIS-00001	SMIR - SUPPLIER MASTER INFORMATION REGISTER
[2]1724000437-QC-ITP-00002	INSPECTION TEST PLAN (ITP)
[3] 1724000437-MAC-SP-00003	SYSTEM/PACKAGE FUNCTIONAL DESCRIPTION
[4] 1724000437-MAC-CE-00004	PACKAGE CAUSE EFFECT MATRIX /LOGIC DIAGRAMS
[5] 1724000437-MAC-DA-00005	CERTIFIED PACKAGE GENERAL ARRANGEMENT AND DIMENSIONAL OUTLINE DRAWINGS (INCLUDING: NAMEPLATE, BASEFRAME, FOUNDATION LOADS, NOZZLES LOADS, NOZZLES LIST, BATTERY LIMITS, CoG)
[6] 1724000437-MAC-DD-00006	EQUIPMENT SECTIONAL DRAWING WITH BILL OF MATERIAL
[7] 1724000437-MAC-DD-00007	PACKAGE 3D MODEL DRAWING AND ELECTRONIC FILE
[8] 1724000437-MAC-DD-00008	PACKAGE PIPING SCHEMATICS AND BILL OF MATERIALS
[9] 1724000437-MAC-DG-00009	PACKAGE WIRING DIAGRAM INCLUDING LAYOUT OF PACKAGE CONTROL PANEL
[10] 1724000437-ST-RE-00010	PACKAGE STRUCTURAL CALCULATION REPORT INCLUDING FIXING POINTS and LIFTING POINTS
[11] 1724000437-MAC-DS-00011	EQUIPMENT DATA SHEETS INCLUDING MOTORS, AIR COMPRESSOR, DRYERS, ETC.
[12] 1724000437-MAC-DS-00012	PACKAGE EQUIPMENT NOISE DATA SHEETS INCLUDING AIR COMPRESSOR, DRYERS, ETC.
[13] 1724000437-MAC-DS-00013	INSTRUMENT DATA SHEETS
[14] 1724000437-EL-LIS-00014	ELECTRICAL LOAD LIST
[15] 1724000437-IN-LIS-00015	I/O LIST
[16] 1724000437-IN-LIS-00016	INSTRUMLIST WITH SET POINTS/CONTROL/ALARM/SHUTDOWN
[17] 1724000437-EL-LIS-00017	CABLES LIST
[18] 1724000437-PR-PID-00018	PACKAGE P&ID
[19] 1724000437-NDT-PRO-00019	NDT PROCEDURES INCLUDING PERSONNEL QUALIFICATIONS

Document ID	Document Title
[20] 1724000437-WEL-LIS-00020	WELDING BOOK (WPS, PQR, WELDERS QUALIFICATIONS, WELDING MAPS, ETC.)
[21] 1724000437-MAT-PRO-00021	PAINTING PROCEDURE
[22] 1724000437-QC-PRO-00022	HYDROSTATIC AND OR PNEUMATIC TEST PROCEDURE
[23] 1724000437-QC-PRO-00023	FAT (FACTORY ACCEPTANCE TEST) PROCEDURE
[24] 1724000437-QC-DB-00024	MANUFACTURERS RECORD BOOK (FINAL DOSSIER)
[25] 1724000437-QC-LIS-00025	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX
[26] 1724000437-MAC-LIS-00026	ATEX REGISTER
[27] 1724000437-MAC-LIS-00027	ATEX DOCUMENTATION
[28] 1724000437-COM-LIS-00028	SPARE PARTS LIST (2 YEARS AND COMMISSIONING & START-UP)
[29] 1724000437-MAC-MAN-00029	INSTALLATION, OPERATING AND MAINTENANCE MANUAL (INCLUDING SITE ERECTION INSTRUCTIONS AND PROCEDURES)
[30] 1724000437-QC-PRO-00030	HANDLING, PRESERVATION AND PACKAGING PROCEDURE

Table 3: *Vendor Documents*

4.2 Acronyms and Abbreviations

Acronyms and Abbreviations	Description
AOC	Achievement of Commissioning
BLPH	Base Load Power Hub
BESS	Battery Energy Storage System
C&E	Cause & Effects
CCR	Centra Control Room
CCS	Central Control System
CCTV	Closed Circuit Television
CMS	Completions Management System
CPI	Company Provided Item
CSU	Commissioning & Start-Up
E&I	Electrical & Instrumentation
EMCS	Electrical Monitoring & Control System
ESD	Emergency Shut Down
F&G	Fire & Gas
FAT	Factory Acceptance Test
FT	Functional Test

Acronyms and Abbreviations	Description
GALT	Gross Air Leak Test
HAZID	Hazard Identification Studies
HAZOP	Hazard and Operability Studies
HKN	Hollandse Kust Noord
HSE	Health, Safety, & Environment
HSSE	Health, Safety, Security & Environment
HV	High Voltage
HVAC	Heating, Ventilation and Air Conditioning
ICSS	Integrated Control and Safety System
ITR	Inspection & Test Record
LC	Locked Closed
LO	Locked Open
LOTO	Lock-Out / Tag-Out
LV	Low Voltage
OCC	Onshore Commissioning Complete
OEM	Original Equipment Manufacturer
OICT	Onshore Utility Commissioning Complete
OMAR	Operating Modes Assurance Review
OR	Operations Readiness
ORR	Operations Readiness Review
OTP	Operational Test Procedure (Commissioning)
PACO	Process Automation, Control and Optimisation
PCS	Process Control System
PC&C	Pre-Commissioning & Commissioning
PID (P&ID)	Piping and Instrumentation Diagram
PSV	Pressure Safety Valve
PSSR	Pre Start-up Safety Review
PTW	Permit to Work
PV	PothoVoltaic
PVP	Piping and Vessels Preparation
RFC	Ready for Commissioning
RFO	Ready for Operation
RFSA	Ready For Sail Away
RFSU	Ready For Start-Up

Acronyms and Abbreviations	Description
SAT	Site Acceptance test
SECE	Safety Environmental Critical Element
SIF	Safety Instrumentation Function
SIL	Safety Integrity Level
SIMOPS	Simultaneous Operations & Maintenance
SIS	Safety Instrumented System
SLD	Single Line Diagram
SMIR	Supplier Master Information Register
SoF	Statement of Fitness
TIV	Technical Integrity verification
UPS	Uninterruptible Power Supply
VHF	Very High Frequency
VooW	Van Oord Offshore Wind
VSAT	Very Small Aperture Terminal
VSAT	Very Small Aperture Terminal
WEF	Work Execution Flow Scheme

Table 4: *Acronyms and abbreviations*

5. OTP TEST REQUIREMENTS – ONSHORE WORKSITE

This chapter refer to the activities on the Contractor worksite (construction yard).

5.1 PLANNING AND MANPOWER

5.1.1 Planned tasks with estimated manpower

Estimated manpower for the entire duration of the Test:

- 1 MECH commissioning superintendent from Contractor
- 1 E&I commissioning supervisor from Contractor
- 1 MECH commissioning technicians from Contractor
- 1 Vendor technician
- 1 Operator workstation field engineer (phase 2)

5.1.2 Test Duration Estimate

The test duration should be as follows:

- 1 day PHASE 1
- 1 day PHASE 2

If necessary, the estimated time can be extended in order to complete all required pre-commissioning and commissioning activities.

5.1.3 Vendor Assistance

Vendor COES SRL will provide a qualified specialist to assist with all aspects of commissioning of the Nitrogen Generation Package.

5.1.4 Items Postponed to C&E OTP

- Not Applicable

5.1.5 Items HARDWIRED to be TESTED

Signal tag:	Signal description:
64-PT-051	PSA inlet pressure
64-PT-052 64-PT-053	PSA tower pressure
64-PT-057	PSA outlet pressure
64-PT-059	N2 receiver pressure
64-PDIT-056	Post-filter pressure drop
64-AT-051	Outlet O2 content
64-XY-051 64-XY-052 64-XY-053 64-XY-054 64-XY-055 64-XY-056 64-XY-057 64-XY-058 64-XY-059 64-XY-060 64-XY-061	Pneumatic on-off valves actuation
64-XV-051 64-XV-052 64-XV-053 64-XV-054 64-XV-055 64-XV-056 64-XV-057	PSA towers change-over and regeneration
64-XV-058	N2 discharge
64-XV-059	N2 discharge
64-XV-060 64-XV-061	Post-filters change-over

Table 5: Items HARDWIRED to be Tested

5.1.6 Items HARDWIRED & PROFINET to be TESTED

Signal tag:	Signal description:
64-XA-003	A-64000 Nitrogen PKG fault
64-XS-001	SHUT-DOWN A-64000 Nitrogen PKG
PROFINET	Refer to parameter list Appendix 7.6

Table 6: *Items HARDWIRED & PROFINET to be Tested*

5.2 OTP TEST REQUIREMENTS – ONSHORE WORKSITE

5.2.1 Pre-Commissioning Achievement

Prior the commissioning operation starts, the relevant pre-commissioning ITRs should be fully signed.

5.2.2 Commissioning Achievement

The commissioning achievement will be the successful operation, functionality of Nitrogen Generation Package, installed and put in operation during the WORKSITE phase:

- 64-00: Nitrogen Generation System

5.2.3 Status of Required Associated Subsystems

PHASE 1: Preparation and Package Operations Tests
Subsystems required RFC for Commissioning of Nitrogen Generation Package:

- SS 83-20 Distribution Board DP-200N1 230V
- SS 84-10 AC 35KVA UPS (UP-200F3) 230V
- SS 88-00 Earthing System
- SS 63-00 Instrument Air Package

PHASE 2: Validation of Communication and I/O
Subsystems required RFC for Commissioning of Nitrogen Generation Package:

- SS 83-20 Distribution Board DP-200N1 230V
- SS 84-10 AC 35KVA UPS (UP-200F3) 230V
- SS 88-00 Earthing System
- SS 63-00 Instrument Air Package
- SS 86-00 Server Cabinet
- SS 86-00 Network Cabinet
- SS 79-00 SIS (ESD)
- SS 87-10 PCS System Cabinet

5.2.4 Special Tools & Test Equipment

The following special tool and Test Equipment are required:

- Continuity tester (Multimeter)
- Toolbox
- Hart Communicator
- Portable radios (2 pcs + 1 per Technical Room)

TESTING & MEASUREMENT INSTRUMENT USED			
Type	Serial N.	Calibration certificate	Validity
FLUKE 175	AW1/018 (17140769)	7715 / 24	10/07/2025

5.2.5 Consumable List

- Not applicable

5.2.6 Commissioning Spare Parts

- See reference doc. N. 1724000437-COM-LIS-00028

5.2.7 Temporary Facilities

- Not applicable

5.3 OTP DESCRIPTION – ONSHORE WORKSITE

5.3.1 OTP Test Preparation

Step	Description	Result	Verified by	Date
1.	System Ready for Commissioning Certificate (RFC) is issued and approved.	OK		18-03-2025
2.	No Mechanical Completion or Pre-commissioning punch list 'A' items are outstanding against the system to be commissioned.	OK		18-03-2025
3.	Factory Acceptance Test Procedure has been carried out successfully (refer to Doc. 1724000437-QC-PRO-00023).	OK		18-03-2025
4.	All personnel involved in the implementation of this procedure are familiar with its content as well as with associated safety requirements (Toolbox Talk to be conducted before initiation of activities).	OK		18-03-2025
5.	A final walkdown of the system has been completed, to ensure that the system and the area are ready for commissioning.	OK		18-03-2025
6.	Check that areas are free for work and escape routes are clear of any obstructions.	OK		18-03-2025
7.	All safety barriers and warning signs have been installed.	OK		18-03-2025

8.	Ensure that proper communications have been established between parties involved in the implementation of the procedure.	OK		18-03-2025
9.	Verify availability of test equipment and consumables as per section 5.2.4.	OK		18-03-2025
10.	System(s) isolations as per LOTO procedure defined within HSSE Permits to Work and Commissioning procedures duly prepared and approved	OK		18-03-2025
11.	All yard personnel have been duly notified by dedicated LUN (Livening Up Notification) that the system(s) is ready for commissioning.	OK		18-03-2025

5.3.2 Electrical Preparation

Step	Description	Result	Verified by	Date
1.	Check related punch list 'B' items and confirm acceptability for start of commissioning activities.	OK		18-03-2025
2.	Verify that all relevant associated systems / subsystems are completed.	OK		18-03-2025
3.	Verify and confirm the completion of the final connections between the UPS (UP-200F3) MCB QF35 and the Local Control Panel 64-LP-001.	OK		18-03-2025
4.	Verify and confirm the completion of the final connections between the Distribution Board DP-200N1MCB Q30 and the Local Control Panel 64-LP-001.	OK		18-03-2025

5.3.3 Mechanical Preparation

Step	Description	Result	Verified by	Date
1.	Check the correct flow direction of the valves	OK		18-03-2025

5.3.4 Instrument Preparation

Step	Description	Result	Verified by	Date
1.	Check related punch list 'B' items and confirm acceptability for start of commissioning activities.	OK		18-03-2025
2.	Verify that all relevant associated systems / subsystems are ready.	OK		18-03-2025

3.	Check Inhibit and Override register has been prepared and validated.			
4.	Verify that relevant equipment/ components are available and in operation for start of commissioning activities.			
5.	Verify availability of test equipment as per section 5.2.4.			

5.3.5 Piping Preparation

Step	Description	Result	Verified by	Date
1.	Verify the completion of piping in conformity with system battery limit.			

5.3.6 Additional Discipline Preparation

- Not applicable

5.4 OTP TEST STEPS – ONSHORE WORKSITE (PHASE 1 & PHASE 2)

In the following steps the functionality of the Nitrogen generation Package shall be tested:
SS 64-00: Nitrogen Generation Package.

5.4.1 Test Preparation

Need to Verify:

- SS 83-20 Distribution Board DP-200N1 230V is available.
- SS 84-10 AC 35KVA UPS (UP-200F3) 230V is available.
- SS 86-00 Server Cabinet is available.
- SS 86-00 Network Cabinet is available.
- SS 79-00 SIS (ESD) is available.
- SS 87-10 PCS System Cabinet is available.
- SS 63-00 Instrument Air Package is available.

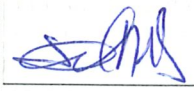
All systems and subsystems involved in this procedure must be ready for commissioning and available.

5.4.2 Test Steps PHASE 1: Preparation and Package Operations Tests

Step	Description	Result	Verified by	Date
Energization of Nitrogen Generation Package				
PHASE1: Preparation and Package Operations Tests				
Verify related ITR-B's for System 64-00 are completed.				

Step	Description	Result	Verified by	Date
1	Verify that all manual valves are aligned with the process as per vendor document 1723000437-PR-PDI-00018.	OK		18-03-2025
2	Check and confirm that the MCB QF35 from UPS (UP-200F3) and Distribution Board DP-200N1 MCB Q30 230V are ready for power on.	OK		18-03-2025
3	Check with reference vendor document 1724000437-MAC-DG-00009 sheet 21; 22 the following protection devices are open: 20QF1 and 21QF1.	OK		18-03-2025
4	Confirmed the above we can proceed with energization of the Local Control Panel 64-LP-001.	OK		18-03-2025
5	Close the MCB QF35 from UPS (UP-200F3) and with reference vendor doc. 1724000437-MAC-DG-00009 sheet 22 verify that power supply 230V is present on the terminal strip X2:1-2 Voltage 230 V.	OK		18-03-2025
6	Close the MCB Q30 from Distribution Board DP-200N1and with reference vendor doc. 1724000437-MAC-DG-00009 sheet 21 verify that power supply 230V is present on the terminal strip X1:1-2 Voltage 230 V.	OK		18-03-2025
7	Confirmed the steps 4 and 5 let's procced with energization of the CPU1, CPU2, I/O RACK SCALANCE and PN/PN COUPLER. with reference vendor doc. 1724000437-MAC-DG-00009 sheet 44; 45; 60.	OK		18-03-2025
8	Check that there are no alarms present and that all instrumentation on the Nitrogen Generation Package are powered.	OK		18-03-2025
9	With reference Vendor Doc 1724000437-MAC-DG-00009 sheet 20 verify the correct functionality: internal light, anticondensation resistor and service socket.	OK		18-03-2025
10	Verify loop check and alarm setting with reference vendor doc. 172400437-IN-LIS-00016, see sheet 4.	OK		18-03-2025

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Step	Description	Result	Verified by	Date
11	Confirmed the steps from 1 to 9 let's proceed with start in local mode from Local Control Panel 64-LP-001.	OK		18.03.2025
12	Before starting the sequence in local mode verify: 1. Instrument Air Package SS: 63-00 is running with network pressurized. 2. Front LCP 64-LP-001: • Lamp 230V SERVICE 64-XL-001 is on • Lamp 230V UPS 64-XL-002 is on • Lamp 24V 64-XL-004 is on • Lamp ALARM 64-XA-001 is off	OK		18.03.2025
13	Rotate the selector 64-HS-004 in local mode and start pushbutton 64-HS-001. Verify in the front LCP the running status lamp 64-XL-003 is on, (the sequence is starting). Verify the start sequence in local mode with vendor document 172400437-MAC-CE-0004.	OK		18.03.2025
14	The four phases of the operational cycle are listed below: PHASE 1: Tower C-64001A Generation - Tower C-64001B Depressurization. PHASE2: Tower C-64001A Equalization - Tower C-64001B Equalization. PHASE 3: Tower C-64001A Depressurization - Tower C-64001B Generation. PHASE 4: Tower C-64001A Equalization - Tower C-64001B Equalization. Verify the description phases with vendor document 1723000437-MAC-SP-00003 sheet 13;14.	OK		18.03.2025
15	During the testing verify the: PSA inlet pressure 64-PT-051 is > 8 barg. • ..... barg. C-64001A 64-PT-052 is > 8 barg. • ..... barg. C-64001B 64-PT-053 is > 8 barg. • ..... barg.	OK		18.03.2025

Step	Description	Result	Verified by	Date
	Oxygen analyser 64-AT-051 (If measured oxygen concentration is higher than the set value 3%, automatically the valve 64-XV-058 is closed and the valve 64-XV-059 is open, to vent the out of spec nitrogen to the atmosphere. Differential post filter 64-PDIT-056 (In case of high pressure drop 0,5 bar, the after-filter in stand-by condition shall be put on-line). PSA tower outlet pressure 64-PT-057 is > 7.5 barg. • ..... barg. N2 receiver pressure 64-PT-059 is > 7.5 barg. • ..... barg. For information the set point alarms are defined in the vendor document 1724000437-IN-LIS-00016 sheet 2.	ok		18-03-2025
16	Function test Acceptance criteria: • Oxygen < 3%..... [ ] OK • Inlet pressure > 8 barg ..... [ ] OK • Outlet pressure > 7.5 barg .... [ ] OK	ok		18-03-2025
17	After Validation of the process parameters detailed above proceed to stop the sequence, press the stop pushbutton 64-HS-002.	ok		18-03-2025
18	The shutdown Nitrogen Generation Package is given by the: • Emergency push button 64-SBM-001 • Cumulative critical alarm 64-XS-003.	ok		18-03-2025

5.4.3 Test preparation PHASE 2: Validation of Communication and I/O

Step	Description	Result	Verified by	Date
PROFINET Communication Nitrogen Generation Package				
PHASE2: Validation of Communication and I/O				
Verify related ITR-B's for System 64-00 are completed.				

Step	Description	Result	Verified by	Date
1.	Check and confirm all panels are involved as per section 5.4.1 are available.	OK		18-03-2025
2.	Verify the interface Profinet Communication from PCS System to Control Local Panel 64-LP-001 is available and has no communication problems.	OK		18-03-2025
3.	Verify the Profinet signal and alarms setting from 64-LP-001 to HMI/workstation with vendor document 1724000437-MD-LIS-00015 and parameter list in appendix 7.6	OK		18-03-2025
4.	Verify the hardwiring signal from 64-LP-001 to SIS in the HMI/workstation: • 63-XA-003: N2 PKG fault • 63-XS-001: SHUT-DOWN N2 PKG.	OK		18-03-2025
5.	During the step 3 to 4 verify and confirm the correct animation in the graphic page in the control room HMI/workstation.	OK		18-03-2025
6.	Confirmed the steps from 1 to 5 let's proceed with start the Nitrogen Generation Package in remote mode from workstation located in temporary yard CCR. Verify the start sequence with vendor document 172400437-MAC-CE-0004 and 1724000437-IN-LIS-00016 sheet 2.	OK		18-03-2025
7.	Refer to Step 14 and 15 of PHASE 1	OK		18-03-2025
8.	After Validation of the process parameters, give the remote stop sequence command from the temporary yard CCR.	OK		18-03-2025
9.	Start once again the Nitrogen Generation PKG in remote mode from workstation located in temporary yard CCR and validate the trip signal from send from SIS (64-XA-001). Confirm Instrument Air Package stopped, then reset tip signal and confirm Package ready to start.	OK		18-03-2025
10.	Confirm validation of the process parameters list attached to section 7.6 ..... CONFIRMED ..... [✓] OK	OK		18-03-2025

5.4.4 OTP Worksite Tests Notes and Remarks

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5.4.5 OTP Worksite Tests Certifying Authority Table of Attendances

Name and Surname	Certifying Authority	Position	Signature

5.4.6 OTP Worksite Test Final Signatures and Company Acceptance

Name and Surname	Company Representative	Position	Signature
DAVE MUSGROVE	CW	OPERATIONS ENG	
ANTHONY IVESON	ROSETTI MARINO	COMMISSIONING MGR.	

5.5 POST TEST CONDITIONS

the previous chapters are successfully performed.

- All necessary tests are performed and accepted for that system.
- All Communication Cables are tested and completed.
- All panels are in normal operation and no alarm pending.

5.6 REINSTATEMENT AND PRESERVATION TASKS

- All the electrical contacts which were disconnected for the testing purposes must be reconnected.
- After functional tests have been completed, system / sub-systems are left in safety condition and that they are operational.
- all preservation routines identified and required will be included in relevant Preservation ITR within the Proverlis Completions System.

6. OTP AT OFFSHORE SITE

6.1 PLANNING AND MANPOWER

6.1.1 Offshore site test overview

The propose of this test is to recheck the good condition and operation of all equipment and the commissioning of the Nitrogen Generation Package.

6.1.2 Planned tasks with estimated manpower

Estimated manpower for the entire duration of the Test:

- 1 MECH commissioning supervisor from Contractor
- 1 E&I commissioning technicians from Contractor

6.1.3 Test duration estimate

The test duration should be as follows:

- 0,5 day.

If necessary, the estimated time can be extended in order to complete all required pre-commissioning and commissioning activities.

6.1.4 Vendor assistance

- Not applicable

6.1.5 Items postponed to C&E OTP

- Not applicable

6.1.6 HOLD

- Not applicable

6.2 OTP TEST REQUIREMENT – OFFSHORE SITE

6.2.1 Pre-Commissioning Achievement

- Not applicable

6.2.2 Commissioning Achievement

The final commissioning achievement will be the successful operation, functionality and safeguarding test of the Nitrogen Generation system, installed and put in operation during the WORKSITE IN ONSHORE phase. During the Offshore SITE phase, the system will be thoroughly inspected prior to energization and start up. The activities will be concluded with remote start and stop commands from the CCR installed in the final configuration.

6.2.3 Status of Required Associated Subsystem

Subsystems required for Commissioning of Nitrogen Generation Package:

- SS 83-20 Distribution Board DP-200N1 230V.
- SS 84-10 UPS (UP-200F3) 230V.
- SS 87-10 PCS SYSTEM.
- SS 79-00 SIS SYSTEM.
- SS 86-00 NETWORK CABINET.
- SS 86-00 SERVER CABINET.
- SS 88-00 Earthing System.

6.2.4 Special Tools & Test Equipment

The following special tool and Test Equipment are required:

- Continuity tester (Multimeter)
- Hart communicator
- Toolbox
- Portable radios (2 pcs + 1 per Technical Room)

TESTING & MEASUREMENT INSTRUMENT USED			
Type	Serial N.	Calibration certificate	Validity

6.2.5 Consumable List

- Not applicable

6.2.6 Commissioning Spare Parts

The commissioning spare parts are indicated in the document 1724000437-COM-LIS-00028"Commissioning Spare Parts".

6.2.7 Temporary Facilities

- Not applicable

6.3 OTP DESCRIPTION – OFFSHORE SITE

6.3.1 OTP Test Preparation

Step	Description	Result	Verified by	Date
1.	All personnel involved in the implementation of this procedure are familiar with its content as well as with associated safety requirements (Toolbox Talk to be conducted before initiation of activities).			
2.	A final walkdown of the system has been completed, to ensure that the system and the area are ready for start-up.			
3.	Verify availability of test equipment as per section 6.2.4.			
4.	All personnel have been duly notified that the system(s) is ready for start-up.			

6.3.2 Electrical Preparation

Step	Description	Result	Verified by	Date
1.	Verify that all relevant associated systems / subsystems are ready.			

6.3.3 Mechanical Preparation

Step	Description	Result	Verified by	Date
1.	Verify that all relevant associated systems / subsystems are ready.			

6.3.4 Instrument Preparation

Step	Description	Result	Verified by	Date
1.	Verify all Panels are available as per section 6.2.3			

6.3.5 Piping Preparation

Step	Description	Result	Verified by	Date
1.	Verify that all relevant associated systems / subsystems are ready.			

6.3.6 Additional Discipline Preparation

- Not applicable

6.4 OTP TEST STEPS – OFFSHORE SITE

6.4.1 Test Preparation

Need to confirm availability of the following systems:

- SS 83-20 Distribution Board DP-200N1 230V (MCB Q42) is available.
- SS 84-10 UPS (UP-200F3) 230V (MCB Q30) is available.
- SS 87-10 PCS SYSTEM is available.
- SS 79-00 SIS SYSTEM is available.
- SS 86-00 NETWORK CABINET is available.
- SS 86-00 SERVER CABINET is available.
- SS 63-00 Instrument Aie Package is available.

All systems and subsystems involved in this procedure must be ready and available.

6.4.2 Test Steps

Step	Description	Result	Verified by	Date
Energization of Nitrogen Generation Package				
System 64-00 is completed.				
1.	Check and confirm that the MCB Q42 from UPS (UP-200F3) and MCB Q30 from distribution Board DP-200N1 230V are ready for power on.			
2.	Confirmed the above we can proceed with energization of the LCP 64-LP-001.			
3.	Check on the LCP 64-LP-001 that voltage is available for the control circuit and for starting.			
4.	Confirm the Instrument Air Package is ready for starting			
5.	Confirmed the steps from 1 to 4, the Nitrogen Generation Package is ready for start-up.			
6.	Turn the selector 64-HS-004 in local mode and start pushbutton 64-HS-001. Check the correct starting sequence and: • Inlet pressure > 8barg			

Step	Description	Result	Verified by	Date
	..... [ ] OK • Outlet pressure >7.5 barg ..... [ ] OK • Oxygen < 3% ..... [ ] OK			
7.	The test will only give a positive result if the required parameters are reached. After Validation of the process parameters, give the stop from local 64-HS-002.			
8.	Repeat the sequence of start and stop remotely from the CCR (permanent Central Control Room).			

6.4.3 OTP Site Tests notes and Remarks

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6.4.4 OTP Site Tests Certifying Authority Table of Attendances

Name and Surname	Certifying Authority	Position	Signature

6.4.5 OTP Site Tests Final Signatures and Company Acceptance

Name and Surname	Company Representative	Position	Signature

6.5 POST TEST CONDITIONS

- The previous chapters are successfully performed.
- All panels are in normal operation and no alarm pending.

6.6 REINSTATEMENT AND PRESERVATION TASKS

After the test are completed, the system is left in a safe condition and that it is operational.

7. APPENDICES

7.1 Vendor SAT Procedure (where applicable)

7.2 Proverlis Summary System Reports

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on system: 64 & subsystem: 64-00 & process: COMM

Electrical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
DP-200N1-Q30	BREAKER AUX UCP N2 PACKAGE-DP-200N1-Q30	ONSHORE	C10002863	FTR-2	100	2024-10-29	-
UP-200F3-QF35	UCP - N2 PACKAGE	ONSHORE	C10004574	FTR-2	100	2024-12-07	-

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on system: 64 & subsystem: 64-00 & process: COMM

Instrumental	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-XA-003	A-64000 Nitrogen PKG fault	ONSHORE	C10003766	FJ01D	100	2025-03-26	-
64-XS-001	SHUT-DOWN A-64000 Nitrogen PKG	ONSHORE	C10003767	FJ01D	100	2025-04-07	-

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on system: 64 & subsystem: 64-00 & process: COMM

Piping	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-00	Service Test Nitrogen Generation Package	ONSHORE	C10004910	4245	100	2025-03-28	-

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	64	Nitrogen System
SUBSYSTEM	64-00	Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000500	A	A-64000	THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000501	A	A-64000	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000507	A	A-64000	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE		TEST WILL BE REPEATED ON SITE	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000511	A	A-64000	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR		NCR IS CLOSED	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30002642	A	V-64001 C10004520	Items 64-PSV-053 and 64-PSV-054 have not been installed.	.		KAlbonetti 2025-01-10	2025-01-16	KAlbonetti 2025-01-16	2025-01-16
C30002643	A	V-64001 C10004520	Valve BLPH-MV-819 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002644	A	V-64001 C10004520	Valve BLPH-MV-820 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30000499	B	A-64000	Package to be test with PLC set to REMOTE MODE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000502	B	A-64000	During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000503	B	A-64000	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		ACTIVITY DONE	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000504	B	A-64000	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.		PRESSURE 8 BARG	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000505	B	A-64000	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000506	B	A-64000	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000508	B	A-64000	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID		DONE	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000509	B	A-64000	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000510	B	A-64000	TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002		Re Issued	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000512	B	A-64000	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30
C30000513	B	A-64000	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000514	B	A-64000	MISSING TAG PLATE ON PSV 64-053 / PSV-64-054		Done	SLinari 2024-10-29	Vendor 2025-03-25	SLinari 2025-03-25	2025-03-25
C30002645	B	V-64001 C10004520	Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed. The Items are in Stainless steel but the fasteners are carbon steel,	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002646	B	V-64001 C10004520	Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is	.		KAlbonetti 2025-01-10	2025-03-25	Gtangianu 2025-03-25	2025-03-25
C30002648	B	V-64001 C10004520	Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002649	B	V-64001 C10004520	The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.	.		KAlbonetti 2025-01-10	2025-03-06	MBruschi 2025-03-06	2025-03-06
C30002650	B	V-64001 C10004520	Manhole has not been opened. Internal inspection not completed.	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002849	B	V-64001 C10004520	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14			
C30002851	B	A-64000 C10002357	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	64	Nitrogen System
SUBSYSTEM	64-00	Nitrogen Generator Package (U-64000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000963	A	64-LP-001/B400 -NET-001 C10004350	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000969	A	64-LP-001/B400 -NET-001 C10004350	Missing the Thermo-shrink of on the final destination cable end Bending radius is not within the specified limits.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000959	B	64-LP-001/B400 -NET-001 C10004350	The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-27	2025-02-04	APolo 2025-02-04	2025-02-04
C30000960	B	64-LP-001/B400 -NET-001 C10004350	Missing cable tag SS project, outside panel U-64000.	.		APolo 2024-11-27	2025-01-09	Gtangianu 2025-01-09	2025-01-09
C30000962	B	64-LP-001/B400 -NET-001 C10004350	The cable is not supported and fixed to the rack outside panel U-64000	.		APolo 2024-11-27	2025-02-08	Gtangianu 2025-02-08	2025-02-08

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001284	A	84312-CEL C10000588	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001290	A	83111-CEL C10000630	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001285	B	84312-CEL C10000588	Missing cable tag. side A-64000 / DP-200F3	.		APolo 2024-12-04	2025-02-03	APolo 2025-02-03	2025-02-03
C30001286	B	84312-CEL C10000588	Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001291	B	83111-CEL C10000630	Missing cable tag . side DP-200N1 / A-64000	.		APolo 2024-12-04	2025-02-27	JKrizanic 2025-02-27	2025-02-27
C30001292	B	83111-CEL C10000630	Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001311	B	A-64000 C10002355	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001312	B	A-64000 C10002355	The cables are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22
C30001380	B	84312-CEL C10000588	The cable gland are not closed in accordance with specification.	.		APolo 2024-12-05	2025-02-25	JKrizanic 2025-02-25	2025-02-25

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001021	B	64-00-TP-049 C10003600	General final touch-up to do.	-		MBruschi 2024-11-28	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30001022	B	64-00-TP-049 C10003600	Unmounted spool with its erection materials.	-		MBruschi 2024-11-28	2025-01-17	LNovaga 2025-01-17	2025-01-17
C30002638	B	64-00-TP-049 C10003601	Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.	.		KAlbonetti 2025-01-10	2025-01-31	KAlbonetti 2025-01-31	2025-01-31
C30003517	B	64-00-TP-063 C10003691	Isolation rubber on Support PS-01023.2 is damaged	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003518	B	64-00-TP-063 C10003691	Missing gap (2mm) between pipe and support PS-01057.1	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003556	B	64-00-TP-029 C10003452	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30003557	B	64-00-TP-029 C10003452	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21
C30003560	B	64-00-TP-063 C10003692	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-12	KAlbonetti 2025-02-12	2025-02-12
C30003561	B	64-00-TP-063 C10003692	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001272	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cable tag SS	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001273	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001274	B	C-64-XA-003/B400-SIS-001 C10001459	The cable is not supported and fixed to the rack (outside panel A-64000)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001277	B	C-64-XS-001/B400-SIS-001 C10001452	Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001278	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cable tag. B400-SIS-001 / A-64000	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001279	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001280	B	C-64-XS-001/B400-SIS-001 C10001452	The cable is not supported and fixed to the rack (outside panel A-6400)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001313	B	A-64000 C10002356	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001316	B	A-64000 C10002356	The tubing are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22

7.3 Equipment Related Technical Queries (where applicable)

7.4 As Built Documentation (where applicable)

7.5 Management of Change – Summary Table of Tasks and Details of Affected Related documentation (where applicable).

7.6 Profinet Signals Table

4813_COES_PSA — PROFINET SIGNALS TABLE — Rev 0 29/04/2024

N. BYTE	N. BIT	DATA TYPE	TAG	DESCRIPTION	MEANING
					ALARMS
	0	BOOL		SPARE	
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
0	7	BOOL		SPARE	
	0	BOOL		SPARE	
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
1	7	BOOL		SPARE	
	0	BOOL		SPARE	
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
2	7	BOOL		SPARE	
	0	BOOL		NITROGEN GENERATOR - GENERAL ALARM	0 = OK, 1 = ALARM
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
3	7	BOOL		SPARE	
	0	BOOL		VALVE UV-001 ALARM	0 = OK, 1 = ALARM
	1	BOOL		VALVE UV-002 ALARM	0 = OK, 1 = ALARM
	2	BOOL		VALVE UV-003 ALARM	0 = OK, 1 = ALARM
	3	BOOL		VALVE UV-004 ALARM	0 = OK, 1 = ALARM
	4	BOOL		VALVE UV-005 ALARM	0 = OK, 1 = ALARM
	5	BOOL		VALVE UV-006 ALARM	0 = OK, 1 = ALARM
	6	BOOL		VALVE UV-007 ALARM	0 = OK, 1 = ALARM
4	7	BOOL		VALVE UV-008 ALARM	0 = OK, 1 = ALARM
	0	BOOL		VALVE UV-009 ALARM	0 = OK, 1 = ALARM
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
5	7	BOOL		SPARE	
	0	BOOL		SPARE	
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
6	7	BOOL		SPARE	
	0	BOOL	Meas001.AlmLL	INLET PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	1	BOOL	Meas001.AlmL	INLET PRESSURE TRANSMITTER - LOW ALARM (L)	0 = OK, 1 = ALARM
	2	BOOL	Meas001.AlmH	INLET PRESSURE TRANSMITTER - HIGH ALARM (H)	0 = OK, 1 = ALARM
	3	BOOL	Meas001.AlmHH	INLET PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	4	BOOL	Meas002.AlmLL	TOWER 1 PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	5	BOOL	Meas002.AlmL	TOWER 1 PRESSURE TRANSMITTER - LOW ALARM (L)	0 = OK, 1 = ALARM
	6	BOOL	Meas002.AlmH	TOWER 1 PRESSURE TRANSMITTER - HIGH ALARM (H)	0 = OK, 1 = ALARM
7	7	BOOL	Meas002.AlmHH	TOWER 1 PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	0	BOOL	Meas003.AlmLL	TOWER 2 PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	1	BOOL	Meas003.AlmL	TOWER 2 PRESSURE TRANSMITTER - LOW ALARM (L)	0 = OK, 1 = ALARM
	2	BOOL	Meas003.AlmH	TOWER 2 PRESSURE TRANSMITTER - HIGH ALARM (H)	0 = OK, 1 = ALARM
	3	BOOL	Meas003.AlmHH	TOWER 2 PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	4	BOOL	Meas004.AlmLL	OUTLET B PRESSURE TRANSMITTER - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	5	BOOL	Meas004.AlmL	OUTLET B PRESSURE TRANSMITTER - LOW ALARM (L)	0 = OK, 1 = ALARM
	6	BOOL	Meas004.AlmH	OUTLET B PRESSURE TRANSMITTER - HIGH ALARM (H)	0 = OK, 1 = ALARM
8	7	BOOL	Meas004.AlmHH	OUTLET B PRESSURE TRANSMITTER - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	0	BOOL	Meas005.AlmLL	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	1	BOOL	Meas005.AlmL	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - LOW ALARM (L)	0 = OK, 1 = ALARM
	2	BOOL	Meas005.AlmH	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH ALARM (H)	0 = OK, 1 = ALARM
	3	BOOL	Meas005.AlmHH	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	4	BOOL	Meas006.AlmLL	OXYGEN TRANSMITTER - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	5	BOOL	Meas006.AlmL	OXYGEN TRANSMITTER - LOW ALARM (L)	0 = OK, 1 = ALARM
	6	BOOL	Meas006.AlmH	OXYGEN TRANSMITTER - HIGH ALARM (H)	0 = OK, 1 = ALARM
9	7	BOOL	Meas006.AlmHH	OXYGEN TRANSMITTER - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	0	BOOL	Meas007.AlmLL	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - LOW LOW ALARM (LL)	0 = OK, 1 = ALARM
	1	BOOL	Meas007.AlmL	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - LOW ALARM (L)	0 = OK, 1 = ALARM
	2	BOOL	Meas007.AlmH	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - HIGH ALARM (H)	0 = OK, 1 = ALARM
	3	BOOL	Meas007.AlmHH	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - HIGH HIGH ALARM (HH)	0 = OK, 1 = ALARM
	4	BOOL		SPARE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
10	7	BOOL		SPARE	
	0	BOOL	Meas001.BadPV	INLET PRESSURE TRANSMITTER - BAD PROCESS VALUE	0 = OK, 1 = ALARM
	1	BOOL	Meas002.BadPV	TOWER 1 PRESSURE TRANSMITTER - BAD PROCESS VALUE	0 = OK, 1 = ALARM
	2	BOOL	Meas003.BadPV	TOWER 2 PRESSURE TRANSMITTER - BAD PROCESS VALUE	0 = OK, 1 = ALARM
	3	BOOL	Meas004.BadPV	OUTLET B PRESSURE TRANSMITTER - BAD PROCESS VALUE	0 = OK, 1 = ALARM
	4	BOOL	Meas005.BadPV	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - BAD PROCESS VALUE	0 = OK, 1 = ALARM
	5	BOOL	Meas006.BadPV	OXYGEN TRANSMITTER - BAD PROCESS VALUE	0 = OK, 1 = ALARM
	6	BOOL	Meas007.BadPV	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - BAD PROCESS VALUE	0 = OK, 1 = ALARM
11	7	BOOL		SPARE	
	0	BOOL		PLANT SHUTDOWN ALARM (SD)	1 = ALARM
					PLANT STATUS
	1	BOOL		PLANT GENERAL ALARM	1 = READY
	2	BOOL		PLANT READY	1 = IN OPERATION
	3	BOOL		PLANT IN OPERATION	0 = LOCAL (PLC), 1 = REMOTE (DCS)
	4	BOOL		PLANT IN REMOTE MODE	
	5	BOOL		SPARE	
	6	BOOL		SPARE	
12	7	BOOL		SPARE	
	0	BOOL		NITROGEN GENERATOR COMMAND	1 = RUN COMMAND
	1	BOOL		SPARE	
	2	BOOL		SPARE	
	3	BOOL		SPARE	
	4	BOOL		NITROGEN GENERATOR RUNNING	1 = RUNNING
	5	BOOL		SPARE	
	6	BOOL		SPARE	
13	7	BOOL		SPARE	
	0	BOOL		VALVE UV-001 OPEN COMMAND	1 = OPEN COMMAND
	1	BOOL		VALVE UV-002 OPEN COMMAND	1 = OPEN COMMAND
	2	BOOL		VALVE UV-003 OPEN COMMAND	1 = OPEN COMMAND
	3	BOOL		VALVE UV-004 OPEN COMMAND	1 = OPEN COMMAND

	4	BOOL		VALVE UV-005 OPEN COMMAND	1 = OPEN COMMAND	
	5	BOOL		VALVE UV-006 OPEN COMMAND	1 = OPEN COMMAND	
	6	BOOL		VALVE UV-007 OPEN COMMAND	1 = OPEN COMMAND	
14	7	BOOL		VALVE UV-008 OPEN COMMAND	1 = OPEN COMMAND	
	0	BOOL		VALVE UV-009 OPEN COMMAND	1 = OPEN COMMAND	
	1	BOOL		SPARE		
	2	BOOL		SPARE		
	3	BOOL		SPARE		
	4	BOOL		VALVE UV-001 OPEN	1 = OPEN	
	5	BOOL		VALVE UV-001 CLOSED	1 = CLOSED	
	6	BOOL		VALVE UV-002 OPEN	1 = OPEN	
15	7	BOOL		VALVE UV-002 CLOSED	1 = CLOSED	
	0	BOOL		VALVE UV-003 OPEN	1 = OPEN	
	1	BOOL		VALVE UV-003 CLOSED	1 = CLOSED	
	2	BOOL		VALVE UV-004 OPEN	1 = OPEN	
	3	BOOL		VALVE UV-004 CLOSED	1 = CLOSED	
	4	BOOL		VALVE UV-005 OPEN	1 = OPEN	
	5	BOOL		VALVE UV-005 CLOSED	1 = CLOSED	
	6	BOOL		VALVE UV-006 OPEN	1 = OPEN	
16	7	BOOL		VALVE UV-006 CLOSED	1 = CLOSED	
	0	BOOL		VALVE UV-007 OPEN	1 = OPEN	
	1	BOOL		VALVE UV-007 CLOSED	1 = CLOSED	
	2	BOOL		VALVE UV-008 OPEN	1 = OPEN	
	3	BOOL		VALVE UV-008 CLOSED	1 = CLOSED	
	4	BOOL		VALVE UV-009 OPEN	1 = OPEN	
	5	BOOL		VALVE UV-009 CLOSED	1 = CLOSED	
	6	BOOL		SPARE		
17	7	BOOL		SPARE		
18	/	REAL	Meas001.ProcValue	INLET PRESSURE TRANSMITTER - PROCESS VALUE	range 0..16 barg	MEASURES
22	/	REAL	Meas002.ProcValue	TOWER 1 PRESSURE TRANSMITTER - PROCESS VALUE	range 0..16 barg	
26	/	REAL	Meas003.ProcValue	TOWER 2 PRESSURE TRANSMITTER - PROCESS VALUE	range 0..16 barg	
30	/	REAL	Meas004.ProcValue	OUTLET B PRESSURE TRANSMITTER - PROCESS VALUE	range 0..16 barg	
34	/	REAL	Meas005.ProcValue	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER - PROCESS VALUE	range 0..16 barg	
38	/	REAL	Meas006.ProcValue	OXYGEN TRANSMITTER - PROCESS VALUE	range 0..100%	
42	/	REAL	Meas007.ProcValue	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS - PROCESS VALUE	range 0..1 bar	
46	/	REAL		SPARE		
50	/	REAL		REAL PARAMETER 001		PARAMETERS
54	/	REAL		REAL PARAMETER 002		
58	/	REAL		REAL PARAMETER 003		
62	/	REAL		REAL PARAMETER 004		
66	/	REAL		REAL PARAMETER 005		
70	/	REAL		REAL PARAMETER 006		
74	/	REAL		REAL PARAMETER 007		
78	/	REAL		REAL PARAMETER 008		
82	/	REAL		REAL PARAMETER 009		
86	/	REAL		REAL PARAMETER 010		
90	/	INT		INTEGER PARAMETER 001		
92	/	INT		INTEGER PARAMETER 002		
94	/	INT		INTEGER PARAMETER 003		
96	/	INT		INTEGER PARAMETER 004		
98	/	INT		INTEGER PARAMETER 005	To be defined according to Control Philosophy	
100	/	INT		INTEGER PARAMETER 006		
102	/	INT		INTEGER PARAMETER 007		
104	/	INT		INTEGER PARAMETER 008		
106	/	INT		INTEGER PARAMETER 009		
108	/	INT		INTEGER PARAMETER 010		
110	/	TIME (DINT)		TIME PARAMETER 001		
114	/	TIME (DINT)		TIME PARAMETER 002		
118	/	TIME (DINT)		TIME PARAMETER 003		
122	/	TIME (DINT)		TIME PARAMETER 004		
126	/	TIME (DINT)		TIME PARAMETER 005		
130	/	TIME (DINT)		TIME PARAMETER 006		
134	/	TIME (DINT)		TIME PARAMETER 007		
138	/	TIME (DINT)		TIME PARAMETER 008		
142	/	TIME (DINT)		TIME PARAMETER 009		
146	/	TIME (DINT)		TIME PARAMETER 010		

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PROFINET SIGNALS TABLE

N. BYTE	N. BIT	DATA TYPE	TAG	DESCRIPTION	MEANING	
	0	BOOL		REMOTE START COMMAND	1 = START	REMOTE COMMANDS
	1	BOOL		REMOTE STOP COMMAND	1 = STOP	
	2	BOOL		SPARE		
	3	BOOL		REMOTE ALARMS ACKNOWLEDGE	1 = ACK	
	4	BOOL		LOCAL/REMOTE SELECTOR FROM DCS	0 = LOCAL, 1 = REMOTE	(double selector (hardware+software))
	5	BOOL		SPARE		
	6	BOOL		SPARE		
0	7	BOOL		SPARE		
	0	BOOL		SPARE		
	1	BOOL		SPARE		
	2	BOOL		SPARE		
	3	BOOL		SPARE		
	4	BOOL		SPARE		
	5	BOOL		SPARE		
	6	BOOL		SPARE		
1	7	BOOL		SPARE		
2	/	REAL		REAL PARAMETER 001		PARAMETERS
6	/	REAL		REAL PARAMETER 002		
10	/	REAL		REAL PARAMETER 003		
14	/	REAL		REAL PARAMETER 004		
18	/	REAL		REAL PARAMETER 005		
22	/	REAL		REAL PARAMETER 006		
26	/	REAL		REAL PARAMETER 007		
30	/	REAL		REAL PARAMETER 008		
34	/	REAL		REAL PARAMETER 009		
38	/	REAL		REAL PARAMETER 010		
42	/	INT		INTEGER PARAMETER 001		
44	/	INT		INTEGER PARAMETER 002		
46	/	INT		INTEGER PARAMETER 003		
48	/	INT		INTEGER PARAMETER 004		
50	/	INT		INTEGER PARAMETER 005	To be defined according to Control Philosophy	
52	/	INT		INTEGER PARAMETER 006		
54	/	INT		INTEGER PARAMETER 007		
56	/	INT		INTEGER PARAMETER 008		
58	/	INT		INTEGER PARAMETER 009		
60	/	INT		INTEGER PARAMETER 010		
62	/	TIME (DINT)		TIME PARAMETER 001		
66	/	TIME (DINT)		TIME PARAMETER 002		
70	/	TIME (DINT)		TIME PARAMETER 003		
74	/	TIME (DINT)		TIME PARAMETER 004		
78	/	TIME (DINT)		TIME PARAMETER 005		
82	/	TIME (DINT)		TIME PARAMETER 006		
86	/	TIME (DINT)		TIME PARAMETER 007		
90	/	TIME (DINT)		TIME PARAMETER 008		
94	/	TIME (DINT)		TIME PARAMETER 009		
98	/	TIME (DINT)		TIME PARAMETER 010		

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Section 6 PIPING AND VESSEL PREPARATION

Section 6.1 Final Mechanical / Vessel Inspection Checks Index

NOT APPLICABLE

Section 6.2 Leak Test / Drying / Inerting Test Sheets Index

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: COMM

Piping	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-00	Service Test Nitrogen Generation Package	ONSHORE	C10004910	4245	100	2025-03-28	RFO 1

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	64-00	: Service Test Nitrogen Generation Package			Dwg	-
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	
TASK	code	C10004910		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	COMM	Activity PVP	Discipline	Piping	Form	4245 Service Test

CONDITIONS

Operating pressure: 8,5 bar g

Test Pressure 8,5 bar g

Test Fluid				
	Air	X	Nitrogen	
	Water		Other	

TIGHTNESS CRITERION

Pressure variation tolerance: 0,5

Test Duration: 30 MIN

Pressure Recording Means: TEXS

Adhesive Tape: No

Soap Solution: Yes

He Tracing: No

Rotating equipment isolated

ATTACHMENTS

Procedure: No

Sketches & Drawings: No

Pressure Records: No

Comments: TEST WAS PERFORMED TO VALIDATE THE INTEGRITY OF THE SYSTEM

Page 1/1	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ROSETTI MARINO SPA		CPY NOT PRESENT
Name	Ignacio Vago	Anthony Iveson	Witness waived
Date	2025-03-28	2025-03-28	2025-03-28
Signature	PROVERLIS Digitaly signed by Ignacio Vago 2025-03-28T16:59:47.786Z	PROVERLIS Digitaly signed by Anthony Iveson 2025-03-28T17:17:32.973Z	PROVERLIS Digitaly signed by Witness waived 2025-03-28T17:23:19.956Z

Section 6.3 Chemical Loading & First Fill records Index

NOT APPLICABLE

Section 6.4 Chemical Cleaning Reports and Records Index

NOT APPLICABLE

Section 6.5 Lubrication Schedule

NOT APPLICABLE

Section 7 VENDOR

Section 7.1 Vendor Package Summary Index

NOT APPLICABLE

Section 7.2 SAT Procedure with associated punch list and reference (Front Page)

SAT PROCEDURE NOT REQUIRED, PLEASE REFER TO THE ATTACHED FAT REPORT AND OTP PROCEDURE IN SECT.5.1

ROSETTI MARINO	**INSPECTION REPORT**	**Report No**. IR01-123A90A-29Oct2024_COES	SHEET 1 di 5
		Data *Date 28-29/10/2024*	Rev. *Rev. 0*
PROGETTO *Project* **Base Load Power Hub (BLPH)**	**CLIENTE** *Client* CROSSWIND	**COMMESSA /** *Job* ***123 A90***	**COMMESSA FORNITORE /** *Job Vendor* 166-167/24
FORNITORE *Supplier: COES*	**No. Ordine** *P.O. No. 1724000428 - 1724000437*	**OGGETTO** *Object Instrument Air Package / Nitrogen Generator Package*	

DESCRIZIONE DEL MATERIALE / *Material Description*

POS. *Item*	**QUANTITA'** *Quantity*	**DESCRIZIONE** *Description*	**Nr. TAG** *TAG No.*	**TIPO DI ISPEZIONE** / *Kind of Inspection*	**ESITO** / *Result*
10	1	Instrument Air Package	A-63000	Performance Test	**Satisfactory with PL**
10	1	Nitrogen Generator Package	A-64000	Performance Test	**Not Satisfactory with PL**

DOCUMENTI APPLICABILI / *Applicable Documents*

TITOLO DOCUMENTO / *Document Title*	**NUMERO DOCUMENTO** / *Document Number*	**REVISIONE** / *Revision*	**STATO DOCUMENTO** / *Document Status*
PACKAGE GENERAL ARRANGEMENT AND DIMENSIONAL OUTLINE DRAWINGS- NITROGEN GENERATION PACKAGE	1724000437-MAC-DA-00005	03	AFC – Accepted for construction
PACKAGE GENERAL ARRANGEMENT - INSTRUMENT AIR PACKAGE	1724000428-MAC-DA-00005	03	AFC – Accepted for construction
FAT (FACTORY ACCEPTANCE TEST) PROCEDURE - INSTRUMENT AIR PACKAGE	1724000428-QC-PRO-00024	03	AFC – Accepted for construction
FAT (FACTORY ACCEPTANCE TEST) PROCEDURE - NITROGEN GENERATION PACKAGE	1724000437-QC-PRO-00023	02	IFR – Issued for review
PACKAGE WIRING DIAGRAM INCLUDING LAYOUT OF PACKAGE CONTROL PANEL 63-LP-001 - INSTRUMENT AIR PACKAGE A-63000	1724000428-MAC-DG-00009	02	AFC – Accepted for construction
PACKAGE WIRING DIAGRAM INCLUDING LAYOUT OF PACKAGE CONTROL PANEL - NITROGEN GENERATION PACKAGE	1724000437-MAC-DG-00009	02	AFC – Accepted for construction

DISTRIBUZIONE A: / *Distribution to:*

☒**GESTIONE FORNITURE** / *Supply Management Department*	☒**CAPO COMMESSA** / *Project Manager*
☒**PRODUZIONE** / *Production*	☒**FORNITORE** / *Supplier*
☒**PPLM** / *Project Procurement & Logistic Manager*	☒**P.Q.M.**
☒**MAGAZZINO** / *Warehouse*	☒**P.E.M.**

ATTIVITA' ESEGUITE / *Activities Carried Out*

A - INTRODUZIONE / *Preliminary Introduction*

On date 28th and 29th of October 2024 the performance test of both the instrument air package and nitrogen generation packages have been carried out according to the shop test notification submitted STN-166-24-003 Rev.2 and STN-167-24-003 Rev.2.
The inspection included the visual and dimensional check as well as the final painting check.

L' INCARICATO / *The person in charge*	**IL RAPP. DEL CLIENTE** / *Client's Representative*	**IL FORNITORE** / *Supplier*
ROSETTI MARINO *Supply Management dept.*		

QUESTO DOCUMENTO NON SOLLEVA IL FORNITORE DALLA RESPONSABILITA' DI EVENTUALI DIFETTI E/O MALFUNZIONAMENTI RILEVATI DURANTE L'USO /
This document does not relieve the Supplier of the responsibility of any possible defects and/or misfunctioning arising during the utilisation.

For what concerns the instrument air package, PO no. 1724000428, the test returned positive results as the operative conditions have been reached by the package, however a punch list has been raised and COES agreed to close the same at RM fabrication yard in Ravenna (PL attached).

For what concerns the nitrogen generation package, PO no. 1724000437, the test could not be considered satisfactory since the defective solenoid valves didn't allow the proper closure of the process cycle.

Participants to the test:

- Anthony Iveson (Comm. Manager RM)
- Giandonato Delmisser (Comm. E/I RM)
- Nicola Salvemini (Quality Control RM)
- Davide Lo Sterzo (Project Engineering Manager RM)
- Pasquale Anacleto (Crosswind)
- Luigi Testa (COES)

B –SCOPO DELL'ISPEZIONE / *Scope of Inspection*

DESCRIZIONE DEI TEST PRESENZIATI / *Description of witnessed tests*	**ESITO /** *Result*
Performance Test for Instrument Air Package (Including visual and dimensional check and painting check)	**Satisfactory with PL**
Performance Test for Nitrogen Generation Package (Including visual and dimensional check and painting check)	**Not Satisfactory with PL**

C –DETTAGLIO DEGLI STRUMENTI UTILIZZATI PER TEST E ISPEZIONE / *Details of Inspection and Test Instruments used*

NOME DELLO STRUMENTO *Equipment name*	**PRODUTTORE** *Manufacturer*	**MODELLO** *Model*	**PROSSIMA TARATURA** *Next calibration*
Temperature and Humidity gauge	Elcometer	319 TOP	SN – ZF29428
Wet film thickness gauge	Elcometer	3236	SN – XB04087
Dry film thickness gauge	Elcometer	456 TOP	SN – SG00559

D –ALLEGATI / *Attachments (***CERTIFICATI E TEST REPORT** */ Certificates and Test Reports)*

NUMERO DOCUMENTO / *Document Number*	**DESCRIZIONE** / *Description*	**TIPO** / *Type*	**NR. PAGINE** / *No. Pages*
\\	Instrument air package FAT Certificate	Report	2
\\	Nitrogen Generation Package FAT Certificate	Report	2
\\	Instrument air package Punch List	Report	2
\\	Nitrogen Generation Package Punch List	Report	2

L' INCARICATO / *The person in charge*	**IL RAPP. DEL CLIENTE** / *Client's Representative*	**IL FORNITORE** / *Supplier*
ROSETTI MARINO *Supply Management dept.*		

QUESTO DOCUMENTO NON SOLLEVA IL FORNITORE DALLA RESPONSABILITA' DI EVENTUALI DIFETTI E/O MALFUNZIONAMENTI RILEVATI DURANTE L'USO /
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ROSETTI MARINO	**INSPECTION REPORT**	**Report No**. IR01-123A90A-29Oct2024_COES	SHEET 3 di 5
		Data *Date 28-29/10/2024*	Rev. *Rev. 0*
PROGETTO *Project* **Base Load Power Hub (BLPH)**	**CLIENTE** *Client* CROSSWIND	**COMMESSA /** *Job* ***123 A90***	**COMMESSA FORNITORE /** *Job Vendor* 166-167/24
FORNITORE *Supplier: COES*	**No. Ordine** *P.O. No. 1724000428 - 1724000437*	**OGGETTO** *Object Instrument Air Package / Nitrogen Generator Package*	

E – DETTAGLI ED ESITO DELL'ISPEZIONE / *Details and Results of Inspection*

POS. *Item*	**BREVE DESCRIZIONE MATERIALE** *Material brief description*	**Q.TA' ODA** *Order Q.ty*	**Q.TA' TESTATA** *Tested Q.ty*	**ACCETTATO** *Accepted*	**DATA ACCETTAZIONE** *Acceptance date*
10	Instrument air package	1	1	Yes (Punch List Raised)	**29/10/2024**
10	Nitrogen Generation Package	1	1	No (Punch List Raised)	**/**

F – CONCLUSIONI / *Conclusions*

COES and RM agreed on opening a punch list for the outstanding points found during the final tests. The packages will be shipped to RM yard, however, COES will organize a team to first close the punch list points and secondly to re-perform the Performance test on the nitrogen generation package which is currently not accepted. The same will have to be organized along with RM personnel.

G – PUNTI IRRISOLTI / *Outstanding points*

The outstanding points have been duly listed in a punch list agreed with the supplier (attached). The resolution of the same has been agreed to be done at RM yard in Ravenna.

H – STATO PACKING LIST / *Packing List Status*	☐ **EMESSO** / *Issued*	☒ **NON EMESSO** / *Not Issued*	DD/MM/YYYY **ULTIMA DATA UTILE** / *Last Date*

PUNCH LIST REPORT: VEDI ALLEGATO N° / *Refer to Attachment n° 01*

REPORT FOTOGRAFICO (SE PRESENTE) / *Digital Pictures (if any)*



Instrument Air Package



Instrument Air Package

L' INCARICATO / *The person in charge*	**IL RAPP. DEL CLIENTE** / *Client's Representative*	**IL FORNITORE** / *Supplier*
ROSETTI MARINO *Supply Management dept.*		

QUESTO DOCUMENTO NON SOLLEVA IL FORNITORE DALLA RESPONSABILITA' DI EVENTUALI DIFETTI E/O MALFUNZIONAMENTI RILEVATI DURANTE L'USO /
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Instrument Air Package



Instrument Air Package



Instrument Air Package



Instrument Air Package

L' INCARICATO / *The person in charge*	**IL RAPP. DEL CLIENTE** / *Client's Representative*	**IL FORNITORE** / *Supplier*
ROSETTI MARINO *Supply Management dept.*		

QUESTO DOCUMENTO NON SOLLEVA IL FORNITORE DALLA RESPONSABILITA' DI EVENTUALI DIFETTI E/O MALFUNZIONAMENTI RILEVATI DURANTE L'USO /
This document does not relieve the Supplier of the responsibility of any possible defects and/or misfunctioning arising during the utilisation.

ROSETTI MARINO	**INSPECTION REPORT**	**Report No**. IR01-123A90A-29Oct2024_COES	SHEET 5 di 5
		Data *Date 28-29/10/2024*	Rev. *Rev. 0*
PROGETTO *Project* **Base Load Power Hub (BLPH)**	**CLIENTE** *Client* CROSSWIND	**COMMESSA /** *Job* ***123 A90***	**COMMESSA FORNITORE /** *Job Vendor* 166-167/24
FORNITORE *Supplier: COES*	**No. Ordine** *P.O. No. 1724000428 - 1724000437*	**OGGETTO** *Object Instrument Air Package / Nitrogen Generator Package*	



Nitrogen Tank



Air Tank



Nitrogen Generation Package



Nitrogen Generation Package

NON VALIDO PER IL RILASCIO DELLA FORNITURA / *It is not valid for the supply's release*

L' INCARICATO / *The person in charge*	**IL RAPP. DEL CLIENTE** / *Client's Representative*	**IL FORNITORE** / *Supplier*
ROSETTI MARINO *Supply Management dept.*		

QUESTO DOCUMENTO NON SOLLEVA IL FORNITORE DALLA RESPONSABILITA' DI EVENTUALI DIFETTI E/O MALFUNZIONAMENTI RILEVATI DURANTE L'USO /
This document does not relieve the Supplier of the responsibility of any possible defects and/or misfunctioning arising during the utilisation.

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Sedi operative
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24040 COMUN NUOVO – Via Europa, 9

FACTORY ACCEPTANCE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000428
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	INSTRUMENT AIR PACKAGE
ITEM:	A-63000
INSPECTION AND TEST PLAN:	1724000428-QC-ITP-00002
FAT PROCEDURE:	1724000428-QC-PRO-00024
COES JOB:	166/24

ACTIVITY	RESULT
VISUAL AND DIMENSIONAL CHECK	**CONFORM**
LOCAL PANEL WIRING CHECK	**CONFORM (SEE NOTE 1)**
MARKING AND NAMEPLATES CHECK	**CONFORM (SEE NOTE 1)**
PNEUMATIC LEAKAGE CHECK	**NOT WITNESSED**
FAT PERFORMANCE TEST	**CONFORM (SEE NOTE 1 & 2)**
PAINTING CHECK	**CONFORM**

Notes:
1. See attached punch list
2. Operating conditions have been reached.

Client agrees with Coes to dismount all solenoid valves before shipment preparation and re-install them on RM site (Ravenna Yard) after further investigation to identify and resolve the cause of malfunctioning of solenoid valve installed on Nitrogen Generation package, since all the solenoid valves are the same model.

COES SRL Via Pontida, 265 24040 STEZZANO (BG) P.I.C.F. 02529570166 Tel. 035 2050511 29/10/24	ROSETTI MARINO SpA Stefano Linari Quality Control Dept. 29/10/24 Comm. mgr.

DOC. N°: CDC54946

CDC54946 - FAT REPORT – Attachment

INSTRUMENT AIR PACKAGE

- Start the Compressor K-63001A in LOCAL MODE, immediately it goes into LOAD since the pressure 63-PT-064 is below 8 barg. (The compressor working max 10 barg with set point 9 barg).
- Valves in the AIR DRYER fully open. When the pressure 63-PT-064 reaches 8 barg the logic selects the PRE-FILTER /DRYER / AFTER-FILTER.
- Dryer Cycle:
    1. ADSORPTION TOWER A – REGENERATION TOWER B **240 seconds**
    2. ADSORPTION TOWER A – PRESSURIZED TOWER B **60 seconds**
    3. REGENERATION TOWER A – ADSORPTION TOWER B **240 seconds**
    4. PRESSURIZATION TOWER A – ADSORPTION TOWER B **60 seconds**
- The 63-PDT-051 on H alarm we change (with a delay time of 30 seconds) the PRE-FILTER A with PRE-FILTER B and vice versa. (test simulated by putting the negative chamber in atmosphere).
- The 63-PDT-052 on H alarm we change (with a delay time of 30 seconds) the AFTER-FILTER A with AFTER-FILTER B and vice versa. (test simulated by putting the negative chamber in atmosphere).
- The DEW POINT 63-AIT-051 value (-40.58°C).
- The Pressure switches 63-PS-054 / 63-PS-056 / 63-PS-058 / 63-PS-060 DRYER UNIT 1 & 2 we forced to verify the exchange between the DRYER D-63001A/B al DRYER D-63002A/B and vice versa.
- Stop the Compressor K-63001A.
- Start the Compressor K-63001B in LOCAL MODE (verify the changeover with PUSH BUTTON). Compressor K-63001B in STOP, Compressor K-63001A in SERVICE.

ROSETTI MARINO SpA
Stefano Linari
Quality Control Dept.
29/10/24

COES SRL
Via Portalta, 265
24040 STEZZANO (BG)
P.I./C.F. 02529570168
Tel. 035/2050511
29/10/24

For acceptance

ROSETTI MARINO

Base Load Power Hub (BLPH)

Punch List Entry Form

CROSSWIND

Sub-system code:

Sub-system description:
INSTRUMENT AIR PACKAGE A-63000

Date:
29/10/2024

Category "A" → Items to be cleared before the issuance of the RFCC (Ready for Commissioning Certificate).

Category "B" → Items to be cleared before the issuance of the RFOC (Ready For Operations Certificate).

Category "C" → Items to be cleared before Sail Away.

Item N.	Check sheet ref.	Disc.	Tag Number	Raised By	Defect Description / Corrective Action	Attachments	Cat.	Action By	Duty Phase	Deadline date
1.	-		A-63000	RM Comm.	CHECK IF THE SET POINT SHOULD BE SET TO 9.5 SINCE ON THE AIR RECEIVER (63-PT-04) WE HAVE A PRESSURE OF 8.8 barg		B	COES		02/12/24
2.	-		A-63000	RM Comm.	PACKAGE to be test with PLC set to REMOTE MODE		B	COES/RM		02/12/24
3.	-		A-63000	RM Comm.	necessary to set the operating logic to ensure that with a DEW POINT measured > -40°C, the DRYER in operation is exchanged with the DRYER in pause		B	COES/RM		02/12/24
4.	-		A-63000	RM Comm.	TO BE IMPLEMENT: THE PRESSURE SWITCHES IN BAD QUALITY MUST BLOCK AIR DRYER (to be verify at yard)		B	COES/RM		02/12/24
5.	-		A-63000	RM Comm.	TO BE IMPLEMENT: THE INTERVENTION TIME OF THE LIMIT SWITCHES (to be verify at yard)		B	COES		02/12/24
6.			A-63000	RM Comm.	TO BE IMPLEMENTED: VALVE POSITION DISCREPANCY (to be verify at yard)		B	COES		02/12/24
7.			A-63000	RM Comm.	VERIFY AND SET THE EXCHANGE OF THE COMPRESSORS WITH THE DUTY/STAND-BY CYCLE TIME. To be verify and to be tested		B	COES/RM		02/12/24
8.			A-63000	RM Comm.	TO BE VERIFY AND TEST THE CHANGE OVER COMPRESSOR K-63001A TO K-63001B		B	COES		02/12/24
9.			A-63000	RM Comm.	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID WILL BE RE INSTALLED		A	COES		02/12/24
10.			A-63000	RM Comm.	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering		B	RM		02/12/24
11.			A-63000	RM Comm.	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR		B	COES		02/12/24

12.			A-63000	RM Comm.	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE MANDATORY BEFORE PERFORMING THE FUNCTIONAL AND PERFORMANCE TESTS OF THE PACKAGE. ALL PERFORMANCE MUST BE TESTED AND ACCEPTED AT THE CONSTRUCTION SITE		B	COES		02/12/24
13.			A-63000	RM Comm.	ALL HARDWIRED AND PROFINET SIGNALS STILL TO BE TESTED		A	COES		02/12/24
14.			A-63000	S.Linari	TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 – CORRECT RAL 9002		B	COES		02/12/24
15.			A-63000	S.Linari	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR **2024-Q-123A90-0009**		A	COES		02/12/24
16.			A-63000	S.Linari	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		B	COES		02/12/24
17.			A-63000	S.Linari	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		B	COES		02/12/24

Raised by
Contractor / Subcontractor: _____

Checked by
Contractor QA/QC: _____

ROSETTI MARINO SpA
Stefano Linari
Quality Control Dept.
29/10/24

Accepted by
COMPANY: _____

COES SRL
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24040 STEZZANO (BG)
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Tel. 035/2050611

For acceptance

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FACTORY ACCEPTANCE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000437
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	NITROGEN GENERATION PACKAGE
ITEM:	U-64000
INSPECTION AND TEST PLAN:	1724000437-QC-ITP-00002
FAT PROCEDURE:	1724000437-QC-PRO-00023
COES JOB:	167/24

ACTIVITY	RESULT
VISUAL AND DIMENSIONAL CHECK	**CONFORM**
LOCAL PANEL WIRING CHECK	**CONFORM (SEE NOTE 1)**
MARKING AND NAMEPLATES CHECK	**CONFORM (SEE NOTE 1)**
PNEUMATIC LEAKAGE CHECK	**NOT WITNESSED**
FAT PERFORMANCE TEST	**NOT CONFORM (SEE NOTE 1 & 2)**
PAINTING CHECK	**CONFORM**

Notes:
1. See attached punch list
2. Due to continued Solenoid valves failure, the package cycle phases could not properly be recorded. Coes dismounted all solenoid valves before shipment preparation and re-install them on site (Ravenna Yard) after further investigation to identify and resolve the cause of malfunctioning.
Performance test to be repeated on RM site (Ravenna Yard).

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Stefano Linari
Quality Control Dept.
29/10/24
Comm. MGR.

CDC54947 - FAT REPORT - Attachment

NITROGEN GENERATOR PACKAGE

- Start sequence in LOCAL MODE.
- Inlet pressure PACKAGE 64-PT051 8.8 barg.
- Start Phase sequence PSA TOWER C-64001A / C-64001B.
    1. TOWER C-64001A GENERATION - TOWER C-64001B DEPRESSURIZATION **50 sec.**
    2. TOWER C-64001A EQUALIZATION - TOWER C-64001B EQUALIZATION **10 sec.**
    3. TOWER C-64001A DEPRESSURIZATION - TOWER C-64001B GENERATION **50 sec.**
    4. TOWER C-64001A EQUALIZATION - TOWER C-64001B EQUALIZATION **10 sec.**

About an hour after the start of the INSTRUMENT AIR PACKAGE and NITROGEN GENERATION PACKAGE we have the following values:

INSTRUMENT AIR PACKAGE

• AIR RECEIVER PRESSURE	63-PT-064	**8.8 barg**
• TEMPERATURE GAUGE AIR RECEIVER	63-TI-053	**20°C**
• DEW POINT ANALYZER	63-AIT-051	**-47.15**
• FLOW TRANSMITTER	63-FT-051	**320 m3/h**

NITROGEN GENERATION PACKAGE

• PSA INLET PRESSURE	64-PT-051	**8.8 barg**
• OXYGEN ANALYZER	64-AT-051	**2.9% / 3.2%**

ROSETTI MARINO SpA
Stefano Binari
Quality Control Dept
29/10/24

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29/10/24

For acceptance

ROSETTI MARINO

Base Load Power Hub (BLPH)

Punch List Entry Form

CROSSWIND

Sub-system code:	Sub-system description: NITROGEN PACKAGE A-64000	Date: 29/10/2024

Category "A" → Items to be cleared before the issuance of the RFCC (Ready for Commissioning Certificate).

Category "B" → Items to be cleared before the issuance of the RFOC (Ready For Operations Certificate).

Category "C" → Items to be cleared before Sail Away.

Item N.	Check sheet ref.	Disc.	Tag Number	Raised By	Defect Description / Corrective Action	Attachments	Cat.	Action By	Duty Phase	Deadline date
1.	-		A-64000	RM Comm.	PACKAGE to be tested with PLC set to REMOTE MODE		B	COES/RM		02/12/2024
2.	-		A-64000	RM Comm.	THE SOLENOID 64-XV-054 DOES NOT WORK. TO BE INVESTIGATE		A	COES		02/12/2024
3.	-		A-64000	RM Comm.	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID WILL BE RE INSTALLED		A	COES		02/12/2024
4.	-		A-64000	RM Comm.	**During on-site testing phase, it will be necessary to validate that the PACKAGE does not suffer malfunctions due to the low pressure**		B	COES		02/12/2024
5.	-		A-64000	RM Comm.	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		B	COES		02/12/2024
6.			A-64000	RM Comm.	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR - IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR		B	COES		02/12/2024
7.			A-64000	RM Comm.	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE CLOSURE OF VALVE 64-XV-058 AND THE OPENING OF THE VALVE OF VENT 64-XV-059		B	COES		02/12/2024
8.			A-64000	RM Comm.	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering		B	RM		02/12/2024
9.			A-64000	RM Comm.	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE MANDATORY BEFORE PERFORMING THE FUNCTIONAL AND PERFORMANCE TESTS OF THE PACKAGE. ALL PERFORMANCE MUST BE TESTED AND ACCEPTED AT THE CONSTRUCTION SITE		A	COES		02/12/2024

10.			A-64000	RM Comm.	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID		B	COES		02/12/2024
12.			A-64000	RM Comm.	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED			COES/RM		02/12/2024
13.			A-64000	S.Linari	TO BE UPDATED DWG N. 1724000437-MAG-DG-00009 – CORRECT RAL 9002		B	COES		02/12/2024
14.			A-64000	S.Linari	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR **2024-Q-123A90-0009**		A	COES		02/12/2024
15.			A-64000	S.Linari	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		B	COES		02/12/2024
16.			A-64000	S.Linari	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		B	COES		02/12/2024
17.			A-64000	S.Linari	MISSING TAG PLATE ON PSV 64-053 / PSV -64-054			COES		02/12/2024

Raised by
Contractor / Subcontractor: _____

Checked by
Contractor QA/QC: _____

Accepted by
COMPANY: _____

ROSETTI MARINO SpA
Stefano Linari
Quality Control Dept.
29/10/24

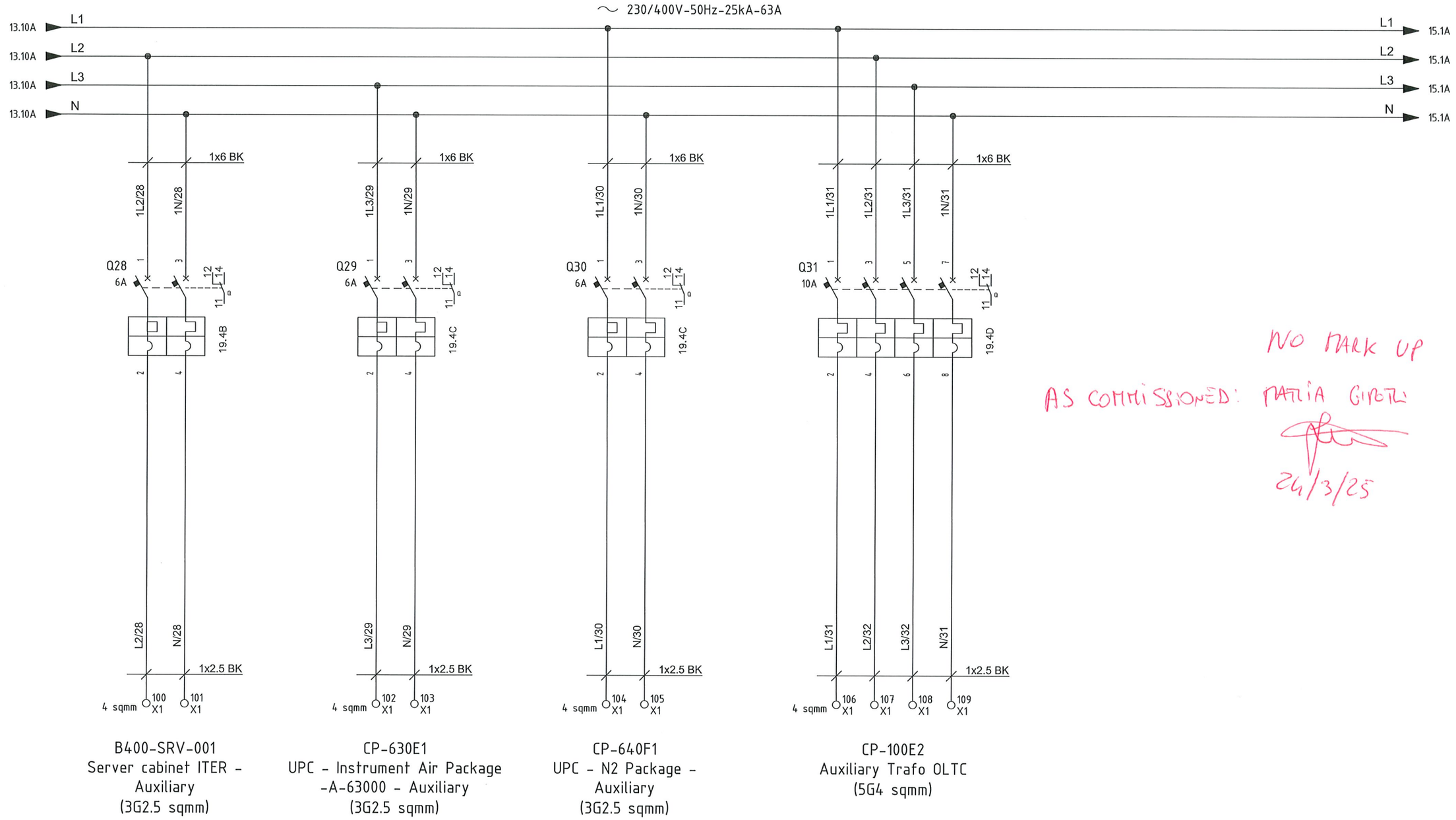
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Tel. 035/2050511
29/10/24

For acceptance

Section 7.3 Vendor Spares & Special Tools lists references

NOT APPLICABLE

Section 7.4 Vendor Data / Operations / Maintenance Manuals References



B400-SRV-001
Server cabinet ITER - Auxiliary
(3G2.5 sqmm)

CP-630E1
UPC - Instrument Air Package -A-63000 - Auxiliary
(3G2.5 sqmm)

CP-640F1
UPC - N2 Package - Auxiliary
(3G2.5 sqmm)

CP-100E2
Auxiliary Trafo OLTC
(5G4 sqmm)

NO MARK UP

AS COMMISSIONED: MATTIA GIROTTI

24/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00033

REV.:	DATE:	SIGNATURE:
3_A	18/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33
Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	12/03/2025	Santinelli	Flamminio	Sigismondi	Replaced Twiligh Switch TW1
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

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

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 1.4

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 03

CAE EPLAN Electric P8

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AUXILIARY
From Lighting & Small Power DB BOP DP 200N1
(Cubicle 33 Q41)
100-240V/N/PE~50/60Hz
back-up fuse gG10A 3G2.5mm2

LINE A
From LV Switchgear SG-200N1
(Cubicle A3/Q1)
Mains 400V;3/PE~50Hz
gG63A 4G35mm2

From LV Switchgear SG 200N1
(Cubicle A7/Q2)
Bypass mains 400V;3/PE~50Hz
gG63A 4G35mm2

LINE B
From LV Switchgear SG 200N1
(Cubicle A4/Q1)
Mains 400V;3/PE~50Hz
gG63A 4G35mm2

Not included in the AEG shipment

Code	Description
Q1	Rectifier input mains breaker
T40	Rectifier input isolation transformer
A1	Rectifier
A2	Inverter
T1	Inverter output isolation transformer
A3-A4	Static by-pass switch
A18	Display control module
A85	Heater
H1	Light

+MBC1
BY-200F3
Bypass transformer cabinet 40 kVA
1000007883.020
10039757

-Q10 L=63/65A I=0,8kA Icu=50kA
-T8 400V/400V 40kVA
-X1 1U,1V,1W,PE
-X10 U,V,W,PE
-X13 U,N,PE
-X14 U,N
-A85
-H1

-Q28.1 NC
-Q28.2 NC

+UPS1
BC-200F3A
Protect 8.33 40-400-210-400
1000007883.010
10039756

+UPS2
BC-200F3B
Protect 8.33 40-400-210-400
1000007883.310
10039755

-Q1 L=100/85A I=1,0kA Icu=50kA
-T40
-A1 REC
-A2 INV
-T1
-F1,-F2,-F3
-A3 SBS
-A4
-A18 Display
-A20 Parallel Adapter
-X3 INV CAN
-X5 INV Sync
-L11,-L12,-L13 Parallel preventive choke coil
-A12,-A13 Remote signaling
-A24.1 BLU PRO
-F91

-X1 2U,2V,2W,PE
-X4 1U,1V,1W,1N,PE
-X4 2U,2V,2W,2N,PE
-X1 4U,4V,4W,PE
-X1 3U,3V,3W,PE
-E1-X1 U,V,W,PE
-E4-X4 U,V,W,N,PE
-E2-X2 L-,L+,PE
-E3-X3 U,V,W,N,PE
-X15 2,3
-X130 1,2
-X5 1U,1V,1W,1N,PE
-X5 2U,2V,2W,2N,PE
-X2 3L+,3L-,PE
-X15 5,7
-X91 3M

-Q71 NC
-Q72 NC
-Q29 INV operation / Manual bypass
-F25

DP-200F3
-QF31 B32A 300mA
-QF32 B32A 300mA
-QF33 B32A 300mA
-QF34 B16A 300mA (5pc)
-QF38 B16A 300mA
-QF39 B10A 300mA (4pc)
-QF42 B13A 300mA (8pc)
-QF43 B13A
-QF50 B10A
-QF51 B6A
-QF52 B6A
-X2 2L+,2L-,PE
-X15 4,5
-X91 2M
-X130 1,2,1PE
-X31 U,N,PE
-X32 U,N,PE
-X33 U,N,PE
-X34 U,N,PE
-X38 V,N,PE
-X39 V,N,PE
-X42 W,N,PE
-X43 W,N,PE
-X50 U,N,PE
-X51 V,N,PE
-X52 V,N,PE
-X2 4L+,4L-,PE
-X15 8,9
-X91 4M
-X130 3,4,2PE

Not included in the AEG shipment
max. gG16A
max. gG16A
Load
400/230V;3/N/PE~50Hz

+BFB1
CB-200F3A
Battery fuse box 200 A
-Q2 L=200A
DC 24V max. 300W
2(1x70 mm2)

+BFB2
CB-200F3B
Battery fuse box 200 A
-Q2 L=200A
DC 24V max. 300W
2(1x70 mm2)

+BAT1
BA-200F3A
Batteries installed on rack
18 x FLG 12-150
Battery voltage 216V
Battery capacity 150Ah
string 1
-RBTMN

+BAT2
BA-200F3B
Batteries installed on rack
18 x FLG 12-150
Battery voltage 216V
Battery capacity 150Ah
string 1
-RBTMN

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000372-EL-DG-00009

REV.:	DATE:	SIGNATURE:
3_A	15/11/24	G.Randi

ROSETTI MARINO SpA

AS-COMMISSIONED
DAVIDE ZUCCONELLI
NO MARK UP
21/03/2025

*1 Attention! In the event of battery undervoltage < 130 V, the UPS automatically switches off battery isolator Q2.
If this happens, switch X15:3 must be switched into the open position (undervoltage trip blocked).
For restart, please refer to the chapter in the UPS operating instructions (charging the DC link capacitors) attached.
Unlock the tripped switch Q2 by switching to open position.
After charging the DC link capacitors, switch on Q2.
Attention! When the battery voltage reaches > 200 V, switch X15:3 must be switched back to the closed position.

*2 Connection cables are not included.

1000007888_010

ROSETTI MARINO
Mohammed Bin Rashid Al Maktoum Port Farm
AEG
System 40 kVA
Single-line diagram
1000007888_310 en
A0

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	PACKAGE WIRING DIAGRAM INCLUDING LAYOUT OF PACKAGE CONTROL PANEL	Sheet 1 of 52 Date: 24/01/2025 Rev: 04

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE

PACKAGE WIRING DIAGRAM

INCLUDING LAYOUT OF PACKAGE CONTROL PANEL

Document Number: 1724000437-MAC-DG-00009

Document Class: 2

AS COMMISSIONED
GIROTTI MATTIA
No MARK UP
LAURENTIU GROZAVU
25/03/2025

Rev.	Date	Description	Prepared	Reviewed	Approved
04	24/01/2025	Accepted for Construction (AFC)	GT	MC	TM
03	13/12/2024	Accepted for Construction (AFC)	GT	MC	TM
02	22/10/2024	Accepted for Construction (AFC)	GT	MC	TM
01	01/07/2024	Issue for Review (IFR)	GT	MC	TM
00	08/05/2024	Issue for Review (IFR)	GT	MC	TM

COES

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File: 1724000437-MAC-DG-00009_04

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	PREPARED	CHECKED AND APPROVED	CUSTOMER APPROVAL	DATE	DESCRIPTION
	ASSOLARI O.	TIRABOSCHI T.		02.05.2024	FIRST ISSUE
A	ASSOLARI O.	TIRABOSCHI T.		30.05.2024	ACCORDING TO CUSTOMER COMMENTS
B	ASSOLARI O.	TIRABOSCHI T.		01.08.2024	ACCORDING TO CUSTOMER COMMENTS
C	ASSOLARI O.	TIRABOSCHI T.		04.09.2024	AS-BUILT
D	ASSOLARI O.	TIRABOSCHI T.		18.11.2024	COMMENTS AFTER COMMISSIONING
E	ASSOLARI O.	BERETTA L.		23.01.2025	COMMENTS AFTER COMMISSIONING
F					

	PREPARED	CHECKED AND APPROVED	CUSTOMER APPROVAL	DATE	DESCRIPTION
G					
H					
I					
L					
M					
N					

TEST CERTIFICATE N	2024.134

ELECTRICAL CABINET	=PLANT +LOCATION	WORK ORDER SERIAL NUMBER

TITLE

COMMAND AND CONTROL SWITCHBOARDS NITROGEN GENERATION PACKAGE 64-LP-001 WIRING DIAGRAM

REF. Netherlands

TECHNICAL AND CONSTRUCTIVE FEATURES

ELECTRICAL

RATED VOLTAGE:

RATED FREQUENCY:
50Hz

RATED CURRENT:
32A

AUXILIARY CIRCUIT SUPPLY:
230Vac~ 24Vdc

SHORT CIRCUIT CURRENT:
10kA

EARTH BUSBAR SECTION:
Cu 20x5 mm²

REFERENCE STANDARDS:
IEC 61439-1

MECHANICALS

DEGREE OF PROTECTION (INT.):
IP20

DEGREE OF PROTECTION (EXT.):
IP66

INTERNAL PAINTING:
STEEL

EXTERNAL PAINTING:
STEEL

SEGREGATION FORM:
--

PAINTING PROCEDURE:

DOCUMENT NUMBER:
1724000437-MAT-PRO-00021

INSTALLATION CONDITIONS

ENVIRONMENT TEMPERATURE:
-5° - 41°C

RELATIVE HUMIDITY:
90%

ALTITUDE:
<= 1000mt s.l.m.

INSTALLATION:
FOR EXTERNAL

CABLE INCOMING:
FROM LOW

CABLE OUTGOING:
FROM LOW

WIRING

COLORS

POWER CIRCUITS:
BLACK

ac AUXILIARY CIRCUITS:
BLACK

dc AUXILIARY CIRCUITS:
BLACK

CIRCUITS NOT ISOLATED BY GENERAL DEVICE:
ORANGE

EARTH CIRCUITS:
YELLOW/GREEN

SECTIONS

POWER CIRCUITS:
MINIMUM 2,5mm²

AUXILIARY CIRCUITS:
MINIMUM 1,5mm²

ELECTRONIC CIRCUITS:
MINIMUM 0,5mm²

CURRENT MEASURE CIRCUITS:
2,5mm²

VOLTAGE MEAUSURE CIRCUITS:
2,5mm²

CABLE TYPE:
FS17

TERMINALS

AUXILIARY:
2,5mm²

VOLTAGE MEAUSURE CIRCUITS:
6mm² WITH DISCONNECTING SLIDE-LINK

CURRENT MEASURE CIRCUITS:
6mm² WITH DISCONNECTING SLIDE-LINK AND SHORT-CIRCUIT CROSS CONNECT.

THE COLORS OF THE WIRE DON'T SPECIFIED ARE:

THE SECTIONS OF THE WIRE DON'T SPECIFIED ARE mm²:

COES S.r.l.
Via Pontida , 265
24040 Stezzano (BG)-Italy

Tel. +39 035 2050 511 Fax +39 035 2050 532
www.coessrl.com coes@coessrl.com

LEVELS	DRAWING N.	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	d241024-WD		01
	WORK ORDER N. 2024.4813_001	LOCATION	NEXT 02
DESCRIPTION: COVER			TOTAL 49

LETTER	TYPE OF COMPONENT	EXAMPLE	MARK
A	ASSEMBLED	LASER MASER REGULATOR	A
		TRANSISTOR AMPLIFIER INTEGRATED CIRCUITS AMPLIFIER MAGNETIC AMPLIFIER VALVE AMPLIFIER	AD AJ - AP AM - AT AV - AR
B	TRASDUCER OF QUANTITY NON-ELECTIC TO ELECTRIC OR VICEVERSA	PHOTOELECTRIC CELL ELECTRIC DYNAMOMETER CRISTAL TRASDUCER MICROPHONE PICK-UP LOUDSPEAKER SYNCRONOUS TRANSMITTER	B
		TRANSDUCER OR ANALOGIC SENSOR OR NUMERIC WITH MULTIPLE STEPS (USABLE FOR INDICATION OR THE MEASURE): PRESSURE TRANSDUCER POSITION TRANSDUCER ROTATION TRANSDUCER (TACHOMETRIC GENERATOR) TEMPERATURE TRANSDUCER VELOCITY TRANSDUCER	 BP BQ BR BT BV
C	CAPACITORS	CAPACITORS	C
D	BYNARY ELEMENTS DEVICE OF DELAY DEVICE OF STORAGE	DEVICE AND INTEGRATED CIRCUITS DIGITAL: DELAY LINE ELEMENT BISTABLE ELEMENT MONOSTABLE RECORDER MEMORY MAGNETIC RECORDER ON TAPE OR ON DISC	D
E	MATERIALS SUNDRIES	DEVICE NOT SPECIFIED IN THIS TABLE	E
		HEATER ILLUMINATION LAMP VENTILATOR	EH EL EV
F	PROTECTION DEVICE	OVER-VOLTAGE DEVICE SOURGE ARRESTER	F
		DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH INSTANTANEOUS ACTION DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH DELAYED ACTION DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH INSTANTANEOUS ACTION AND DELAYED FUSE DEVICE OF PROTECTION WITH VOLTAGE THRESHOLD	 FA FR FS FU FV
G	GENERATOR POWER SUPPLY	ROTATING GENERATOR QUARZ OSCILLATOR	G
		BATTERY OF ACCUMULATORS CONVERTER OF FREQUENCY ROTATING OR STATIC POWER SUPPLY	GB GF GS
H	SEGNALLING DEVICE	ACUSTIC SIGNAL OPTICAL / LUMINOUS INDICATOR	HA HL
K	RELAY CONTACTOR	RELÈ ISTANTANEO CON TUTTO O NIENTE O CONTATTORI ISTANTANEO RELÈ BISTABILI O CONTATTORI INTERBLOCCATI (RELÈ CON TUTTO O NIENTE CON ACCOPPIATORE MECCANICO O MAGNETE PERMANENTE) CONTATTORI RELÈ POLARIZZATO RELÈ REED RELÈ TEMPO CON TUTTO O NIENTE (TIMER)	KA KL KM KP KR KT
L	INDUCTOR, REACTOR	INDUCTOR, RECTOR, COIL	L
M	MOTOR	MOTOR	M
N	ANALOG CIRCUIT INTEGRATED	OPERATIONAL AMPLIFIER ANALOG/DIGITAL HYBRID APPARATUS	N

LETTER	TYPE OF COMPONENT	EXAMPLE	MARK
P	TEST DEVICE AND INSTRUMENT	DEVICE OF MEASURE INDICATOR RECORDERS AND INTEGRATORS GENERATOR OF SIGNALS	P
		AMPEROMETER COUNTER OF IMPULSES WATTMETER APPARATUS RECORDER CLOCK / COUNTER OF HOURS OF SERVICE VOLTMETER	PA PC PJ PS PT PV
Q	MANOEUVRE APPARATUS FOR POWER CIRCUITS	SWITCH AUTOMATIC MOTOR PROTECTION DISCONNETTING SWITCH	QF QM QS
R	RESISTOR	FIXED OR VARIABLE (RHEOSTAT) RESISTOR	R
		POTENTIOMETER DERIVATIVE RESISTOR WITH INTRINSIC VARIATION DEPENDENT OF TEMPERATURE (THERMISTOR) RESISTOR WITH INTRINSIC VARIATION DEPENDENT OF VOLTAGE (VARISTOR)	RP RS RT RV
S	COMMAND OR CONTROL APPARATUS	SELECTOR OR COMMUTATOR PUSH BUTTON (INTO DEVICE ELECTRONIC OF COMMAND WITH PROXIMITY) SENSORS WITH ALL OR NOTHING NUMERIC (WITH STEP SINGLE) OF NATURE MECCANIC AND ELECTRONIC: - SENSOR OF LEVEL OF LIQUID - SENSOR OF PRESSURE - SENSOR OF POSITION (INTO OF PROXIMITY) - SENSOR OF ROTATION - SENSOR OF TEMPERATURE	SA SB SL SP SQ SR ST
T	TRANSFORMER	CURRENT TRANSFORMER COMMAND CIRCUITS POWER SUPPLY TRANSFORMER POWER TRANSFORMER MAGNETIC STABILIZER VOLTAGE TRANSFORMER	TA TC TM TS TV
U	MODULATOR CONVERTER	DISCRIMINATOR DEMODULATOR FREQUENCY CONVERTER ENCODER CONVERTER INVERTER TELEGRAPHIC TRANSLATOR	U
V	ELECTRONIC TUBE SEMICONDUCTOR	ELECTRONIC TUBE GAS DISCHARGE TUBE DIODE TRANSISTOR THYRISTOR	V
		RECTIFIER FOR COMMAND CIRCUITS POWER SUPPLY	VC
W	TRANSMISSION WAYS WAVE GUIDES AERIALS	WIRE CABLE BUS BAR WAVE GUIDE WAVE GUIDE DIRECTIONAL COUPLER DIPOLE PARABOLIC AERIAL	W
X	TERMINAL OUTLET PLUG	CONNECTING BUS BAR TEST PLUG PLUG OUTLET TERMINAL BOARD	XB XJ XP XS XT
Y	APPARATUS MECHANICS ELECTRICALLY OPERATED	ELECTROMAGNET ELECTROMAGNETIC BRAKE ELECTROMAGNETIC FRICTION MAGNETIC MANDREL OR TABLE ELECTROMAGNETIC VALVE	YA YB YC YH YV
Z	TRANSFORMER, IMPEDANCE ADAPTOR EQUALIZER, BAND LIMITER	EQUALIZER OF LINE COMPRESSOR CRYSTAL FILTER	Z

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: MARKS OF IDENTIFIERS ACC. TO IEC 204-2	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
02	03	49

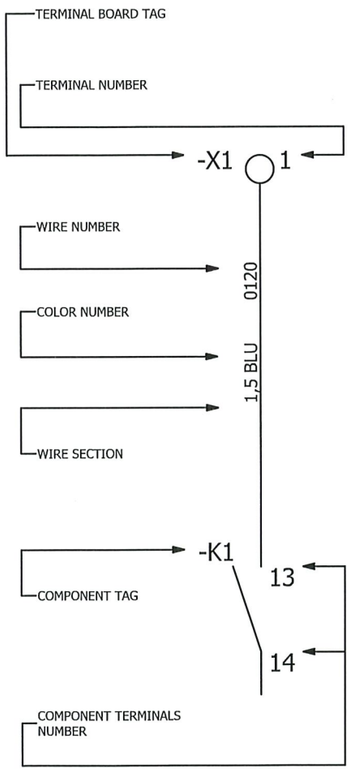
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TABLE SYMBOLS

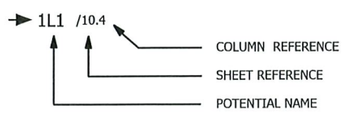
DEFINITION OF IDENTIFIERS (CEI3-34)		
CODE 1	PLANT	=
CODE 2	LOCATION	+
CODE 3	TAG	-
CODE 4	TERMINAL	:

NUMERATION WIRES AND TERMINALS

(CEI 16-1)



POTENTIAL CHAIN



SYMBOL	DESCRIPTION
	TERMINAL
	COLLECTOR BUS-BAR CONNECTION
	FUSE TERMINAL
	FUSE TERMINAL WITH LED
	PUSH BUTTONS
COLOR	HEAD
COLOR	GENERICS
COLOR	LUMINOUS
	SELECTORS
NC	POSITION 0/1
NO	POSITION 1/0/2 FIXED
	POSITION 1/0/2 IMPULSIVE
COLOR	LUMINOUS
	WITH KEY
COLOR COLOR	LED - LAMP
COLOR	LIGHTING BODY FOR OPERATOR LIGHT
	ISOLATED BARRIER (SWITCH AMPLIFIER)
	ISOLATED BARRIER (TEMPERATURE REPEATER)

SYMBOL	DESCRIPTION
	AUXILIARY RELAY POWER RELAY
	TIMED RELAY DELAYED TO EXCITATION
	TIMED RELAY DELAYED TO THE DROP-OUT
	RELAY STEP BY STEP
	POWER CONTACT
	OPEN AND CLOSE AUXILIARY CONTACT
	EXCHANGE AUXILIARY CONTACT
	NORMALLY OPEN NORMALLY CLOSE AUXILIARY CONTACT DELAYED ON OPENING
	NORMALLY OPEN NORMALLY CLOSE AUXILIARY CONTACT DELAYED ON CLOSING
RC	OVERVOTAGE LIMITER

SYMBOL	DESCRIPTION
	TOROIDAL TRANSFORMER
NETWORK ANALIZER	NETWORK ANALIZER
	GENERIC PROTECTION COMMON: -VOLTMETRIC -AMMETRIC -TRANSDUCER
V	VOLTMETER
A	AMMETER
	COMMUTATOR: VOTMETRIC
	AMMETRIC
...n	DIODE MODULE
	Ac/Dc POWER SUPPLY
	BIT PLC
	PIN NUMBER
DI5	PIN DESCRIPTION
10A1	TAG CARD
/10.1	REF. SHEET.COLUMN
%I0.5	PLC ADRESS
_ABC000_DEF_GHI	SYMBOLIC ADRESS
PLC BIT COMMENT	PLC BIT COMMENT
	TAG CARD
	PIN DESCRIPTION
	PLC ADRESS
	SHEET REFERENCE
	COLUMN REFERENCE
E4.5 -E0:7 /10.1 PLC BIT COMMENT	PLC BIT COMMENT

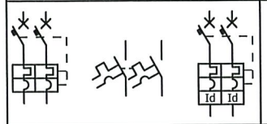
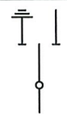
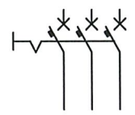
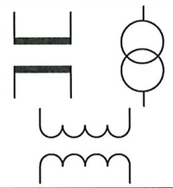
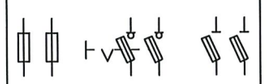
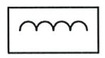
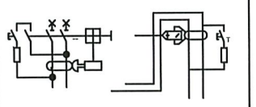
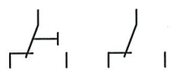
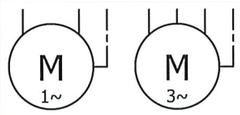
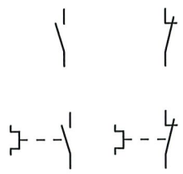
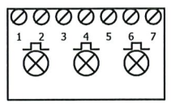
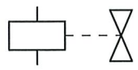
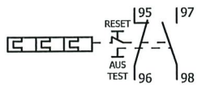
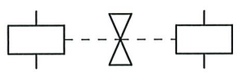
SYMBOL	DESCRIPTION
	HORN
	RESISTOR
	OUTLET SOCKET
	FAN
	MECHANICAL INTERLOCKED
	KEY FREE WITH CLOSED DOOR
	KEY FREE
	KEY LOCKED
	CONNECTOR
	LIMIT SWITCH
P>	AIR PRESSURE SWITCH
L	LEVEL SWITCH
F	SENSOR FILTER
T f	THERMOSTAT
	REED MAGNETIC PROXIMITY SENSOR

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

coes 20th 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN / PAGE: 03
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE / NEXT: 04
DESCRIPTION: COMMON SYMBOLS	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 49

TABLE SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SWITCH DISCONNETING SWITCH		GEARED MOTOR DEVICE		LINE/EARTH DISCONNECTING SWITCH MEDIUM VOLTAGE		CURRENT TRANSFORMER
	SWITCH: MAGNETOTHERMAL MAGNETOTERMAL+DIFFERENTIAL	YO	OPENING COIL		LINE/EARTH DISCONNECTING SWITCH MEDIUM VOLTAGE		VOLTAGE TRANSFORMER
		YC	CLOSING COIL				
		YU	MINIMUM VOLTAGE COIL				
	AUTOMATIC SWITCH		CAPACITOR POLARIZD CAPACITOR		MEDIUM VOLTAGE SWITCH		POWER TRANSFORMER
	DISCONNETTING SWITCH WITH FUSE		REACTOR		EARTH DISCONNETTING SWITCH MEDIUM VOLTAGE		
	DIFFERENTIAL SWITCH MINIATURE DIFFERENTIAL		THERMIC PROBE PT100		CAPACITIVE LIVE LINE INDICATOR		
	SOURGE ARRESTER		THERMOCOUPLE				
	EXCHANGE AUXILIARY CONTACT OF: -POSITION -SIGNALLING FOR SWITCH-DISCONNECTOR		ASYNCHRONOUS MOTOR SINGLE-PHASE THREE-PHASE				
	NORMALLY OPEN/CLOSE AUXILIARY CONTACT FOR: -SWITCH-DISCONNECTING SWITCH -AUTOMATIC/MAGNETOTH. SWITCH -THERMAL RELAY		THREE-PHASE FLASHING-LIGHT				
			SIMPLE SOLENOID VALVE				
	RELAY THERMAL WITH AUXILIARY CONTACTS		DOUBLE SOLENOID VALVE				

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 04
DESCRIPTION COMMON SYMBOLS	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 05
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

INDEX PAGES

PAGE	DATE	PREPARED	DESCRIPTION	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.
=NITROGEN+QE/01	02.05.2024	ASSOLARI O.	COVER	30.05.2024	A	01.08.2024	B	04.09.2024	C	18.11.2024	D	23.01.2025	E														
=NITROGEN+QE/02	02.05.2024	ASSOLARI O.	MARKS OF IDENTIFIERS ACC. TO IEC 204-2	30.05.2024	A																						
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=NITROGEN+QE/04	02.05.2024	ASSOLARI O.	COMMON SYMBOLS	30.05.2024	A																						
=NITROGEN+QE/05	02.05.2024	ASSOLARI O.	INDEX PAGES	30.05.2024	A	01.08.2024	B	04.09.2024	C	18.11.2024	D	23.01.2025	E														
=NITROGEN+QE/06	02.05.2024	ASSOLARI O.	INDEX PAGES	30.05.2024	A	01.08.2024	B	04.09.2024	C	18.11.2024	D	23.01.2025	E														
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=NITROGEN+QE/21	02.05.2024	ASSOLARI O.	INCOMING LINE 230Vac FROM UPS	30.05.2024	A			04.09.2024	C																		
=NITROGEN+QE/22	02.05.2024	ASSOLARI O.	SAFETY RELAY 24Vdc	30.05.2024	A			04.09.2024	C																		
=NITROGEN+QE/25	02.05.2024	ASSOLARI O.	NETWORK ARCHITECTURE	30.05.2024	A																						
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=NITROGEN+QE/35	02.05.2024	ASSOLARI O.	SUMMARY CPU	30.05.2024	A																						
=NITROGEN+QE/36	02.05.2024	ASSOLARI O.	SUMMARY CARDS I/O RACK																								
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=NITROGEN+QE/53	02.05.2024	ASSOLARI O.	DIGITAL OUTPUT I/O RACK			01.08.2024	B																				

AS COMMISSIONED
GIROTTI MATTIA

NO MARK UP
25/03/2025

GROZAVU LAURENTIU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
E	23.01.2025	O.A.			
D	18.11.2024	O.A			
C	04.09.2024	O.A.			
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 05
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 06
DESCRIPTION: INDEX PAGES	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

INDEX PAGES

PAGE	DATE	PREPARED	DESCRIPTION	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.
=NITROGEN+QE/54	02.05.2024	ASSOLARI O.	ANALOG INPUT I/O RACK	30.05.2024	A																						
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=NITROGEN+QE/70	02.05.2024	ASSOLARI O.	TERMINAL BOARD -X1																								
=NITROGEN+QE/71	02.05.2024	ASSOLARI O.	TERMINAL BOARD -X2																								
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=NITROGEN+QE/75	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XDO			01.08.2024	B																				
=NITROGEN+QE/76	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XY			01.08.2024	B																				
=NITROGEN+QE/77	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XAI					04.09.2024	C																		
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=NITROGEN+QE/85	02.05.2024	ASSOLARI O.	COMPONENT LIST	30.05.2024	A	01.08.2024	B																				
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=NITROGEN+QE/88	02.05.2024	ASSOLARI O.	COMPONENT LIST	30.05.2024	A	01.08.2024	B																				

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GIROTTI MATTIA

NO MARK UP
25/03/2025

GROZAVU LAURENTIU

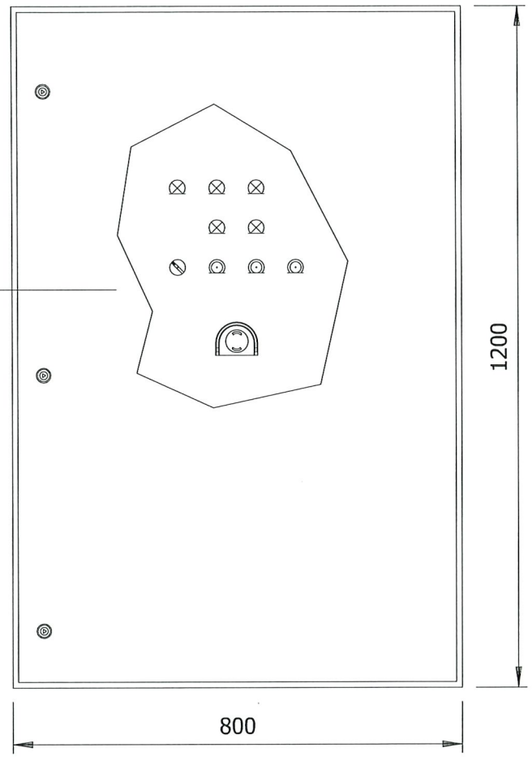
REV.	DATE	PREPARED	REV.	DATE	PREPARED
E	23.01.2025	O.A.			
D	18.11.2024	O.A			
C	04.09.2024	O.A.			
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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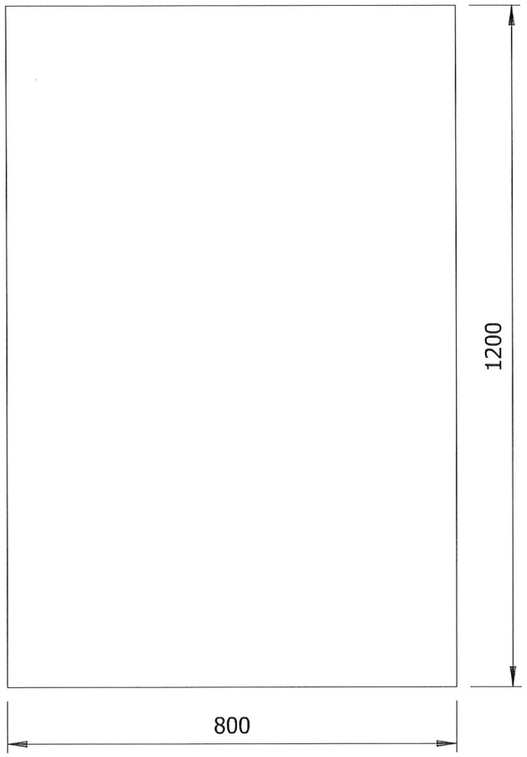
PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 06
DESCRIPTION: INDEX PAGES	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 10
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

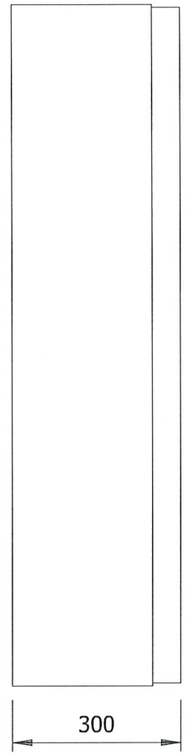
64-LP-001
FRONT



FRONT WITHOUT DOOR



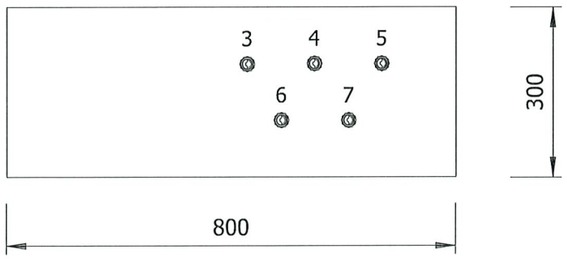
SIDE



OPERATORS
EXAMPLE



FRONT BOTTTOM



3 =M20 CABLE "84312-CEL"

4 =M20 CABLE "83111-CEL"

5 =M20 CABLE "C-64-XS-001/B400-SIS-001"

6 =M20 CABLE "C-64-XA-003/B400-SIS-001"

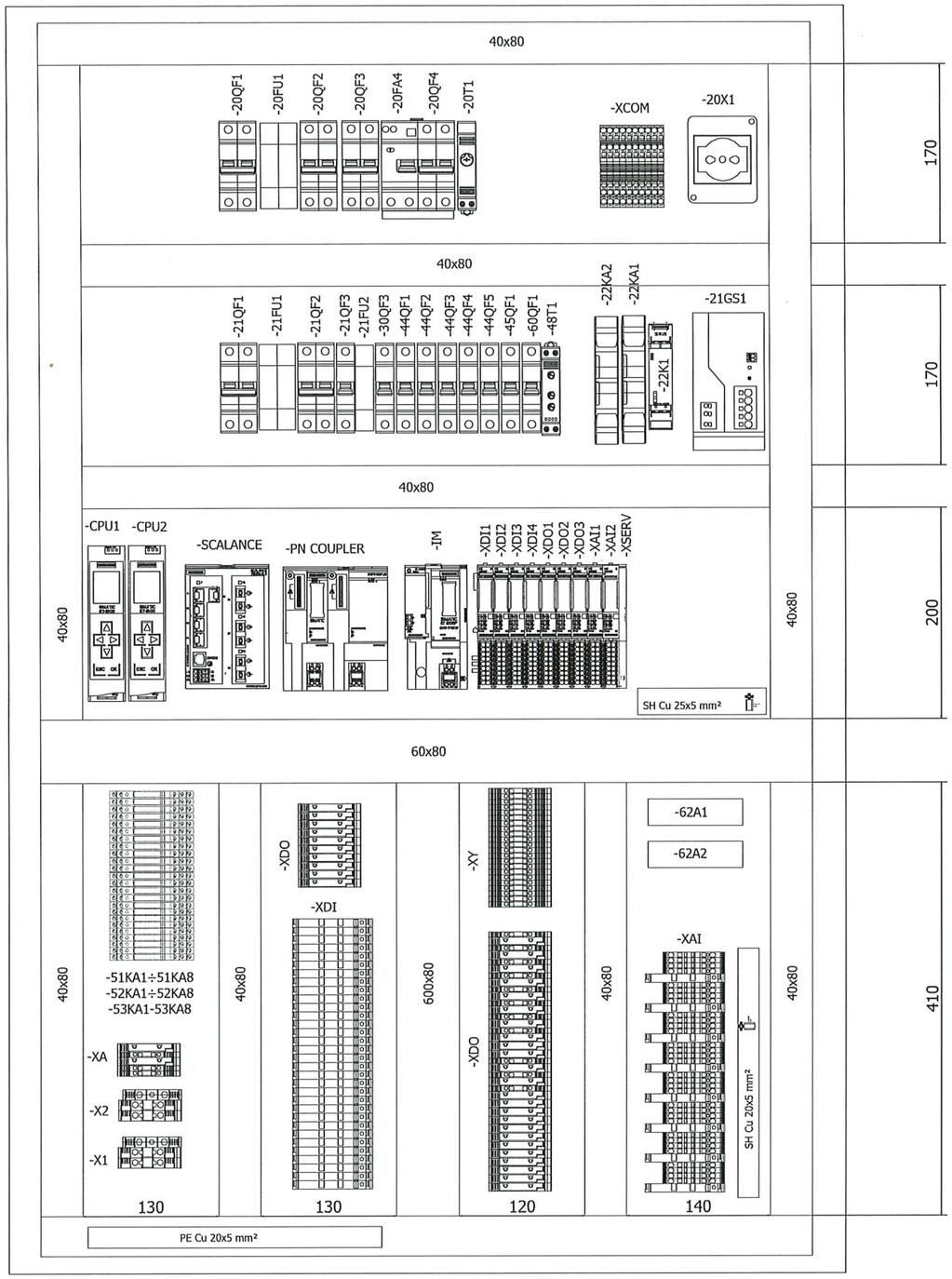
7 =M20 CABLE "64-LP-001/B400-NET-001"

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GIPOTTI MATTIA
NO MARK UP
25/03/2025
GROZAVU LAURENTIU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024				
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 10
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 11
DESCRIPTION: EXTERNAL VIEWS	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49



64-LP-001

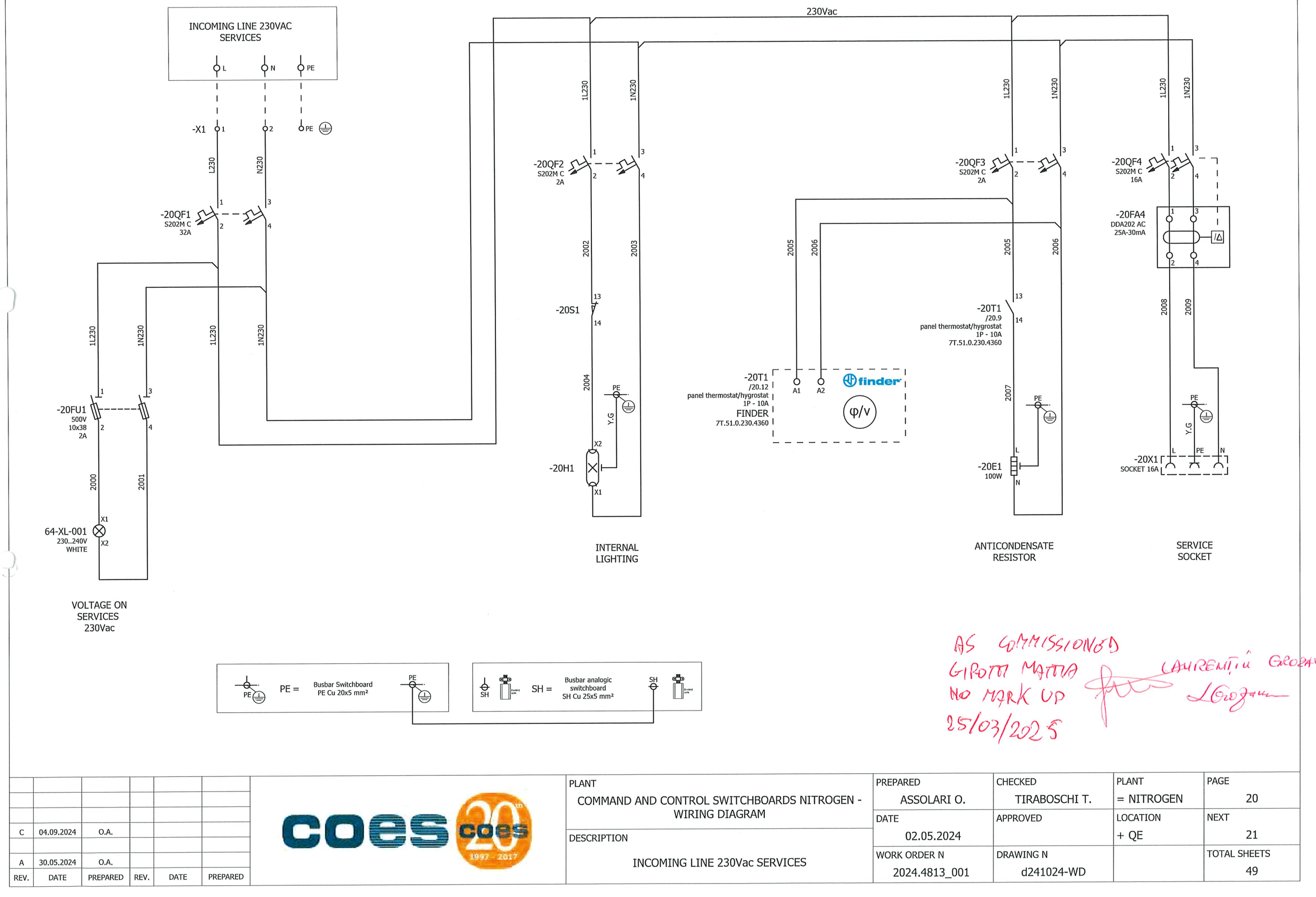
INTERNAL

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25/03/2025

LAURENTIIS GRAZIANO

REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 11
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 20
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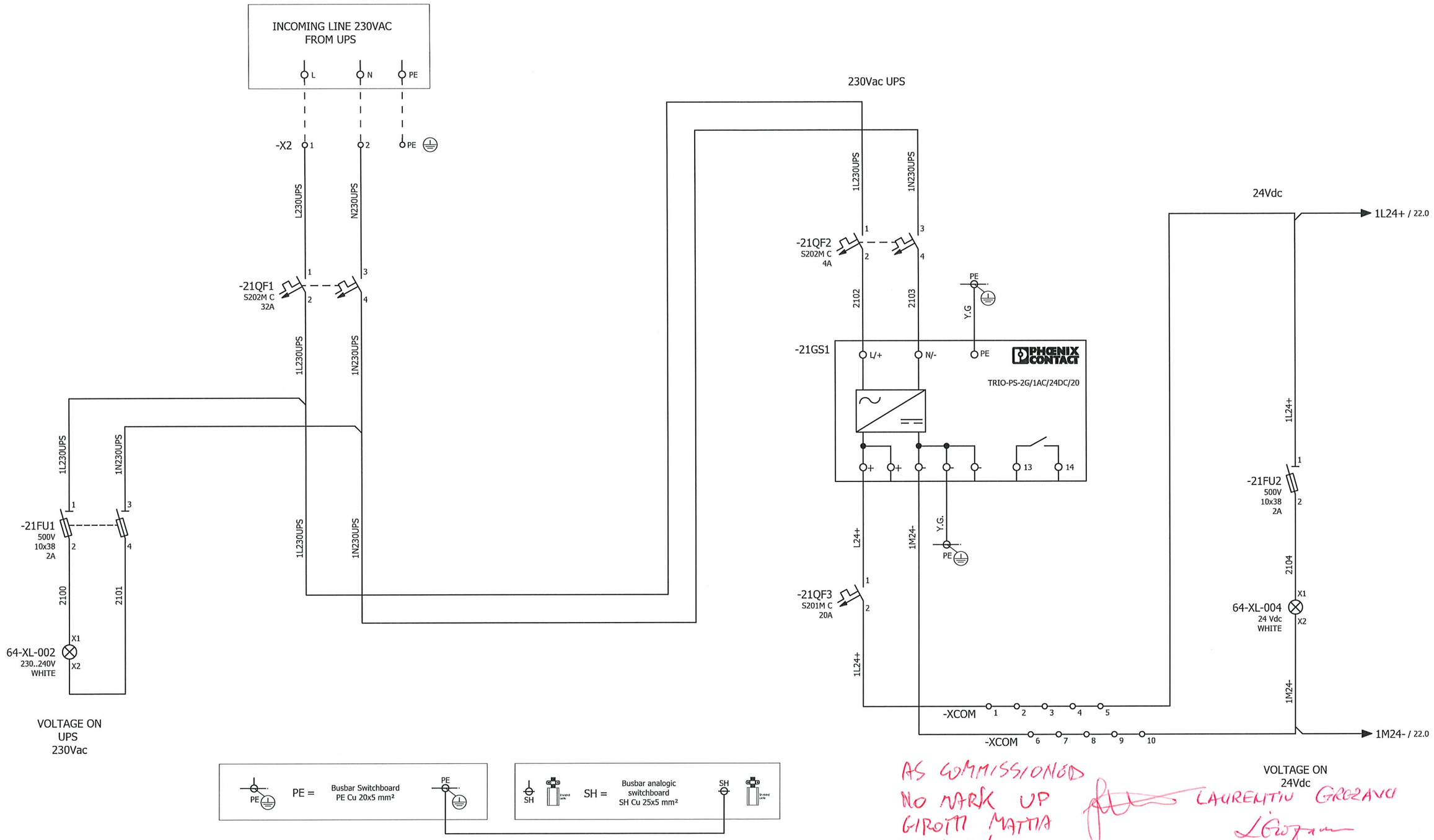


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GIROTTI MATTIA
NO MARK UP
25/03/2025

REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: INCOMING LINE 230Vac SERVICES	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
20	21	49



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GIROTTI MATTIA
25/03/2025

LAURENTIU GROZAVU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: INCOMING LINE 230Vac FROM UPS	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 49

PAGE
21
NEXT: 22

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

24Vdc

21.15 / 1L24+ → 1L24+ / 30.0

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GROOT MATTIA
MARK UP
25/03/2025 LAURENTIU GROZAVU

+FIELD
/ +24V
/ 0Vdc
Shut-Down Command
from SIS 64-XS-001
(0=FAULT)
120 Ohm
-XA 1 2
5x20F
2A
2200
2201

-22KA1
1 2 3 4
RELAY SIL
GMI.D5244D
Output I
15/16 14 13
COM NO NC
Output I
19/20 18 17
COM NO NC
gmi
2202
2203

1L24+
-XA 3
5x20F
2A
64-SBM-001 F 21 22
/22.6
RED
EMERGENCY
2204
2205
22L24+
2208
2209

64-HS-003 E 13 14
/48.10
SAFETY RELAY
RESET
2206
2207

-22K1
A1 T1 IN1 T2 IN2 T3 IN3 T4 IN 13 23 33 41
+ f/s
Logic
Autostart / Monitored Start
SIEMENS
3SK1111-1AB30
A2 14 24 34 42
1M24-
22L1+
22L2+

64-SBM-001 F 21 22
/22.9
RED
EMERGENCY

-22KA2
2210
1M24-
1 2 3 4
RELAY SIL
GMI.D5244D
Output I
15/16 14 13
COM NO NC
Output I
19/20 18 17
COM NO NC
gmi
2211
2212
-XA 4 5
+FIELD
CUMULATIVE
CRITICAL ALARM
TO SIS 64-XA-003
(0=FAULT)

22L2+ / 51.0
VALVE POWER SUPPLY

22L1+ / 48.14
SHUTDOWN INDICATION

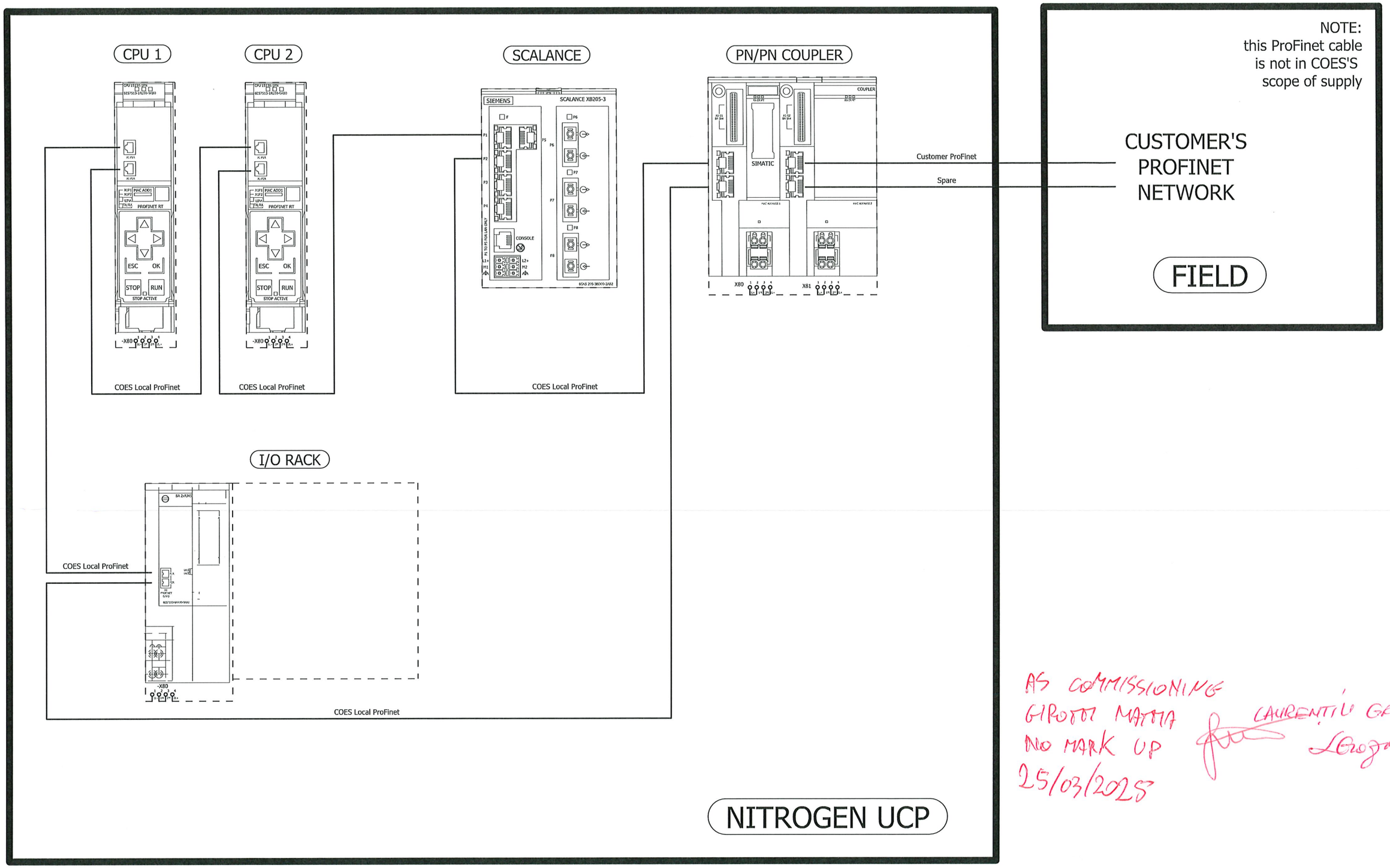
21.15 / 1M24- → 1M24- / 30.0

REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SAFETY RELAY 24Vdc	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
22	25	49



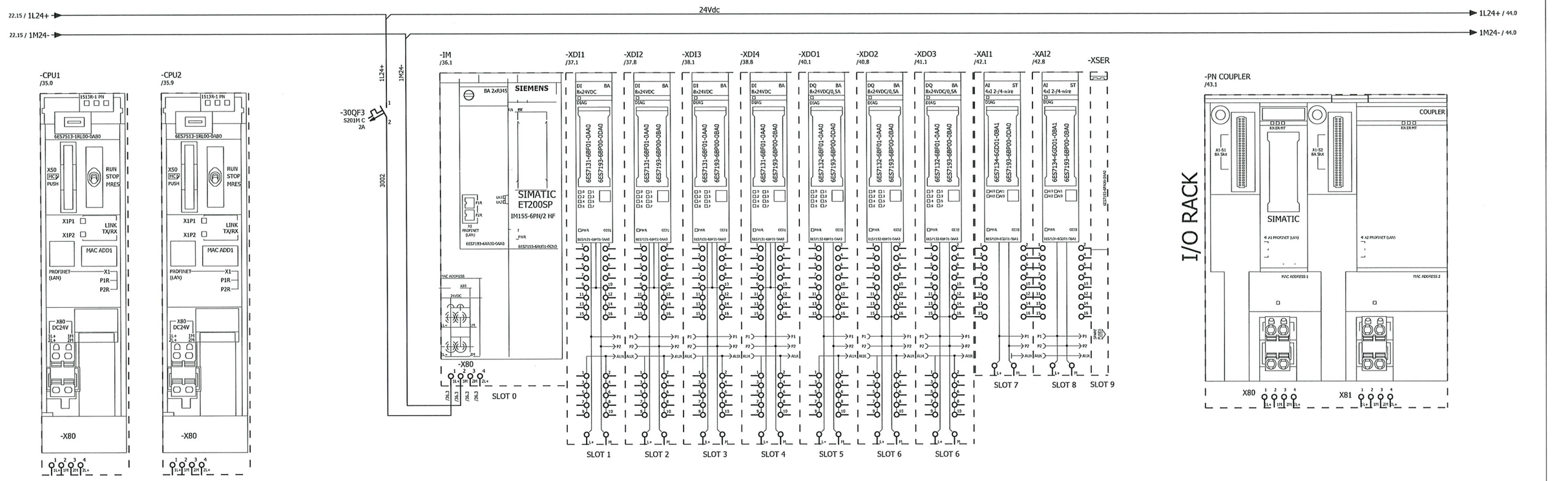
AS COMMISSIONING
GIROTTI MATTIA
NO MARK UP
25/03/2025

LAURENTIU GROZAVU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: NETWORK ARCHITECTURE	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
25	30	49



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NO MARK UP
25/03/2025

LAURENTIU GROZAVU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: PLC CONFIGURATION	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 49

PAGE	NEXT
30	35

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

-CPU1
/30.0
/44.10
SIE.6ES7513-1RL00-0AB0
SIE.6ES7954-8LF03-0AA0

S7-1500 SIEMENS
CPU 1513 R

X1P1 R: PN /61.1
X1P2 R: PN /61.2

-X80:1 1L+ /44.10 POWER SUPPLY CPU 1513R-1PN - CPU1
-X80:2 1M /44.10
-X80:3 2M /44.10
-X80:4 2L+ /44.11

6ES7513-1RL00-0AB0

-CPU2
/30.1
/44.13
SIE.6ES7513-1RL00-0AB0
SIE.6ES7954-8LF03-0AA0

S7-1500 SIEMENS
CPU 1513 R

X1P1 R: PN /61.5
X1P2 R: PN /61.6

-X80:1 1L+ /44.13 POWER SUPPLY CPU 1513R-1PN - CPU2
-X80:2 1M /44.13
-X80:3 2M /44.13
-X80:4 2L+ /44.13

6ES7513-1RL00-0AB0

AS COMMISSIONED
GIROTTI MATTIA
NO MARK UP
25/03/2025
LAURENTIU GROZAVU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 35
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 36
DESCRIPTION: SUMMARY CPU	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

/30.4

-IM
SIE.6ES7155-6AU01-0CN0
SIE.6ES7193-6AR00-0AA0

ET 200SP
IM 155-6 PN/2 HF
SIEMENS

X1P1 R: PN /61.1
X1P2 R: PN /61.2

-X80:1 1L+ /30.4
-X80:2 1M /30.4
-X80:3 2M /30.4
-X80:4 2L+ /30.4

6ES7155-6AU01-0CN0

AS COMMISSIONED
GIROTTI MATTIA
NO MARK UP
25/03/2025

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REV.	DATE	PREPARED	REV.	DATE	PREPARED

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 36
DESCRIPTION: SUMMARY CARDS I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 37
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7131-6BF01-0AA0
6ES7193-6BP00-0DA0

-XDI1
/30.5

0 %I0.0 1 DI0	/46.0	64-ZSH-051	VALVE 64-XV-051 OPEN LIMIT SWITCH		
0 9 24VDC					
1 %I0.1 2 DI1	/46.2	64-ZSL-051	VALVE 64-XV-051 CLOSED LIMIT SWITCH		
1 10 24VDC					
2 %I0.2 3 DI2	/46.4	64-ZSH-052	VALVE 64-XV-052 OPEN LIMIT SWITCH		
2 11 24VDC					
3 %I0.3 4 DI3	/46.6	64-ZSL-052	VALVE 64-XV-052 CLOSED LIMIT SWITCH		
3 12 24VDC					
4 %I0.4 5 DI4	/46.8	64-ZSH-053	VALVE 64-XV-053 OPEN LIMIT SWITCH		
4 13 24VDC					
5 %I0.5 6 DI5	/46.10	64-ZSL-053	VALVE 64-XV-053 CLOSED LIMIT SWITCH		
5 14 24VDC					
6 %I0.6 7 DI6	/46.12	64-ZSH-0514	VALVE 64-XV-054 OPEN LIMIT SWITCH		
6 15 24VDC					
7 %I0.7 8 DI7	/46.14	64-ZSL-054	VALVE 64-XV-054 CLOSED LIMIT SWITCH		
7 16 24VDC					
L+ 24VDC	/44.1		POWER SUPPLY WHITE CARD DIGITAL INPUT -XDI1		
M 0VDC	/44.1				
SH					

SIEMENS

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDI2
/30.6

0 %I1.0 1 DI0	/47.0	64-ZSH-055	VALVE 64-XV-055 OPEN LIMIT SWITCH		
0 9 24VDC					
1 %I1.1 2 DI1	/47.2	64-ZSL-055	VALVE 64-XV-055 CLOSED LIMIT SWITCH		
1 10 24VDC					
2 %I1.2 3 DI2	/47.4	64-ZSH-056	VALVE 64-XV-056 OPEN LIMIT SWITCH		
2 11 24VDC					
3 %I1.3 4 DI3	/47.6	64-ZSL-056	VALVE 64-XV-056 CLOSED LIMIT SWITCH		
3 12 24VDC					
4 %I1.4 5 DI4	/47.8	64-ZSH-057	VALVE 64-XV-057 OPEN LIMIT SWITCH		
4 13 24VDC					
5 %I1.5 6 DI5	/47.10	64-ZSL-057	VALVE 64-XV-057 CLOSED LIMIT SWITCH		
5 14 24VDC					
6 %I1.6 7 DI6	/47.12	64-ZSH-058	VALVE 64-XV-058 OPEN LIMIT SWITCH		
6 15 24VDC					
7 %I1.7 8 DI7	/47.14	64-ZSL-058	VALVE 64-XV-058 CLOSED LIMIT SWITCH		
7 16 24VDC					
L+ 24VDC					
M 0VDC					
SH					

SIEMENS

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

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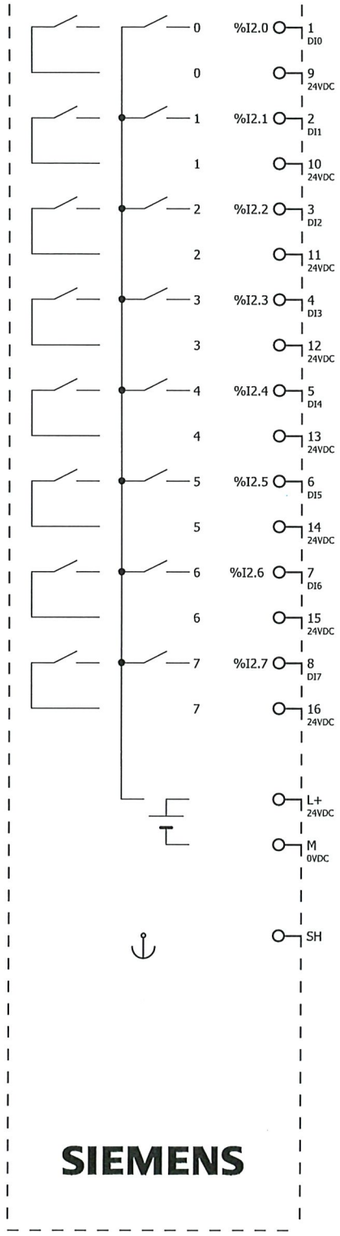
PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
37	38	49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

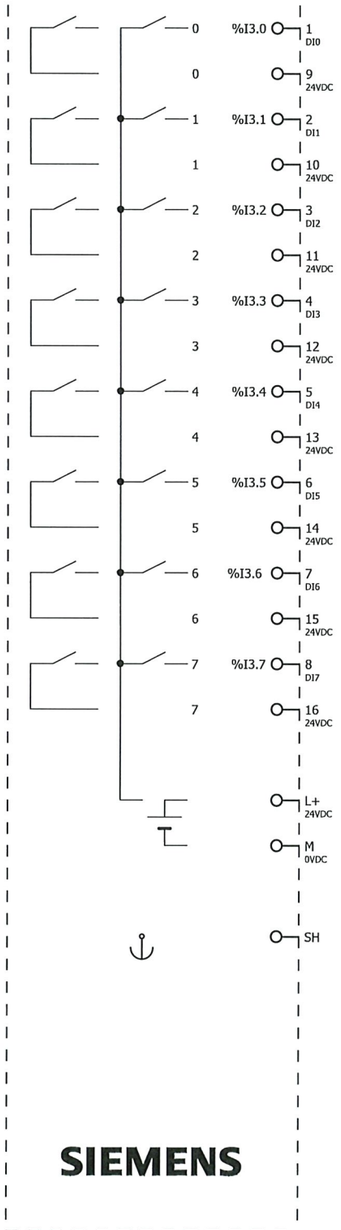
-XDI3
/30.7



/48.0	64-ZSH-059	VALVE 64-XV-059 OPEN LIMIT SWITCH		
/48.2	64-ZSL-059	VALVE 64-XV-059 CLOSED LIMIT SWITCH		
/48.4	64-TH-001	INTERNAL CABINET THERMOSTAT		
/48.6	64-HS-001	LOCAL START PUSH BUTTON		
/48.8	64-HS-002	LOCAL STOP PUSH BUTTON		
/48.10	64-HS-003	LOCAL ALARM RESET		
/48.12	64-HS-004	LOCAL REMOTE SELECTOR STATUS		
/48.14	64-ESD-001	SHUTDOWN ALARM FROM SIS - INDICATION ONLY		

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDI4
/30.7



/49.0	64-ZSH-060	VALVE 64-XV-060 OPEN LIMIT SWITCH		
/49.2	64-ZSL-060	VALVE 64-XV-060 CLOSED LIMIT SWITCH		
/49.4	64-ZSH-061	VALVE 64-XV-061 OPEN LIMIT SWITCH		
/49.6	64-ZSL-061	VALVE 64-XV-061 CLOSED LIMIT SWITCH		
/49.8		SPARE		
/49.10		SPARE		
/49.12		SPARE		
/49.14		SPARE		

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B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM

DESCRIPTION
SUMMARY CARDS I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	38
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	40
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7132-6BF01-0AA0
6ES7193-6BP00-0DA0

-XDO1
/30.8

0	%Q0.0	1 DQ0	/51.0	64-XV-051	VALVE 64-XV-051 COMMAND	
0		9 M				
1	%Q0.1	2 DQ1	/51.2	64-XV-052	VALVE 64-XV-052 COMMAND	
1		10 M				
2	%Q0.2	3 DQ2	/51.4	64-XV-053	VALVE 64-XV-053 COMMAND	
2		11 M				
3	%Q0.3	4 DQ3	/51.6	64-XV-054	VALVE 64-XV-054 COMMAND	
3		12 M				
4	%Q0.4	5 DQ4	/51.8	64-XV-055	VALVE 64-XV-055 COMMAND	
4		13 M				
5	%Q0.5	6 DQ5	/51.10	64-XV-056	VALVE 64-XV-056 COMMAND	
5		14 M				
6	%Q0.6	7 DQ6	/51.12	64-XV-057	VALVE 64-XV-057 COMMAND	
6		15 M				
7	%Q0.7	8 DQ7	/51.14	64-XV-058	VALVE 64-XV-058 COMMAND	
7		16 M				
	L+	24VDC	/44.3		POWER SUPPLY WHITE CARD DIGITAL OUTPUT -XDO1	
	M	0VDC	/44.3			
	SH					

SIEMENS

6ES7132-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDO2
/30.8

0	%Q1.0	1 DQ0	/52.0	64-XV-059	VALVE 64-XV-059 COMMAND	
0		9 M				
1	%Q1.1	2 DQ1	/52.2		SPARE	
1		10 M				
2	%Q1.2	3 DQ2	/52.4	64-XL-003	RUNNING SYSTEM LAMP	
2		11 M				
3	%Q1.3	4 DQ3	/52.6	64-XA-001	GENERAL ALARM SYSTEM LAMP	
3		12 M				
4	%Q1.4	5 DQ4	/52.8	64-XL-003-DCS	NITROGEN GENERATOR RUNNING (TO DCS)	
4		13 M				
5	%Q1.5	6 DQ5	/52.10	64-XA-001-DCS	NITROGEN GENERATOR ALARM (TO DCS)	
5		14 M				
6	%Q1.6	7 DQ6	/52.12	64-XV-060	VALVE 64 XV-060 COMMAND	
6		15 M				
7	%Q1.7	8 DQ7	/52.14	64-XV-061	VALVE 64 XV-061 COMMAND	
7		16 M				
	L+	24VDC				
	M	0VDC				
	SH					

SIEMENS

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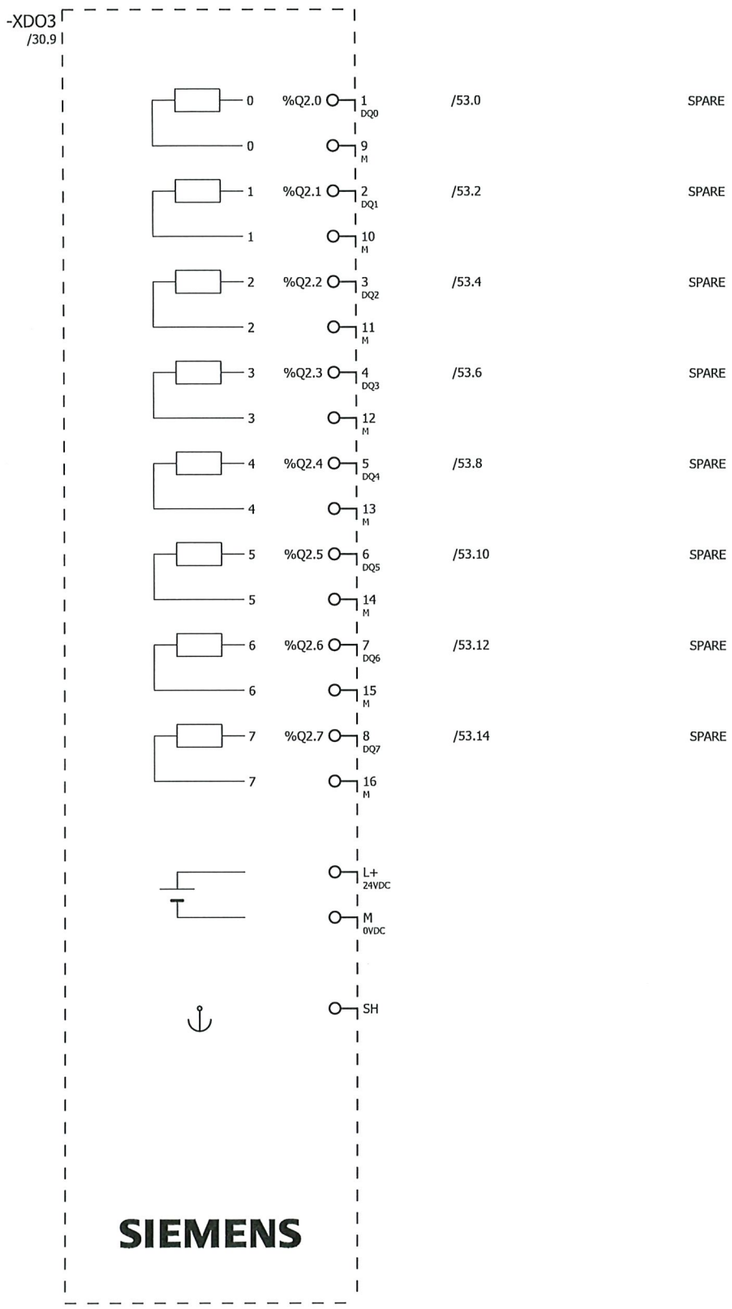
REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 40
DESCRIPTION: SUMMARY CARDS I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 41
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

6ES7132-6BF01-0AA0
6ES7193-6BP00-0BA0



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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

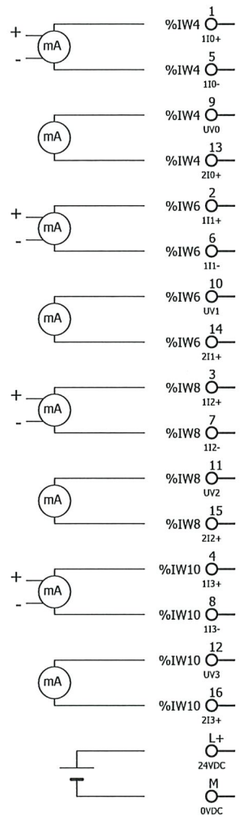
PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
41	42	49

/30.9

-XAI1
SIE.6ES7134-6GD01-0BA1
SIE.6ES7193-6BP00-0DA0

ET 200SP SIEMENS
AI 4xI 2-/4-wire ST



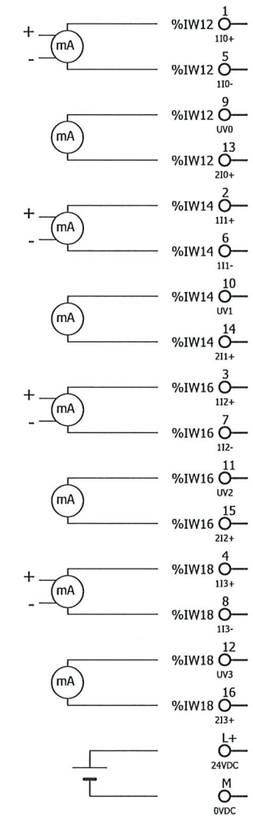
/54.1			
/54.1			
/54.2	64_PT_051	INLET PRESSUTE TRANSMITTER	
/54.2			
/54.5			
/54.5			
/54.6	64_PT_052	TOWER 1 PRESSUTE TRANSMITTER	
/54.6			
/54.9			
/54.9			
/54.10	64_PT_053	TOWER 2 PRESSUTE TRANSMITTER	
/54.10			
/54.13			
/54.13			
/54.14	64_PT_057	OUTLET B PRESSUTE TRANSMITTER	
/54.14			
/44.6		POWER SUPPLY WHITE CARD ANALOG INPUT -XAI1	
/44.7			

6ES7134-6GD01-0BA1

/30.10

-XAI2
SIE.6ES7134-6GD01-0BA1
SIE.6ES7193-6BP00-0BA0

ET 200SP SIEMENS
AI 4xI 2-/4-wire ST



/55.1			
/55.1			
/55.2	64_PT_059	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER	
/55.2			
/55.5			
/55.5			
/55.6	64_PDIT_056	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS	
/55.6			
/55.10	64_AT_051	OXYGEN TRANSMITTER	
/55.10			
/55.10			
/55.11			
/55.13			
/55.13			
/55.14	_XAI_45	SPARE	
/55.14			

6ES7134-6GD01-0BA1

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
E	23.01.2025	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
42	43	49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

-PN COUPLER
/30.12

6ES7158-3AD10-0XA0
6ES7193-6RA00-1AN0

X80:1 1L+	/45.1	POWER SUPPLY PN/PN COUPLER CARD (X80)	
X80:2 1M	/45.2		
X80:3 2M	/45.1		
X80:4 2L+	/45.1		

K1
X300
X1P1 R: PN — /61.9
X1P2 R: PN — /61.11
6ES7193-6AF00-0AA0

-K2
X301
X1P1 R: PN — /61.12
X1P2 R: PN — /61.13
6ES7193-6AF00-0AA0

X81:1 1L+	/45.3	POWER SUPPLY PN/PN COUPLER CARD (X81)	
X81:2 1M	/45.4		
X81:3 2M	/45.4		
X81:4 2L+	/45.4		

SIEMENS

-SCALANCE
/60.1
/60.11
/61.0
/43.10
SIE.6GK5205-3BD00-2AB2

SCALANCE XB205-3 SIEMENS

P1/IE	P1 IE	/61.1
P2/IE	P2 IE	/61.2
P3/IE	P3 IE	/61.2
P4/IE	P4 IE	/61.3
P5/IE	P5 IE	/61.4
CONS/RJ11	CONS RJ11	/61.5
P6_RXT/FX	P6_RXT FX	/61.5
P6_TXT/FX	P6_TXT FX	/61.6
P7_RXT/FX	P7_RXT FX	/61.7
P7_TXT/FX	P7_TXT FX	/61.8
P8_RXT/FX	P8_RXT FX	/61.9
P8_TXT/FX	P8_TXT FX	/61.9

6GK5205-3BD00-2AB2

SCALANCE
/43.7

SCALANCE XB205-3 SIEMENS

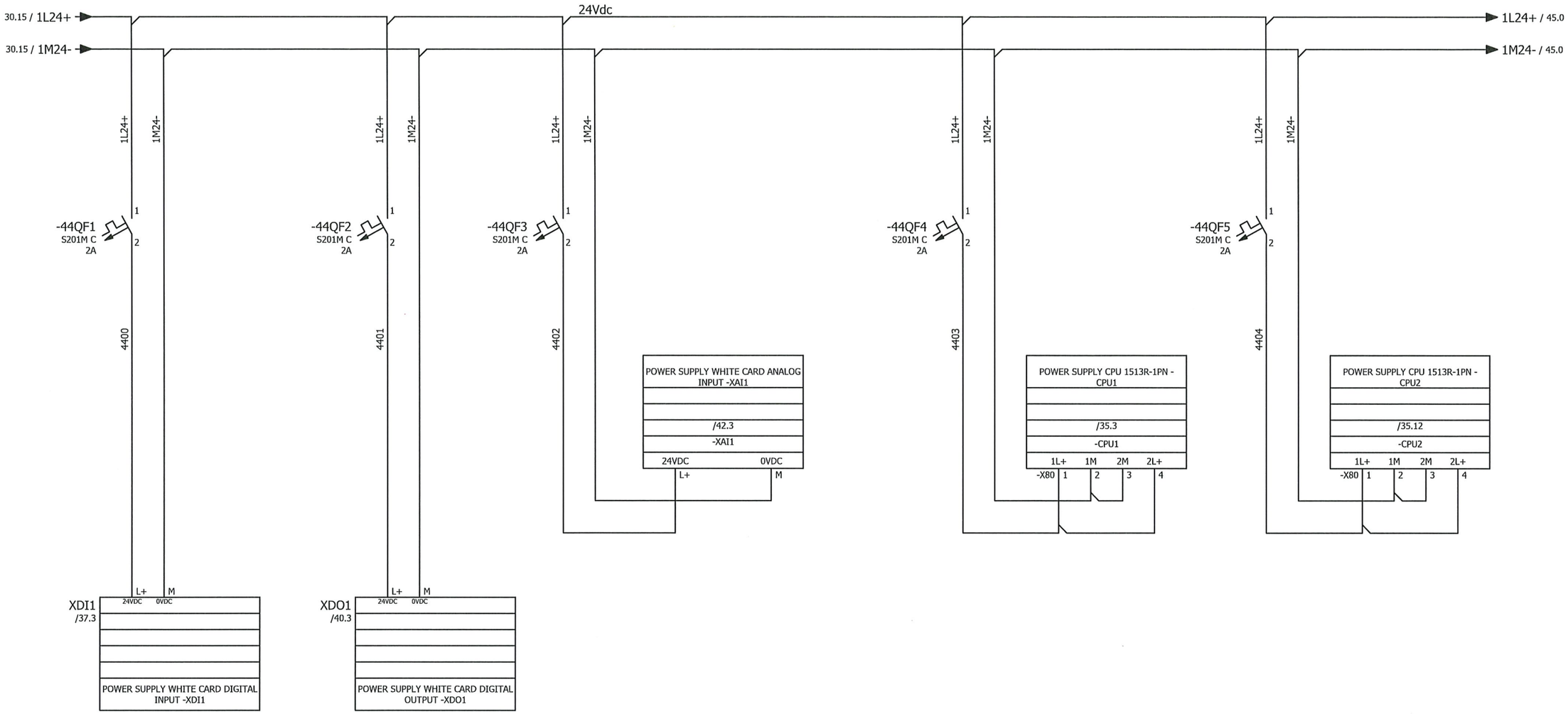
L1+/24VDC	L1+ 24VDC	/60.2
M1/GND	M1 GND	/60.3
FGND1/Functional GND	FGND1 Functional GND	/60.5
L2+/24VDC	L2+ 24VDC	/60.6
M2/GND	M2 GND	/60.7
FGND2/Functional GND	FGND2 Functional GND	/60.9

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REV.	DATE	PREPARED	REV.	DATE	PREPARED

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 43
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 44
DESCRIPTION: SUMMARY CARD PN COUPLER AND SWITCH SCALANCE	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

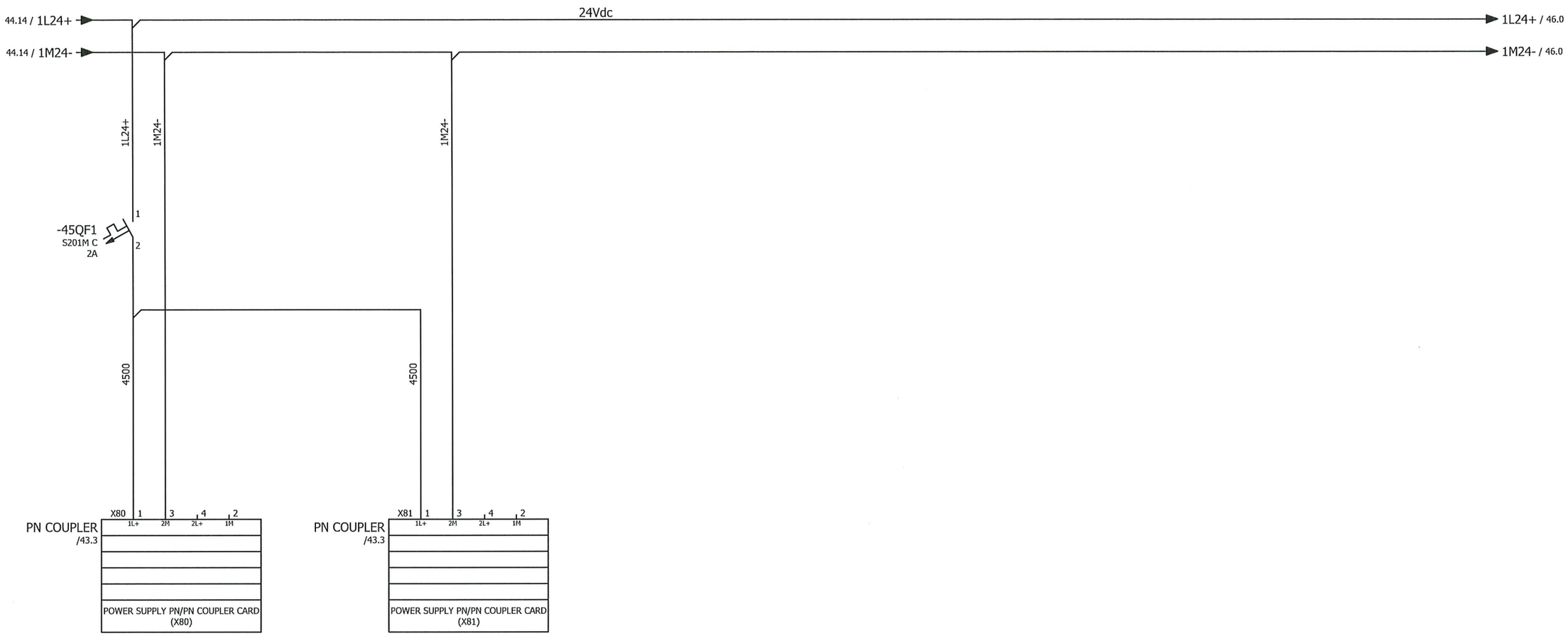


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REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: POWER SUPPLY CPU AND CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
44	45	49



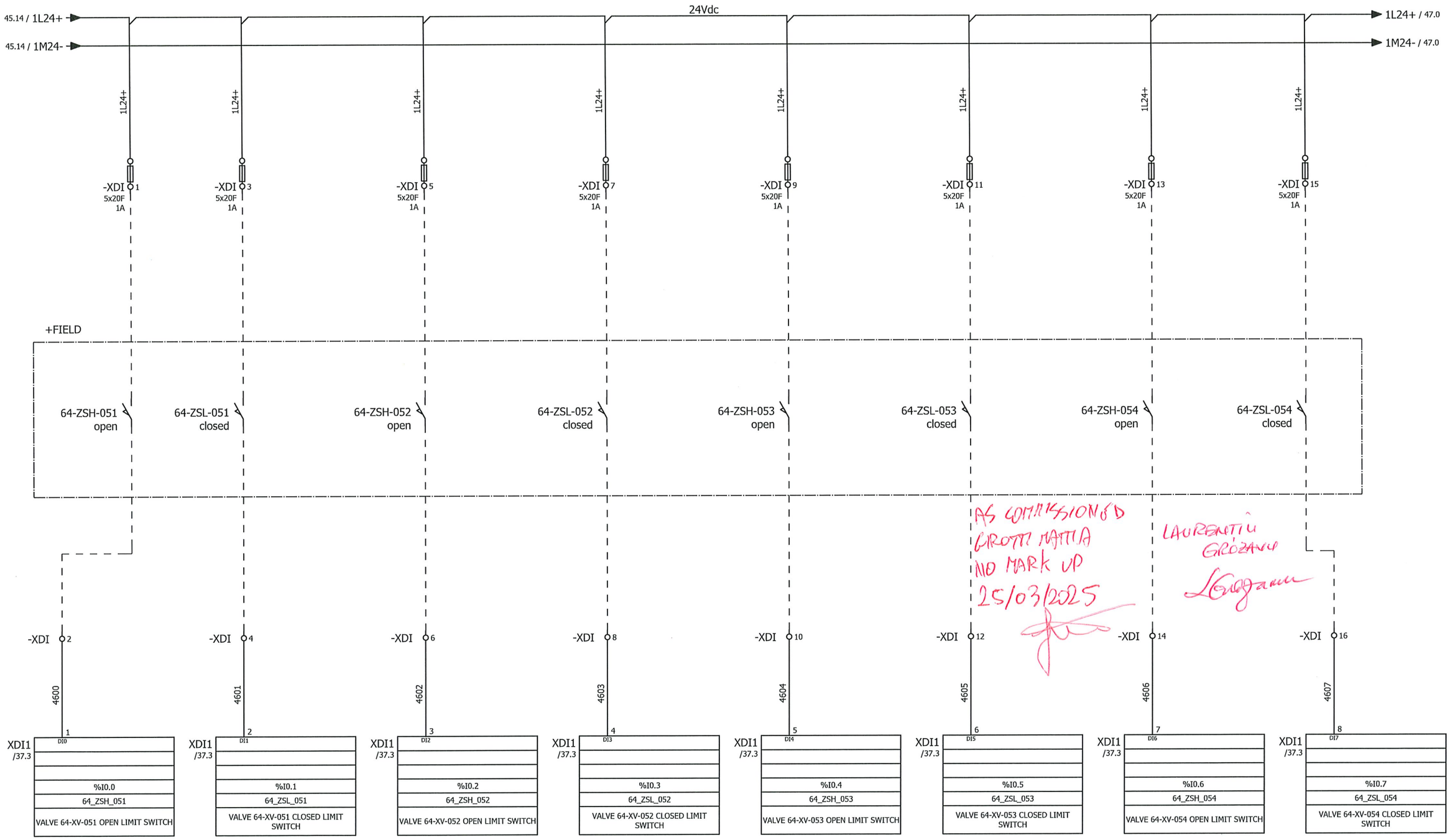
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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 45
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 46
DESCRIPTION: POWER SUPPLY PN/PN COUPLER	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



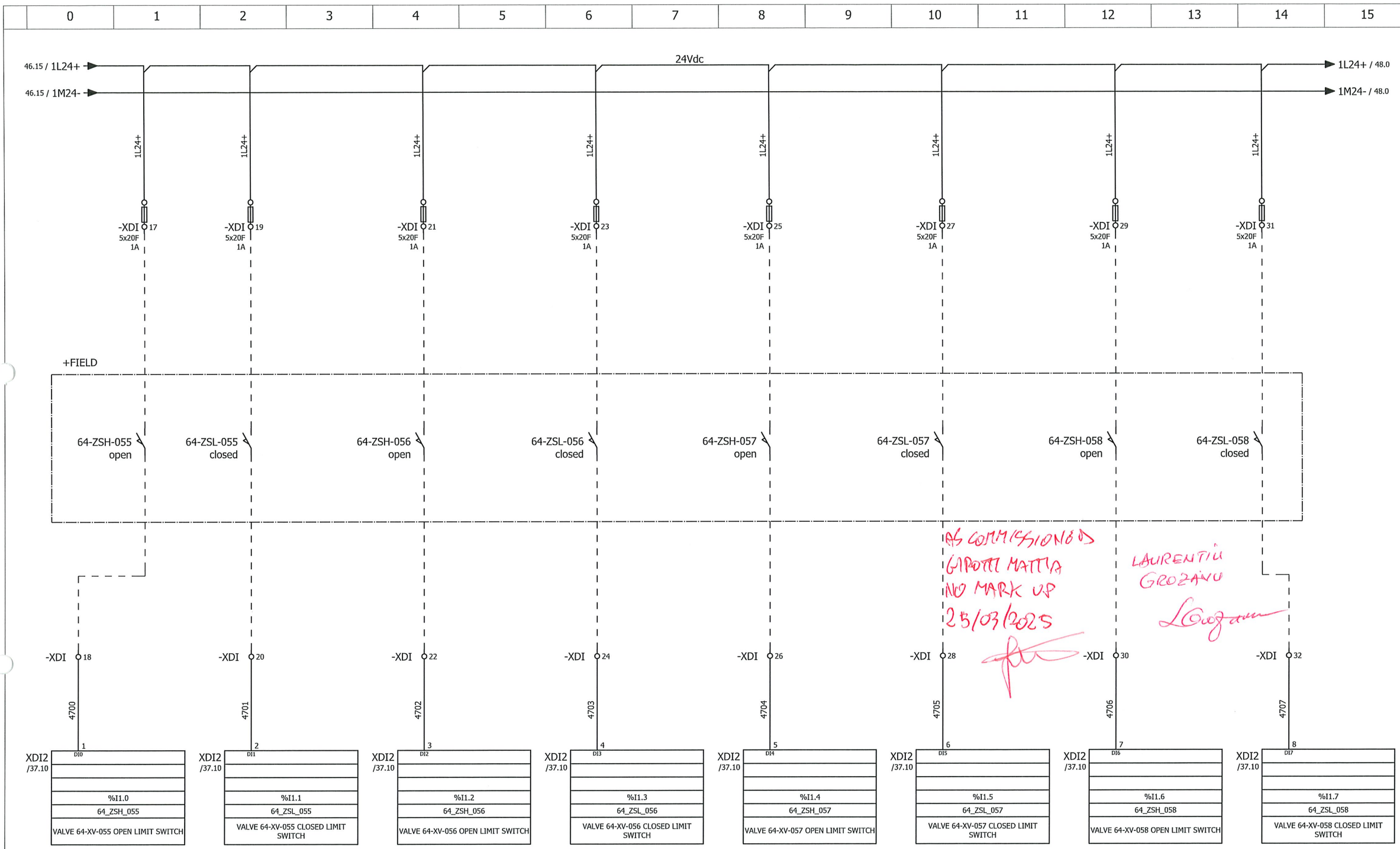
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REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 46
DESCRIPTION: DIGITAL INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 47
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

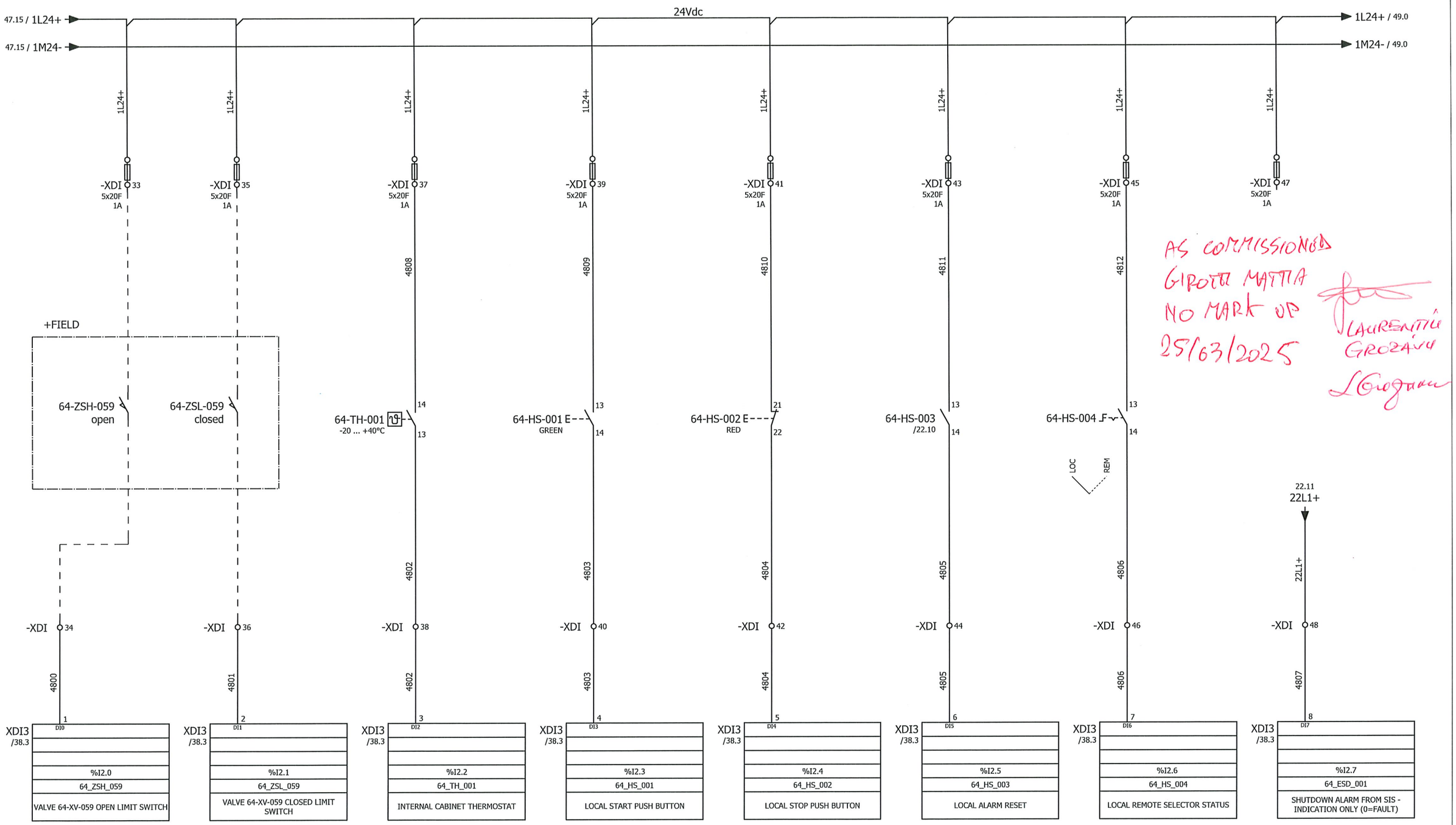


REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: DIGITAL INPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
47	48	49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

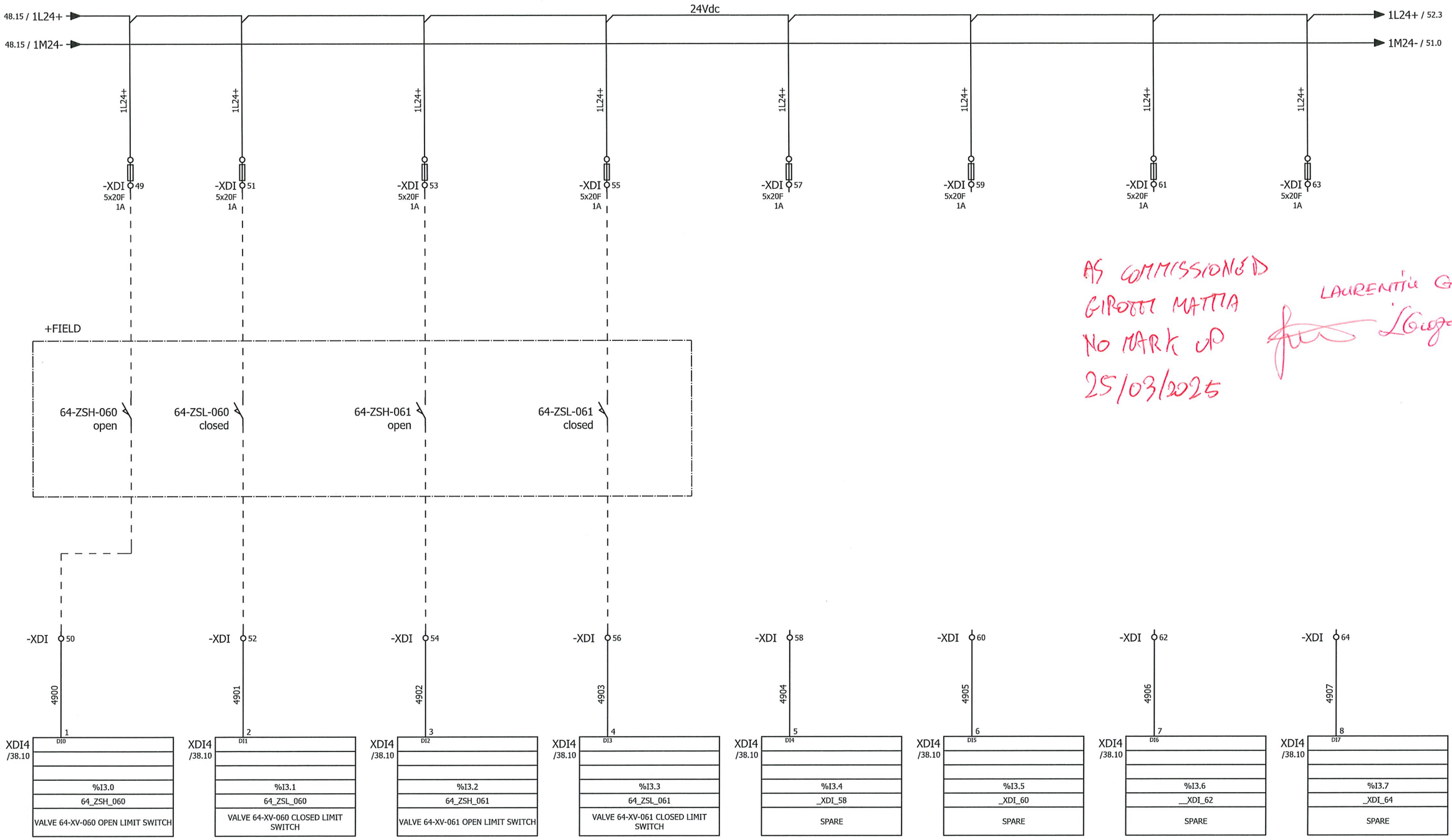


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REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: DIGITAL INPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
48	49	49



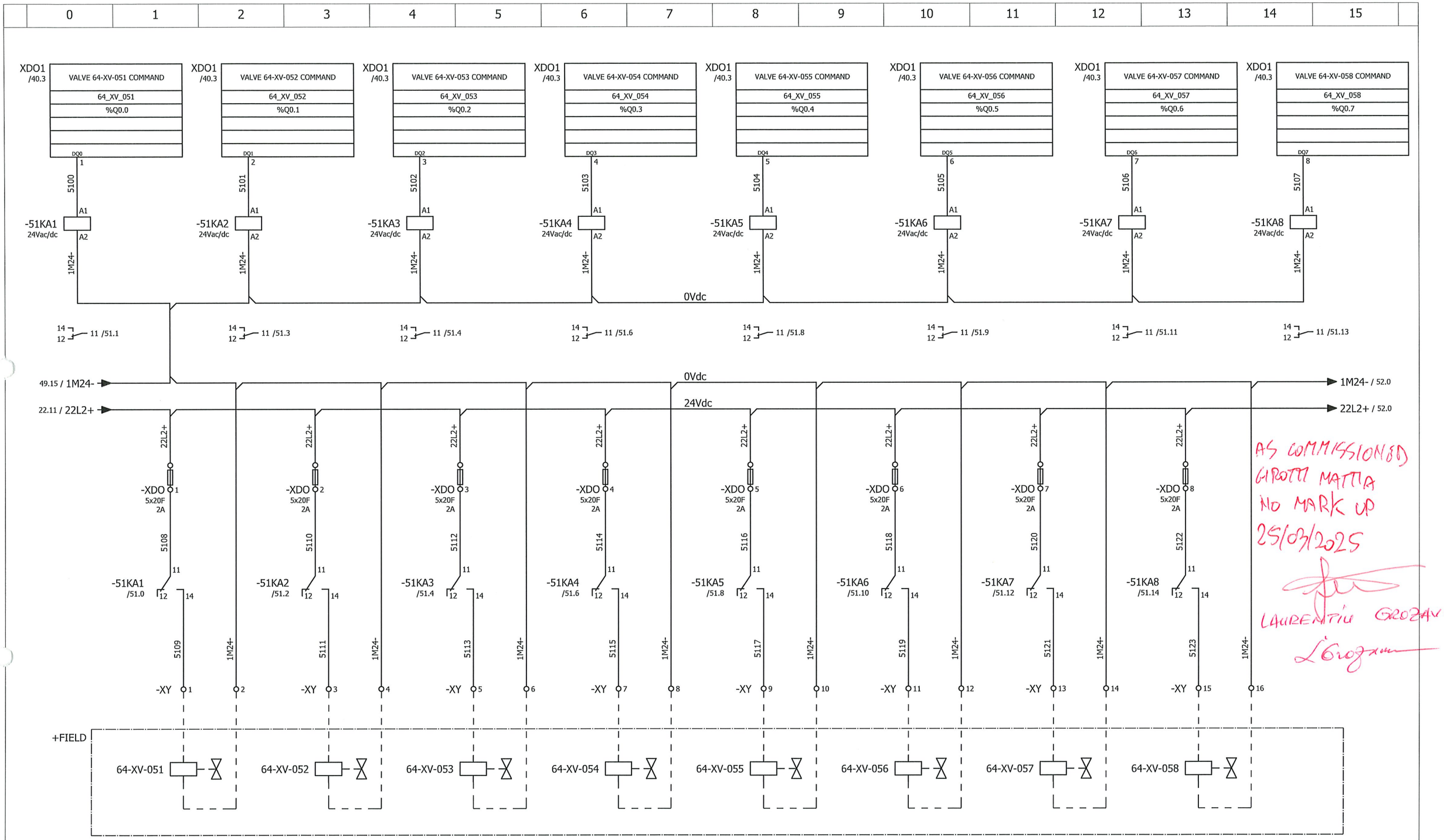
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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: DIGITAL INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 49

PAGE
49
NEXT: 51

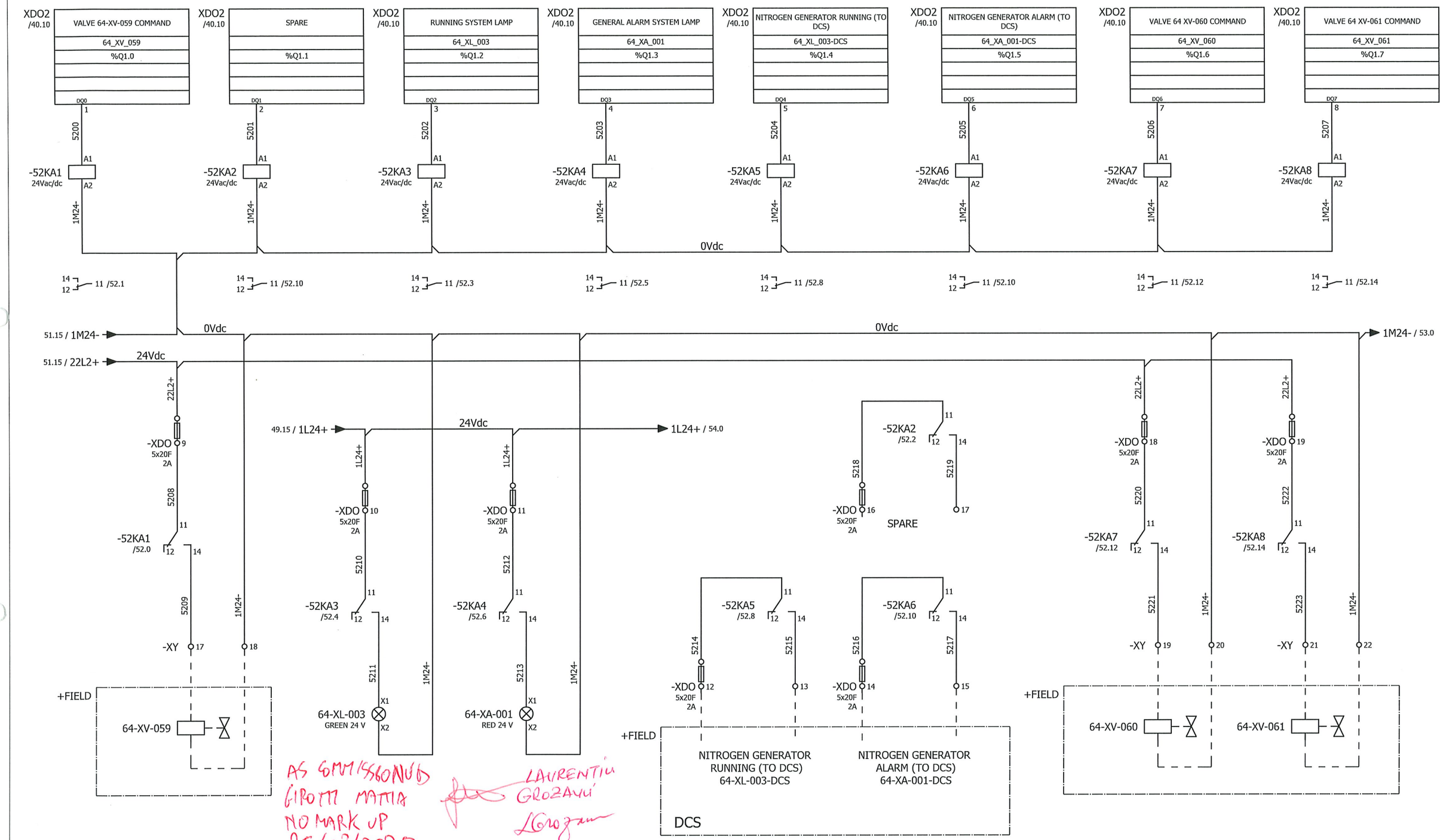


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REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: DIGITAL OUTPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
51	52	49



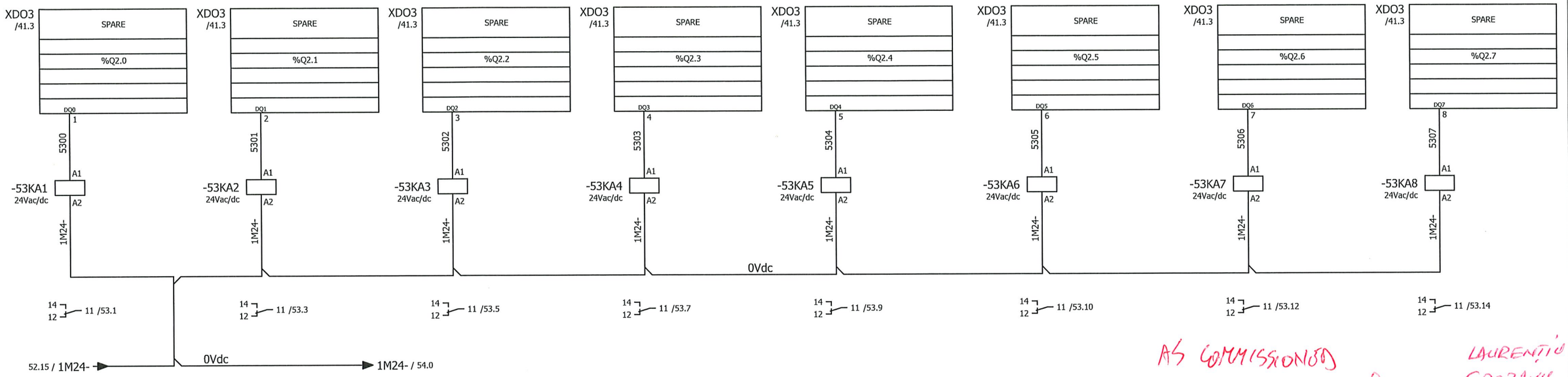
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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

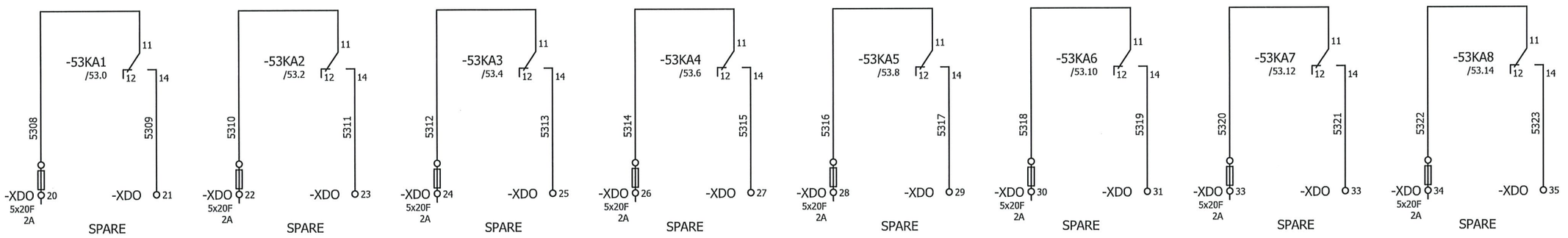
PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: DIGITAL OUTPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
52	53	49

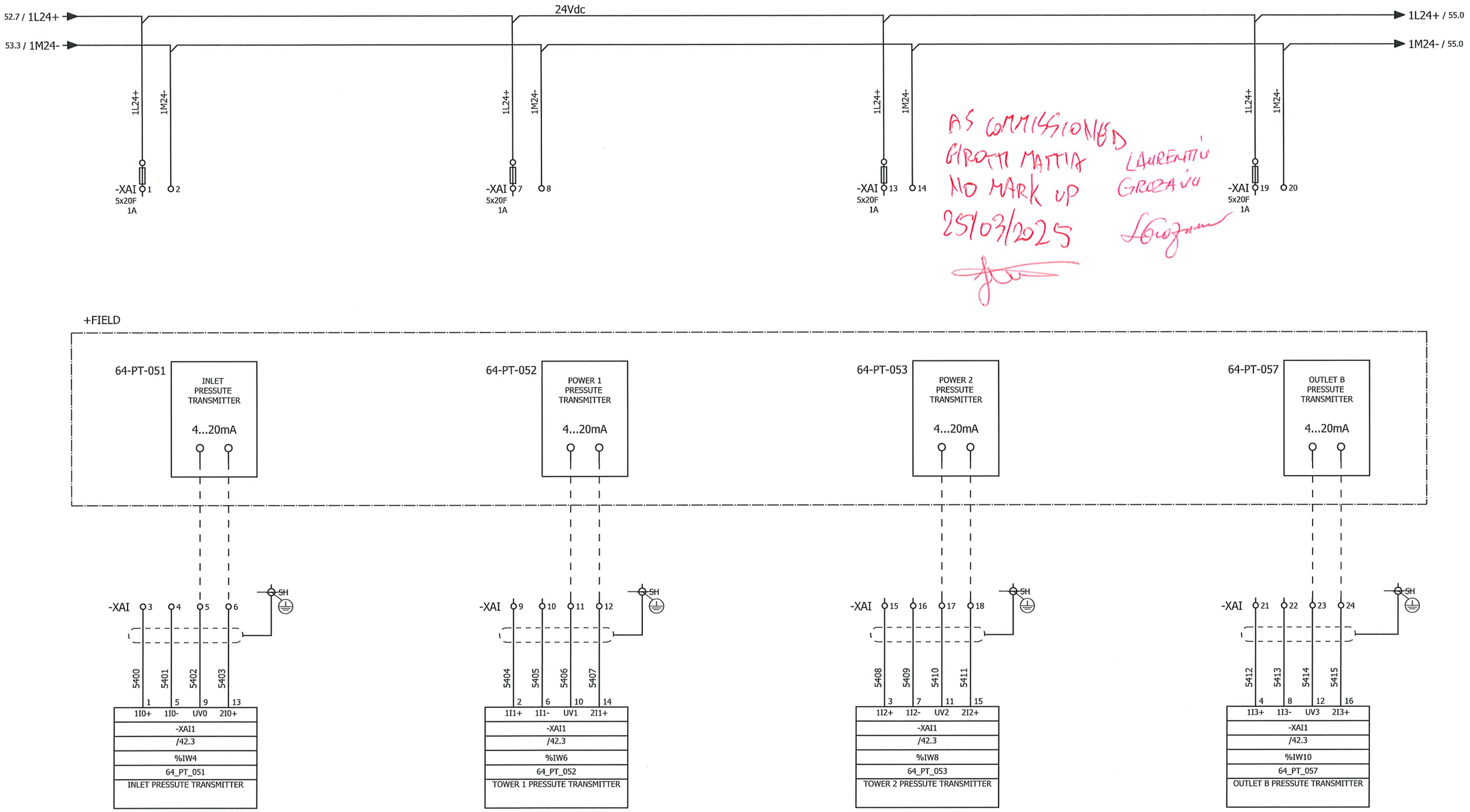


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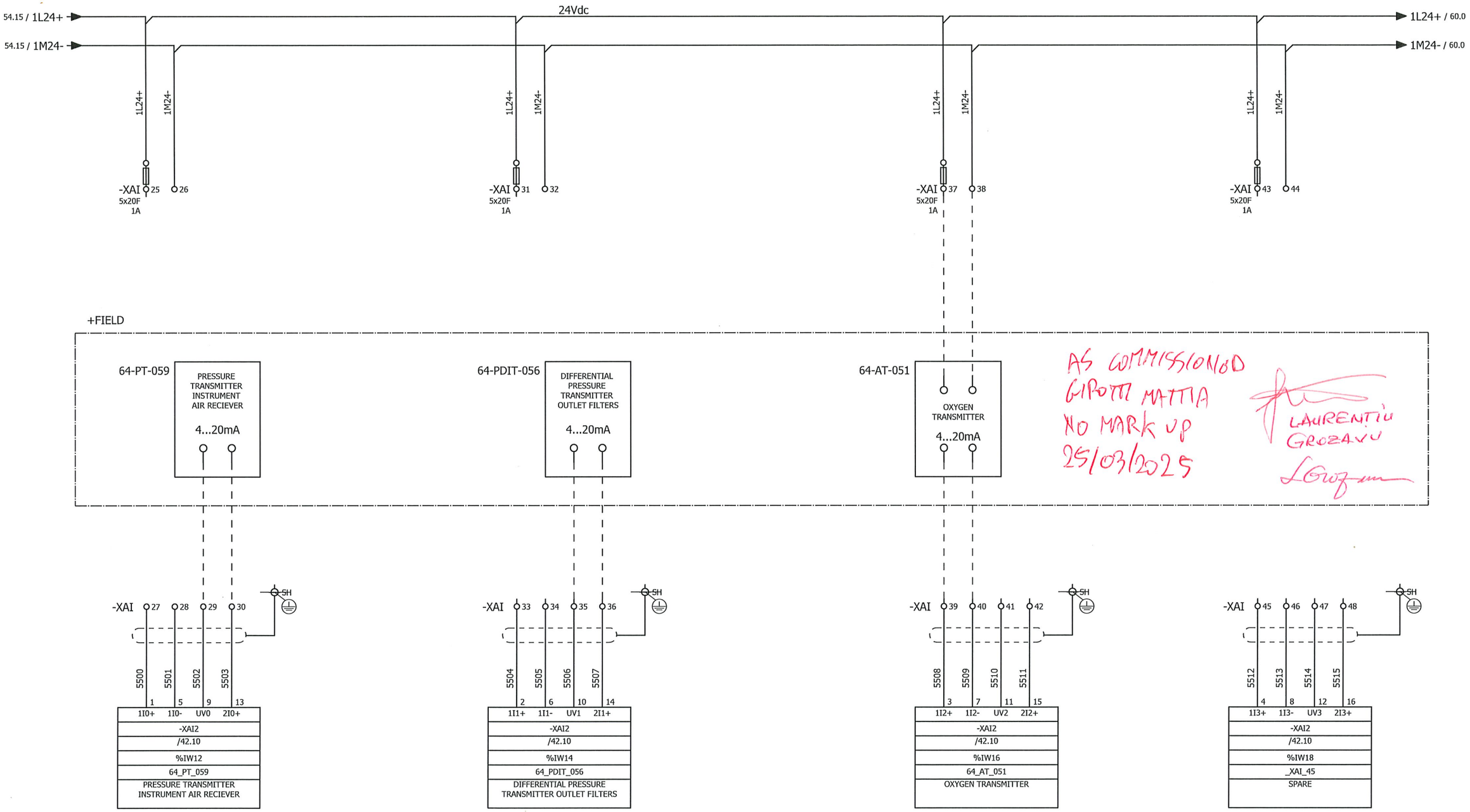


						PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 53
							DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 54
B	01.08.2024	O.A.				DESCRIPTION: DIGITAL OUTPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49
REV.	DATE	PREPARED	REV.	DATE	PREPARED					



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 54
DESCRIPTION: ANALOG INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 55
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49



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REV.	DATE	PREPARED	REV.	DATE	PREPARED
E	23.01.2025	O.A.			
D	18.11.2024	O.A.			
A	30.05.2024	O.A.			

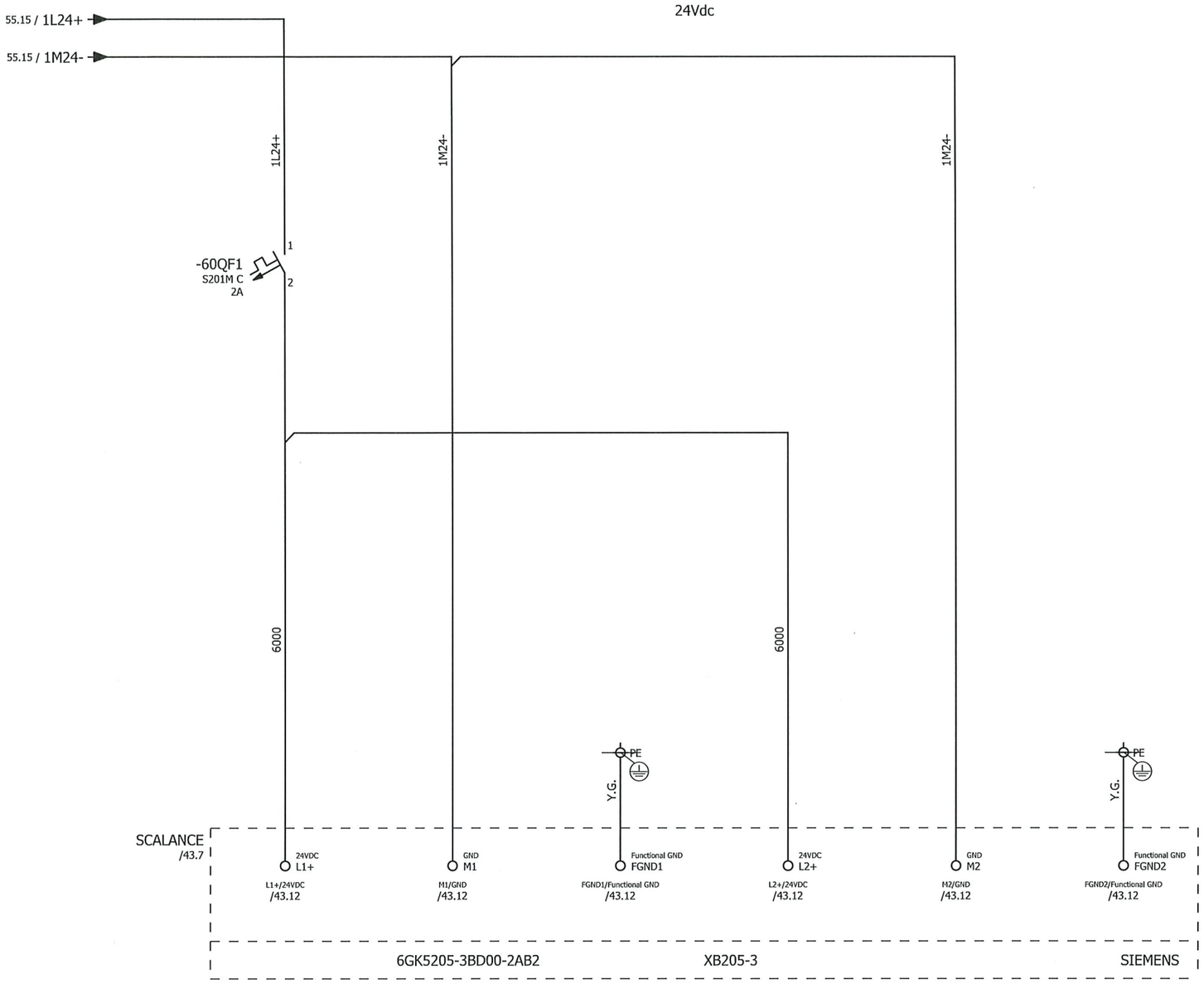
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PLANT
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM

DESCRIPTION
ANALOG INPUT I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	55
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	60
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		49

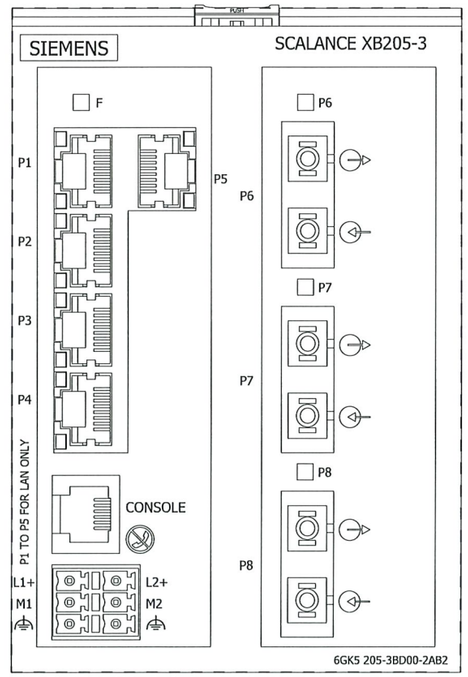
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



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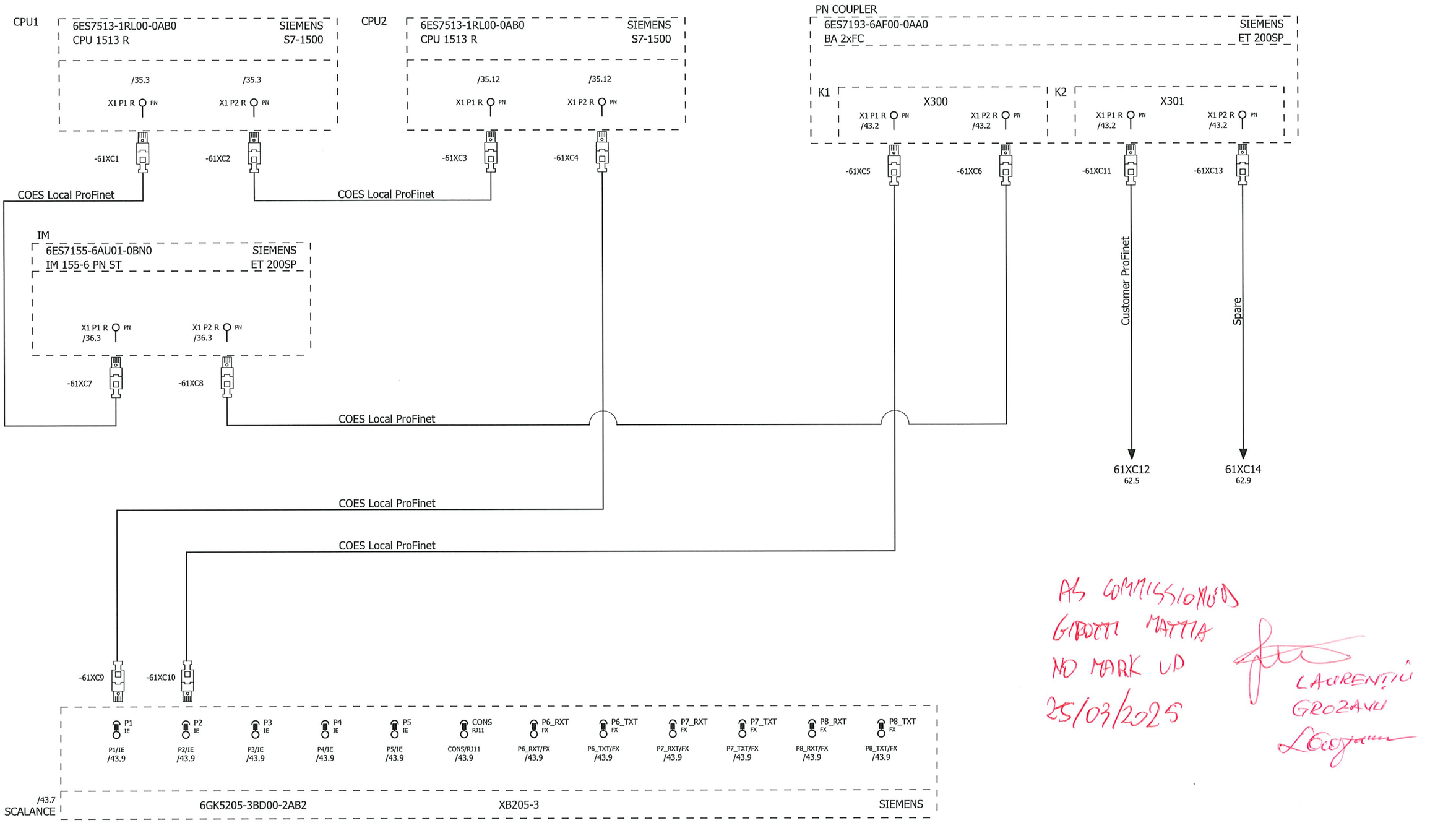
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REV.	DATE	PREPARED	REV.	DATE	PREPARED

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 60
DESCRIPTION: AUXILIARY CIRCUIT SWTCH 5 PORT PROFINET	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 61
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

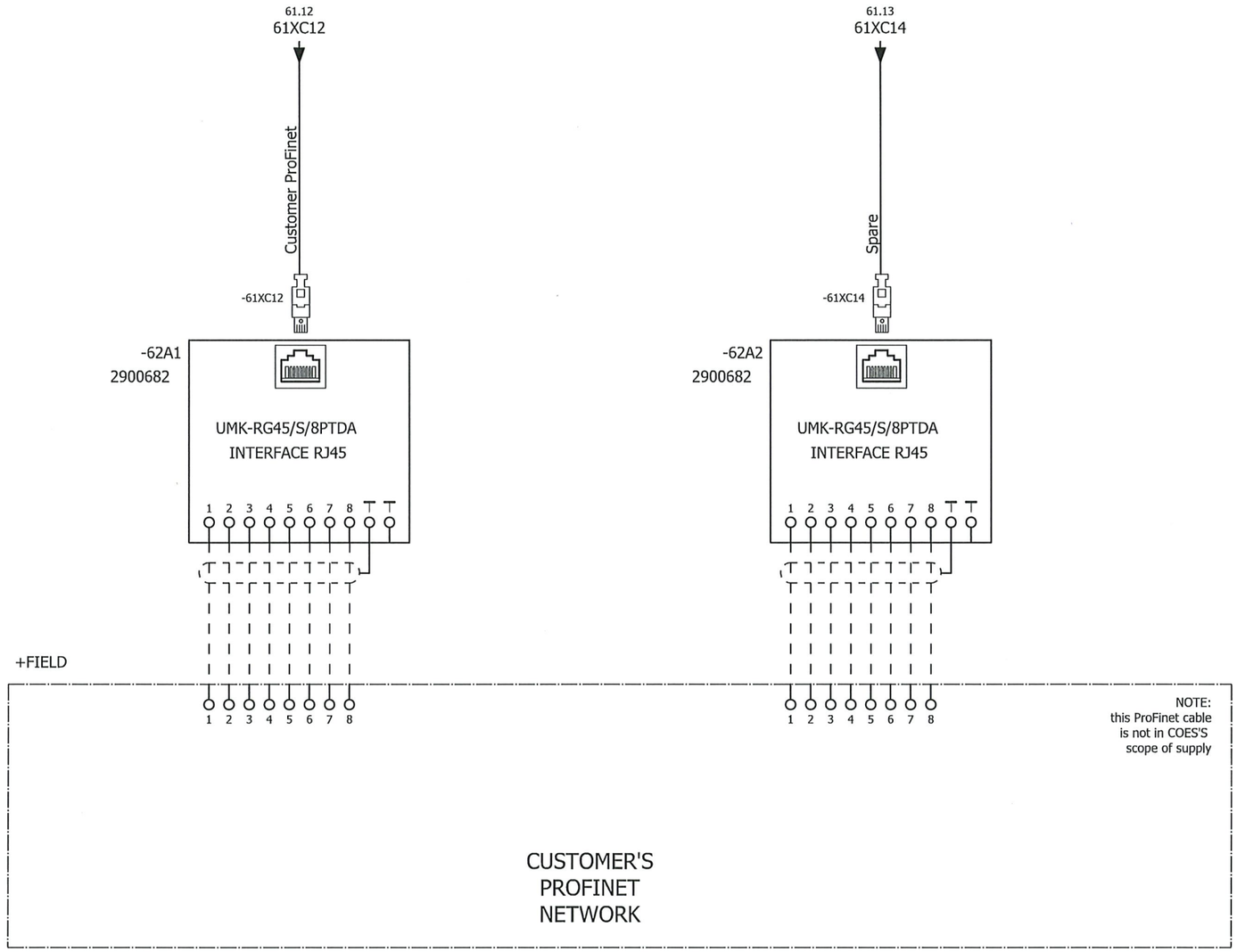


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REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: CONNECTION ProfiNet INTERNAL SWITCHBOARD	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
61	62	49



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REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: CONNECTION ProfiNet EXTERNAL SWITCHBOARD	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 49
			PAGE: 62
			NEXT: 70

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-X1

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/20.2	/20.2	/20.3
		CONNECT.	1	3	
		DEVICE IDENT. CODE	-20QF1	-20QF1	-PE
		WIRING	L230	N230	
	TERMINAL JUM	TERM. TYPE	WDU 10	WDU 10	WPE 10
			-	-	-
		TERM. NUM.	1	2	PE
PLANT	DESTIN. DEVICE	CONNECT.			
		DEVICE IDENT. CODE	-L	-N	

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REV.	DATE	PREPARED	REV.	DATE	PREPARED

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PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	70
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
TERMINAL BOARD -X1	02.05.2024		+ QE	71
	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-X2

SWITCHBOARD / DESTIN. DEVICE: SHEET AND COLUMN	SWITCHBOARD / DESTIN. DEVICE: CONNECT.	SWITCHBOARD / DESTIN. DEVICE: DEVICE IDENT. CODE	SWITCHBOARD / DESTIN. DEVICE: WIRING	TERMINAL JUM: TERM. TYPE	TERMINAL JUM	TERMINAL JUM: TERM. NUM.	PLANT / DESTIN. DEVICE: CONNECT.	PLANT / DESTIN. DEVICE: DEVICE IDENT. CODE
/21.3	1	-21QF1	L230UPS	WDU 10	-	1		-L
/21.3	3	-21QF1	N230UPS	WDU 10	-	2		-N
/21.4		-PE		WPE 10	-	PE		

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25/03/2025

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	71
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
	02.05.2024		+ QE	72
TERMINAL BOARD -X2	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		49

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XA

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/22.1	/22.2	/21.14	/22.10	/22.13	/22.13
		CONNECT.			1	13	15/16	14
		DEVICE IDENT. CODE			-21FU2	-22K1	-22KA2	-22KA2
		WIRING			1L24+	1L24+	2211	2212
	TERMINAL JUM	TERM. TYPE	WSI 6	WDU 2.5	WSI 6		WDU 2.5	WDU 2.5
			-	-	-		-	-
		TERM. NUM.	1	2	3		4	5
PLANT	DESTIN. DEVICE	CONNECT.	1	2	A1			
		DEVICE IDENT. CODE	-22KA1	-22KA1	-22K1			

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			
A	30.05.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 72
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 73
DESCRIPTION TERMINAL BOARD -XA	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XDI

TERM. NUM.	SHEET AND COLUMN	SWITCHBOARD – DESTIN. DEVICE: CONNECT.	SWITCHBOARD – DESTIN. DEVICE: DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	PLANT – DESTIN. DEVICE: CONNECT.	PLANT – DESTIN. DEVICE: DEVICE IDENT. CODE
1	/46.1		+FIELD-64-ZSH-051		KDKS 1/35 DB	1	-45QF1
2	/46.1		+FIELD-64-ZSH-051			1	-XDI1
3	/46.2		+FIELD-64-ZSL-051		KDKS 1/35 DB		
4	/46.2		+FIELD-64-ZSL-051			2	-XDI1
5	/46.4		+FIELD-64-ZSH-052		KDKS 1/35 DB		
6	/46.4		+FIELD-64-ZSH-052			3	-XDI1
7	/46.6		+FIELD-64-ZSL-052		KDKS 1/35 DB		
8	/46.6		+FIELD-64-ZSL-052			4	-XDI1
9	/46.8		+FIELD-64-ZSH-053		KDKS 1/35 DB		
10	/46.8		+FIELD-64-ZSH-053			5	-XDI1
11	/46.10		+FIELD-64-ZSL-053		KDKS 1/35 DB		
12	/46.10		+FIELD-64-ZSL-053			6	-XDI1
13	/46.12		+FIELD-64-ZSH-054		KDKS 1/35 DB		
14	/46.12		+FIELD-64-ZSH-054			7	-XDI1
15	/46.14		+FIELD-64-ZSL-054		KDKS 1/35 DB		
16	/46.14		+FIELD-64-ZSL-054			8	-XDI1
17	/47.1		+FIELD-64-ZSH-055		KDKS 1/35 DB		
18	/47.1		+FIELD-64-ZSH-055			1	-XDI2
19	/47.2		+FIELD-64-ZSL-055		KDKS 1/35 DB		
20	/47.2		+FIELD-64-ZSL-055			2	-XDI2
21	/47.4		+FIELD-64-ZSH-056		KDKS 1/35 DB		
22	/47.4		+FIELD-64-ZSH-056			3	-XDI2
23	/47.6		+FIELD-64-ZSL-056		KDKS 1/35 DB		
24	/47.6		+FIELD-64-ZSL-056			4	-XDI2
25	/47.8		+FIELD-64-ZSH-057		KDKS 1/35 DB		
26	/47.8		+FIELD-64-ZSH-057			5	-XDI2
27	/47.10		+FIELD-64-ZSL-057		KDKS 1/35 DB		
28	/47.10		+FIELD-64-ZSL-057			6	-XDI2
29	/47.12		+FIELD-64-ZSH-058		KDKS 1/35 DB		
30	/47.12		+FIELD-64-ZSH-058			7	-XDI2
31	/47.14		+FIELD-64-ZSL-058		KDKS 1/35 DB		
32	/47.14		+FIELD-64-ZSL-058			8	-XDI2
33	/48.1		+FIELD-64-ZSH-059		KDKS 1/35 DB		
34	/48.1		+FIELD-64-ZSH-059			1	-XDI3
35	/48.2		+FIELD-64-ZSL-059		KDKS 1/35 DB		
36	/48.2		+FIELD-64-ZSL-059			2	-XDI3
37	/48.4	14	-64-TH-001	4808	KDKS 1/35 DB		
38	/48.4	13	-64-TH-001	4802		3	-XDI3
39	/48.6	13	-64-HS-001	4809	KDKS 1/35 DB		
40	/48.6	14	-64-HS-001	4803		4	-XDI3

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	73
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
TERMINAL BOARD -XDI	02.05.2024		+ QE	74
	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XDI

TERM. NUM.	SWITCHBOARD / DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	PLANT / DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
41	/48.8	21	-64-HS-002	4810	KDKS 1/35 DB		
42	/48.8	22	-64-HS-002	4804		5	-XDI3
43	/48.10	13	-64-HS-003	4811	KDKS 1/35 DB		
44	/48.10	14	-64-HS-003	4805		6	-XDI3
45	/48.12	13	-64-HS-004	4812	KDKS 1/35 DB		
46	/48.12	14	-64-HS-004	4806		7	-XDI3
47					KDKS 1/35 DB		
48	/22.10	14	-22K1	22L1+		8	-XDI3
49	/49.1		+FIELD-64-ZSH-060		KDKS 1/35 DB		
50	/49.1		+FIELD-64-ZSH-060			1	-XDI4
51	/49.2		+FIELD-64-ZSL-060		KDKS 1/35 DB		
52	/49.2		+FIELD-64-ZSL-060			2	-XDI4
53	/49.4		+FIELD-64-ZSH-061		KDKS 1/35 DB		
54	/49.4		+FIELD-64-ZSH-061			3	-XDI4
55	/49.6		+FIELD-64-ZSL-061		KDKS 1/35 DB		
56	/49.6		+FIELD-64-ZSL-061			4	-XDI4
57					KDKS 1/35 DB		
58						5	-XDI4
59					KDKS 1/35 DB		
60						6	-XDI4
61					KDKS 1/35 DB		
62						7	-XDI4
63					KDKS 1/35 DB	10	-XDO
64						8	-XDI4

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25/03/2025

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 74
DESCRIPTION: TERMINAL BOARD -XDI	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 75
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

TERMINAL STRIP

=NITROGEN+QE-XDO

TERMINAL JUM	TERM. TYPE	WIRING	DEVICE IDENT. CODE	CONNECT.	SHEET AND COLUMN	TERM. NUM.	DEVICE IDENT. CODE	CONNECT.	DESTIN. DEVICE	PLANT
	WSI 6	5108	-51KA1	11	/51.1	1	-22K1	24		
	WSI 6	5110	-51KA2	11	/51.3	2				
	WSI 6	5112	-51KA3	11	/51.4	3				
	WSI 6	5114	-51KA4	11	/51.6	4				
	WSI 6	5116	-51KA5	11	/51.8	5				
	WSI 6	5118	-51KA6	11	/51.9	6				
	WSI 6	5120	-51KA7	11	/51.11	7				
	WSI 6	5122	-51KA8	11	/51.13	8				
	WSI 6	5208	-52KA1	11	/52.1	9				
	WSI 6	5210	-52KA3	11	/52.3	10	-XDI	63		
	WSI 6	5212	-52KA4	11	/52.5	11	-XA1	1		
	WSI 6				/52.7	12	-52KA5	11		
	WDU 2.5	5215	-52KA5	14	/52.8	13				
	WSI 6				/52.9	14	-52KA6	11		
	WDU 2.5	5217	-52KA6	14	/52.10	15				
	WSI 6					16	-52KA2	11		
	WDU 2.5	5219	-52KA2	14	/52.10	17				
	WSI 6	5220	-52KA7	11	/52.12	18				
	WSI 6	5222	-52KA8	11	/52.14	19				
	WSI 6					20	-53KA1	11		
	WDU 2.5	5309	-53KA1	14	/53.1	21				
	WSI 6					22	-53KA2	11		
	WDU 2.5	5311	-53KA2	14	/53.3	23				
	WSI 6					24	-53KA3	11		
	WDU 2.5	5313	-53KA3	14	/53.5	25				
	WSI 6					26	-53KA4	11		
	WDU 2.5	5315	-53KA4	14	/53.7	27				
	WSI 6					28	-53KA5	11		
	WDU 2.5	5317	-53KA5	14	/53.9	29				
	WSI 6					30	-53KA6	11		
	WDU 2.5	5319	-53KA6	14	/53.10	31				
	WSI 6					33	-53KA7	11		
	WDU 2.5	5321	-53KA7	14	/53.12	33				
	WSI 6					34	-53KA8	11		
	WDU 2.5	5323	-53KA8	14	/53.14	35				

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 75
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 76
DESCRIPTION: TERMINAL BOARD -XDO	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XY

SWITCHBOARD / DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	(jumper)	TERM. NUM.	PLANT / DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
/51.1	14	-51KA1	5109	WDU 2.5	-	1		+FIELD-64-XV-051
/51.0	A2	-51KA1	1M24-	WDU 2.5	•	2		+FIELD-64-XV-051
/51.2	A2	-51KA2	1M24-					
/51.3	14	-51KA2	5111	WDU 2.5	-	3		+FIELD-64-XV-052
				WDU 2.5	•	4		+FIELD-64-XV-052
/51.4	14	-51KA3	5113	WDU 2.5	-	5		+FIELD-64-XV-053
				WDU 2.5	•	6		+FIELD-64-XV-053
/51.6	14	-51KA4	5115	WDU 2.5	-	7		+FIELD-64-XV-054
				WDU 2.5	•	8		+FIELD-64-XV-054
/51.8	14	-51KA5	5117	WDU 2.5	-	9		+FIELD-64-XV-055
				WDU 2.5	•	10		+FIELD-64-XV-055
/51.9	14	-51KA6	5119	WDU 2.5	-	11		+FIELD-64-XV-056
				WDU 2.5	•	12		+FIELD-64-XV-056
/51.11	14	-51KA7	5121	WDU 2.5	-	13		+FIELD-64-XV-057
				WDU 2.5	•	14		+FIELD-64-XV-057
/51.13	14	-51KA8	5123	WDU 2.5	-	15		+FIELD-64-XV-058
/52.0	A2	-52KA1	1M24-	WDU 2.5	•	16		+FIELD-64-XV-058
/52.2	A2	-52KA2	1M24-					
/52.1	14	-52KA1	5209	WDU 2.5		17		+FIELD-64-XV-059
/52.0	A2	-52KA1	1M24-	WDU 2.5	•	18		+FIELD-64-XV-059
/52.2	A2	-52KA2	1M24-					
/52.3	X2	-64-XL-003	1M24-					
/52.12	14	-52KA7	5221	WDU 2.5		19		+FIELD-64-XV-060
/52.5	X2	-64-XA-001	1M24-	WDU 2.5	•	20		+FIELD-64-XV-060
/52.14	14	-52KA8	5223	WDU 2.5	-	21		+FIELD-64-XV-061
/53.0	A2	-53KA1	1M24-	WDU 2.5	•	22		+FIELD-64-XV-061
/53.2	A2	-53KA2	1M24-					

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	76
DESCRIPTION	DATE: 02.05.2024	APPROVED	LOCATION: + QE	NEXT: 77
TERMINAL BOARD -XY	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XAI

TERM. NUM.	TERM. TYPE	SWITCHBOARD / DESTIN. DEVICE: SHEET AND COLUMN	SWITCHBOARD / DESTIN. DEVICE: CONNECT.	SWITCHBOARD / DESTIN. DEVICE: DEVICE IDENT. CODE	SWITCHBOARD / DESTIN. DEVICE: WIRING	PLANT / DESTIN. DEVICE: CONNECT.	PLANT / DESTIN. DEVICE: DEVICE IDENT. CODE
1	KDKS 1/35 DB					11	-XDO
2		/52.5	X2	-64-XA-001	1M24-		
3	WDU 2.5	/54.1	1	-XAI1	5400		
4	WDU 2.5	/54.1	5	-XAI1	5401		
5	WDU 2.5	/54.2	9	-XAI1	5402		+FIELD-64-PT-051
6	WDU 2.5	/54.2	13	-XAI1	5403		+FIELD-64-PT-051
7	KDKS 1/35 DB						
8							
9	WDU 2.5					2	-XAI1
10	WDU 2.5					6	-XAI1
11	WDU 2.5	/54.6		+FIELD-64-PT-052	0Vdc	10	-XAI1
12	WDU 2.5	/54.6		+FIELD-64-PT-052	0Vdc	14	-XAI1
13	KDKS 1/35 DB						
14							
15	WDU 2.5					3	-XAI1
16	WDU 2.5					7	-XAI1
17	WDU 2.5	/54.10		+FIELD-64-PT-053	0Vdc	11	-XAI1
18	WDU 2.5	/54.10		+FIELD-64-PT-053	0Vdc	15	-XAI1
19	KDKS 1/35 DB						
20							
21	WDU 2.5					4	-XAI1
22	WDU 2.5					8	-XAI1
23	WDU 2.5	/54.14		+FIELD-64-PT-057	0Vdc	12	-XAI1
24	WDU 2.5	/54.14		+FIELD-64-PT-057	0Vdc	16	-XAI1
25	KDKS 1/35 DB						
26							
27	WDU 2.5	/55.1	1	-XAI2	5500		
28	WDU 2.5	/55.1	5	-XAI2	5501		
29	WDU 2.5	/55.2	9	-XAI2	5502		+FIELD-64-PT-059
30	WDU 2.5	/55.2	13	-XAI2	5503		+FIELD-64-PT-059
31	KDKS 1/35 DB						
32							
33	WDU 2.5					2	-XAI2
34	WDU 2.5					6	-XAI2
35	WDU 2.5	/55.6		+FIELD-64-PDIT-056	0Vdc	10	-XAI2
36	WDU 2.5	/55.6		+FIELD-64-PDIT-056	0Vdc	14	-XAI2
37	KDKS 1/35 DB						
38							
39	WDU 2.5					3	-XAI2
40	WDU 2.5					7	-XAI2

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25/03/2025

REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	77
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
	02.05.2024		+ QE	78
TERMINAL BOARD -XAI	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		49

TERMINAL STRIP

=NITROGEN+QE-XAI

SWITCHBOARD / DESTIN. DEVICE	SHEET AND COLUMN	/55.10	/55.10		/60.3				
	CONNECT.				M1				
	DEVICE IDENT. CODE	+FIELD-64-AT-051	+FIELD-64-AT-051		-SCALANCE				
	WIRING	0Vdc	0Vdc		1M24-				
TERMINAL JUM	TERM. TYPE	WDU 2.5	WDU 2.5	KDKS 1/35 DB		WDU 2.5	WDU 2.5	WDU 2.5	WDU 2.5
		-	-		-	-	-	-	-
	TERM. NUM.	41	42	43	44	45	46	47	48
PLANT / DESTIN. DEVICE	CONNECT.	11	15	1		4	8	12	16
	DEVICE IDENT. CODE	-XAI2	-XAI2	-60QF1		-XAI2	-XAI2	-XAI2	-XAI2

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	78
	DATE	APPROVED	LOCATION	NEXT
	02.05.2024		+ QE	79
DESCRIPTION	WORK ORDER N	DRAWING N		TOTAL SHEETS
TERMINAL BOARD -XAI	2024.4813_001	d241024-WD		49

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XCOM

			1	2	3	4	5	6	7	8	9	10
SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/21.9					/21.10				
		CONNECT.	2					-				
		DEVICE IDENT. CODE	-21QF3					-21GS1				
		WIRING	1L24+					1M24-				
	TERMINAL JUM	TERM. TYPE	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V	ZDK 4-2 V
		TERM. NUM.	1	2	3	4	5	6	7	8	9	10
PLANT	DESTIN. DEVICE	CONNECT.					1					X2
		DEVICE IDENT. CODE					-21FU2					-64-XL-004

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
C	04.09.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 79
DESCRIPTION: TERMINAL BOARD -XCOM	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 85
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-64-HS-001	1	Green flush complete pushbutton Ø22 spring return 1NO "unmarked"	SE.XB4BA31	SCHNEIDER	48
-64-HS-002	1	Red flush complete pushbutton Ø22 spring return 1NC "unmarked"	SE.XB4BA42	SCHNEIDER	48
-64-HS-003	1	Blue flush complete pushbutton Ø22 spring return 1NO	SE.XB4BA61	SCHNEIDER	22
-64-HS-003	1	Harmony XB4/XB5 1NO contact	SE.ZBE101	SCHNEIDER	22
-64-HS-004	1	Black selector switch Ø22 2-position stay put 1NO+1NC 600V	SE.XB4BD25	SCHNEIDER	48
-64-SBM-001	1	Red Ø40 Emergency stop, switching off Ø22 latching turn release 2NC+1NO	SE.XB4BS84441	SCHNEIDER	22
-64-SBM-001	1	Round guard for Ø 40 Emergency stop, plastic, yellow, 63.5 mm	SE.ZB4BZ1905	SCHNEIDER	22
-64-TH-001	1	Panel thermostat, 1 contacts NO (-20...+40)°C	FIN.7T.81.0.000.2301	FINDER	48
-64-XA-001	1	Red complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB4	SCHNEIDER	52
-64-XL-001	1	White complete pilot light Ø22 plain lens with integral LED 230...240V	SE.XB4BVM1	SCHNEIDER	20
-64-XL-002	1	White complete pilot light Ø22 plain lens with integral LED 230...240V	SE.XB4BVM1	SCHNEIDER	21
-64-XL-003	1	Green complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB3	SCHNEIDER	52
-64-XL-004	1	White complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB1	SCHNEIDER	21
-62A1	1	UMK-RJ45/S/8PTDA - VARIOFACE module for connecting a RJ45 socket with spring-cage double connection terminal blocks in direct plug-in method.	PXC.2900682	PHOENIX CONTACT	62
-62A2	1	UMK-RJ45/S/8PTDA - VARIOFACE module for connecting a RJ45 socket with spring-cage double connection terminal blocks in direct plug-in method.	PXC.2900682	PHOENIX CONTACT	62
-CPU1	1	SIMATIC S7-1500R CPU 1513R-1 PN, 300KB program/1,5MB data	SIE.6ES7513-1RL00-0AB0	SIEMENS	35
-CPU1	1	SIMATIC S7 MEMORY CARD, 24 MB	SIE.6ES7954-8LF03-0AA0	SIEMENS	35
-CPU2	1	SIMATIC S7-1500R CPU 1513R-1 PN, 300KB program/1,5MB data	SIE.6ES7513-1RL00-0AB0	SIEMENS	35
-CPU2	1	SIMATIC S7 MEMORY CARD, 24 MB	SIE.6ES7954-8LF03-0AA0	SIEMENS	35
-20E1	1	HEATER 100W 230VAC 90X80X110	HJSHT100	ALFA PLASTIC	20
-20FA4	1	Residual current device DDA202 type AC 25A 30mA - 2P	ABB.2CSB202001R1250	ABB	20
-20FU1	1	FUSE HOLDER 2P 10X38 , 32A 690V	LOV.FB01F2P	LOVATO	20
-20FU1	2	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	20
-21FU1	1	FUSE HOLDER 2P 10X38 , 32A 690V	LOV.FB01F2P	LOVATO	21
-21FU1	2	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	21
-21FU2	1	FUSE HOLDER 1P 10X38 , 32A 690V	LOV.FB01F1P	LOVATO	21
-21FU2	1	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	21
-21GS1	1	TRIO-PS-2G/1AC/24DC/20 Primary-switched TRIO POWER power supply input: 100VAC...240VAC single-phase, output: 24 V DC/20 A	PXC.2903151	PHOENIX CONTACT	21

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM

DESCRIPTION: COMPONENT LIST

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	85
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	86
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		49

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-20H1	1	Plafoniera lineare a led, 110÷240V AC, 50/60HZ,600 lm, 368mm	050PEL3C	NEW ELFIN	20
-IM	1	ET 200SP PROFINET INTERFACE MODULE IM155-6PN/2 HF , INCLUDING SERVER MODULE (6ES7193-6PA00-0AA0	SIE.6ES7155-6AU01-0CN0	SIEMENS	36
-IM	1	SIMATIC ET 200SP, BUSADAPTER BA 2X RJ45, 2 RJ45 SOCKETS FOR PROFINET	SIE.6ES7193-6AR00-0AA0	SIEMENS	36
-22K1	1	SIRIUS safety relay Basic unit Standard series Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact Us = 24 V AC/DC screw terminal	SIE.3SK1111-1AB30	SIEMENS	22
-22KA1	1	SIL 2 - SIL 3 Digital Relay Output Loop Powered DIN-Rail and terminal board Models D5244D - 2 channels relay output ,provides 2 port isolation (input/output) Supply 24Vdc	GMI.D5244D	gmi	22
-22KA2	1	SIL 2 - SIL 3 Digital Relay Output Loop Powered DIN-Rail and terminal board Models D5244D - 2 channels relay output ,provides 2 port isolation (input/output) Supply 24Vdc	GMI.D5244D	gmi	22
-51KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-52KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-53KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53

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25/03/2025

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: COMPONENT LIST	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
86	87	49

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-53KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-PN COUPLER	1	SIMATIC PN/PN Coupler for deterministic data exchange between max.4 PN-Controller per subnet, , PROFIsafe data exchange, I/O-, MSI-, MSO- and data record communication, redundant power supply, PN-connection via SIMATIC BusAdapter (BA)	SIE.6ES7158-3AD10-0XA0	SIEMENS	43
-PN COUPLER	1	5 pcs. strain relief for PROFINET cable at SIMATIC BusAdapter	SIE.6ES7193-6RA00-1AN0	SIEMENS	43
-20QF1	1	Miniature Circuit Breaker - S202M - 2P - C - 32 A	ABB.2CDS272001R0324	ABB	20
-20QF2	1	Miniature Circuit Breaker - S202M - 2P - C - 2 A	ABB.2CDS272001R0024	ABB	20
-20QF3	1	Miniature Circuit Breaker - S202M - 2P - C - 2 A	ABB.2CDS272001R0024	ABB	20
-20QF4	1	Miniature Circuit Breaker - S202M - 2P - C - 16 A	ABB.2CDS272001R0164	ABB	20
-21QF1	1	Miniature Circuit Breaker - S202M - 2P - C - 32 A	ABB.2CDS272001R0324	ABB	21
-21QF2	1	Miniature Circuit Breaker - S202M - 2P - C - 4 A	ABB.2CDS272001R0044	ABB	21
-21QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 20 A	ABB.2CDS271001R0204	ABB	21
-30QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	30
-44QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF2	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF4	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF5	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-45QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	45
-60QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	60
-20S1	1	Limit switch ausiliary contacts 1NO+1NC	PIZ.FR505	PIZZATO	20
-SCALANCE	1	SCALANCE XB205-3	SIE.6GK5205-3BD00-2AB2	SIEMENS	43
-20T1	1	Panel thernostat/hygrostat, 1 pole, 10 A - NO - (+10...+60)°C / (50...90)% - Nominal voltage 110...230 VAC/DC	FIN.7T.51.0.230.4360	FINDER	20
-20X1	1	Shuko/Italian std. socket 2P+T 16A (two module white system series)	GW20246	GEWISS	20
-20X1	1	Wall mounting modular box IP40 (2 modules)	GW27002	GEWISS	20
-XAI1	1	ET 200SP, AI 4XI 2-/4-WIRE ST, PU 1	SIE.6ES7134-6GD01-0BA1	SIEMENS	42
-XAI1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	42
-XAI2	1	ET 200SP, AI 4XI 2-/4-WIRE ST, PU 1	SIE.6ES7134-6GD01-0BA1	SIEMENS	42
-XAI2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	42

AS COMMISSIONED
GIPOTTI MATTIA

NO MARK UP
25/03/2025

LAURENTIU GROZAVU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM

DESCRIPTION
COMPONENT LIST

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	87
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	88
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		49

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-61XC1	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC2	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC3	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC4	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC5	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC6	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC7	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC8	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC9	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC10	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC11	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC12	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	62
-61XC13	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC14	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	62
-XDI1	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	37
-XDI1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	37
-XDI2	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	37
-XDI2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	37
-XDI3	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	38
-XDI3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	38
-XDI4	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	38
-XDI4	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	38
-XDO1	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	40
-XDO1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	40
-XDO2	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	40
-XDO2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	40
-XDO3	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	41
-XDO3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	41

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GIBOTTI MATTIA

NO MARK UP
25/03/2025

LAURENTIU GROZAVU

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 88
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT:
DESCRIPTION: COMPONENT LIST	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 49

Section 8 LIST OF MODIFICATIONS

NOT APPLICABLE

Section 8.1 List of changes

NOT APPLICABLE

Section 9 SUPPORTING DOCUMENTS

NOT APPLICABLE