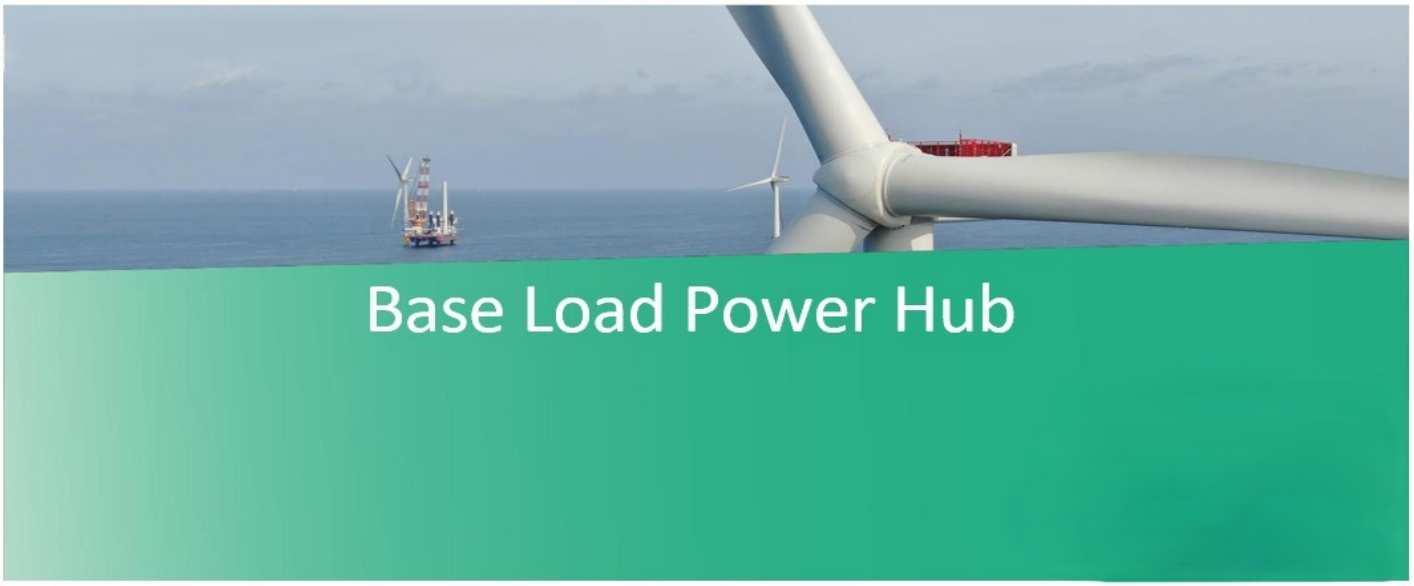
CROSSWIND

ROSETTI MARINO

PROVERLIS

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



COMMISSIONING DOSSIER (ONSHORE)

SYSTEM	83 Main Power Distribution Low Voltage 440 V
SUBSYSTEM	83-50 Welding Sockets

CROSSWIND

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

COMMISSIONING DOSSIER INDEX

ROSETTI MARINO

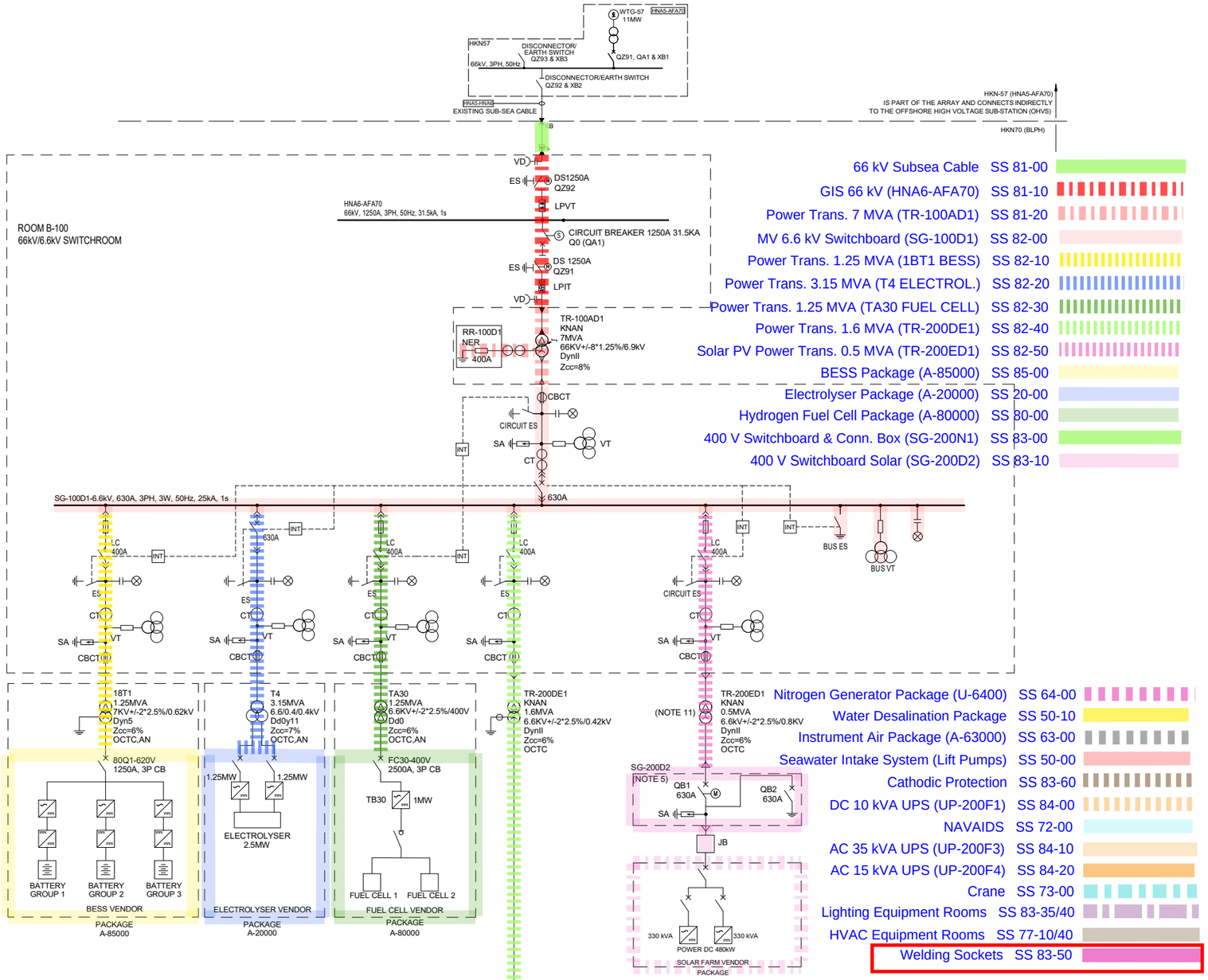
Sub System N°:	83-50	**Tick as appropriate**	ONSHORE	OK
Description:	Welding Sockets		OFFSHORE	

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:*	NA
5.1 Operational Test Procedure	
5.2 Operational Test Certificates	
6. *PIPING AND VESSEL PREPARATION*	NA
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*	0K
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	2025-06-06	2025-06-10
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-06-06T09:55:16.736Z	PROVERLIS Digitaly signed by Martin Taylor 2025-06-10T12:04:36.488Z

Section 1 SUB-SYSTEM DEFINITION

DRAWING NO. 123A90-DDL-EL-DG-20158 REV. 01



SYMBOL LEGEND:

- VOLTAGE DETECTOR
- EARTHING SWITCH DISCONNECTOR
- MOTORIZED EARTHING SWITCH
- CIRCUIT BREAKER
- FUSE
- CONTACTOR
- THREE-PHASE TRANSFORMER WITH TAP CHANGER
- THREE-PHASE TRANSFORMER
- CURRENT TRANSFORMER
- THREE-PHASE TRANSFORMER, WITH THREE WINDINGS
- NEUTRAL EARTHING RESISTOR
- SURGE ARRESTER
- CORE BALANCE CURRENT TRANSFORMER
- SURGE ARRESTOR FOR T-CONNECTOR (N.1 FOR EACH PHASE)
- VOLTAGE & CURRENT TRANSFORMER (3Ø X 2) (LPIT TYPE)
- VOLTAGE TRANSFORMER (3Ø X 2) (LPVT TYPE)
- VOLTAGE TRANSFORMER
- CABLE BOX
- T-CONNECTOR CABLE TERMINATION
- CABLE AIR TERMINATION

OLTC	= ON LOAD TAP CHANGER
OCTC	= OPEN CIRCUIT TAP CHANGER
KNAN	= NON-MINERAL OIL NATURAL AIR COOLED
AN	= AIR NATURAL
XB	= CABLE BOX
QZ	= DISCONNECT SWITCH & EARTH SWITCH
QA	= CIRCUIT BREAKER
LC	= LATCHED FUSED CONTACTOR (400A)
INT	= INTERLOCK SYSTEM
SA	= SURGE ARRESTER
CBCT	= CORE BALANCE CURRENT TRANSFORMER
ES	=EARTHING SWITCH
VD	=VOLTAGE DETECTOR
LCP	=LOCAL CONTROL PANEL
LPVT	=LOW POWER VOLTAGE TRANSFORMER
LPCT	=LOW POWER CURRENT TRANSFORMER
LPIT	=LOW POWER INSTRUMENT TRANSFORMER
JB	=JUNCTION BOX

NOTES:

1. TEMPORARY POWER SUPPLY CONNECTION BOX LOCATED ON OUTSIDE WALL OF LV SWITCHROOM / CONTAINER.
2. LOAD DEFINITION 'ESSENTIAL' / 'NON-ESSENTIAL' IS SHOWN IN THE LOAD LIST. THE CCS, EMCS AND 'SMART' SWITCHGEAR WILL OPEN / CLOSE CIRCUIT BREAKERS AS REQUIRED.
3. A COMBINED CCS/EMCS SYSTEM COMPRISES A MICROPROCESSOR BASED SYSTEM, ASSOCIATED SOFTWARE AND REQUIRED PERIPHERALS FOR MONITORING AND CONTROLLING OF ELECTRICAL POWER NETWORK. ALL ELECTRICAL EQUIPMENT AND PACKAGE UNITS SHALL BE CONNECTED TO THE CENTRAL CONTROL SYSTEM .
4. IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM SUPPLIED BY COMPANY.
5. THE SOLAR FARM IN-FEED POWER CIRCUIT BREAKERS PANEL IS LOCATED INSIDE THE LV SWITCHGEAR ROOM B-200.
6. DELETED.
7. DELETED.
8. DELETED.
9. CROSSWIND SHALL BE ABLE TO CONTROL THE BLPH 66KV MOTORISED CIRCUIT BREAKER Q0 (QA1) & MOTORISED ELECTRICAL DISCONNECTOR / EARTH SWITCH (QZ92, TYPE B) USING THEIR 'HV-SCADA' SYSTEM. THIS BACK-UP / REDUNDANT CONTROL SHALL BE ADDITIONAL TO THAT PROVIDED BY THE CCS AND BE OF HIGHER PRIORITY OVER A SEPARATE FIBRE OPTIC CABLE (FOC). THE CCS OPERATOR AND 'HV-SCADA' SHALL BOTH BE KEPT FULLY AWARE OF EQUIPMENT STATUS AT ALL TIMES. INTERTRIPPING, INHIBITS & INTERLOCKING FOR BLPH 66KV EQUIPMENT SHALL BE AS PER THE WIND FARM.
10. THE LOADS IN THE LOW VOLTAGE SWITCHGEAR AND THE CURRENT VALUES OF THE CIRCUIT BREAKERS ARE ONLY INDICATIVE.
11. NEUTRAL POINT OF TR-200ED1 SHALL NOT BE GROUNDED AS REQUIRED BY SOLAR FARM SUPPLIER IN 123A90-PML-PM-TQ-00040.

REFERENCES:

1. 123A90-DDL-EL-DG-20014 ELECTRICAL CONTROL, PROTECTION AND METERING DIAGRAMS
2. 123A90-DDL-EL-DG-20015 ELECTRICAL SINGLE LINE DIAGRAM 6.6kV SYSTEMS
3. 123A90-DDL-EL-DG-20159 ELECTRICAL SINGLE LINE DIAGRAMS LV SYSTEM
4. 123A90-DDL-EL-DG-20160 ELECTRICAL SINGLE LINE DIAGRAMS AC UPS SYSTEMS
5. 123A90-DDL-EL-DG-20161 ELECTRICAL SINGLE LINE DIAGRAMS DC UPS SYSTEMS
6. 123A90-DDL-EL-DG-20185 ELECTRICAL SINGLE LINE DIAGRAM HV SYSTEMS
7. 123A90-DDL-EL-DL-20104 ELECTRICAL EQUIPMENT LAYOUT - HV SWITCHROOM
8. 123A90-DDL-EL-DL-20105 ELECTRICAL EQUIPMENT LAYOUT - LV SWITCHROOM
9. 123A90-DDL-EL-LIS-20016 ELECTRICAL LOAD LIST and BALANCE -CCS MODE CHARGING-
10. 123A90-DDL-EL-RE-20152 ELECTRICAL EQUIPMENT SIZING CCALCULATION REPORT
11. 123A90-DDL-EL-RE-20170 ELECTRICAL SYSTEM STUDY REPORT - LOAD FLOW
12. 123A90-DDL-EL-RE-20171 ELECTRICAL SYSTEM STUDY REPORT - SHORT CIRCUIT
13. 123A90-DDL-EL-RE-20172 ELECTRICAL SYSTEM STUDY REPORT - ARC FLASH ENERGY CALCULATION
14. 123A90-DDL-EL-RE-20173 ELECTRICAL SYSTEM STUDY REPORT - HARMONICS

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	02/11/2023	DSF	CB/AMA	OYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

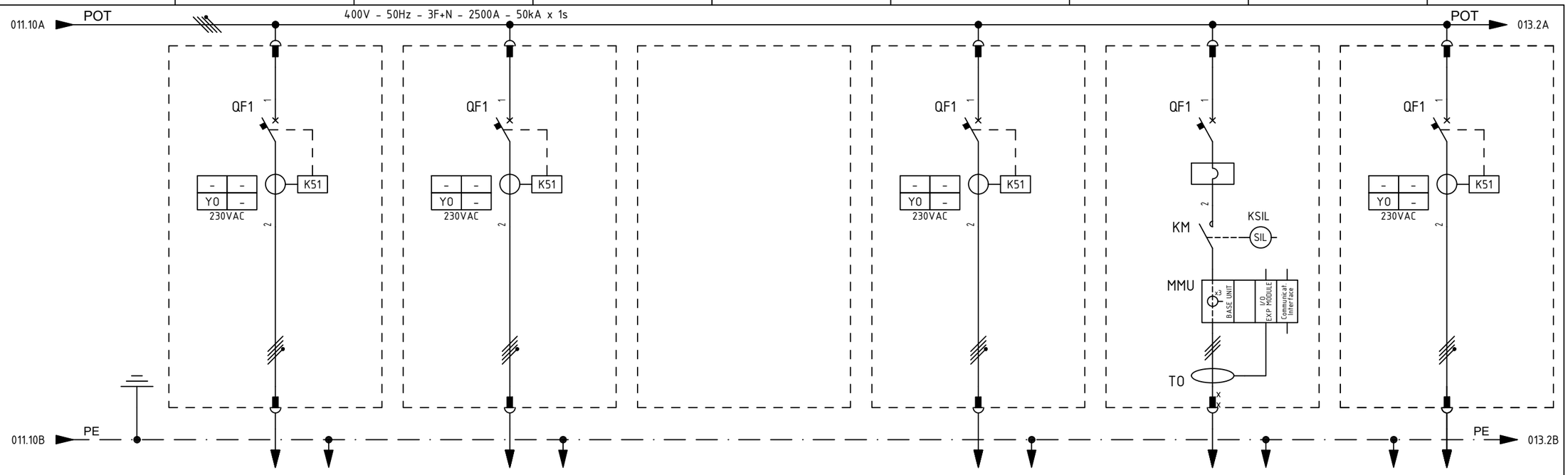
TITLE :

OVERALL/KEY SINGLE LINE DIAGRAM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE N/A
DRAWN GPA	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 26/03/2023
A1	DRAWING NO. 123A90-DDL-EL-DG-20158	SHEET 001	REV. 01

01

File Name : 123A90-DDL-EL-DG-20158_REV01.dwg



ITEM			1	UP-200F4	UP-200F4		ESW-200N1	PM-50001 A	UP-200F3
UTILITY			2	AC UPS F&G - 8 H UP-200F4 - LINE A	AC UPS F&G - 8h UP-200F4 - LINE B		WELDING SOCKETS (TOP DECK)	SEA WATER PUMP A	AC UPS PAS - 30 min. UP-200F3 - BYPASS
COLUMN/CUBICLE			3	A6 / +05	A6 / +06		A6 / +08	A7 / +01	A7 / +02
RATED POWER | RATED CURRENT			4/5	18 kW | 28.9 A	18 kW | 28.9 A		69.84 kW | 126.15 A	6.1 kW | 11.0 A	36 kW | 57.8 A
TYPICAL FUNCTIONAL			6	L1-63	L1-63		L2-160	M1-6	L1-100
CIRCUIT BREAKER (ABB)	TYPE		7	XT2S - 160	XT2S - 160		XT4S - 250	XT2S - 160	XT2S - 160
	VERSION		8	4P - FIXED	4P - FIXED		4P - FIXED	3P - FIXED	4P - FIXED
	TRIP UNITS		9	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)		EKIP DIP LSIG (In = 160A)	MA (In = 20A)	EKIP DIP LSIG (In = 100A)
	Icu	KA	10	50 kA	50kA		50kA	-	50 kA
OVERLOAD	L	Range A	11	(0.4 - 1) x In	(0.4 - 1) x In		(0.4 - 1) x In	-	(0.4 - 1) x In
		Range t	12	k/I^2	k/I^2		k/I^2	-	k/I^2
SEL. SHORT-CIRCUIT	S	Range A	13	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In	-	(1 - 10) x In
		Range t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2		0.05 - 0.4 sec / k/I^2	-	0.05 - 0.4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range A	15	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In	(6 - 14) x I	(1 - 10) x In
		Range t	16	<= 0.02 sec	<= 0.02 sec		<= 0.02 sec	<= 0.02 sec	<= 0.02 sec
EARTH FAULT PROTECTION	G	Range A	17	(0.2 - 1) x In	(0.2 - 1) x In		(0.2 - 1) x In	-	(0.2 - 1) x In
		Range t	18	0.1 - 0.8 sec	0.1 - 0.8 sec		0.1 - 0.8 sec	-	0.1 - 0.8 sec
CONTACTOR (ABB)			19	-	-		-	AF38-30-00-13 (18.5 kW - AC3) - 100-250Vac/dc	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-		-	UMC100.3 UC (0.24 - 63A)	-
SURGE ARRESTER (DEHN)			21	-	-		-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-		-	-	-
FUSE HOLDER (ITALWEBER)			23	SUBSISTEM 84.20	SUBSISTEM 84.20		SUBSISTEM 83.50	SUBSISTEM 50.00	SUBSISTEM 84.10
INDIRECT PROTECTION (ABB)			24						
VOLTMETER			25						
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-		-	-	-
	PERFORMANCE/CLASS		27	-	-		-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-		-	-	-
	PERFORMANCE/CLASS		29	-	-		-	-	-
LOCK-OUT RELAY (-)			30	-	-		-	-	-
POWER CONDUCTOR		mmq	31	4G35	4G35		5G50	4G4	4G35

=
+

DWG n° : 231298/SD/11
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "SG-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

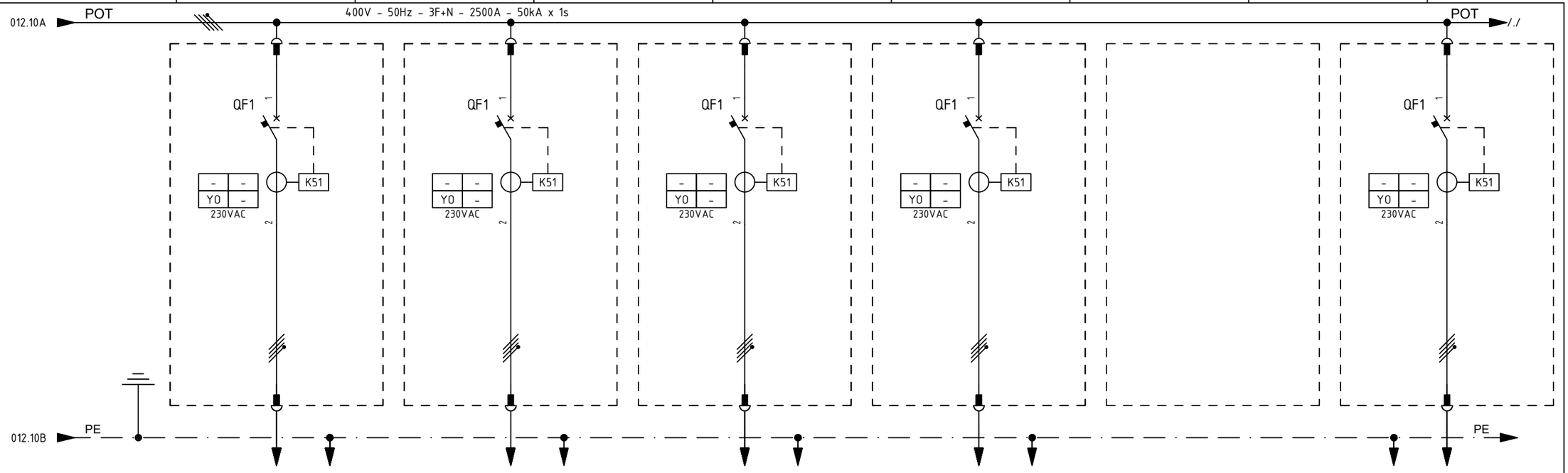
DRAWING NO. 1723002197-EL-DG-00011

SHEET 012

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 03



ITEM			1	UP-200F1	UP-200F1	UP-200F2	UP-200F2		ESW-200N2
UTILITY			2	DC BATTERY SYSTEM SWTG CONTROL - FEEDER A	DC BATTERY SYSTEM SWTG CONTROL - FEEDER B	NAVAID SYSTEM FEEDER A	NAVAID SYSTEM FEEDER B		WELDING SOCKETS (LOWER DECK)
COLUMN/CUBICLE			3	A7 / +03	A7 / +04	A7 / +05	A7 / +06		A7 / +08
RATED POWER | RATED CURRENT			4/5	10 kW | 16 A	10 kW | 16 A	1.6 kVA | 7 A	1.6 kVA | 7 A		69.84 kW | 126.15 A
TYPICAL FUNCTIONAL			6	L1-63	L1-63	L1-10	L1-10		L2-160
CIRCUIT BREAKER (ABB)	TYPE		7	XT2S - 160	XT2S - 160	XT2S - 160	XT2S - 160		XT4S - 250
	VERSION		8	4P - FIXED	4P - FIXED	4P - FIXED	4P - FIXED		4P - FIXED
	TRIP UNITS		9	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)		EKIP DIP LSIG (In = 160A)
	Icu KA		10	50kA	50kA	50kA	50kA		50kA
OVERLOAD	L	Range A	11	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In		(0.4 - 1) x In
		Range t	12	k/I^2	k/I^2	k/I^2	k/I^2		k/I^2
SEL. SHORT-CIRCUIT	S	Range A	13	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In
		Range t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2		0.05 - 0.4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range A	15	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In
		Range t	16	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec		<= 0.02 sec
EARTH FAULT PROTECTION	G	Range A	17	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In		(0.2 - 1) x In
		Range t	18	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec		0.1 - 0.8 sec
CONTACTOR (ABB)			19	-	-	-	-		-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-		-
SURGE ARRESTER (DEHN)			21	-	-	-	-		-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-		-
FUSE HOLDER (ITALWEBER)			23	SUBSISTEM 84.00	SUBSISTEM 84.00	SUBSISTEM 72.00	SUBSISTEM 72.00		SUBSISTEM 83.50
INDIRECT PROTECTION (ABB)			24						
VOLTMETER			25						
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-		-
	PERFORMANCE/CLASS		27	-	-	-	-		-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-		-
	PERFORMANCE/CLASS		29	-	-	-	-		-
LOCK-OUT RELAY (-)			30	-	-	-	-		-
POWER CONDUCTOR mmq			31	4G16	4G16	3G16	3G16		5G50

=

+

DWG n° : 231298/SD/11

Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "SG-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-00011

SHEET 013

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 03

Section 2 READY FOR OPERATION

Section 2.1 Achievement Of Ready for Operation Certificate (RFO)

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

Ready For Operation (RFO) Certificate

COMPLETE	●	PARTIAL	

Revision:	1		Issued on:	2025-05-28	

System:	83	/	Main Power Distribution Low Voltage 440 V

SubSystem:	83-50	/	Welding Sockets

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 '0

REMARKS:

	CONTRACTOR Commissioning Manager	**COMPANY** Commissioning Lead
Name	Anthony Iveson	Martin Taylor
Date	2025-05-29	2025-06-05
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-05-29T08:54:55.443Z	PROVERLIS Digitaly signed by Martin Taylor 2025-06-05T15:36:36.388Z

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 83-50 & process: COMM

Electrical	83-50 Welding Sockets						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A6/+08-QF1	WELDING SOCKETS (TOP DECK) - A6/+08-QF1	ONSHORE	C10002964	FP00	100	2025-02-20	RFO 1
		ONSHORE	C10002965	FTR-2	100	2024-10-02	RFO 1
		ONSHORE	C10002966	FTR-6	100	2024-10-03	RFO 1
		ONSHORE	C10003029	FTR-5	100	2025-04-24	RFO 1
A7/+08-QF1	WELDING SOCKETS (LOWER DECK) - A7/+08-QF1	ONSHORE	C10002967	FP00	100	2025-02-20	RFO 1
		ONSHORE	C10002968	FTR-2	100	2024-10-01	RFO 1
		ONSHORE	C10002969	FTR-6	100	2024-10-03	RFO 1
		ONSHORE	C10003030	FTR-5	100	2025-04-24	RFO 1
ESW-200N1-01/02	WELDING SOCKETS - TOP DECK	ONSHORE	C10004784	FP19	100	2025-02-20	RFO 1
ESW-200N2-01/02	WELDING SOCKETS - LOWER DECK	ONSHORE	C10004785	FP19	100	2025-02-20	RFO 1

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	83	Main Power Distribution Low Voltage 440 V
SUBSYSTEM	83-50	Welding Sockets

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001965	A	ESW-200N1-01 C10001848	Not enought threads are thightened between the lock nut and the cable gland body.	.		Lmussi 2024-12-17	2025-01-23	AAndreani 2025-01-23	2025-01-23
C30002230	A	ESW-200N1-02 C10001849	Earthing cable is passing through the unistrut.	.		Lmussi 2024-12-30	2025-01-21	Lmussi 2025-01-21	2025-01-21
C30001305	B	83022-CEL-01 C10000546	Missing cable tags on all internal and external routing (83022-CEL-01).	.		Gtangianu 2024-12-04	2025-02-21	Ecarotenuto 2025-02-21	2025-02-21
C30001306	B	83021-CEL-01 C10000543	Missing cable tags on all internal and external routing (83021-CEL-01).	.		Gtangianu 2024-12-04	2025-02-04	Gtangianu 2025-02-04	2025-02-04
C30001307	B	83022-CEL-01 C10000546	Identification tag wires missing both side the (83022-CEL-01).	.		Gtangianu 2024-12-04	2025-02-21	Ecarotenuto 2025-02-21	2025-02-21
C30001308	B	83021-CEL-01 C10000543	Identification tag wires missing both side the (83021-CEL-01).	.		Gtangianu 2024-12-04	2025-02-04	Gtangianu 2025-02-04	2025-02-04
C30001949	B	83022-CEL-02 C10000547	On both JBs side core identification tags are missing for all wires.	.		Lmussi 2024-12-17	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30001950	B	83022-CEL-02 C10000547	Not enought threads are thightened between the lock nut and the cable gland body.	.		Lmussi 2024-12-17	2025-02-26	AAndreani 2025-02-26	2025-02-26
C30001951	B	83022-CEL-02 C10000547	On both JBs side, identification tags are missing on the terminal block.	.		Lmussi 2024-12-17	2025-02-25	APolo 2025-02-25	2025-02-25

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 83 Main Power Distribution Low Voltage 440 V

SUBSYSTEM 83-50 Welding Sockets

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001962	B	ESW-200N1-01 C10001848	Some core identification are missing on the terminal block	.		Lmussi 2024-12-17	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30001963	B	ESW-200N1-01 C10001848	Serrated washer is missing on the plug.	.		Lmussi 2024-12-17	2025-01-30	GBertuccelli 2025-01-30	2025-01-30
C30002227	B	ESW-200N1-02 C10001849	Drain valve (as per 123A90-DDL-EL-DS-20067) is missing.	.		Lmussi 2024-12-30	2025-01-14	Ecarotenuto 2025-01-14	2025-01-14
C30002228	B	ESW-200N1-02 C10001849	Serrated washers are missing for plugs.	.		Lmussi 2024-12-30	2025-01-30	GBertuccelli 2025-01-30	2025-01-30
C30002229	B	ESW-200N1-02 C10001849	Some identification are missing on Terminal Block	.		Lmussi 2024-12-30	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30002261	B	83021-CEL-02 C10000544	On ESW-200N1-02 side SS cable tag is missing.	.		Lmussi 2024-12-31	2025-02-28	AAndreani 2025-02-28	2025-02-28
C30002264	B	83021-CEL-02 C10000544	on both sockets sides (ESW-200N1-01 & ESW-200N1-02) core identification tags are missing for all wires.	.		Lmussi 2024-12-31	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30002265	B	83021-CEL-02 C10000544	MCTs are missing.	.		Lmussi 2024-12-31	2025-01-30	GBertuccelli 2025-01-30	2025-01-30
C30002267	B	83021-CEL-02 C10000544	On ESW-200N1-01 side, bending radius of the cable to be corrected.	.		Lmussi 2024-12-31	2025-03-26	Gtangianu 2025-03-26	2025-03-26

Section 2.2 Exception Punch Lists (per discipline)

Project CROSSWIND

PUNCH LIST REPORT

NO DATA AVAILABLE

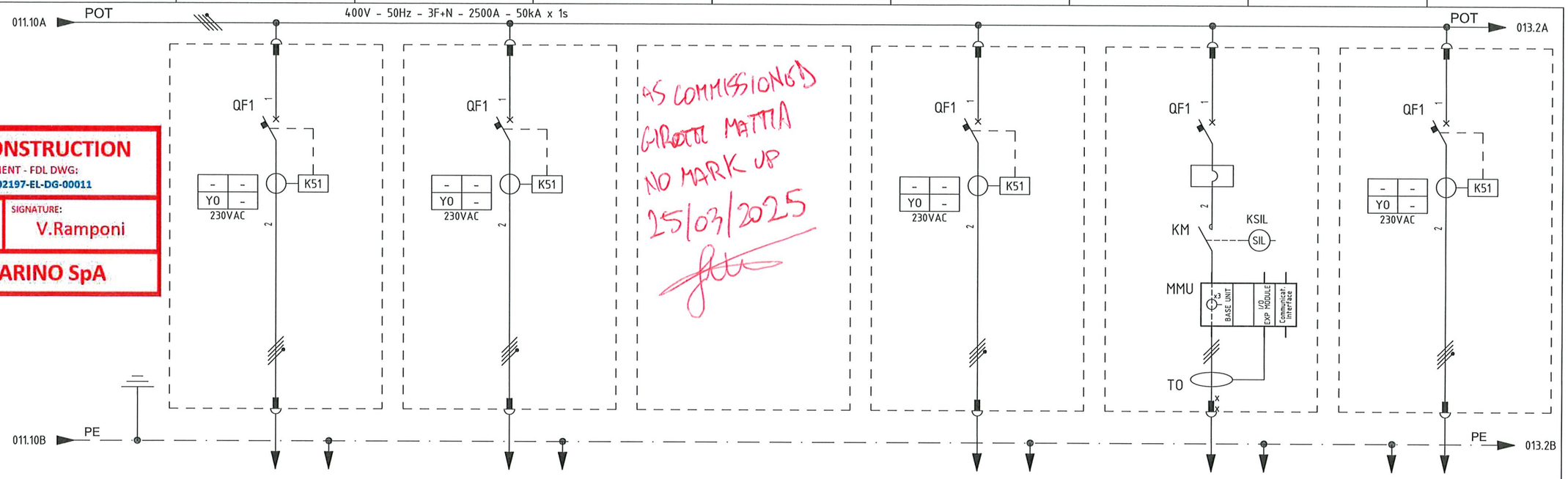
Section 2.3 “As-Commissioned” P&ID's / SLD's / D&ID's / C&E's

VALID FOR CONSTRUCTION

VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1723002197-EL-DG-00011

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

ROSETTI MARINO SpA



ITEM			1	UP-200F4	UP-200F4	ESW-200N1	PM-50001 A	UP-200F3
UTILITY			2	AC UPS F&G - 8 H UP-200F4 - LINE A	AC UPS F&G - 8h UP-200F4 - LINE B	WELDING SOCKETS (TOP DECK)	SEA WATER PUMP A	AC UPS PAS - 30 min. UP-200F3 - BYPASS
COLUMN/CUBICLE			3	A6 / +05	A6 / +06	A6 / +08	A7 / +01	A7 / +02
RATED POWER | RATED CURRENT			4/5	18 kW | 28.9 A	18 kW | 28.9 A	69.84 kW | 126.15 A	6.1 kW | 11.0 A	36 kW | 57.8 A
TYPICAL FUNCTIONAL			6	L1-63	L1-63	L2-160	M1-6	L1-100
CIRCUIT BREAKER (ABB)	TYPE		7	XT2S - 160	XT2S - 160	XT4S - 250	XT2S - 160	XT2S - 160
	VERSION		8	4P - FIXED	4P - FIXED	4P - FIXED	3P - FIXED	4P - FIXED
	TRIP UNITS		9	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 160A)	MA (In = 20A)	EKIP DIP LSIG (In = 100A)
	Icu	KA	10	50 kA	50kA	50kA	-	50 kA
OVERLOAD	L	Range A	11	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In	-	(0.4 - 1) x In
		Range t	12	k/I^2	k/I^2	k/I^2	-	k/I^2
SEL. SHORT-CIRCUIT	S	Range A	13	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	-	(1 - 10) x In
		Range t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	-	0.05 - 0.4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range A	15	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(6 - 14) x I	(1 - 10) x In
		Range t	16	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec
EARTH FAULT PROTECTION	G	Range A	17	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In	-	(0.2 - 1) x In
		Range t	18	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec	-	0.1 - 0.8 sec
CONTACTOR (ABB)			19	-	-	-	AF38-30-00-13 (18.5 kW - AC3) - 100-250Vac/dc	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	UMC100.3 UC (0.24 - 63A)	-
SURGE ARRESTER (DEHN)			21	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-
FUSE HOLDER (ITALWEBER)			23	-	-	-	-	-
INDIRECT PROTECTION (ABB)			24	-	-	-	-	-
VOLTMETER			25	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-
LOCK-OUT RELAY (-)			30	-	-	-	-	-
POWER CONDUCTOR		mmq	31	4G35	4G35	5G50	4G4	4G35

=
+

DWG n° : 231298/SD/11
Item n° : PF1002983/26

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
4	28/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

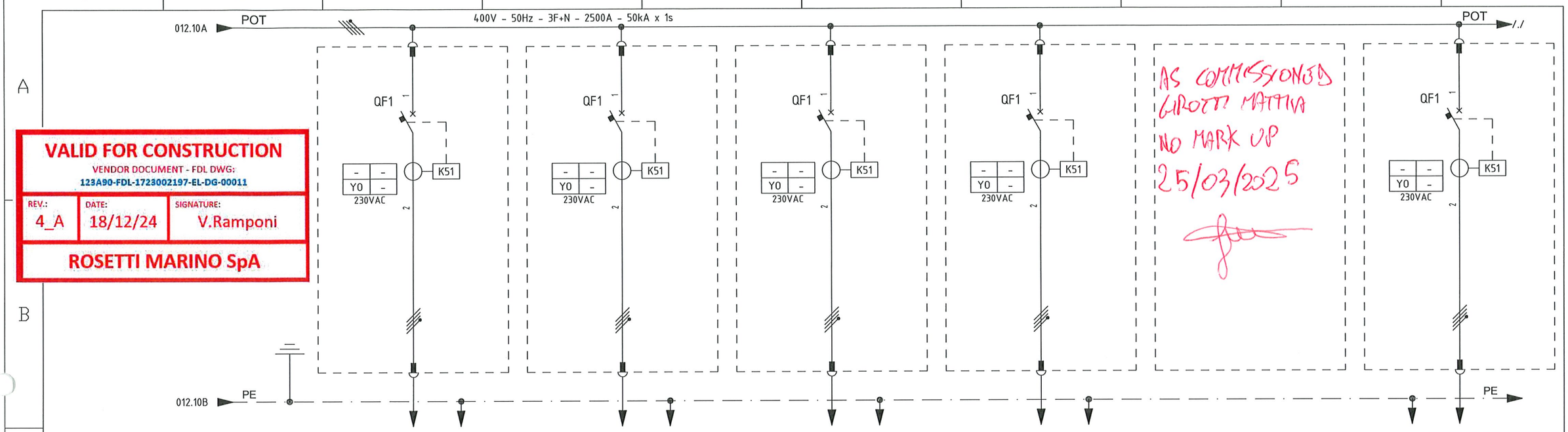
DRAWING NO. 1723002197-EL-DG-00011

SHEET 012

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 04



VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1723002197-EL-DG-00011

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

ROSETTI MARINO SpA

ITEM				1	UP-200F1	UP-200F1	UP-200F2	UP-200F2		ESW-200N2
UTILITY				2	DC BATTERY SYSTEM SWTG CONTROL - FEEDER A	DC BATTERY SYSTEM SWTG CONTROL - FEEDER B	NAVAID SYSTEM FEEDER A	NAVAID SYSTEM FEEDER B		WELDING SOCKETS (LOWER DECK)
COLUMN/CUBICLE				3	A7 / +03	A7 / +04	A7 / +05	A7 / +06		A7 / +08
RATED POWER | RATED CURRENT				4/5	10 kW | 16 A	10 kW | 16 A	1.6 kVA | 7 A	1.6 kVA | 7 A		69.84 kW | 126.15 A
TYPICAL FUNCTIONAL				6	L1-63	L1-63	L1-63	L1-63		L2-160
CIRCUIT BREAKER (ABB)	TYPE			7	XT2S - 160	XT2S - 160	XT2S - 160	XT2S - 160		XT4S - 250
	VERSION			8	4P - FIXED	4P - FIXED	4P - FIXED	4P - FIXED		4P - FIXED
	TRIP UNITS			9	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)		EKIP DIP LSIG (In = 160A)
	Icu		KA	10	50kA	50kA	50kA	50kA		50kA
OVERLOAD	L	Range	A	11	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In		(0.4 - 1) x In
		Range	t	12	k/I^2	k/I^2	k/I^2	k/I^2		k/I^2
SEL. SHORT-CIRCUIT	S	Range	A	13	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In
		Range	t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2		0.05 - 0.4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range	A	15	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In
		Range	t	16	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec		<= 0.02 sec
EARTH FAULT PROTECTION	G	Range	A	17	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In		(0.2 - 1) x In
		Range	t	18	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec		0.1 - 0.8 sec
CONTACTOR (ABB)				19	-	-	-	-		-
THERMAL OVERLOAD RELAY (ABB)				20	-	-	-	-		-
SURGE ARRESTER (DEHN)				21	-	-	-	-		-
TOROIDAL CURRENT TRANSFORMER (FRER)				22	-	-	-	-		-
FUSE HOLDER (ITALWEBER)				23	-	-	-	-		-
INDIRECT PROTECTION (ABB)				24	-	-	-	-		-
VOLTMETER				25	-	-	-	-		-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE			26	-	-	-	-		-
	PERFORMANCE/CLASS			27	-	-	-	-		-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE			28	-	-	-	-		-
	PERFORMANCE/CLASS			29	-	-	-	-		-
LOCK-OUT RELAY (-)				30	-	-	-	-		-
POWER CONDUCTOR			mmq	31	4G16	4G16	3G16	3G16		5G50

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/11
Item n° : PF1002983/26

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
4	28/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-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-00011

SHEET 013

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 04

Section 3 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	83	Main Power Distribution Low Voltage 440 V
SUBSYSTEM	83-50	Welding Sockets

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001965	A	ESW-200N1-01 C10001848	Not enought threads are thightened between the lock nut and the cable gland body.	.		Lmussi 2024-12-17	2025-01-23	AAndreani 2025-01-23	2025-01-23
C30002230	A	ESW-200N1-02 C10001849	Earthing cable is passing through the unistrut.	.		Lmussi 2024-12-30	2025-01-21	Lmussi 2025-01-21	2025-01-21
C30001305	B	83022-CEL-01 C10000546	Missing cable tags on all internal and external routing (83022-CEL-01).	.		Gtangianu 2024-12-04	2025-02-21	Ecarotenuto 2025-02-21	2025-02-21
C30001306	B	83021-CEL-01 C10000543	Missing cable tags on all internal and external routing (83021-CEL-01).	.		Gtangianu 2024-12-04	2025-02-04	Gtangianu 2025-02-04	2025-02-04
C30001307	B	83022-CEL-01 C10000546	Identification tag wires missing both side the (83022-CEL-01).	.		Gtangianu 2024-12-04	2025-02-21	Ecarotenuto 2025-02-21	2025-02-21
C30001308	B	83021-CEL-01 C10000543	Identification tag wires missing both side the (83021-CEL-01).	.		Gtangianu 2024-12-04	2025-02-04	Gtangianu 2025-02-04	2025-02-04
C30001949	B	83022-CEL-02 C10000547	On both JBs side core identification tags are missing for all wires.	.		Lmussi 2024-12-17	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30001950	B	83022-CEL-02 C10000547	Not enought threads are thightened between the lock nut and the cable gland body.	.		Lmussi 2024-12-17	2025-02-26	AAndreani 2025-02-26	2025-02-26
C30001951	B	83022-CEL-02 C10000547	On both JBs side, identification tags are missing on the terminal block.	.		Lmussi 2024-12-17	2025-02-25	APolo 2025-02-25	2025-02-25

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 83 Main Power Distribution Low Voltage 440 V

SUBSYSTEM 83-50 Welding Sockets

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001962	B	ESW-200N1-01 C10001848	Some core identification are missing on the terminal block	.		Lmussi 2024-12-17	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30001963	B	ESW-200N1-01 C10001848	Serrated washer is missing on the plug.	.		Lmussi 2024-12-17	2025-01-30	GBertuccelli 2025-01-30	2025-01-30
C30002227	B	ESW-200N1-02 C10001849	Drain valve (as per 123A90-DDL-EL-DS-20067) is missing.	.		Lmussi 2024-12-30	2025-01-14	Ecarotenuto 2025-01-14	2025-01-14
C30002228	B	ESW-200N1-02 C10001849	Serrated washers are missing for plugs.	.		Lmussi 2024-12-30	2025-01-30	GBertuccelli 2025-01-30	2025-01-30
C30002229	B	ESW-200N1-02 C10001849	Some identification are missing on Terminal Block	.		Lmussi 2024-12-30	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30002261	B	83021-CEL-02 C10000544	On ESW-200N1-02 side SS cable tag is missing.	.		Lmussi 2024-12-31	2025-02-28	AAndreani 2025-02-28	2025-02-28
C30002264	B	83021-CEL-02 C10000544	on both sockets sides (ESW-200N1-01 & ESW-200N1-02) core identification tags are missing for all wires.	.		Lmussi 2024-12-31	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30002265	B	83021-CEL-02 C10000544	MCTs are missing.	.		Lmussi 2024-12-31	2025-01-30	GBertuccelli 2025-01-30	2025-01-30
C30002267	B	83021-CEL-02 C10000544	On ESW-200N1-01 side, bending radius of the cable to be corrected.	.		Lmussi 2024-12-31	2025-03-26	Gtangianu 2025-03-26	2025-03-26

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001305

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000546	1.4 Discipline	Electrical
1.2 Item	83022-CEL-01		Welding Sockets (Lower Deck) JB's / Welding Socket (Lower Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

Missing cable tags on all internal and external routing (83022-CEL-01).

Name: Giovanni Tangianu

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
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: Eleonora Carotenuto

Date: 2025-02-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001306

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000543	1.4 Discipline	Electrical
1.2 Item	83021-CEL-01	Welding Sockets (Top Deck) JB's / Welding Socket (Top Deck)	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Missing cable tags on all internal and external routing (83021-CEL-01).

Name: Giovanni Tangianu

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
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: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001307

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000546	1.4 Discipline	Electrical
1.2 Item	83022-CEL-01	Welding Sockets (Lower Deck) JB's / Welding Socket (Lower Deck)	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Identification tag wires missing both side the (83022-CEL-01).

Name: Giovanni Tangianu

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
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: Eleonora Carotenuto

Date: 2025-02-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001308

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000543	1.4 Discipline	Electrical
1.2 Item	83021-CEL-01	Welding Sockets (Top Deck) JB's / Welding Socket (Top Deck)	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Identification tag wires missing both side the (83021-CEL-01).

Name: Giovanni Tangianu

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
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: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001949

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000547	1.4 Discipline	Electrical
1.2 Item	83022-CEL-02		Welding Sockets (Lower Deck) JB's / Welding Socket (Lower Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

On both JBs side core identification tags are missing for all wires.

Name: Luca Mussi

Date: 2024-12-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


PE
L1
L1
L2
L2
L3
L3
N
PE

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001950

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000547	1.4 Discipline	Electrical
1.2 Item	83022-CEL-02		Welding Sockets (Lower Deck) JB's / Welding Socket (Lower Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

Not enought threads are thightened between the lock nut and the cable gland body.

Name: Luca Mussi

Date: 2024-12-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001951

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000547	1.4 Discipline	Electrical
1.2 Item	83022-CEL-02		Welding Sockets (Lower Deck) JB's / Welding Socket (Lower Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

On both JBs side, identification tags are missing on the terminal block.

Name: Luca Mussi

Date: 2024-12-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-25

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


PE
L1
L1
L2
L2
L3
L3
N
PE

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001962

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001848	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-01	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Some core identification are missing on the terminal block

Name: Luca Mussi

Date: 2024-12-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-17
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-04-08

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

N
N
L2
L1

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001963

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001848	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-01	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Serrated washer is missing on the plug.

Name: Luca Mussi

Date: 2024-12-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-01-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001965

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001848	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-01	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Not enought threads are thightened between the lock nut and the cable gland body.

Name: Luca Mussi

Date: 2024-12-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-01-23

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002227

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001849	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-02	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Drain valve (as per 123A90-DDL-EL-DS-20067) is missing.

Name: Luca Mussi

Date: 2024-12-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

TDS is superseded by TBE and Vendor GA, drain valve not required

Name: Eleonora Carotenuto

Date: 2025-01-14

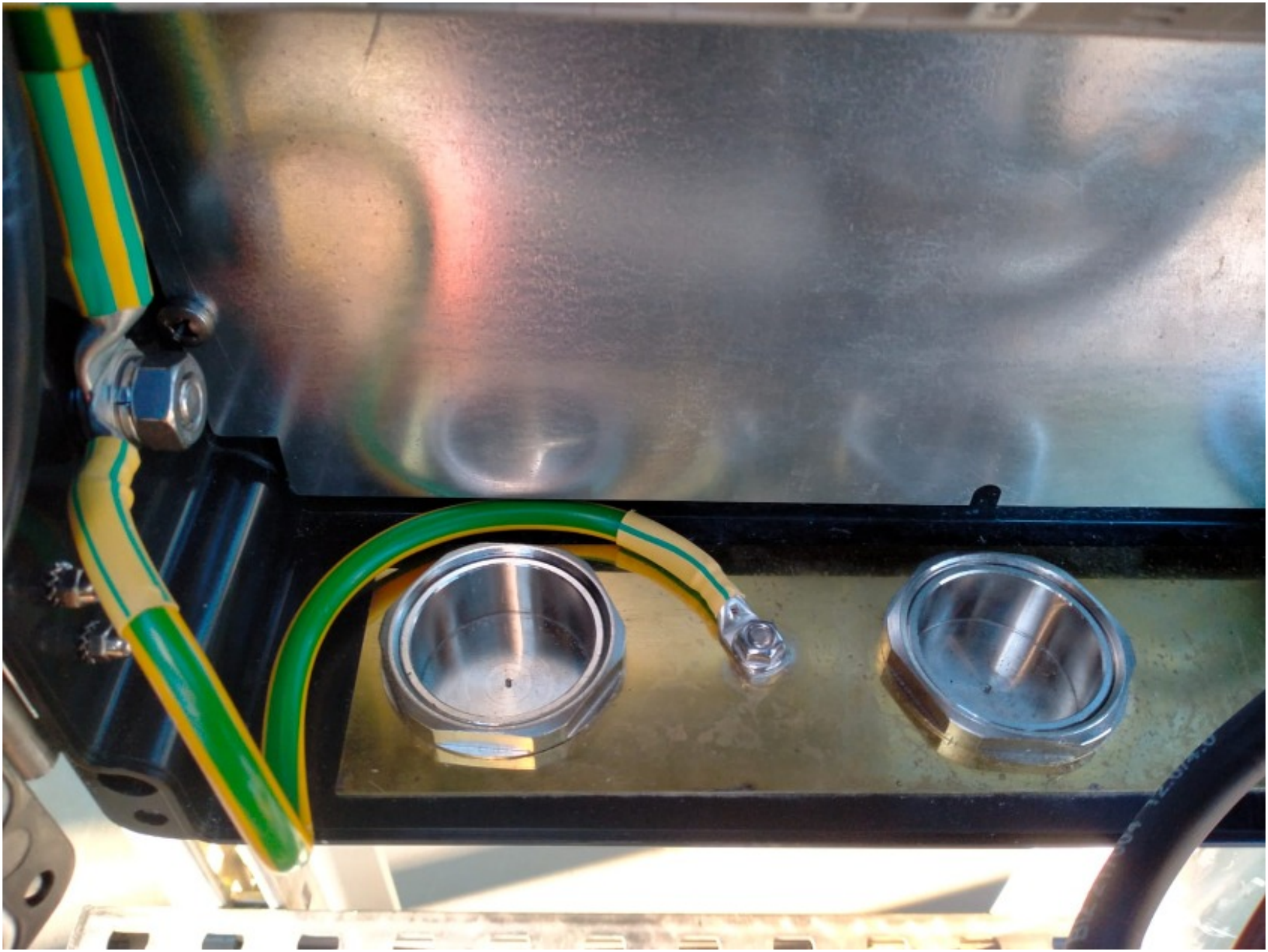
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002228

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001849	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-02	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Serrated washers are missing for plugs.

Name: Luca Mussi

Date: 2024-12-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-01-30

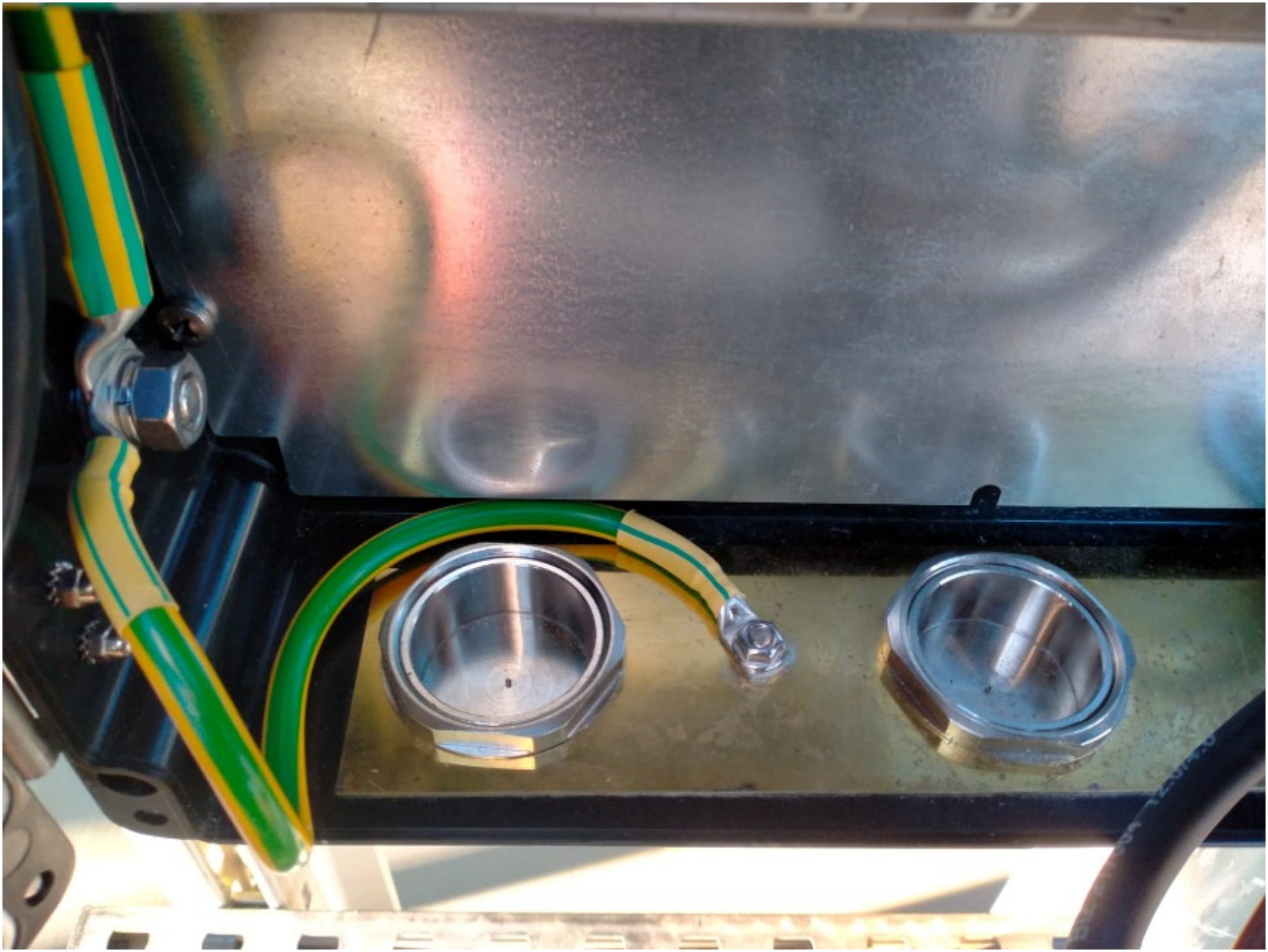
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002229

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001849	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-02	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Some identification are missing on Terminal Block

Name: Luca Mussi

Date: 2024-12-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-30
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-04-08

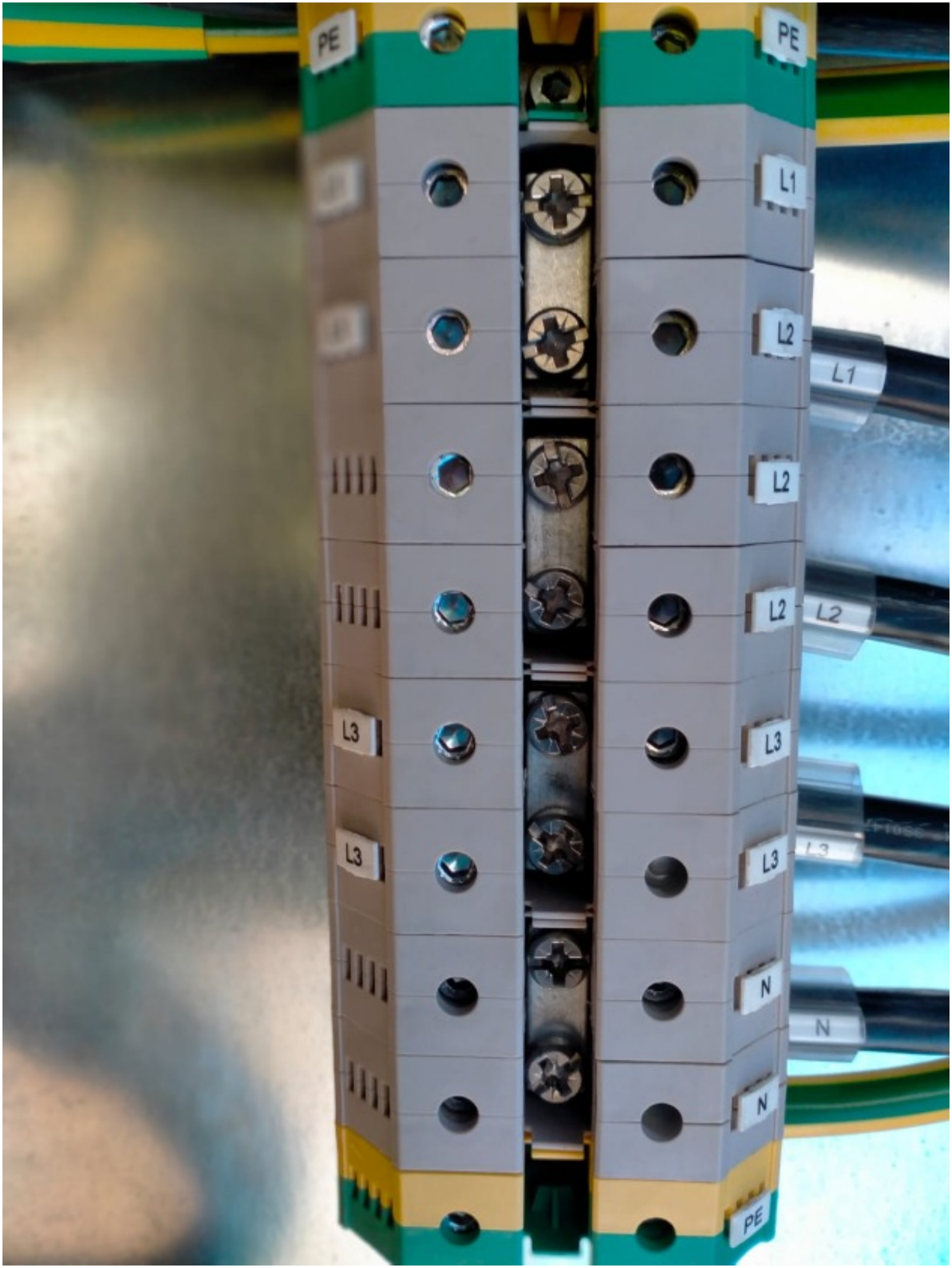
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


PE
PE
L1
L2
L1
L2
L2
L2
L3
L3
L3
L3
N
N
PE

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002230

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001849	1.4 Discipline	Electrical
1.2 Item	ESW-200N1-02	WELDING SOCKET	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

Earthing cable is passing through the unistrut.

Name: Luca Mussi
Date: 2024-12-30
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-01-21
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002261

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000544	1.4 Discipline	Electrical
1.2 Item	83021-CEL-02		Welding Sockets (Top Deck) JB's / Welding Socket (Top Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

On ESW-200N1-02 side SS cable tag is missing.

Name: Luca Mussi

Date: 2024-12-31

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-31
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-28

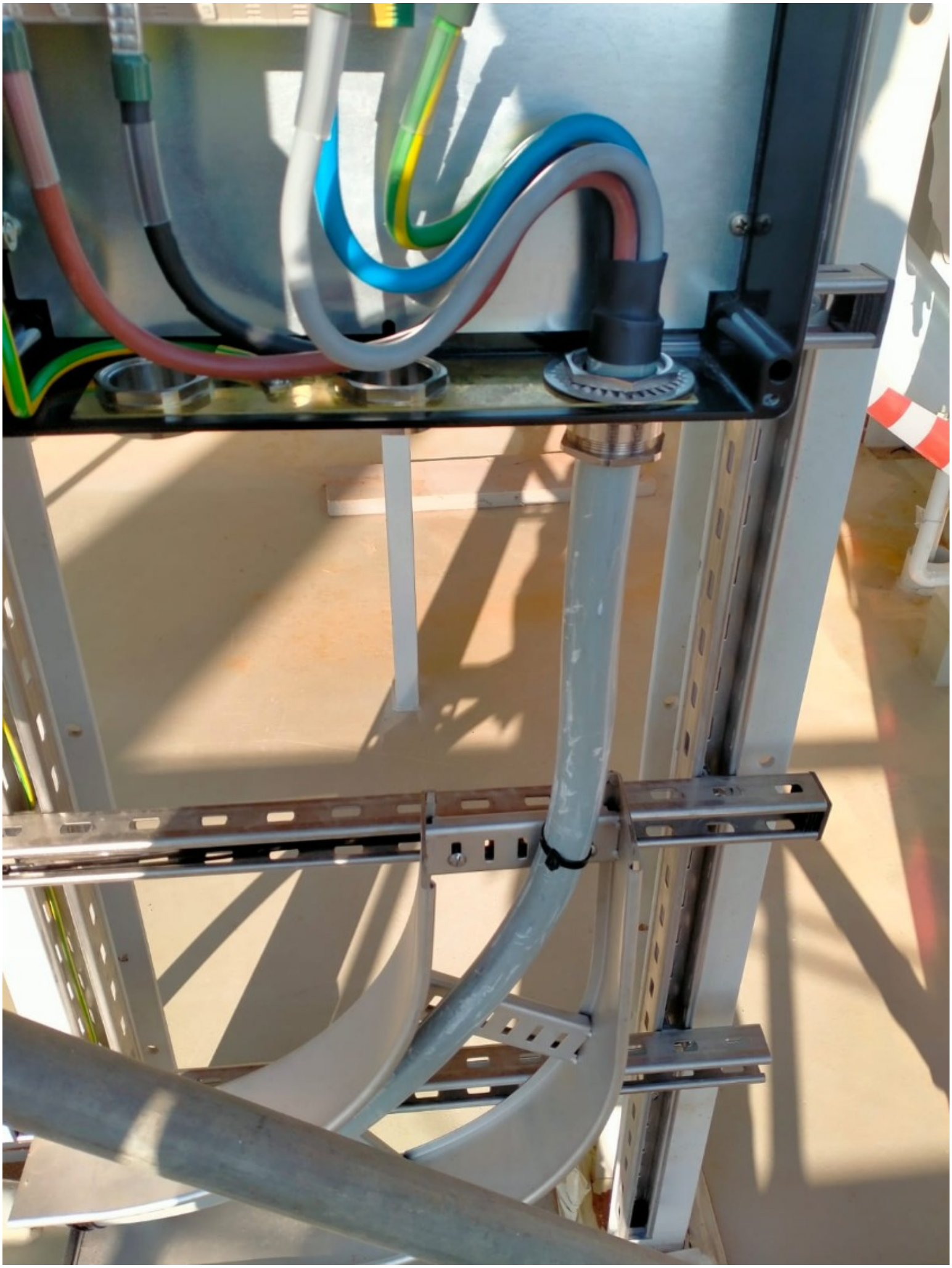
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002264

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000544	1.4 Discipline	Electrical
1.2 Item	83021-CEL-02		Welding Sockets (Top Deck) JB's / Welding Socket (Top Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

on both sockets sides (ESW-200N1-01 & ESW-200N1-02) core identification tags are missing for all wires.

Name: Luca Mussi
Date: 2024-12-31
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-31
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed

Name: Giovanni Tangianu
Date: 2025-03-26
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002265

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000544	1.4 Discipline	Electrical
1.2 Item	83021-CEL-02		Welding Sockets (Top Deck) JB's / Welding Socket (Top Deck)
1.3 Subsystem	83-50		Welding Sockets

2 - OBSERVATION

MCTs are missing.

Name: Luca Mussi

Date: 2024-12-31

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-31
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-01-30

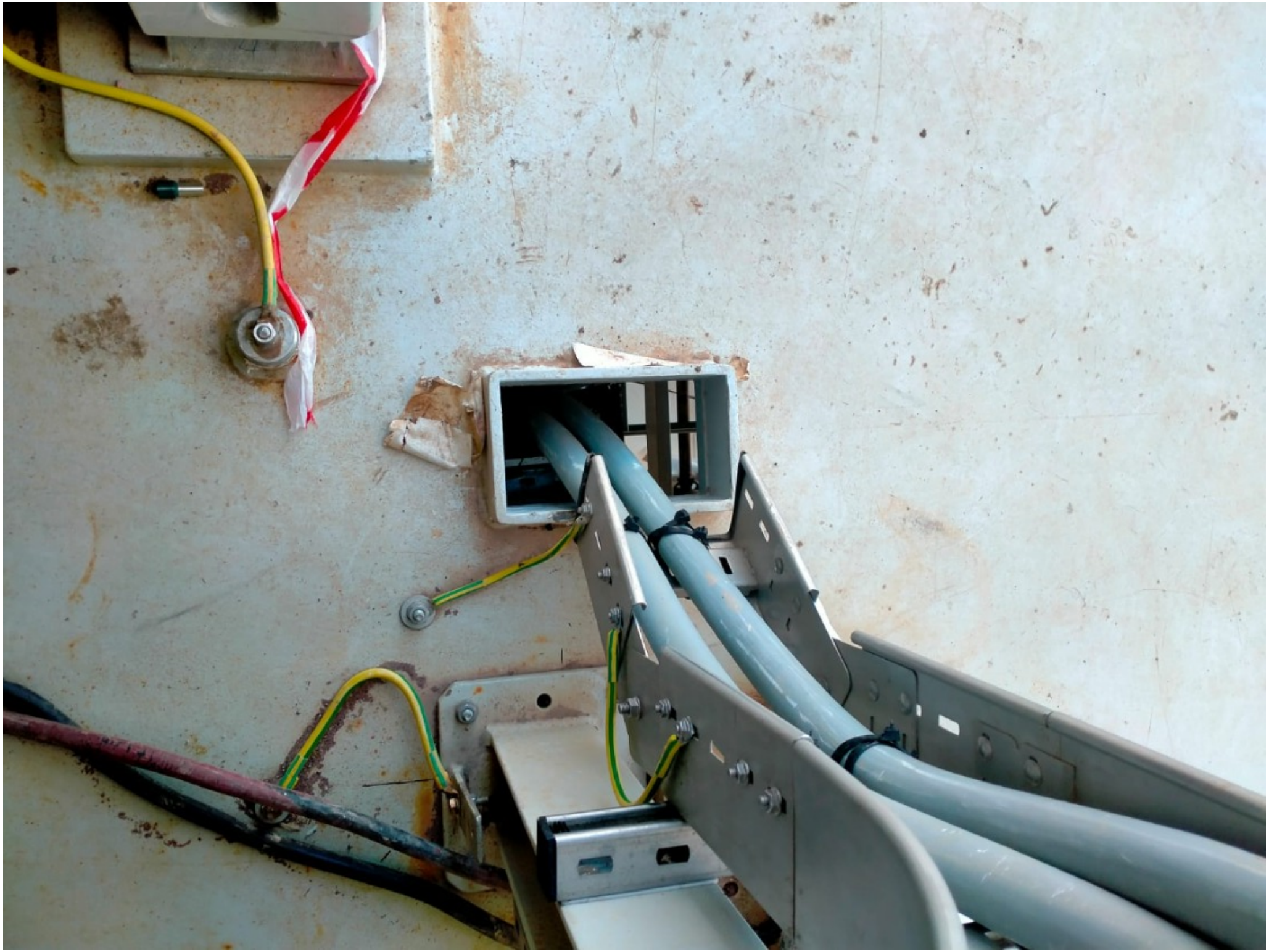
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002267

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000544	1.4 Discipline	Electrical
1.2 Item	83021-CEL-02	Welding Sockets (Top Deck) JB's / Welding Socket (Top Deck)	
1.3 Subsystem	83-50	Welding Sockets	

2 - OBSERVATION

On ESW-200N1-01 side, bending radius of the cable to be corrected.

Name: Luca Mussi

Date: 2024-12-31

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2024-12-31
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

4


2027


83021-CEL-01

Section 4 FUNCTIONAL TESTS SHEETS

Section 4.1 Electrical functional test sheets index

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 83-50 & process: COMM & discipline : E

Electrical	83-50 Welding Sockets						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A6/+08-QF1	WELDING SOCKETS (TOP DECK) - A6/+08-QF1	ONSHORE	C10002964	FP00	100	2025-02-20	RFO 1
		ONSHORE	C10002965	FTR-2	100	2024-10-02	RFO 1
		ONSHORE	C10002966	FTR-6	100	2024-10-03	RFO 1
		ONSHORE	C10003029	FTR-5	100	2025-04-24	RFO 1
A7/+08-QF1	WELDING SOCKETS (LOWER DECK) - A7/+08-QF1	ONSHORE	C10002967	FP00	100	2025-02-20	RFO 1
		ONSHORE	C10002968	FTR-2	100	2024-10-01	RFO 1
		ONSHORE	C10002969	FTR-6	100	2024-10-03	RFO 1
		ONSHORE	C10003030	FTR-5	100	2025-04-24	RFO 1
ESW-200N1-01/02	WELDING SOCKETS - TOP DECK	ONSHORE	C10004784	FP19	100	2025-02-20	RFO 1
ESW-200N2-01/02	WELDING SOCKETS - LOWER DECK	ONSHORE	C10004785	FP19	100	2025-02-20	RFO 1

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	A6/+08-QF1	: WELDING SOCKETS (TOP DECK) - A6/+08-QF1			Dwg	1723002197-EL-DG-00011
	S/Sys	83-50	: Welding Sockets			Module	
TASK	code	C10002964		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	PRE-COMM	Activity FTS	Discipline	Electrical	Form	FP00 Miscellaneous electrical Consumer

DATA

Switchboard	SG-200N1	Circuit ref:	A6/+08-QF1
Breaker rating (A)	126.15A	Nominal current (A)	160A

FUNCTION TEST REQUIREMENT

1	Check pre-commissioning activities have been carried out				OK
2	Check equipment for cleaness				OK
3	Measure I/R value of equipment and feeder cable at 1000V (Min value: 10 Mohm)	>1000	MΩ		OK
4	Energise control of equipment feeder				OK
5	Full test feeder breaker operation in test position				OK
6	Check protection setting				OK
7	Test interface trips and signals (remote alarms & status). Check the relevant ITR presence in the system				OK
8	Test control and safety functions according to manufacturer's procedure.				OK
9	Energize				OK
10	Measure Voltage and Current values at feeder breaker	421	V	0.3 A	OK
11	Attach test procedure, if any				NA

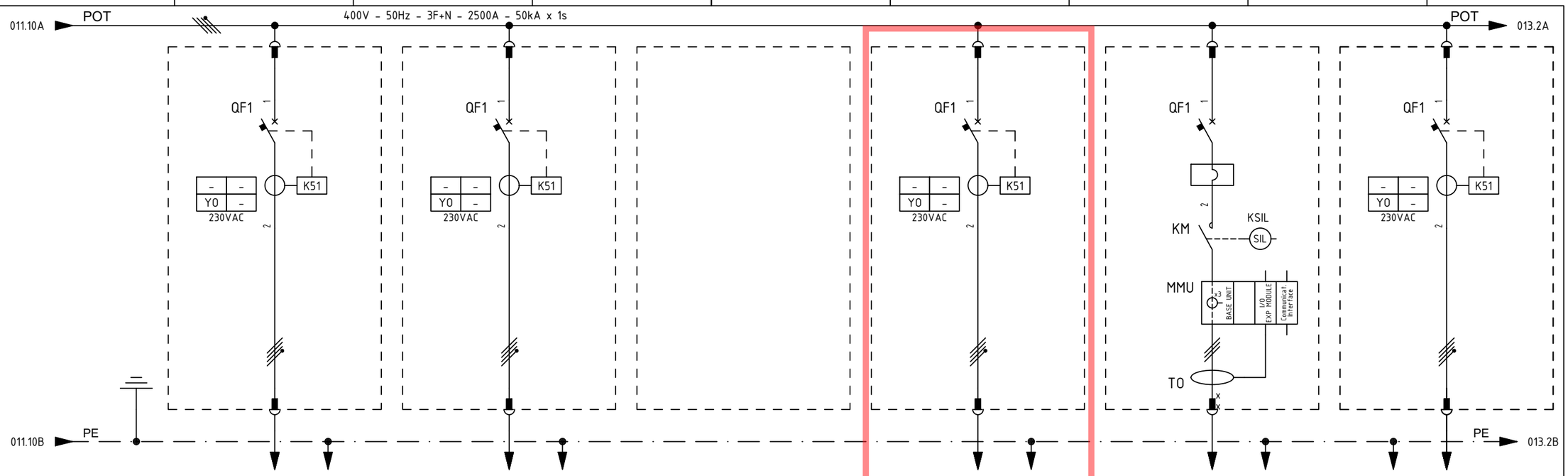
FUNCTION TEST REQUIREMENT	RESULT
See the FTR-2 of the Drawer for the protection setting.	

Testing & measurement instruments used

Type	Serial n°	Calibration certificate	Validity
FLUKE 1663	5380144	7727/24	10/07/2025
FLUKE 376	A1711003	7710/24	10/07/2025

Comments: See the FTR-2 of the Drawer for the protection setting.

	Performed by	☐ WITNESS ☑ REVIEW	☐ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CPY NOT PRESENT
Name	Mattia Girotti	Kristian Castellani	Witness waived
Date	2025-02-20	2025-02-20	2025-02-20
Signature	PROVERLIS Digitaly signed by Mattia Girotti 2025-02-20T09:32:11.451Z	PROVERLIS Digitaly signed by Kristian Castellani 2025-02-20T09:41:02.098Z	PROVERLIS Digitaly signed by Witness waived 2025-02-20T15:09:18.730Z



ITEM			1	UP-200F4	UP-200F4		ESW-200N1	PM-50001 A	UP-200F3
UTILITY			2	AC UPS F&G - 8 H UP-200F4 - LINE A	AC UPS F&G - 8h UP-200F4 - LINE B		WELDING SOCKETS (TOP DECK)	SEA WATER PUMP A	AC UPS PAS - 30 min. UP-200F3 - BYPASS
COLUMN/CUBICLE			3	A6 / +05	A6 / +06		A6 / +08	A7 / +01	A7 / +02
RATED POWER | RATED CURRENT			4/5	18 kW | 28.9 A	18 kW | 28.9 A		69.84 kW | 126.15 A	6.1 kW | 11.0 A	36 kW | 57.8 A
TYPICAL FUNCTIONAL			6	L1-63	L1-63		L2-160	M1-6	L1-100
CIRCUIT BREAKER (ABB)	TYPE		7	XT2S - 160	XT2S - 160		XT4S - 250	XT2S - 160	XT2S - 160
	VERSION		8	4P - FIXED	4P - FIXED		4P - FIXED	3P - FIXED	4P - FIXED
	TRIP UNITS		9	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)		EKIP DIP LSIG (In = 160A)	MA (In = 20A)	EKIP DIP LSIG (In = 100A)
	Icu	KA	10	50 kA	50kA		50kA	-	50 kA
OVERLOAD	L	Range A	11	(0.4 - 1) x In	(0.4 - 1) x In		(0.4 - 1) x In	-	(0.4 - 1) x In
		Range t	12	k/I^2	k/I^2		k/I^2	-	k/I^2
SEL. SHORT-CIRCUIT	S	Range A	13	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In	-	(1 - 10) x In
		Range t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2		0.05 - 0.4 sec / k/I^2	-	0.05 - 0.4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range A	15	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In	(6 - 14) x I	(1 - 10) x In
		Range t	16	<= 0.02 sec	<= 0.02 sec		<= 0.02 sec	<= 0.02 sec	<= 0.02 sec
EARTH FAULT PROTECTION	G	Range A	17	(0.2 - 1) x In	(0.2 - 1) x In		(0.2 - 1) x In	-	(0.2 - 1) x In
		Range t	18	0.1 - 0.8 sec	0.1 - 0.8 sec		0.1 - 0.8 sec	-	0.1 - 0.8 sec
CONTACTOR (ABB)			19	-	-		-	AF38-30-00-13 (18.5 kW - AC3) - 100-250Vac/dc	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-		-	UMC100.3 UC (0.24 - 63A)	-
SURGE ARRESTER (DEHN)			21	-	-		-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-		-	-	-
FUSE HOLDER (ITALWEBER)			23	-	-		-	-	-
INDIRECT PROTECTION (ABB)			24	-	-		-	-	-
VOLTMETER			25	-	-		-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-		-	-	-
	PERFORMANCE/CLASS		27	-	-		-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-		-	-	-
	PERFORMANCE/CLASS		29	-	-		-	-	-
LOCK-OUT RELAY (-)			30	-	-		-	-	-
POWER CONDUCTOR		mmq	31	4G35	4G35		5G50	4G4	4G35

=

+

DWG n° : 231298/SD/11

Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

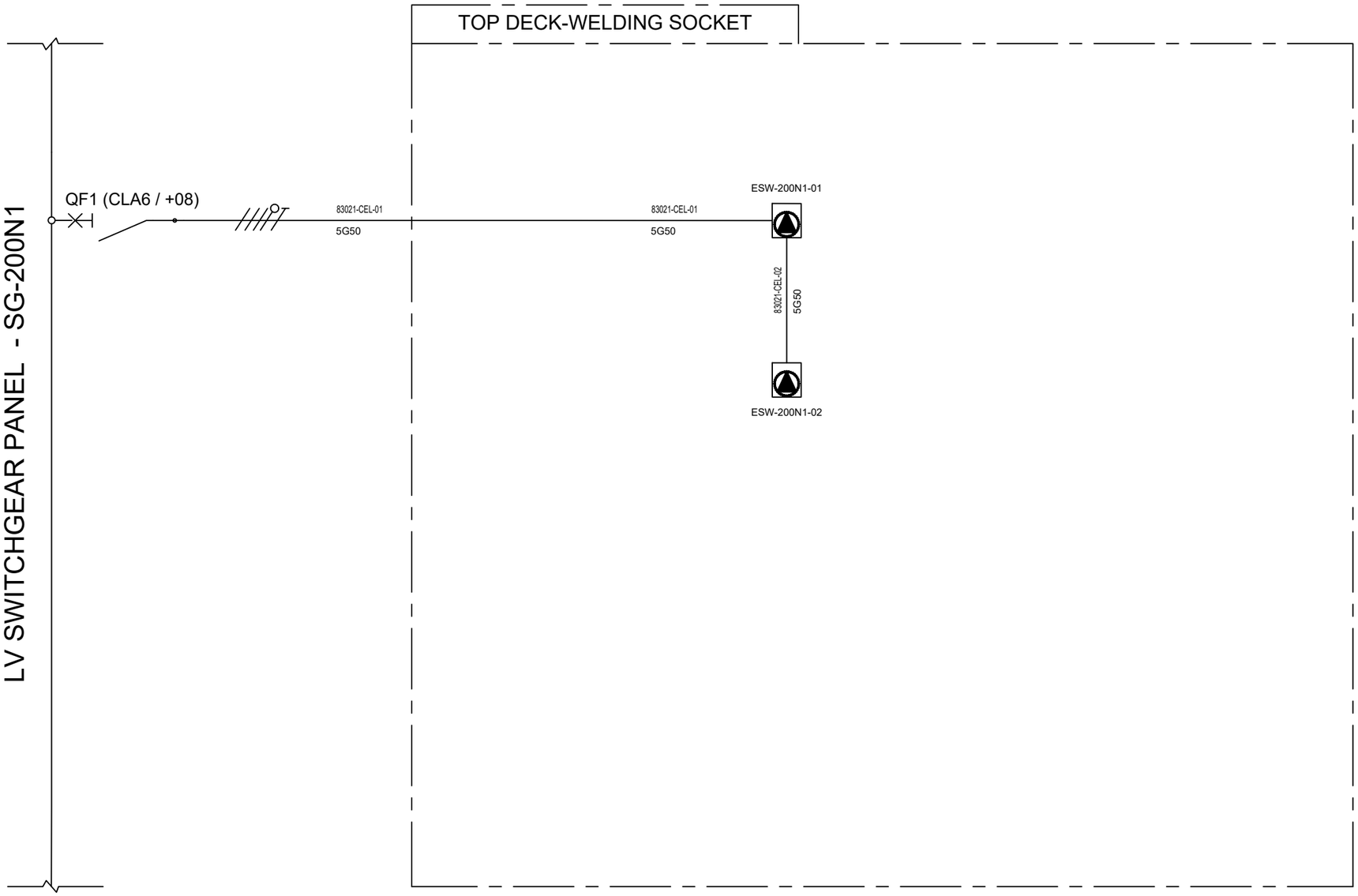
DRAWING NO. 1723002197-EL-DG-00011

SHEET 012

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 03



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DG-20125**

REV.:	DATE:	SIGNATURE:
2_H	24/01/25	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	08/08/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	01/07/24	ASR	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
LIGHTING & SOCKET CIRCUIT DIAGRAM
TOP DECK-WELDING SOCKET

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

SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20125	013	01

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20125

ITEM	Tag	A6/+08-QF1	: WELDING SOCKETS (TOP DECK) - A6/+08-QF1		Dwg	1723002197-EL-DG-00011	
	S/Sys	83-50	: Welding Sockets		Module		
TASK	code	C10002965	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°:	E198551002521070	Relay type:	EKIP DIP LSIG
Auxiliary supply:	24Vdc	Location:	B200	Cubicle:	A6/+08
Switchboard:	SG-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	Time delay Trip value
L	128A	480A		3s	1948ms
S	640A	800A		0.1s	413ms
I	1280A	1600A		INSTANT	40ms
G	32A			0.1s	

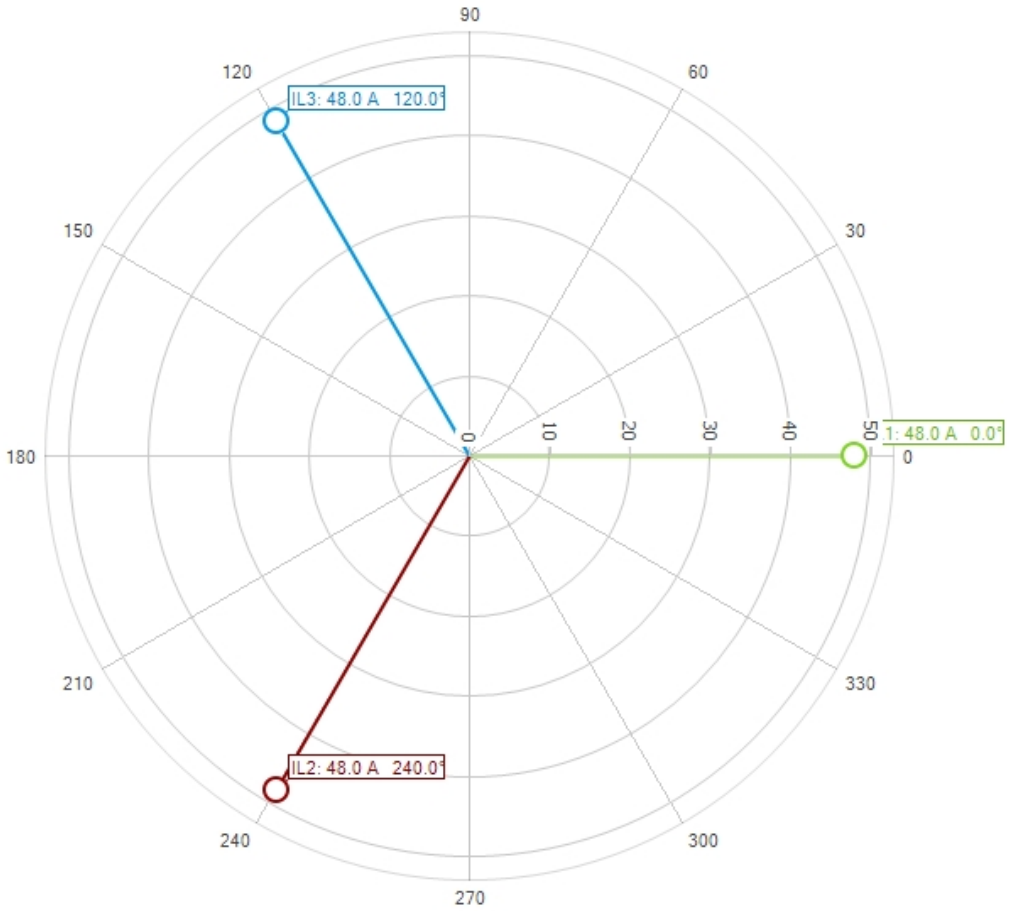
Testing & measurement instruments used

Type	Serial n°	Calibration certificate	Validity
ABB EKIP T&P	E34013804410W050		

Comments: See attchments for full tests.

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	2024-10-01	2024-10-01	2024-10-02
Signature	PROVERLIS Digitaly signed by Mattia Girotti 2024-10-01T10:59:54.306Z	PROVERLIS Digitaly signed by Kristian Castellani 2024-10-01T14:46:53.738Z	PROVERLIS Digitaly signed by Witness waived 2024-10-02T06:37:29.334Z

Page Name	Group Name	Variable Name	Variable Value	Variable Unit
Electronic protection parameters				
	Electronic/Manual parameters selection			
		Electronic/Manual parameters selectio	ELECTRONIC	
	Electronic L protection			
		Trip unit nominal current In	160	
		L threshold	0.80	In
		L time	3.00	s
		Thermal memory	Disabled	
	Electronic S protection			
		S status	Enabled	
		Curve type	t=k/i^2	
		Threshold (t=k/i^2)	4.00	In
		Time (t=k/i^2)	0.10	s
	Electronic I protection			
		I status	Enabled	
		I threshold	8.00	In
	Electronic G protection			
		G status	Enabled	
		G threshold	0.20	In
		G time	0.10	s
	Electronic LC protection			
		Iw status	Disabled	
		Iw threshold	0.30	In
		LC1 status	Disabled	
		LC1 threshold	0.50	I1
		LC2 status	Disabled	
		LC2 threshold	0.50	I1



Test

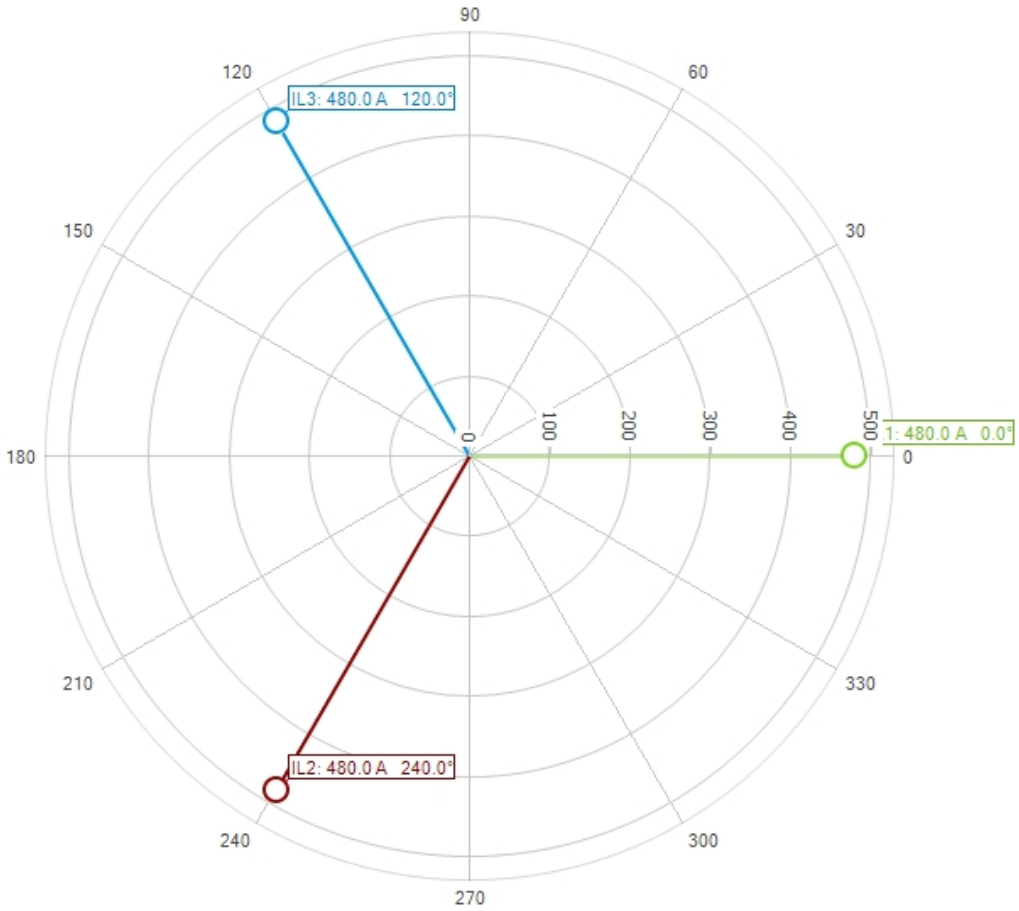
Name	Automatic test 1
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A6/08
Relay Serial Number	E198551002521070
Circuit Breaker Serial Number	EF60642061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

⚠ Test completed without any trip in 3000 ms.



Test

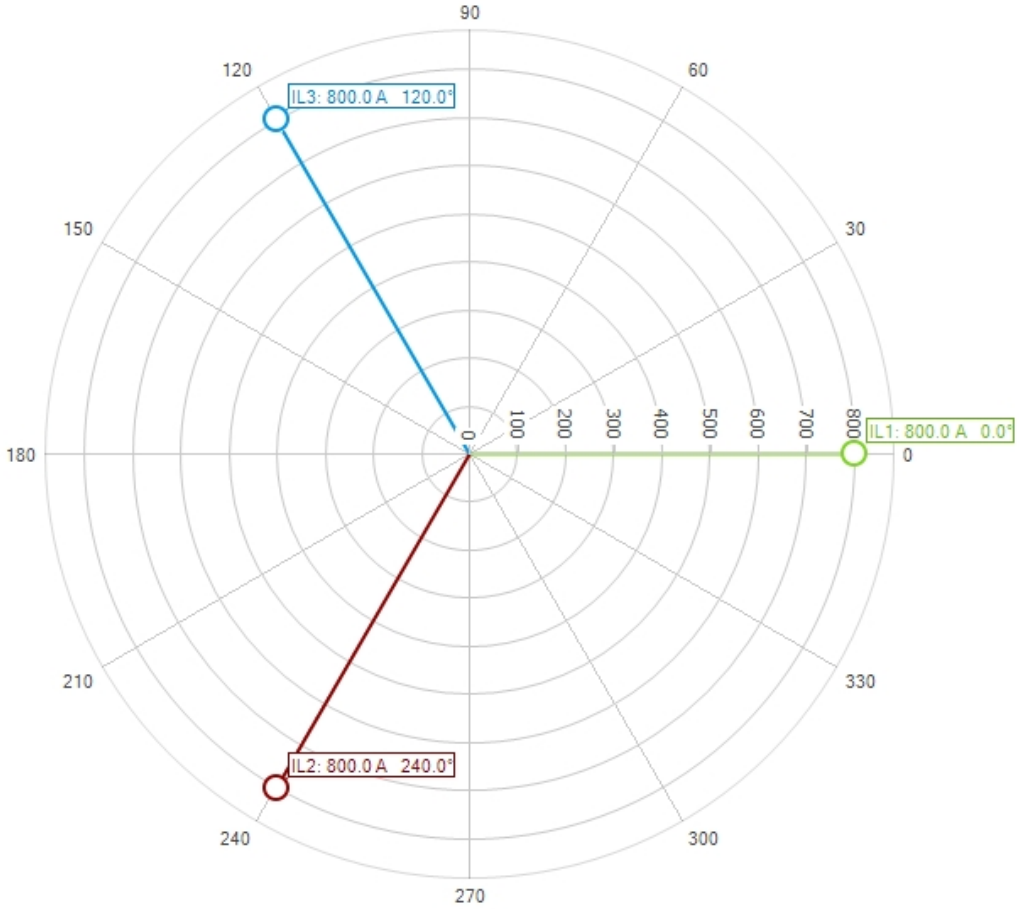
Name	Automatic test 2
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A6/08
Relay Serial Number	E198551002521070
Circuit Breaker Serial Number	EF60642061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

⚠ Test completed with trip but out of time. Protection L tripped in 1948 ms.
Trip time must be between 0 ms and 1000 ms.



Test

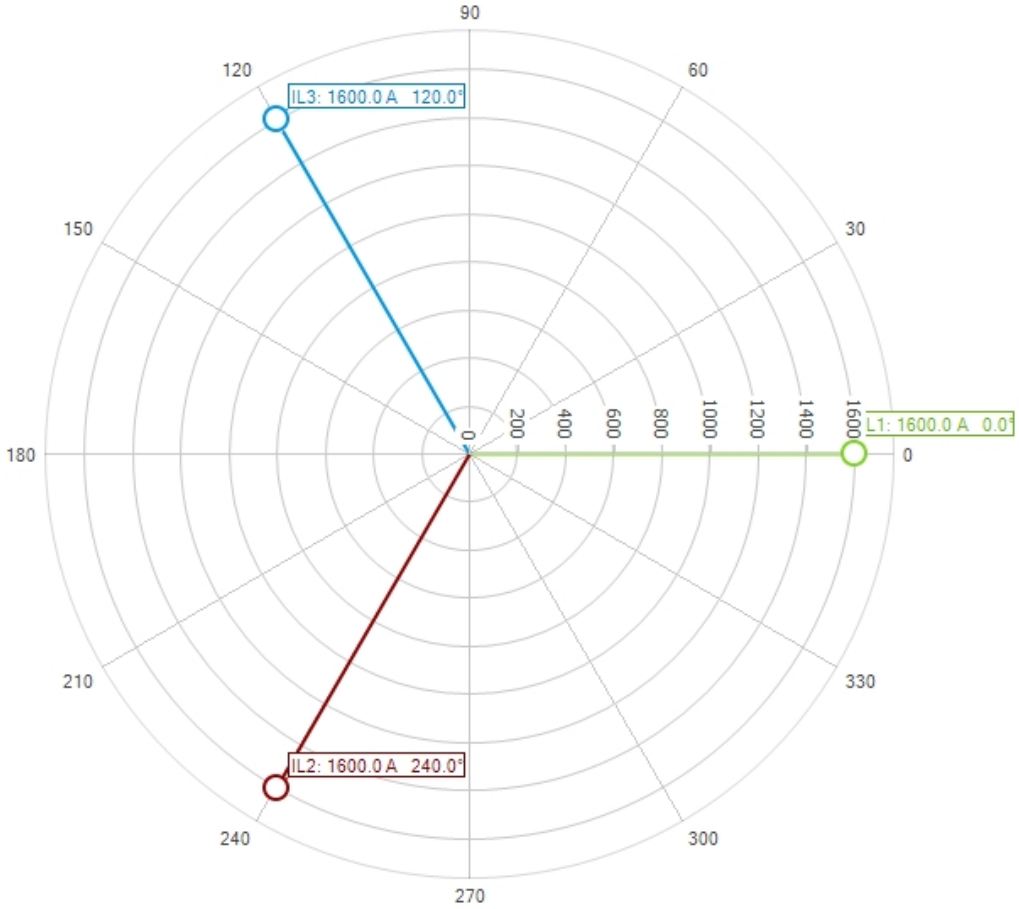
Name	Automatic test 3
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A6/08
Relay Serial Number	E198551002521070
Circuit Breaker Serial Number	EF60642061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

Test completed with trip. Protection S tripped in 413 ms.
Trip time must be between 0 ms and 1000 ms.



Test

Name	Automatic test 4
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A6/08
Relay Serial Number	E198551002521070
Circuit Breaker Serial Number	EF60642061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

Test completed with trip. Protection I tripped in 40 ms.
Trip time must be between 0 ms and 1000 ms.

ITEM	Tag	A6/+08-QF1	: WELDING SOCKETS (TOP DECK) - A6/+08-QF1		Dwg	1723002197-EL-DG-00011	
	S/Sys	83-50	: Welding Sockets		Module		
TASK	code	C10002966	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline Electrical	Form	FTR-6	Electrical IO

FTR 6 - Electrical I/O check record sheet

Equipment Tag:	WELDING SOCKETS (TOP DECK)	Instrument Type / Serial N° :	FLUKE 175_17140769
Cubicle N°:	A6/+08	Calibration certificate date:	7715/24_10/07/2025

Link Type:	●	Hardwired	Communication	(strike through unapplicable type)
I/O Type:	●	Digital	Analogic	(strike through unapplicable type)

DIGITAL

Item	Signal description	Link Type (Hardwired/ Communication)	I/O Type (Digital/Analogic)	Point of Origin (From)	Point of Receival (to)	Text Labelling Display Satisfactory (Y/N)	Blinking/Static Display Satisfactory (Y/N)	Color Coding Satisfactory (Y/N)	Status Check			Time Stamping Satisfactory (Y/N)	Refresh Time (if >1s)	Appearing in all applicable display (Y/N)
									Event (Y/N)	Alarm (Y/N)	Fault (Y/N)			
1	CB CLOSED & INSERTED	HW	DI	A6/+08 - QF1/21-24	A6/+08 - X1/14-15	N/A	N/A	N/A	Y	N/A	N/A	N/A	N/A	N/A
2	CB OPEN OR DISCONNECTED	HW	DI	A6/+08 - QF1/21-22	A6/+08 - X1/14-16	N/A	N/A	N/A	Y	N/A	N/A	N/A	N/A	N/A
3	DRAWER ON TEST	HW	DI	A6/+08 - KA1/11-14	A6/+08 - X1/14-16	N/A	N/A	N/A	Y	N/A	N/A	N/A	N/A	N/A
4	CB TRIPPED	HW	DI	A6/+08 - QF1/15-18	A6/+08 - X1/14-17	N/A	N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
5	INTERNAL FAULT	HW	DI	A6/+08 - QA1/11-14	A6/+08 - X1/14-18	N/A	N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
6														
7														
8														

ANALOGIC

Item	Signal description	Link Type (Hardwired/ Communication)	I/O Type (Digital/Analogic)	Point of Origin (From)	Point of Receival (to)	Min value sent	Min value received	Max value sent	Max value received	Intermediate value sent	Intermediate value received	Out of scale test (OK, Not OK)	Refresh time (if >2s)	Appearing in all applicable display (Y/N)
1														
2														
3														

Comments: The test of the cubicle was carried out on a test bench.

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	2024-10-02	2024-10-03	2024-10-03
Signature	PROVERLIS Digitaly signed by Davide Zucconelli 2024-10-02T13:51:28.145Z	PROVERLIS Digitaly signed by Kristian Castellani 2024-10-03T07:15:17.716Z	PROVERLIS Digitaly signed by Witness waived 2024-10-03T14:33:33.048Z

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	A7/+08-QF1	: WELDING SOCKETS (LOWER DECK) - A7/+08-QF1			Dwg	1723002197-EL-DG-00011
	S/Sys	83-50	: Welding Sockets			Module	
TASK	code	C10002967		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	PRE-COMM	Activity FTS	Discipline	Electrical	Form	FP00 Miscellaneous electrical Consumer

DATA

Switchboard	SG-200N1	Circuit ref:	A7/+08-QF1
Breaker rating (A)	126.15	Nominal current (A)	160

FUNCTION TEST REQUIREMENT

1	Check pre-commissioning activities have been carried out				OK
2	Check equipment for cleaness				OK
3	Measure I/R value of equipment and feeder cable at 1000V (Min value: 10 Mohm)	>1000	MΩ		OK
4	Energise control of equipment feeder				OK
5	Full test feeder breaker operation in test position				OK
6	Check protection setting				OK
7	Test interface trips and signals (remote alarms & status). Check the relevant ITR presence in the system				OK
8	Test control and safety functions according to manufacturer's procedure.				OK
9	Energize				OK
10	Measure Voltage and Current values at feeder breaker	420	V	0.2 A	OK
11	Attach test procedure, if any				NA

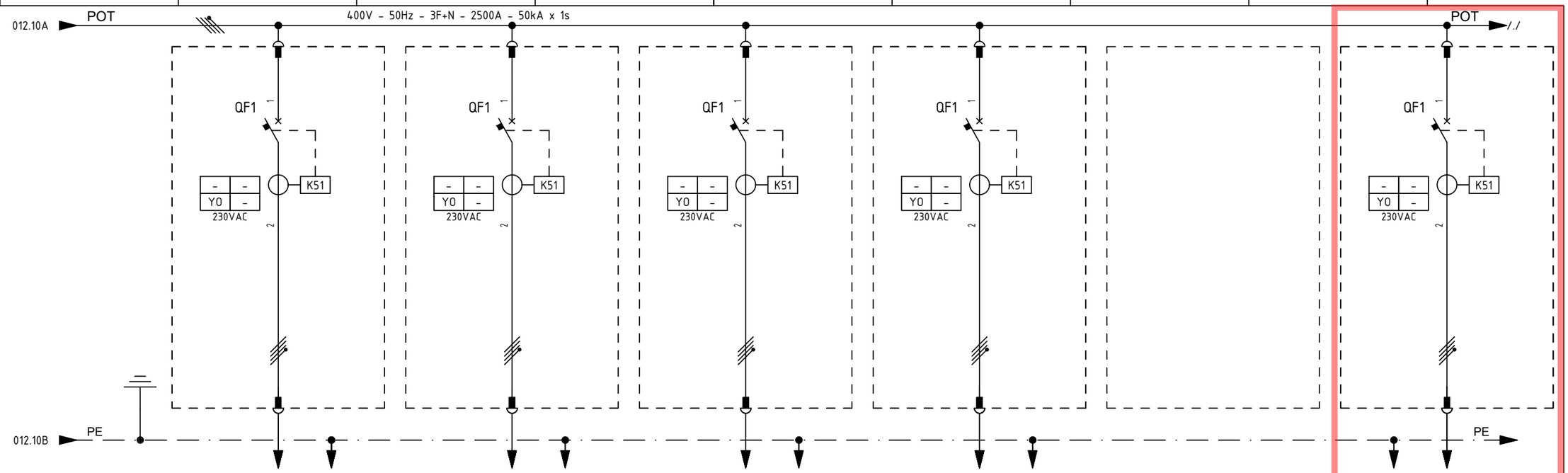
FUNCTION TEST REQUIREMENT	RESULT

Testing & measurement instruments used

Type	Serial n°	Calibration certificate	Validity
FLUKE 1663	5380144	7727/24	10/07/2025
FLUKE376	A1711003	7710/24	10/07/2025

Comments: See the FTR-2 of the Drawer for the protection setting.

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	2025-02-20	2025-02-20	2025-02-20
Signature	PROVERLIS Digitaly signed by Mattia Girotti 2025-02-20T09:32:38.032Z	PROVERLIS Digitaly signed by Kristian Castellani 2025-02-20T09:42:59.031Z	PROVERLIS Digitaly signed by Witness waived 2025-02-20T15:09:56.554Z



ITEM			1	UP-200F1	UP-200F1	UP-200F2	UP-200F2		ESW-200N2
UTILITY			2	DC BATTERY SYSTEM SWTG CONTROL - FEEDER A	DC BATTERY SYSTEM SWTG CONTROL - FEEDER B	NAVAID SYSTEM FEEDER A	NAVAID SYSTEM FEEDER B		WELDING SOCKETS (LOWER DECK)
COLUMN/CUBICLE			3	A7 / +03	A7 / +04	A7 / +05	A7 / +06		A7 / +08
RATED POWER | RATED CURRENT			4/5	10 kW | 16 A	10 kW | 16 A	1.6 kVA | 7 A	1.6 kVA | 7 A		69.84 kW | 126.15 A
TYPICAL FUNCTIONAL			6	L1-63	L1-63	L1-10	L1-10		L2-160
CIRCUIT BREAKER (ABB)	TYPE		7	XT2S - 160	XT2S - 160	XT2S - 160	XT2S - 160		XT4S - 250
	VERSION		8	4P - FIXED	4P - FIXED	4P - FIXED	4P - FIXED		4P - FIXED
	TRIP UNITS		9	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)	EKIP DIP LSIG (In = 63A)		EKIP DIP LSIG (In = 160A)
	Icu	KA	10	50kA	50kA	50kA	50kA		50kA
OVERLOAD	L	Range A	11	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In		(0.4 - 1) x In
		Range t	12	k/I^2	k/I^2	k/I^2	k/I^2		k/I^2
SEL. SHORT-CIRCUIT	S	Range A	13	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In
		Range t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2		0.05 - 0.4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range A	15	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In	(1 - 10) x In		(1 - 10) x In
		Range t	16	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec	<= 0.02 sec		<= 0.02 sec
EARTH FAULT PROTECTION	G	Range A	17	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In	(0.2 - 1) x In		(0.2 - 1) x In
		Range t	18	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec	0.1 - 0.8 sec		0.1 - 0.8 sec
CONTACTOR (ABB)			19	-	-	-	-		-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-		-
SURGE ARRESTER (DEHN)			21	-	-	-	-		-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-		-
FUSE HOLDER (ITALWEBER)			23	-	-	-	-		-
INDIRECT PROTECTION (ABB)			24	-	-	-	-		-
VOLTMETER			25	-	-	-	-		-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-		-
	PERFORMANCE/CLASS		27	-	-	-	-		-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-		-
	PERFORMANCE/CLASS		29	-	-	-	-		-
LOCK-OUT RELAY (-)			30	-	-	-	-		-
POWER CONDUCTOR		mmq	31	4G16	4G16	3G16	3G16		5G50

=

+

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/11

Item n° : PF1002983/26

CROSSWIND

ROSETTI MARINO

TITLE : "SG-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

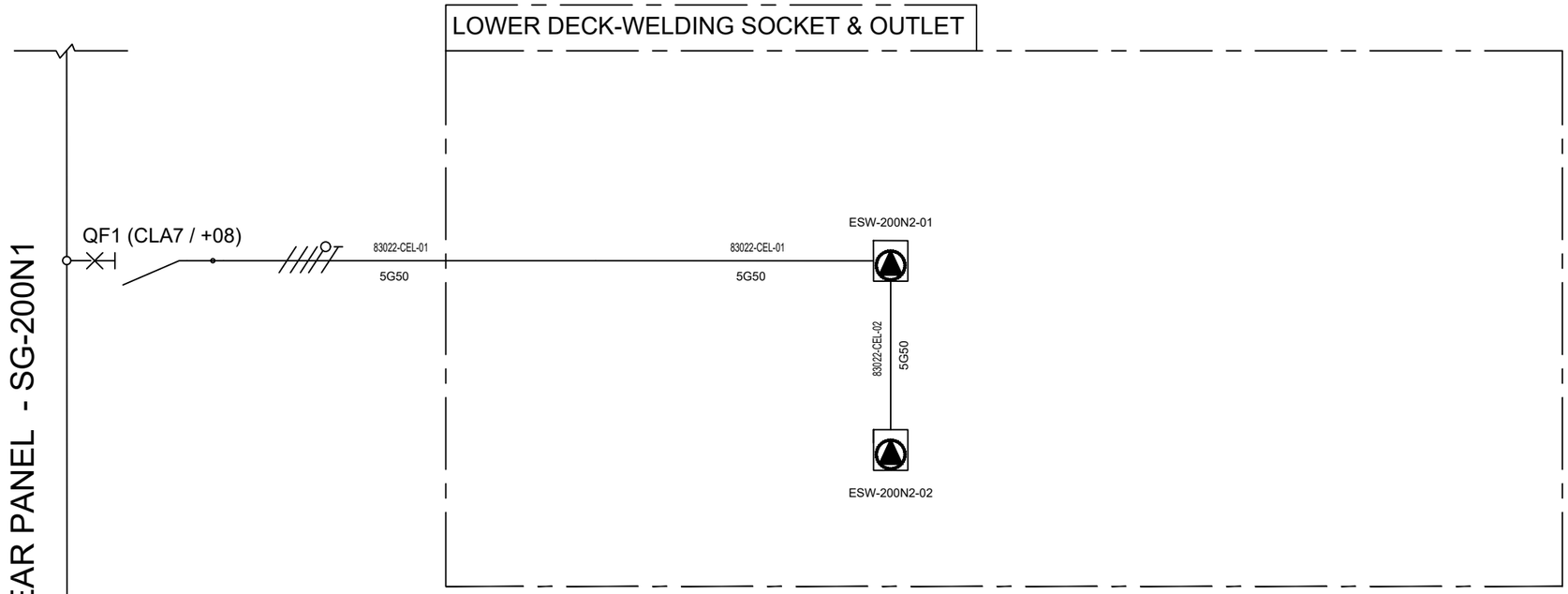
DRAWING NO. 1723002197-EL-DG-00011

SHEET 013

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 03



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DG-20125**

REV.:	DATE:	SIGNATURE:
2_H	24/01/25	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	08/08/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	01/07/24	ASR	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
LIGHTING & SOCKET CIRCUIT DIAGRAM
LOWER DECK-WELDING SOCKET

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

SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20125	009	01

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20125

ITEM	Tag	A7/+08-QF1	: WELDING SOCKETS (LOWER DECK) - A7/+08-QF1		Dwg	1723002197-EL-DG-00011	
	S/Sys	83-50	: Welding Sockets		Module		
TASK	code	C10002968	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°:	E200451002521070	Relay type:	EKIP DIP LSIG
Auxiliary supply:	24Vdc	Location:	B200	Cubicle:	A7/+08
Switchboard:	SG-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	Time delay Trip value
L	128A	480A		3s	1949ms
S	640A	800A		0.1s	403ms
I	1280A	1600A		INSTANT	32ms
G	32A			0.1s	

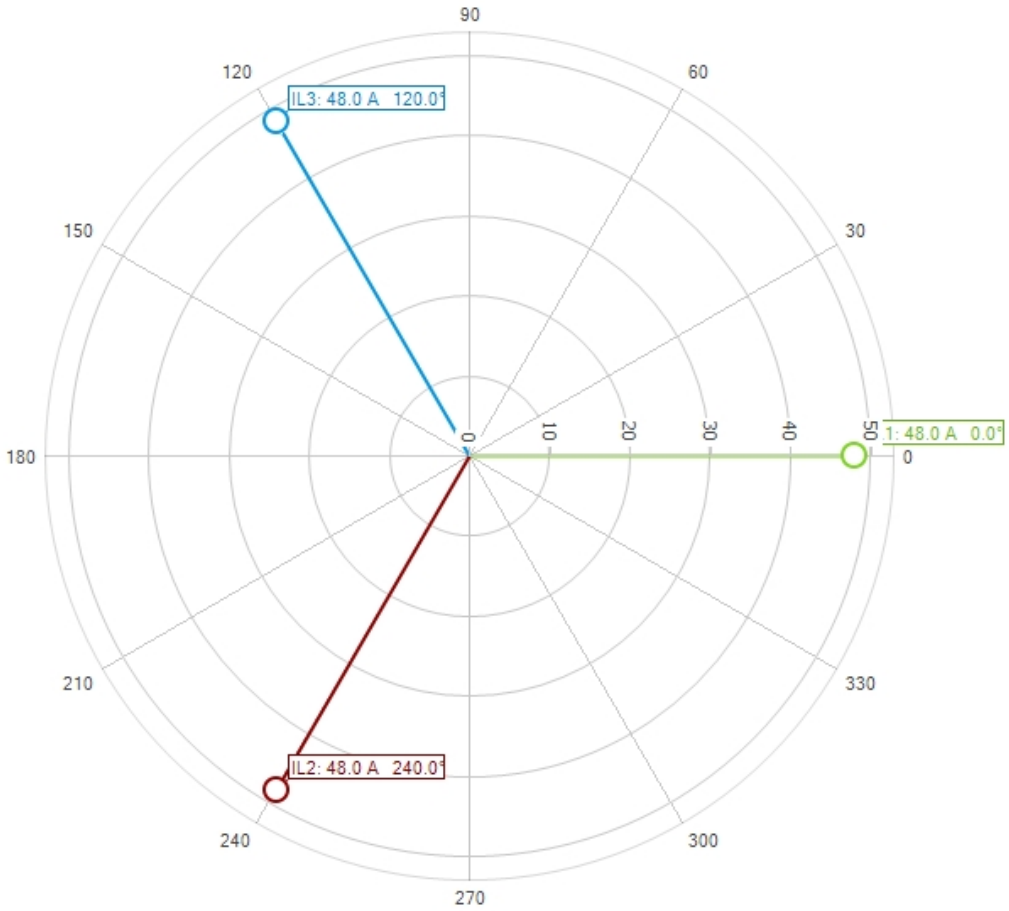
Testing & measurement instruments used

Type	Serial n°	Calibration certificate	Validity
ABB EKIP T&P	E34013804410W050		

Comments: See attachments for full tests.

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	2024-09-30	2024-10-01	2024-10-01
Signature	PROVERLIS Digitaly signed by Mattia Girotti 2024-09-30T14:36:49.055Z	PROVERLIS Digitaly signed by Kristian Castellani 2024-10-01T08:42:31.850Z	PROVERLIS Digitaly signed by Witness waived 2024-10-01T08:57:19.523Z

Page Name	Group Name	Variable Name	Variable Value	Variable Unit
Electronic protection parameters				
	Electronic/Manual parameters selection			
		Electronic/Manual parameters selectio	ELECTRONIC	
	Electronic L protection			
		Trip unit nominal current In	160	
		L threshold	0.80	In
		L time	3.00	s
		Thermal memory	Disabled	
	Electronic S protection			
		S status	Enabled	
		Curve type	t=k/i^2	
		Threshold (t=k/i^2)	4.00	In
		Time (t=k/i^2)	0.10	s
	Electronic I protection			
		I status	Enabled	
		I threshold	8.00	In
	Electronic G protection			
		G status	Enabled	
		G threshold	0.20	In
		G time	0.10	s
	Electronic LC protection			
		Iw status	Disabled	
		Iw threshold	0.30	In
		LC1 status	Disabled	
		LC1 threshold	0.50	I1
		LC2 status	Disabled	
		LC2 threshold	0.50	I1



Test

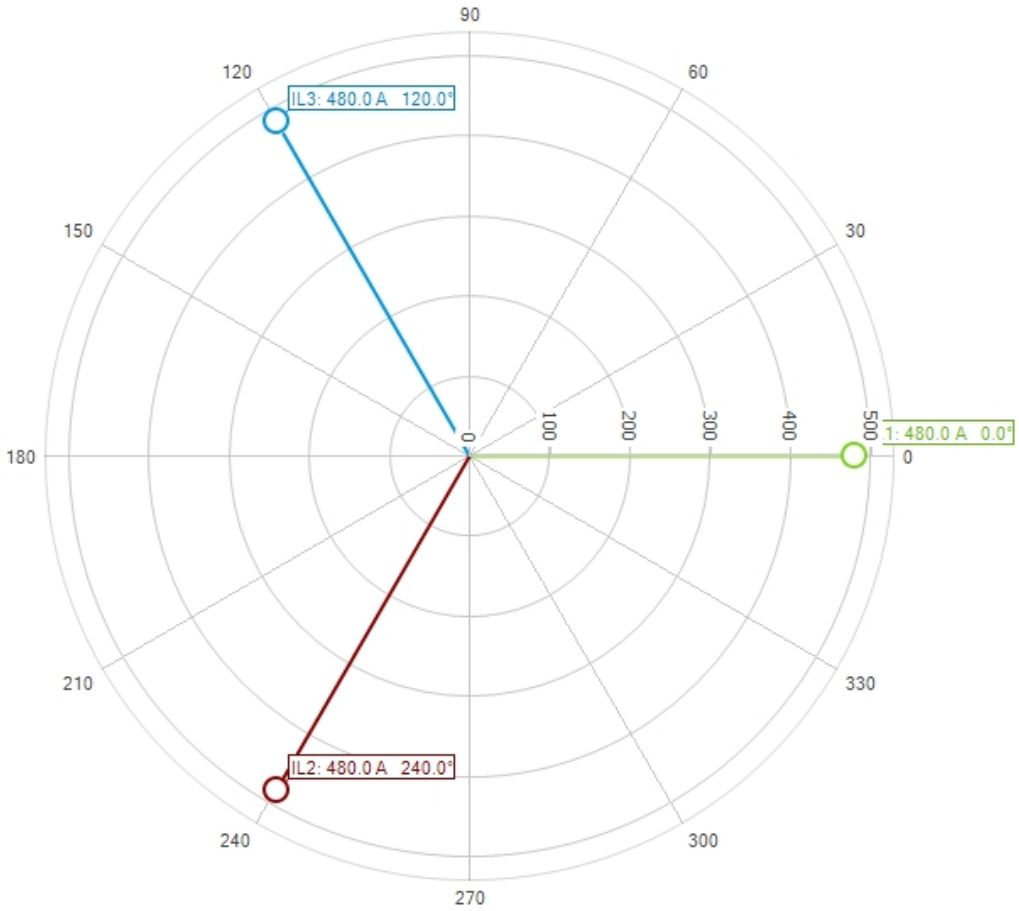
Name	Automatic test 1
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A7/08
Relay Serial Number	E200451002521070
Circuit Breaker Serial Number	EF60643061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

⚠ Test completed without any trip in 3000 ms.



Test

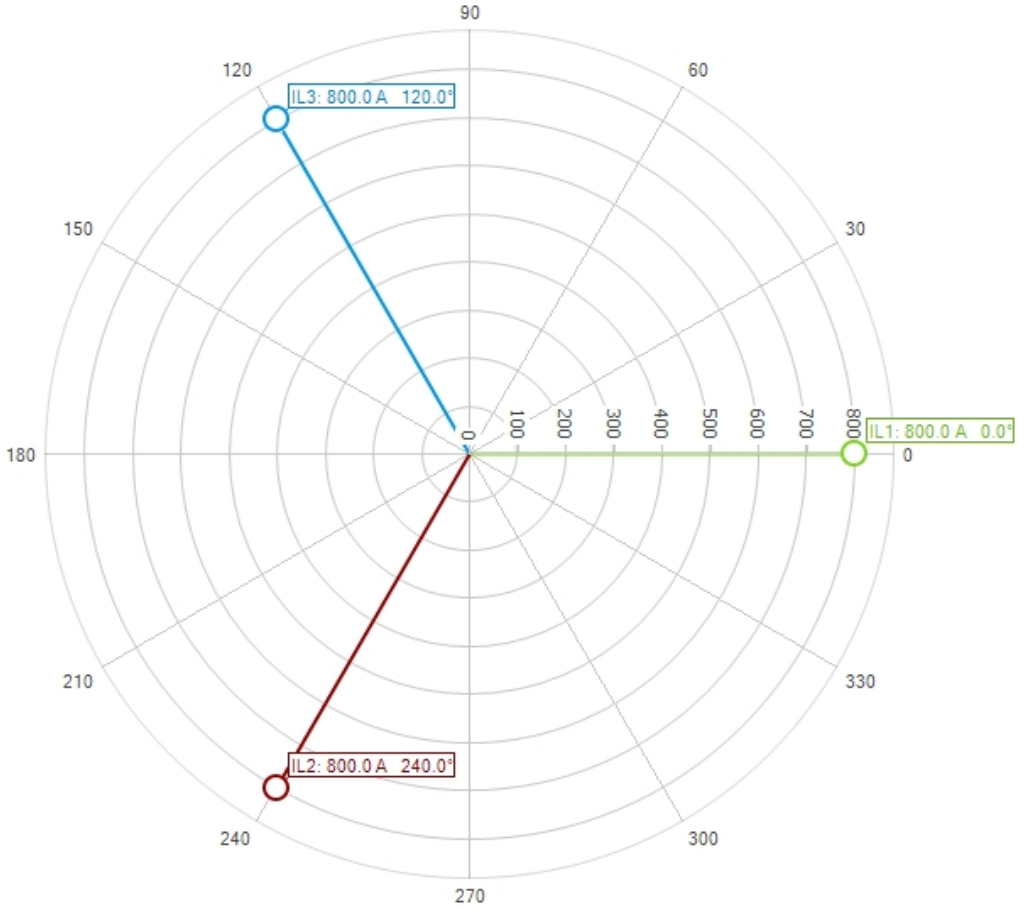
Name	Automatic test 2
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A7/08
Relay Serial Number	E200451002521070
Circuit Breaker Serial Number	EF60643061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

⚠ Test completed with trip but out of time. Protection L tripped in 1949 ms.
Trip time must be between 0 ms and 1000 ms.



Test

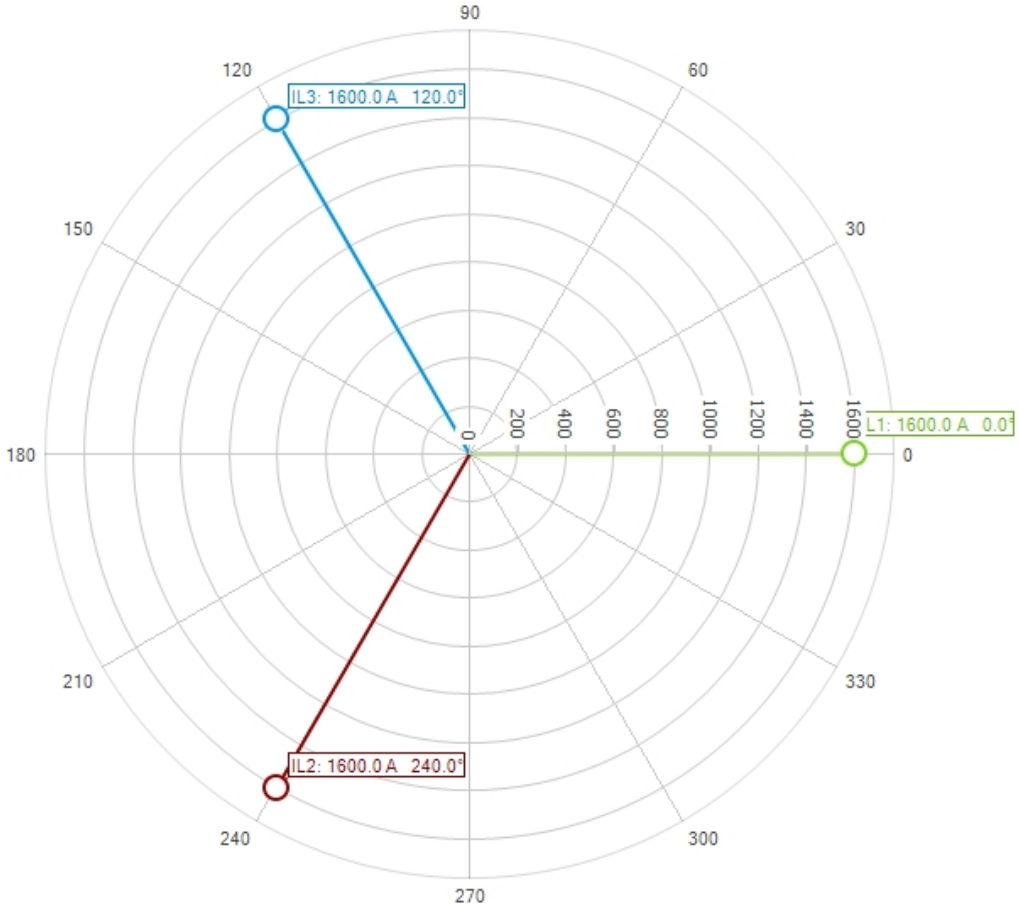
Name	Automatic test 3
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A7/08
Relay Serial Number	E200451002521070
Circuit Breaker Serial Number	EF60643061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

Test completed with trip. Protection S tripped in 403 ms.
Trip time must be between 0 ms and 1000 ms.



Test

Name	Automatic test 4
Session	Default session
Customer	
Location	
Operator	

Device

Tag name	A7/08
Relay Serial Number	E200451002521070
Circuit Breaker Serial Number	EF60643061400010
	Ekip LSIG
Device settings	In = 160 A
Protection Settings	Protection = L Threshold = 0.80 In Time = 3.00 s Protection = S Curve type = t=k/i^2 Threshold = 4.00 In Time = 0.10 s Protection = I Threshold = 8.00 In Protection = G Threshold = 0.20 In Time = 0.10 s
Preconditions	All preconditions satisfied.

Test result

Test completed with trip. Protection I tripped in 32 ms.
Trip time must be between 0 ms and 1000 ms.

ITEM	Tag	A7/+08-QF1	: WELDING SOCKETS (LOWER DECK) - A7/+08-QF1	Dwg	1723002197-EL-DG-00011		
	S/Sys	83-50	: Welding Sockets	Module			
TASK	code	C10002969	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline	Electrical	Form FTR-6	Electrical IO

FTR 6 - Electrical I/O check record sheet

Equipment Tag:	ESW-200N2 WELDING SOCKETS (LOWER DECK)	Instrument Type / Serial N° :	FLUKE 175 / 17140769
Cubicle N°:	A7/+08	Calibration certificate date:	7715/24 - 10/07/2025

Link Type:	●	Hardwired	Communication	(strike through unapplicable type)
I/O Type:	●	Digital	Analogic	(strike through unapplicable type)

DIGITAL

Item	Signal description	Link Type (Hardwired/ Communication)	I/O Type (Digital/Analogic)	Point of Origin (From)	Point of Receival (to)	Text Labelling Display Satisfactory (Y/N)	Blinking/Static Display Satisfactory (Y/N)	Color Coding Satisfactory (Y/N)	Status Check			Time Stamping Satisfactory (Y/N)	Refresh Time (if >1s)	Appearing in all applicable display (Y/N)
									Event (Y/N)	Alarm (Y/N)	Fault (Y/N)			
1	C.B. - CLOSED & INSERTED	HW	DI	A7/+08 - QF1/21-24	A7/+08 - X1/14-15	NA	NA	NA	Y	NA	NA	NA	NA	NA
2	C.B. - OPEN OR DISCONNECTED	HW	DI	A7/+08 - QF1/21-22	A7/+08 - X1/14-16	NA	NA	NA	Y	NA	NA	NA	NA	NA
3	C.B. - TRIPPED	HW	DI	A7/+08 - QF1/15-18	A7/+08 - X1/14-17	NA	NA	NA	NA	NA	Y	NA	NA	NA
4	INTERNAL FAULT	HW	DI	A7/+08 - QA1/11-14	A7/+08 - X1/14-18	NA	NA	NA	NA	NA	Y	NA	NA	NA
5	DRAWER ON TEST	HW	DI	A7/+08 - KA1/11-14	A7/+08 - X1/14-16	NA	NA	NA	Y	NA	NA	NA	NA	NA
6														
7														
8														

ANALOGIC

Item	Signal description	Link Type (Hardwired/ Communication)	I/O Type (Digital/Analogic)	Point of Origin (From)	Point of Receival (to)	Min value sent	Min value received	Max value sent	Max value received	Intermediate value sent	Intermediate value received	Out of scale test (OK, Not OK)	Refresh time (if >2s)	Appearing in all applicable display (Y/N)
1														
2														
3														

Comments: The test of the cubicle was carried out on a test bench.

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	2024-10-02	2024-10-03	2024-10-03
Signature	PROVERLIS Digitaly signed by Mattia Girotti 2024-10-02T09:34:31.151Z	PROVERLIS Digitaly signed by Kristian Castellani 2024-10-03T07:15:41.334Z	PROVERLIS Digitaly signed by Witness waived 2024-10-03T14:36:53.505Z

ITEM	Tag	A6/+08-QF1	: WELDING SOCKETS (TOP DECK) - A6/+08-QF1			Dwg	1723002197-EL-DG-00011
	S/Sys	83-50	: Welding Sockets			Module	
TASK	code	C10003029		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	COMM	Activity FTS	Discipline	Electrical	Form	FTR-5 Remote Signalling

FTR5 - Remote signalling
Record sheet

DATA

Switchboard:	SG-200N1	Cubicle N°:	A6/+08

FUNCTION TEST

	Order/Inputs		Status/Output					
	Start order	Stop order	Run	Fault	Stop Signalisation	Available/Ready to start	TRIP	CB OPEN/CLOSE
UCP								
ECS								
SSS								
PSS								
PCS				● ●			● ●	● ●
Control Station								
Control Panel								
HVAC Panel								
MCC							● ●	●

Column 1 (To check) to be filled during commissioning preparation stage - black if the check is asked
Column 2 (Checked) to be filled black if check is Ok

Comments:

	Performed by	☐ WITNESS ☒ REVIEW	☒ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW Com
Name	Davide Zucconelli	Kristian Castellani	Jamie McAllister
Date	2025-04-23	2025-04-23	2025-04-24
Signature	PROVERLIS Digitaly signed by Davide Zucconelli 2025-04-23T05:36:41.218Z	PROVERLIS Digitaly signed by Kristian Castellani 2025-04-23T08:51:44.226Z	PROVERLIS Digitaly signed by Jamie McAllister 2025-04-24T05:49:43.021Z

ITEM	Tag	A7/+08-QF1	: WELDING SOCKETS (LOWER DECK) - A7/+08-QF1		Dwg	1723002197-EL-DG-00011	
	S/Sys	83-50	: Welding Sockets		Module		
TASK	code	C10003030	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	COMM	Activity FTS	Discipline Electrical	Form	FTR-5	Remote Signalling

FTR5 - Remote signalling
Record sheet

DATA

Switchboard:	SG-200N1	Cubicle N°:	A7/+08

FUNCTION TEST

	Order/Inputs		Status/Output					
	Start order	Stop order	Run	Fault	Stop Signalisation	Available/Ready to start	TRIP	CB OPEN/CLOSE
UCP								
ECS								
SSS								
PSS								
PCS				● ●			● ●	● ●
Control Station								
Control Panel								
HVAC Panel								
MCC							● ●	● ●

Column 1 (To check) to be filled during commissioning preparation stage - black if the check is asked
Column 2 (Checked) to be filled black if check is Ok

Comments:

	Performed by	☐ WITNESS ☒ REVIEW	☒ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW Com
Name	Davide Zucconelli	Kristian Castellani	Jamie McAllister
Date	2025-04-23	2025-04-23	2025-04-24
Signature	Digitaly signed by Davide Zucconelli 2025-04-23T05:36:16.762Z	Digitaly signed by Kristian Castellani 2025-04-23T08:52:51.366Z	Digitaly signed by Jamie McAllister 2025-04-24T05:58:50.889Z

ITEM	Tag	ESW-200N1-01/02	: WELDING SOCKETS - TOP DECK	Dwg	123A90-DDL-EL-DG-20149		
	S/Sys	83-50	: Welding Sockets	Module			
TASK	code	C10004784	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	COMM	Activity FTS	Discipline	Electrical	Form FP19	Feeder Power Supply

DATA

Voltage	400V	Cubicle	A6/+08
Rating	150A	N° outlet	2
Supply From	A6/+08-QF1	IP rating	IP66

FUNCTION TEST REQUIREMENT

1	Check MC activities have been carried out			OK
2	Check equipment for cleaness			OK
3	Measure I/R value of feeder cable at 1000V (Min value: 100 Mohm)	>1000	MΩ	OK
4	Energise control feeder			OK
5	Full test feeder breaker operation in test position.			NA
6	Energize circuit			OK
7	Check phase rotation at Equipment incomer			OK
8	Test earth leakage protection operation (if possible)			NA

Testing & measurement instruments used

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

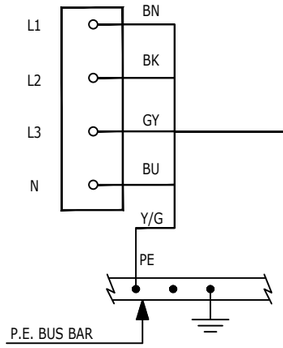
Comments: The phase rotation is CW.

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	2025-02-20	2025-02-20	2025-02-20
Signature	Digitaly signed by Mattia Girotti 2025-02-20T09:33:35.877Z	Digitaly signed by Kristian Castellani 2025-02-20T09:44:07.004Z	Digitaly signed by Witness waived 2025-02-20T15:10:16.865Z

FROM	TO

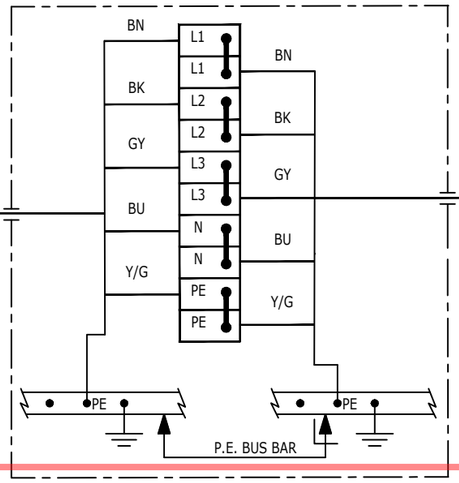
DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A6/+08



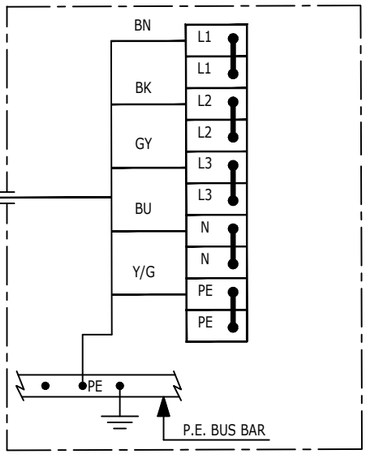
83021-CEL-01
5G50 mm²

DESCRIPTION: WELDING SOCKETS (TOP DECK)
TAG NUMBER: ESW-200N1-01

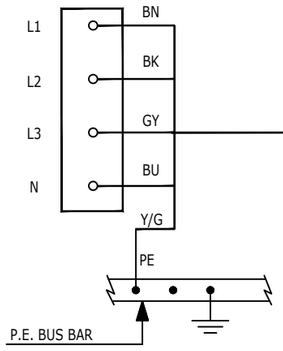


83021-CEL-02
5G50 mm²

TAG NUMBER: ESW-200N1-02

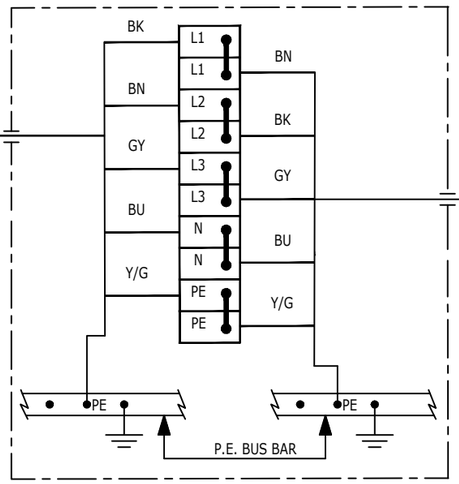


COLUMN/CUBIC.: A7/+08



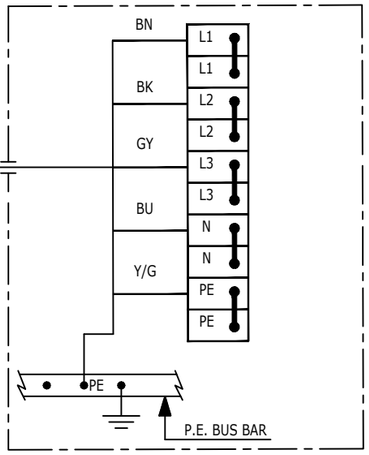
83022-CEL-01
5G50 mm²

DESCRIPTION: WELDING SOCKET (LOWER DECK)
TAG NUMBER: ESW-200N2-01

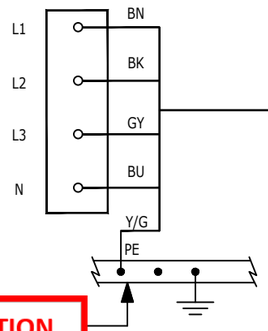


83022-CEL-02
5G50 mm²

TAG NUMBER: ESW-200N2-02

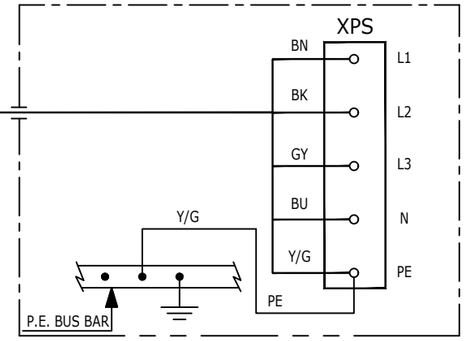


COLUMN/CUBIC.: A4/+02



83023-CEL
5G16 mm²

DESCRIPTION: HVAC PANELS - HV ROOM
TAG NUMBER: B100-HSB-001



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

REV.:	DATE:	SIGNATURE:
2_K	12/02/25	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
LV SWITCHGEAR SG-200N1

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

SCALE : 1:X

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

SHEET 025

REV. 02

F.to UNI A3: 420mmx297mm

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

ROSETTI MARINO — CROSSWIND

ITEM	Tag	ESW-200N2-01/02	: WELDING SOCKETS - LOWER DECK	Dwg	123A90-DDL-EL-DG-20149		
	S/Sys	83-50	: Welding Sockets	Module			
TASK	code	C10004785	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	COMM	Activity FTS	Discipline	Electrical	Form FP19	Feeder Power Supply

DATA

Voltage	400V	Cubicle	A7/+08
Rating	150A	N° outlet	2
Supply From	A7/+08-QF1	IP rating	IP 66

FUNCTION TEST REQUIREMENT

1	Check MC activities have been carried out			OK
2	Check equipment for cleaness			OK
3	Measure I/R value of feeder cable at 1000V (Min value: 100 Mohm)	>1000	MΩ	OK
4	Energise control feeder			OK
5	Full test feeder breaker operation in test position.			NA
6	Energize circuit			OK
7	Check phase rotation at Equipment incomer			OK
8	Test earth leakage protection operation (if possible)			NA

Testing & measurement instruments used

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

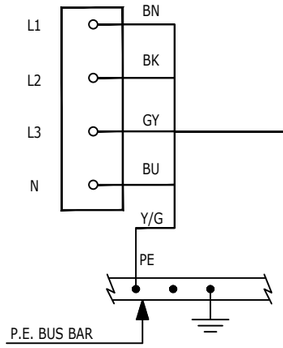
Comments: The phase rotation is CW

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	2025-02-20	2025-02-20	2025-02-20
Signature	Digitaly signed by Mattia Girotti 2025-02-20T09:34:36.592Z	Digitaly signed by Kristian Castellani 2025-02-20T09:45:10.367Z	Digitaly signed by Witness waived 2025-02-20T15:10:57.850Z

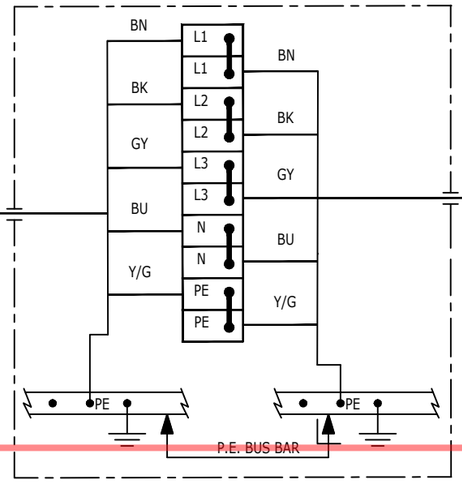
FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A6/+08



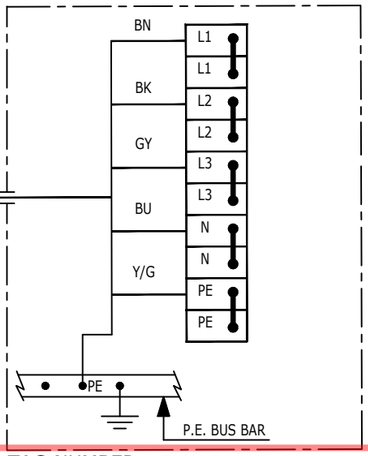
83021-CEL-01
5G50 mm²



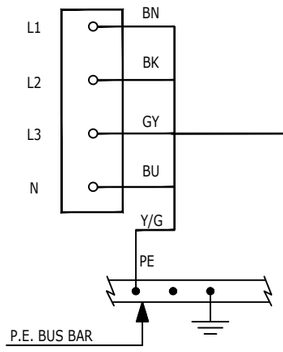
DESCRIPTION: WELDING SOCKETS (TOP DECK)
TAG NUMBER: ESW-200N1-01

83021-CEL-02
5G50 mm²

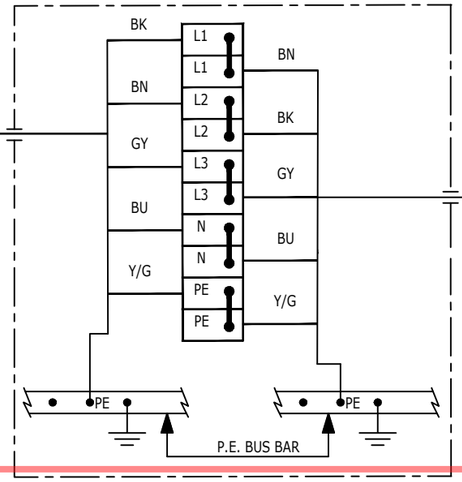
TAG NUMBER: ESW-200N1-02



COLUMN/CUBIC.: A7/+08



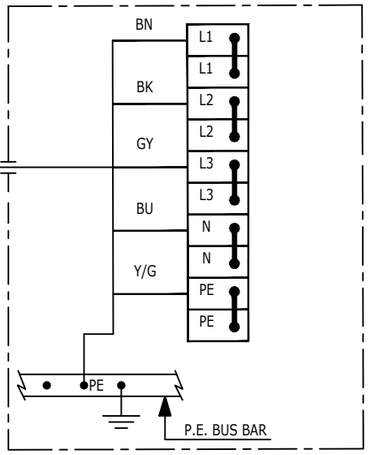
83022-CEL-01
5G50 mm²



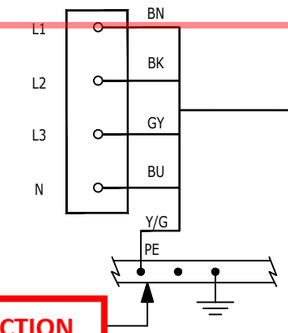
DESCRIPTION: WELDING SOCKET (LOWER DECK)
TAG NUMBER: ESW-200N2-01

83022-CEL-02
5G50 mm²

TAG NUMBER: ESW-200N2-02

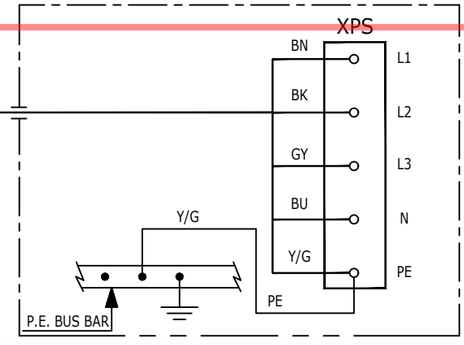


COLUMN/CUBIC.: A4/+02



83023-CEL
5G16 mm²

DESCRIPTION: HVAC PANELS - HV ROOM
TAG NUMBER: B100-HSB-001



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

REV.:	DATE:	SIGNATURE:
2_K	12/02/25	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
LV SWITCHGEAR SG-200N1

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

SCALE : 1:X

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

SHEET 025

REV. 02

F.to UNI A3: 420mmx297mm

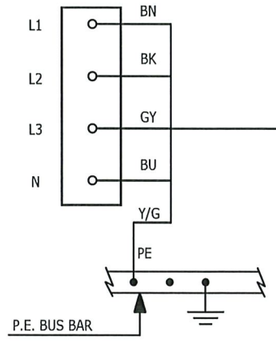
File Name : 123A90-DDL-EL-DG-20149 Rev. 02

Section 4.2 Electrical
“As-Commissioned” interconnection diagrams

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

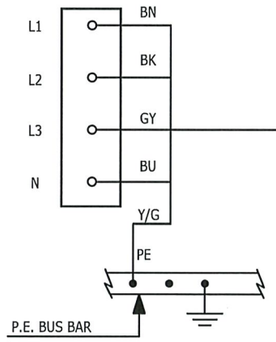
COLUMN/CUBIC.: A6/+08



83021-CEL-01
5G50 mm²

NO MARK UP
MARCO MORETTO
21/3/25

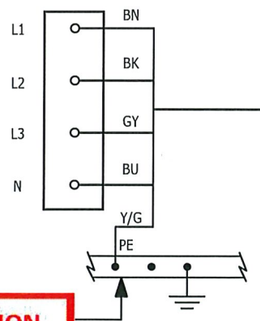
COLUMN/CUBIC.: A7/+08



83022-CEL-01
5G50 mm²

NO MARK UP
MARCO MORETTO
21/3/25

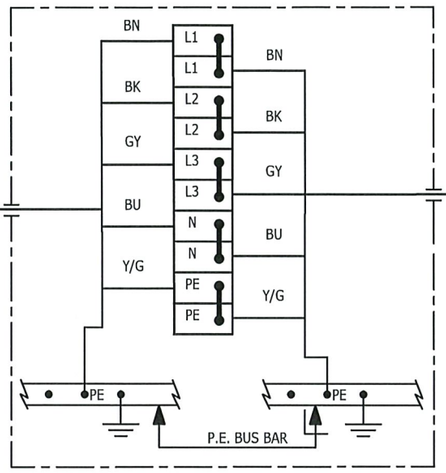
COLUMN/CUBIC.: A4/+02



83023-CEL
5G16 mm²

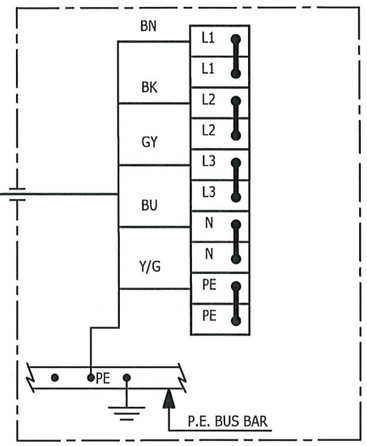
NO MARK UP MARCO MORETTO
21/3/25

DESCRIPTION: WELDING SOCKETS (TOP DECK)
TAG NUMBER: ESW-200N1-01

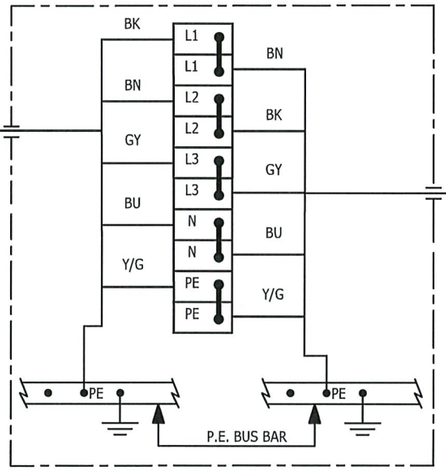


83021-CEL-02
5G50 mm²

TAG NUMBER: ESW-200N1-02

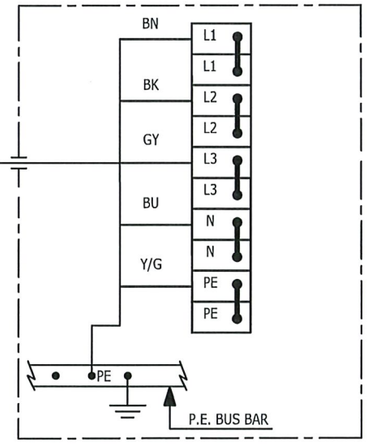


DESCRIPTION: WELDING SOCKET (LOWER DECK)
TAG NUMBER: ESW-200N2-01

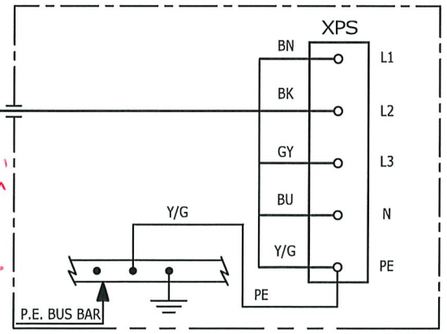


83022-CEL-02
5G50 mm²

TAG NUMBER: ESW-200N2-02



DESCRIPTION: HVAC PANELS - HV ROOM
TAG NUMBER: B100-HSB-001



AS COMMISSIONED: MATTIA GIROTTI
22/3/25

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
LV SWITCHGEAR SG-200N1

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

SCALE : 1:X

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

SHEET 025

REV. 02

F.to UNI A3: 420mmx297mm

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

Section 4.3 Instrumentation functional test sheets index

NOT APPLICABLE

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

NOT APPLICABLE

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

NOT APPLICABLE

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)

NOT APPLICABLE

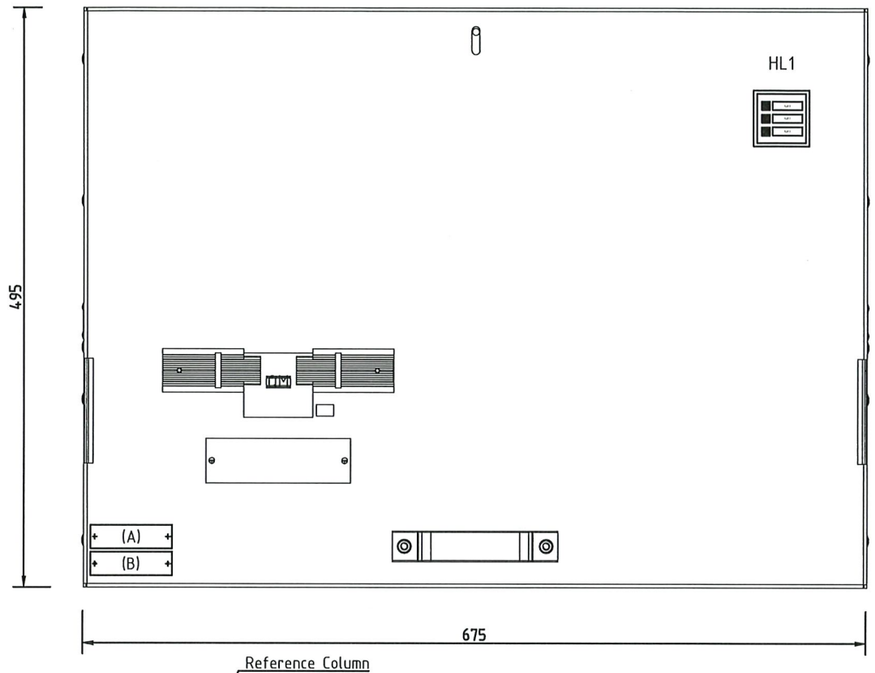
Section 7.3 Vendor Spares & Special Tools lists references

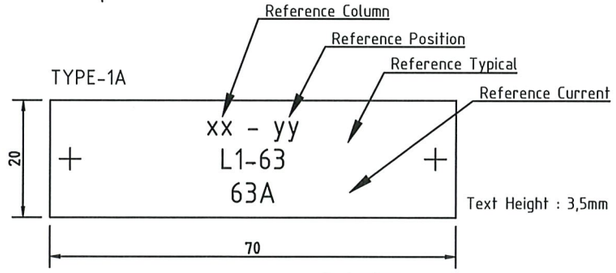
NOT APPLICABLE

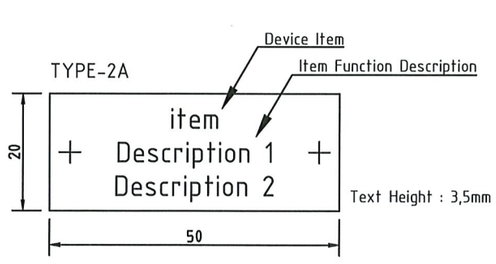
Section 7.4 Vendor Data / Operations / Maintenance Manuals References

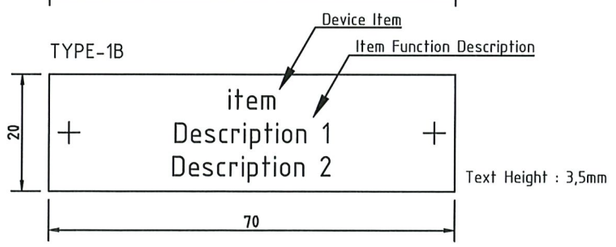
DOOR FRONT LAY-OUT

TYPICAL : LINE FEEDER "L2-n"









NOTE :

A) IDENTIFICATION name plate (type-1A) , with :
- Drawer position [Column / Position inside SWB]
- Typical name [reference applicability typical used]
- Power [reference applicability typical used]

B) USER name plate (type-1B), with :
- Item User [to see SLD diagrams]
- User Description [to see SLD diagrams]

DEVICES name plate			
ITEM	DESCRIPTION 1	DESCRIPTION 2	NOTE
QF1	Circuit Breaker	Signalling	NO plate
HL1	Multiled	Signalling	NO plate

NO MARK UP
AS COMMISSIONED: MATIA GIROTTI
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031
REV.: 2_A | DATE: 18/03/25 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Door Front Lay-Out - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 024 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

USERS LEGEND

TYPICAL : LINE FEEDER "L1-n" & "L2-n"

TYPICAL APPLICABILITY					
ITEM	ITEM TAG	DESCRIPTION TAG	REFERENCE POSITION (written on name name plate "type-1A)	REFERENCE NOMINAL CURRENT C.B. TRIP UNIT (written on name name plate "type-1A)	REFERENCE TYPICAL (written on name name plate "type-1A)
1	UP-200F4	AC UPS F&G - 8H UP-200F4 - BYPASS	A2 / +04	63A	L1-63
2	UP-200F3	AC UPS PAS - 30 MIN UP-200F3 - LINE A	A3 / +01	100A	L1-100
3	UP-200F3	AC UPS PAS - 30 MIN UP-200F3 - LINE B	A4 / +01	100A	L1-100
4	UP-200F4	AC UPS F&G - 8H UP-200F4 - LINE A	A6 / +05	63A	L1-63
5	UP-200F4	AC UPS F&G - 8H UP-200F4 - LINE B	A6 / +06	63A	L1-63
6	ESW-200N1	WELDING SOCKETS (TOP DECK)	A6 / +08	160A	L2-160
7	UP-200F3	AC UPS PAS - 30 MIN UP-200F3 (BYPASS)	A7 / +02	100A	L1-100
8	UP-200F1	DC BATTERY SYSTEM SWTG CONTROL - FEEDER A	A7 / +03	63A	L1-63
9	UP-200F1	DC BATTERY SYSTEM SWTG CONTROL - FEEDER B	A7 / +04	63A	L1-63
10	UP-200F2	NAVAID SYSTEM FEEDER A	A7 / +05	63A	L1-63
11	UP-200F2	NAVAID SYSTEM FEEDER B	A7 / +06	63A	L1-63
12	ESW-200N2	WELDING SOCKETS (LOWER DECK)	A7 / +08	160A	L2-160

NO MARK UP
AS COMMISSIONED: MATTIA GIRETTI
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031
REV.: 2_A | DATE: 18/03/25 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Users Legend - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 025 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

ITEMS ACRONYM

TYPICAL : LINE FEEDER "L1-n" & "L2-n"

Composition of Typical :

L-x = Common Parts
L1-"nn" or L2-"nn"= Specific Parts

Example for Composition of L1-63:
- to take "L-x" plus "L1-63"

Example for Composition of L2-160:
- to take "L-x" plus "L2-160"

	ACRONYM ITEMS (Comun parts)	ACRONYM ITEMS (Specific parts)				
	L-x	L1-40 (In=40A) (Current Trip Unit)	L1-63 (In=63A) (Current Trip Unit)	L1-100 (In=100A) (Current Trip Unit)	L2-160 (In=160A) (Current Trip Unit)	
ASSOCIATED TYPICAL	This Item include all devices that are comun for both "Specific Parts" Items	This Items include only devices that are detail for "Specific Parts" Items				
L1-40	X	X				
L1-63	X		X			
L1-100	X			X		
L2-160	X				X	

NO MARK UP
AS COMMISSIONED: MARIA GIROTTI
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031
REV.: 2_A | DATE: 18/03/25 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

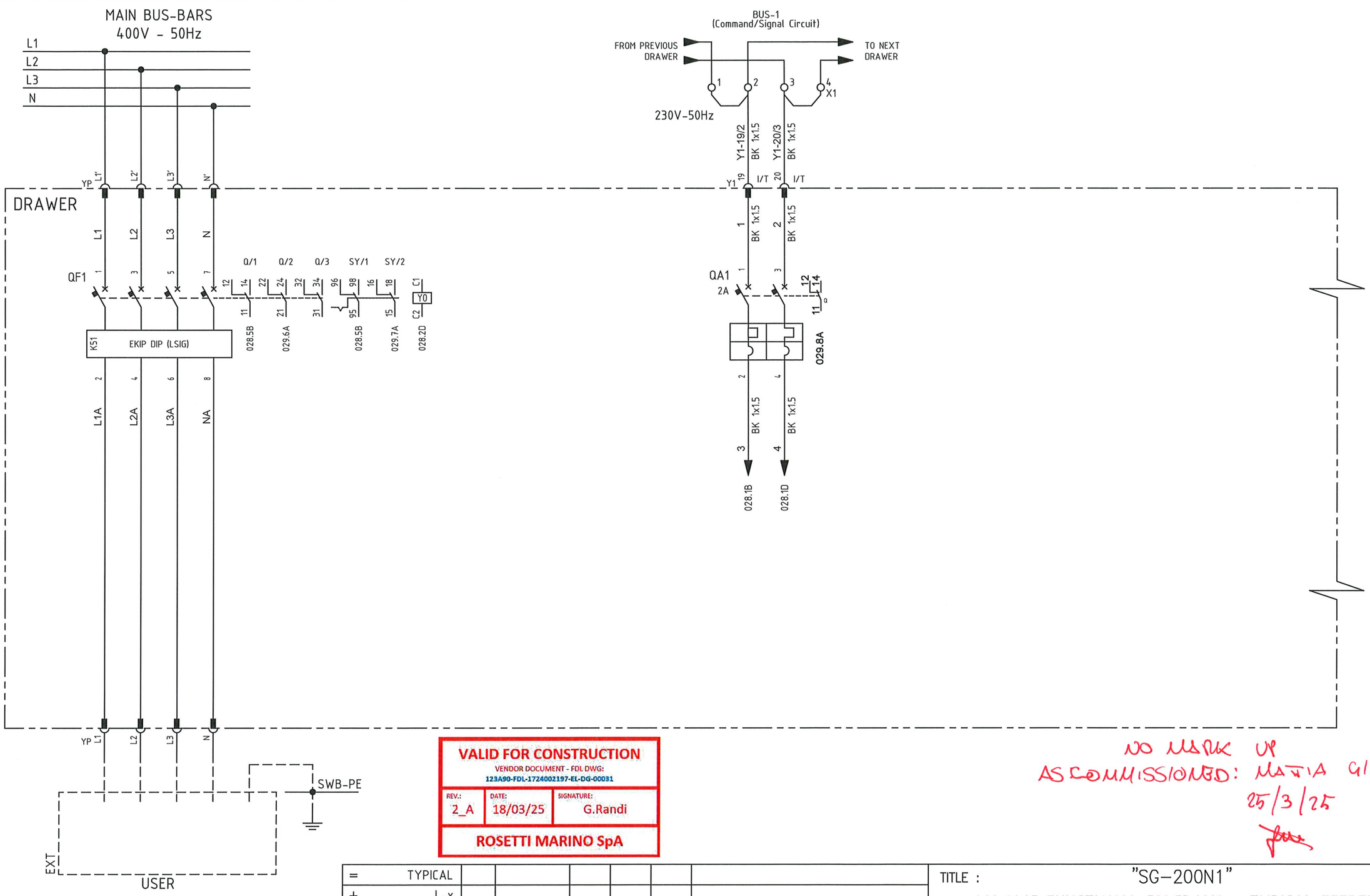
TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Items Acronym - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 026 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02



VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031

REV.:	DATE:	SIGNATURE:
2_A	18/03/25	G.Randi

ROSETTI MARINO SpA

NO MARK UP
AS COMMISSIONED: MATIA GIROTTI
25/3/25

=	TYPICAL
+	L-x
DWG n° :	231298/SD/31
Item n° :	PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00031

SHEET 027

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

NO MARK UP
AS COMMISSIONED: MARIA GIROTTI
25/3/25

EXT

9 X1 — 10 X1 — Y1-17/10 BK 1x1.5 — Y1 17 I/T
11 X1 — 12 X1 — Y1-18/11 BK 1x1.5 — 18 I/T
22 T — 21 I/T

027.6C 3 230V-50Hz

3 /.//

QF1 027.1B — 11 Q 12 14
QF1 027.1B — 96 98 SY 95

5 BK 1x1.5
6 BK 1x1.5
7 BK 1x1.5
8 BK 1x1.5
9 BK 1x1.5

HL1 230VAC — 1 2 3 4 — DOMO
L1 GR — CIRCUIT BREAKER OPEN
L2 RD — CIRCUIT BREAKER CLOSE
L3 AM — FEEDER TRIPPED

C1 — YO — C2
QF1 027.1B

KA1 A1 A2

027.6C 4 /.// 4

DRAWER ON TEST

029.7A 11 12 14 21 22 24 31 32 34 41 42 44

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031

REV.:	DATE:	SIGNATURE:
2_A	18/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

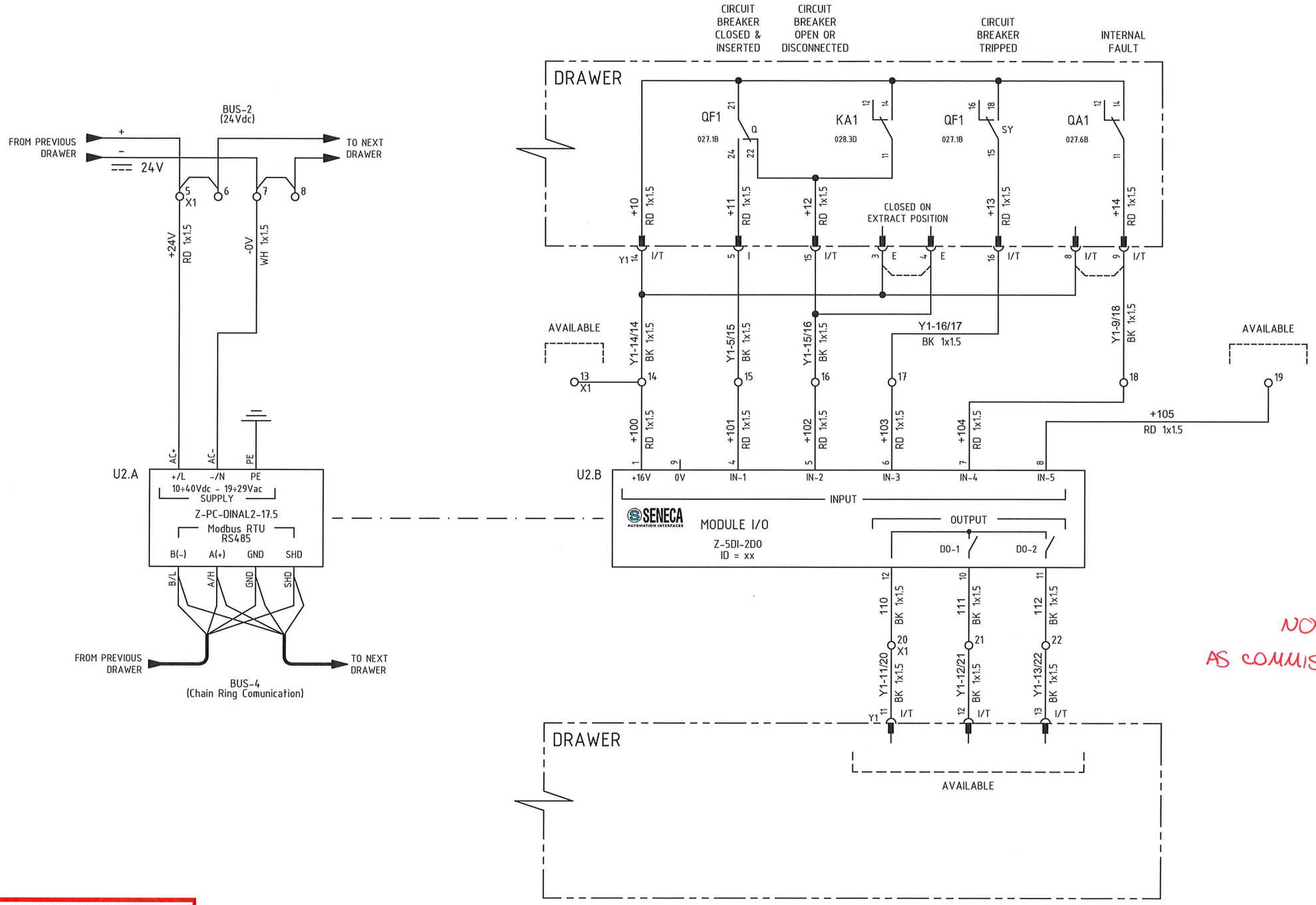
TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 028 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02



NO MARK UP
AS COMMISSIONED: MARIA GIROTTI
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031

REV.:	DATE:	SIGNATURE:
2_A	18/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
\+ L-x

DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

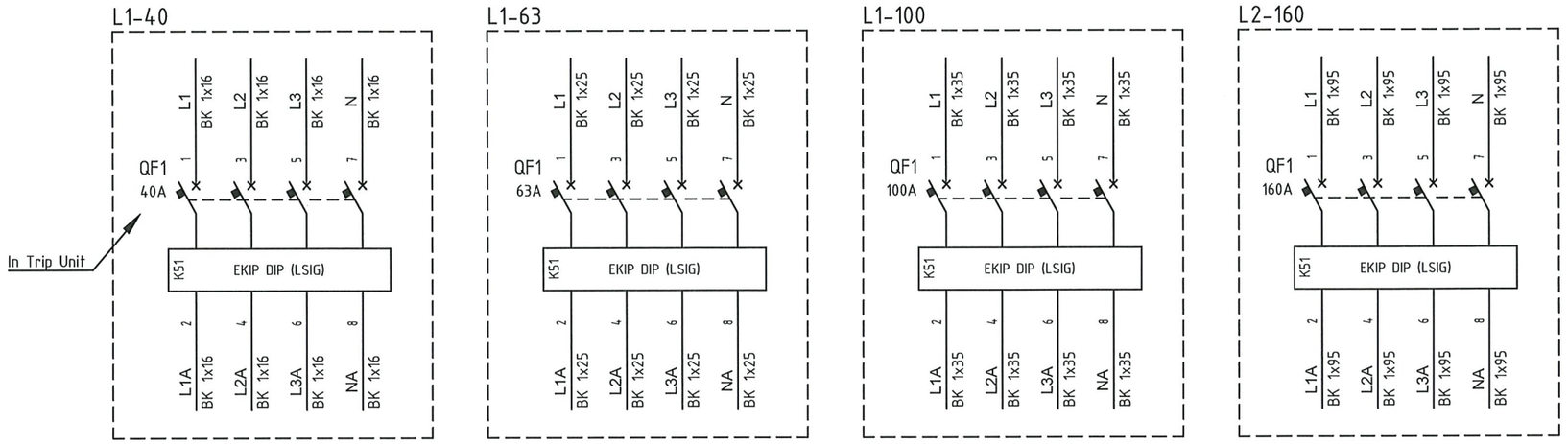
A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 029 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

SPECIFIC PARTS

TYPICAL : LINE FEEDER "L1-n" & "L2-n"



NO MARK UP
AS COMMISSIONED: MATIA GIROTTI.
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031

REV.:	DATE:	SIGNATURE:
2_A	18/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 030 | REV. 02

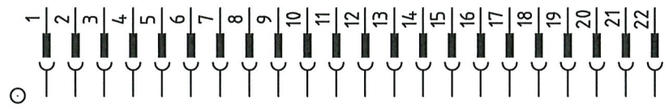
F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

AUXILIARY SOCKET

136450/001 (PF – 1 pcs) + 136458/004 (PM – 1 pcs)

N° PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
JUMP			●	●				●	●													
RACKED–OUT			X	X				X	X													
TEST								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RACKED–IN					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PIN USED			029.6B	029.7B	029.6B			029.8B	029.8B		029.7D	029.7D	029.8D	029.5B	029.6B	029.7B	028.2B	028.3B	027.6A	027.6A	028.4B	028.3B



← FIELD WHIT "X" - CONTACT CLOSE WHEN DRAWER IS IN RACKED-OUT POSITION

← FIELD WHIT "X" - CONTACT CLOSE WHEN DRAWER IS IN TEST POSITION

← FIELD WHIT "X" - CONTACT CLOSE WHEN DRAWER IS IN RACKED-IN POSITION

← CROS-REFERENCE USED PIN

TYPICAL - L-x - Y1

NO MARK UP
AS COMMISSIONED: MARIA GIROTTI
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031
REV.: 2_A | DATE: 18/03/25 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG–200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197–EL–DG–00031 | SHEET 031 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197–EL–DG–00031 Rev. 02

TYPICAL - L-x

X1

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
			BT003	BT/3 End bracket	Cabur
1	027.5A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
2	027.6A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
3	027.6A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
4	027.6A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
5	029.2A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
6	029.2A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
7	029.2A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
8	029.3A	2.5	HD100GR_	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
			HD101GR	HMD/PT/GR End section - Grey	Cabur
9	028.2A	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
10	028.2A	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
11	028.3A	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
12	028.3A	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
13	029.4B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
14	029.5B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
15	029.6B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
16	029.6B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
17	029.7B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
18	029.8B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
19	029.9B	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
20	029.7D	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
21	029.7D	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
22	029.8D	2.5	HD400GR_	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur
			HD201GR	HMD.1/PT/GR End section - Grey	Cabur
			BT003	BT/3 End bracket	Cabur

NO MARK UP
AS COMMISSIONED: MARIA GIROT.
25/3/25

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031
REV.: 2_A | DATE: 18/03/25 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 032 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

Nome/Item	Fg/Sh	Tipo/Type	Q.ta/Q.ty	Descrizione/Description	Costruttore/Manufacturer	Quadro (descrizione)
HL1	028	ML22/483L230STLTTR	1	MULTILED 48x48 - 3 LED - Vaux=230Vac/dc + LAMP TEST + TROP	DOMO	TYPICAL L-x
KA1	028	ER 592 6	1	CR-M230AC4L SUPPLY 230VAC 4C/O 250V/6A LED	ABB	TYPICAL L-x
		ER 609 8	1	CR-MH HOLDER FOR CR-M RELAY	ABB	TYPICAL L-x
		ER 686 6	1	CR-M4SS SOCKET STANDARD X 2/4 C/O(CR-M)	ABB	TYPICAL L-x
QA1	027	S550239	1	S202M C 2 AUTOMATIC CIRCUIT BREAKER 10KA 2P	ABB	TYPICAL L-x
		A563819	1	S2-CS/H6R AUXILIARY STATE CONTACT 1CO	ABB	TYPICAL L-x
U2.A	029	Z-PC-DINAL2-17.5	1	DIN RAIL 2SLOT WITH HEAD FOR "Z-5DI-2DO"	SENECA	TYPICAL L-x
U2.B	029	Z-5DI-2DO	1	I/O MODUL 5DI+2DO modbus RS485 Vaux=10÷40Vdc 19÷28Vac	SENECA	TYPICAL L-x
X1		HD100GR_	8	HMD.2/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur	TYPICAL L-x
		HD400GR_	14	HMD.2N/GR Two-level feed-through Terminal Block - Grey (2.5 mmq) - Spring type	Cabur	TYPICAL L-x
		BT003	2	BT/3 End bracket	Cabur	TYPICAL L-x
		HD101GR	1	HMD/PT/GR End section - Grey	Cabur	TYPICAL L-x
		HD201GR	1	HMD.1/PT/GR End section - Grey	Cabur	TYPICAL L-x

NO MARK UP
AS COMMISSIONED : MATIA GIROTTI
25/3/25

Nome/Item	Fg/Sh	Tipo/Type	Q.ta/Q.ty	Descrizione/Description	Costruttore/Manufacturer	Quadro (descrizione)
QF1	030	XT2S40LSIG4	1	XT2S 160 Ekip LSIG In=40A 4p F F	ABB	TYPICAL L1-40
		1SDA066436R1	1	AUX-C 3Q+2SY 250Vac/dc XT2-XT4 F/P	ABB	TYPICAL L1-40
		1SDA066325R1	1	SOR-C XT1..XT4 F/P 220-240Vac-220-250Vdc	ABB	TYPICAL L1-40

Nome/Item	Fg/Sh	Tipo/Type	Q.ta/Q.ty	Descrizione/Description	Costruttore/Manufacturer	Quadro (descrizione)
QF1	030	XT2S63LSIG4	1	XT2S 160 Ekip LSIG In=63A 4p F F	ABB	TYPICAL L1-63
		1SDA066436R1	1	AUX-C 3Q+2SY 250Vac/dc XT2-XT4 F/P	ABB	TYPICAL L1-63
		1SDA066325R1	1	SOR-C XT1..XT4 F/P 220-240Vac-220-250Vdc	ABB	TYPICAL L1-63

Nome/Item	Fg/Sh	Tipo/Type	Q.ta/Q.ty	Descrizione/Description	Costruttore/Manufacturer	Quadro (descrizione)
QF1	030	XT2S100LSIG4	1	XT2S 160 Ekip LSIG In=100A 4p F F	ABB	TYPICAL L1-100
		1SDA066436R1	1	AUX-C 3Q+2SY 250Vac/dc XT2-XT4 F/P	ABB	TYPICAL L1-100
		1SDA066325R1	1	SOR-C XT1..XT4 F/P 220-240Vac-220-250Vdc	ABB	TYPICAL L1-100

Nome/Item	Fg/Sh	Tipo/Type	Q.ta/Q.ty	Descrizione/Description	Costruttore/Manufacturer	Quadro (descrizione)
QF1	030	1SDA068179R1	1	XT4S 250 BREAKING PART 4p F F	ABB	TYPICAL L2-160
		1SDA067536R1	1	SG.EL.Ekip LSIG In=160A XT4 4p	ABB	TYPICAL L2-160
		1SDA066436R1	1	AUX-C 3Q+2SY 250Vac/dc XT2-XT4 F/P	ABB	TYPICAL L2-160
		1SDA066325R1	1	SOR-C XT1..XT4 F/P 220-240Vac-220-250Vdc	ABB	TYPICAL L2-160

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724002197-EL-DG-00031

REV.:	DATE:	SIGNATURE:
2_A	18/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

= TYPICAL
+ L-x
DWG n° : 231298/SD/31
Item n° : PF1002983/26

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	18/09/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	10/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
0	09/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "SG-200N1"
LV SWG FUNCTIONAL DIAGRAMS - TYPICAL FEEDERS
Functional Drawing - Typical "L1-n" & "L2-n"

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

A3 | DRAWING NO. 1723002197-EL-DG-00031 | SHEET 033 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00031 Rev. 02

Section 8 LIST OF MODIFICATIONS

NOT APPLICABLE

Section 8.1 List of changes

NOT APPLICABLE

Section 9 SUPPORTING DOCUMENTS

NOT APPLICABLE