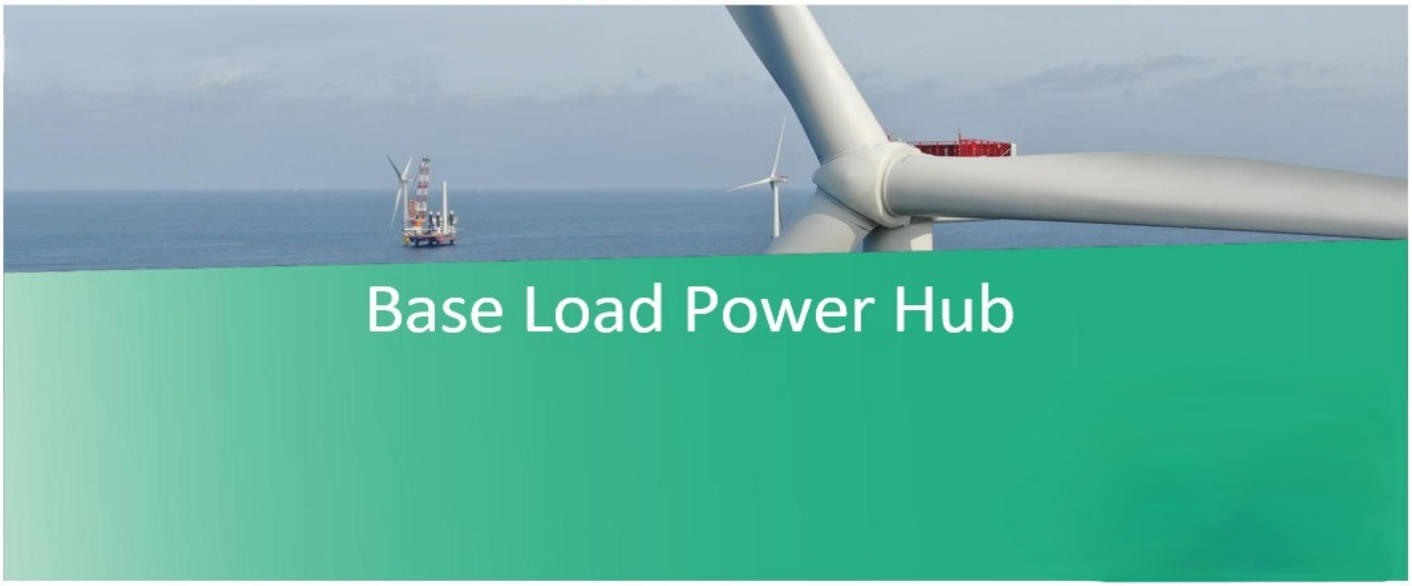
CROSSWIND

ROSETTI MARINO

PROVERLIS

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



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM	85 Battery Energy and Storage System
SUBSYSTEM	85-00 BESS Package (A-85000)

CROSSWIND	123A90 - HOLLANDSE KUST NOORD WIND PARK BLPH Project MECHANICAL COMPLETION DOSSIER INDEX	ROSETTI MARINO

Sub System N°:	85-00	Tick as appropriate	ONSHORE	O
Description:	BESS Package (A-85000)		OFFSHORE	NA

1.	***READY FOR COMMISSIONING CERTIFICATE*** *Ready For Commissioning Certificate (RFC)*	O
2.	***CONSOLIDATED PUNCH LISTS*** *Cleared and Residual Items*	O
3.	***SYSTEM/SUB-SYSTEM LIMIT DRAWINGS*** *Mark-up drawings showing the limits of the relevant System/Sub-System*	O
4.	***MECHANICAL COMPLETION STATUS INDEX – BUILDING DISCIPLINE*** *Building Sub-System Status Index (Print out) and Check/Test sheets*	NA
5.	***MECHANICAL COMPLETION STATUS INDEX – ELECTRICAL DISCIPLINE*** *Electrical Sub-System Status Index (Print out) and Check/Test Sheets* *Hazardous Area Equipment Detailed Inspection*	O
6.	***MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE*** *Instrumental Sub-System Status Index (Print out) and Check/Test Sheets*	O
7.	***MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE*** *Mechanical SubSystem Status Index (Print out) and Check/Test Sheets*	O
8.	***MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE*** *Telecommunication Sub-System Status Index (Print out) and Check/Test Sheets*	O
9.	***MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE*** *HVAC Sub-System Status Index (Print out) and Check/Test Sheets*	NA
10.	***MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE*** *Piping Sub-System Status Index and Check/Test Sheets*	NA
11.	***MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE*** *Safety Sub-System Status Index (Print out) and Check/Test Sheets*	NA
12.	***FAT / VENDOR REPORTS*** *Fat reports issued by vendors and/or vendor reports*	NA
13.	***MECHANICAL COMPLETION CHANGES / MARK-UPS*** *A copy of the changes initiated during the Mechanical Completion process pertaining to the relevant Sub-System will be incorporated in this section*	NA

Note: Under the generic terminology “Building” are also covered the following disciplines: **Structural, Painting**

Under the generic terminology “Instrumental” is also covered the following discipline: **Fire & Gas**

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123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Commissioning (RFC) Certificate

COMPLETE	●	PARTIAL	

Revision:	1		Issued on:	2024-11-26	
System:	85	/	Battery Energy and Storage System		
SubSystem:	85-00	/	BESS Package (A-85000)		

1	COMPANY has, at its option and if required, reviewed the mechanical completion associated with the above-named system/sub-system of the SCOPE and observed that such functional sub-system has been brought into readiness for commencement of the associated pre-commissioning and commissioning activities, but for the outstanding punch list items, if any, attached and referred in this Certificate.
2	Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.
3	Mechanical Completion Status Index attached (per Discipline) Punch List report attached (Outstanding and Cleared)

PUNCH LIST	PENDING POINTS	
Note: All Category "A" Items must be cleared prior to issue a Ready For Commissioning (RFC) Certificate	A	B
	'0	53

REMARKS: A.IVESON: CROSSWIND REQUESTS LOTO PROCEDURE ON INTERNAL CIRCUIT BREAKERS.

NO PACKAGE ENERGIZATION TO BE PERFORMED WITHOUT VERIFICATION OF INTERNAL LOTO AND ISOLATIONS.

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Anthony Iveson	Jeroen Vanloon	Gerry McCann
Date	2024-11-27	2024-11-27	2024-11-28	2024-11-28
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2024-11-27T12:23:17.754Z	PROVERLIS Digitaly signed by Anthony Iveson 2024-11-27T16:15:44.092Z	PROVERLIS Digitaly signed by Jeroen Vanloon 2024-11-28T12:29:35.324Z	PROVERLIS Digitaly signed by Gerry McCann 2024-11-28T14:18:27.543Z

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subproject: BLPH & system: 85 & subsystem: 85-00 & process: MC

Electrical	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
82006-CEC	6.6KV HV Switchgear / EMCS BESS UCP	ONSHORE	C10002321	CPX10	100	2024-11-25	-
82007-CEC	6.6KV HV Switchgear / EMCS BESS UCP	ONSHORE	C10002322	CPX10	100	2024-11-25	-
83011-CEL	LV Switchgear / BESS PCS Cabinet	ONSHORE	C10000522	CPX09	100	2024-11-25	-
83014-CEL	LV Switchgear / BESS LV1 Cabinet (+DISTR 1)	ONSHORE	C10000532	CPX09	100	2024-11-25	-
83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	ONSHORE	C10000533	CPX09	100	2024-11-25	-
85001-CEC	BESS / 6.6KV HV Switchgear	ONSHORE	C10002325	CPX10	100	2024-11-25	-
85002-CEC	EMCS / BESS	ONSHORE	C10002326	CPX10	100	2024-11-25	-

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subproject: BLPH & system: 85 & subsystem: 85-00 & process: MC

Instrumental	85-00 BESS Package (A-85000)

ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-85-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	ONSHORE	C10001447	CJX10	100	2024-11-25	-
P320PLC/B400-FGS-003	CONFIRMED GAS ALARM / MARSHALLING PCS	ONSHORE	C10001464	CJX10	100	2024-11-25	-
P320PLC/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	ONSHORE	C10001453	CJX10	100	2024-11-25	-

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subproject: BLPH & system: 85 & subsystem: 85-00 & process: MC

Mechanical	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A-85000	BESS	ONSHORE	C10002359	CZX01M	100	2024-11-25	-

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subproject: BLPH & system: 85 & subsystem: 85-00 & process: MC

Telecom	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
P320PLC/B400-NET-001.01	COMMUNICATION / NETWORK CABINET	ONSHORE	C10004357	CIX09	100	2024-11-26	-
P320PLC/B400-NET-001.02	COMMUNICATION / NETWORK CABINET	ONSHORE	C10004358	CIX09	100	2024-11-26	-

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000814	A	83014-CEL C10000532	The cable termination is not complete . (side BESS LV1 CABINET)	.		APolo 2024-11-23		APolo	
C30000821	A	83015-CEL C10000533	The cable termination is not complete	.		APolo 2024-11-23		APolo	
C30000828	A	82006-CEC C10002321	Cable termination is not complete with appropriate pin	.		APolo 2024-11-23		APolo	
C30000833	A	82006-CEC C10002321	Missing the Thermo-shrink of on the final destination cable. (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23		APolo	
C30000838	A	82006-CEC C10002321	Cable termination is not complete with appropriate pin	.		APolo 2024-11-23		APolo	
C30000839	A	82006-CEC C10002321	Missing the Thermo-shrink of on the final destination cable. (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23		APolo	
C30000844	A	85001-CEC C10002325	Cable termination is not complete with appropriate pin	.		APolo 2024-11-23		APolo	
C30000845	A	85001-CEC C10002325	Missing the Thermo-shrink of on the final destination cable. BESS A-85000 (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23		APolo	
C30000849	A	85001-CEC C10002325	Missing the Thermo-shrink of on the cores. restore the mechanical protection of the cable (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23		APolo	

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000852	A	85001-CEC C10002325	Missing the Thermo-shrink of on the final destination cable. BESS A-85000 (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23		APolo	
C30000854	A	85001-CEC C10002325	Cable termination is not complete with appropriate pin. BESS A-85000	.		APolo 2024-11-23		APolo	
C30000806	B	83011-CEL C10000522	Core identification tags are wrong . Cabinet side SG-200N1 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000807	B	83011-CEL C10000522	Missing plastic cable tag inside BESS cabinet CP-850E3.	.		APolo 2024-11-23			
C30000808	B	83011-CEL C10000522	Core identification tags are missing inside BESS cabinet CP-850E3. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000809	B	83011-CEL C10000522	Documentation: document 123A90-DDL-EL-DG-20149 sh.22 does not report what was installed in the field (CP-850E3).	.		APolo 2024-11-23			
C30000810	B	83011-CEL C10000522	The cable termination is not complete. (side BESS PCS CABINET)	.		APolo 2024-11-23			
C30000813	B	83014-CEL C10000532	Core identification tags are wrong cabinet side SG-200N1. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000815	B	83014-CEL C10000532	Missing cable tag by BESS LV1 CABINET side	.		APolo 2024-11-23			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System
SUBSYSTEM 85-00 BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000816	B	83014-CEL C10000532	Missing core identification tags side BESS LV1 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000817	B	83011-CEL C10000522	The cable is not supported and fixed to the rack (inside and outside BESS panel)	.		APolo 2024-11-23			
C30000819	B	83014-CEL C10000532	Documentation: document 123A90-DDL-EL-DG-20149 sh.22 does not report what was installed in the field (CP-850E1).	.		APolo 2024-11-23			
C30000820	B	83015-CEL C10000533	Core identification tags are wrong cabinet side SG-200N1. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000822	B	83015-CEL C10000533	Missing cable tag by BESS LV2 CABINET side	.		APolo 2024-11-23			
C30000823	B	83015-CEL C10000533	Missing core identification tag by cabinet BESS LV2 side . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000824	B	83015-CEL C10000533	The cable is not supported and fixed to the rack (inside and outside BESS panel)	.		APolo 2024-11-23			
C30000825	B	82006-CEC C10002321	Core identification tags are wrong cabinet side SG-100D1. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000826	B	82006-CEC C10002321	Missing cable tag by cabinet BESS UCP	.		APolo 2024-11-23			

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System

SUBSYSTEM 85-00 BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000827	B	82006-CEC C10002321	Missing core identification tags Cabinet side BESS UCP . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000836	B	82007-CEC C10002322	Missing cable tag by cabinet BESS UCP	.		APolo 2024-11-23			
C30000837	B	82006-CEC C10002321	Missing core identification tags by Cabinet side BESS UCP . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000841	B	85001-CEC C10002325	Missing cable tags inside cabinet BESS A-85000	.		APolo 2024-11-23			
C30000842	B	85001-CEC C10002325	Missing the cross-ferruling (Cores) . Cabinet BESS A-85000. (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000846	B	85001-CEC C10002325	Spare cores to be properly isolated (bess A-85000)	.		APolo 2024-11-23			
C30000847	B	85001-CEC C10002325	Spare cores to be properly isolated by SG-100D1 side	.		APolo 2024-11-23			
C30000848	B	85001-CEC C10002325	Core identificatio tags are wrong side SG-100D1 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000850	B	85002-CEC C10002326	Missing cable tags both cabinet side B400-EMCS-001 / BESS A-85000.	.		APolo 2024-11-23			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System
SUBSYSTEM 85-00 BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000851	B	85002-CEC C10002326	Missing core identification tags both Cabinet side B400-EMCS-001 / BESS A-85000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30001005	B	A-85000	Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing			CPY 2024-11-28			
C30001006	B	A-85000	Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing			CPY 2024-11-28			
C30001007	B	A-85000	Missing operating manual (PCS Container - Control Cabinet 1)			CPY 2024-11-28			
C30001009	B	A-85000	Missing lables, clear marking on cables and ferrules/crimps (BESS 1 - Battery Cabinets)			CPY 2024-11-28			
C30001010	B	A-85000	Missing lables, clear marking on cables and ferrules/crimps (BESS 2 - Battery Cabinets)			CPY 2024-11-28			
C30001012	B	A-85000	Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing			CPY 2024-11-28			
C30001013	B	A-85000	As built drawing needed for electrical schematics, GA and mechanical drawings of external and internals of contianers (BESS System)			CPY 2024-11-28			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000857	A	C-85-XS-001/B400-SIS-001 C10001447	Cable termination to be redone with appropriate pin both side (B400-SIS-001 / A-85000)	.		APolo 2024-11-23		APolo	
C30000860	A	P320PLC/B400-SIS-001 C10001453	Cable termination to be redone with appropriate pin both side B400-SIS-001 / BESS A-85000 UCP	.		APolo 2024-11-25		APolo	
C30000866	A	P320PLC/B400-FGS-003 C10001464	Cable termination is not complete with appropriate pin. cabinet side B400-FGS-003 / BESS A-85000 UCP	.		APolo 2024-11-25		APolo	
C30000855	B	C-85-XS-001/B400-SIS-001 C10001447	Missing cable tags both cabinet B400-SIS-001 / A-85000	.		APolo 2024-11-23			
C30000856	B	C-85-XS-001/B400-SIS-001 C10001447	Missing core identification tags both side B400-SIS-001 / A-85000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000858	B	P320PLC/B400-SIS-001 C10001453	Missing cable tags by both panel sides B400-SIS-001 / BESS A-85000 UCP.	.		APolo 2024-11-25			
C30000859	B	P320PLC/B400-SIS-001 C10001453	Missing core identification tags by both side B400-SIS-001 / BESS A-85000 UCP . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-25			
C30000861	B	P320PLC/B400-FGS-003 C10001464	Missing cable tags both panels side B400-FGS-003 / BESS A-85000 UCP.	.		APolo 2024-11-25			
C30000863	B	P320PLC/B400-FGS-003 C10001464	Missing core identification tags both Cabinet side B400-FGS-003 / BESS A-85000 UCP . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-25			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System
SUBSYSTEM 85-00 BESS Package (A-85000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000871	B	A-85000 C10002359	missing the name plates of containers as per 123A90-DDL-EL-DD-20101 sh.1	.		APolo 2024-11-25			
C30000872	B	A-85000 C10002359	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-11-25			
C30000873	B	A-85000 C10002359	The earthing and connection conductors (green/yellow) have a section of 95mm2 different from that indicated in document	.		APolo 2024-11-25			
C30000874	B	A-85000 C10002359	In the container "BESS 01", the door opening/closing handle is missing	.		APolo 2024-11-25			
C30001008	B	A-85000	Check on coolant liquid level and overpressure collection bottle after transportation and after first re-commisisoning (PCS Container - Converter			CPY 2024-11-28			
C30001011	B	A-85000	Missing castell lock to be installed on door (PCS Container - Transformer Area)			CPY 2024-11-28			
C30001014	B	A-85000	Install three cranes in Battery rooms (BESS 1)			CPY 2024-11-28			
C30001015	B	A-85000	Install three cranes in Battery rooms (BESS 2)			CPY 2024-11-28			
C30001016	B	A-85000	Battery mounting brackets on floor need to be installed (BESS 1 - Battery Cabinets)			CPY 2024-11-28			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001017	B	A-85000	Battery mounting brackets on floor need to be installed (BESS 2 - Battery Cabinets)			CPY 2024-11-28			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000936	B	P320PLC/B400-NET-001.01 C10004357	The copper conductor of the cable armor must be individually connected to the earthing bar. B400-NET-001. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-26			
C30000937	B	P320PLC/B400-NET-001.01 C10004357	Missing cable tag , cabinet input BESS A-850000.	.		APolo 2024-11-26			
C30000940	B	P320PLC/B400-NET-001.02 C10004358	The copper conductor of the cable armor must be individually connected to the earthing bar B400-NET-001. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-26			
C30000941	B	P320PLC/B400-NET-001.02 C10004358	Missing cable tag , cabinet input BESS A-850000	.		APolo 2024-11-26			

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000814	A	83014-CEL C10000532	The cable termination is not complete . (side BESS LV1 CABINET)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000821	A	83015-CEL C10000533	The cable termination is not complete	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000828	A	82006-CEC C10002321	Cable termination is not complete with appropriate pin	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000833	A	82006-CEC C10002321	Missing the Thermo-shrink of on the final destination cable. (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000838	A	82006-CEC C10002321	Cable termination is not complete with appropriate pin	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000839	A	82006-CEC C10002321	Missing the Thermo-shrink of on the final destination cable. (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000844	A	85001-CEC C10002325	Cable termination is not complete with appropriate pin	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000845	A	85001-CEC C10002325	Missing the Thermo-shrink of on the final destination cable. BESS A-85000 (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000849	A	85001-CEC C10002325	Missing the Thermo-shrink of on the cores. restore the mechanical protection of the cable (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000852	A	85001-CEC C10002325	Missing the Thermo-shrink of on the final destination cable. BESS A-85000 (see document 123A90-DDL-EL-DD-20090 sh.8)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000854	A	85001-CEC C10002325	Cable termination is not complete with appropriate pin. BESS A-85000	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000806	B	83011-CEL C10000522	Core identification tags are wrong . Cabinet side SG-200N1 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30000807	B	83011-CEL C10000522	Missing plastic cable tag inside BESS cabinet CP-850E3.	.		APolo 2024-11-23			
C30000808	B	83011-CEL C10000522	Core identification tags are missing inside BESS cabinet CP-850E3. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000809	B	83011-CEL C10000522	Documentation: document 123A90-DDL-EL-DG-20149 sh.22 does not report what was installed in the field (CP-850E3).	.		APolo 2024-11-23	2024-12-27	Ecarotenuto 2024-12-27	2024-12-27
C30000810	B	83011-CEL C10000522	The cable termination is not complete. (side BESS PCS CABINET)	.		APolo 2024-11-23	2025-02-04	APolo 2025-02-04	2025-02-04
C30000813	B	83014-CEL C10000532	Core identification tags are wrong cabinet side SG-200N1. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30000815	B	83014-CEL C10000532	Missing cable tag by BESS LV1 CABINET side	.		APolo 2024-11-23			

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System

SUBSYSTEM 85-00 BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000816	B	83014-CEL C10000532	Missing core identification tags side BESS LV1 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000817	B	83011-CEL C10000522	The cable is not supported and fixed to the rack (inside and outside BESS panel)	.		APolo 2024-11-23	2025-02-04	APolo 2025-02-04	2025-02-04
C30000819	B	83014-CEL C10000532	Documentation: document 123A90-DDL-EL-DG-20149 sh.22 does not report what was installed in the field (CP-850E1).	.		APolo 2024-11-23			
C30000820	B	83015-CEL C10000533	Core identification tags are wrong cabinet side SG-200N1. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30000822	B	83015-CEL C10000533	Missing cable tag by BESS LV2 CABINET side	.		APolo 2024-11-23			
C30000823	B	83015-CEL C10000533	Missing core identification tag by cabinet BESS LV2 side . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000824	B	83015-CEL C10000533	The cable is not supported and fixed to the rack (inside and outside BESS panel)	.		APolo 2024-11-23	2025-02-04	APolo 2025-02-04	2025-02-04
C30000825	B	82006-CEC C10002321	Core identification tags are wrong cabinet side SG-100D1. (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23	2025-02-19	AAndreani 2025-02-19	2025-02-19
C30000826	B	82006-CEC C10002321	Missing cable tag by cabinet BESS UCP	.		APolo 2024-11-23			

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System

SUBSYSTEM 85-00 BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000827	B	82006-CEC C10002321	Missing core identification tags Cabinet side BESS UCP . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000836	B	82007-CEC C10002322	Missing cable tag by cabinet BESS UCP	.		APolo 2024-11-23			
C30000837	B	82006-CEC C10002321	Missing core identification tags by Cabinet side BESS UCP . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000841	B	85001-CEC C10002325	Missing cable tags inside cabinet BESS A-85000	.		APolo 2024-11-23			
C30000842	B	85001-CEC C10002325	Missing the cross-ferruling (Cores) . Cabinet BESS A-85000. (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30000846	B	85001-CEC C10002325	Spare cores to be properly isolated (bess A-85000)	.		APolo 2024-11-23	2025-02-04	APolo 2025-02-04	2025-02-04
C30000847	B	85001-CEC C10002325	Spare cores to be properly isolated by SG-100D1 side	.		APolo 2024-11-23	2025-02-04	APolo 2025-02-04	2025-02-04
C30000848	B	85001-CEC C10002325	Core identificatio tags are wrong side SG-100D1 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23	2025-02-19	AAndreani 2025-02-19	2025-02-19
C30000850	B	85002-CEC C10002326	Missing cable tags both cabinet side B400-EMCS-001 / BESS A-85000.	.		APolo 2024-11-23	2025-03-04	JKrizanic 2025-03-04	2025-03-04

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000851	B	85002-CEC C10002326	Missing core identification tags both Cabinet side B400-EMCS-001 / BESS A-85000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-11-23			
C30001005	B	A-85000	Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing			CPY 2024-11-28			
C30001006	B	A-85000	Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing			CPY 2024-11-28			
C30001007	B	A-85000	Missing operating manual (PCS Container - Control Cabinet 1)			CPY 2024-11-28			
C30001009	B	A-85000	Missing lables, clear marking on cables and ferrules/crimps (BESS 1 - Battery Cabinets)			CPY 2024-11-28			
C30001010	B	A-85000	Missing lables, clear marking on cables and ferrules/crimps (BESS 2 - Battery Cabinets)			CPY 2024-11-28			
C30001012	B	A-85000	Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing			CPY 2024-11-28			
C30001013	B	A-85000	As built drawing needed for electrical schematics, GA and mechanical drawings of external and internals of contianers (BESS System)			CPY 2024-11-28			

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000857	A	C-85-XS-001/B400-SIS-001 C10001447	Cable termination to be redone with appropriate pin both side (B400-SIS-001 / A-85000)	.		APolo 2024-11-23	2024-11-26	APolo 2024-11-26	2024-11-26
C30000860	A	P320PLC/B400-SIS-001 C10001453	Cable termination to be redone with appropriate pin both side B400-SIS-001 / BESS A-85000 UCP	.		APolo 2024-11-25	2024-11-26	APolo 2024-11-26	2024-11-26
C30000866	A	P320PLC/B400-FGS-003 C10001464	Cable termination is not complete with appropriate pin. cabinet side B400-FGS-003 / BESS A-85000 UCP	.		APolo 2024-11-25	2024-11-26	APolo 2024-11-26	2024-11-26
C30000855	B	C-85-XS-001/B400-SIS-001 C10001447	Missing cable tags both cabinet B400-SIS-001 / A-85000	.		APolo 2024-11-23	2025-02-27	JKrizanic 2025-02-27	2025-02-27
C30000856	B	C-85-XS-001/B400-SIS-001 C10001447	Missing core identification tags both side B400-SIS-001 / A-85000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-23			
C30000858	B	P320PLC/B400-SIS-001 C10001453	Missing cable tags by both panel sides B400-SIS-001 / BESS A-85000 UCP.	.		APolo 2024-11-25	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30000859	B	P320PLC/B400-SIS-001 C10001453	Missing core identification tags by both side B400-SIS-001 / BESS A-85000 UCP . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-25			
C30000861	B	P320PLC/B400-FGS-003 C10001464	Missing cable tags both panels side B400-FGS-003 / BESS A-85000 UCP.	.		APolo 2024-11-25	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30000863	B	P320PLC/B400-FGS-003 C10001464	Missing core identification tags both Cabinet side B400-FGS-003 / BESS A-85000 UCP . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-11-25	2025-03-04	JKrizanic 2025-03-04	2025-03-04

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 85 Battery Energy and Storage System

SUBSYSTEM 85-00 BESS Package (A-85000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000871	B	A-85000 C10002359	missing the name plates of containers as per 123A90-DDL-EL-DD-20101 sh.1	.		APolo 2024-11-25			
C30000872	B	A-85000 C10002359	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-11-25	2025-01-23	APolo 2025-01-23	2025-01-23
C30000873	B	A-85000 C10002359	The earthing and connection conductors (green/yellow) have a section of 95mm2 different from that indicated in document	.		APolo 2024-11-25	2024-12-27	Ecarotenuto 2024-12-27	2024-12-27
C30000874	B	A-85000 C10002359	In the container "BESS 01", the door opening/closing handle is missing	.		APolo 2024-11-25			
C30001008	B	A-85000	Check on coolant liquid level and overpressure collection bottle after transportation and after first re-commisisoning (PCS Container - Converter			CPY 2024-11-28			
C30001011	B	A-85000	Missing castell lock to be installed on door (PCS Container - Transformer Area)			CPY 2024-11-28			
C30001014	B	A-85000	Install three cranes in Battery rooms (BESS 1)			CPY 2024-11-28	2024-12-19	GMccann 2024-12-19	JMackillop 2024-12-19
C30001015	B	A-85000	Install three cranes in Battery rooms (BESS 2)			CPY 2024-11-28	2024-12-19	GMccann 2024-12-19	JMackillop 2024-12-19
C30001016	B	A-85000	Battery mounting brackets on floor need to be installed (BESS 1 - Battery Cabinets)			CPY 2024-11-28	2024-12-19	GMccann 2024-12-19	JMackillop 2024-12-19

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001017	B	A-85000	Battery mounting brackets on floor need to be installed (BESS 2 - Battery Cabinets)			CPY 2024-11-28	2024-12-19	GMccann 2024-12-19	JMackillop 2024-12-19

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	85	Battery Energy and Storage System
SUBSYSTEM	85-00	BESS Package (A-85000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000936	B	P320PLC/B400-NET-001.01 C10004357	The copper conductor of the cable armor must be individually connected to the earthing bar. B400-NET-001. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-26	2025-01-22	APolo 2025-01-22	2025-01-22
C30000937	B	P320PLC/B400-NET-001.01 C10004357	Missing cable tag , cabinet input BESS A-850000.	.		APolo 2024-11-26			
C30000940	B	P320PLC/B400-NET-001.02 C10004358	The copper conductor of the cable armor must be individually connected to the earthing bar B400-NET-001. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-26	2025-02-04	APolo 2025-02-04	2025-02-04
C30000941	B	P320PLC/B400-NET-001.02 C10004358	Missing cable tag , cabinet input BESS A-850000	.		APolo 2024-11-26			

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000807

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000522	1.4 Discipline	Electrical
1.2 Item	83011-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing plastic cable tag inside BESS cabinet CP-850E3.

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:13:37.190Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:13:49.118Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000808

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000522	1.4 Discipline	Electrical
1.2 Item	83011-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Core identification tags are missing inside BESS cabinet CP-850E3 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:15:51.695Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:16:02.784Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

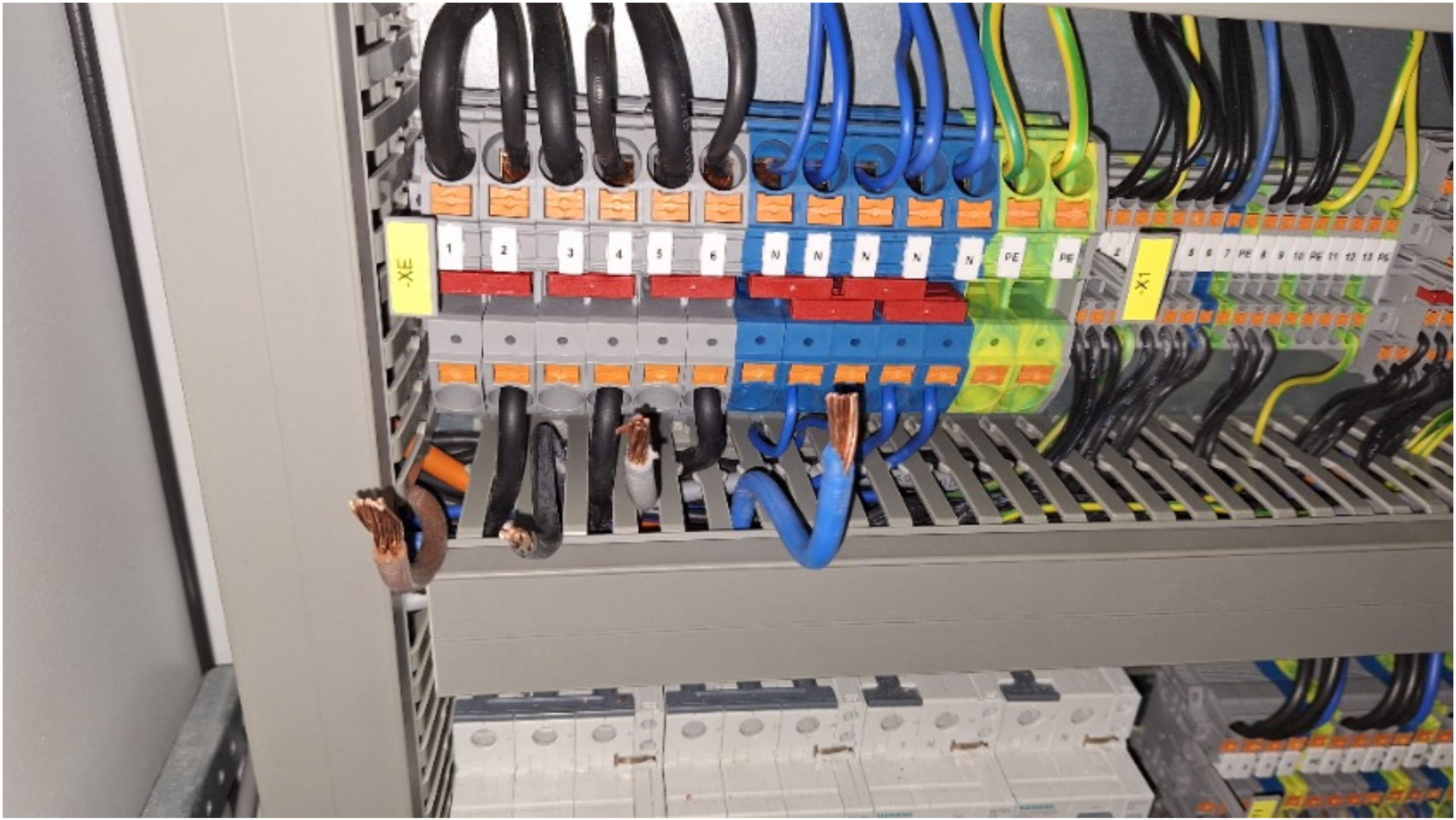
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6- CLEARANCE APPROVAL

Name

Date

Signature


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ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000815

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000532	1.4 Discipline	Electrical
1.2 Item	83014-CEL	LV Switchgear / BESS LV1 Cabinet (+DISTR 1)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tag by BESS LV1 CABINET side

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:57:39.066Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:57:49.792Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

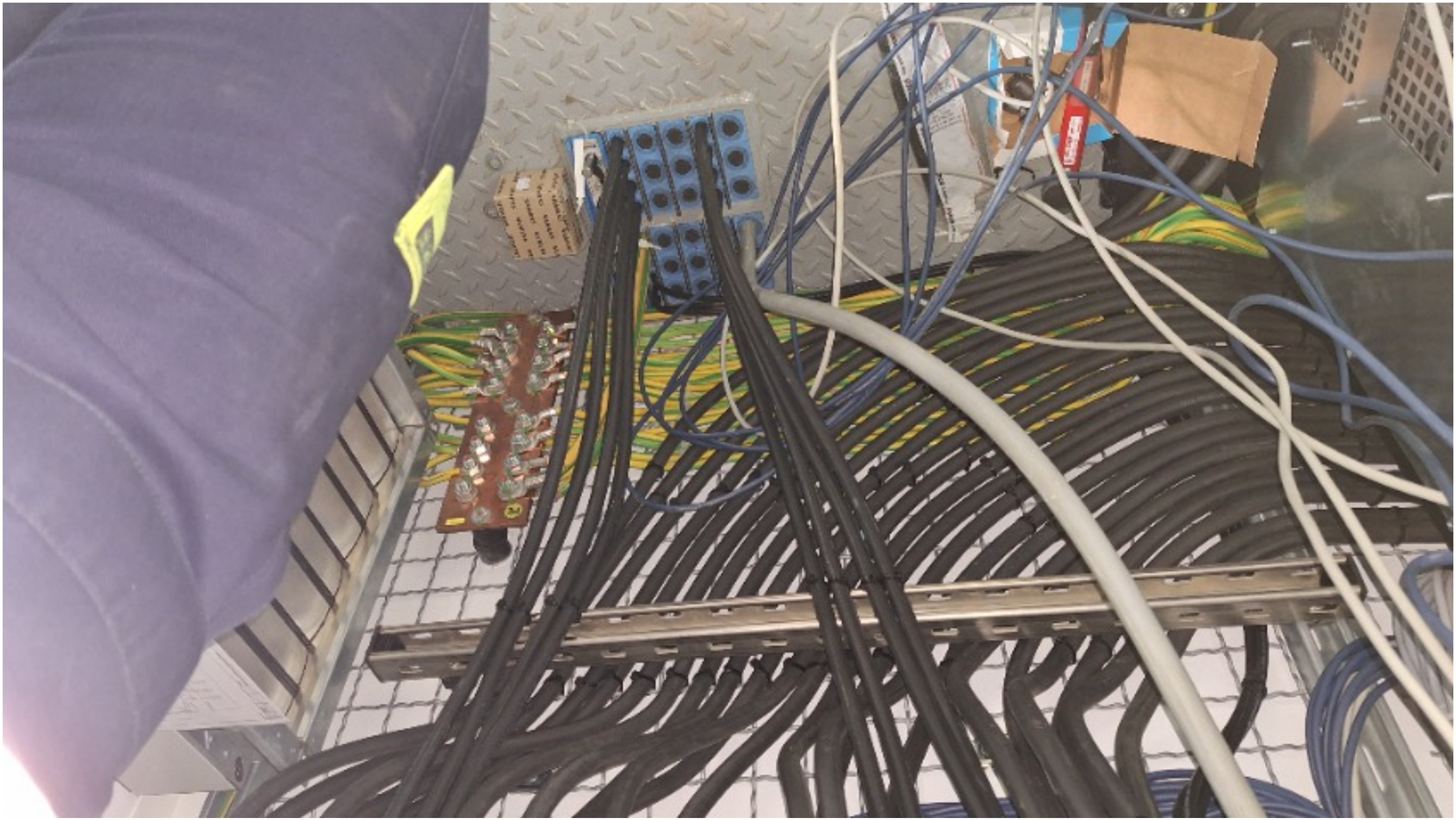
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6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000816

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000532	1.4 Discipline	Electrical
1.2 Item	83014-CEL	LV Switchgear / BESS LV1 Cabinet (+DISTR 1)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing core identification tags side BESS LV1 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:59:21.033Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:59:35.826Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

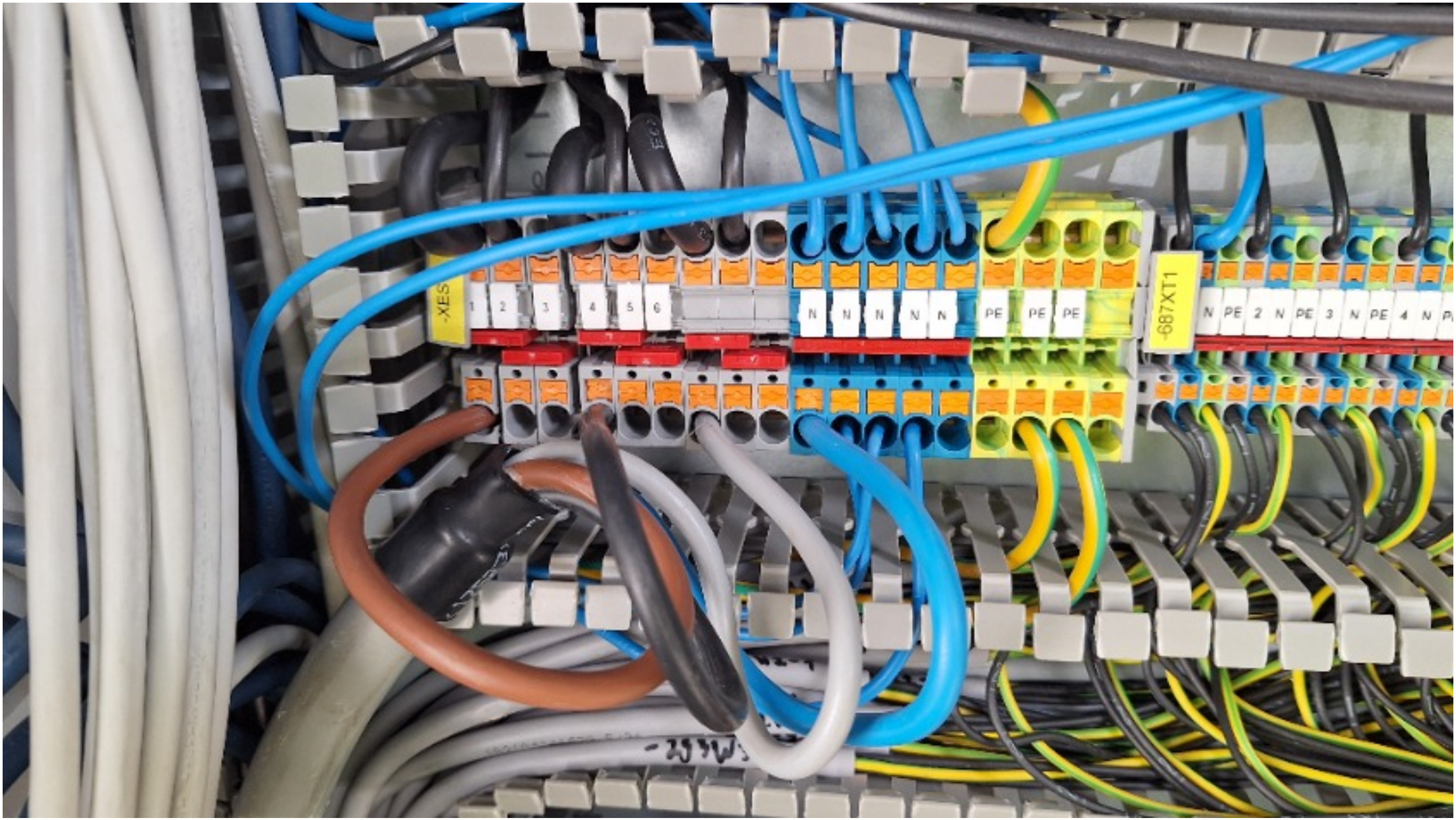
Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


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ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000819

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000532	1.4 Discipline	Electrical
1.2 Item	83014-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Documentation: document 123A90-DDL-EL-DG-20149 sh.22 does not report what was installed in the field (CP-850E1).

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:16:23.340Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:16:35.482Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

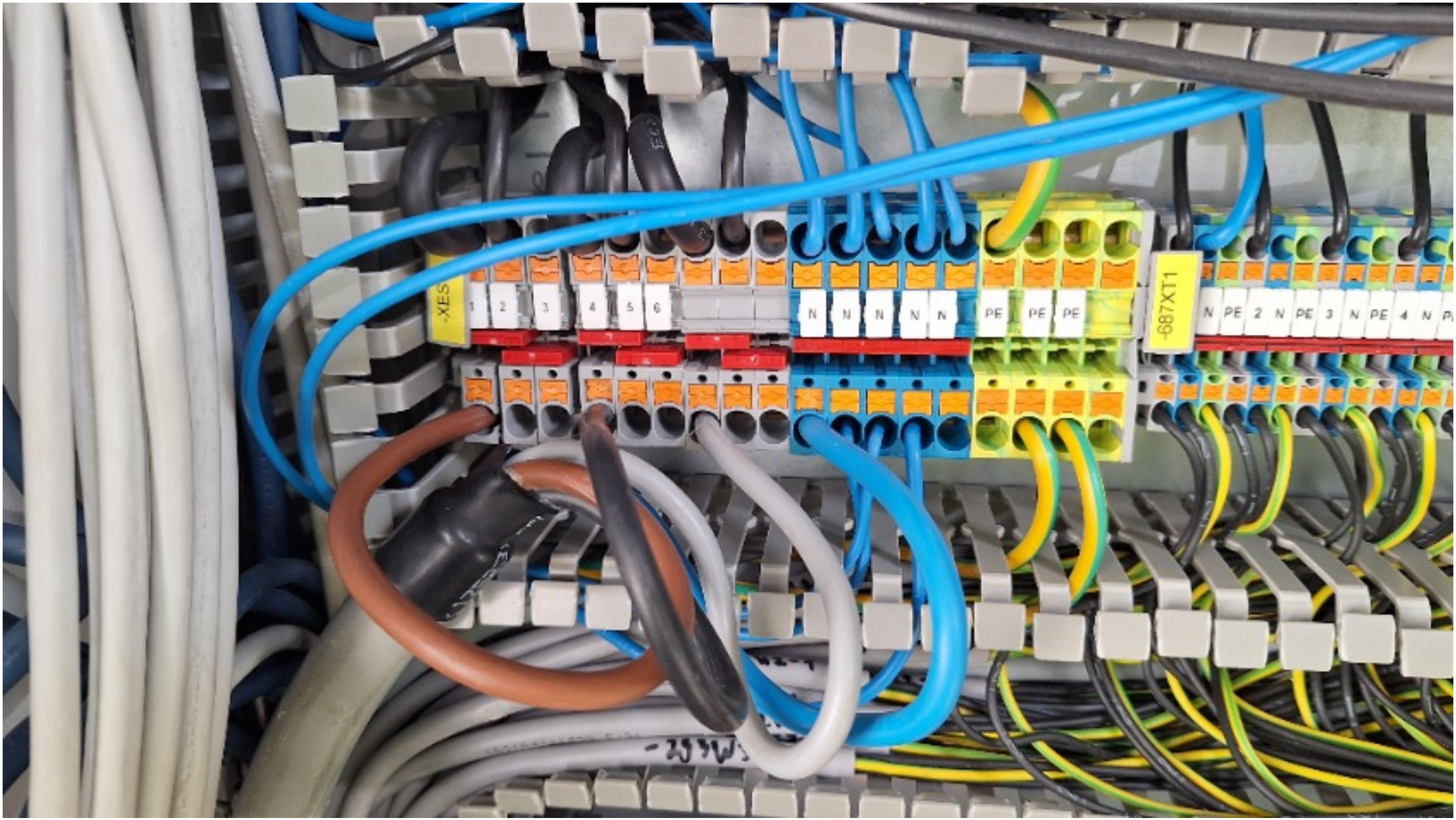
Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


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-687XT1
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N

FROM

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A4/+04

L1 BN
L2 BK
L3 GY
N BU

83011-CEL
4C X 10 mm²

COLUMN/CUBIC.: A6/+02

L1 BN
L2 BK
L3 GY
N BU

83014-CEL
4C X 10 mm²

COLUMN/CUBIC.: A6/+03

L1 BN
L2 BK
L3 GY
N BU

83015-CEL
4C X 10 mm²

TO

DESCRIPTION: BESS PCS CABINET
TAG NUMBER: CP-850E3

-XE

BN	112	-AUX_400V_L1
BK	132	-AUX_400V_L2
GY	152	-AUX_400V_L3
BU	1N2	-AUX_400V_N

02

DESCRIPTION: BESS LV1 CABINET (+DISTR 1)
TAG NUMBER: CP-850E1

-XES

BN	1	1
BK	3	4
GY	5	7
BU	N	N

DESCRIPTION: BESS LV2 CABINET (+DISTR 2)
TAG NUMBER: CP-850E2

-XES

BN 1
BK 3
GY 5
BU N

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

REV.	DATE:	SIGNATURE:
2_A	21/11/24	G.Randi

ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

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 022

REV. 02

F.to UNI A3: 420mmx297mm

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

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000822

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000533	1.4 Discipline	Electrical
1.2 Item	83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tag by BESS LV2 CABINET side

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:23:58.296Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:24:08.927Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000823

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000533	1.4 Discipline	Electrical
1.2 Item	83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing core identification tag by cabinet BESS LV2 side . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:26:05.610Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:26:14.578Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

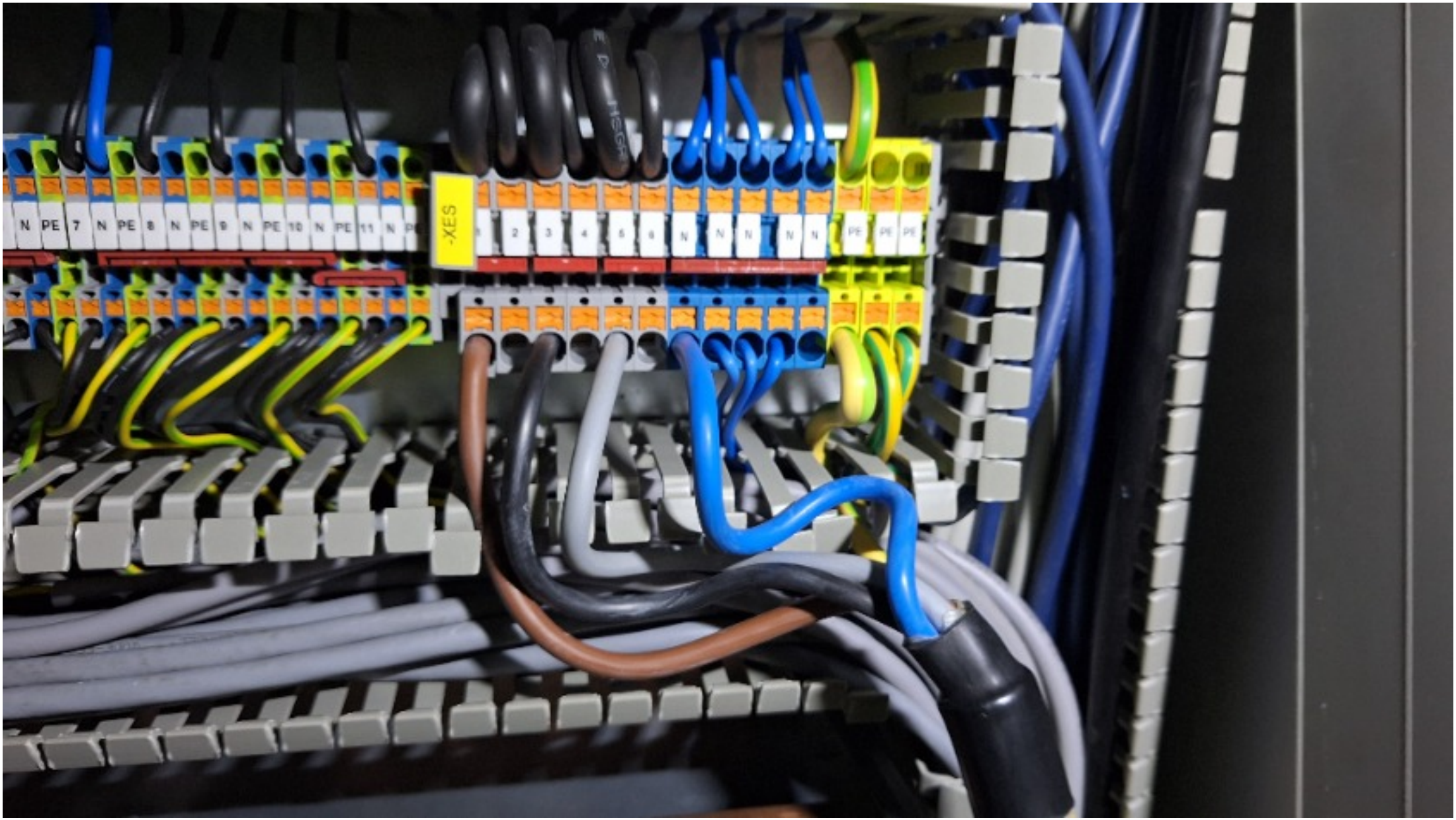
Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


-XES
N PE 7 N PE 8 N PE 9 N PE 10 N PE 11 N
1 2 3 4 5 6 N N N N N PE PE PE

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000826

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing cable tag by cabinet BESS UCP

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:00:16.547Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:00:30.042Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000827

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing core identification tags Cabinet side BESS UCP . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:02:06.690Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:02:17.581Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

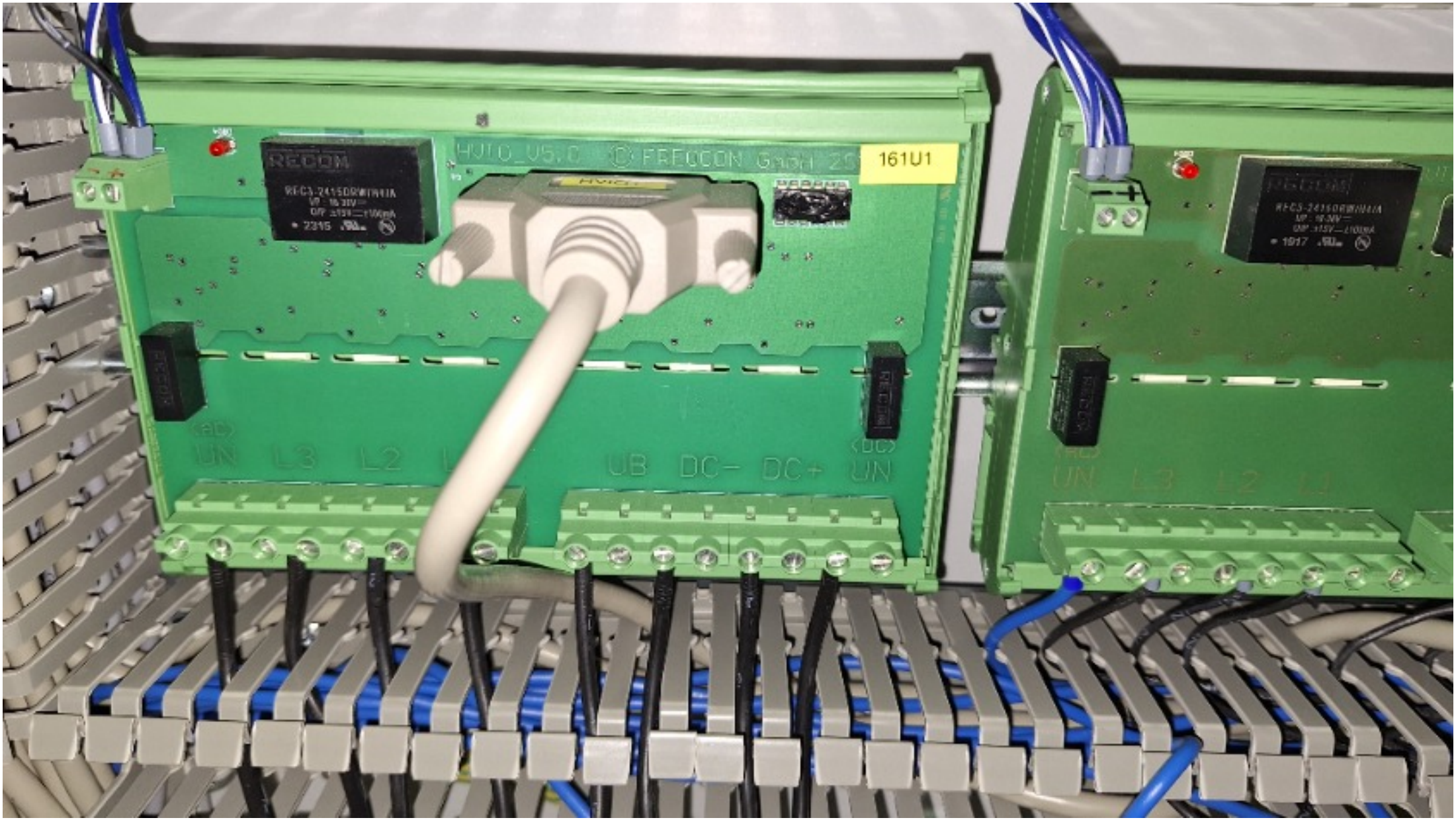
Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


161U1
RECOM
UN L3 L2
UB DC- DC+ UN

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000836

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002322	1.4 Discipline	Electrical
1.2 Item	82007-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing cable tag by cabinet BESS UCP

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:29:38.247Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:29:48.769Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000837

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing core identification tags by Cabinet side BESS UCP . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:32:31.024Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:32:43.178Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

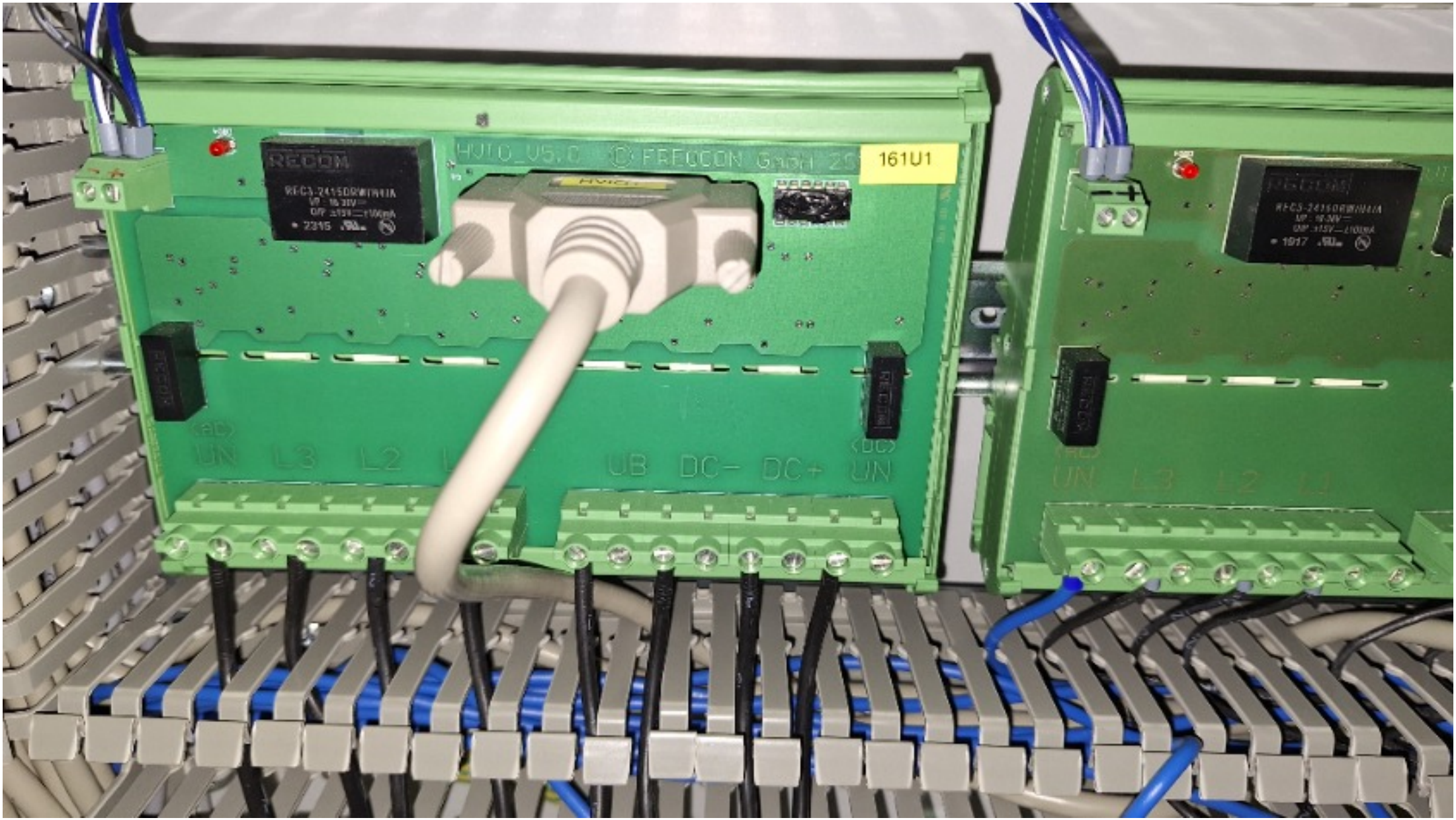
Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


161U1
RECOM
UN L3 L2
UB DC- DC+ UN

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000841

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tag inside cabinet BESS A-85000

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:42:01.647Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:42:13.207Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


85002 CEL
85001 CEL

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000842

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing the cross-ferruling (Cores) . Cabinet BESS A-85000. (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:44:14.398Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:44:24.774Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000851

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002326	1.4 Discipline	Electrical
1.2 Item	85002-CEC	EMCS / BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing core identification tags both Cabinet side B400-EMCS-001 / BESS A-85000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:16:38.245Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:16:47.123Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

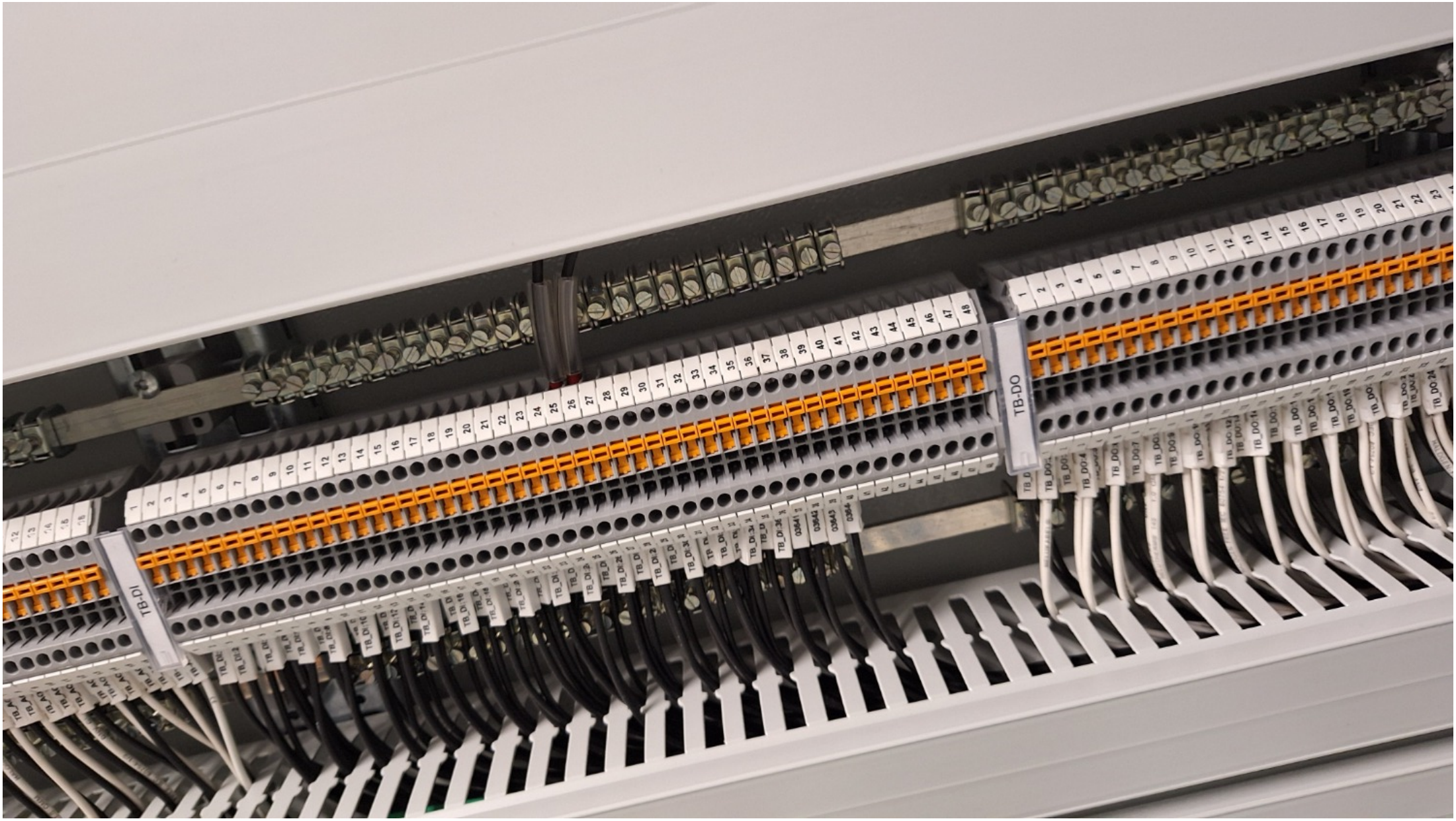
6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20


TB-DI
TB-DO



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000856

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001447	1.4 Discipline	Instrumental
1.2 Item	C-85-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing core identification tags both side B400-SIS-001 / A-85000 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:28:28.801Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:28:40.371Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20

TB-P320-PLC
TB-B100-HSB-001
2
4
2
4
6
8
10
PR1/TB-P320PLC/TB-P320PLC/02
PR2/TB-P320PLC/TB-P320PLC/04
PR1/TB-B100-HSB-001/77-ZSL-00012
PR3/TB-B100-HSB-001/77-ZSL-00036

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000859

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001453	1.4 Discipline	Instrumental
1.2 Item	P320PLC/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing core identification tags by both side B400-SIS-001 / BESS A-85000 UCP . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T07:34:18.946Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T07:34:30.386Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20

PR1/P320PLC/TB-P320PLC/2
PR2/P320PLC/TB-P320PLC/4

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000871

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002359	1.4 Discipline	Mechanical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

missing the name plates of containers come indicato nel documento 123A90-DDL-EL-DD-20101 sh.1

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T08:45:35.888Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-25T08:46:11.751Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature


CERTIFIED BY
DNV 2.7-3
RTABLE OFFSHORE
UNIT
SURETANK
PORTABLE OFFSHORE UNIT DATA PLATE
DNV 2.7-3
OWNER : FREQCON GMBH
OWNER ADDRESS : 27336 RETHEM, BÜRGERWIESENWEG 5
GERMANY
POU „TYPE A" OPERATIONAL CLASS R00
DNV CERTIFICATE NO. N142UZBC
UNIT SERIAL NO. FRQ-53406000001
MANUFACTURE DATE 04/2024
SUPPLIER : SURETANK LTD
MANUFACTURER : SEEMANN
DESIGN TEMP : -20°C
DESIGN APPROVAL AUTHORITY : DET NORSKE VERITAS
°SLING ANGLE : 45
TARE MASS (T) : 11650 KG
PAYLOAD (P) : 3850 KG
MAX. GROSS MASS (R) : 15500 KG
INTERMEDIATE DECK : KG
NSP CODE
OPERATIONAL RESTRICTIONS:
OPERATIONAL PROCEDURE:
PORTABLE OFFSHORE UNIT INSPECTION PLATE DNV 2.7-3
TYPE/DATE: 16.04.2024
TYPE/DATE:
TYPE/DATE:
MANUFACTURED UNDER LICENSE FROM SURETANK LIMITED
WWW.SURETANK.COM


CERTIFIED BY
DNV
DNV 2.7-3
PORTABLE OFFSHORE
UNIT
SURETANK
PORTABLE OFFSHORE UNIT DATA PLATE
DNV 2.7-3
OWNER : FREQCON GMBH
OWNER ADDRESS : 27336 RETHEM, BÜRGERWIESENWEG 5
GERMANY
POU „TYPE A" OPERATIONAL CLASS R00
DNV CERTIFICATE NO. : N142WF2Y
UNIT SERIAL NO. : FRO-53412000001
MANUFACTURE DATE : 04/2024
SUPPLIER : SURETANK LTD
MANUFACTURER : SEEMANN
DESIGN TEMP : -20°C
DESIGN APPROVAL AUTHORITY : DET NORSKE VERITAS
*SLING ANGLE : 45
TARE MASS (T) : 11650 KG
PAYLOAD (P) : 3850 KG
MAX. GROSS MASS (R) : 15500 KG
INTERMEDIATE DECK : KG
OPERATIONAL RESTRICTIONS:
OPERATIONAL PROCEDURE:
PORTABLE OFFSHORE UNIT INSPECTION PLATE DNV 2.7-3
TYPE/DATE: 22.05.2024
TYPE/DATE:
TYPE/DATE:
MANUFACTURED UNDER LICENSE FROM SURETANK LIMITED
WWW.SURETANK.COM


CERTIFIED BY
DNV
SURETANK
PORTABLE OFFSHORE UNIT DATA PLATE
DNV 2.7-3
OWNER : FREQCON GMBH
OWNER ADDRESS : 27336 RETHEM, BÜRGERWIESENWEG 5
GERMANY
POU „TYPE A" OPERATIONAL CLASS R00
DNV CERTIFICATE NO. : N142UZBB
UNIT SERIAL NO. : FRQ-53396000001
MANUFACTURE DATE : 03/2024
SUPPLIER : SURETANK LTD
MANUFACTURER : SEEMANN
DESIGN TEMP : -20°C
DESIGN APPROVAL AUTHORITY : DET NORSKE VERITAS
°SLING ANGLE : 45
TARE MASS (T) : 7200 KG
PAYLOAD (P) : 6800 KG
MAX. GROSS MASS (R) : 14000 KG
INTERMEDIATE DECK : KG
IMDP CODE
OPERATIONAL RESTRICTIONS:
OPERATIONAL PROCEDURE:
PORTABLE OFFSHORE UNIT INSPECTION PLATE DNV 2.7-3
TYPE/DATE: 28.03.2024
TYPE/DATE:
TYPE/DATE:
MANUFACTURED UNDER LICENSE FROM SURETANK LIMITED
WWW.SURETANK.COM

2442007
Batteriecontainer
2

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000874

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002359	1.4 Discipline	Mechanical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

In the container "BESS 01", the door opening/closing handle is missing

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T09:43:37.644Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-25T09:44:24.033Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature





ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000937

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004357	1.4 Discipline	Telecom
1.2 Item	P320PLC/B400-NET-001.01	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tag , cabinet input BESS A-850000.

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:09:36.821Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-26
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-26T16:09:53.959Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000941

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004358	1.4 Discipline	Telecom
1.2 Item	P320PLC/B400-NET-001.02	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tag , cabinet input BESS A-850000

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:12:47.109Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-26
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-26T16:13:05.628Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001005

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing ferrules/crimps (BESS 1 - Electrical Cabinets)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001006

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing ferrules/crimps (BESS 2 - Electrical Cabinets)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001007

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing operating manual (PCS Container - Control Cabinet 1)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001008

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Check on coolant liquid level and overpressure collection bottle after transportation and after first re-commisisoning (PCS Container - Converter Cooling System)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001009

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing lables, clear marking on cables and ferrules/crimps (BESS 1 - Battery Cabinets)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001010

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing lables, clear marking on cables and ferrules/crimps (BESS 2 - Battery Cabinets)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001011

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing castell lock to be installed on door (PCS Container - Transformer Area)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001012

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Cables in electrical cabinets/panels are missing proper lables and identification for single wires. Many cable connections are missing ferrules/crimps (BESS System)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001013

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Electrical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

As built drawing needed for electrical schematics, GA and mechanical drawings of external and internals of contianers (BESS System)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name

Date

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000806

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000522	1.4 Discipline	Electrical
1.2 Item	83011-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Core identification tags are wrong . Cabinet side SG-200N1 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:08:32.551Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:08:48.481Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-15

Signature: Digitaly signed by Andrea Andreani 2025-02-15T17:20:49.825Z

6- CLEARANCE APPROVAL

Name

Date

Signature


L3/A04/+04/83011-CEL/L3
N/A04/+04/83011-CEL/N

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000809

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000522	1.4 Discipline	Electrical
1.2 Item	83011-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Documentation: wiring 123A90-DDL-EL-DG-20149 sh.22 is wrong. Connection on terminal strip are different from the installation(CP-850E3).

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:25:36.752Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	ENG Engineering	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:25:49.365Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

RLMU DONE

Name: Eleonora Carotenuto

Date: 2024-12-27

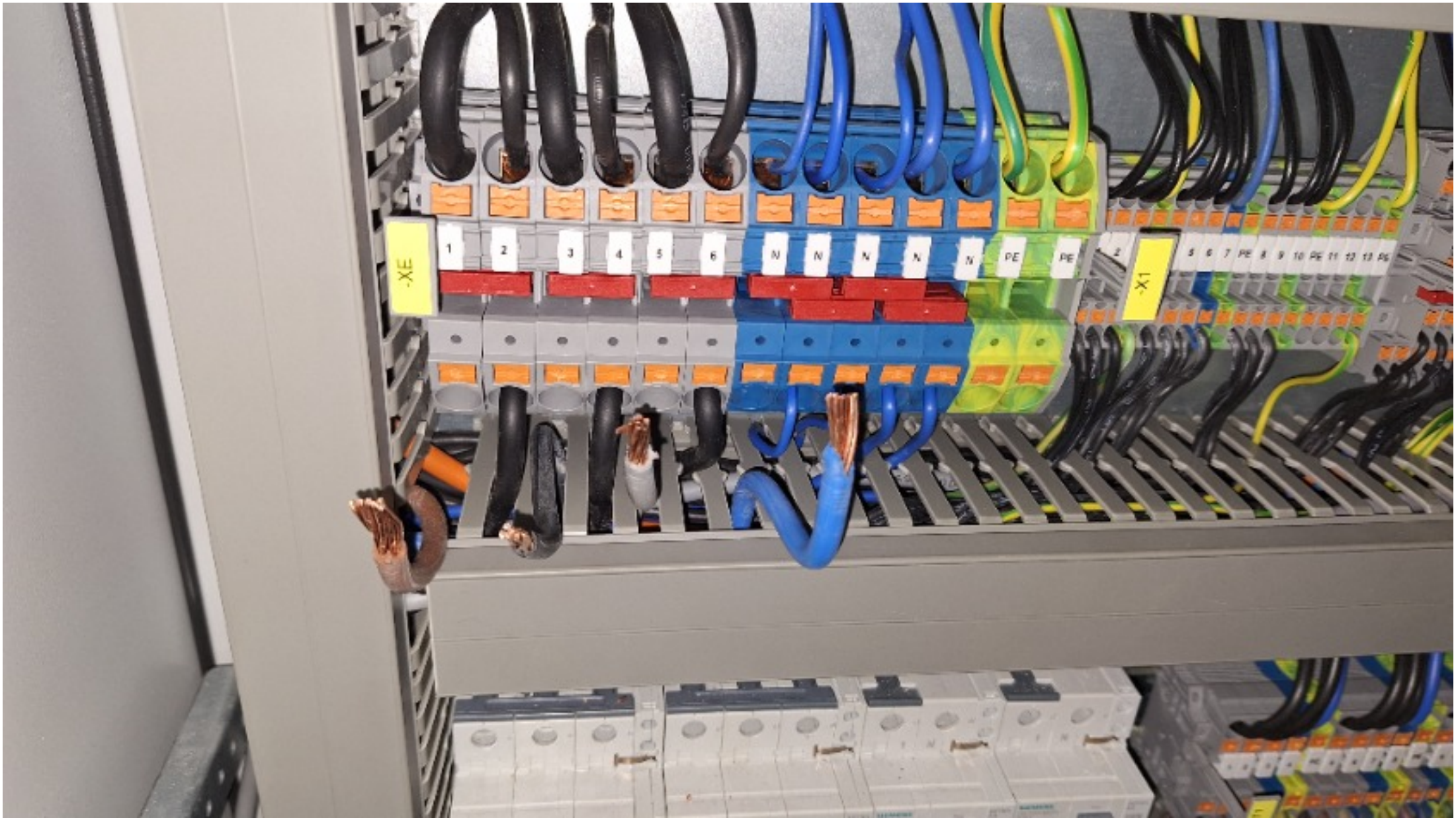
Signature: Digitaly signed by Eleonora Carotenuto 2024-12-27T10:24:03.701Z

6- CLEARANCE APPROVAL

Name

Date

Signature


-XE
1
2
3
4
5
6
N
N
N
N
N
PE
PE
-X1

FROM

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A4/+04

L1 BN
L2 BK
L3 GY
N BU

83011-CEL
4C X 10 mm²

COLUMN/CUBIC.: A6/+02

L1 BN
L2 BK
L3 GY
N BU

83014-CEL
4C X 10 mm²

COLUMN/CUBIC.: A6/+03

L1 BN
L2 BK
L3 GY
N BU

83015-CEL
4C X 10 mm²

TO

DESCRIPTION: BESS PCS CABINET
TAG NUMBER: CP-850E3

-XE

BN 112 1 -AUX_400V_L1
BK 132 3 -AUX_400V_L2
GY 152 5 -AUX_400V_L3
BU 1N2 N -AUX_400V_N

02

DESCRIPTION: BESS LV1 CABINET (+DISTR 1)
TAG NUMBER: CP-850E1

-XES

BN 1
BK 3
GY 5
BU N

DESCRIPTION: BESS LV2 CABINET (+DISTR 2)
TAG NUMBER: CP-850E2

-XES

BN 1
BK 3
GY 5
BU N

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

REV.	DATE:	SIGNATURE:
2_A	21/11/24	G.Randi

ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

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 022

REV. 02

F.to UNI A3: 420mmx297mm

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

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000810

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000522	1.4 Discipline	Electrical
1.2 Item	83011-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The cable termination is not complete. (side BESS PCS CABINET)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:31:05.568Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:31:17.084Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

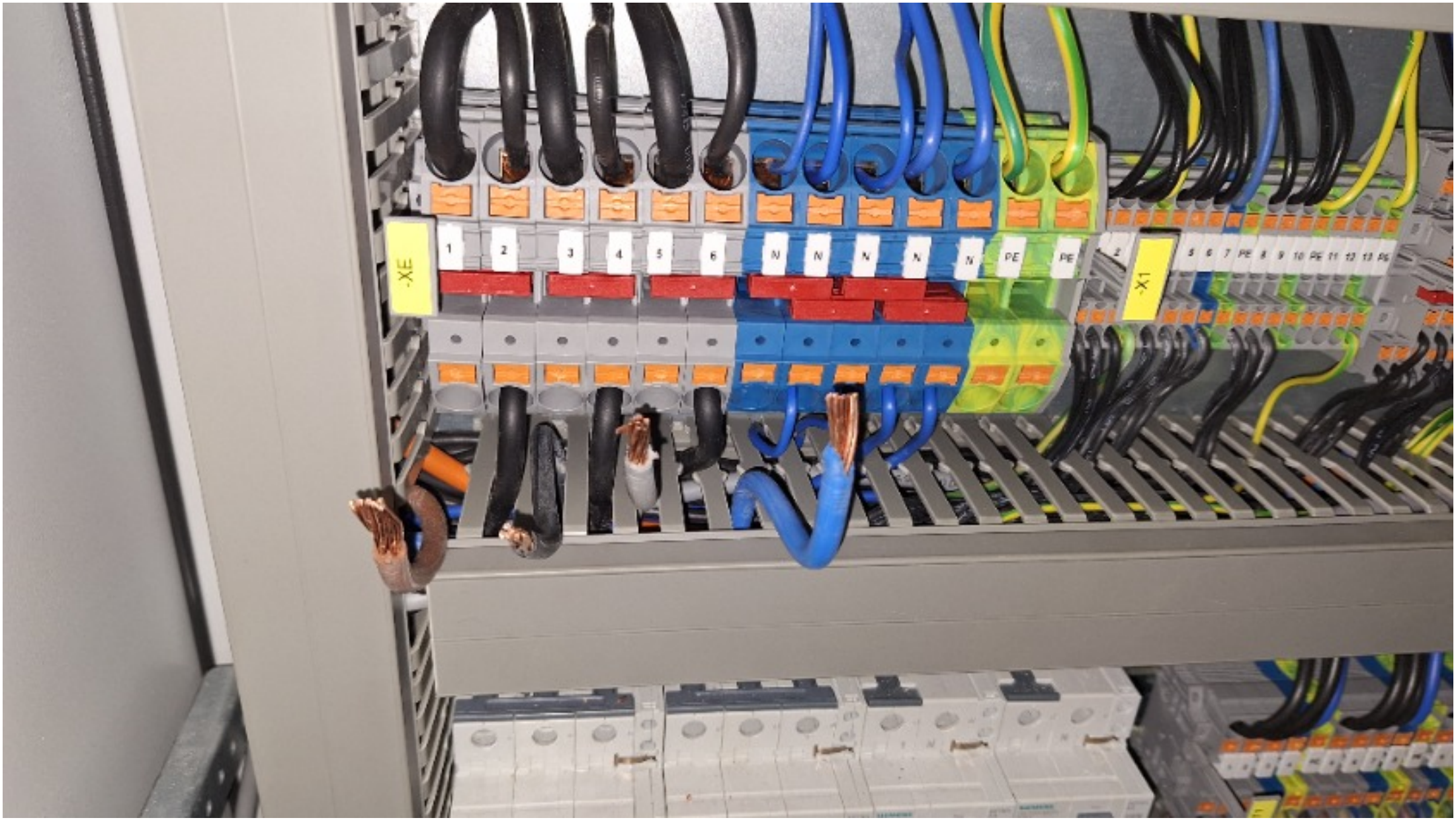
Signature: Digitaly signed by Alessio Polo 2025-02-04T12:34:10.687Z

6- CLEARANCE APPROVAL

Name

Date

Signature


-XE
1
2
3
4
5
6
N
N
N
N
N
PE
PE
-X1

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000813

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000532	1.4 Discipline	Electrical
1.2 Item	83014-CEL	LV Switchgear / BESS LV1 Cabinet (+DISTR 1)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Core identification tags are wrong cabinet side SG-200N1. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:52:36.986Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:52:49.138Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-15

Signature: Digitaly signed by Andrea Andreani 2025-02-15T17:20:43.488Z

6- CLEARANCE APPROVAL

Name

Date

Signature


L2/A6/+02/83014-CEL
L1/A6/+02/83014-CEL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000814

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000532	1.4 Discipline	Electrical
1.2 Item	83014-CEL		LV Switchgear / BESS LV1 Cabinet (+DISTR 1)
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

The cable termination is not complete . (side BESS LV1 CABINET)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T09:55:47.074Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T09:56:04.179Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Installation done without ferrules according to terminal block datasheet.

Name: Alessio Polo

Date: 2024-11-26

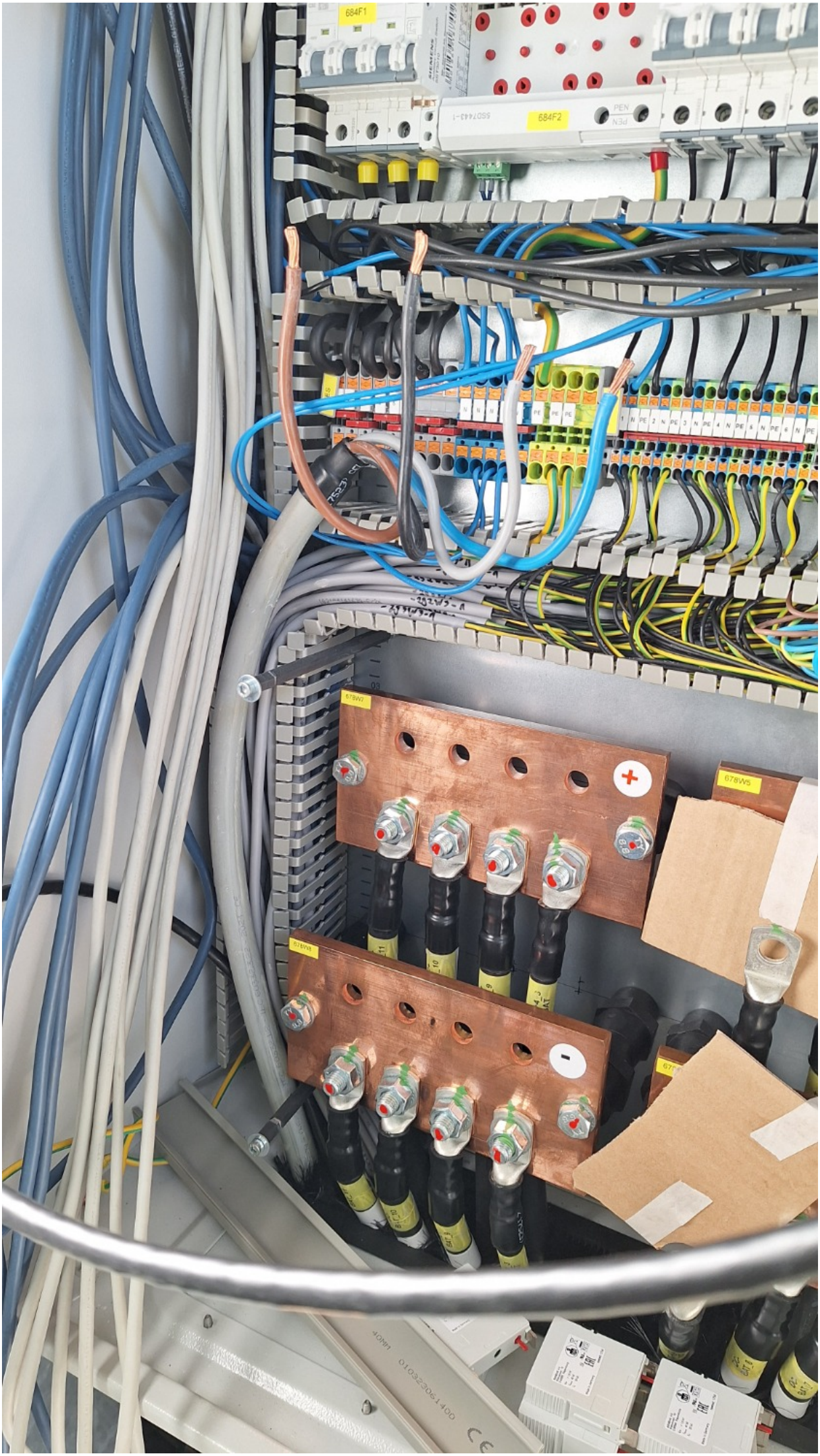
Signature: Digitaly signed by Alessio Polo 2024-11-26T16:21:17.597Z

6- CLEARANCE APPROVAL

Name

Date

Signature


684F1
684F2
678W1
678W5

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000817

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000522	1.4 Discipline	Electrical
1.2 Item	83011-CEL	LV Switchgear / BESS PCS Cabinet	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack (inside and outside BESS panel)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:10:16.113Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:10:29.562Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

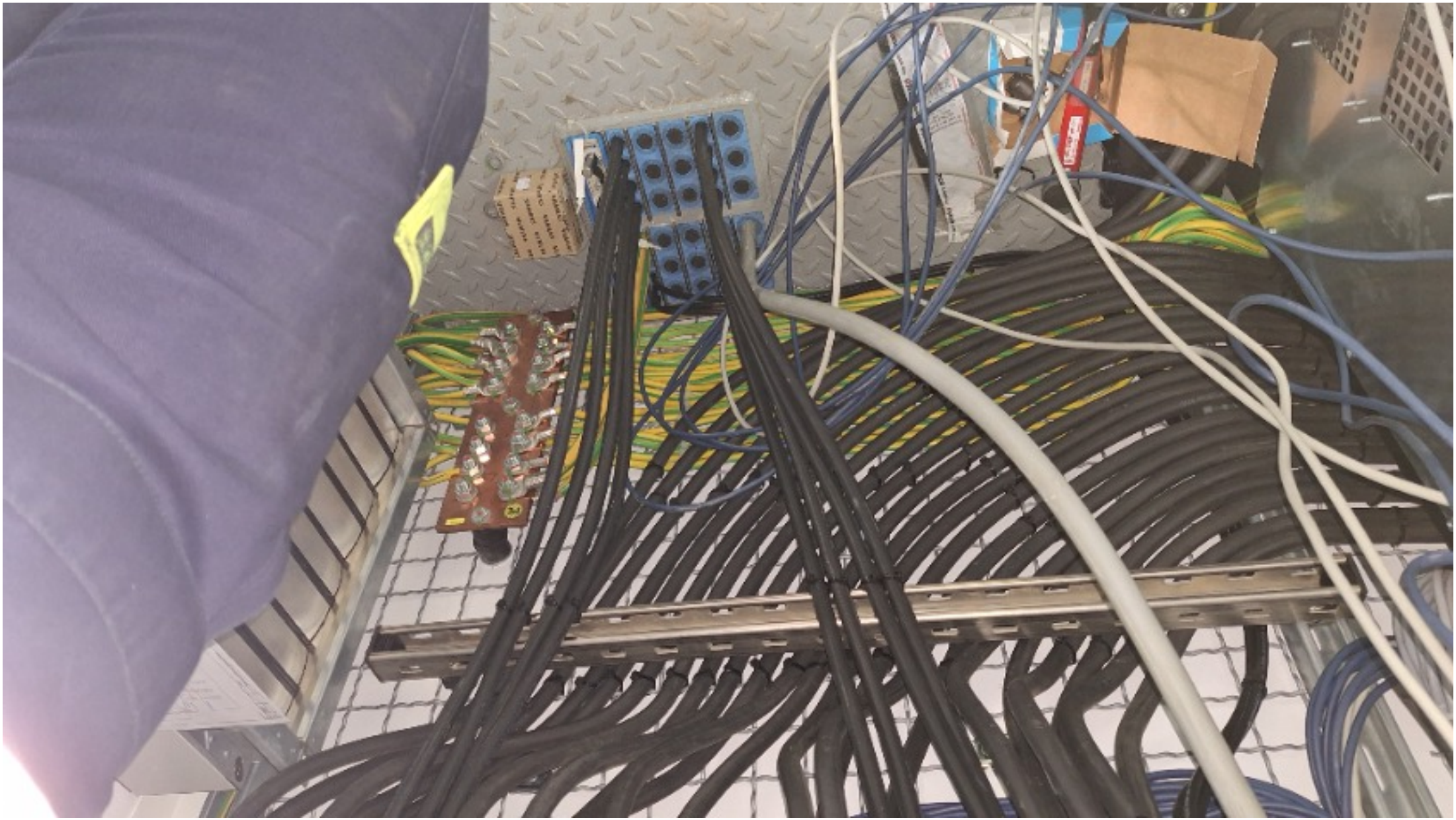
Signature: Digitaly signed by Alessio Polo 2025-02-04T12:34:25.702Z

6- CLEARANCE APPROVAL

Name

Date

Signature




-687XT1
FORCLAZ

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000820

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000533	1.4 Discipline	Electrical
1.2 Item	83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Core identification tags are wrong cabinet side SG-200N1. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:20:11.643Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:20:22.026Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-15

Signature: Digitaly signed by Andrea Andreani 2025-02-15T17:20:36.120Z

6- CLEARANCE APPROVAL

Name

Date

Signature


L3/A6/+03/83015-CEL
L2/A6/+03/83015-CEL
N/A6/+03/83015-CEL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000821

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000533	1.4 Discipline	Electrical
1.2 Item	83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The cable termination is not complete

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:21:51.499Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority: A PL A

3.4 Activity code: MC Mechanical Completion

3.5 Action by: VND Vendor

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:22:07.457Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Installation done without ferrules according to terminal block datasheet

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:22:03.156Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000824

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000533	1.4 Discipline	Electrical
1.2 Item	83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack (inside and outside BESS panel)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:27:06.247Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:27:17.559Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature: Digitaly signed by Alessio Polo 2025-02-04T12:34:36.361Z

6- CLEARANCE APPROVAL

Name

Date

Signature


DC-
BAT_7
DC-
BAT_8
DC-2_3
BAT
DC
BAT_9



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000825

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Core identification tags are wrong cabinet side SG-100D1. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T10:43:46.717Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T10:43:57.308Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-19

Signature: Digitaly signed by Andrea Andreani 2025-02-19T15:43:57.497Z

6- CLEARANCE APPROVAL

Name

Date

Signature

L2-2S2
L3-2S2
11
C1-2S1
12
13
82006-CEC/XM/1
1
82006-CEC/XM/2
4
82006-CEC/XM/3
82006-CEC/XM/4
7
10
11
+CL
+CL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000828

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Cable termination is not complete with appropriate pin

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:06:58.173Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:07:11.474Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Installation done without ferrules according to terminal block datasheet

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:22:36.787Z

6- CLEARANCE APPROVAL

Name

Date

Signature


HVIO4

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000833

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing the Thermo-shrink of on the final destination cable. (see document 123A90-DDL-EL-DD-20090 sh.8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:21:36.487Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:21:52.473Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:26:53.725Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000838

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Cable termination is not complete with appropriate pin

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:33:23.985Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:33:36.067Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Installation done without ferrules according to terminal block datasheet

Name: Alessio Polo

Date: 2024-11-26

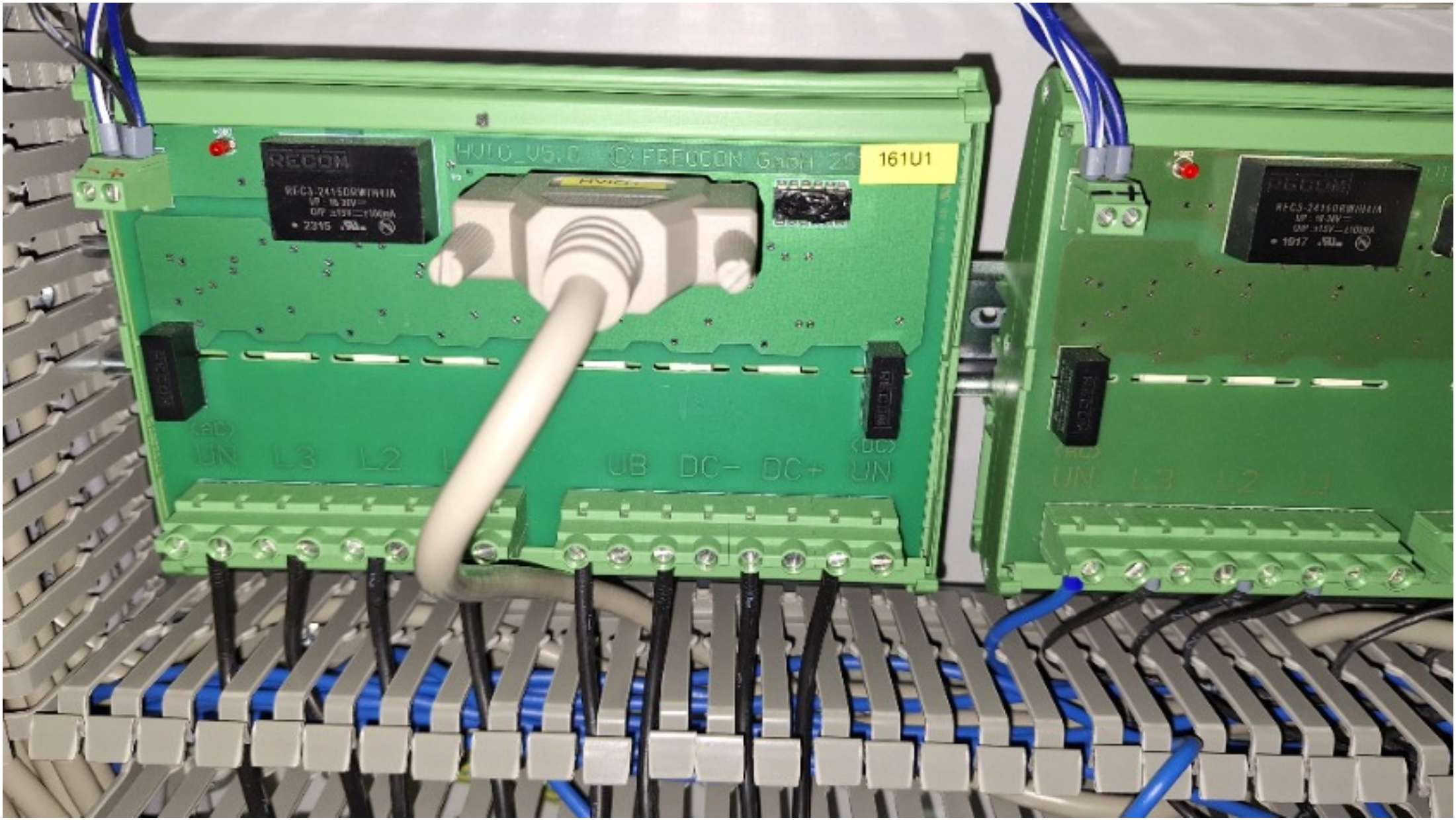
Signature: Digitaly signed by Alessio Polo 2024-11-26T16:22:58.771Z

6- CLEARANCE APPROVAL

Name

Date

Signature


161U1
RECOM
UN L3 L2
UB DC- DC+ UN

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000839

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002321	1.4 Discipline	Electrical
1.2 Item	82006-CEC		6.6KV HV Switchgear / EMCS BESS UCP
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Missing the Thermo-shrink of on the final destination cable. (see document 123A90-DDL-EL-DD-20090 sh.8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:34:15.258Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:34:28.974Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:27:16.819Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000844

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Cable termination is not complete with appropriate pin

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:45:06.193Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:48:16.455Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Installation done without ferrules according to terminal block datasheet

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:23:21.066Z

6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000845

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing the Thermo-shrink of on the final destination cable. BESS A-85000 (see document 123A90-DDL-EL-DD-20090 sh.8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:47:21.552Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:47:32.200Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:28:06.746Z

6- CLEARANCE APPROVAL

Name

Date

Signature


85002 CEL
85001 CEL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000846

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Spare cores to be properly isolated (bess A-85000)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:52:28.271Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:52:41.188Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature: Digitaly signed by Alessio Polo 2025-02-04T12:34:48.396Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000847

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Spare cores to be properly isolated by SG-100D1 side

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:54:21.916Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:54:32.108Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

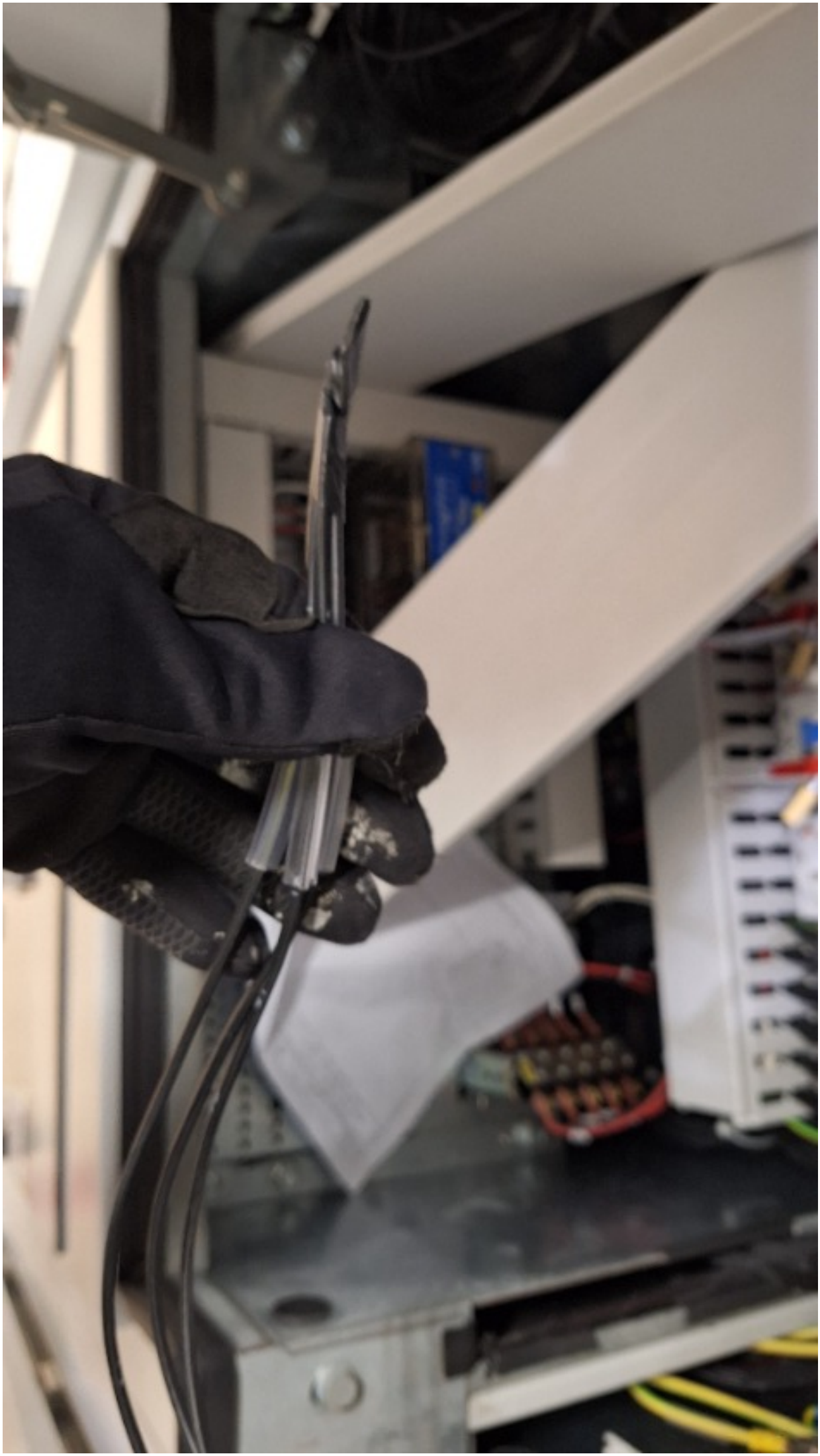
Signature: Digitaly signed by Alessio Polo 2025-02-04T12:34:58.486Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000848

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Core identificatio tags are wrong side SG-100D1 .(see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T11:57:07.332Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T11:57:19.135Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-19

Signature: Digitaly signed by Andrea Andreani 2025-02-19T15:47:40.178Z

6- CLEARANCE APPROVAL

Name

Date

Signature

XM
+PR
84
+PR
85
87
90.
98.
100
102
103
104
105
106
107
109
110
116
117
118
119
125
126
59/XM/85001-CEC
60/XM/85001-CEC
82011-CEC/1/-XM/63
82011-CEC/2/-XM/64
82010-CEC/1/-XM/65
82010-CEC/2/-XM/66
82010-CEC/3/-XM/67
82010-CEC/4/-XM/68
71
72
73
77
78

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000849

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing the Thermo-shrink of on the cores. restore the mechanical protection of the cable (see document 123A90-DDL-EL-DD-20090 sh.8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:01:53.260Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:04:53.702Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:29:38.285Z

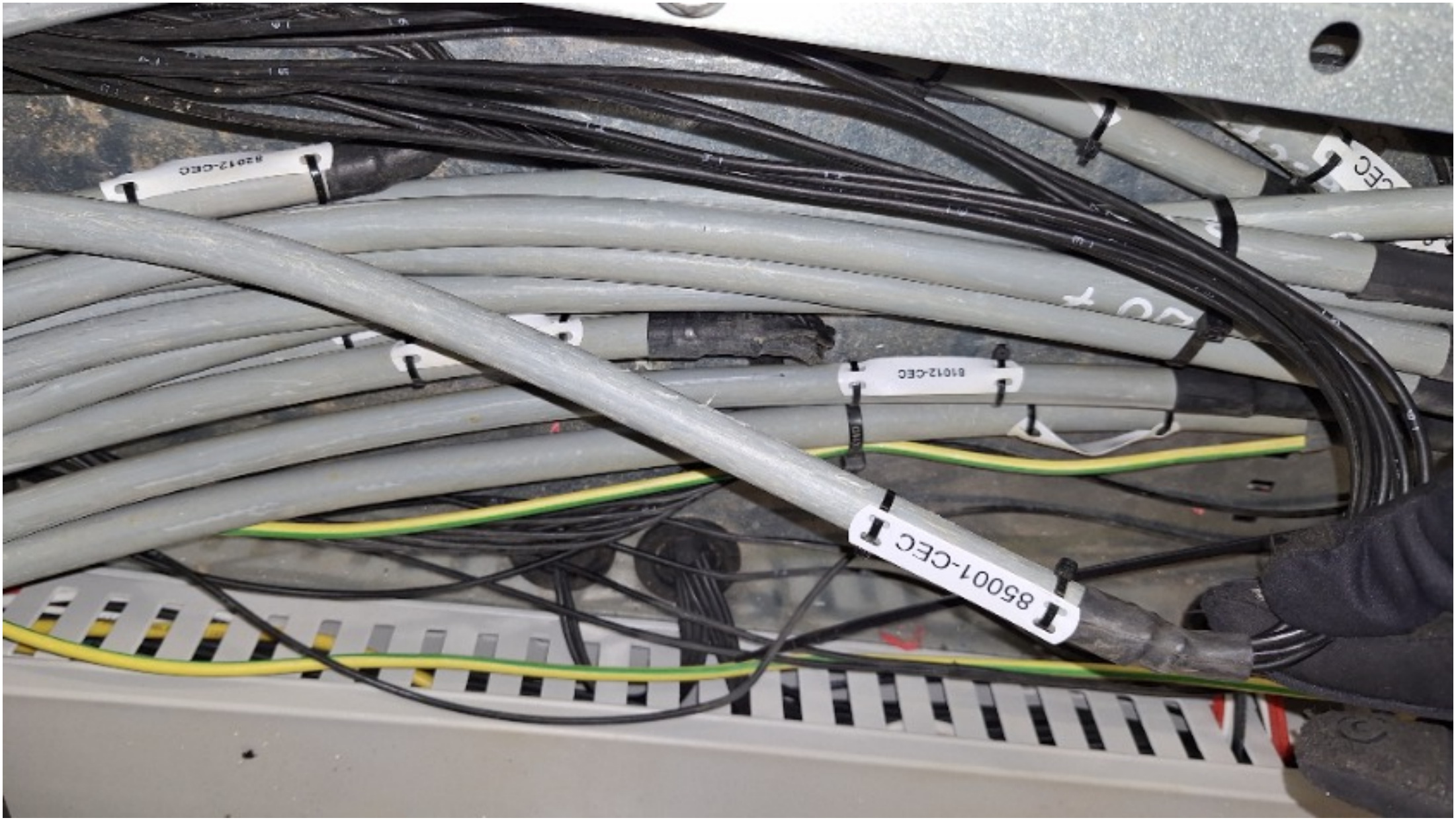
6- CLEARANCE APPROVAL

Name

Date

Signature


85001-CEC
81012-CEC
82012-CEC


85001-CEC



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000850

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002326	1.4 Discipline	Electrical
1.2 Item	85002-CEC	EMCS / BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tags both cabinet side B400-EMCS-001 / BESS A-85000.

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:10:19.062Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:10:28.612Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-04

Signature: Digitaly signed by Josip Krizanic 2025-03-04T15:39:36.592Z

6- CLEARANCE APPROVAL

Name

Date

Signature


85002 CEL
85001 CEL



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000852

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing the Thermo-shrink of on the final destination cable. BESS A-85000 (see document 123A90-DDL-EL-DD-20090 sh.8)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:18:46.932Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:19:00.980Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:28:51.844Z

6- CLEARANCE APPROVAL

Name

Date

Signature

85002 CEL
85001 CEL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000854

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002325	1.4 Discipline	Electrical
1.2 Item	85001-CEC	BESS / 6.6KV HV Switchgear	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Cable termination is not complete with appropriate pin. BESS A-85000

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:19:58.539Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	VND Vendor	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:20:09.309Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Installation done without ferrules according to terminal block datasheet

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:23:46.419Z

6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000855

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001447	1.4 Discipline	Instrumental
1.2 Item	C-85-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tags both cabinet B400-SIS-001 / A-85000

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:25:51.413Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	PRE-COMM	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:26:00.361Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-27

Signature: Digitaly signed by Josip Krizanic 2025-02-27T12:08:33.835Z

6- CLEARANCE APPROVAL

Name

Date

Signature


SIEMENS
SIEMENS
SIEMENS
SIEMENS



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000857

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001447	1.4 Discipline	Instrumental
1.2 Item	C-85-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Cable termination to be redone with appropriate pin both side (B400-SIS-001 / A-85000)

Name: Alessio Polo

Date: 2024-11-23

Signature: Digitaly signed by Alessio Polo 2024-11-23T12:31:17.635Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-23
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-23T12:31:27.131Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:32:05.604Z

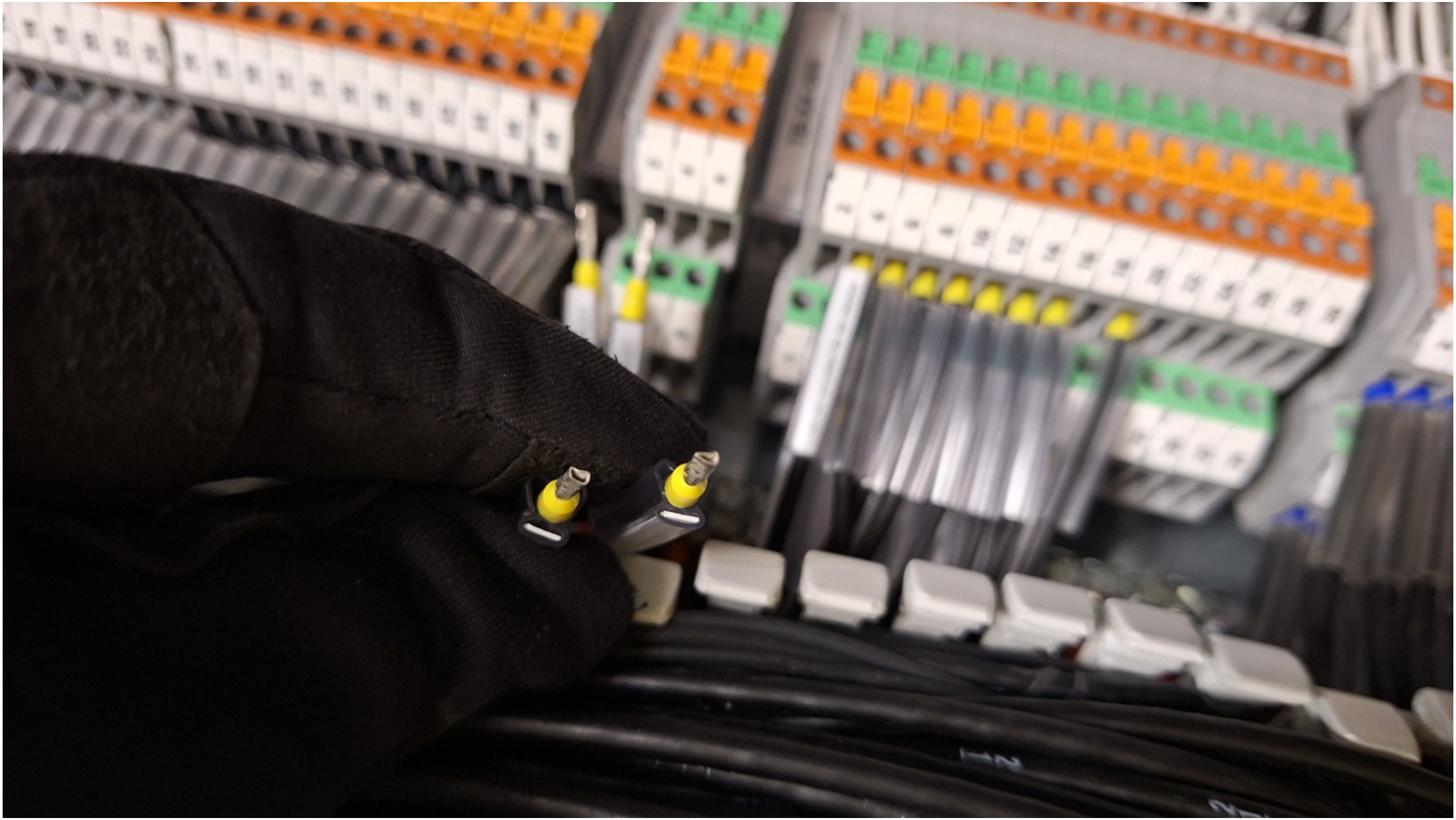
6- CLEARANCE APPROVAL

Name

Date

Signature

TB-P320-PLC
TB-B100-HSB-001
2
4
2
4
6
8
10
PR1/TB-P320PLC/TB-P320PLC/02
PR2/TB-P320PLC/TB-P320PLC/04
PR1/TB-B100-HSB-001/77-ZSL-00012
PR3/TB-B100-HSB-001/77-ZSL-00036



-XT1
-XV20

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000858

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001453	1.4 Discipline	Instrumental
1.2 Item	P320PLC/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tags by both panel sides B400-SIS-001 / BESS A-85000 UCP.

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T07:26:26.116Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T07:26:48.885Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

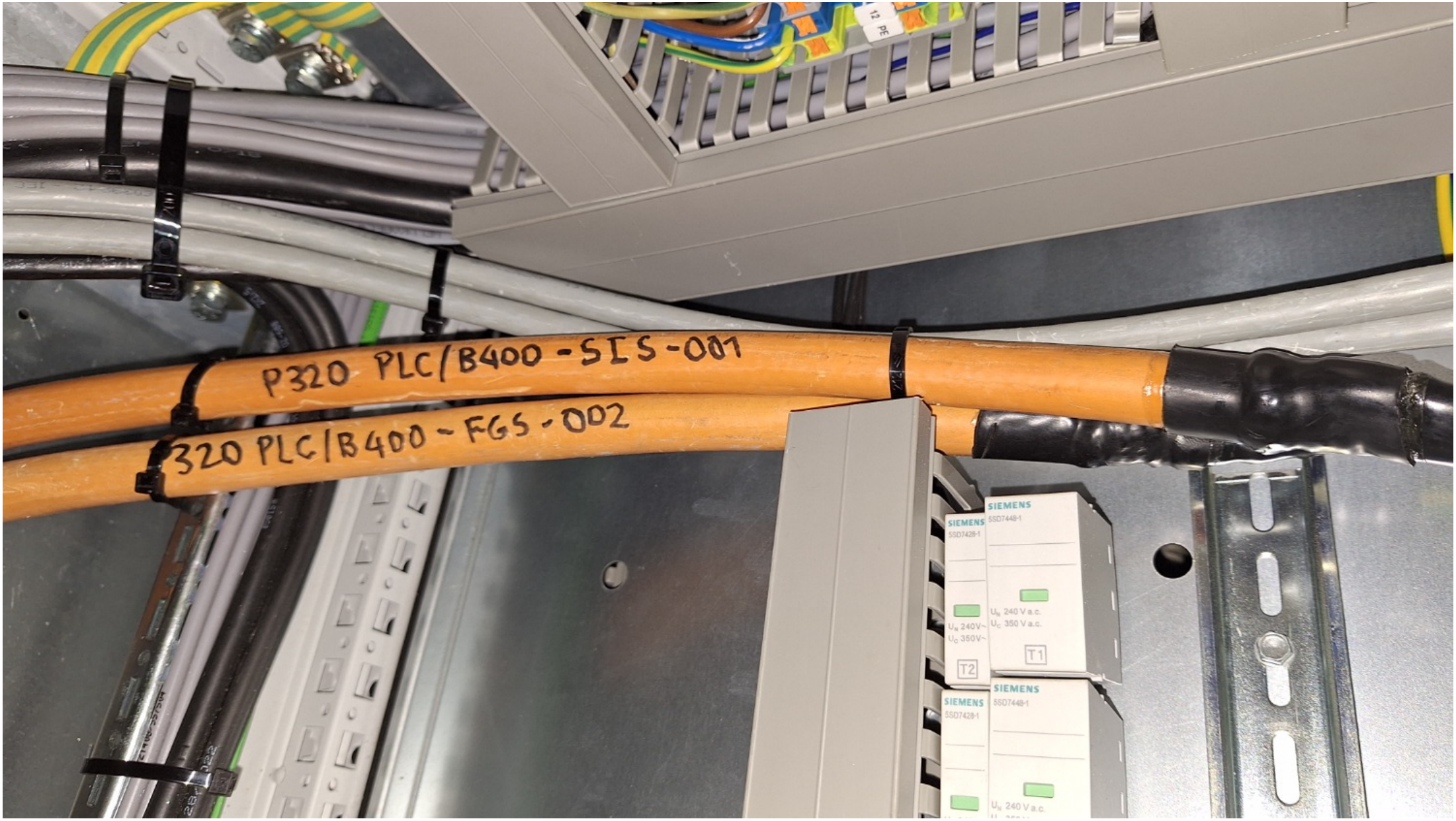
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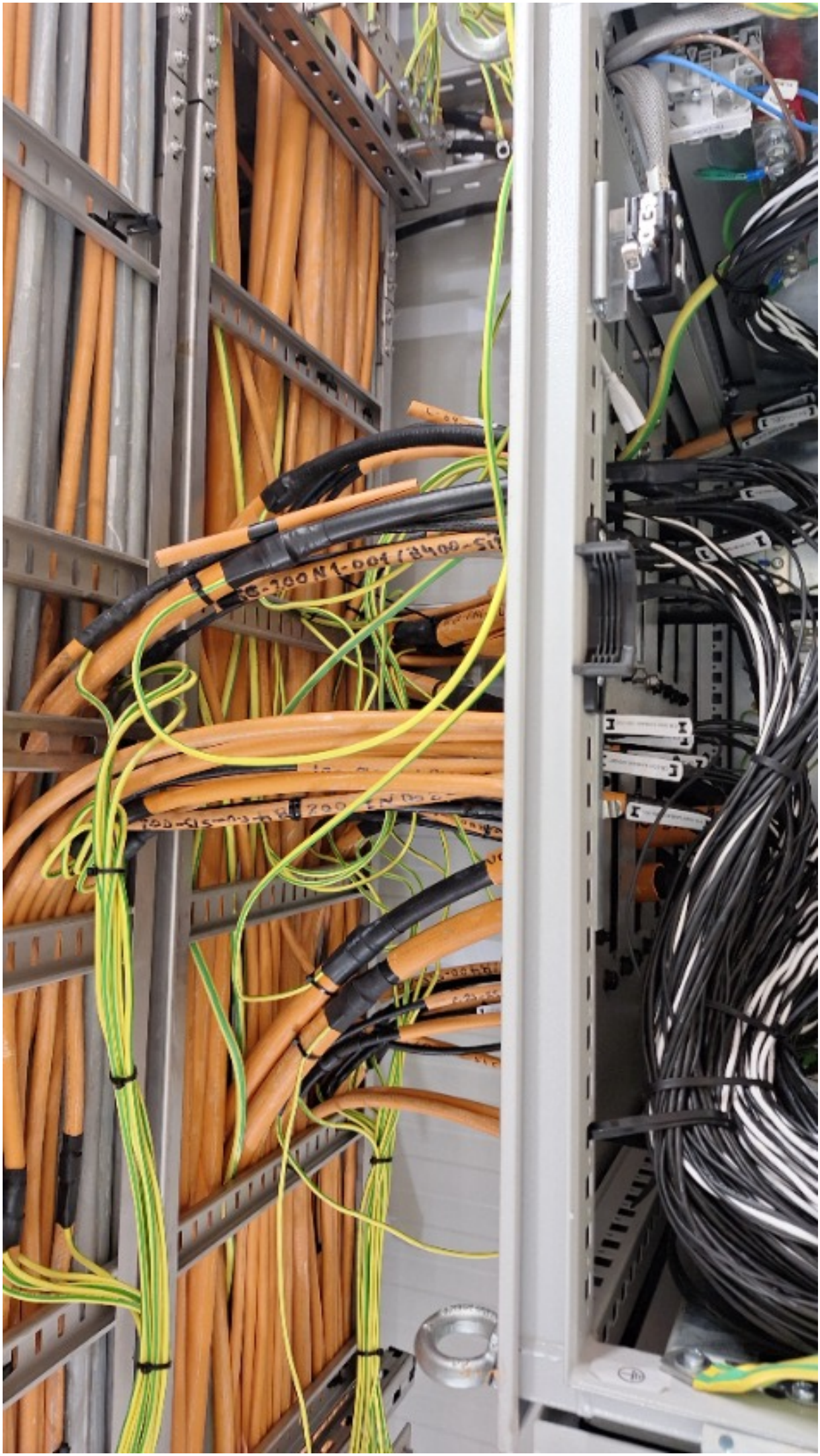
6- CLEARANCE APPROVAL

Name

Date

Signature


P320 PLC/B400 -SIS-001
320 PLC/B400 - FGS - 002
SIEMENS
5SD7428-1
SIEMENS
5SD7448-1
T2
T1



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000860

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001453	1.4 Discipline	Instrumental
1.2 Item	P320PLC/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Cable termination to be redone with appropriate pin both side B400-SIS-001 / BESS A-85000 UCP

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T07:38:00.906Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T07:38:14.818Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:32:33.098Z

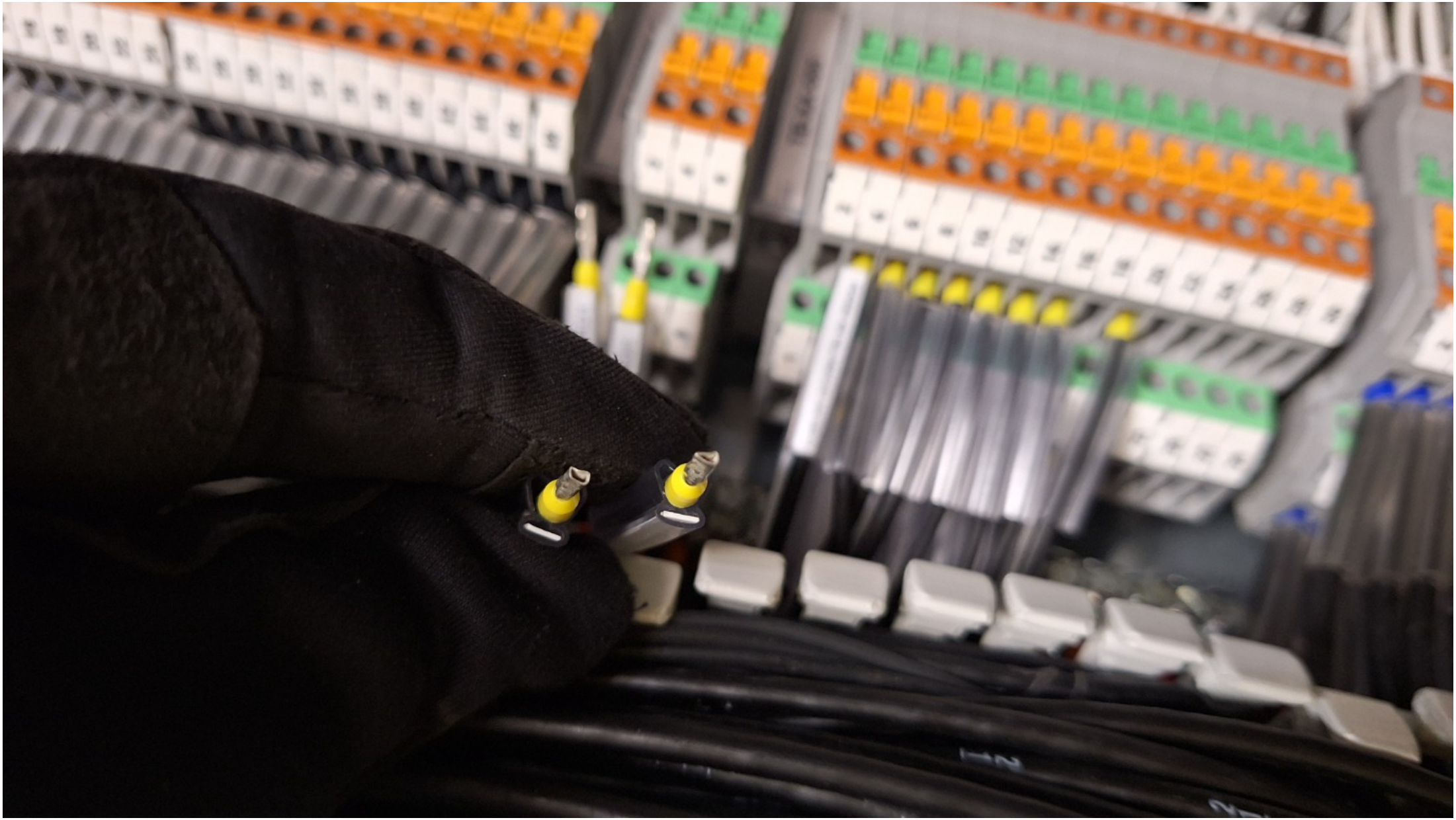
6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000861

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001464	1.4 Discipline	Instrumental
1.2 Item	P320PLC/B400-FGS-003	CONFIRMED GAS ALARM / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing cable tags both panels side B400-FGS-003 / BESS A-85000 UCP.

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T07:43:14.649Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T07:43:26.016Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature: Digitaly signed by Josip Krizanic 2025-02-20T15:52:06.157Z

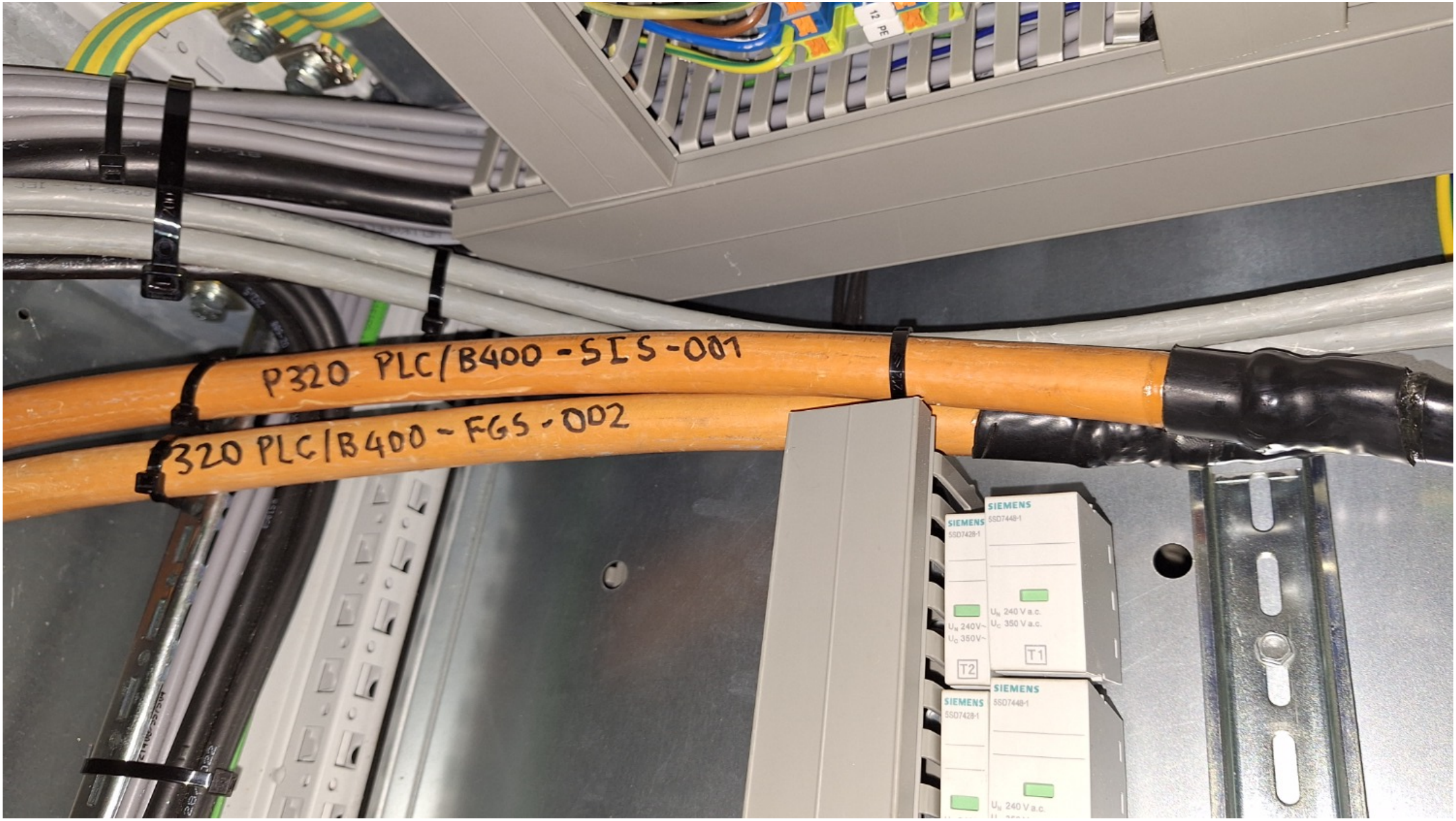
6- CLEARANCE APPROVAL

Name

Date

Signature




P320 PLC/B400 -SIS-001
320 PLC/B400 - FGS - 002
SIEMENS
5SD7428-1
SIEMENS
5SD7448-1
T2
T1

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000863

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001464	1.4 Discipline	Instrumental
1.2 Item	P320PLC/B400-FGS-003	CONFIRMED GAS ALARM / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Missing core identification tags both Cabinet side B400-FGS-003 / BESS A-85000 UCP . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T07:45:26.831Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T07:45:36.095Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-04

Signature: Digitaly signed by Josip Krizanic 2025-03-04T14:14:37.126Z

6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20

PR1/P320PLC/TB-P320PLC/2
PR2/P320PLC/TB-P320PLC/4

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000866

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001464	1.4 Discipline	Instrumental
1.2 Item	P320PLC/B400-FGS-003	CONFIRMED GAS ALARM / MARSHALLING PCS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Cable termination is not complete with appropriate pin. cabinet side B400-FGS-003 / BESS A-85000 UCP

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T07:47:10.072Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T07:47:22.751Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:32:57.844Z

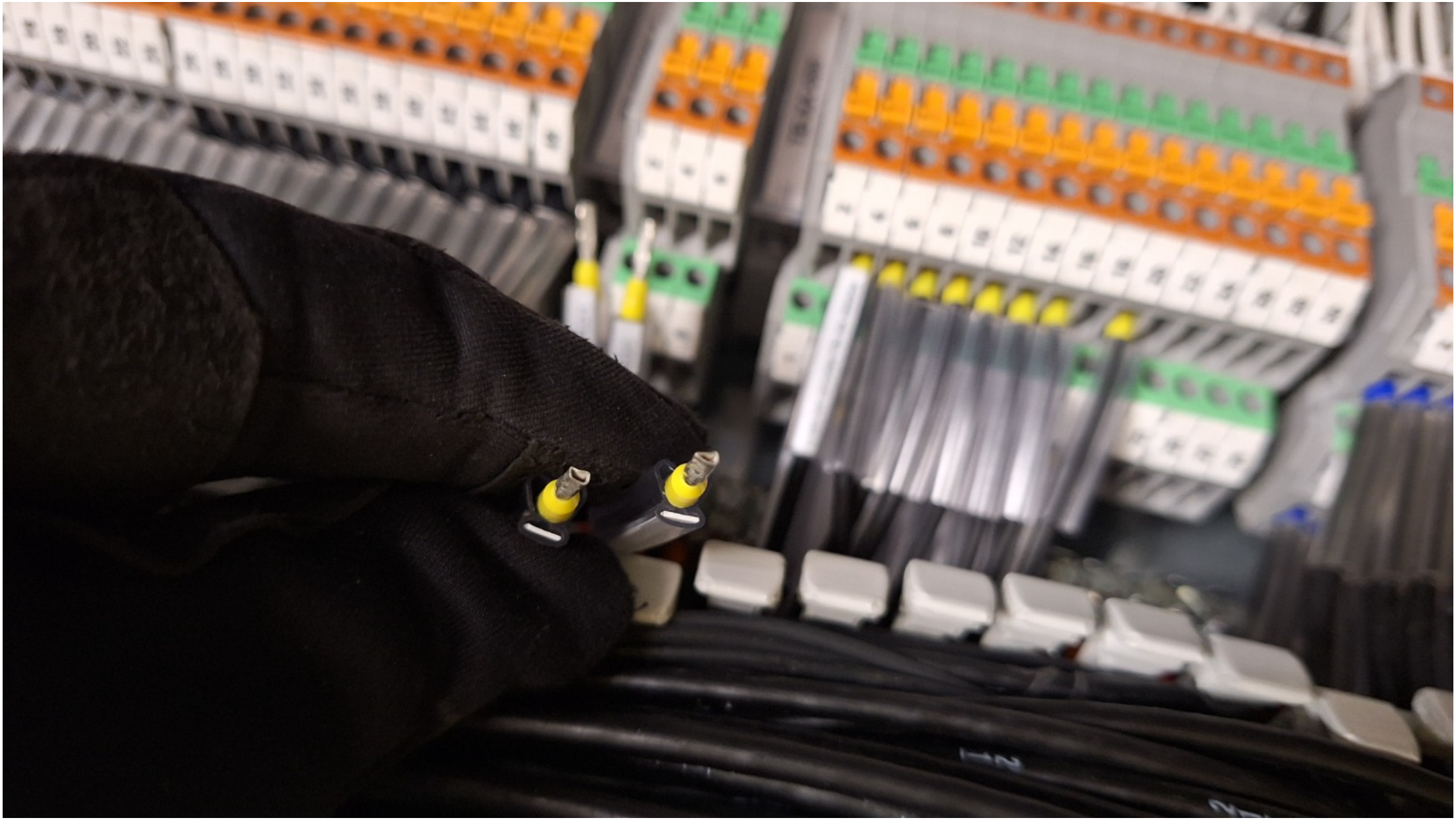
6- CLEARANCE APPROVAL

Name

Date

Signature

-XT1
-XV20



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000872

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002359	1.4 Discipline	Mechanical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

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

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T08:55:38.645Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-25T08:55:58.886Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-23

Signature: Digitaly signed by Alessio Polo 2025-01-23T16:33:19.140Z

6- CLEARANCE APPROVAL

Name

Date

Signature


NOT TO
DO
N ONLY
R POINT







ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000873

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002359	1.4 Discipline	Mechanical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The earthing and connection conductors (green/yellow) have a section of 95mm2 different from that indicated in document 123A90-DDL-EL-DD-20113 sh.1

Name: Alessio Polo

Date: 2024-11-25

Signature: Digitaly signed by Alessio Polo 2024-11-25T09:11:28.301Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-25
3.5 Action by	ENG Engineering	Signature	Digitaly signed by Alessio Polo 2024-11-25T09:11:46.151Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

RLMU DONE ON 123A90-DDL-EL-DL-20133,sh.01

Name: Eleonora Carotenuto

Date: 2024-12-27

Signature: Digitaly signed by Eleonora Carotenuto 2024-12-27T10:31:31.121Z

6- CLEARANCE APPROVAL

Name

Date

Signature


ONLY
POINT



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000936

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004357	1.4 Discipline	Telecom
1.2 Item	P320PLC/B400-NET-001.01	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The copper conductor of the cable armor must be individually connected to the earthing bar. B400-NET-001. See 123A90-DDL-EL-DD-20090.

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:08:17.230Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-26
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-26T16:08:29.335Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-22

Signature: Digitaly signed by Alessio Polo 2025-01-22T16:06:47.141Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000940

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004358	1.4 Discipline	Telecom
1.2 Item	P320PLC/B400-NET-001.02	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

The copper conductor of the cable armor must be individually connected to the earthing bar B400-NET-001. See 123A90-DDL-EL-DD-20090.

Name: Alessio Polo

Date: 2024-11-26

Signature: Digitaly signed by Alessio Polo 2024-11-26T16:11:35.719Z

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-26
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Alessio Polo 2024-11-26T16:11:47.581Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature: Digitaly signed by Alessio Polo 2025-02-04T12:36:51.860Z

6- CLEARANCE APPROVAL

Name

Date

Signature



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001014

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Install three cranes in Battery rooms (BESS 1)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name: Gerry McCann

Date: 2024-12-19

Signature: Digitaly signed by Gerry McCann 2024-12-19T12:42:16.688Z

6- CLEARANCE APPROVAL

Name: John Mackillop

Date: 2024-12-19

Signature: Digitaly signed by John Mackillop 2024-12-19T15:03:57.000Z

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001015

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Install three cranes in Battery rooms (BESS 2)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name Gerry McCann

Date 2024-12-19

Signature Digitaly signed by Gerry McCann 2024-12-19T12:43:18.454Z

6- CLEARANCE APPROVAL

Name John Mackillop

Date 2024-12-19

Signature Digitaly signed by John Mackillop 2024-12-19T16:04:40.247Z

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001016

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-85000		BESS
1.3 Subsystem	85-00		BESS Package (A-85000)

2 - OBSERVATION

Battery mounting brackets on floor need to be installed (BESS 1 - Battery Cabinets)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name: Gerry McCann

Date: 2024-12-19

Signature: Digitaly signed by Gerry McCann 2024-12-19T12:43:57.216Z

6- CLEARANCE APPROVAL

Name: John Mackillop

Date: 2024-12-19

Signature: Digitaly signed by John Mackillop 2024-12-19T13:05:17.048Z

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001017

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-85000	BESS	
1.3 Subsystem	85-00	BESS Package (A-85000)	

2 - OBSERVATION

Battery mounting brackets on floor need to be installed (BESS 2 - Battery Cabinets)

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	-
3.4 Activity code	CPY Company	Date	2024-11-28
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

Name Gerry McCann

Date 2024-12-19

Signature Digitaly signed by Gerry McCann 2024-12-19T12:44:29.732Z

6- CLEARANCE APPROVAL

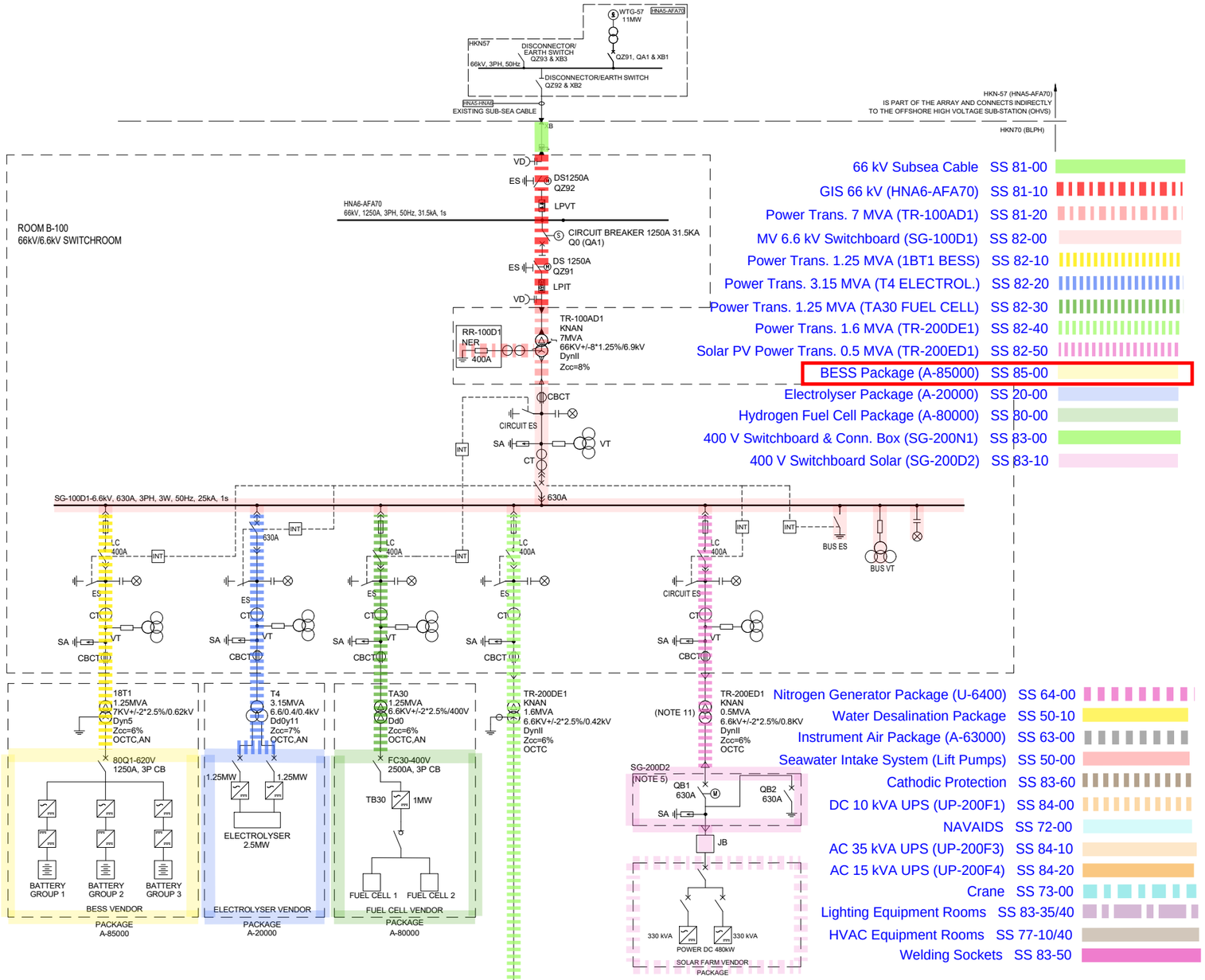
Name John Mackillop

Date 2024-12-19

Signature Digitaly signed by John Mackillop 2024-12-19T15:06:03.976Z

Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

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

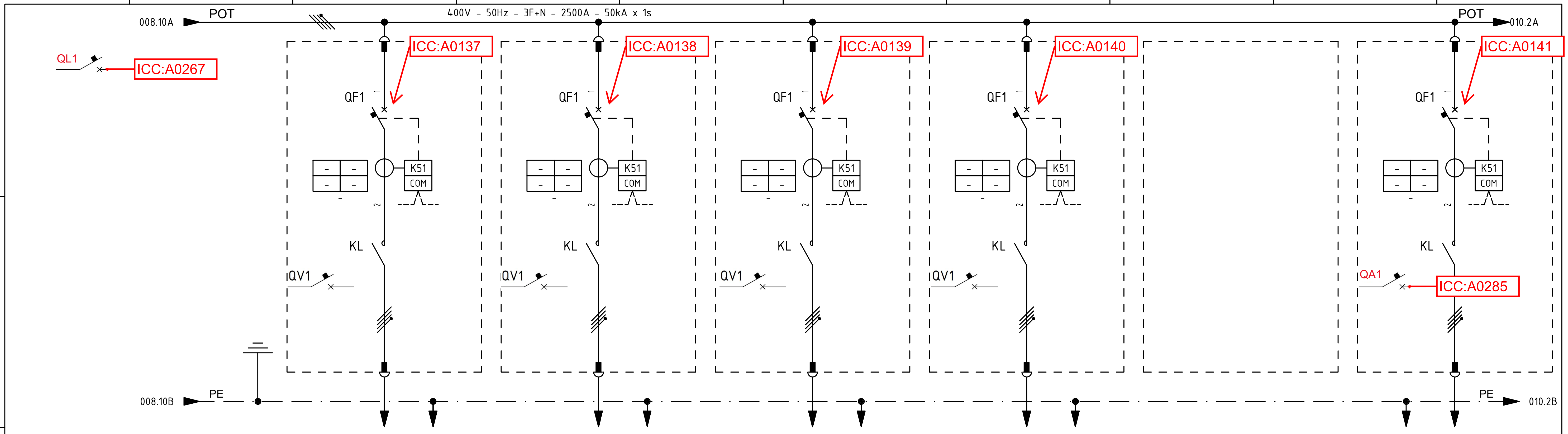
TITLE :

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	A-80000	CP-850F03	SPARE	SPARE		K-63001-A
UTILITY	2	FUEL CELL AUXILIARY LOAD	BESS PCS CABINET	SPARE	SPARE		INSTRUMENTS AIR PACKAGE 01A
COLUMN/CUBICLE	3	A4 / +03	A4 / +04	A4 / +05	A4 / +06		A4 / +08
RATED POWER / RATED CURRENT	4/5	20 kW / 32.84 A	11,09 kW / 17.42 A	- kW / - A	20.0 kW / 32.1 A		68.75 kW / 111.24 A
TYPICAL FUNCTIONAL	6	LK1-63	LK1-40	LK1-40	LK1-40		LK2-160
CIRCUIT BREAKER (ABB) TYPE	7	XT2S - 160	XT2S - 160	XT2S - 160	XT2S - 160		XT4S - 250
CIRCUIT BREAKER (ABB) VERSION	8	4P - FIXED	4P - FIXED	4P - FIXED	4P - FIXED		4P - FIXED
CIRCUIT BREAKER (ABB) TRIP UNITS	9	EKIP HI TOUCH LSIG (In = 63A)	EKIP HI TOUCH LSIG (In = 40A)	EKIP HI TOUCH LSIG (In = 40A)	EKIP HI TOUCH LSIG (In = 40A)		EKIP HI TOUCH LSIG (In = 160A)
CIRCUIT BREAKER (ABB) Icu KA	10	50 kA	50 kA	50 kA	50 kA		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		(0.4 - 1) x In
OVERLOAD L 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	(0.6 - 10) x In	(0.6 - 10) x In	(0.6 - 10) x In	(0.6 - 10) x In		(0.6 - 10) x In
SEL. SHORT-CIRCUIT S 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	(1.5 - 15) x In	(1.5 - 15) x In	(1.5 - 15) x In	(1.5 - 15) x In		(1.5 - 15) x In
INST. SHORT-CIRCUIT I Range t	16	instantaneous	instantaneous	instantaneous	instantaneous		instantaneous
EARTH FAULT PROTECTION G Range A	17	(0.1 - 1) x In	(0.1 - 1) x In	(0.1 - 1) x In	(0.1 - 1) x In		(0.1 - 1) x In
EARTH FAULT PROTECTION G Range t	18	t=k / t=k/I^2	t=k / t=k/I^2	t=k / t=k/I^2	t=k / t=k/I^2		t=k / t=k/I^2
CONTACTOR (ABB)	19	AF52-40-00-13 (100A-AC1); 100-250VAC/DC	AF40-40-00-13 (70A-AC1); 100-250VAC/DC	AF40-40-00-13 (70A-AC1); 100-250VAC/DC	AF40-40-00-13 (70A-AC1); 100-250VAC/DC		AF190-40-11-13 (275A-AC1); 100-250 VAC/DC
THERMAL OVERLOAD RELAY (ABB)	20	-	-	-	-		-
SURGE ARRESTER (DEHN)	21	-	-	-	-		-
TOROIDAL CURRENT TRANSFORMER (FRER)	22	-	-	-	-		-
FUSE HOLDER (ITALWEBER)	23						
INDIRECT PROTECTION (ABB)	24	SUBSISTEM 80.00	SUBSISTEM 85.00	SUBSISTEM 83.00	SUBSISTEM 83.00		SUBSISTEM 63.00
VOLTMETER	25						
CURRENT TRANSFORMER FOR MEASURE (FRER) TYPE	26	-	-	-	-		-
CURRENT TRANSFORMER FOR MEASURE (FRER) PERFORMANCE/CLASS	27	-	-	-	-		-
VOLTAGE TRANSFORMER FOR MEASURE (FRER) TYPE	28	-	-	-	-		-
VOLTAGE TRANSFORMER FOR MEASURE (FRER) PERFORMANCE/CLASS	29	-	-	-	-		-
LOCK-OUT RELAY (-)	30	-	-	-	-		-
POWER CONDUCTOR mmq	31	83012-CEL 5G16	83011-CEL 4 x 10	-	-		5G70

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DWG n° : 231298/SD/11

Item n° : PF1002983/26

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

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

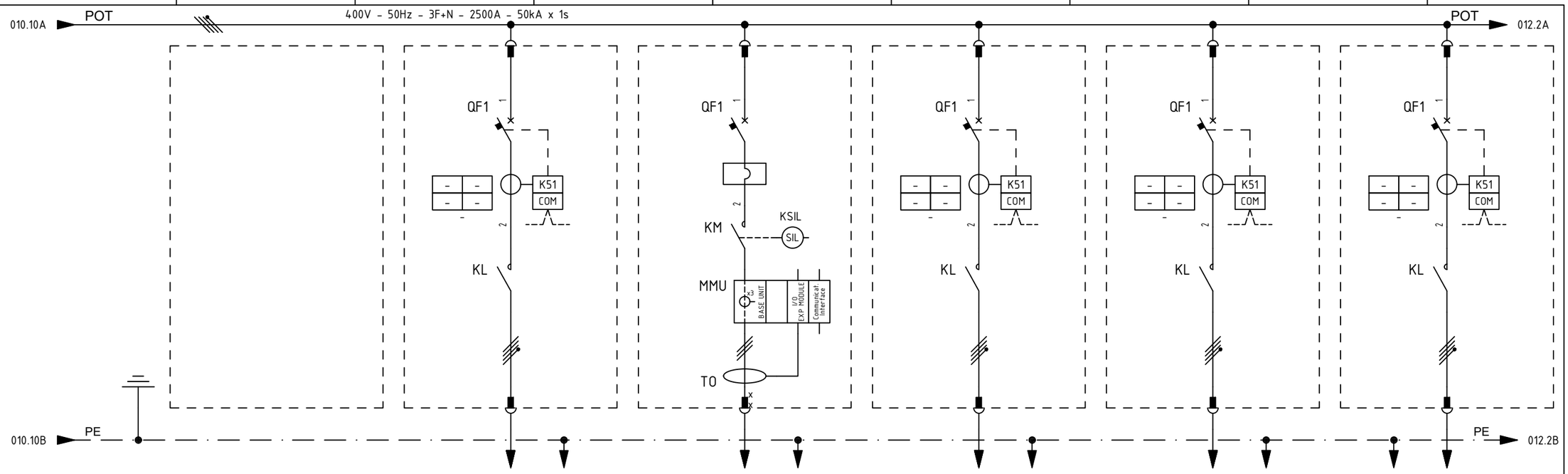
DRAWING NO. 1723002197-EL-DG-00011

SHEET 009

REV. 03

F.to UNI A3: 420mmx297mm

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



ITEM				K-63001-B		PM-50001 B		CP-850E1		CP-850E2		-	
UTILITY			2	INSTRUMENTS AIR PACKAGE 01B		SEA WATER PUMP B		BESS LV1 CABINET (+DISTR 1)		BESS LV2 CABINET (+DISTR 2)		SPARE	
COLUMN/CUBICLE			3	A5 / +08		A6 / +01		A6 / +02		A6 / +03		A6 / +04	
RATED POWER | RATED CURRENT			4/5	68.75 kW	111.24 A	6.1 kW	11.0 A	11.28 kW	18.09 A	11.28 kW	18.09 A	- kW	- A
TYPICAL FUNCTIONAL			6	LK2-160		M1-6		LK1-40		LK1-40		LK1-40	
CIRCUIT BREAKER (ABB)	TYPE		7	XT4S - 250		XT2S - 160		XT2S - 160		XT2S - 160		XT2S - 160	
	VERSION		8	4P - FIXED		3P - FIXED		4P - FIXED		4P - FIXED		4P - FIXED	
	TRIP UNITS		9	EKIP HI TOUCH LSIG (In = 160A)		MA (In = 20A)		EKIP HI TOUCH LSIG (In = 40A)		EKIP HI TOUCH LSIG (In = 40A)		EKIP HI TOUCH LSIG (In = 40A)	
	Icu	KA	10	50 kA		-		50 kA		50 kA		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	(0.6 - 10) x In		-		(0.6 - 10) x In		(0.6 - 10) x In		(0.6 - 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	(1.5 - 15) x In		(6 - 14) x I		(1.5 - 15) x In		(1.5 - 15) x In		(1.5 - 15) x In	
		Range t	16	instantaneous		<= 0.02 sec		instantaneous		instantaneous		instantaneous	
EARTH FAULT PROTECTION	G	Range A	17	(0.1 - 1) x In		-		(0.1 - 1) x In		(0.1 - 1) x In		(0.1 - 1) x In	
		Range t	18	t=k / t=k/I^2		-		t=k / t=k/I^2		t=k / t=k/I^2		t=k / t=k/I^2	
CONTACTOR (ABB)			19	AF190-40-11-13 (275A-AC1); 100-250 VAC/DC		AF38-30-00-13 (18.5 kW - AC3) - 100-250Vac/dc		AF40-40-00-13 (70A-AC1); 100-250VAC/DC		AF40-40-00-13 (70A-AC1); 100-250VAC/DC		AF40-40-00-13 (70A-AC1); 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 63.00		SUBSISTEM 50.00		SUBSISTEM 85.00		SUBSISTEM 85.00		SUBSISTEM 83.00	
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	5G70		4G4		4 x (1 x 10)		4 x (1 x 10)		-	

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)

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

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 011

REV. 03

F.to UNI A3: 420mmx297mm

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

Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

NOT APPLICABLE

Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 85-00 & process: MC & discipline : E

Electrical	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
82006-CEC	6.6KV HV Switchgear / EMCS BESS UCP	ONSHORE	C10002321	CPX10	100	2024-11-25	RFC 1
82007-CEC	6.6KV HV Switchgear / EMCS BESS UCP	ONSHORE	C10002322	CPX10	100	2024-11-25	RFC 1
83011-CEL	LV Switchgear / BESS PCS Cabinet	ONSHORE	C10000522	CPX09	100	2024-11-25	RFC 1
83014-CEL	LV Switchgear / BESS LV1 Cabinet (+DISTR 1)	ONSHORE	C10000532	CPX09	100	2024-11-25	RFC 1
83015-CEL	LV Switchgear / BESS LV2 Cabinet (+DISTR 2)	ONSHORE	C10000533	CPX09	100	2024-11-25	RFC 1
85001-CEC	BESS / 6.6KV HV Switchgear	ONSHORE	C10002325	CPX10	100	2024-11-25	RFC 1
85002-CEC	EMCS / BESS	ONSHORE	C10002326	CPX10	100	2024-11-25	RFC 1

ITEM	Tag	83011-CEL	: LV Switchgear / BESS PCS Cabinet		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	85-00	: BESS Package (A-85000)		Module	LD_B-200/LD	
TASK	code	C10000522	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form CPX09	LV Power Cable	

CABLE DATA

Type: Cu Cl.2/EPR/LSZH | Cores/Size mm²: 4X10 mm2 | Color: GREY

From: SG-200N1 | To: CP-850E3

1	Confirm cable is as specified in project cable schedule	OK
2	Visual Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	PL
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	NA
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	PL
9	Check cable is correctly loomed and segregated in accordance with specification.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check cores marking are in accordance with termination diagram	OK
12	Check terminations are in accordance with latest termination diagram	PL
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	83011-CEL	: LV Switchgear / BESS PCS Cabinet			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD_B-200/LD
TASK	code	C10000522		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

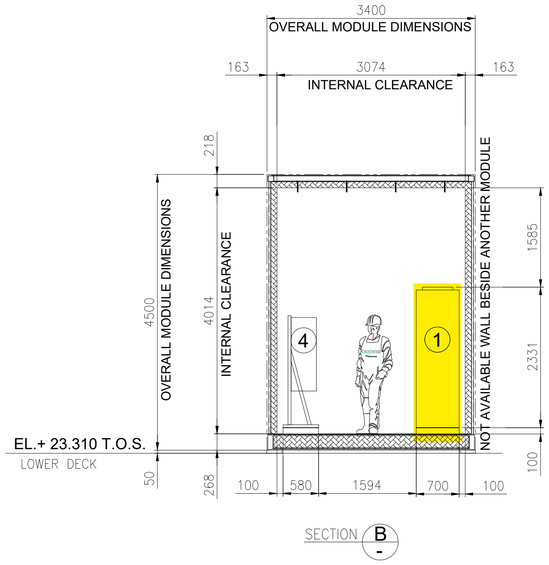
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,2	
6		PH 2	0,2	
7		PH 3	0,2	
8	ARMOUR CONTINUITY Ω		N/A	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,2	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	>999	
12		PH3 / PH1-PH2-A-E	>999	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

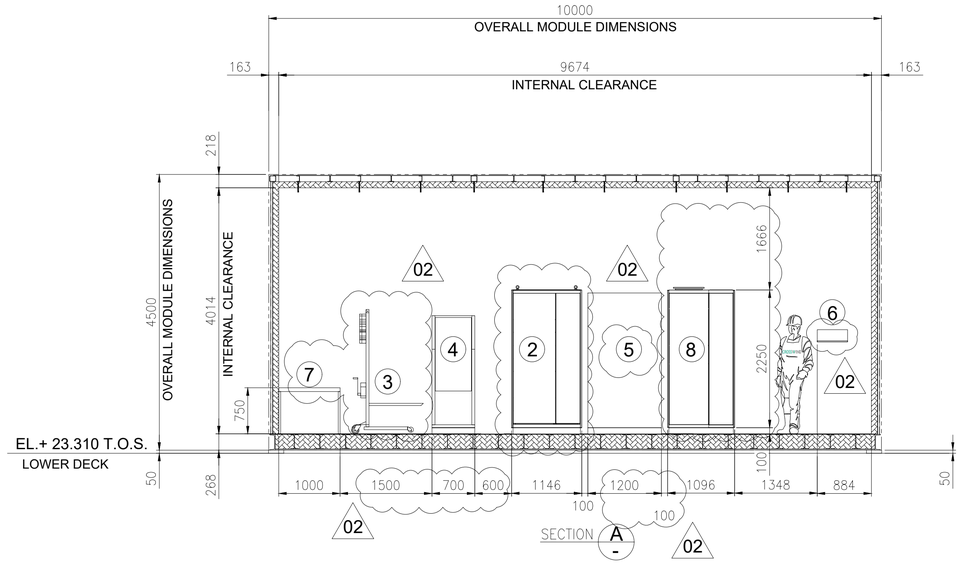
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER: KEW3125A SERIAL:W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N° 7722/24 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

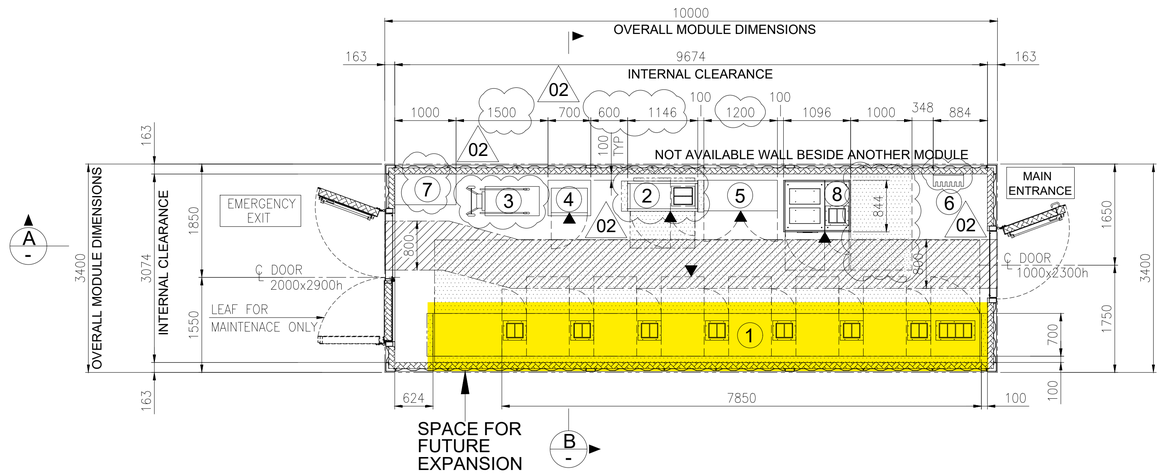
Comments: Note 4 : Refer to PL C30000679

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:56:10.785Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:46:10.167Z	

DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02





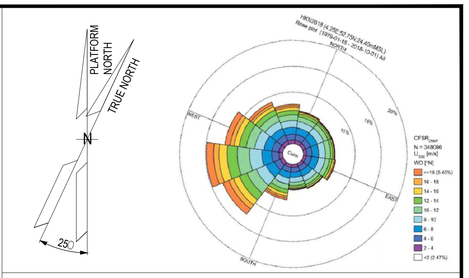


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

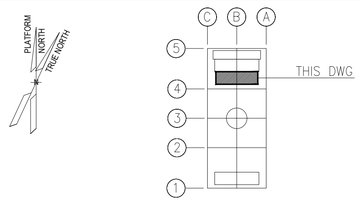
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

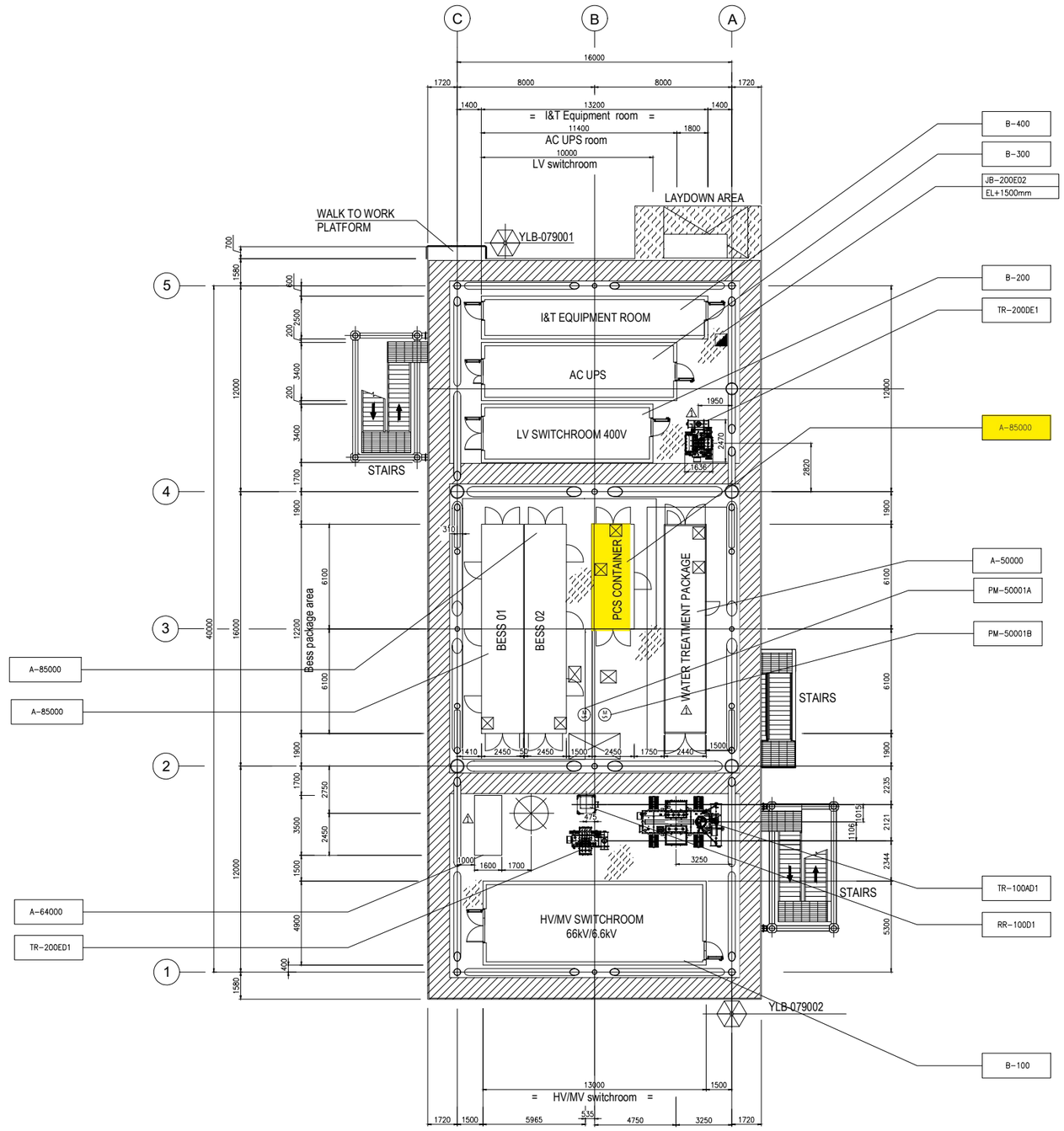
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

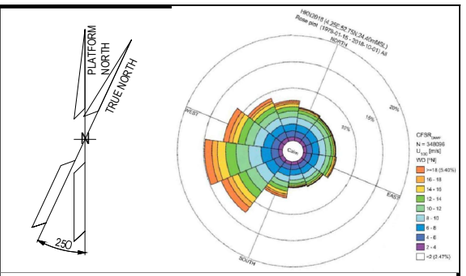
File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

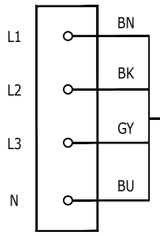
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 04/03/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20101 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A4/+04



83011-CEL
4C X 10 mm²

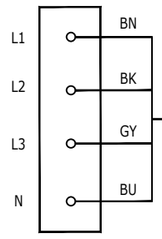
DESCRIPTION: BESS PCS CABINET
TAG NUMBER: CP-850E3

-XE

BN	112	-AUX_400V_L1
BK	132	-AUX_400V_L2
GY	152	-AUX_400V_L3
BU	1N2	-AUX_400V_N

02

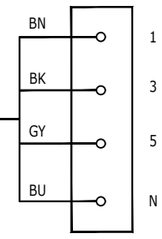
COLUMN/CUBIC.: A6/+02



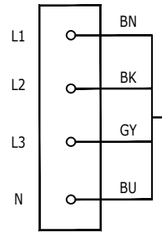
83014-CEL
4C X 10 mm²

DESCRIPTION: BESS LV1 CABINET (+DISTR 1)
TAG NUMBER: CP-850E1

-XES



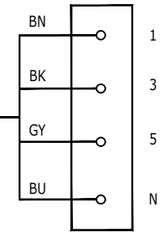
COLUMN/CUBIC.: A6/+03



83015-CEL
4C X 10 mm²

DESCRIPTION: BESS LV2 CABINET (+DISTR 2)
TAG NUMBER: CP-850E2

-XES



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

REV.:	DATE:	SIGNATURE:
2_A	21/11/24	G.Randi

ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

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

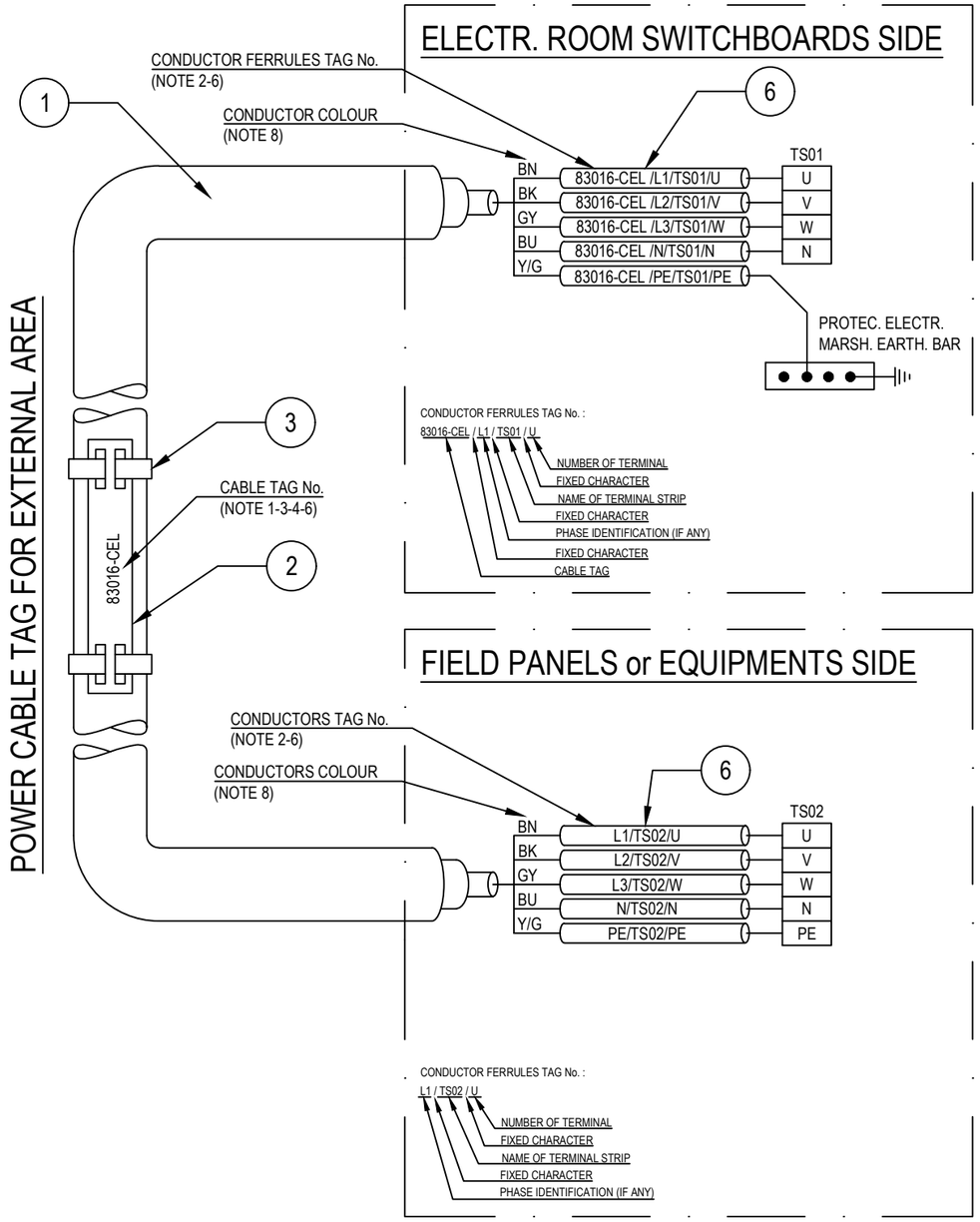
SHEET 022

REV. 02

F.to UNI A3: 420mmx297mm

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

C02



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 25 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

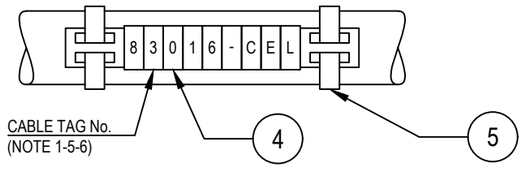
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH BAR
- EARTH BAR AND EARTH BOSS

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

POWER CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR POWER CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 007 | REV. 02

F.to UNI A3: 420mmx297mm

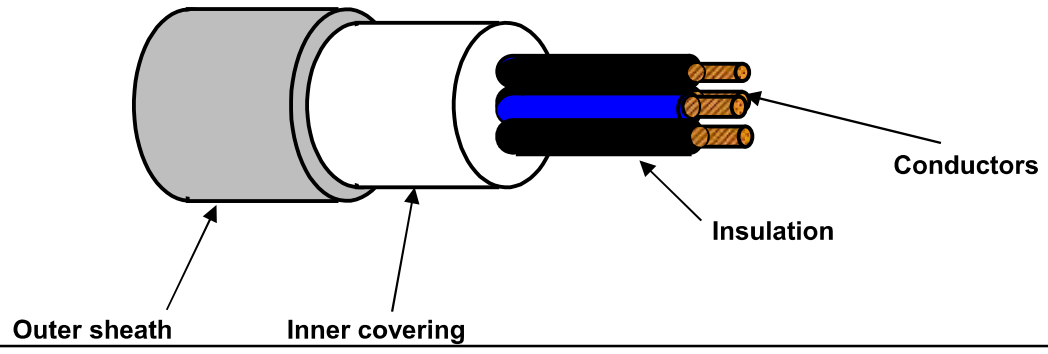
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83011-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	CP-850E3	BESS PCS Cabinet	Lower Deck	ELECV03-4X10	Cable Cu Cl.2/EPR/LSZH 0,6/1kV 4Cx10mm² - Grey	M32	n.a.			n.a.				L-450-101-LVT-025 / L-600-101-LVT-017 / E-MCT-201 / L-750-101-LVT-011 / L-600-101-LVT-012 / L-300-101-LVT-068

FLEI s.r.l.

Cu Cl.2/EPR/LSZH 0,6/1 KV

4CX10 - L.V. POWER CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Black - Brown - Grey - Blue**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 4CX10 SQMM - EPR/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(19,3 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 630 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ITEM	Tag	83014-CEL	: LV Switchgear / BESS LV1 Cabinet (+DISTR 1)			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD_B-200/LD
TASK	code	C10000532	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form CPX09	LV Power Cable

CABLE DATA

Type: Cu Cl.2/EPR/LSZH | Cores/Size mm²: 4X10 mm2 | Color: GREY

From: SG-200N1 | To: CP-850E1

1	Confirm cable is as specified in project cable schedule	OK
2	Visual Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	NA
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	PL
9	Check cable is correctly loomed and segregated in accordance with specification.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check cores marking are in accordance with termination diagram	OK
12	Check terminations are in accordance with latest termination diagram	PL
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	83014-CEL	: LV Switchgear / BESS LV1 Cabinet (+DISTR 1)			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD_B-200/LD
TASK	code	C10000532		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

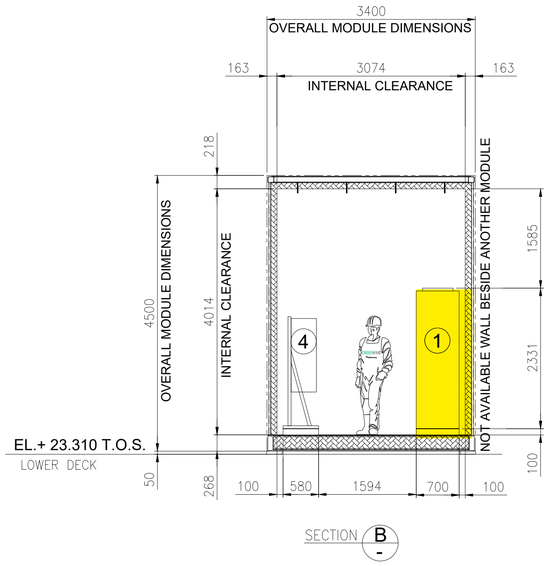
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,2	
6		PH 2	0,2	
7		PH 3	0,2	
8	ARMOUR CONTINUITY Ω		N/A	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,2	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>1999	
11		PH2 / PH1-PH3-A-E	>1999	
12		PH3 / PH1-PH2-A-E	>1999	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

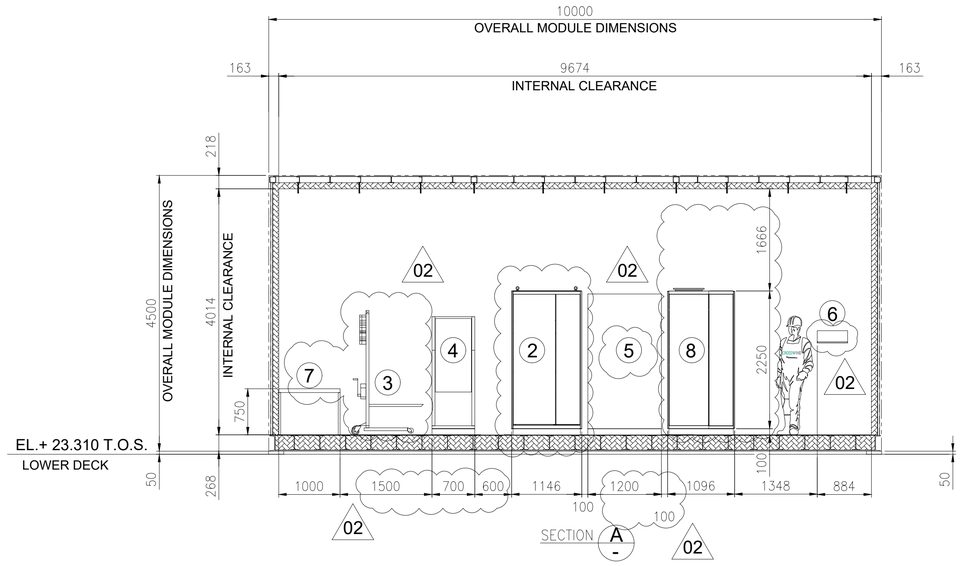
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER: KEW3125A SERIAL:W8330207	TYPE / SERIAL N° :	
Calibration certificate N° and date:	N° 7722/24 10/07/2024	Calibration certificate N° and date:	

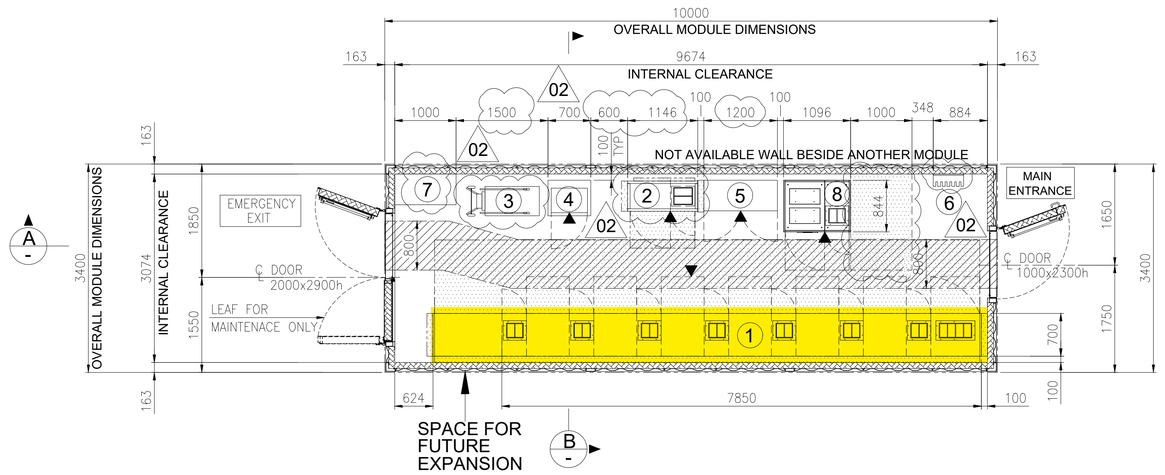
Comments: Note 4 : Refer to PL C30000679

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:56:20.557Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:45:57.242Z	

DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02





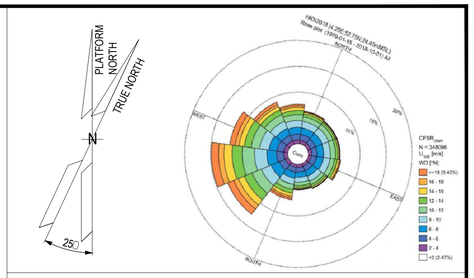


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

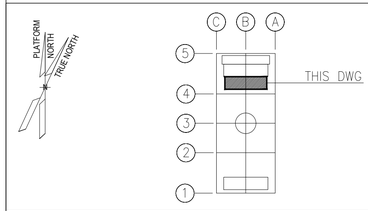
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

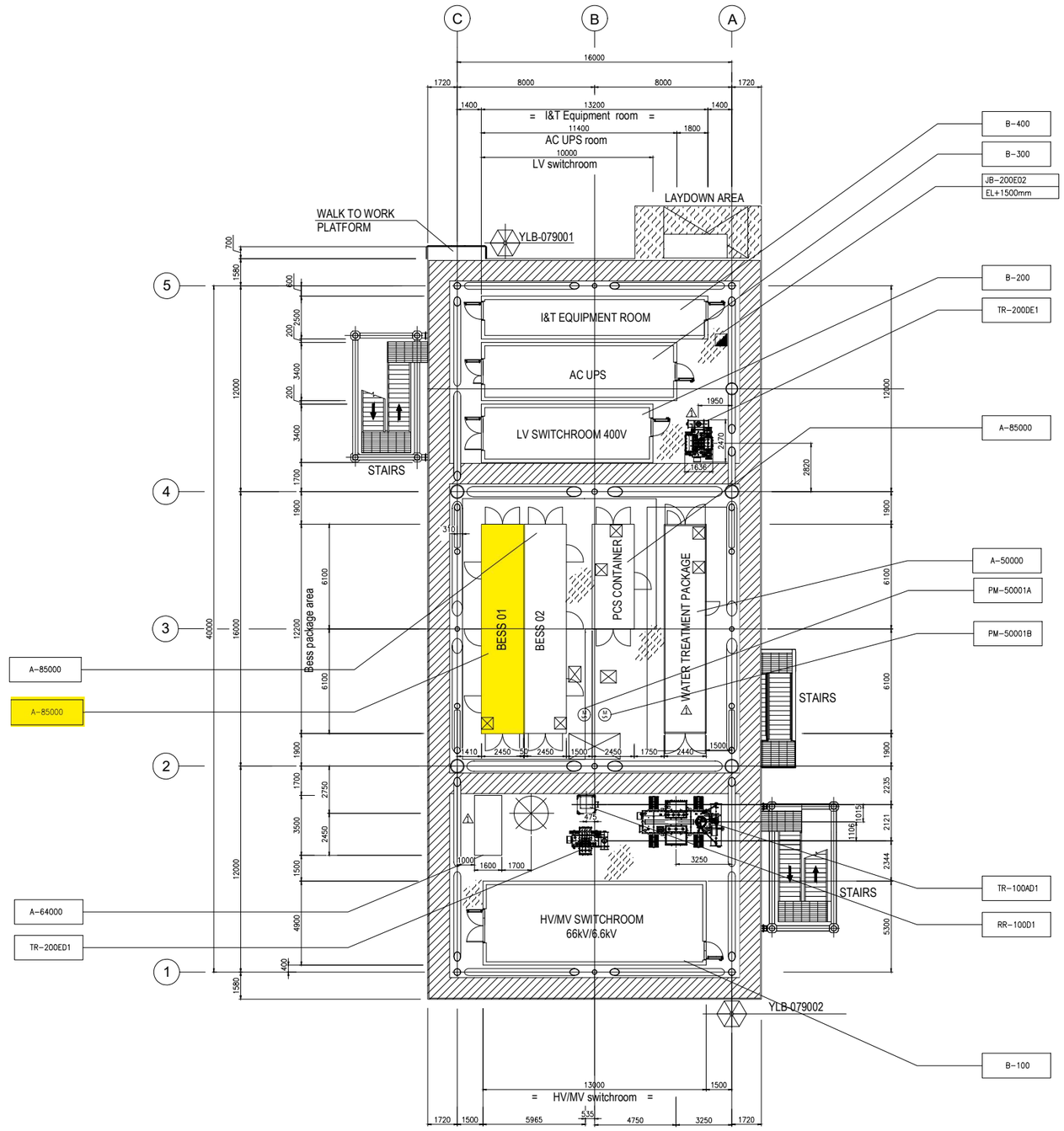
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

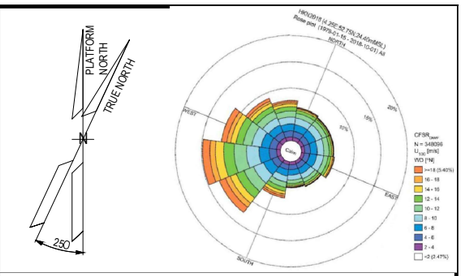
File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20101
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

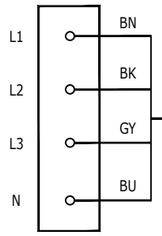
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 04/03/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20101 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A4/+04



83011-CEL
4C X 10 mm²

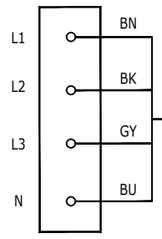
DESCRIPTION: BESS PCS CABINET
TAG NUMBER: CP-850E3

-XE

BN	112	-AUX_400V_L1
BK	132	-AUX_400V_L2
GY	152	-AUX_400V_L3
BU	1N2	-AUX_400V_N

02

COLUMN/CUBIC.: A6/+02



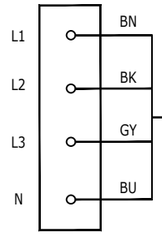
83014-CEL
4C X 10 mm²

DESCRIPTION: BESS LV1 CABINET (+DISTR 1)
TAG NUMBER: CP-850E1

-XES

BN	1
BK	3
GY	5
BU	N

COLUMN/CUBIC.: A6/+03



83015-CEL
4C X 10 mm²

DESCRIPTION: BESS LV2 CABINET (+DISTR 2)
TAG NUMBER: CP-850E2

-XES

BN	1
BK	3
GY	5
BU	N

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_A | DATE: 21/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
LV SWITCHGEAR SG-200N1

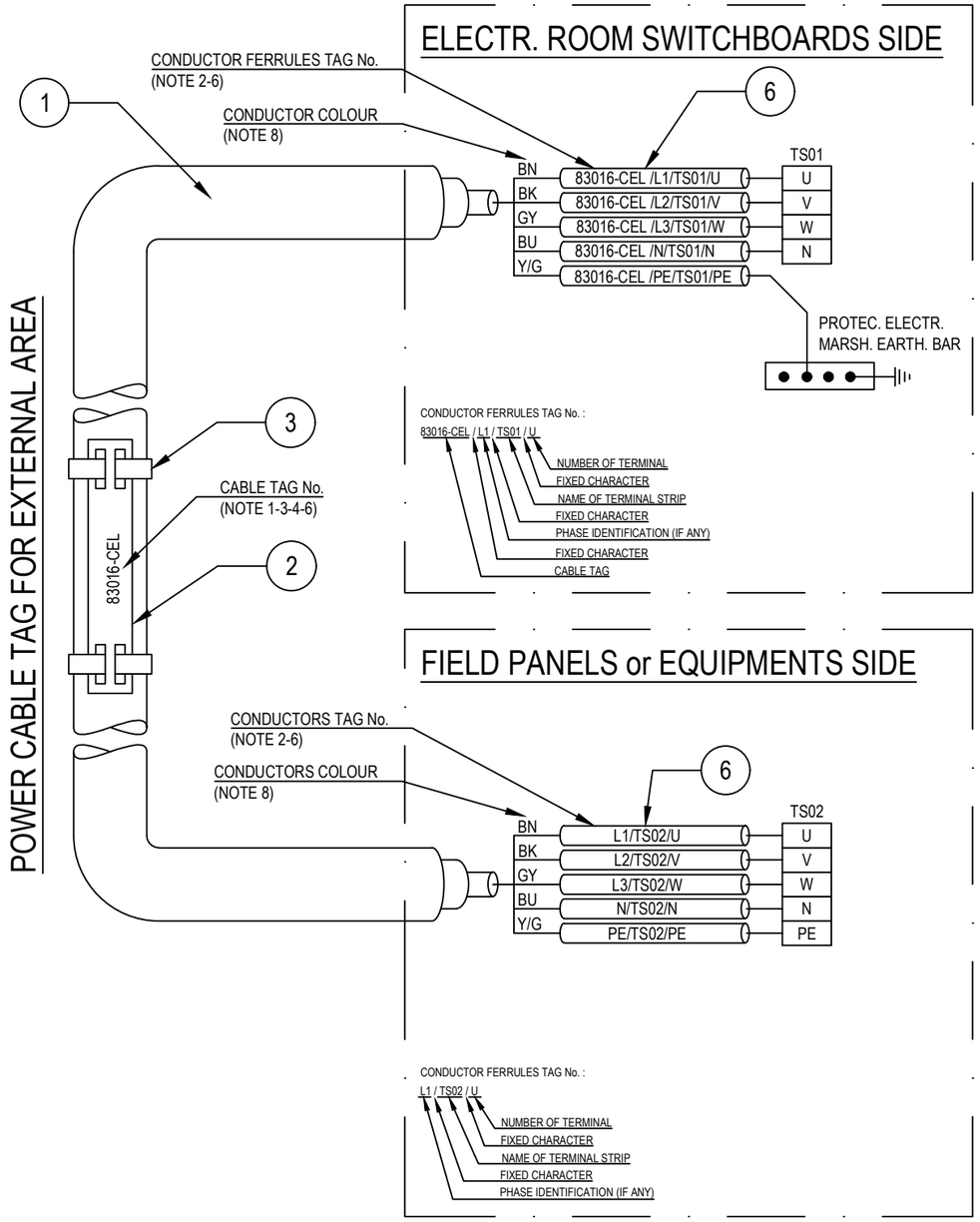
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 022 | REV. 02

F.to UNI A3: 420mmx297mm

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

C02



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 25 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

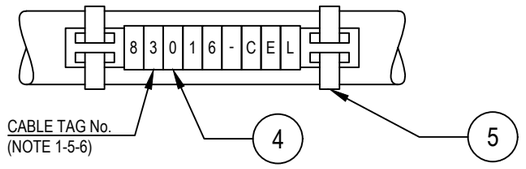
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH BAR
- EARTH BAR AND EARTH BOSS

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

POWER CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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CROSSWIND

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ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR POWER CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 007 | REV. 02

F.to UNI A3: 420mmx297mm

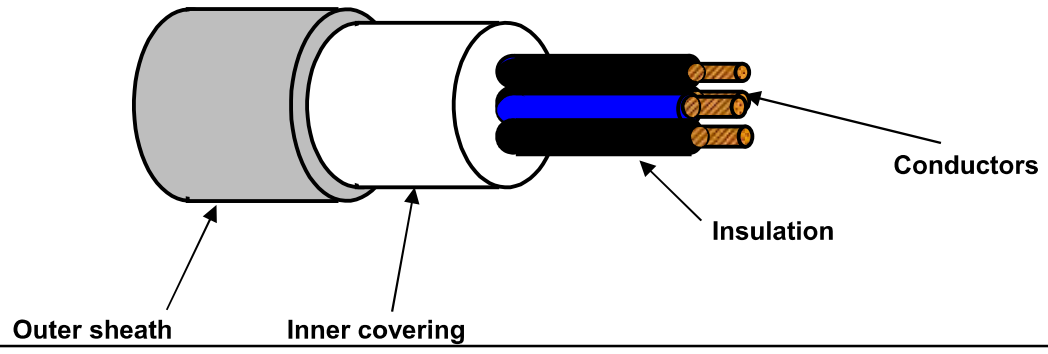
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83014-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	CP-850E1	BESS LV1 Cabinet (+DISTR 1)	Lower Deck	ELECV03-4X10	Cable Cu Cl.2/EPR/LSZH 0,6/1kV 4Cx10mm² - Grey	M32	n.a.			n.a.				L-450-101-LVT-027 / L-600-101-LVT-016 / E-MCT-201 / L-750-101-LVT-011 / L-600-101-LVT-012 / L-300-101-LVT-069 / L-300-101-LVT-071

FLEI s.r.l.

Cu Cl.2/EPR/LSZH 0,6/1 KV

4CX10 - L.V. POWER CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Black - Brown - Grey - Blue**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 4CX10 SQMM - EPR/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(19,3 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 630 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ITEM	Tag	83015-CEL	: LV Switchgear / BESS LV2 Cabinet (+DISTR 2)		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	85-00	: BESS Package (A-85000)		Module	LD_B-200/LD	
TASK	code	C10000533	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX09	LV Power Cable

CABLE DATA

Type: Cu Cl.2/EPR/LSZH | Cores/Size mm²: 4X10 mm2 | Color: GREY

From: SG-200N1 | To: CP-850E2

1	Confirm cable is as specified in project cable schedule	OK
2	Visual Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	NA
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	PL
9	Check cable is correctly loomed and segregated in accordance with specification.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check cores marking are in accordance with termination diagram	OK
12	Check terminations are in accordance with latest termination diagram	PL
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ITEM	Tag	83015-CEL	: LV Switchgear / BESS LV2 Cabinet (+DISTR 2)			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD_B-200/LD
TASK	code	C10000533		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

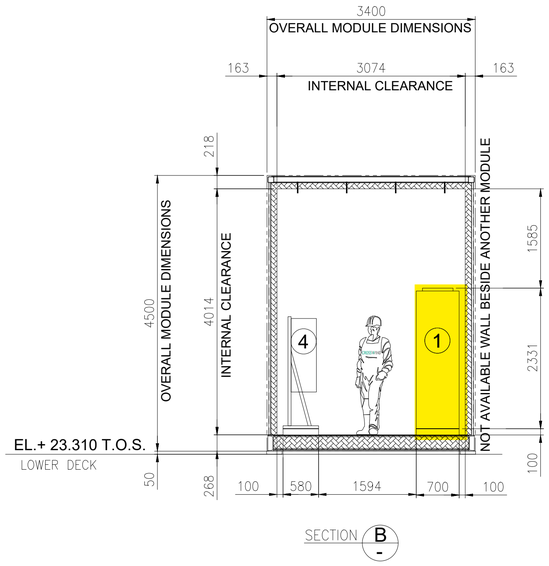
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,2	
6		PH 2	0,2	
7		PH 3	0,2	
8	ARMOUR CONTINUITY Ω		N/A	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,2	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>1999	
11		PH2 / PH1-PH3-A-E	>1999	
12		PH3 / PH1-PH2-A-E	>1999	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

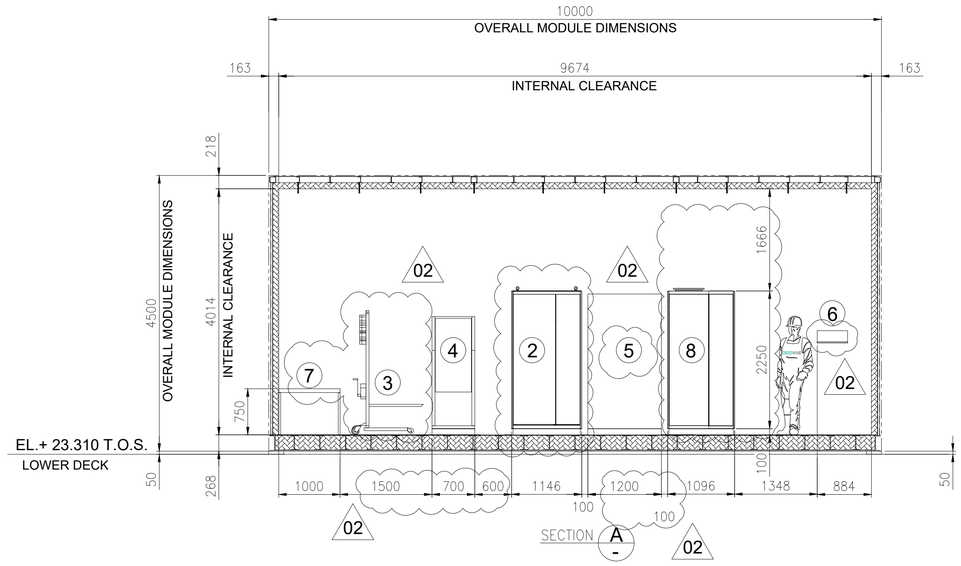
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER: KEW3125A SERIAL:W8330207	TYPE / SERIAL N° :	
Calibration certificate N° and date:	N° 7722/24 10/07/2024	Calibration certificate N° and date:	

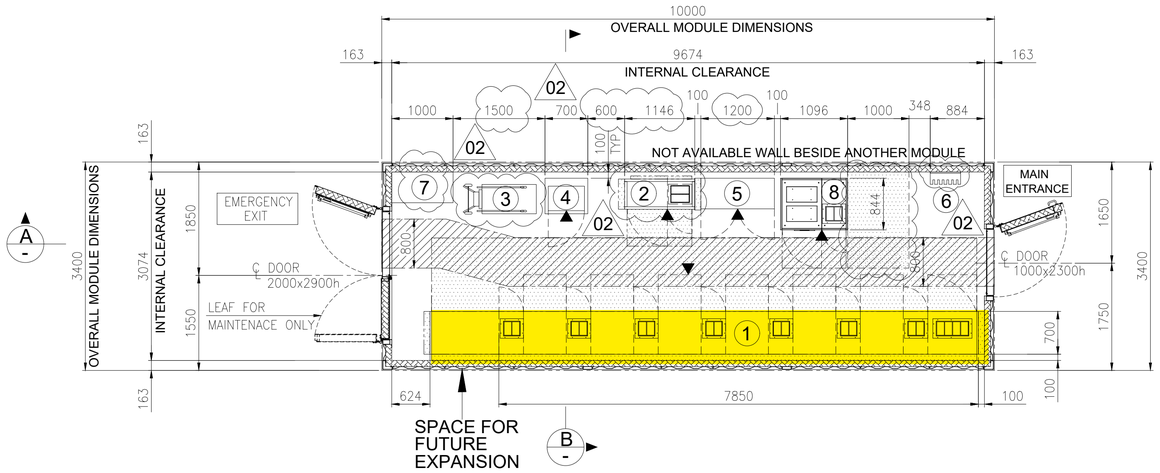
Comments: Note 4 : Refer to PL C30000679

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:56:31.345Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:46:20.944Z	

DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02





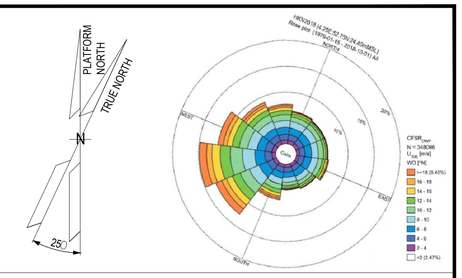


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

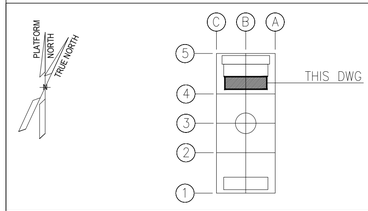
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

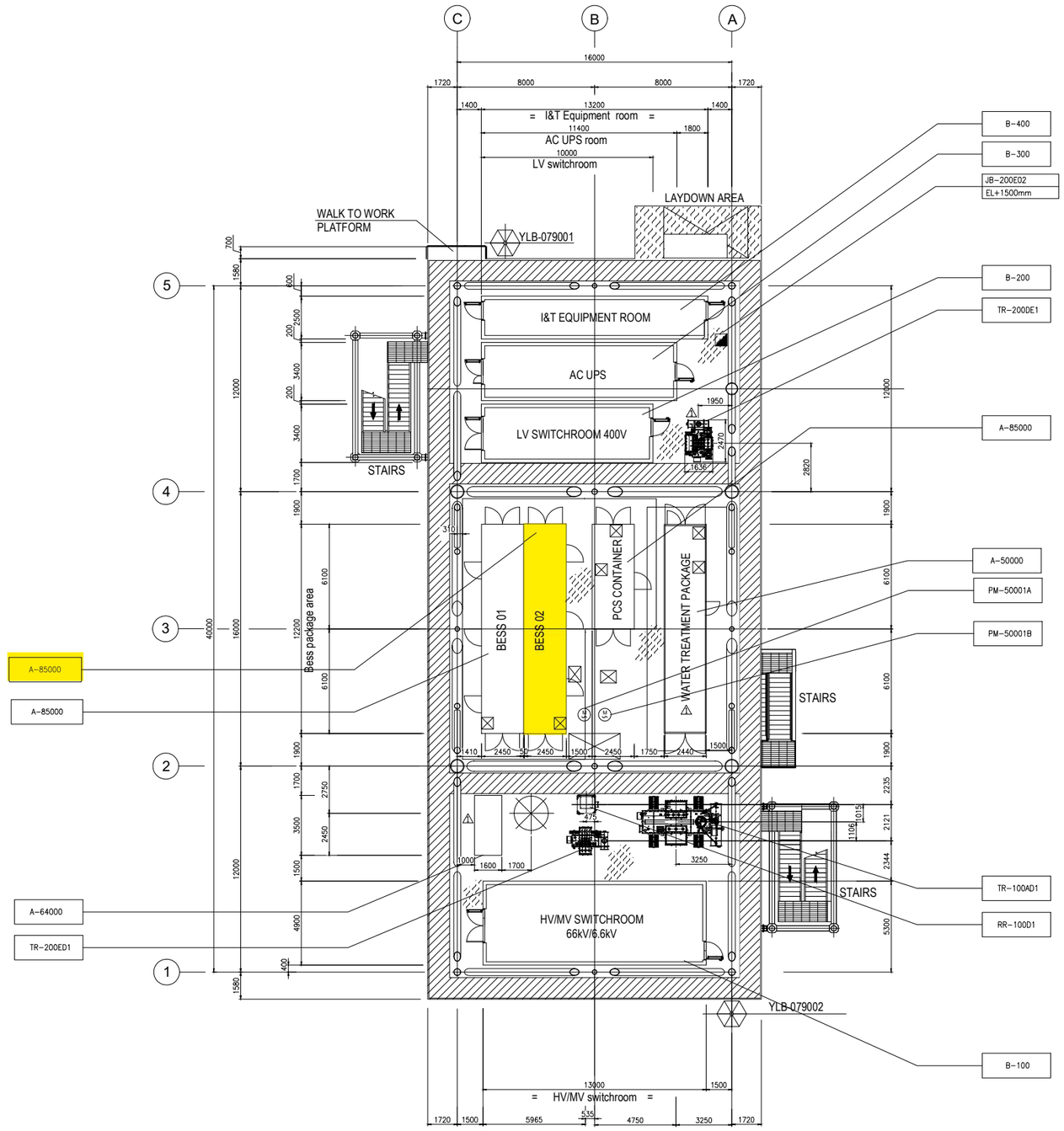
CROSSWIND

ROSETTI MARINO

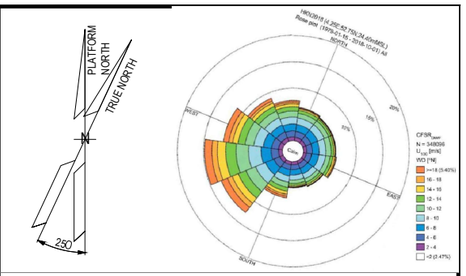
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20105_REV02.dwg



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20101
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 04/03/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20101 | SHEET 001 | REV. 01

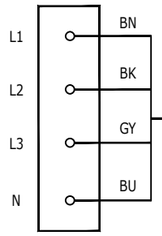
DRAWING NO. 123A90-DDL-EL-DL-20101 REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

COLUMN/CUBIC.: A4/+04



83011-CEL
4C X 10 mm²

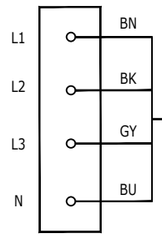
DESCRIPTION: BESS PCS CABINET
TAG NUMBER: CP-850E3

-XE

BN	112	-AUX_400V_L1
BK	132	-AUX_400V_L2
GY	152	-AUX_400V_L3
BU	1N2	-AUX_400V_N

02

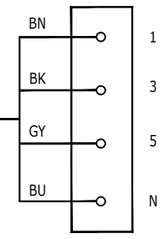
COLUMN/CUBIC.: A6/+02



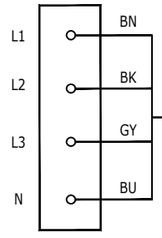
83014-CEL
4C X 10 mm²

DESCRIPTION: BESS LV1 CABINET (+DISTR 1)
TAG NUMBER: CP-850E1

-XES



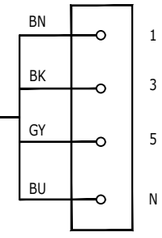
COLUMN/CUBIC.: A6/+03



83015-CEL
4C X 10 mm²

DESCRIPTION: BESS LV2 CABINET (+DISTR 2)
TAG NUMBER: CP-850E2

-XES



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

REV.:	DATE:	SIGNATURE:
2_A	21/11/24	G.Randi

ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

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

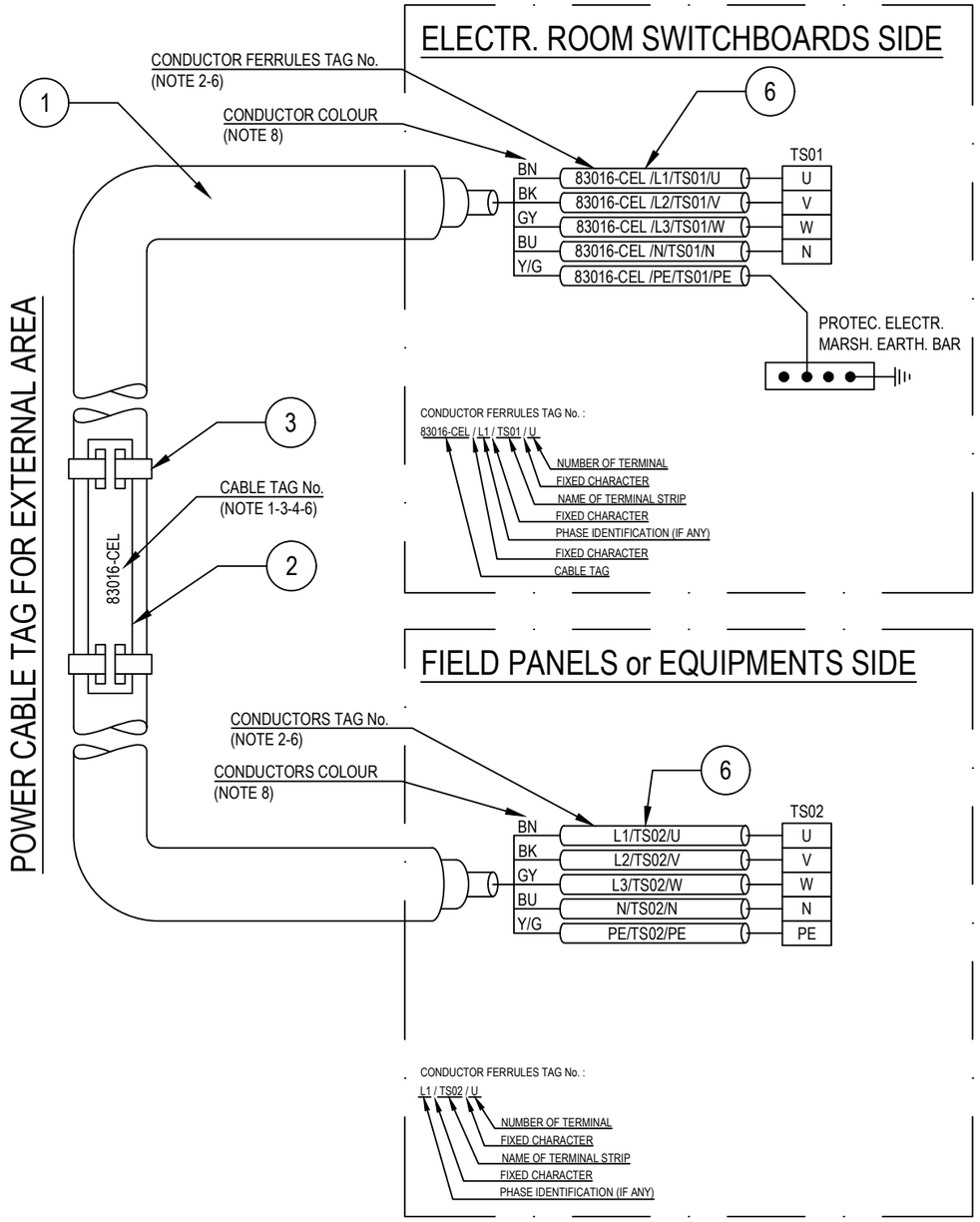
SHEET 022

REV. 02

F.to UNI A3: 420mmx297mm

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

C02



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 25 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

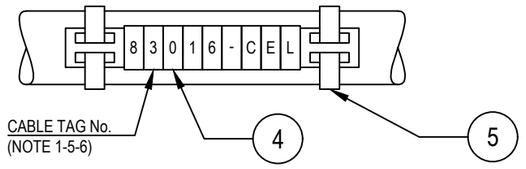
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH BAR
- EARTH BAR AND EARTH BOSS

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

POWER CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR POWER CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 007 | REV. 02

F.to UNI A3: 420mmx297mm

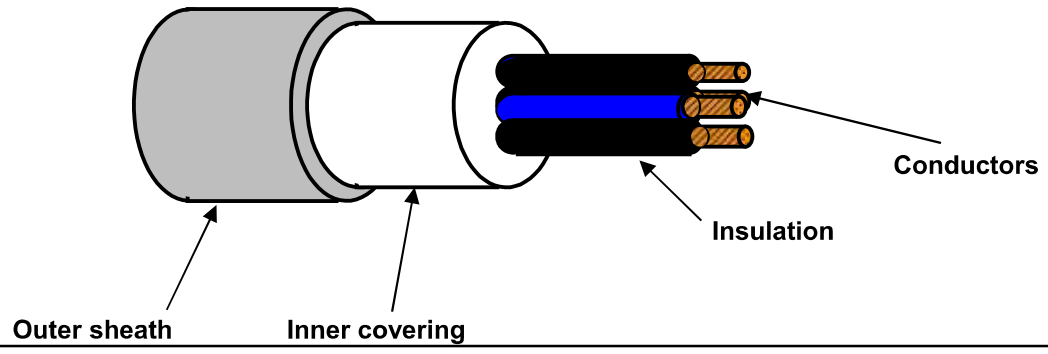
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83015-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	CP-850E2	BESS LV2 Cabinet (+DISTR 2)	Lower Deck	ELECV03-4X10	Cable Cu Cl.2/EPR/LSZH 0,6/1kV 4Cx10mm² - Grey	M32	n.a.			n.a.				L-450-101-LVT-027 / L-600-101-LVT-016 / E-MCT-201 / L-750-101-LVT-011 / L-600-101-LVT-012 / L-300-101-LVT-069 / L-300-101-LVT-070

FLEI s.r.l.

Cu Cl.2/EPR/LSZH 0,6/1 KV

4CX10 - L.V. POWER CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Black - Brown - Grey - Blue**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 4CX10 SQMM - EPR/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(19,3 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 630 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	82006-CEC	: 6.6KV HV Switchgear / EMCS BESS UCP			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD_B-100/LD
TASK	code	C10002321		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX10 Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH/CWB/LSZH | Cores/Size mm²: 4X4 mm2 | Color: GREY

From: SG-100D1 | To: A-85000

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	OK
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	NA
9	Check terminations are in accordance with latest termination diagram.	PL
10	Check cable earthing against lastest drawings.	OK
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,6
	CORE 2 / All cores+screen+armour+earth	0,6
	CORE 3 / All cores+screen+armour+earth	0,6
	CORE 4 / All cores+screen+armour+earth	0,6
	CORE 5 / All cores+screen+armour+earth	\
	CORE 6 / All cores+screen+armour+earth	\
	CORE 7 / All cores+screen+armour+earth	\
	CORE 8 / All cores+screen+armour+earth	\
	CORE 9 / All cores+screen+armour+earth	\
	CORE 10 / All cores+screen+armour+earth	\
INSULATION	CORE 1	>1999
	CORE 2	>1999
	CORE 3	>1999
	CORE 4	>1999
	CORE 5	\
	CORE 6	\
	CORE 7	\
	CORE 8	\
	CORE 9	\
	CORE 10	\
	SCREEN	N/A
	EARTH	N/A
	ARMr	N/A
	TEST VOLTS	1000

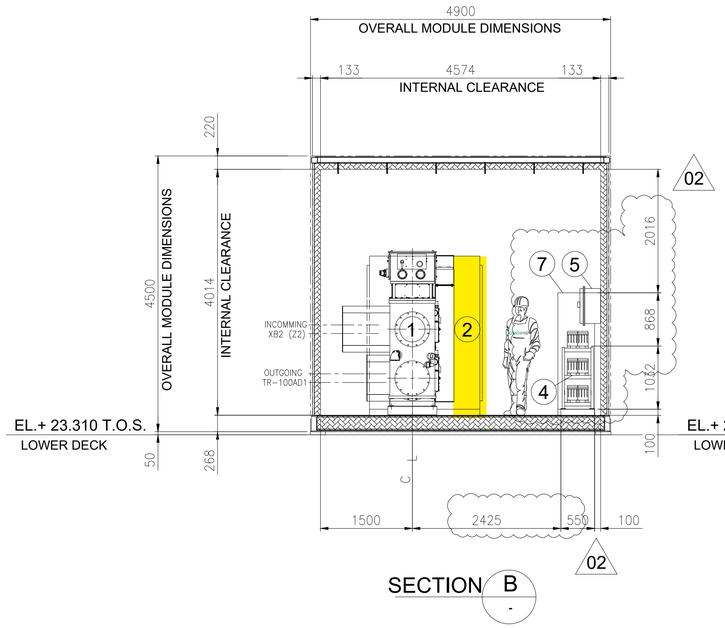
TESTING INSTRUMENTS USED

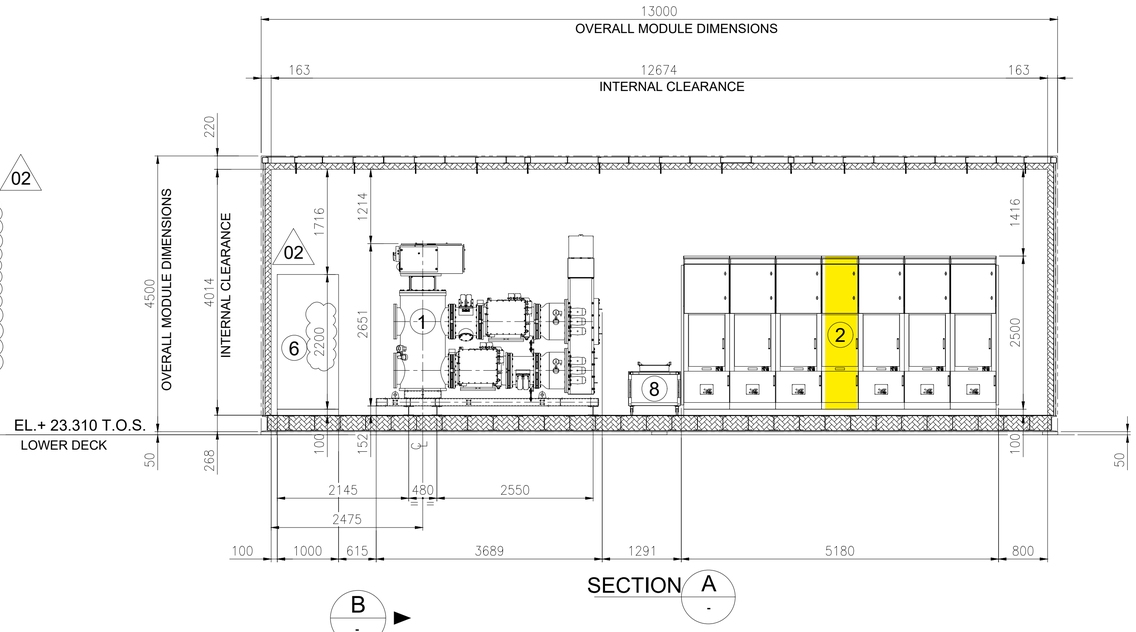
TYPE / SERIAL N° : MEGGER: KEW3125A SERIAL:W8330207 Calibration certificate N° and date: N° 7722/24 10/07/2024	TYPE / SERIAL N° : Calibration certificate N° and date:
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE / SERIAL N° : Calibration certificate N° and date:

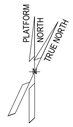
Comments: Note 4 : Refer to PL C30000679

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:57:07.125Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:45:37.967Z	

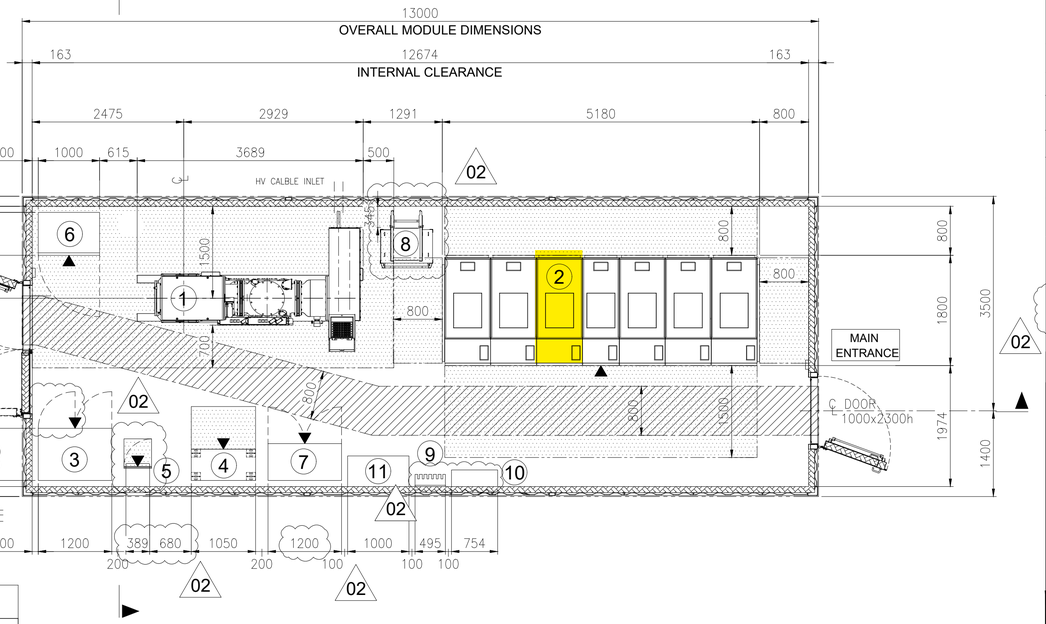
DRAWING NO. 123A90-DDL-EL-DL-20104 REV. 02



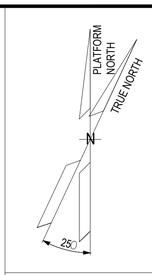


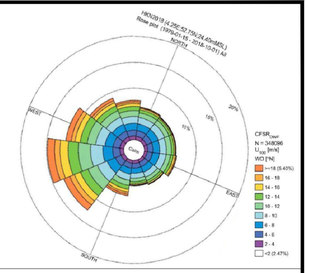


B -



A -





NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFROMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

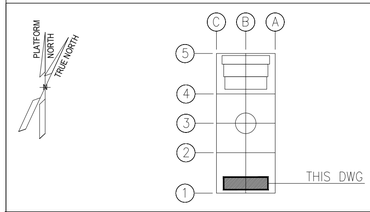
LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
66kV SWITCHGEAR (GIS) GENERAL ARRANGEMENT DRAWING	1723001595-EL-DA-00006
CIRCUIT AND WIRING DIAGRAM	1723001595-EL-DG-00015
SG-100D1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00006
DC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00003
DC UPS – BATTERY LAYOUT AND INTERCONNECTING DIAGRAM	1724000372-EL-DG-00010
B-100 - GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00014

KEY PLAN



EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	HNA6-AFA70	66kV SWITCHGEAR (GIS)	3689	2025	2651	
2	SG-100D1	6.6kV SWITCHGEAR	5180	1800	2500	
3	UP-200F1	DC UPS PANEL	1200	850	2105	
4	BA-200F1	DC UPS BATTERY RACK	1050	510	1272	
5	CB-200F1 02	ISOLATOR FOR DC UPS	452	377	634	
6	CP-100E1	66 kV SWITCHGEAR LOCAL CONTROL PANEL	1000	700	2200	02
7	B100-HSB-001	DISTRIBUTION & HVAC PANEL - HV MV ROOM	1200	600	1900	
8	-	SERVICE TROLLEY FOR 6.6kV SWITCHGEAR	943	862	874	
9	-	TOOL BOX	495	200	200	
10	-	SUBSTATION LIFE SAVING & INTERVENTION KIT	754	270	840	
11	-	TABLE	1000	500	750	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20104**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	10/11/2023	DSF	CB/AMA	OYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
HV SWITCHROOM

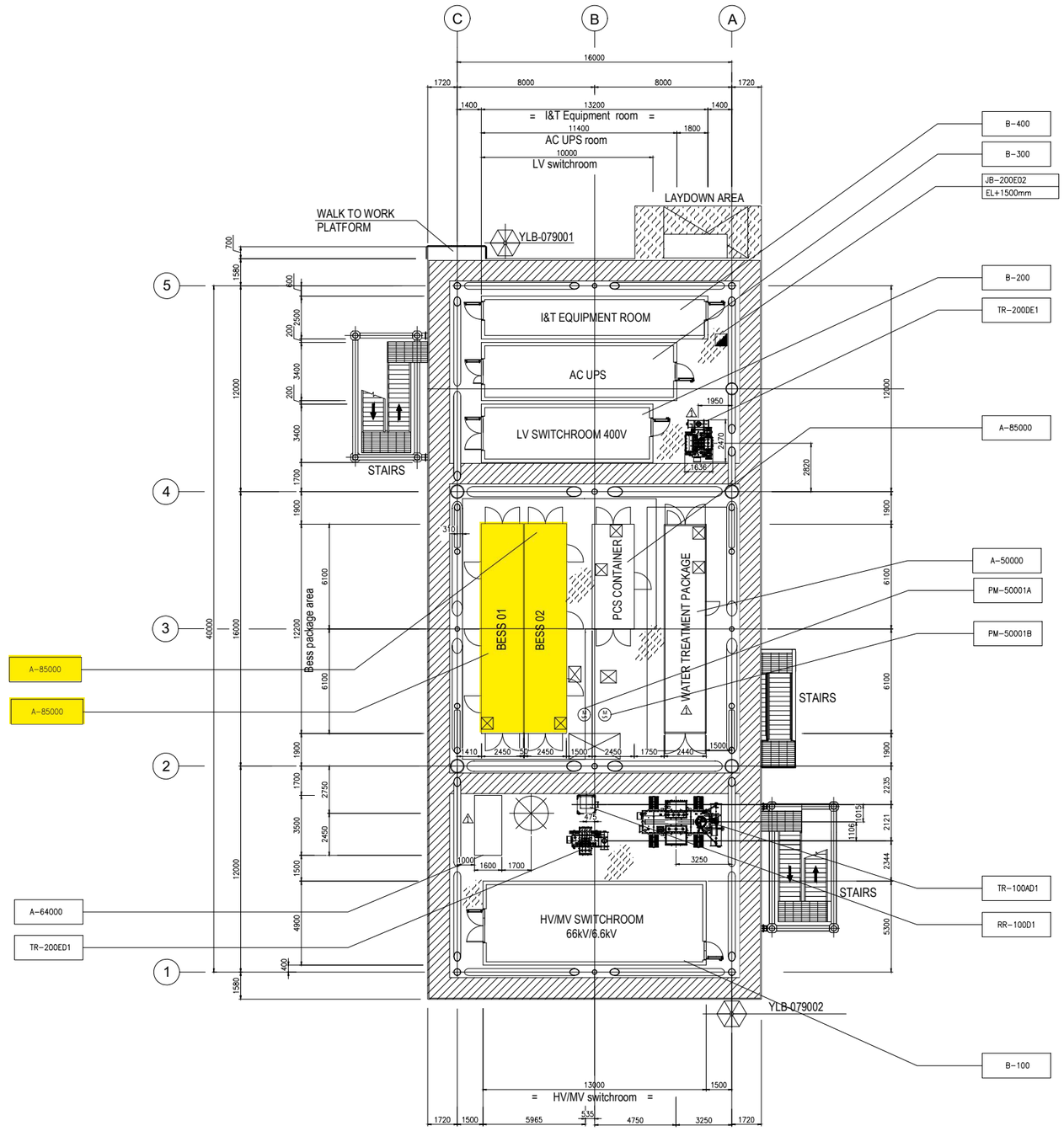
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN GPA	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024

A1	DRAWING NO. 123A90-DDL-EL-DL-20104	SHEET 001	REV. 02

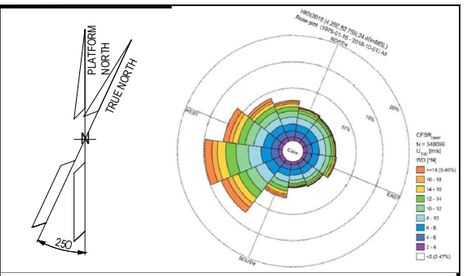
File Name : 123A90-DDL-EL-DL-20104_REV02.dwg

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20101
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 04/03/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20101 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

FROM	TO

DESCRIPTION: 6.6KV HV SWITCHGEAR
TAG NUMBER: SG-100D1

COLUMN/CUBIC.:A6

-XM

VT INCOMING FOR SYNCHRONIZER

XM / 1	L1
XM / 2	L2
XM / 3	L3
XM / 4	N

BK

82006-CEC
4C X 4 mm²

BK

DESCRIPTION: BESS UCP
TAG NUMBER: A85000

COLUMN/CUBIC.:-

+CTRL_2.1
-XE3

L1	1	PHASE VOLTAGE FROM 6.6KV
L2	2	
L3	3	
N	4	

COLUMN/CUBIC.:A5

-XM

VT BUSBAR FOR SYNCHRONIZER

XM / 11	L1
XM / 12	L2
XM / 13	L3
XM / 14	N

BK

82007-CEC
4C X 4 mm²

BK

+CTRL_2.1
-XE3

L1	5	PHASE VOLTAGE FROM 6.6KV
L2	6	
L3	7	
N	8	

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

REV.:	DATE:	SIGNATURE:
2_A	21/11/24	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
BESS UCP SYNCHRONIZER VOLTAGE FROM 6.6KV

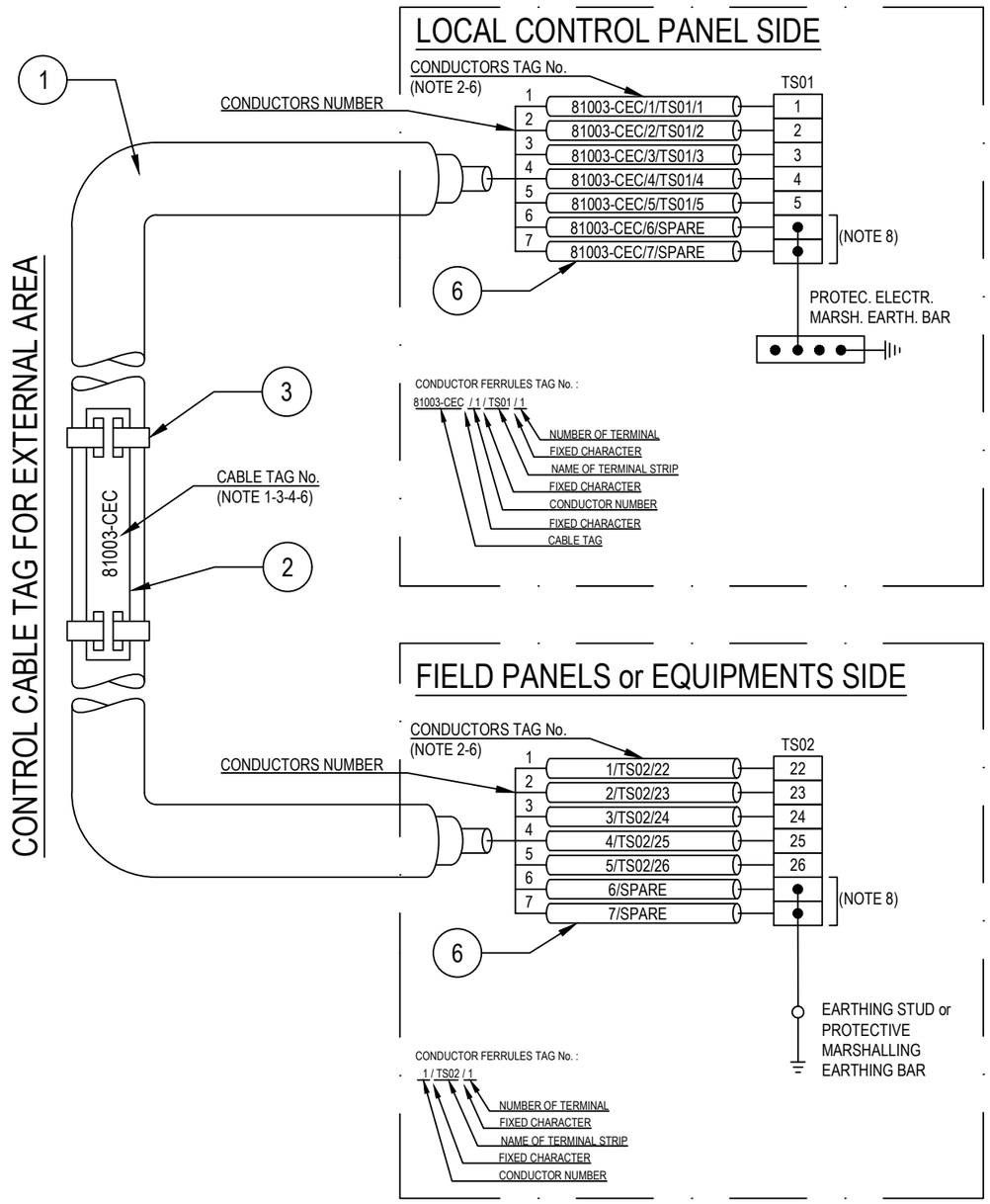
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 074 | REV. 02

F.to UNI A3: 420mmx297mm

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

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
   CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

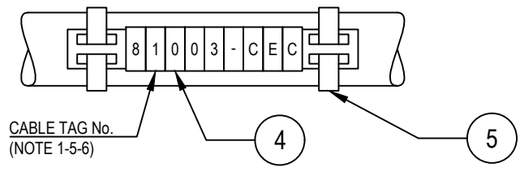
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
   WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
   - PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

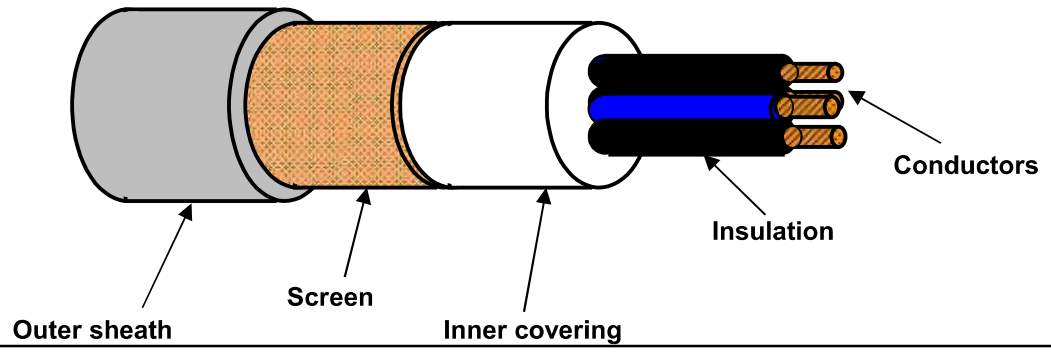
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
82006-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-100D1	MV 6,6kV Switchgear	Lower Deck (B-100)	A-85000	BESS	Lower Deck	ELECV35-4X4	Cable Cu Cl.2/XLPE/LSZH/CWB/LSZH 0,6/1kV 4Cx4mm² - Grey	M20	n.a.			n.a.				L-300-101-LVT-059 / L-600-101-LVT-058 / E-MCT-105 / L-300-101-LVT-074 / L-600-101-LVT-012 / L-300-101-LVT-068

Cu Cl.2/XLPE/LSZH/CWB/LSZH 0,6/1 KV

4CX4 - CONTROL CABLE - SCREENED - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 4)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Screen :	**Copper Wire Braid (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 4CX4 SQMM - XLPE/LSZH/CWB/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(15,4 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Screen)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 690 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	82007-CEC	: 6.6KV HV Switchgear / EMCS BESS UCP		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	85-00	: BESS Package (A-85000)		Module	LD_B-100/LD	
TASK	code	C10002322	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX10	Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH/CWB/LSZH | Cores/Size mm²: 4X4 mm2 | Color: GREY

From: SG-100D1 | To: A-85000

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	OK
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	NA
9	Check terminations are in accordance with latest termination diagram.	PL
10	Check cable earthing against lastest drawings.	OK
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,6
	CORE 2 / All cores+screen+armour+earth	0,6
	CORE 3 / All cores+screen+armour+earth	0,6
	CORE 4 / All cores+screen+armour+earth	0,6
	CORE 5 / All cores+screen+armour+earth	\
	CORE 6 / All cores+screen+armour+earth	\
	CORE 7 / All cores+screen+armour+earth	\
	CORE 8 / All cores+screen+armour+earth	\
	CORE 9 / All cores+screen+armour+earth	\
	CORE 10 / All cores+screen+armour+earth	\

INSULATION	CORE 1	>1999
	CORE 2	>1999
	CORE 3	>1999
	CORE 4	>1999
	CORE 5	\
	CORE 6	\
	CORE 7	\
	CORE 8	\
	CORE 9	\
	CORE 10	\
	SCREEN	N/A
	EARTH	N/A
	ARMr	N/A
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

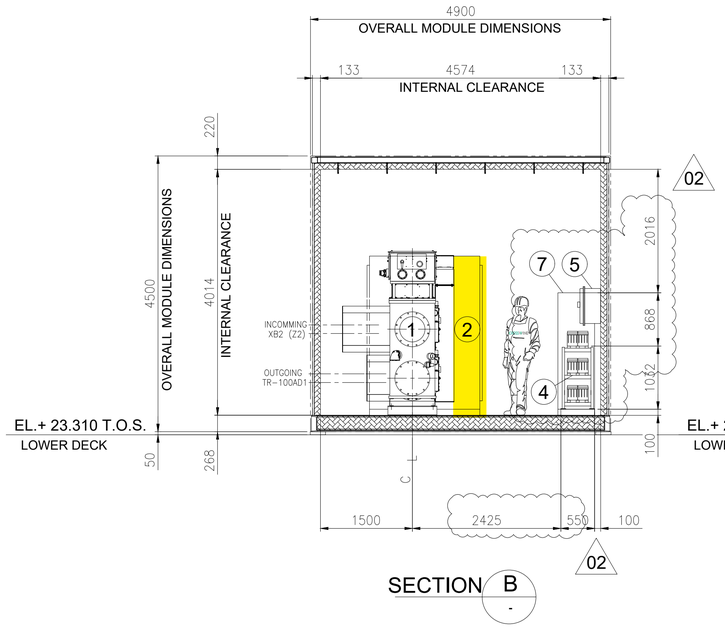
TYPE / SERIAL N° : MEGGER: KEW3125A SERIAL:W8330207 Calibration certificate N° and date: N° 7722/24 10/07/2024	TYPE / SERIAL N° : Calibration certificate N° and date:
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE / SERIAL N° : Calibration certificate N° and date:

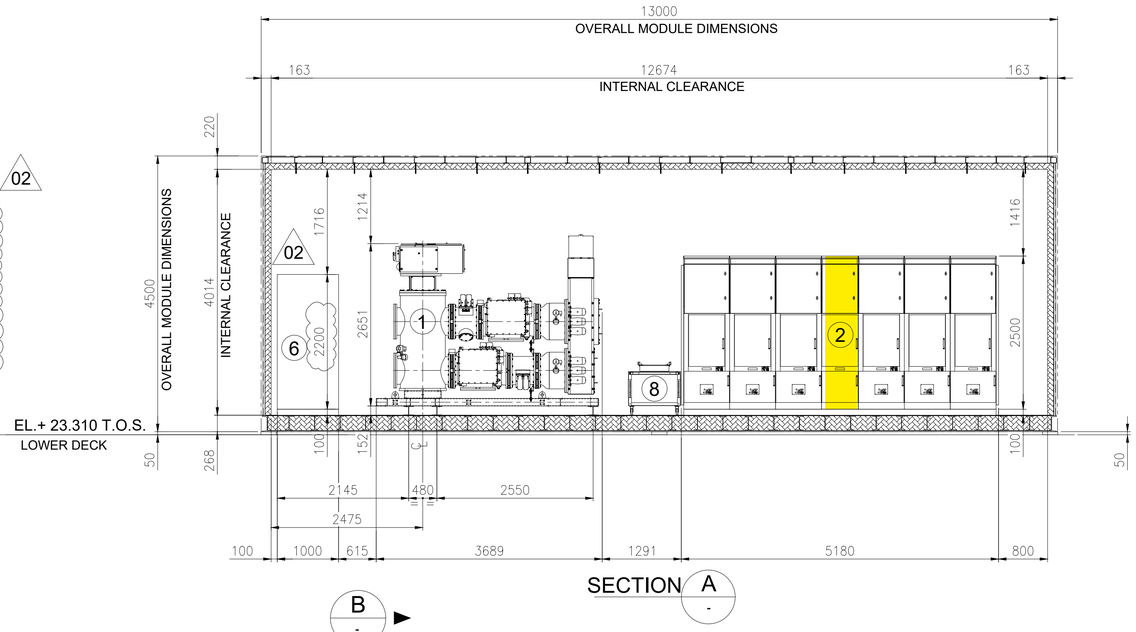
Comments: Note 4 : Refer to PL C30000679

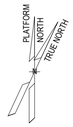
Page 1/1

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:57:16.915Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:45:24.306Z	

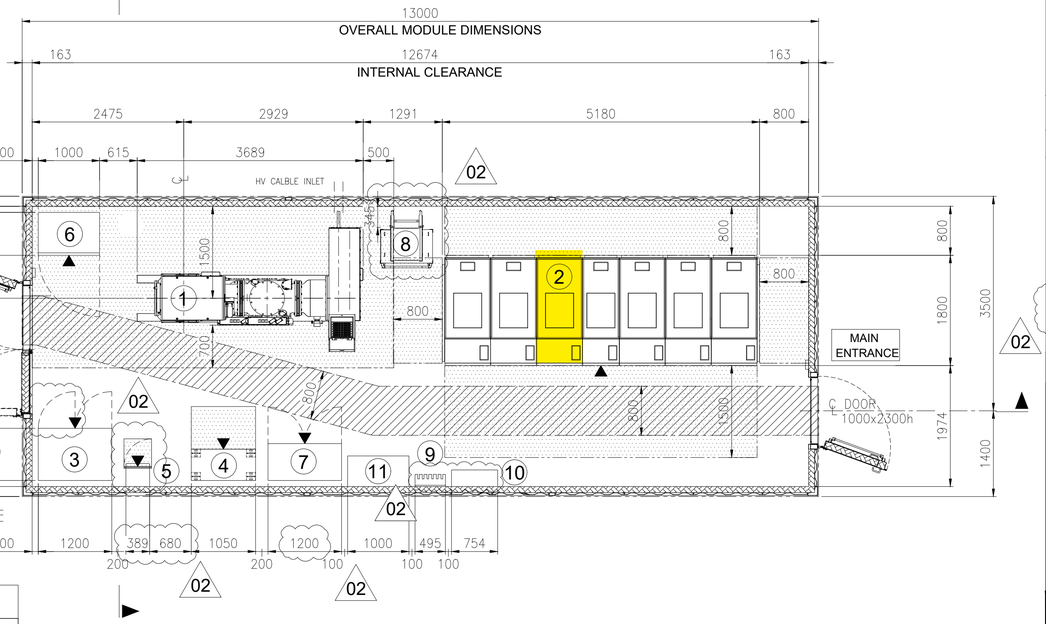
DRAWING NO. 123A90-DDL-EL-DL-20104 REV. 02



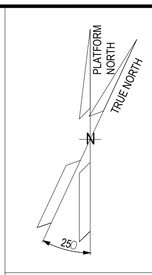


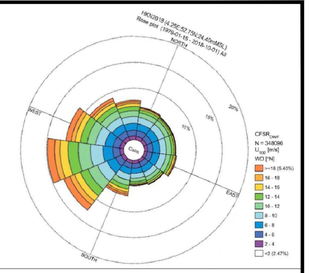


B -



A -





NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFROMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

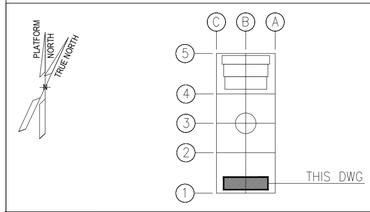
LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
66kV SWITCHGEAR (GIS) GENERAL ARRANGEMENT DRAWING	1723001595-EL-DA-00006
CIRCUIT AND WIRING DIAGRAM	1723001595-EL-DG-00015
SG-100D1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00006
DC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00003
DC UPS – BATTERY LAYOUT AND INTERCONNECTING DIAGRAM	1724000372-EL-DG-00010
B-100 - GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00014

KEY PLAN



EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	HNA6-AFA70	66kV SWITCHGEAR (GIS)	3689	2025	2651	
2	SG-100D1	6.6kV SWITCHGEAR	5180	1800	2500	
3	UP-200F1	DC UPS PANEL	1200	850	2105	
4	BA-200F1	DC UPS BATTERY RACK	1050	510	1272	
5	CB-200F1 02	ISOLATOR FOR DC UPS	452	377	634	
6	CP-100E1	66 kV SWITCHGEAR LOCAL CONTROL PANEL	1000	700	2200	02
7	B100-HSB-001	DISTRIBUTION & HVAC PANEL - HV MV ROOM	1200	600	1900	
8	-	SERVICE TROLLEY FOR 6.6kV SWITCHGEAR	943	862	874	
9	-	TOOL BOX	495	200	200	
10	-	SUBSTATION LIFE SAVING & INTERVENTION KIT	754	270	840	
11	-	TABLE	1000	500	750	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20104**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	10/11/2023	DSF	CB/AMA	OYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
HV SWITCHROOM

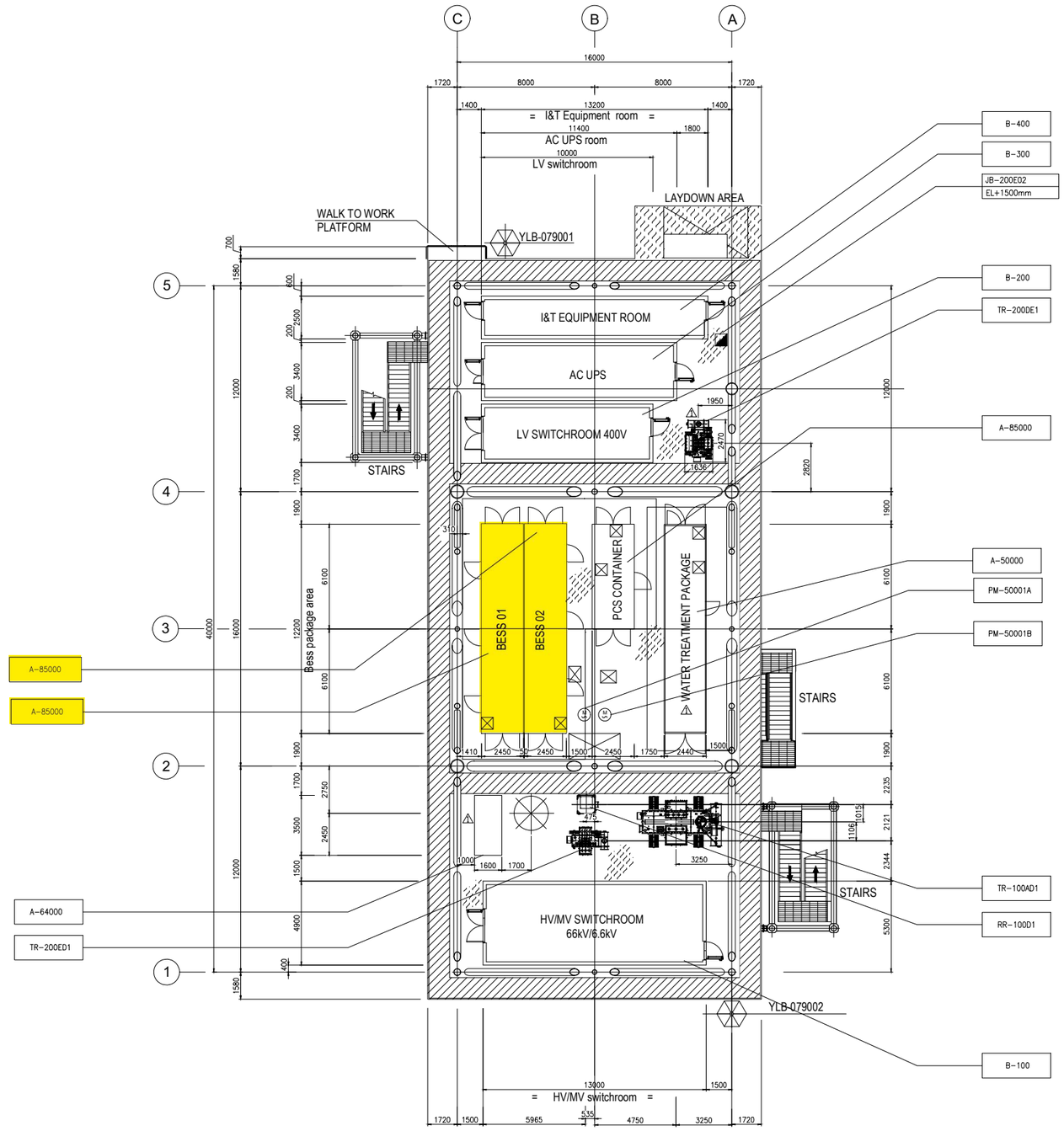
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN GPA	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024

A1	DRAWING NO. 123A90-DDL-EL-DL-20104	SHEET 001	REV. 02

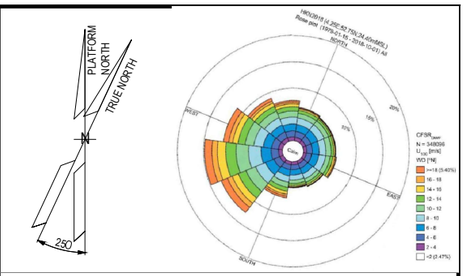
File Name : 123A90-DDL-EL-DL-20104_REV02.dwg

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20101
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 04/03/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20101 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

FROM	TO

DESCRIPTION: 6.6KV HV SWITCHGEAR
TAG NUMBER: SG-100D1

COLUMN/CUBIC.:A6

-XM

VT INCOMING FOR SYNCHRONIZER

XM / 1	L1
XM / 2	L2
XM / 3	L3
XM / 4	N

BK

82006-CEC
4C X 4 mm²

BK

DESCRIPTION: BESS UCP
TAG NUMBER: A85000

COLUMN/CUBIC.:-

+CTRL_2.1
-XE3

L1	1	PHASE VOLTAGE FROM 6.6KV
L2	2	
L3	3	
N	4	

COLUMN/CUBIC.:A5

-XM

VT BUSBAR FOR SYNCHRONIZER

XM / 11	L1
XM / 12	L2
XM / 13	L3
XM / 14	N

BK

82007-CEC
4C X 4 mm²

BK

+CTRL_2.1
-XE3

L1	5	PHASE VOLTAGE FROM 6.6KV
L2	6	
L3	7	
N	8	

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

REV.:	DATE:	SIGNATURE:
2_A	21/11/24	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
BESS UCP SYNCHRONIZER VOLTAGE FROM 6.6KV

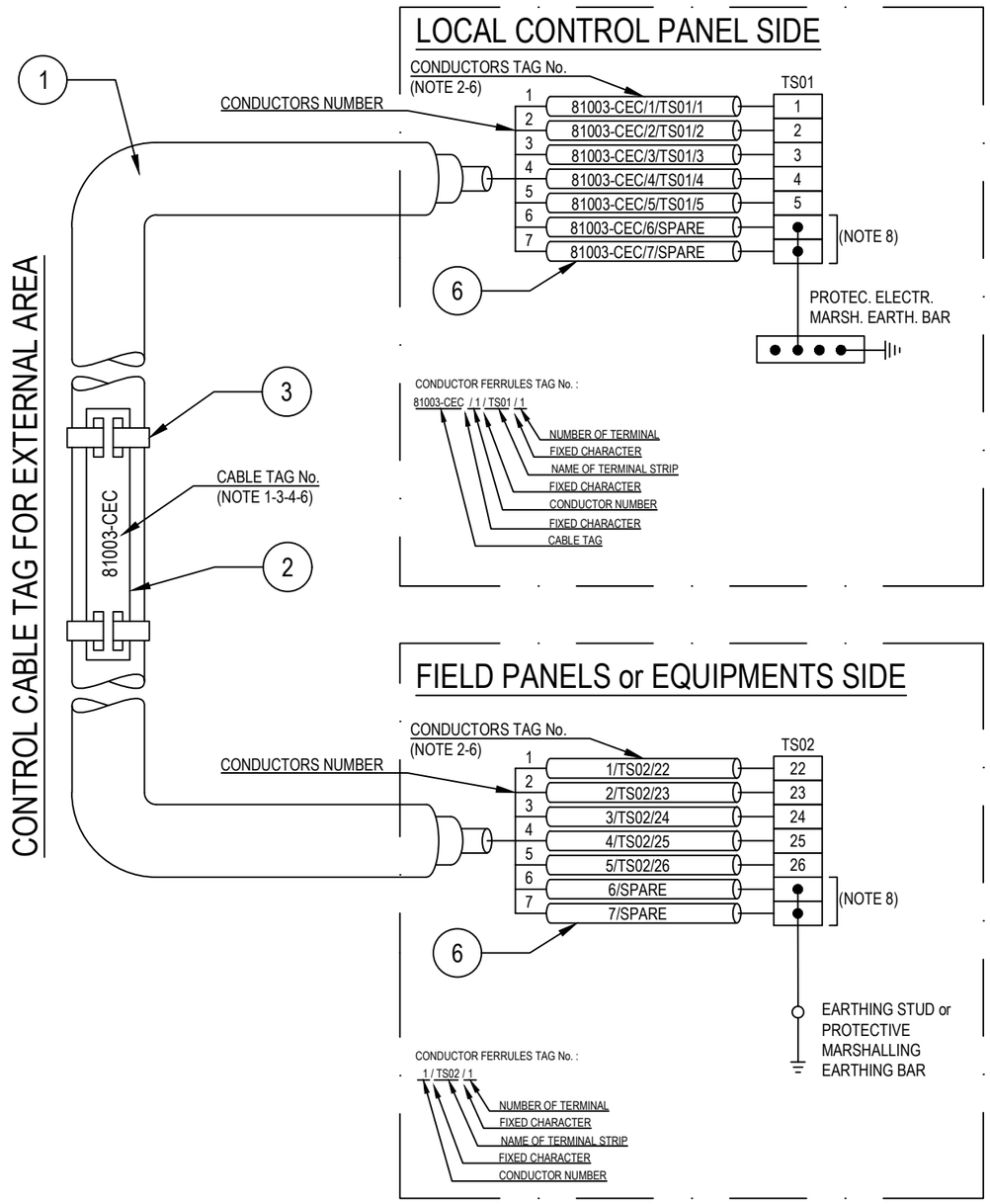
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 074 | REV. 02

F.to UNI A3: 420mmx297mm

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

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
   CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

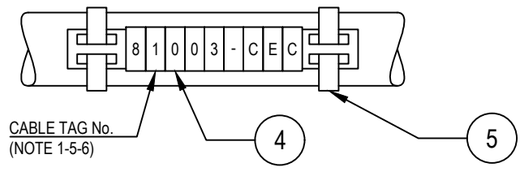
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
   WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
   - PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

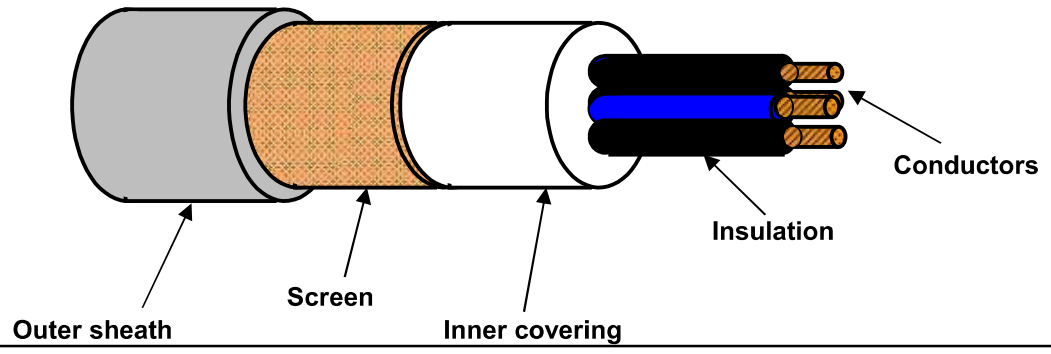
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
82007-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-100D1	MV 6,6kV Switchgear	Lower Deck (B-100)	A-85000	BESS	Lower Deck	ELECV35-4X4	Cable Cu Cl.2/XLPE/LSZH/CWB/LSZH 0,6/1kV 4Cx4mm² - Grey	M20	n.a.			n.a.				L-300-101-LVT-059 / L-600-101-LVT-058 / E-MCT-105 / L-300-101-LVT-074 / L-600-101-LVT-012 / L-300-101-LVT-068

Cu Cl.2/XLPE/LSZH/CWB/LSZH 0,6/1 KV

4CX4 - CONTROL CABLE - SCREENED - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 4)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Screen :	**Copper Wire Braid (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 4CX4 SQMM - XLPE/LSZH/CWB/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(15,4 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Screen)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 690 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	85001-CEC	: BESS / 6.6KV HV Switchgear			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD/LD_B-100
TASK	code	C10002325		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX10 Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH | Cores/Size mm²: 7X1,5 mm2 | Color: GREY

From: A-85000 | To: SG-100D1

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	OK
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	NA
9	Check terminations are in accordance with latest termination diagram.	PL
10	Check cable earthing against lastest drawings.	NA
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

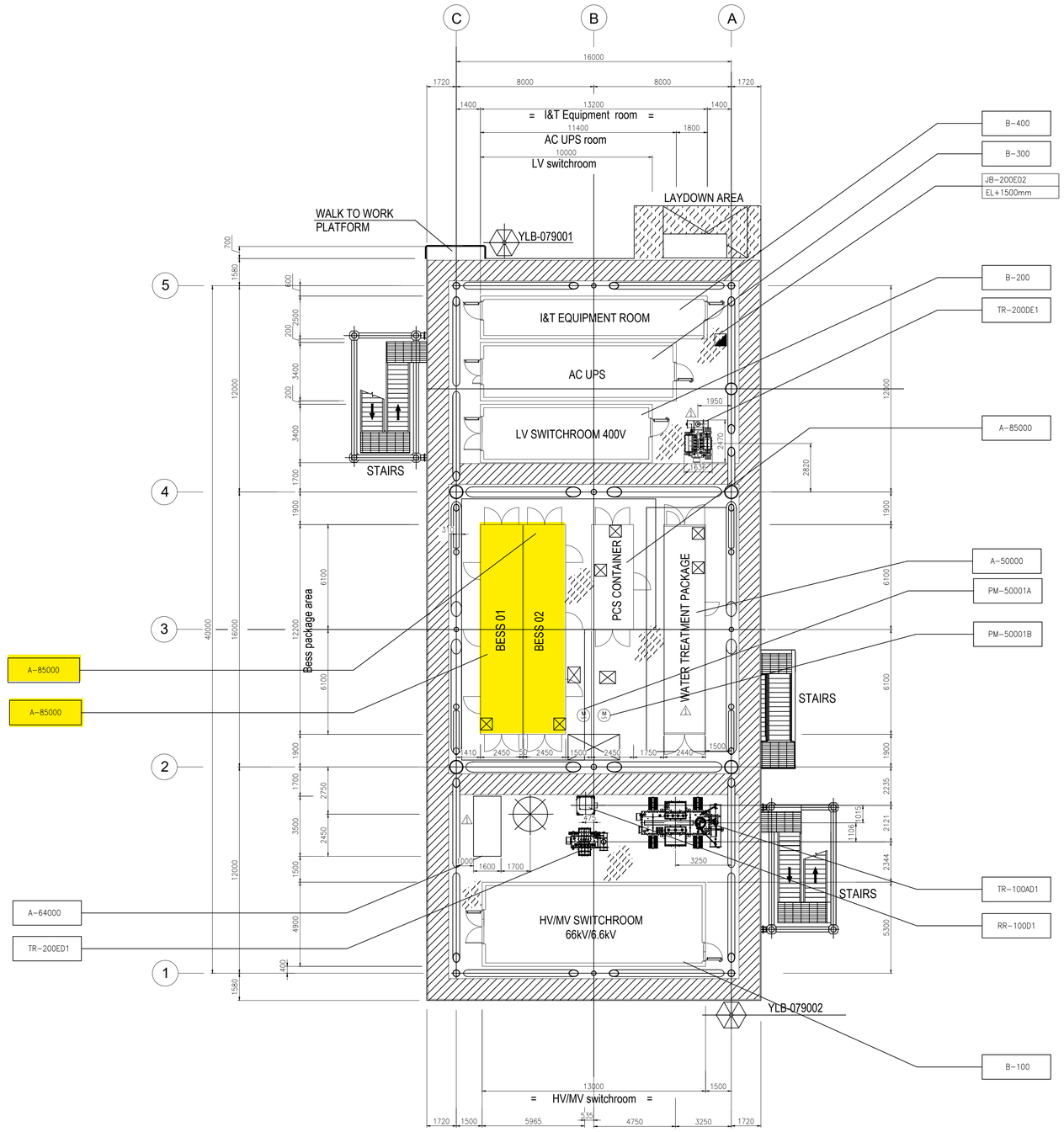
CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,6
	CORE 2 / All cores+screen+armour+earth	0,6
	CORE 3 / All cores+screen+armour+earth	0,6
	CORE 4 / All cores+screen+armour+earth	0,6
	CORE 5 / All cores+screen+armour+earth	0,6
	CORE 6 / All cores+screen+armour+earth	0,6
	CORE 7 / All cores+screen+armour+earth	0,6
	CORE 8 / All cores+screen+armour+earth	\
	CORE 9 / All cores+screen+armour+earth	\
	CORE 10 / All cores+screen+armour+earth	\
INSULATION	CORE 1	>1999
	CORE 2	>1999
	CORE 3	>1999
	CORE 4	>1999
	CORE 5	>1999
	CORE 6	>1999
	CORE 7	>1999
	CORE 8	\
	CORE 9	\
	CORE 10	\
	SCREEN	N/A
	EARTH	N/A
	ARMr	N/A
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

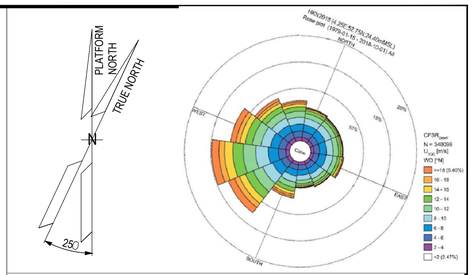
TYPE / SERIAL N° : MEGGER: KEW3125A SERIAL:W8330207 Calibration certificate N° and date: N° 7722/24 10/07/2024	TYPE / SERIAL N° : Calibration certificate N° and date:
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE / SERIAL N° : Calibration certificate N° and date:

Comments: Note 4 : Refer to PL C30000679

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:57:34.818Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:46:35.497Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
	INTERFACE PANEL
	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

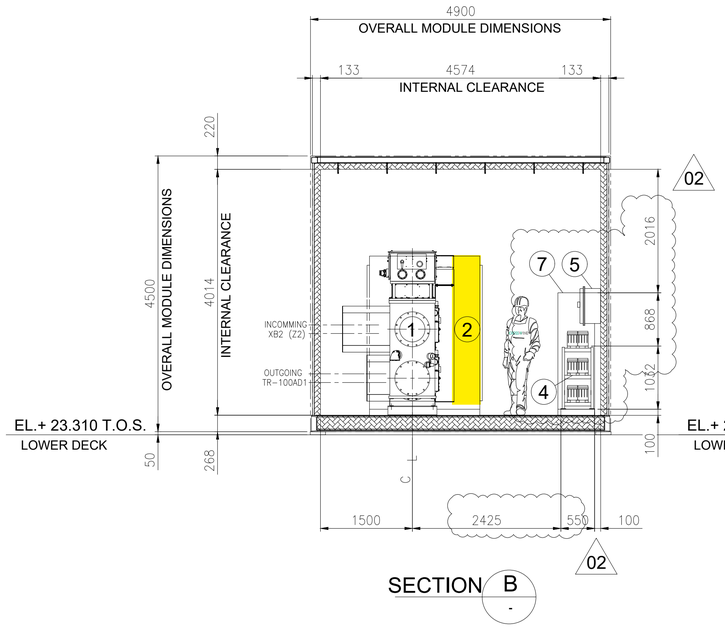
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

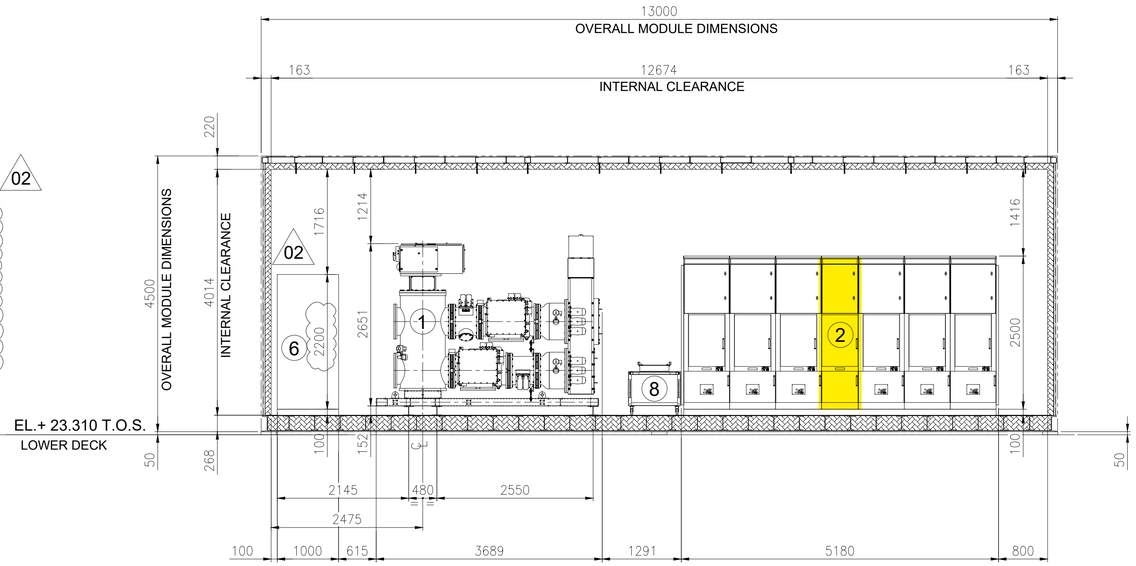
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REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

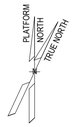
DRAWING NO. 123A90-DDL-EL-DL-20104 REV. 02

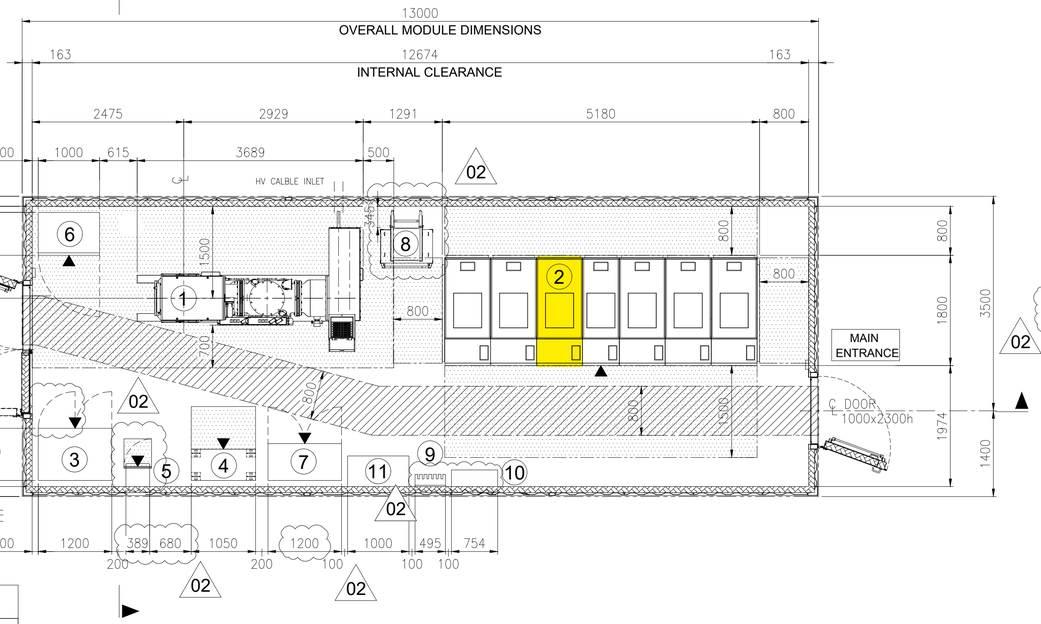


SECTION B -



SECTION A -

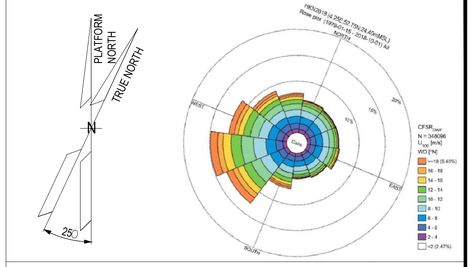




A -

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	HNA6-AFA70	66kV SWITCHGEAR (GIS)	3689	2025	2651	
2	SG-100D1	6.6kV SWITCHGEAR	5180	1800	2500	
3	UP-200F1	DC UPS PANEL	1200	850	2105	
4	BA-200F1	DC UPS BATTERY RACK	1050	510	1272	
5	CB-200F1 02	ISOLATOR FOR DC UPS	452	377	634	
6	CP-100E1	66 kV SWITCHGEAR LOCAL CONTROL PANEL	1000	700	2200	02
7	B100-HSB-001	DISTRIBUTION & HVAC PANEL - HV MV ROOM	1200	600	1900	
8	-	SERVICE TROLLEY FOR 6.6kV SWITCHGEAR	943	862	874	
9	-	TOOL BOX	495	200	200	
10	-	SUBSTATION LIFE SAVING & INTERVENTION KIT	754	270	840	
11	-	TABLE	1000	500	750	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFROMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

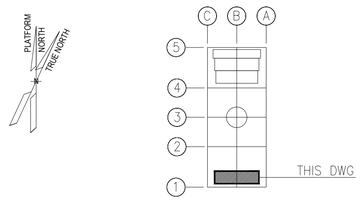
LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
66kV SWITCHGEAR (GIS) GENERAL ARRANGEMENT DRAWING	1723001595-EL-DA-00006
CIRCUIT AND WIRING DIAGRAM	1723001595-EL-DG-00015
SG-100D1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00006
DC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00003
DC UPS – BATTERY LAYOUT AND INTERCONNECTING DIAGRAM	1724000372-EL-DG-00010
B-100 - GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00014

KEY PLAN



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20104**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	10/11/2023	DSF	CB/AMA	OYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
HV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:50
DRAWN GPA | CHECKED LMA/AMA | APPROVED LMA/MDO | DATE 27/05/2024

A1 | DRAWING NO. 123A90-DDL-EL-DL-20104 | SHEET 001 | REV. 02

File Name : 123A90-DDL-EL-DL-20104_REV02.dwg

FROM	TO

DESCRIPTION: LV SWBD 800/460V
TAG NUMBER: SG-200D2

COLUMN: -

PERMISSIVES FROM SOLAR LV TO 6.6KV FEEDER CB AND EARTHING SWITCH

-X2

CB OPEN	X2 / 27	1
	X2 / 28	2
	X2 / 29	3
CB ISOLATED / TEST POSITION	X2 / 30	4
	X2 / 31	5
CB TRIPPED	X2 / 32	6
		7

BK — 83015-CEC 7C X 1.5 mm² — BK

DESCRIPTION: 6.6KV HV SWITCHGEAR
TAG NUMBER: SG-100D1

-XM

1	XM / 31	CB OPENED FROM LV SWBD 800/460V
2	XM / 32	
3	XM / 43	CB IN TEST POSITION FROM LV SWBD 800/460V
4	XM / 44	
5	XM / 45	FROM LV SWBD 800/460V TRIPPED
6	XM / 46	
7		

DESCRIPTION: BESS
TAG NUMBER: A-85000

COLUMN: -

-XT1

INCOMING CB IS OPEN	17	1
	18	2
PHASE IN SYNC	13	3
	14	4
		5
		6
		7

BK — 85001-CEC 7C X 1.5 mm² — BK

DESCRIPTION: 6.6KV HV SWITCHGEAR
TAG NUMBER: SG-100D1

COLUMN: A6

-XM

1	XM / 59	CLOSING COMMAND BY SYNCHRO
2	XM / 60	
3	XM / 87	ISLAND SIGNAL
4	XM / 88	
5		
6		
7		

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_A | DATE: 21/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
INTERLOCKS BETWEEN BESS & 6.6KV HV SWITCHGEAR

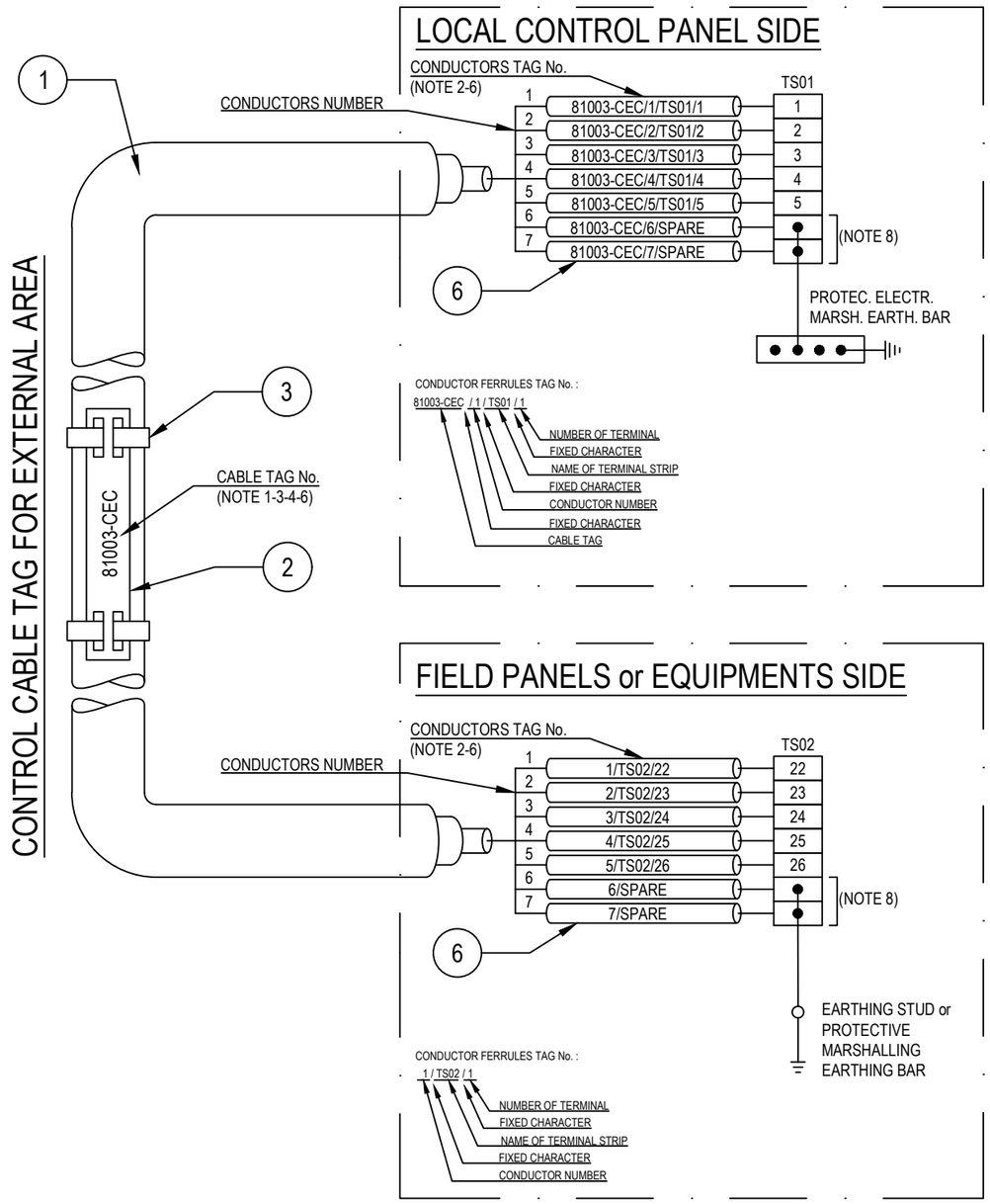
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 084 | REV. 02

F.to UNI A3: 420mmx297mm

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

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
   CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

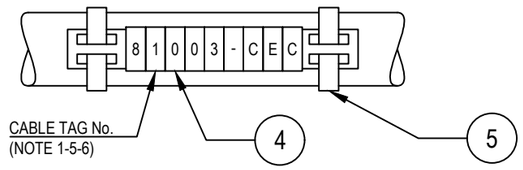
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
   WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
   - PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

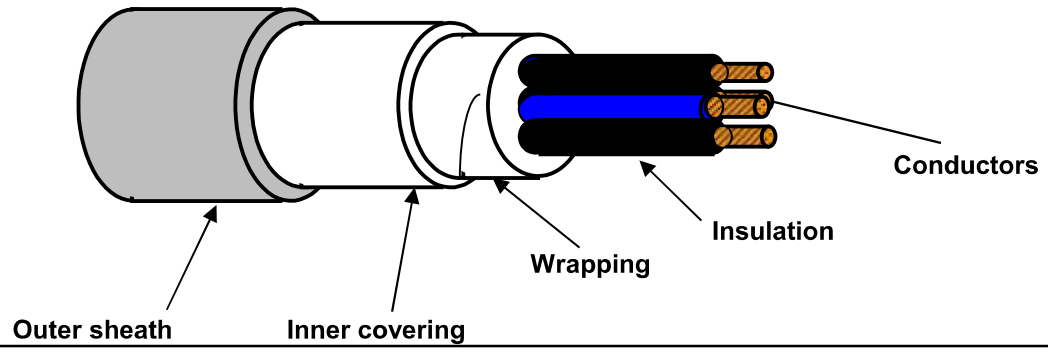
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
85001-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						A-85000	BESS	Lower Deck	SG-100D1	MV 6,6kV Switchgear	Lower Deck (B-100)	ELECV34-7X1,5	Cable Cu Cl.2/XLPE/LSZH 0,6/1kV 7Cx1,5mm² - Grey	M25	n.a.			n.a.				L-300-101-LVT-068 / L-600-101-LVT-012 / L-300-101-LVT-074 / E-MCT-105 / L-600-101-LVT-058 / L-300-101-LVT-059

FLEI s.r.l.

Cu Cl.2/XLPE/LSZH 0,6/1 KV

7CX1,5 - CONTROL CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 7)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	by plastic tape helically wound	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,2 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 7CX1,5 SQMM - XLPE/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(13,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	85002-CEC	: EMCS / BESS			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD_B-400/LD
TASK	code	C10002326		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX10 Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH | Cores/Size mm²: 7X1,5 mm2 | Color: GREY

From: B400-EMCS-001 | To: A-85000

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	OK
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	NA
9	Check terminations are in accordance with latest termination diagram.	PL
10	Check cable earthing against lastest drawings.	NA
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,6
	CORE 2 / All cores+screen+armour+earth	0,6
	CORE 3 / All cores+screen+armour+earth	0,6
	CORE 4 / All cores+screen+armour+earth	0,6
	CORE 5 / All cores+screen+armour+earth	0,6
	CORE 6 / All cores+screen+armour+earth	0,6
	CORE 7 / All cores+screen+armour+earth	0,6
	CORE 8 / All cores+screen+armour+earth	\
	CORE 9 / All cores+screen+armour+earth	\
	CORE 10 / All cores+screen+armour+earth	\
INSULATION	CORE 1	>1999
	CORE 2	>1999
	CORE 3	>1999
	CORE 4	>1999
	CORE 5	>1999
	CORE 6	>1999
	CORE 7	>1999
	CORE 8	\
	CORE 9	\
	CORE 10	\
	SCREEN	N/A
	EARTH	N/A
	ARMr	N/A
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

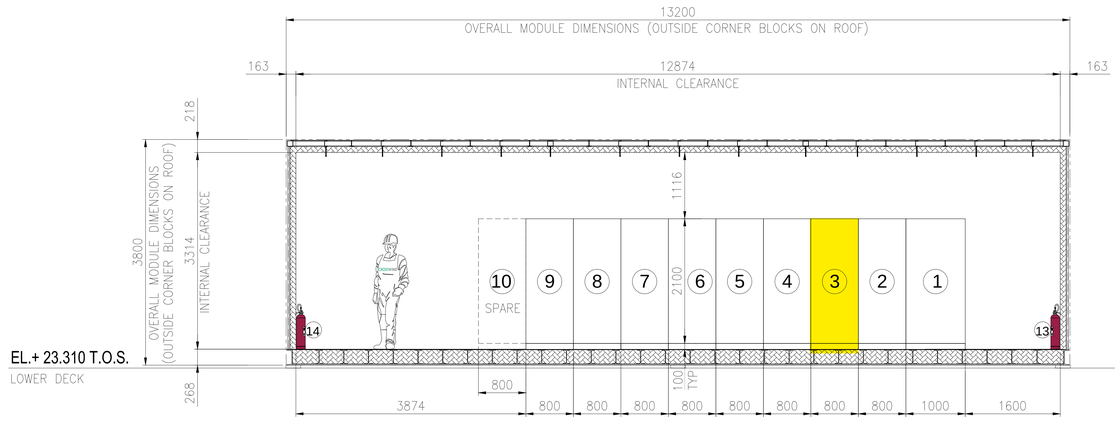
TYPE / SERIAL N° : MEGGER: KEW3125A SERIAL:W8330207 Calibration certificate N° and date: N° 7722/24 10/07/2024	TYPE / SERIAL N° : Calibration certificate N° and date:
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE / SERIAL N° : Calibration certificate N° and date:

Comments: Note 4 : Refer to PL C30000679

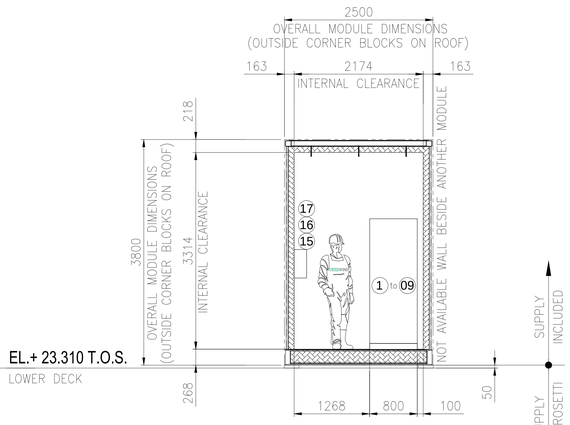
Page 1/1	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:57:43.201Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:46:47.064Z	

DRAWING NO. 123A90-DDL-IN-DL-40012

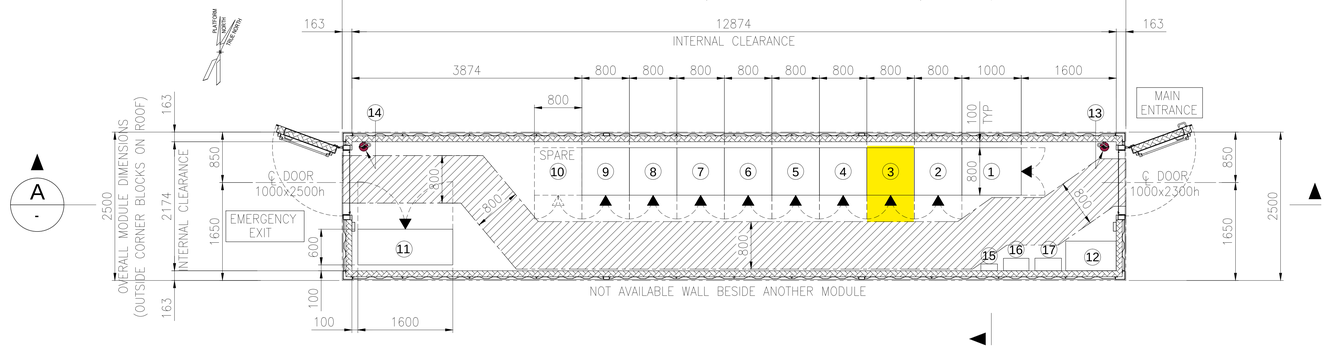
REV. 02



SECTION A -



SECTION B -

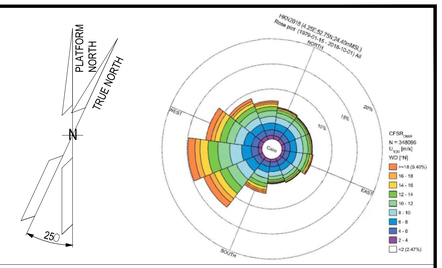


EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

02

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-001	PCS SYSTEM CABINET	800	800	2100	
5	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
6	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

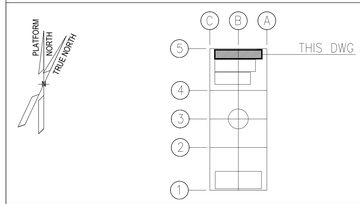
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

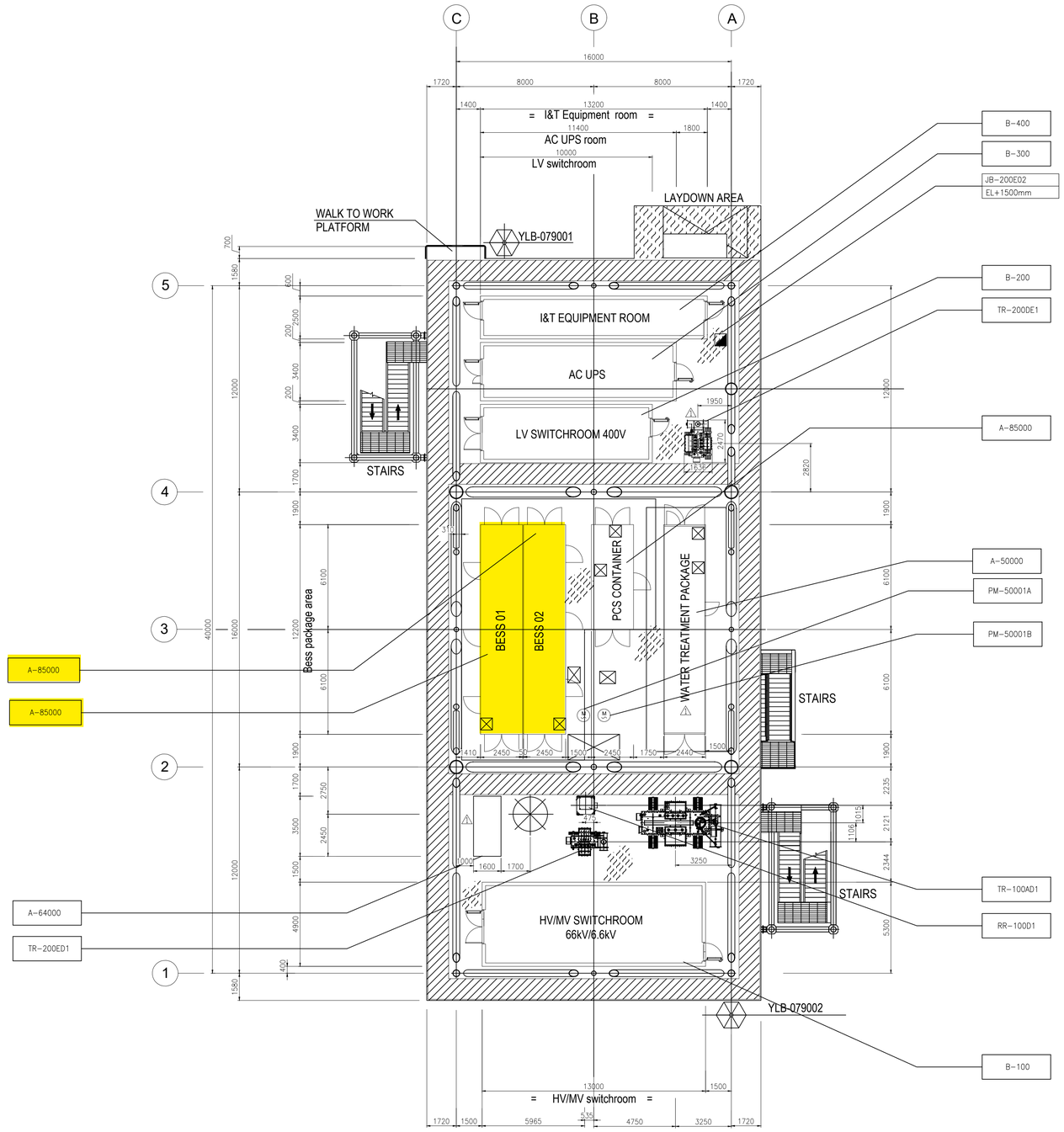
ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

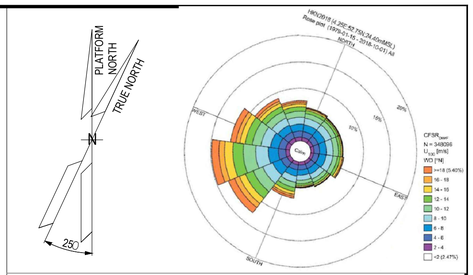
TITLE :
BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40012 Rev.02.dwg



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
	INTERFACE PANEL
	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101
REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

FROM	TO

DESCRIPTION: EMCS
TAG NUMBER: B400-EMCS-001

COLUMN: -

-TB-DI

TB-DI / 25 — 1
TB-DI / 26 — 2
3
4
5
6
7

BK

85002-CEC
7C X 1.5 mm²

BK

DESCRIPTION: BESS
TAG NUMBER: A-85000

COLUMN: -

-XT1

1 — XT1 / 19 — PERMISSIVE - BESS TO SWITCH TO GRID FORMING MODE
2 — XT1 / 20
3
4
5
6
7

DESCRIPTION: LCP GIS
TAG NUMBER: CP-100E1

COLUMN: -

-X1

ISLAND SIGNAL

X1 / 39 — 1
X1 / 40 — 2
X1 / 41 — 3
X1 / 42 — 4
X1 / 43 — 5
X1 / 44 — 6
7

BK

81013-CEC
7C X 1.5 mm²

BK

DESCRIPTION: 6.6KV HV SWITCHGEAR
TAG NUMBER: SG-100D1

COLUMN: A6

-XM

1 — XM / 43 — 66 KV CB OPEN STATUS
2 — XM / 44
3 — XM / 81 — 66 KV CB OPEN STATUS FOR ELECTROLYZER FEEDER
4 — XM / 82
5 — XM / 83 — 66 KV CB OPEN STATUS FOR BESS
6 — XM / 84
7

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_A | DATE: 21/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
INTERLOCKS BETWEEN LCP GIS&6.6KV HV SWITCHGEAR

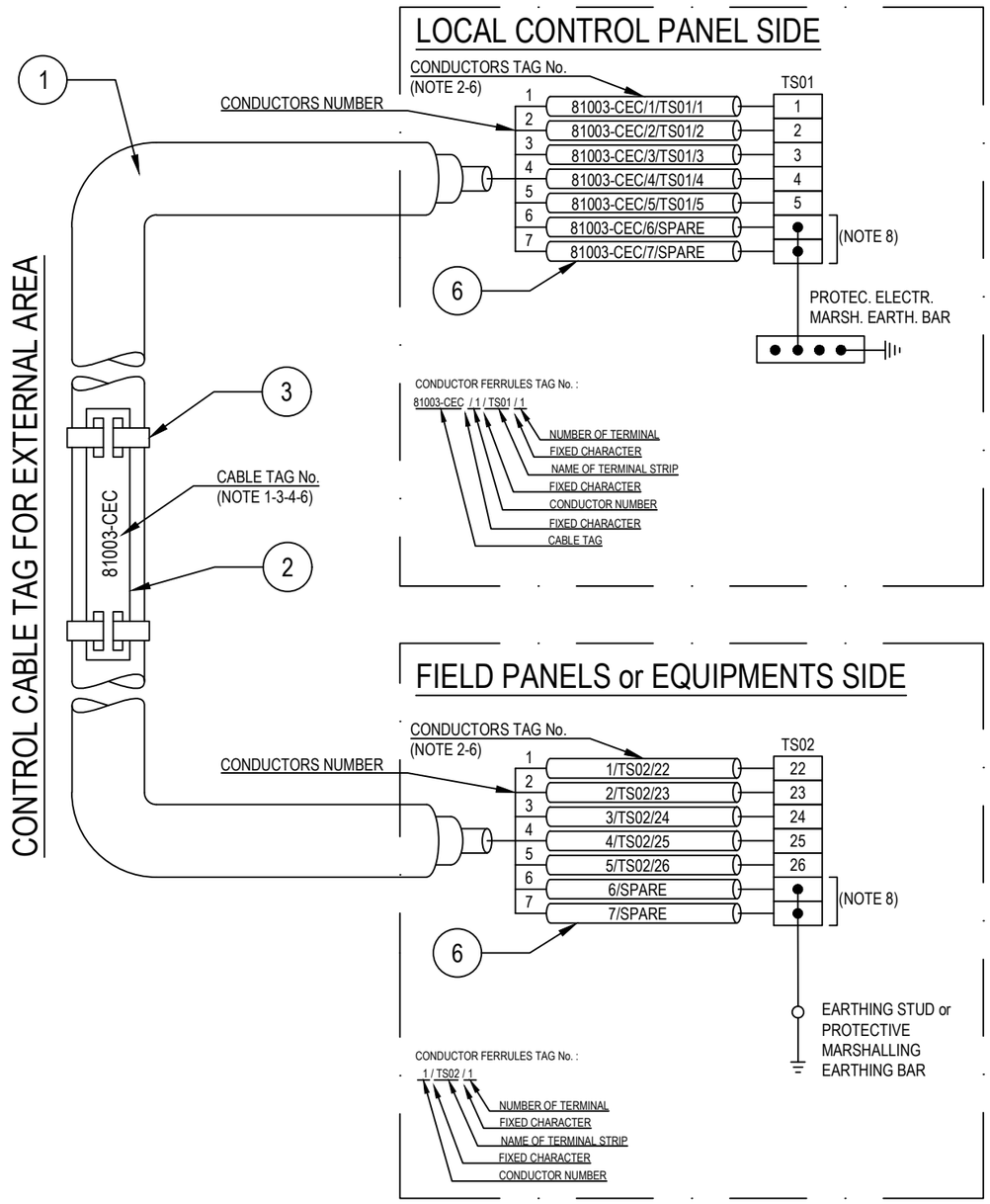
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 085 | REV. 02

F.to UNI A3: 420mmx297mm

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

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
   CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

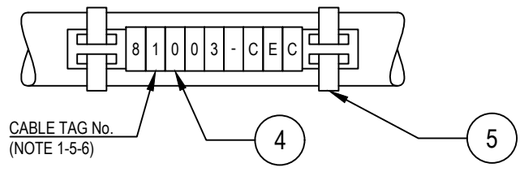
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
   WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
   - PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

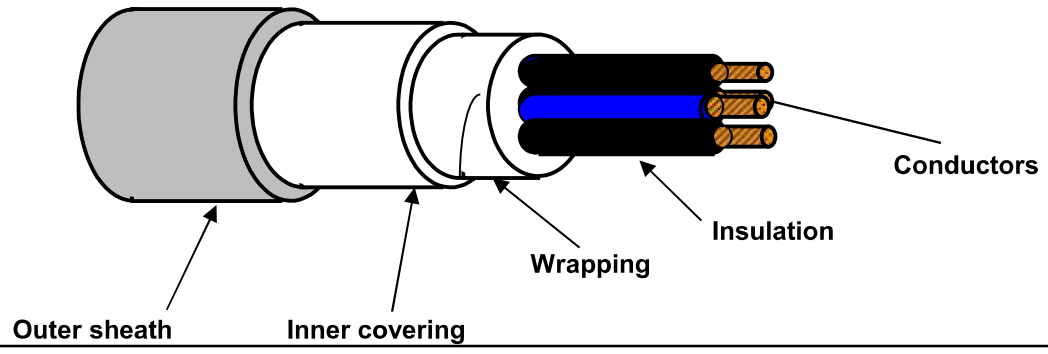
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
85002-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						B400-EMCS-001	EMCS Cabinet	Lower Deck (B-400)	A-85000	BESS	Lower Deck	ELECV34-7X1,5	Cable Cu Cl.2/XLPE/LSZH 0,6/1kV 7Cx1,5mm² - Grey	M25	n.a.			n.a.				L-150-101-LVT-149 / L-300-101-LVT-067 / L-300-101-LVT-066 / L-300-101-LVT-065 / E-MCT-401 / L-300-101-LVT-009 / L-450-101-LVT-008 / L-600-101-LVT-012 / L-300-101-LVT-068

FLEI s.r.l.

Cu Cl.2/XLPE/LSZH 0,6/1 KV

7CX1,5 - CONTROL CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 7)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	by plastic tape helically wound	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,2 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 7CX1,5 SQMM - XLPE/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(13,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 85-00 & process: MC & discipline : I

Instrumental	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-85-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	ONSHORE	C10001447	CJX10	100	2024-11-25	RFC 1
P320PLC/B400-FGS-003	CONFIRMED GAS ALARM / MARSHALLING PCS	ONSHORE	C10001464	CJX10	100	2024-11-25	RFC 1
P320PLC/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	ONSHORE	C10001453	CJX10	100	2024-11-25	RFC 1

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-85-XS-001/B400-SIS-001	: TRIP SIGNAL TO UCP / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091		
	S/Sys	85-00	: BESS Package (A-85000)	Module	LD/LD_B-400		
TASK	code	C10001447	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity	CCK	Discipline	Instrumental	Form	CJX10	Multi/Single-Core Instrument Control Cable

CABLE DATA

Type	Cu-MICA-XLPE-OS-LSZH-SWB-LSZH	Cores/Size mm²	2X2,5 mm2	Color	ORANGE
From	A-85000	To	B400-SIS-001		

1	Check cable is as specified in project cable schedule.	OK
2	Check relevant documents are at the latest revision.	OK
3	Check cable is routed in accordance with cable layout drawings.	OK
4	Check cable for any physical damage.	OK
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	Note
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	PL
12	Check gland plate for single core cables is non-ferrous.	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

INSULATION	CORE to EARTH		>999	MΩ
	CORE to CORE		>999	MΩ
	CORE to SCREEN		>999	MΩ
	CORE to ARMr		>999	MΩ
	SCREEN to EARTH		>999	MΩ
	SCREEN to ARMr		>999	MΩ
CONTINUITY	CORES		1,8	Ω
	SCREEN		1,8	Ω
	EARTH		N/A	Ω
	ARMr		1,8	Ω
	TEST VOLTS		500	V

TEST ALL CORES AND RECORD LOWEST VALUE

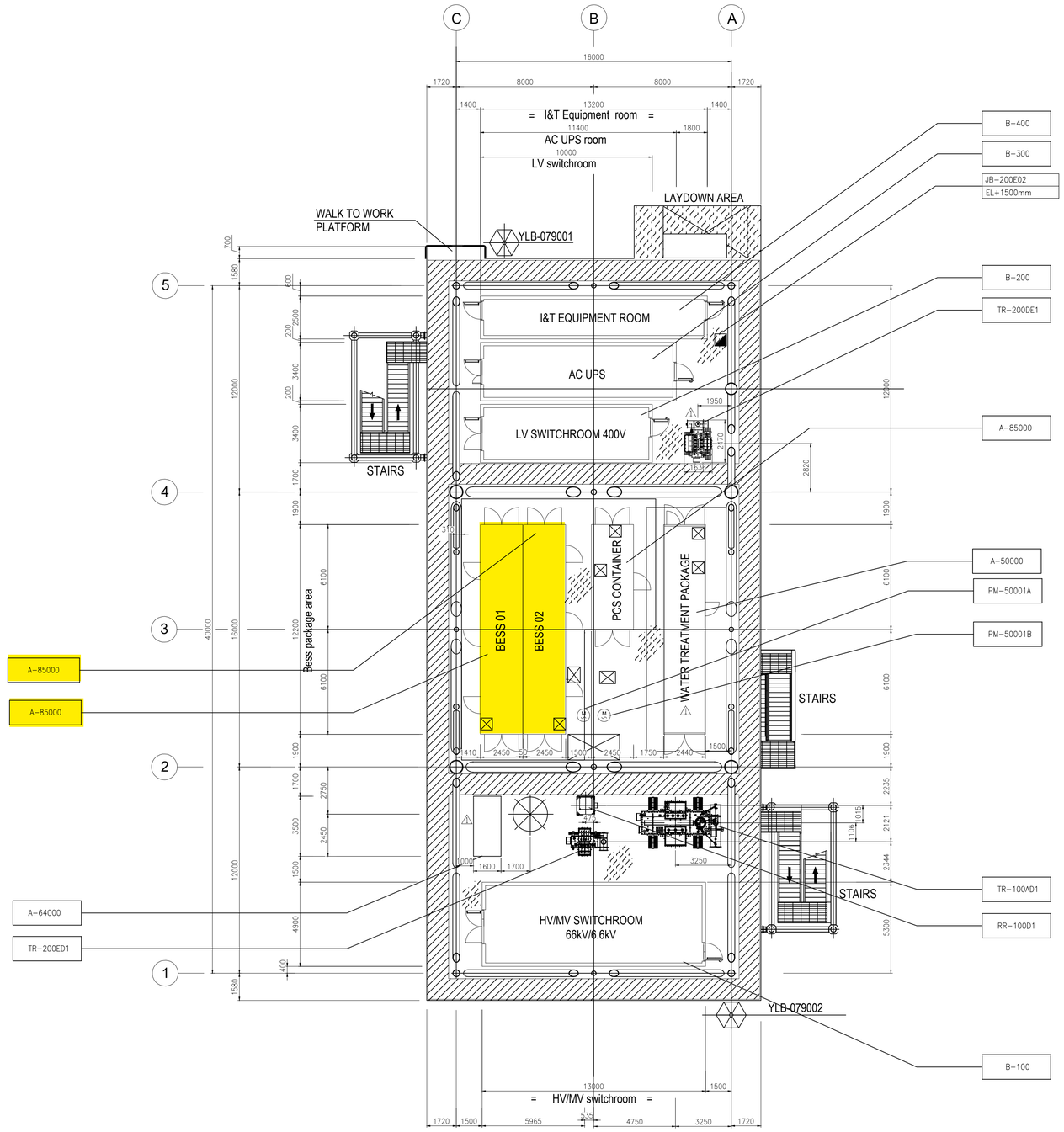
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

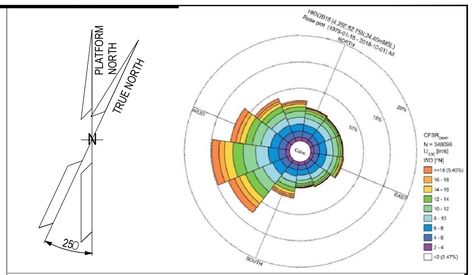
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Note 4 : Refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:56:41.246Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:46:57.104Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
	INTERFACE PANEL
	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

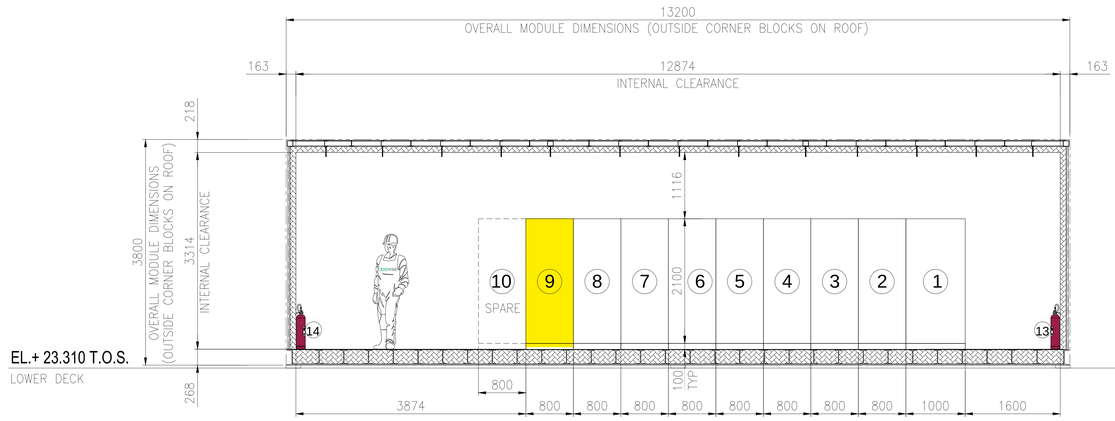
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101
REV. 01

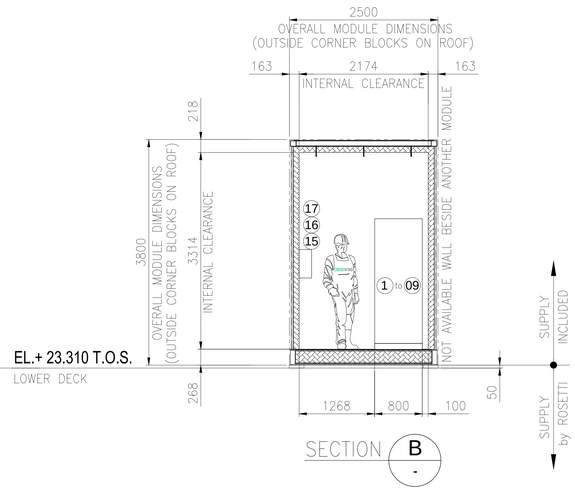
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DRAWING NO. 123A90-DDL-IN-DL-40012

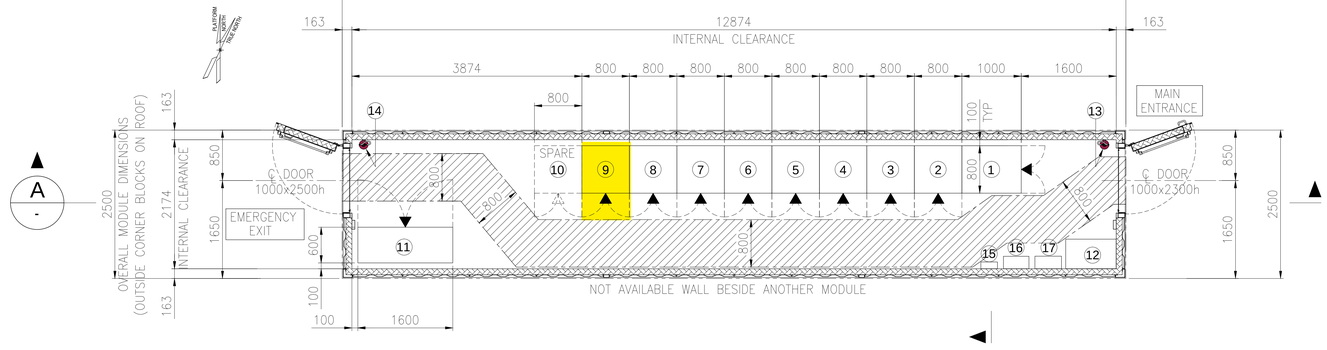
REV. 02



SECTION A -



SECTION B -

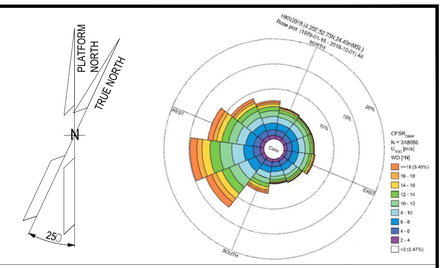


EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

02

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-001	PCS SYSTEM CABINET	800	800	2100	
5	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
6	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

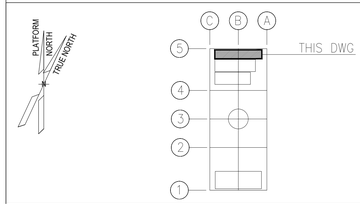
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:33,3
DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24
A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 02

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

File Name : 123A90-DDL-IN-DL-40012 Rev.02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
PACKAGE	CABLE NO	MARSHALLING CABINET B400-SIS-001

<01>

A-85000 BESS UCP — 85-XS-001 — (NOTE 5) — (NOTE 5) — 1BK / 2BK — NOTE-2
C-85-XS-001/B400-SIS-001
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-XS-000 — 1BK / 2BK — 45 / 46 — 85-XS-001
Shield Bar

A-20000 ELECTROLYSER UCP — 20-XS-001 — (NOTE 5) — (NOTE 5) — 1BK / 2BK — NOTE-2
C-20-XS-001/B400-SIS-001
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-XS-000 — 1BK / 2BK — 07 / 08 — 20-XS-001
Shield Bar

A-80000 FUEL CELL UCP — 80-XS-001 — (NOTE 5) — (NOTE 5) — 1BK / 2BK — NOTE-2
C-80-XS-001/B400-SIS-001
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-XS-000 — 1BK / 2BK — 29 / 30 — 80-XS-001
Shield Bar

A-50003 Water Treatment Unit UCP — 50-XS-001 — TB-EXT — 1 / 2 — 1BK / 2BK — NOTE-2
C-50-XS-001/B400-SIS-001
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-XS-000 — 1BK / 2BK — 15 / 16 — 50-XS-001
Shield Bar

A-63000 I. AIR PACKAGE UCP — 63-XS-001 — TB-XA — 1 / 2 — 1BK / 2BK — NOTE-2
C-63-XS-001/B400-SIS-001
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-XS-000 — 1BK / 2BK — 17 / 18 — 63-XS-001
Shield Bar

A-64000 NITROGEN PACKAGE UCP — 64-XS-001 — TB-XA — 1 / 2 — 1BK / 2BK — NOTE-2
C-64-XS-001/B400-SIS-001
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-XS-000 — 1BK / 2BK — 19 / 20 — 64-XS-001
I.E.
Shield Bar

<01>

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
PACKAGE UCP SHUTDOWN

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123-A90-DDL-IN-DG-40016	020	01

File Name : 123A90-DDL-IN-DG-40015_00.DWG

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

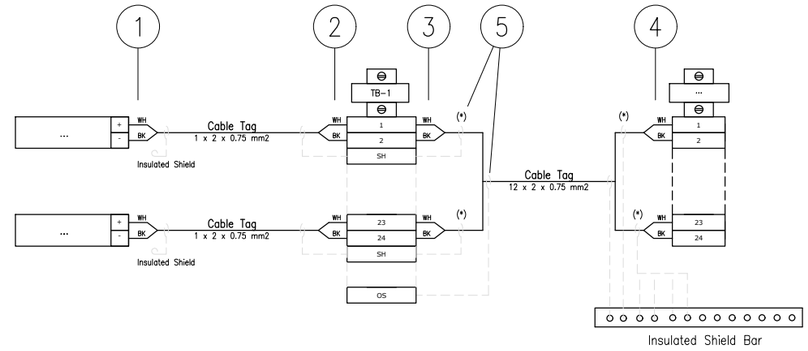
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

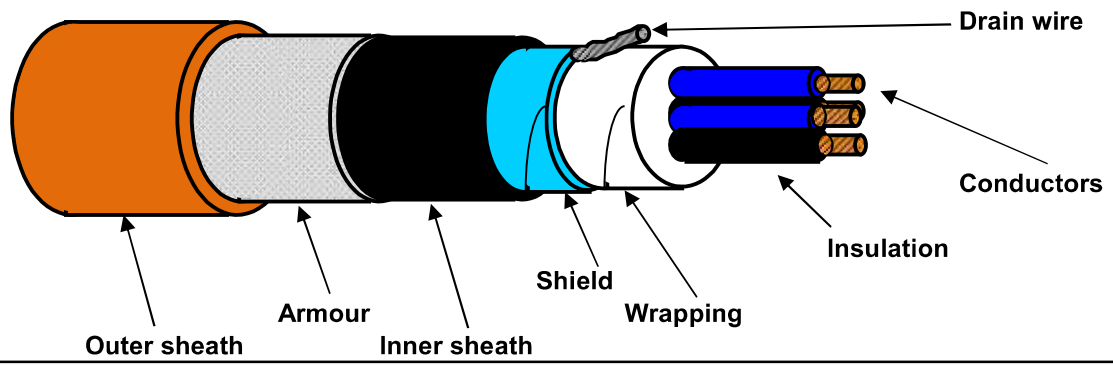
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-85-XS-001/B400-SIS-001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						A-85000	BESS	Lower Deck	B400-SIS-001	Marshalling SIS	Lower Deck (B-400)	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	n.a.			n.a.				L-SEC-7 / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-1A / I-MCT-401

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm	
Cores colour code :	**Black NUMBERED (from 1 to 2)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	8/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant,	
	Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(10,3 ± 10%) mm	
Over armour diameter :	(11,5 ± 10%) mm	
Outer diameter :	(14,1 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ROSETTI MARINO

CROSSWIND

ITEM	Tag	P320PLC/B400-SIS-001	: UCP FAULT ALARM / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091		
	S/Sys	85-00	: BESS Package (A-85000)	Module	LD/LD_B-400		
TASK	code	C10001453	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity	CCK	Discipline	Instrumental	Form	CJX10	Multi/Single-Core Instrument Control Cable

CABLE DATA

Type	Cu Cl.2/MGT/XLPE/IS/OS/LSZH/SWB/LSZH	Cores/Size mm²	2X2X0,75 mm2	Color	ORANGE
From	A-85000	To	B400-SIS-001		

1	Check cable is as specified in project cable schedule.	OK
2	Check relevant documents are at the latest revision.	OK
3	Check cable is routed in accordance with cable layout drawings.	OK
4	Check cable for any physical damage.	OK
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	Note
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	PL
12	Check gland plate for single core cables is non-ferrous.	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

INSULATION	CORE to EARTH		>999	MΩ
	CORE to CORE		>999	MΩ
	CORE to SCREEN		>999	MΩ
	CORE to ARMr		>999	MΩ
	SCREEN to EARTH		>999	MΩ
	SCREEN to ARMr		>999	MΩ
CONTINUITY	CORES		0,9	Ω
	SCREEN		0,9	Ω
	EARTH		N/A	Ω
	ARMr		0,9	Ω
	TEST VOLTS		500	V

TEST ALL CORES AND RECORD LOWEST VALUE

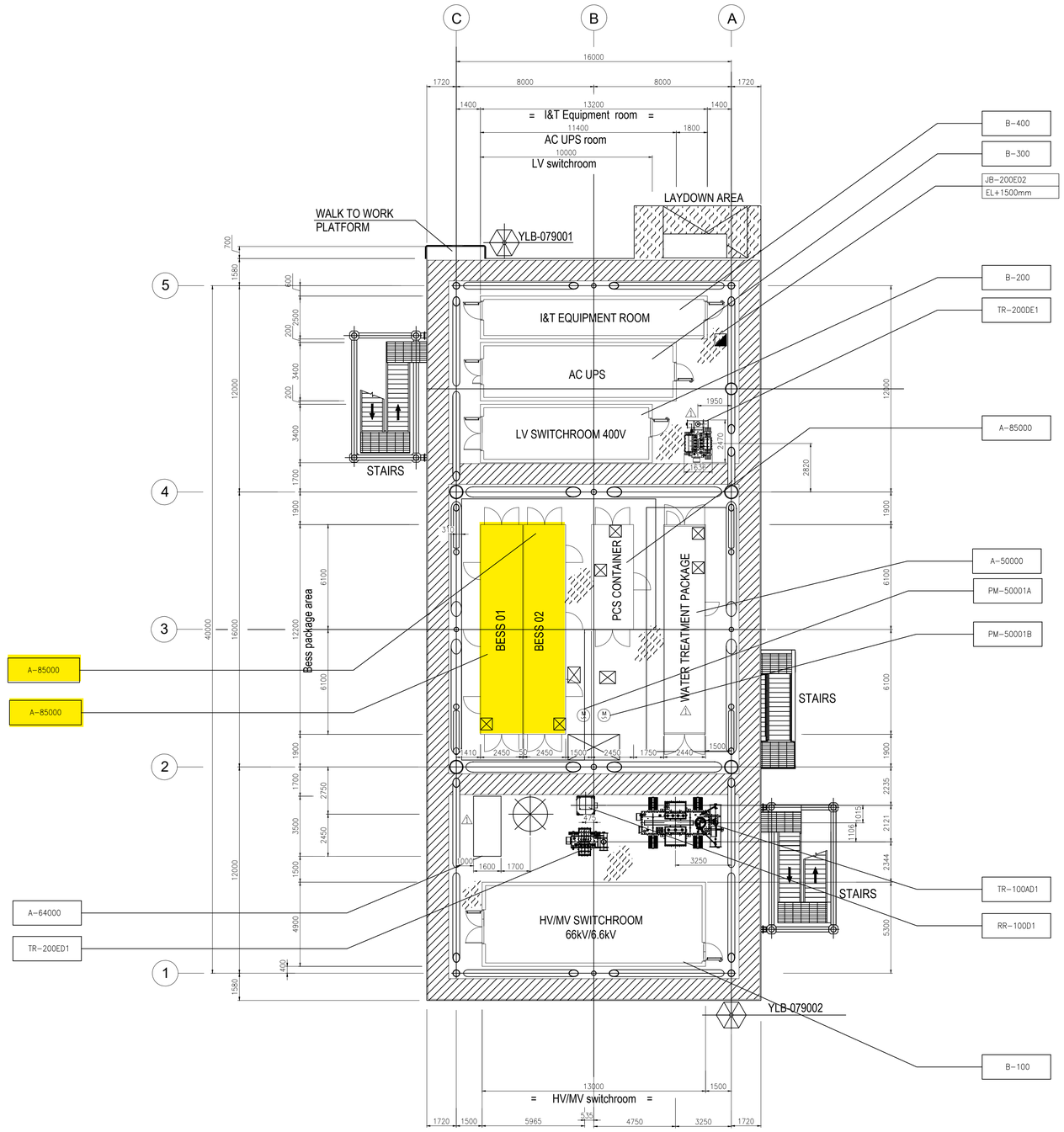
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

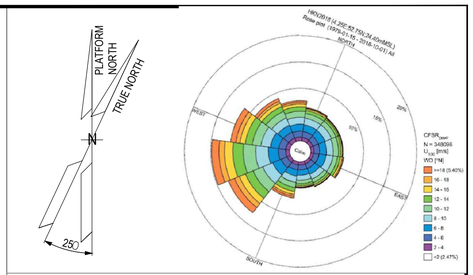
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Note 4 : Refer to PL C30000680

Page 1/1	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:56:49.228Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:47:10.185Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
	INTERFACE PANEL
	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

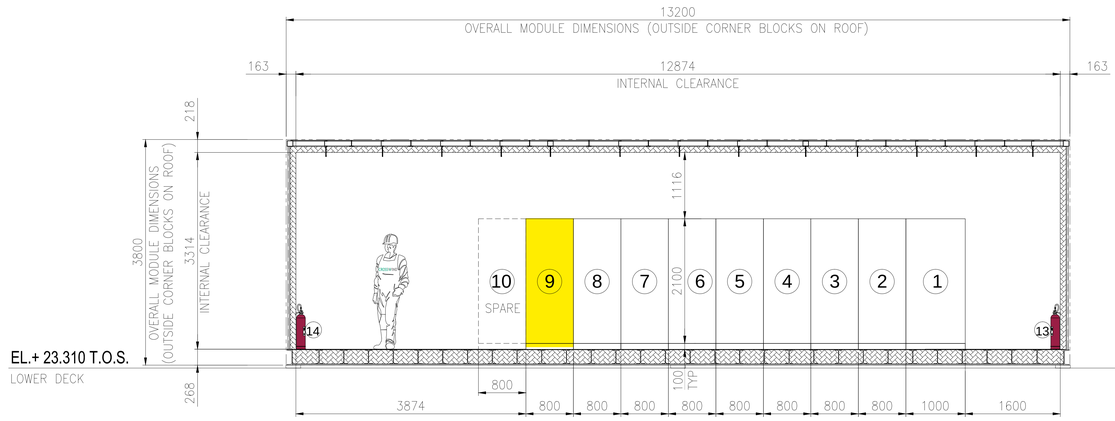
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101
REV. 01

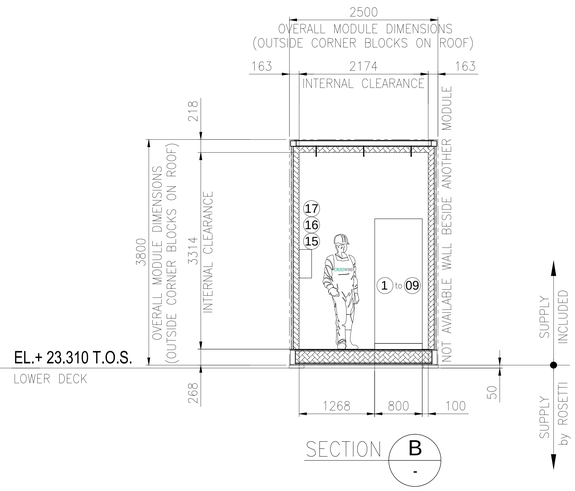
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DRAWING NO. 123A90-DDL-IN-DL-40012

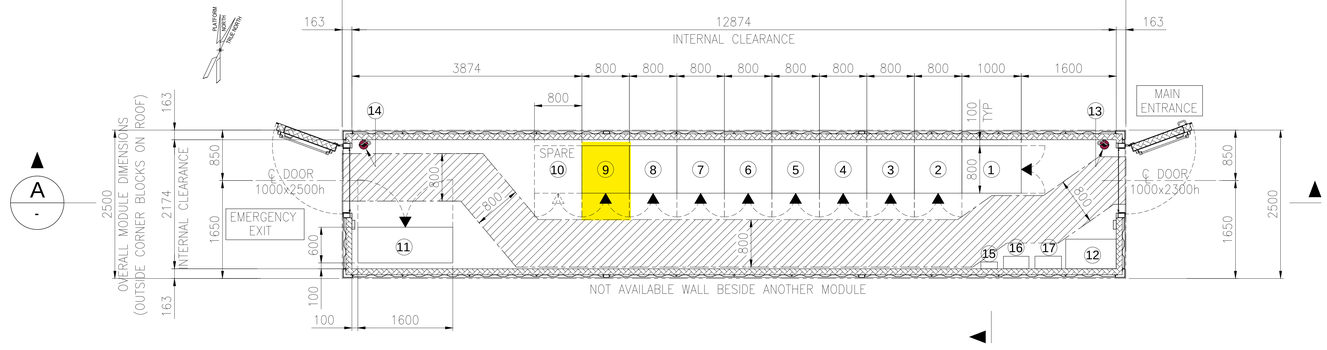
REV. 02



SECTION A -



SECTION B -

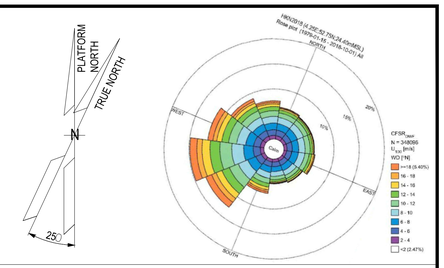


EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

02

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-001	PCS SYSTEM CABINET	800	800	2100	
5	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
6	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

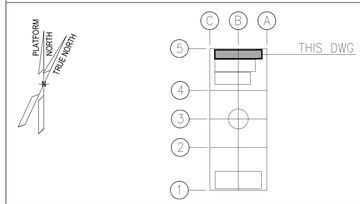
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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:33,3
DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24
A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 02

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

File Name : 123A90-DDL-IN-DL-40012 Rev.02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40015

REV. 01

FIELD

PACKAGE

CABLE NO

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET

B400-SIS-001

<01>

A-85000
BESS
UCP

85-XA-003 — (NOTE 5) / (NOTE 5) / (NOTE 5) — WH, BK — PR1 — NOTE-2

85-XA-004 — (NOTE 5) / (NOTE 5) / (NOTE 5) — WH, BK — PR2 — NOTE-2

P320PLC/B400-SIS-001
2x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-P30PLC
PR1 — WH, BK — 01, 02 — 85-XA-003 — Shield Bar
PR2 — WH, BK — 03, 04 — 85-XA-004 — Shield Bar

A-20000
ELECTROLYSER
UCP

20-XA-003 — (NOTE 5) / (NOTE 5) / (NOTE 5) — WH, BK — NOTE-2

C-20-XA-003/B400-SIS-001
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-XA-000
WH, BK — 01, 02 — 20-XA-003 — Shield Bar

A-80000
FUEL CELL
UCP

80-XA-003 — (NOTE 5) / (NOTE 5) / (NOTE 5) — WH, BK — NOTE-2

C-80-XA-003/B400-SIS-001
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-XA-000
WH, BK — 03, 04 — 80-XA-003 — Shield Bar

F&G PANEL
50-LP-002

A-50003
Water Treatment Unit
UCP

50-XA-003 — TB-RLY — 9, 15 — WH, BK — NOTE-2

C-50-XA-003/B400-SIS-001
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-XA-000
WH, BK — 05, 06 — 50-XA-003 — Shield Bar

A-63000
I. AIR PACKAGE
UCP

63-XA-003 — TB-XA — 4, 5 — WH, BK — NOTE-2

C-63-XA-003/B400-SIS-001
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-XA-000
WH, BK — 07, 08 — 63-XA-003 — Shield Bar

A-64000
NITROGEN PACKAGE
UCP

64-XA-003 — TB-XA — 4, 5 — WH, BK — NOTE-2

C-64-XA-003/B400-SIS-001
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-XA-000
WH, BK — 09, 10 — 64-XA-003

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
PACKAGE UCP FAULT ALARM

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123-A90-DDL-IN-DG-40015	SHEET 014	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

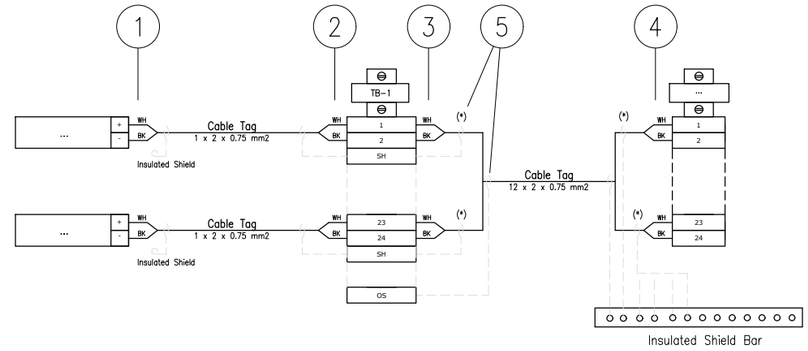
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

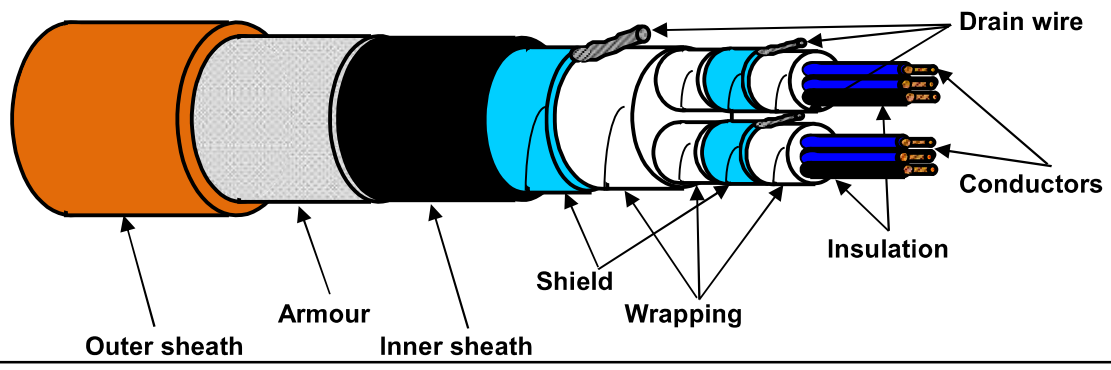
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
P320PLC/B400-SIS-001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091		85-XA-003/004				A-85000	BESS	Lower Deck	B400-SIS-001	Marshalling SIS	Lower Deck (B-400)	SMICV09-2X2X0,75	Cable Cu Cl.2/MGT/XLPE/IS/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2x0,75mm² - Orange	M25	T2_M25_Double			n.a.				L-SEC-7 / L-SEC-1E / L-SEC-1D / I-MCT-401

Cu Cl.2/MGT/XLPE/IS/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2X0,75 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,5 mm	
Cores colour code :	**White - Black (each core NUMBERED for PAIR identification)**	
Pair Assembling :	10/1mt	
Pair Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Pair Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Shield Insulation :	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Total Assembling :	5/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant,	
	Average Thickness 1,5 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2X0,75 SQMM - MGT/XLPE/IS/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(15,1 ± 10%) mm	
Over armour diameter :	(16,3 ± 10%) mm	
Outer diameter :	(19,3 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 26 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 25 µH/Ω	
Inductance :	≤ 0,9 mH/km	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also to such subjects outside it, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ITEM	Tag	P320PLC/B400-FGS-003	: CONFIRMED GAS ALARM / MARSHALLING PCS		Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	85-00	: BESS Package (A-85000)		Module	LD/LD_B-400	
TASK	code	C10001464	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX10	Multi/Single-Core Instrument Control Cable

CABLE DATA

Type	Cu-MICA-XLPE-IS-OS-LSZH-SWB-LSZH	Cores/Size mm²	2X2X0,75 mm2	Color	ORANGE
From	P320PLC	To	B400-FGS-003		

1	Check cable is as specified in project cable schedule.	OK
2	Check relevant documents are at the latest revision.	OK
3	Check cable is routed in accordance with cable layout drawings.	OK
4	Check cable for any physical damage.	OK
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	Note
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	PL
12	Check gland plate for single core cables is non-ferrous.	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	1,6	Ω
	SCREEN	1,6	Ω
	EARTH	N/A	Ω
	ARMr	1,6	Ω
	TEST VOLTS	500	V

TEST ALL CORES AND RECORD LOWEST VALUE

Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

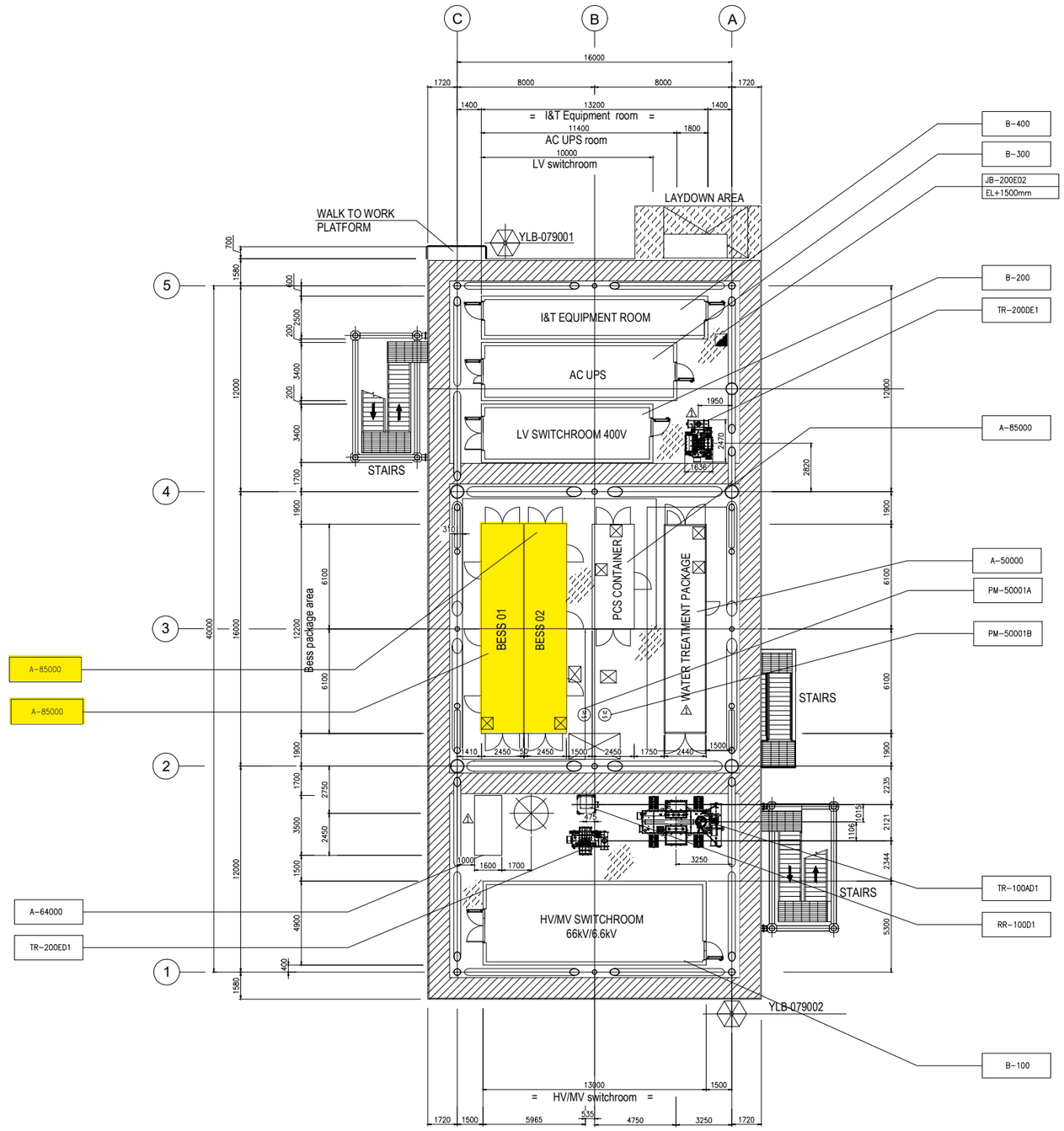
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Note 5 : Refer to PL C30000680

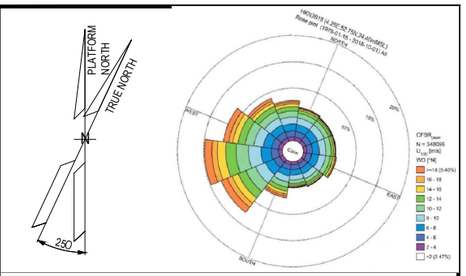
Page 1/1	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:56:58.280Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:47:20.772Z	

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

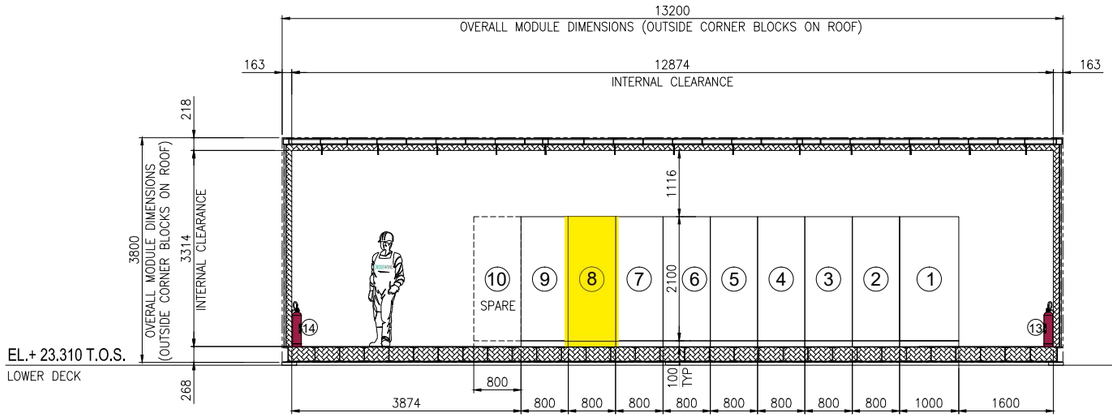
VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20101
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

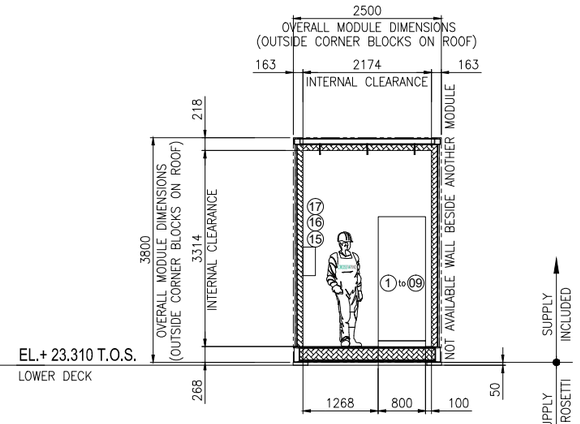
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 04/03/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20101 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

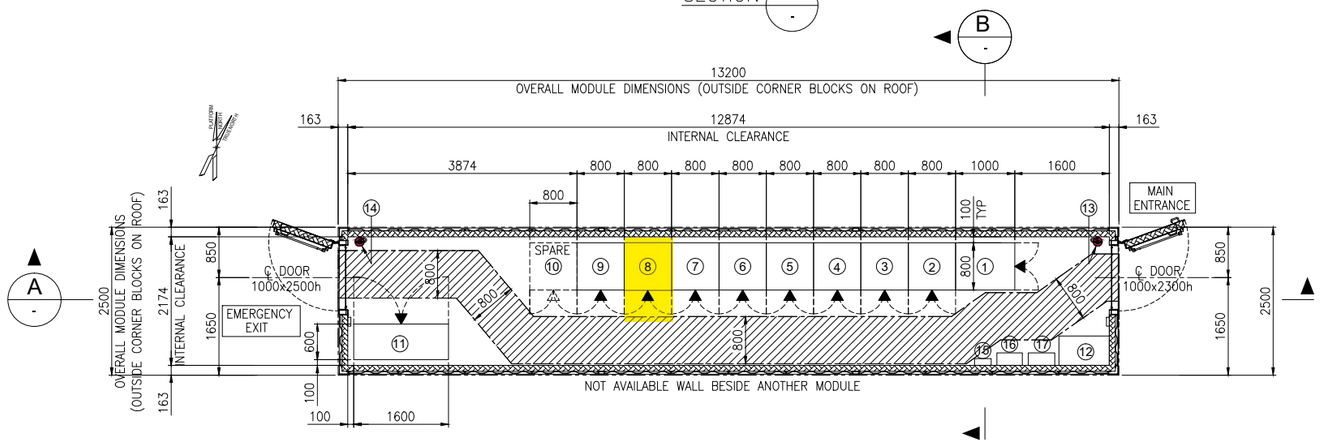
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 02



SECTION A -



SECTION B -

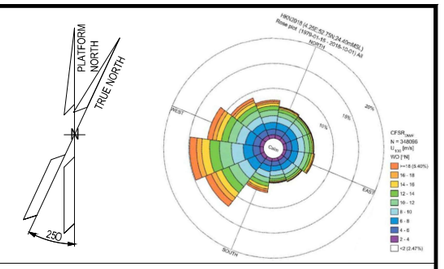


EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

02

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-001	PCS SYSTEM CABINET	800	800	2100	
5	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
6	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

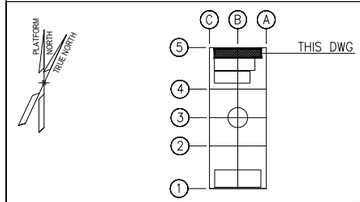
HOLDS

.

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:33,3
DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24
A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 02

File Name : 123A90-DDL-IN-DL-40012 Rev.02.dwg

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40012**
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
PACKAGE	CABLE NO	MARSHALLING CABINET
		~~B400-FGS-002~~ B400-FGS-003

<01>

A-85000 BESS UCP — 85-XA-001, 85-XA-002

NOTE 5 → NOTE 5 ×4 (WH/BK, PR1, PR2, NOTE-2)

P320PLC/B400-FGS-003
~~P320PLC/B400-FGS-002~~
2x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-P320PLC: PR1 (WH/BK) 01 → 85-XA-001; PR2 (WH/BK) 03 → 85-XA-002; 02, 04; Shield Bar

A-20000 ELECTROLYSER UCP — 20-XA-001, 20-XA-002

NOTE 5 → NOTE 5 ×4 (WH/BK, PR1, PR2, NOTE-2)

20-UCP-001/B400-FGS-003
~~20-UCP-001/B400-FGS-002~~
2x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-20-UPC-001: PR1 (WH/BK) 01 → 20-XA-001; PR2 (WH/BK) 03 → 20-XA-002; 02, 04; Shield Bar

A-80000 FUEL CELL UCP — 80-XA-001, 80-XA-002

NOTE 5 → NOTE 5 ×4 (WH/BK, PR1, PR2, NOTE-2)

80-UCP-001/B400-FGS-003
~~80-UCP-001/B400-FGS-002~~
2x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-80-UCP-001
~~TB-80-UPC-001~~
PR1 (WH/BK) 01 → 80-XA-001; PR2 (WH/BK) 03 → 80-XA-002; 02, 04; Shield Bar

F&G PANEL 50-LP-002

A-50003 Water Treatment Unit UCP — 50-XA-001, 50-XA-002

TB-RLY: PR1 (WH/BK) 5 → 50-XA-001; PR2 (WH/BK) 1 → 50-XA-002; 6, 2; NOTE-2

50-LP-002/B400-FGS-003
~~50-LP-002/B400-FGS-002~~
2x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-50-LP-002: PR1 (WH/BK) 01 → 50-XA-001; PR2 (WH/BK) 03 → 50-XA-002; 02, 04; Shield Bar; I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– FGS WIRING DIAGRAMS
FIRE & GAS ALARM FROM PACKAGE

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 060	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

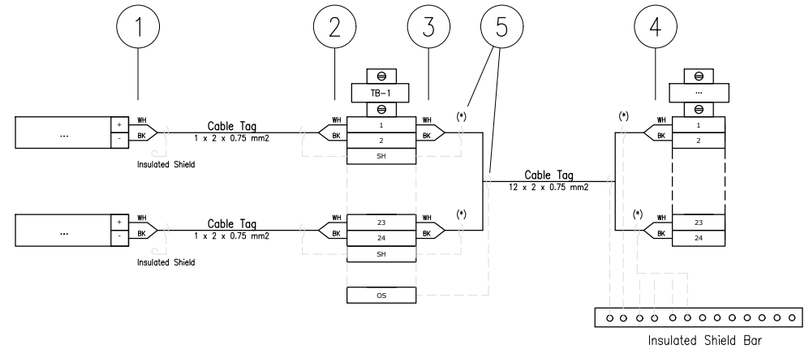
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

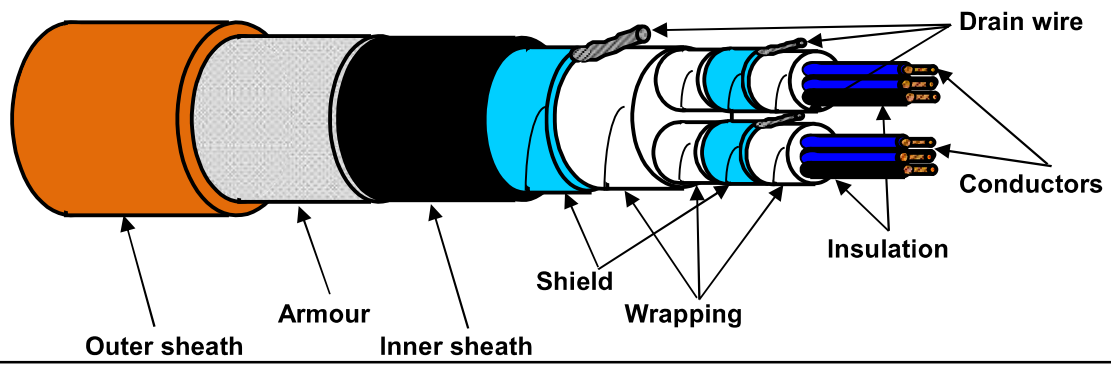
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	From Tag Section	To Tag	To Main Function	To Area	To Tag Section	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
P320PLC/B400-FGS-003	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						P320PLC	Communication	Lower Deck	84-XA-001/002	B400-FGS-003	Marshalling FGS	Lower Deck (B-400)		SMICV09-2X2X0,75	Cable Cu Cl.2/MGT/XLPE/IS/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2x0,75mm² - Orange	M25	T2_M25_Double			n.a.				L-SEC-7 / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-401

Cu Cl.2/MGT/XLPE/IS/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2X0,75 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,5 mm	
Cores colour code :	**White - Black (each core NUMBERED for PAIR identification)**	
Pair Assembling :	10/1mt	
Pair Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Pair Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Shield Insulation :	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Total Assembling :	5/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant,	
	Average Thickness 1,5 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2X0,75 SQMM - MGT/XLPE/IS/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(15,1 ± 10%) mm	
Over armour diameter :	(16,3 ± 10%) mm	
Outer diameter :	(19,3 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 26 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 25 µH/Ω	
Inductance :	≤ 0,9 mH/km	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also to such subjects outside it, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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Section 7 MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 85-00 & process: MC & discipline : M

Mechanical	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A-85000	BESS	ONSHORE	C10002359	CZX01M	100	2024-11-25	RFC 1

ITEM	Tag	A-85000	: BESS			Dwg	123A90-DDL-EL-DL-20101
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD
TASK	code	C10002359		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Mechanical Form CZX01M		Package - M

1	Check that the nameplate details and tag number are complete and correct.	PL
2	Check that the holding down arrangements are correct.	Note
3	Check for all interface piping/mechanical reinstated on site by contractor.	NA
4	Check that the package Mechanical equipment is complete and not damaged.	Note
5	Check all the equipment for correct lubrication, for oil leaks and cleanliness.	Note
6	Check for the free rotation of rotating equipment.	NA
7	Check the insulation, painting and for correct tagging and identification.	OK
8	Check that the earthing system of the equipment is as per specification.	PL
9	Check that the Package is fixed and tightened to the structures.	OK
10	Check the release note, FAT report and outstanding Punch list for the Package	Note
11	If required produce Red Line Mark Up for "AS BUILT".	

Comments:

01. company provided item. point impossible to be verified due documentation not provided. name plates of containers are present on the main doors of both containers. - plate: see PL 10002359.

02. Point not checked because the package is a company provided item. documentation not provided.

04. Company provided item. only external side of package has been checked.

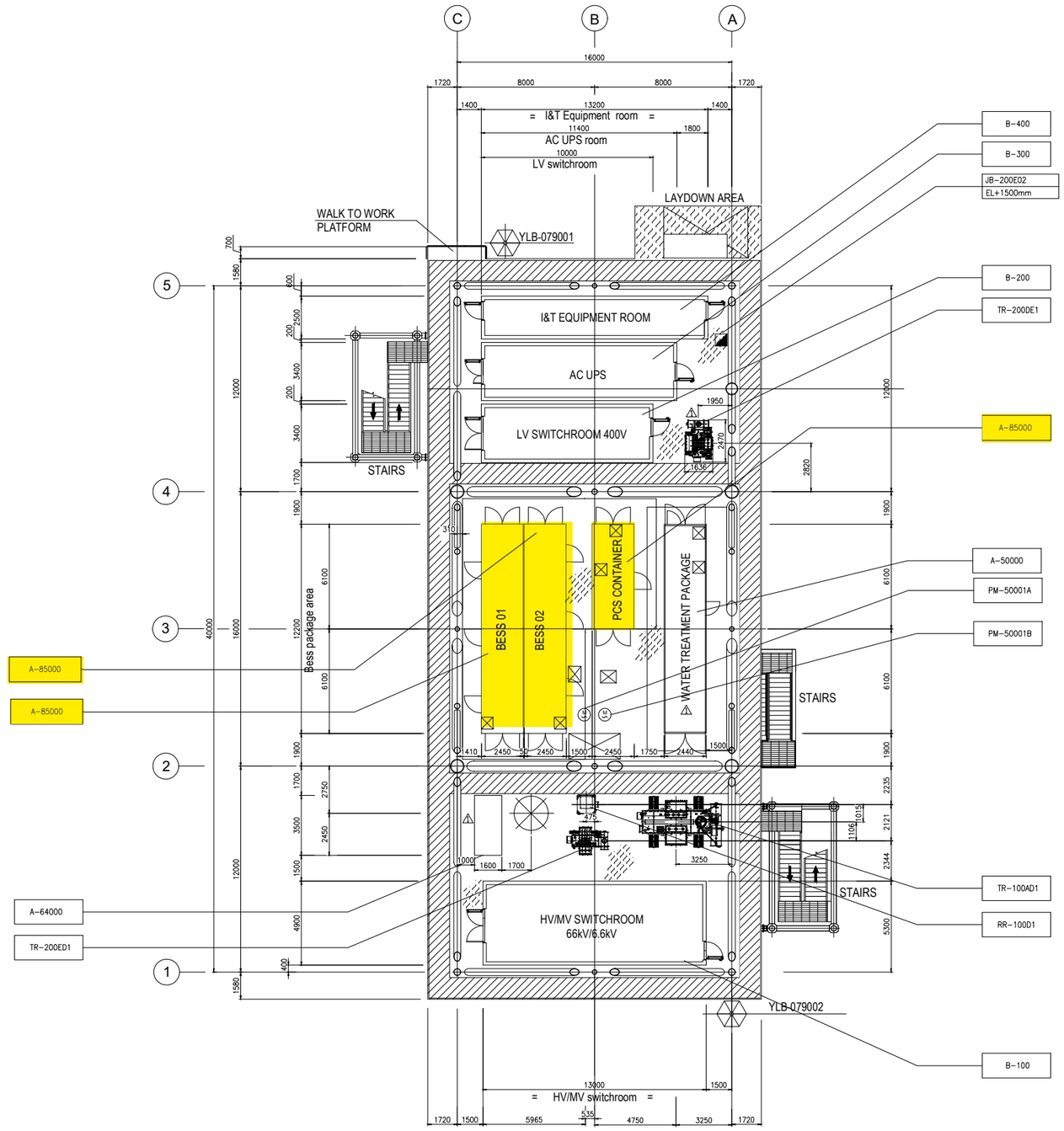
05. Company provided item. only external side of package has been checked.

10. Point not checked because the package is a company provided item. Documentation not provided

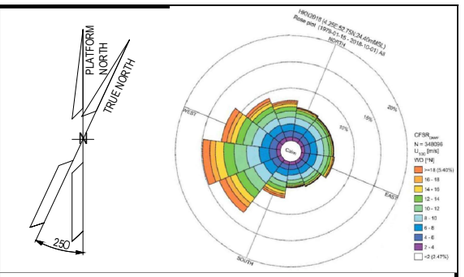
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-25	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:57:52.733Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-25T09:45:09.920Z	

DRAWING NO. 123A90-DDL-EL-DL-20101

REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

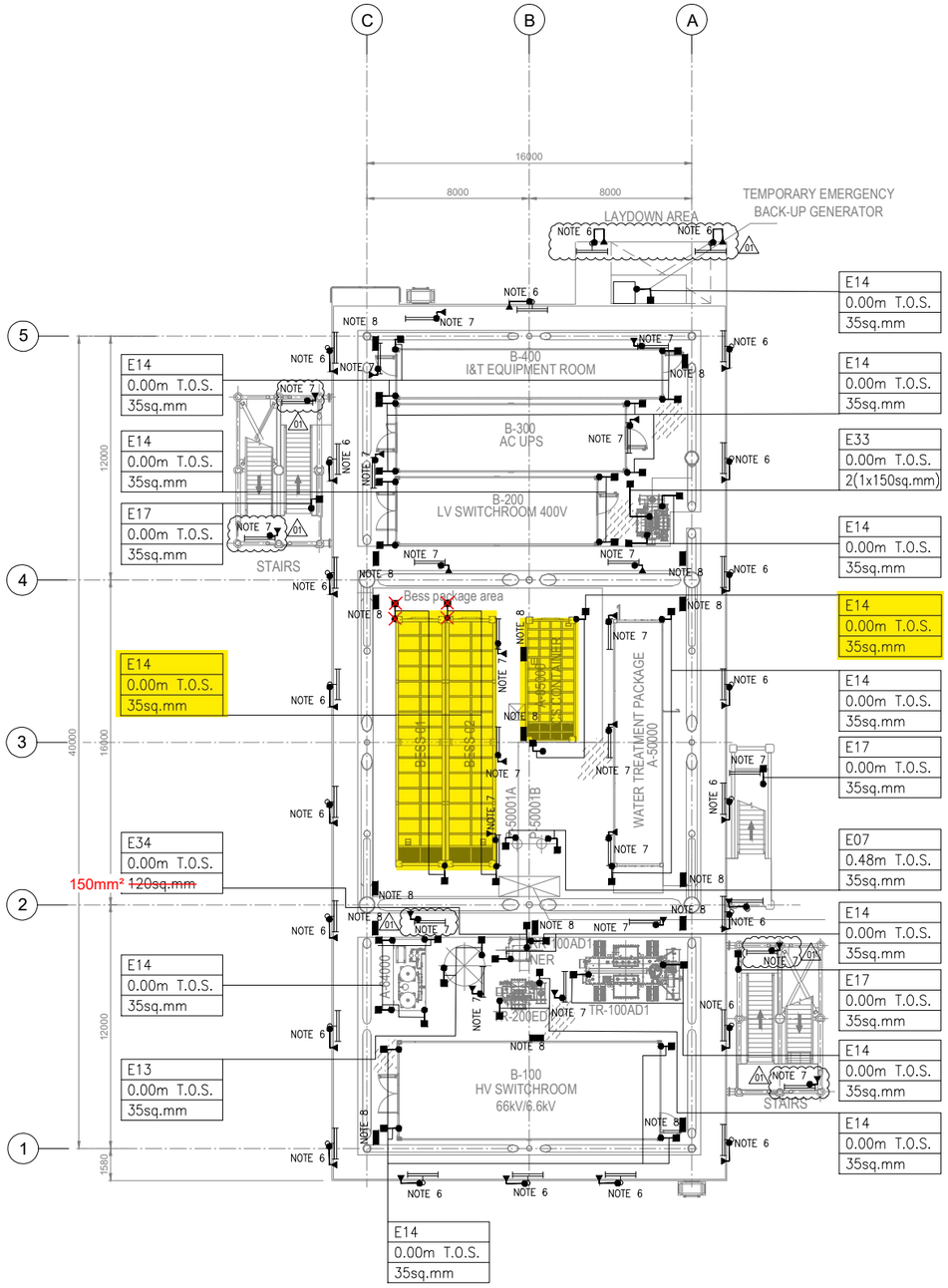
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101		SHEET 001 / REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

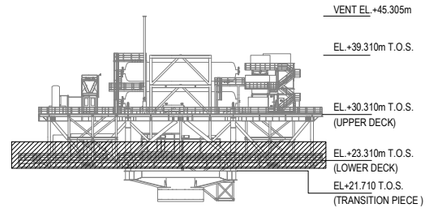
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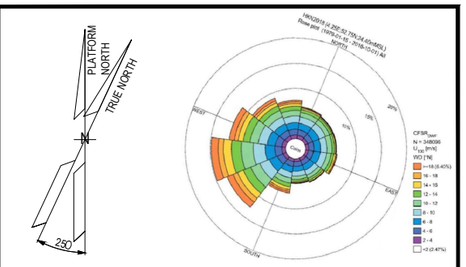
REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.

KEY PLAN





NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DOCUMENT IS ONLY VALID FOR EARTHING LAYOUT.
4. ALL ELECTRICAL EQUIPMENT NOT DIRECTLY WELDED TO SKID FRAME SHALL BE BONDED TO STEEL TO THE STRUCTURE OF SKID BASEFRAME.
5. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER TO THE DOCUMENT 123A90-DDL-EL-RE-20154.
6. ALL NON-WELDED POLES WILL BE EARTHED AS PER TYPICAL E05 AND E24. (01)
7. ALL LINEAR LIGHTING FIXTURE WILL BE EARTHED AS PER TYPICAL E32.
8. EARTH BAR WILL BE FIXED TO THE PRIMARY BEAMS OF THE UPPER DECK. COMPLETE EARTHING INCLUDING WITH 2 THREADED STUDS. ALL EARTH BAR WILL BE EARTHED AS PER TYPICAL E03D / 6.00M T.O.S. / 35 SQ MM.
9. EQUIPOTENTIAL BONDING GROUPING FOR BOLTED HANDRAILS ARE PROVIDED EVERY 3M FOR THE ENTIRE PERIMETER AS TYPICAL E16 AND WILL BE DEFINED DURING ASSEMBLY PHASE

LEGEND

- LIGHTING FIXTURE POLE MOUNTED
- LINEAR LIGHTING FIXTURE
- EARTHING BOSS AISI316L
- COMPRESSION TYPE LUG TINNED COPPER
- THREADED STUD FOR EARTHING CONNECTION
- Exx EARTHING TYPICAL CODE
- EARTHING BAR

TYP.	TYPICAL
ELE	ELEVATION
SIZE	

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS - EARTHING SYSTEM
123A90-DDL-EL-RE-20154	LIGHTNING PROTECTION SYSTEM CALCULATION REPORT
123A90-DDL-EL-DL-20119	LIGHTING & SOCKET LAYOUT - LOWER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	29/05/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SPS	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 25/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20133	SHEET 001	REV. 01

SHEET 001 OF 002

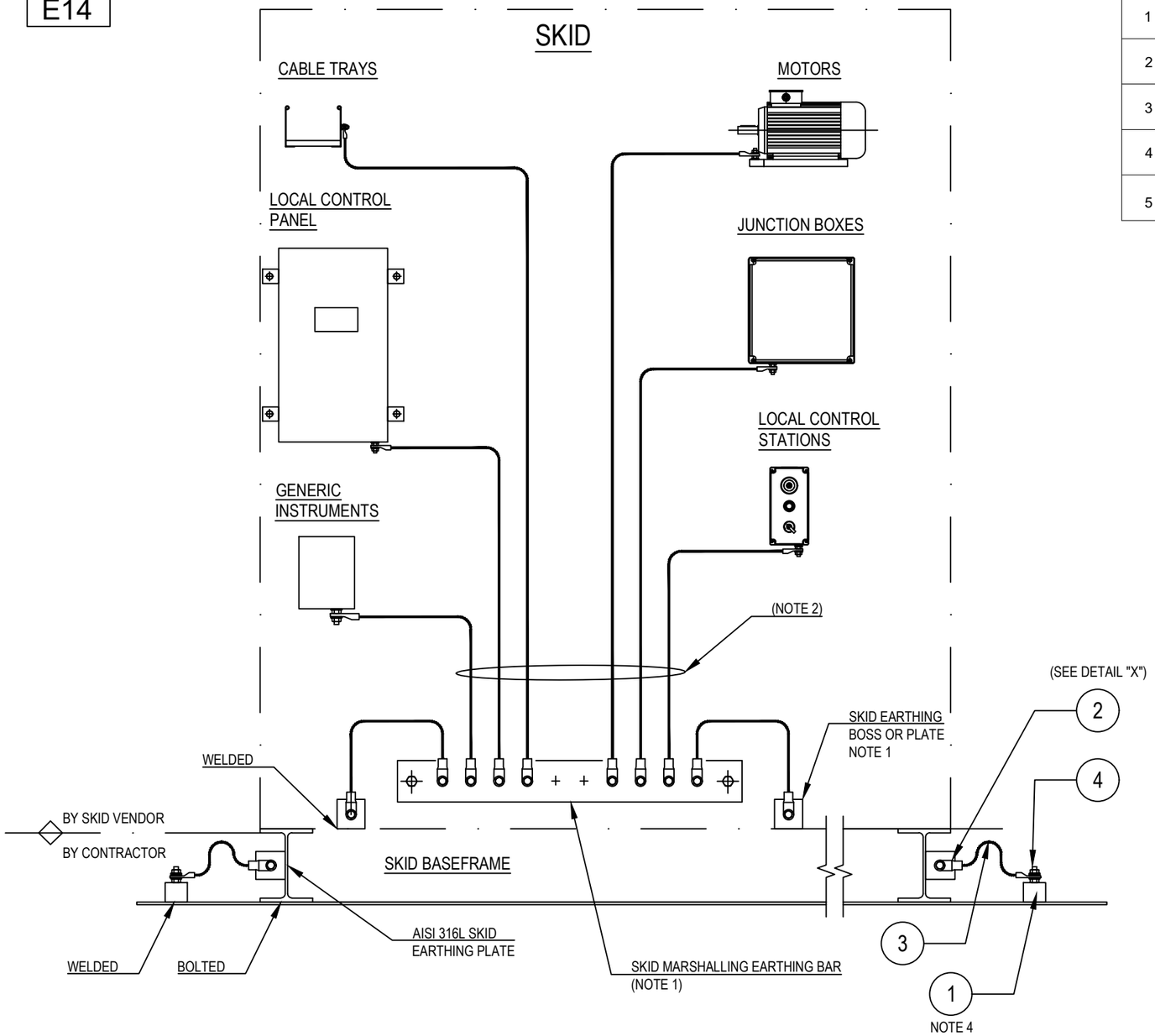
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20133**

REV.:	DATE:	SIGNATURE:
1_B	11/09/24	G.Randi

ROSETTI MARINO SpA

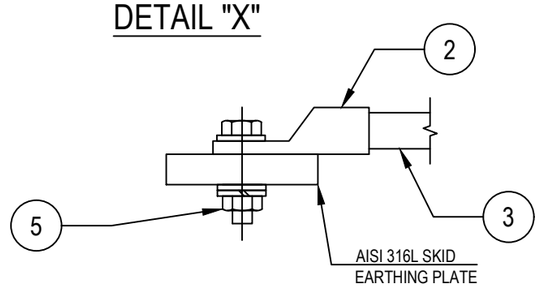
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E14



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50		NOTE 5
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm^2		NOTE 3
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm^2		NOTE 3
4	STUD BOLT WITH PLANE WASHER, SPRING WASHER AND NUT	AISI 316L	M10X50		
5	HEXAG. BOLT COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30		

DETAIL "X"



NOTES:
1) EARTHING BAR/BOSS/PLATE SUPPLIED BY SKID MANUFACTURER
2) ALL EQUIPMENTS AND CABLE TRAYS WILL BE EARTHING ON SKID EARTHING BAR BY SKID MANUFACTURER
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY~~
4) FOR EARTHING BOSS TYPICAL DETAIL E11A
5) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

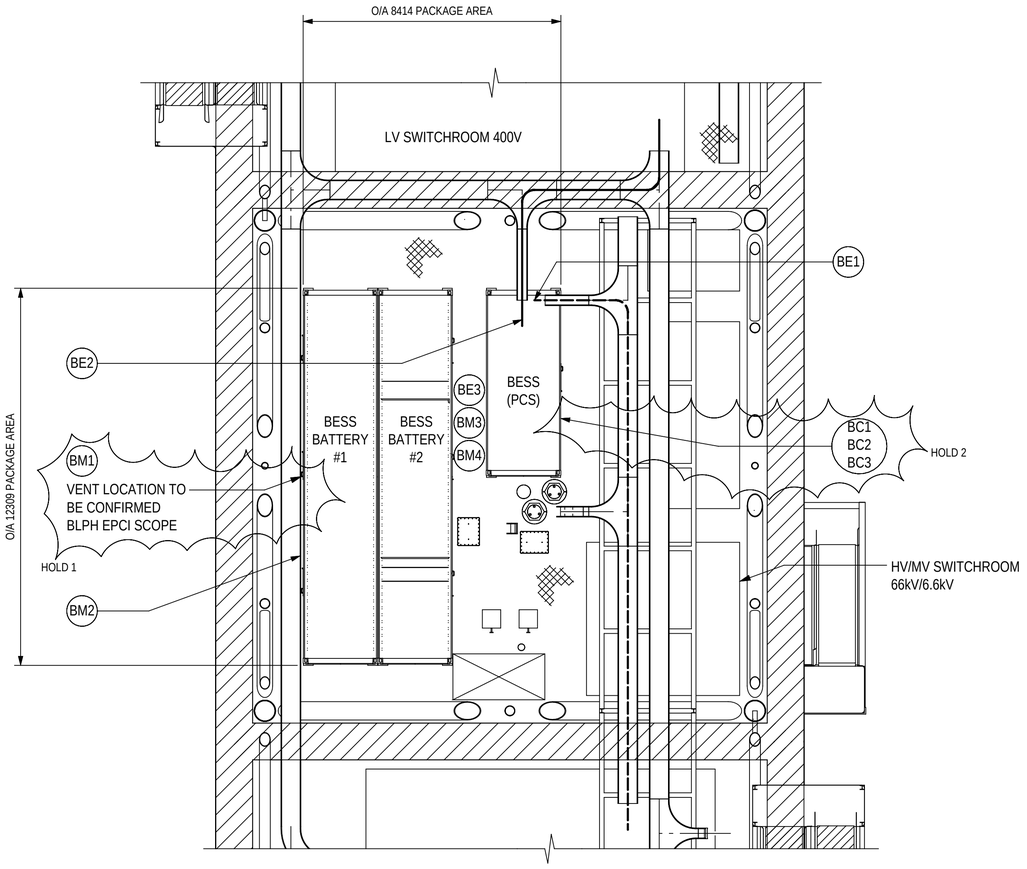
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR SKID BASEFRAME

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

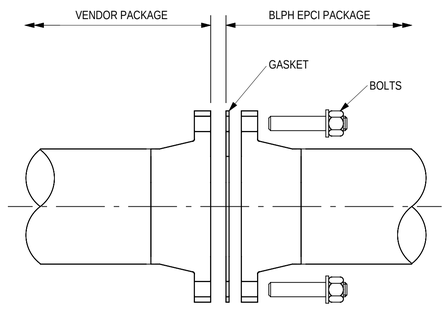
A3 | DRAWING NO. 123A90-DDL-EL-DD-20090 | SHEET 014 | REV. 02

F.to UNI A3: 420mmx297mm

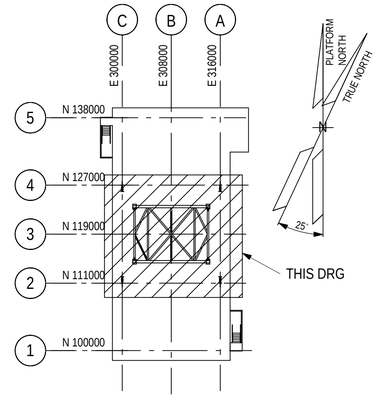
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG



PLAN ON LOWER DECK
EL+23.310 T.O.S.



STANDARD PIPING
INTERFACE DETAIL



KEYPLAN

NOTES

1. FOR GENERAL NOTES REFER TO DRG No. K559-2254-ST-GAS-001-001
2. FOR BESS VENDOR INTERFACE DOCUMENTS REFER TO : K559-2254-CWIWP4202201-B01-001, E01-001 & E08-001.

LEGEND

- DENOTES PLATED DECK
- DENOTES OPEN GRATING
- ESCAPE/MATERIAL HANDLING ROUTE
- 6.6kV CABLE ROUTE
- 400V CABLE ROUTE
- BE1 & BE2 — BESS RESPONSIBILITY MATRIX REFERENCE (SEE DRG K559-2254-EM-GAS-002-002)

HOLDS

1. THERMAL RUNAWAY GAS LOCATION
2. BESS INTERFACES TO BE DETERMINED BY VENDOR.

K559-2254-PI-PPL-001-002	BASE LOAD POWER HUB PLOT PLAN
K559-2254-PI-PPL-001-001	BASE LOAD POWER HUB PLOT PLAN

REFERENCE DRAWINGS

2023-07-06 | 17:51 BST

REV	DATE	DESCRIPTIONS	ORG'D	CHK'D	APPR'D
1	06.07.23	ISSUED FOR INFORMATION	NC	MD/KR	JR
0	26.04.23	ISSUED FOR REVIEW	NC	MD/SA	JS

Neil Clement — Mike Dawkins — DS — JR

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SHELL BLPH FEED
BESS PACKAGE INTERFACE WITH BLPH TOPSIDES
GENERAL ARRANGEMENT

THIS IS AN INTERFACE DRAWING ONLY AND IS NOT MEANT FOR DESIGN PURPOSES

SCALE	1:150	DWG NO.:	SHEET	REV
FORMAT	A1	K559-2254-EM-GAS-002	001	1

ELECTRICAL

	DESIGN		ENGINEERING AND PROCUREMENT				ONSHORE (VENDOR WORKS)					ONSHORE (CONSTRUCTION YARD)					OFFSHORE			
No	FUNCTION SPECIFICATION (ELECTRICAL)	Loc.	FEED	DETAILED ENGINEERING	INTERFACE DATASHEET	PROCUREMENT	FABRICATE / MANUFACTURING	CONSTRUCTION	FACTORY TESTING	PRESERVATION	TRANSPORTATION	FABRICATE / MANUFACTURING	CONSTRUCTION	COMMISSIONING	PRESERVATION	TRANSPORTATION	ASSEMBLY / INSTALLATION	CONSTRUCTION COMPLETION	COMMISSIONING	START-UP
BE1	6.6kV Power Connection Cable including termination	BLPH-TS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	N/A
BE2	400V Essential Power Supply Cable including termination required for each container	BLPH-TS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	N/A
BE3	Inter Container Cabling and Supports	BESS	N/A	Statron	N/A	Statron	Statron	Statron	Statron	Statron	COMPANY	N/A	BLPH EPCI (with support from Statron)	Statron (with support from BLPH EPCI)	N/A	N/A	N/A	N/A	Statron (with support from BLPH EPCI)	N/A

CONTROLS & INSTRUMENTS

	DESIGN		ENGINEERING AND PROCUREMENT				ONSHORE (VENDOR WORKS)					ONSHORE (CONSTRUCTION YARD)					OFFSHORE			
No	FUNCTION SPECIFICATION (C&I)	Loc.	FEED	DETAILED ENGINEERING	INTERFACE DATASHEET	PROCUREMENT	FABRICATE / MANUFACTURING	CONSTRUCTION	FACTORY TESTING	PRESERVATION	TRANSPORTATION	ASSEMBLY / INSTALLATION	CONSTRUCTION COMPLETION	COMMISSIONING	PRESERVATION	TRANSPORTATION	ASSEMBLY / INSTALLATION	CONSTRUCTION COMPLETION	COMMISSIONING	START-UP
BC1	Fire & Gas Detection - Package Interface JB	BESS	Statron	Statron	Statron	Statron	N/A	Statron	Statron	Statron	COMPANY	N/A	Statron	Statron	N/A	N/A	N/A	N/A	Statron	BLPH EPCI
	Fire & Gas Detection - Package Cable termination	BESS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI
BC2	Shutdown / Protective Functions - Package Interface JB	BESS	Statron	Statron	Statron	Statron	N/A	Statron	Statron	Statron	COMPANY	N/A	Statron	Statron	N/A	N/A	N/A	N/A	Statron	BLPH EPCI
	Shutdown / Protective Functions - Package Cable termination	BESS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI
BC3	Control Functions - Interface Connection - Package Interface Ethernet switch	BESS	Statron	Statron	Statron	Statron	N/A	Statron	Statron	Statron	COMPANY	N/A	Statron	Statron	N/A	N/A	N/A	N/A	Statron	BLPH EPCI
	Control Functions - Interface Connection - Physical Cat6A Cables	BESS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI
BC4	Control Functions - (Software) Interface Connection - Modbus Link (See note 4)	N/A	N/A	BLPH EPCI	BLPH EPCI	BLPH EPCI	N/A	N/A	Statron	N/A	N/A	N/A	N/A	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI

MECHANICAL

	DESIGN		ENGINEERING AND PROCUREMENT				ONSHORE (VENDOR WORKS)					ONSHORE (CONSTRUCTION YARD)					OFFSHORE			
No	FUNCTION SPECIFICATION (MECHANICAL)	Loc.	FEED	DETAILED ENGINEERING	INTERFACE DATASHEET	PROCUREMENT	FABRICATE / MANUFACTURING	CONSTRUCTION	FACTORY TESTING	PRESERVATION	TRANSPORTATION	ASSEMBLY / INSTALLATION	CONSTRUCTION COMPLETION	COMMISSIONING	PRESERVATION	TRANSPORTATION	ASSEMBLY / INSTALLATION	CONSTRUCTION COMPLETION	COMMISSIONING	START-UP
BM1	Process Drain HVAC Outlet Piping attached to the container (Flange Connection)	BLPH TS	Statron	Statron	Statron	(See detail on interface Drg No. K559-2254-EM-GAS-002-001)	Statron	Statron	Statron	Statron	COMPANY	BLPH EPCI	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI
BM2	Thermal Runaway Gas Vent attached to the container (Flange Connection)	BLPH TS	Statron	Statron	Statron	(See detail on interface Drg No. K559-2254-EM-GAS-002-001)	Statron	Statron	Statron	Statron	COMPANY	BLPH EPCI	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI
BM3	Container Platform Interface (Base Plates)	BLPH TS	N/A	Statron	Statron	Statron	Statron	Statron	Statron	Statron	COMPANY	BLPH EPCI	Statron	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	N/A
	Container Platform Interface (Foundation & Bolts)	BLPH TS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	N/A
BM4	Cable Protection, Walkway, Access to Containers	BLPH TS	N/A	BLPH EPCI	Statron	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	BLPH EPCI	BLPH EPCI	N/A	N/A	N/A	N/A	N/A	N/A	N/A

INTERFACES TABLE

	TYPE	DESCRIPTION	POWER [kVA]	CURRENT (Amps)	CONNECTIONS
ELECTRICAL	3 PH, 400V AC, 50Hz	400V AC Aux Supply to PCS container	21.5	31	LV PCS control cabinet
	3 PH, 400V AC, 50Hz	400V AC Aux Supply to BESS 1 container	14.5	21	LV BESS 1 control cabinet
	3 PH, 400V AC, 50Hz	400V AC Aux Supply to BESS 2 container	14.5	21	LV BESS 2 control cabinet
	3 PH, 6.6kV AC, 50Hz	6.6kV Power connection to PCS container	1000	87.5 (HV)	MV terminals transformer - Power Conversion System (PCS) container

THIS IS AN INTERFACE DRAWING ONLY AND IS NOT MEANT FOR DESIGN PURPOSES

NOTES:

1. FOR GENERAL NOTES REFER TO DRG No. K559-2254-ST-GAS-001-001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH BESS PACKAGE INTERFACE DRAWING K559-2254-EM-GAS-002-001.
3. REQUIREMENT TO DETERMINE PROVIDERS OF SUPPORT AND ASSISTANCE TO (VENDOR OR EPCI) THROUGHOUT WHOLE ONSHORE / OFFSHORE PERIOD. THIS IS NOT TO BE TREATED AS A RACI MATRIX.
4. DEFINITION OF DATA LINK FORMAT AND REGISTER ADDRESSES. NOTE SOME REGISTER ADDRESSES ARE FIXED BY STATRON.

ABBREVIATIONS:

BESS	BATTERY ENERGY STORAGE SYSTEM
BLPH	BASE LOAD POWER HUB
C & I	CONTROLS AND INSTRUMENTATION
EPCI	ENGINEERING PROCUREMENT CONSTRUCTION AND INSTALLATION
JB	JUNCTION BOX
LV	LOW VOLTAGE
N/A	NOT APPLICABLE
TS	TOPSIDE
UPS	UNINTERRUPTIBLE POWER SUPPLY

REFERENCE DRAWINGS

2023.07.06 17:51 BST

REV	DATE	DESCRIPTIONS	ORG'D	CHK'D	APPR'D
1	06.07.23	ISSUED FOR INFORMATION	NC	MD/KR	JR
0	26.04.23	ISSUE FOR CLIENT REVIEW	NC	MD/SA	JS

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SHELL BLPH FEED
BESS PACKAGE INTERFACE WITH BLPH TOPSIDES
RESPONSIBILITY MATRIX

SCALE	N.T.S.	DWG NO.:	SHEET	REV
FORMAT	A1	K559-2254-EM-GAS-002	002	1

Section 8 MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 85-00 & process: MC & discipline : T

Telecom	85-00 BESS Package (A-85000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
P320PLC/B400-NET-001.01	COMMUNICATION / NETWORK CABINET	ONSHORE	C10004357	CIX09	100	2024-11-26	RFC 1
P320PLC/B400-NET-001.02	COMMUNICATION / NETWORK CABINET	ONSHORE	C10004358	CIX09	100	2024-11-26	RFC 1

ITEM	Tag	P320PLC/B400-NET-001.01	: COMMUNICATION / NETWORK CABINET			Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	85-00	: BESS Package (A-85000)			Module	LD/LD-B400
TASK	code	C10004357		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Telecom	Form	CIX09 Telecom Cable RJ45

CABLE DATA

Type	FTP-LSZH-IS-OS-SWB-LSZH	Cores/Size mm²	4X2X23AWG mm2	Color	GREY
From	P320PLC		To	B400-NET-001	

1	Confirm cable is as specified in project cable schedule	OK
2	Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
7	Confirm cable labelling is in accordance with specifications.	PL
8	Check cable is correctly loomed and segregated in accordance with specification.	OK
9	Check proper fitting of heat shrink sleeves and cable glands (if applicable).	OK
10	Check cores marking are in accordance with termination diagram.	OK
11	Check terminations are in accordance with latest termination diagram.	PL
12	To roll up that measured lenght complies with pulled lenght.	OK
13	To roll up the cable complies with Cat. 5E performance requirements (250 Mhz).	OK
14	Attach LAN tester print out to this test sheet.	OK
15	if required produce Red Line Mark Up for "AS BUILT"	

Comments: Nota 4: refer to PL C30000680

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-26	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:58:01.501Z	Digitaly signed by Alessio Polo 2024-11-26T16:14:06.581Z	

ROSETTI MARINO

Cable ID: P320PLC/B400-NET-001.01

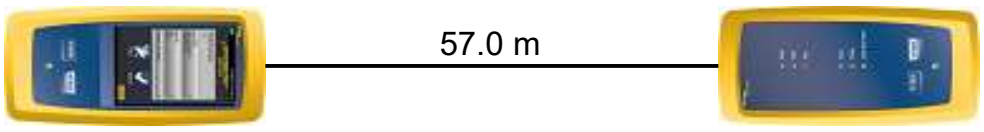
Test Summary: PASS

Test Limit: ISO11801 PL2 Class Ea
Limits Version: V7.6
Date / Time: 22-11-2024 16:10:30
Headroom 4.7 dB (NEXT 3,6-4,5)
Cable Type: Cat 6A S/FTP
NVP: 77.0%

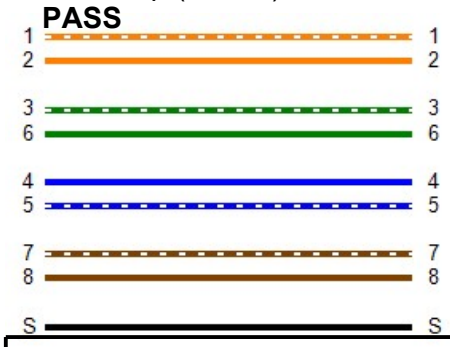
Main: Versiv
S/N: 2226344
Software Version: V6.7 Build 1
Calibration Date: 12-12-2022
Adapter: DSX-8000 (DSX-PLA804)
S/N: 22340270

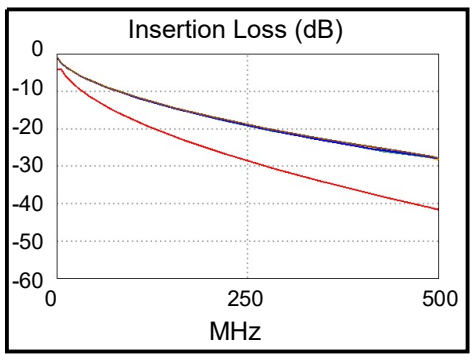
Remote: Versiv
S/N: 2226336
Software Version: V6.7 Build 1
Calibration Date: 12-12-2022
Adapter: DSX-8000R (DSX-PLA804)
S/N: 22340257

Length (m), Limit 90.0	[Pair 4,5]	57.0
Prop. Delay (ns), Limit 496	[Pair 1,2]	252
Delay Skew (ns), Limit 43	[Pair 1,2]	5
Resistance (ohms), Limit 20.60	[Pair 3,6]	7.97
Insertion Loss Margin (dB)	[Pair 1,2]	13.3
Frequency (MHz)	[Pair 1,2]	500.0
Limit (dB)	[Pair 1,2]	41.6

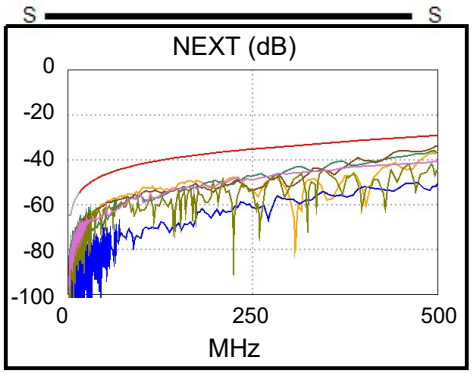


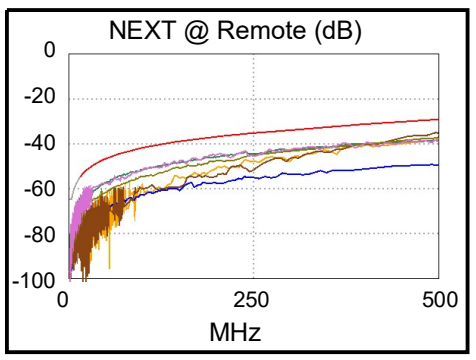
Wire Map (T568B)
PASS



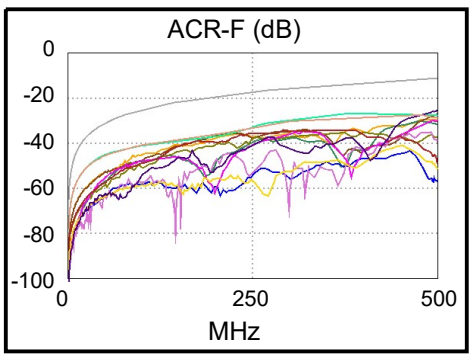


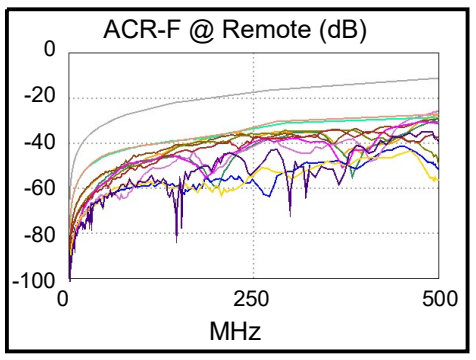
	Worst Case Margin		Worst Case Value	
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	3,6-4,5	3,6-4,5
NEXT (dB)	4.7	5.9	4.8	6.0
Freq. (MHz)	499.0	499.0	500.0	500.0
Limit (dB)	29.3	29.3	29.2	29.2
Worst Pair	4,5	3,6	4,5	3,6
PS NEXT (dB)	5.1	5.4	5.1	5.4
Freq. (MHz)	500.0	500.0	500.0	500.0
Limit (dB)	26.4	26.4	26.4	26.4



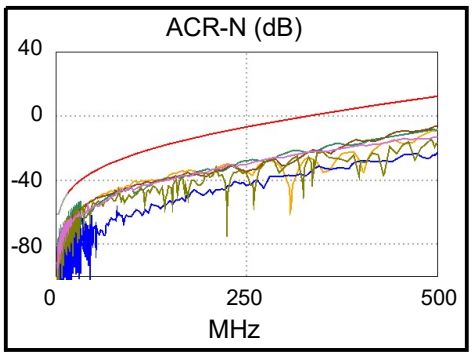


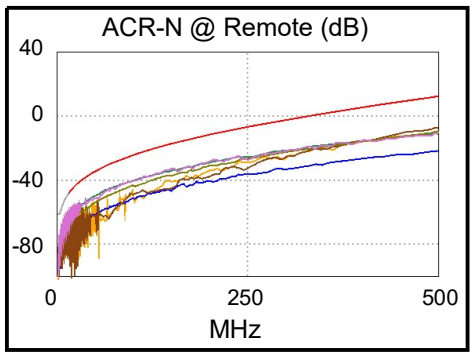
PASS	MAIN	SR	MAIN	SR
Worst Pair	4,5-7,8	7,8-4,5	7,8-3,6	3,6-7,8
ACR-F (dB)	12.8	12.4	14.4	14.5
Freq. (MHz)	346.0	374.0	500.0	500.0
Limit (dB)	14.5	13.8	11.3	11.3
Worst Pair	4,5	4,5	3,6	7,8
PS ACR-F (dB)	15.4	14.0	15.9	15.6
Freq. (MHz)	341.0	342.0	500.0	500.0
Limit (dB)	11.6	11.6	8.3	8.3



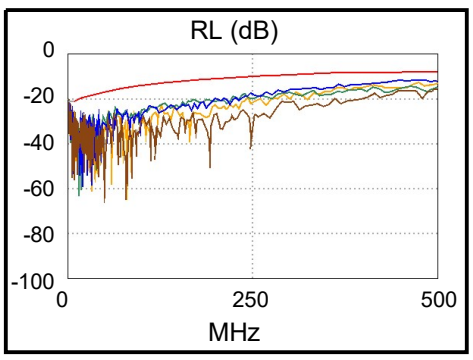


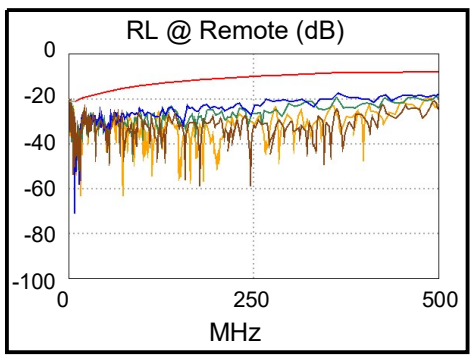
PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2-3,6	4,5-7,8	3,6-4,5	3,6-4,5
ACR-N (dB)	15.8	12.9	18.5	19.7
Freq. (MHz)	33.5	17.0	500.0	500.0
Limit (dB)	39.5	47.1	-12.4	-12.4
Worst Pair	3,6	4,5	3,6	3,6
PS ACR-N (dB)	15.2	13.9	18.9	19.1
Freq. (MHz)	35.5	18.9	500.0	500.0
Limit (dB)	36.3	43.6	-15.3	-15.3





PASS	MAIN	SR	MAIN	SR
Worst Pair	4,5	7,8	4,5	4,5
RL (dB)	3.3	6.1	3.3	9.1
Freq. (MHz)	480.0	21.1	480.0	364.0
Limit (dB)	8.0	19.4	8.0	8.4





Compliant Network Standards:

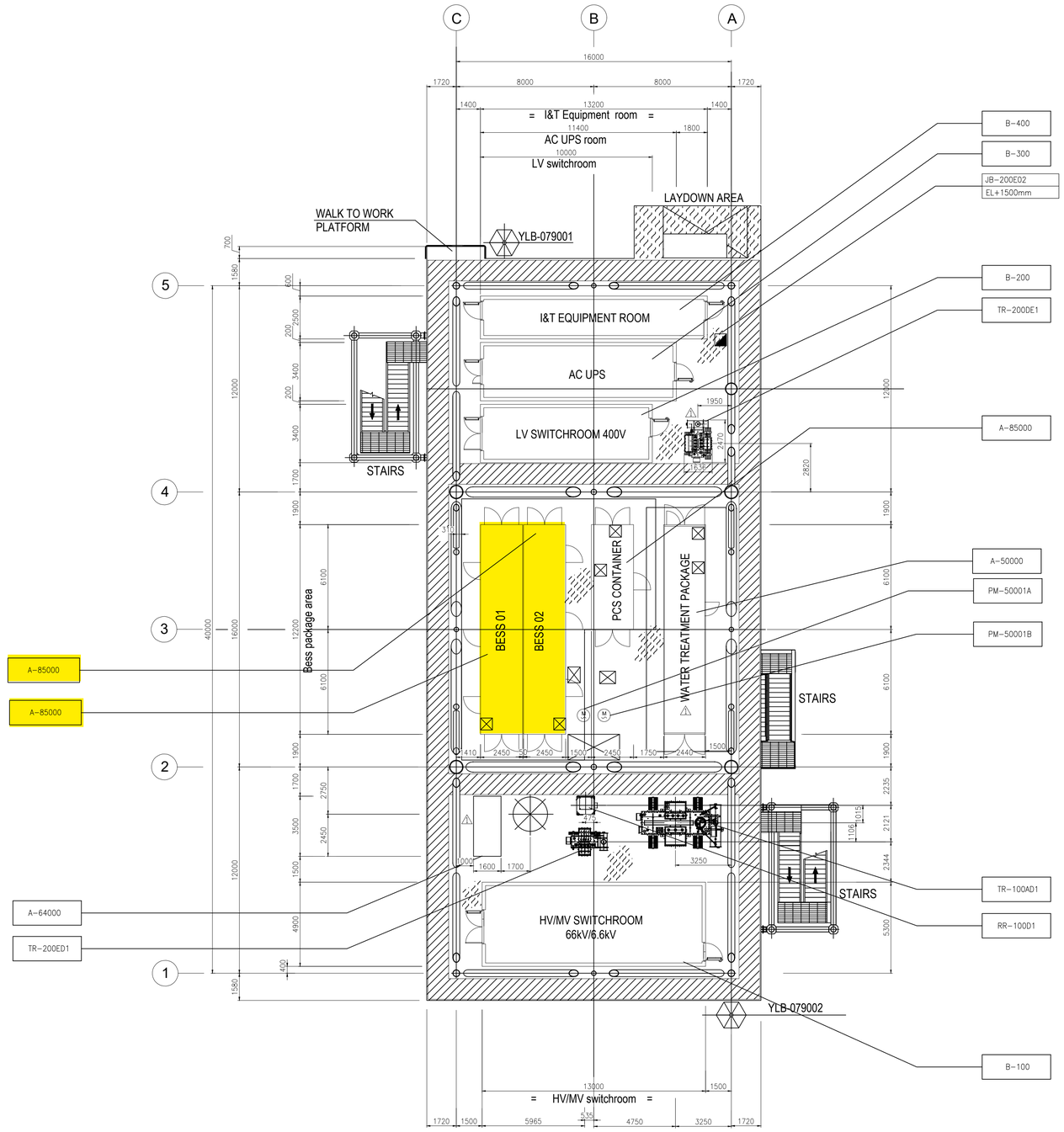
10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	2.5GBASE-T	5GBASE-T
10GBASE-T	ATM-25	ATM-51
ATM-155	100VG-AnyLan	TR-4
TR-16 Active	TR-16 Passive	

LinkWare™ PC Version 11.4

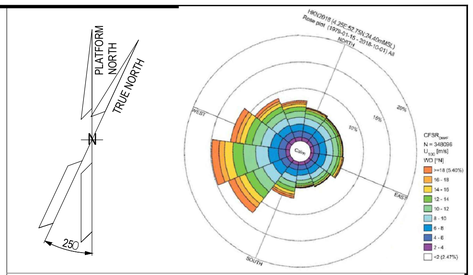
Project: CROSSWIND
Site: Not Set
Floor: Not Set
Rack: Not Set
ROSETTI - CROSSWIND RAME 22.11.2024.flw

Building: Not Set
Room: Not Set
Patch: Not Set

FLUKE networks



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
	INTERFACE PANEL
	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

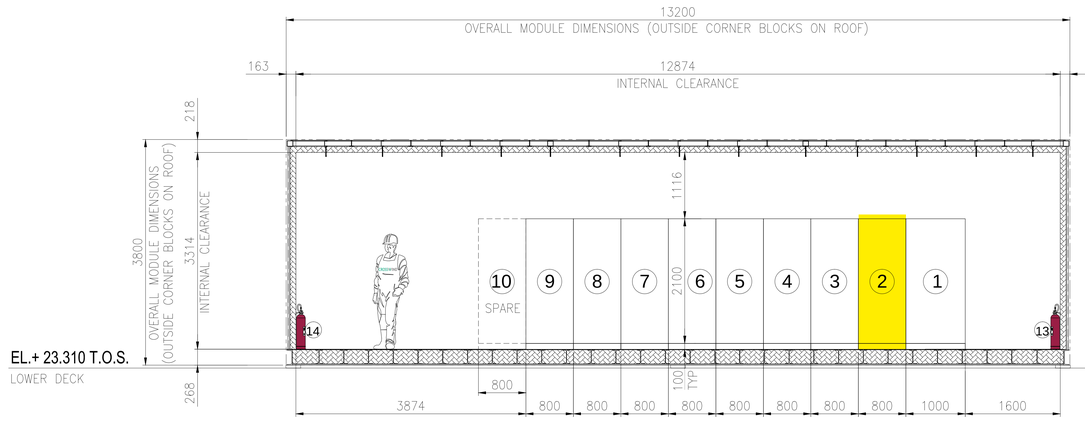
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101
REV. 01

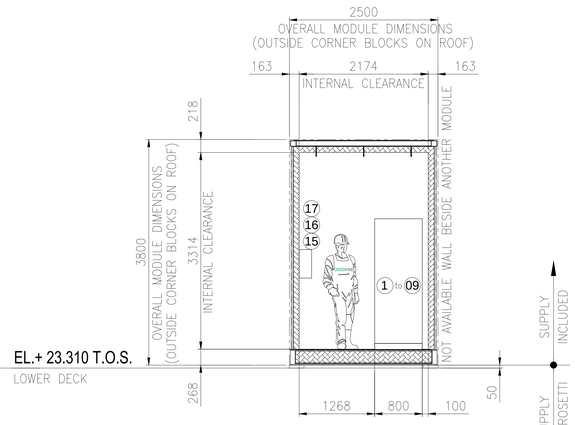
File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

DRAWING NO. 123A90-DDL-IN-DL-40012

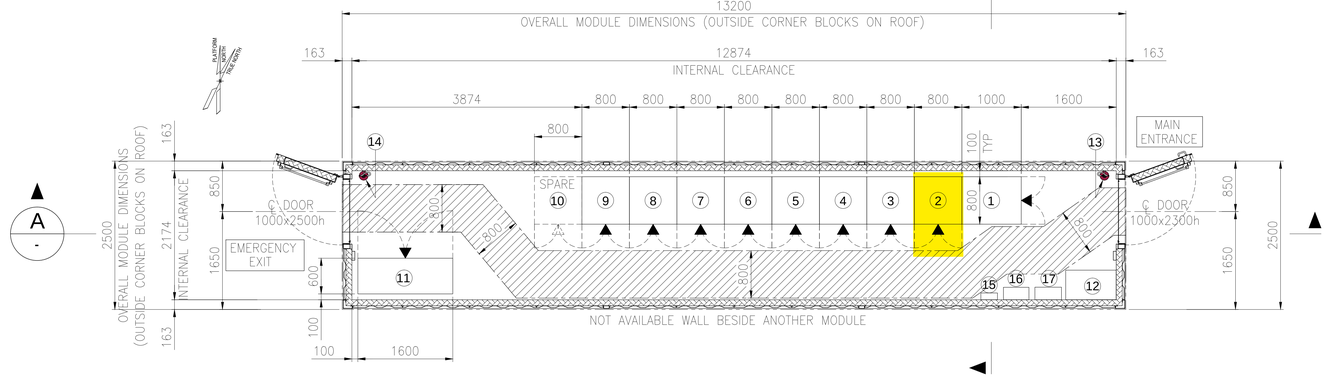
REV. 02



SECTION A -



SECTION B -

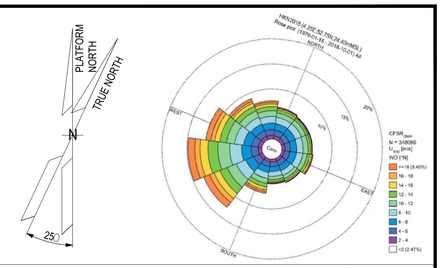


EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

02

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-001	PCS SYSTEM CABINET	800	800	2100	
5	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
6	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

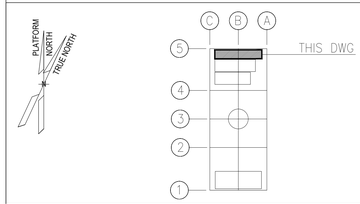
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 02

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

File Name : 123A90-DDL-IN-DL-40012 Rev.02.dwg

DRAWING NO. 123A90-DDL-IN-DG-40015

REV. 01

FIELD				I&T EQUIPMENT ROOM (ITER B400) NETWORK CABINET - B400-NET-001		
				<01>		
BESS (A-85000) P320 PLC	ITEM: NOTE 5 PORT: NOTE 5	RJ45	P320PLC/B400-NET-001.01 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P01	
BESS (A-85000) P320 PLC	ITEM: NOTE 5 PORT: NOTE 5	RJ45	P320PLC/B400-NET-001.02 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P11	
ELECTROLYSER (A-20000) 20-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	20-UCP-001/B400-NET-001.01 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P02	
ELECTROLYSER (A-20000) 20-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	20-UCP-001/B400-NET-001.02 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P09	
FUEL CELL (A-80000) 80-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	80-UCP-001/B400-NET-001.01 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P10	
FUEL CELL (A-80000) 80-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	80-UCP-001/B400-NET-001.02 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P03	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40015**

REV.:	DATE:	SIGNATURE:
1_E	19/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
COMMUNICATION – CAT-6

CONTRACT NO./TITLE			SCALE 1:1
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40015	037	01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40015

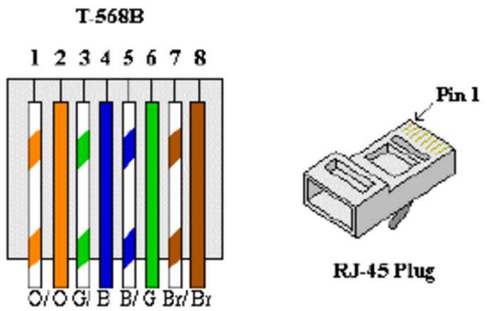
REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FIBER OPTIC TAG NAME WILL BE DEFINED DURING THE CONSTRUCTION PHASE.

<01>

7. CAT. 6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:



RJ-45 Plug

8. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   01) RED
   02) GREEN
   03) BLUE
   04) YELLOW
   05) GREY
   06) PURPLE
   07) BROWN
   08) ORANGE
   09) WHITE
   10) PINK
   11) BLACK
   12) TURQUOISE

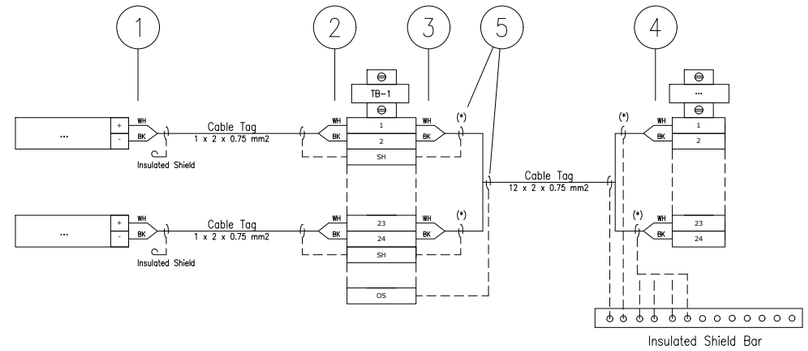
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN / YELLOW —— P.E. EARTH / BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40015**

REV.:	DATE:	SIGNATURE:
1_E	19/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE 1:1
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

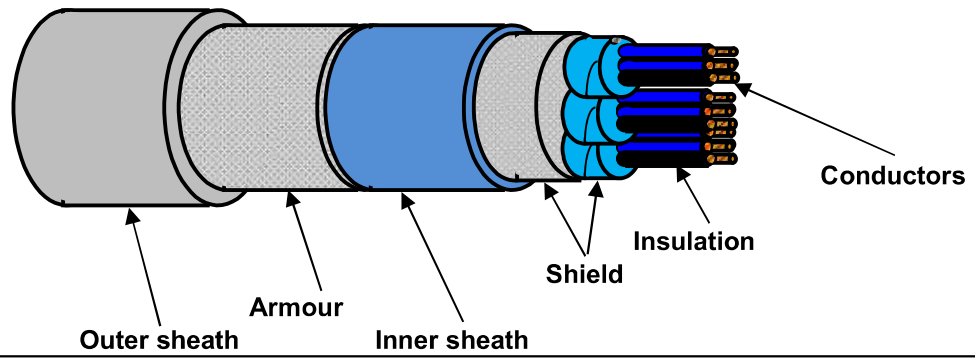
File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland St	From Gland	From Entry	From Fittin	To Gland	To Entry	To Fitting	Routing	Routing Manual
P320PLC/B400-NET-001.01	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						P320PLC	Communication	Lower Deck	B400-NET-001	Network Cabinet / EMCS System	Lower Deck (B-400)	TELCV03-4X2X23AWG	Cable CAT 6A S/FTP 4x2x23AWG Armoured LSZH - Grey	M20S	T2_M20S_Double			n.a.				L-SEC-7 / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-3A / B-400-SEC-2I / B-400-SEC-2G / B-400-SEC-2E / B-400-SEC-2C / B-400-SEC-3B / I-MCT-402

FLEI s.r.l.

CAT. 6A S/FTP ARMOURED LSZH

4X2X23AWG - Based on Draka UC500 HS23



TECHNICAL FEATURES

Conductors :	**SOLID** plain annealed copper wires (AWG23) **ø 0,56 mm**
Insulation :	Foamskin PE - **ø 1,38 mm**
Cores colour code :	**blue/white; orange/white; green/white; brown/white**
Pair Assembling :	Cores twisted in pairs
Pair Shield :	Al-laminated plastic foil
Overall Shield:	Tinned copper braid
Inner sheath :	Extruded LSZH Thermoplastic Compound
Inner sheath color code:	**Blue**
Armour :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,2 mm
Outer sheath color code:	**Grey**
Outer printing (INKJET) :	**FLEI - 4X2X23AWG - CAT.6A S/FTP ARMOURED LSZH - IEC 60332.1.2 - IEC 60332.3.22 -**
(every 1000 mm)	**Year of Manufacture - CE + Meter Marking**
Under armour diameter :	(7,5 ± 10%) mm
Over armour diameter :	(8,3 ± 10%) mm
Outer diameter :	(10,7 ± 10%) mm
Bending radius :	cable outer diameter x 8 (in fixed installation)
Test Voltage :	1000 V DC for 1' (Between Cores) / 1000 V DC for 1' (Between Cores - Shield)
Loop Resistance :	≤ 154 Ω/Km (@ 20°C)
Insulation Resistance :	≥ 2000 MΩ x km (@ 20°C)
Mutual Capacitance :	Nom. 43 nF/km
Characteristic Impedance :	(100 ± 5) Ω
Applicable Standards	
Design Guidelines :	**Generally to ISO/IEC 11801 / IEC 61156-5 / EN 50173-1 / EN 50288-10 / IEEE 802.3at / af / bt**
ON COMPLETE CABLE	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22
Acid Gas generation :	IEC 60754.1/2
Smoke density/Light Transm	IEC 61034.2 (LT ≥ 60%)
Hazardous Areas :	IEC 60079.14 par.9.3.2a
Temperature Range :	
ON COMPLETE CABLE	
During Operation :	(-20°C up to +60°C) (in fixed installation)
During installation :	(0°C up to +50°C)
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner Sheath together with correct ATEX approved equipment or accessories.**

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/05/2024	Messa			
Checked :	29/05/2024	Spaccasassi			
Approved :	29/05/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ITEM	Tag	P320PLC/B400-NET-001.02 : COMMUNICATION / NETWORK CABINET				Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	85-00 : BESS Package (A-85000)				Module	
TASK	code	C10004358		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Telecom	Form	CIX09 Telecom Cable RJ45

CABLE DATA

Type	FTP-LSZH-IS-OS-SWB-LSZH	Cores/Size mm²	4X2X23AWG mm2	Color	GREY
From	P320PLC		To	B400-NET-001	

1	Confirm cable is as specified in project cable schedule	OK
2	Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
7	Confirm cable labelling is in accordance with specifications.	PL
8	Check cable is correctly loomed and segregated in accordance with specification.	OK
9	Check proper fitting of heat shrink sleeves and cable glands (if applicable).	OK
10	Check cores marking are in accordance with termination diagram.	OK
11	Check terminations are in accordance with latest termination diagram.	PL
12	To roll up that measured lenght complies with pulled lenght.	OK
13	To roll up the cable complies with Cat. 5E performance requirements (250 Mhz).	OK
14	Attach LAN tester print out to this test sheet.	OK
15	if required produce Red Line Mark Up for "AS BUILT"	

Comments: Nota 4: refer to PL C30000680

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-21	2024-11-26	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:58:14.914Z	Digitaly signed by Alessio Polo 2024-11-26T16:13:27.975Z	

ROSETTI MARINO

Cable ID: P320PLC/B400-NET-001.02

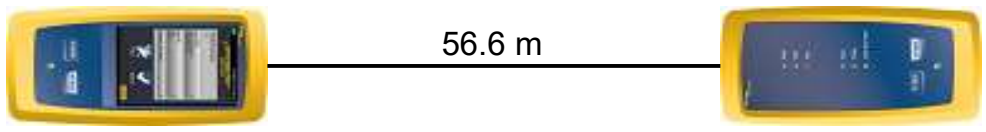
Test Summary: PASS

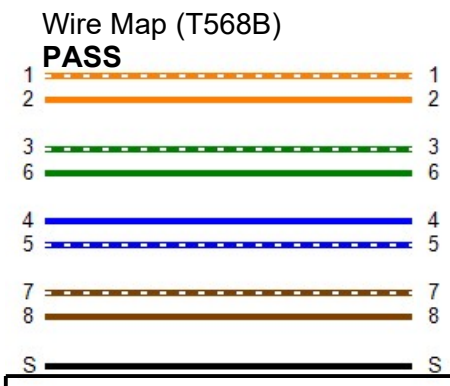
Test Limit: ISO11801 PL2 Class Ea
Limits Version: V7.6
Date / Time: 22-11-2024 16:13:30
Headroom 5.1 dB (NEXT 4,5-7,8)
Cable Type: Cat 6A S/FTP
NVP: 77.0%

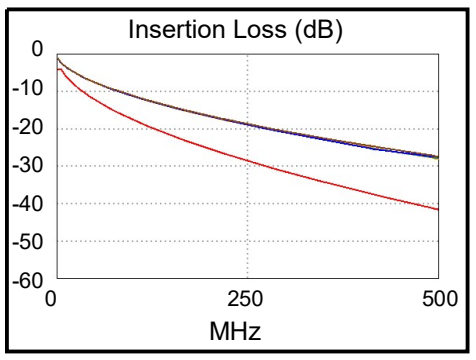
Main: Versiv
S/N: 2226344
Software Version: V6.7 Build 1
Calibration Date: 12-12-2022
Adapter: DSX-8000 (DSX-PLA804)
S/N: 22340270

Remote: Versiv
S/N: 2226336
Software Version: V6.7 Build 1
Calibration Date: 12-12-2022
Adapter: DSX-8000R (DSX-PLA804)
S/N: 22340257

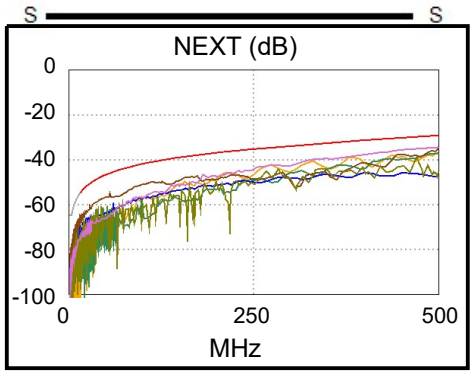
Length (m), Limit 90.0	[Pair 4,5]	56.6
Prop. Delay (ns), Limit 496	[Pair 1,2]	250
Delay Skew (ns), Limit 43	[Pair 1,2]	5
Resistance (ohms), Limit 20.60	[Pair 3,6]	7.91
Insertion Loss Margin (dB)	[Pair 1,2]	13.4
Frequency (MHz)	[Pair 1,2]	500.0
Limit (dB)	[Pair 1,2]	41.6

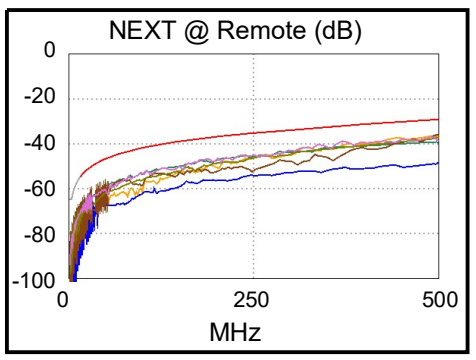




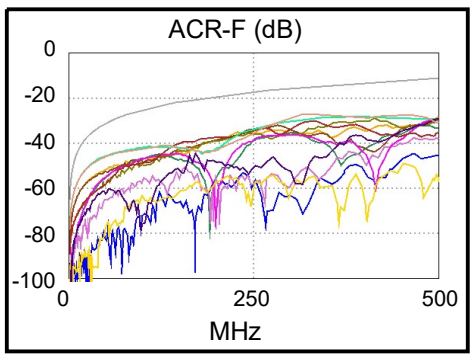


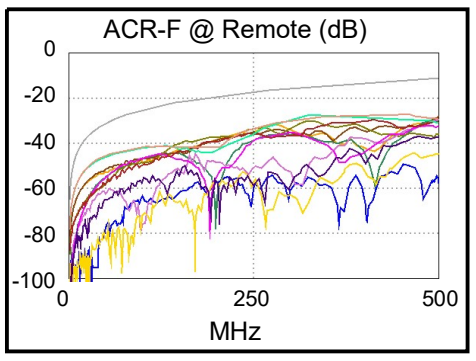
	Worst Case Margin		Worst Case Value	
PASS	MAIN	SR	MAIN	SR
Worst Pair	4,5-7,8	1,2-3,6	4,5-7,8	3,6-4,5
NEXT (dB)	5.1	6.6	5.1	6.8
Freq. (MHz)	500.0	448.0	500.0	500.0
Limit (dB)	29.2	30.3	29.2	29.2
Worst Pair	4,5	3,6	4,5	3,6
PS NEXT (dB)	4.1	5.5	4.1	5.5
Freq. (MHz)	500.0	499.0	500.0	499.0
Limit (dB)	26.4	26.4	26.4	26.4



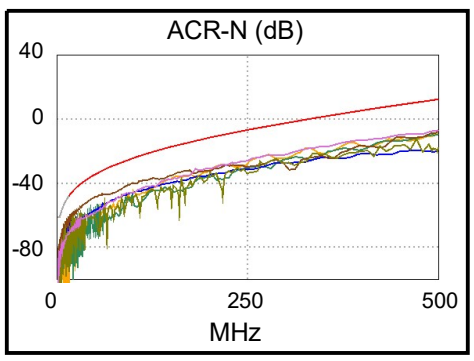


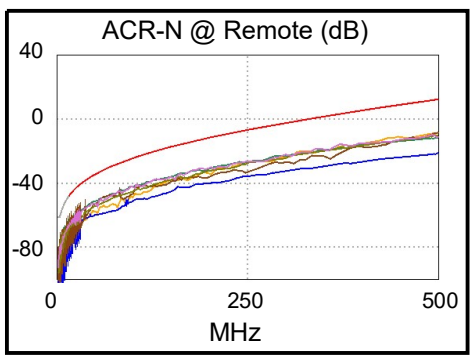
PASS	MAIN	SR	MAIN	SR
Worst Pair	7,8-4,5	4,5-7,8	7,8-4,5	7,8-4,5
ACR-F (dB)	11.8	12.2	11.8	12.9
Freq. (MHz)	322.0	322.0	322.0	378.0
Limit (dB)	15.1	15.1	15.1	13.7
Worst Pair	4,5	4,5	3,6	4,5
PS ACR-F (dB)	13.7	13.8	16.9	14.8
Freq. (MHz)	323.0	322.0	500.0	384.0
Limit (dB)	12.1	12.1	8.3	10.5



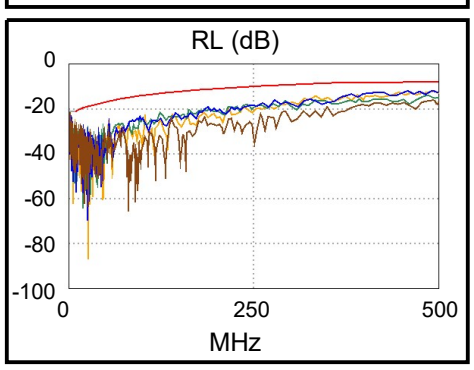


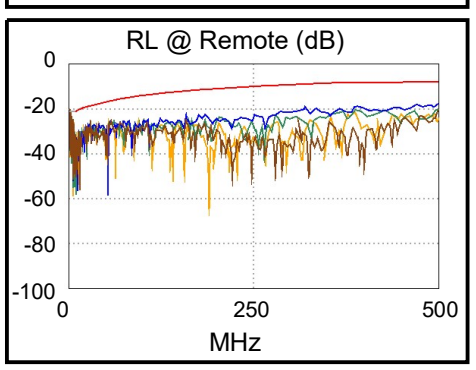
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-4,5	4,5-7,8	3,6-4,5
ACR-N (dB)	13.6	15.8	19.1	20.8
Freq. (MHz)	22.5	16.1	500.0	500.0
Limit (dB)	44.1	47.6	-12.4	-12.4
Worst Pair	4,5	4,5	4,5	3,6
PS ACR-N (dB)	14.8	14.1	18.2	19.3
Freq. (MHz)	22.5	22.4	500.0	500.0
Limit (dB)	41.7	41.7	-15.3	-15.3





PASS	MAIN	SR	MAIN	SR
Worst Pair	4,5	4,5	4,5	4,5
RL (dB)	3.7	8.0	3.7	9.8
Freq. (MHz)	471.0	28.5	471.0	499.0
Limit (dB)	8.0	18.7	8.0	8.0



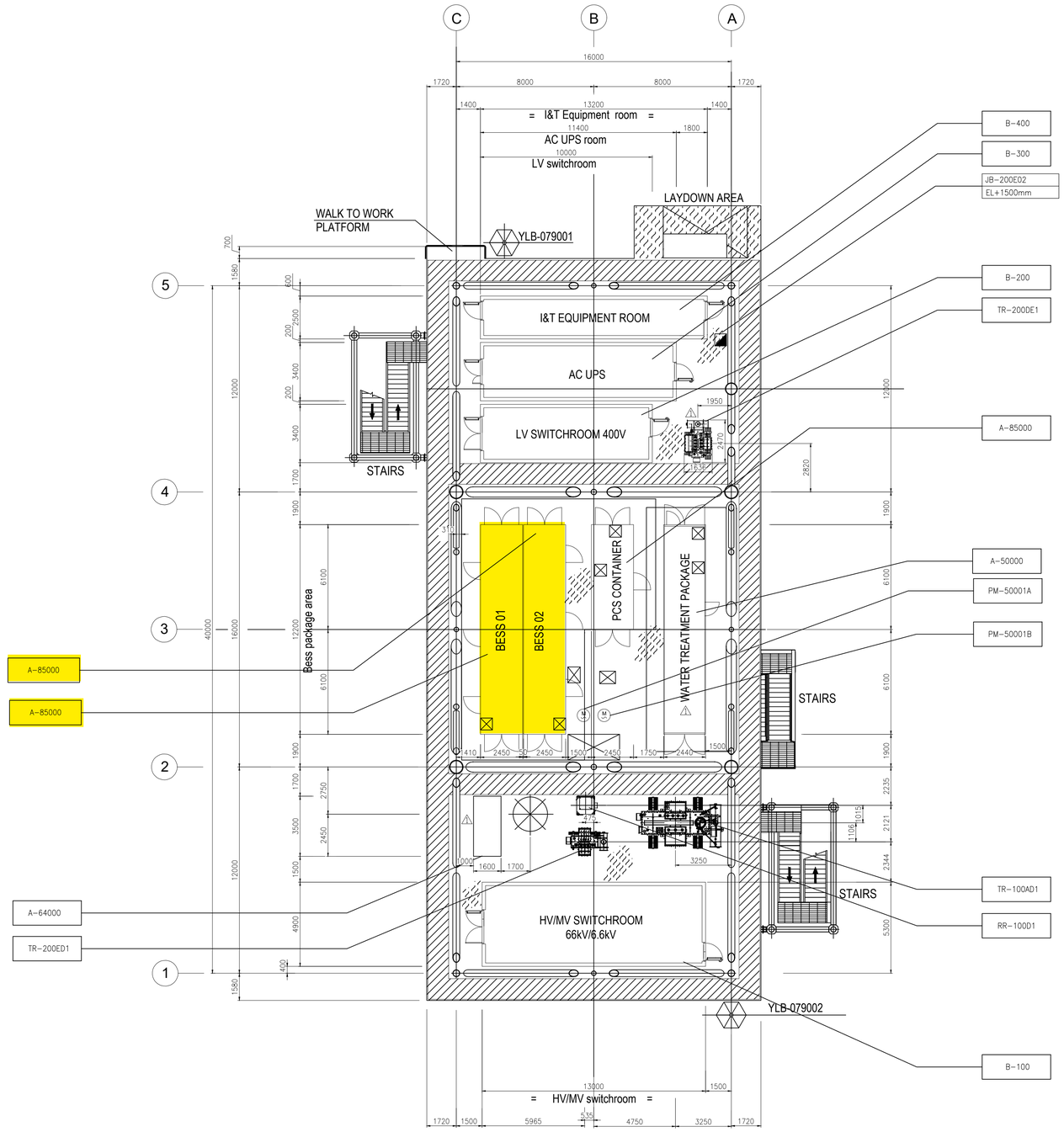


Compliant Network Standards:

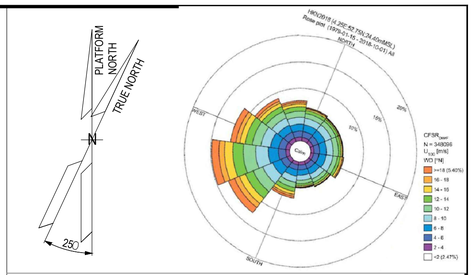
10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	2.5GBASE-T	5GBASE-T
10GBASE-T	ATM-25	ATM-51
ATM-155	100VG-AnyLan	TR-4
TR-16 Active	TR-16 Passive	

LinkWare™ PC Version 11.4

FLUKE networks



PLAN ON LOWER DECK
EL+23.310 T.O.S.



NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

M	ELECTRIC MOTOR – LOW VOLTAGE
	INTERFACE PANEL
	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

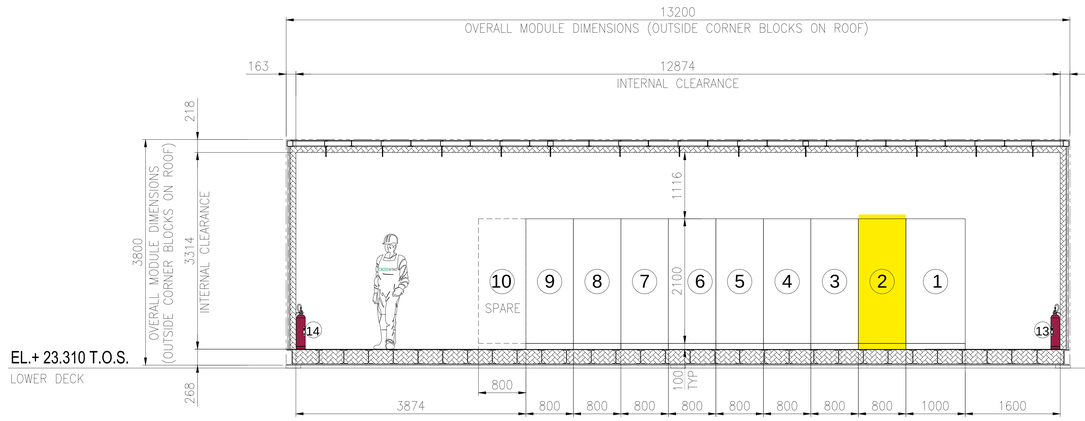
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101
REV. 01

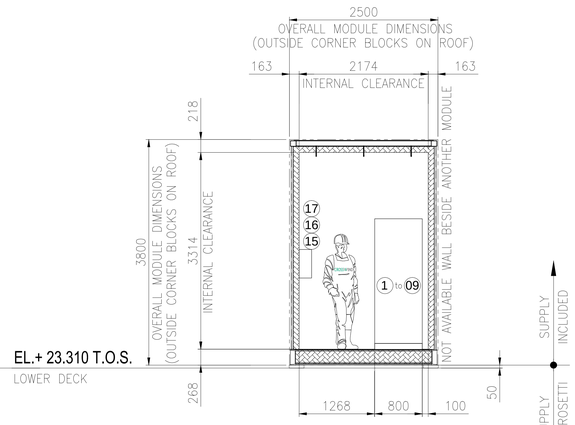
File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

DRAWING NO. 123A90-DDL-IN-DL-40012

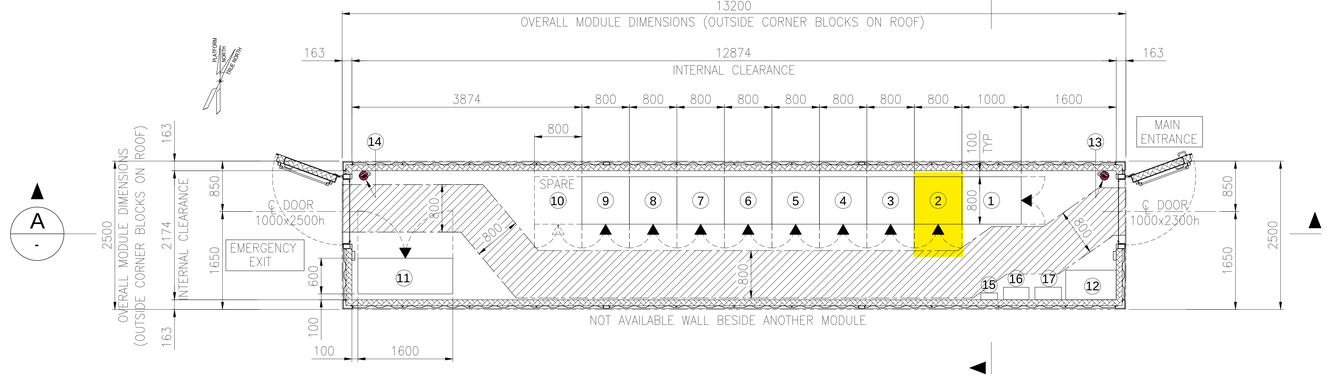
REV. 02



SECTION A -



SECTION B -

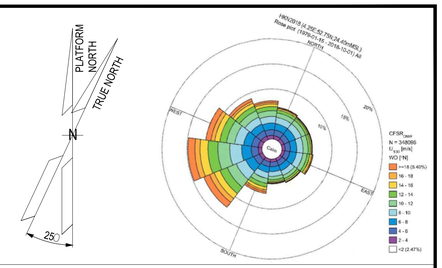


EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

02

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-001	PCS SYSTEM CABINET	800	800	2100	
5	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
6	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

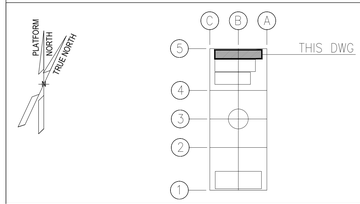
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 02

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

File Name : 123A90-DDL-IN-DL-40012 Rev.02.dwg

DRAWING NO. 123A90-DDL-IN-DG-40015

REV. 01

FIELD				I&T EQUIPMENT ROOM (ITER B400)		
				NETWORK CABINET - B400-NET-001		
						<01>
BESS (A-85000) P320 PLC	ITEM: NOTE 5 PORT: NOTE 5	RJ45	P320PLC/B400-NET-001.01 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P01	
BESS (A-85000) P320 PLC	ITEM: NOTE 5 PORT: NOTE 5	RJ45	P320PLC/B400-NET-001.02 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P11	
ELECTROLYSER (A-20000) 20-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	20-UCP-001/B400-NET-001.01 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P02	
ELECTROLYSER (A-20000) 20-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	20-UCP-001/B400-NET-001.02 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P09	
FUEL CELL (A-80000) 80-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	80-UCP-001/B400-NET-001.01 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P10	
FUEL CELL (A-80000) 80-UCP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	80-UCP-001/B400-NET-001.02 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-02 PORT: P03	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40015**

REV.:	DATE:	SIGNATURE:
1_E	19/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
COMMUNICATION – CAT-6

CONTRACT NO./TITLE			SCALE 1:1
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40015	037	01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40015

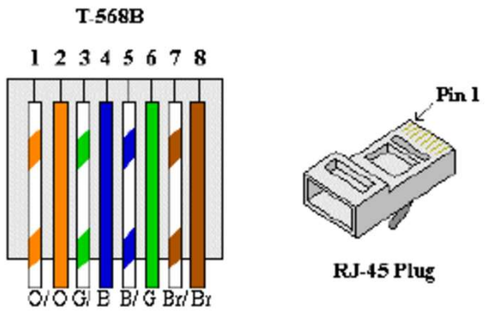
REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FIBER OPTIC TAG NAME WILL BE DEFINED DURING THE CONSTRUCTION PHASE.

<01>

7. CAT. 6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:



RJ-45 Plug

8. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   01) RED
   02) GREEN
   03) BLUE
   04) YELLOW
   05) GREY
   06) PURPLE
   07) BROWN
   08) ORANGE
   09) WHITE
   10) PINK
   11) BLACK
   12) TURQUOISE

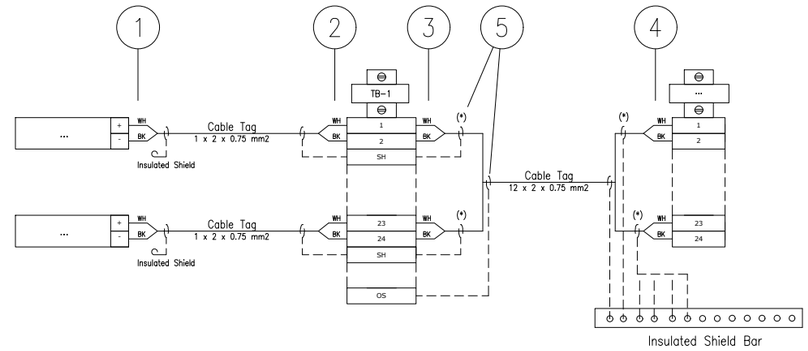
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN / YELLOW —— P.E. EARTH / BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40015**

REV.:	DATE:	SIGNATURE:
1_E	19/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE 1:1
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

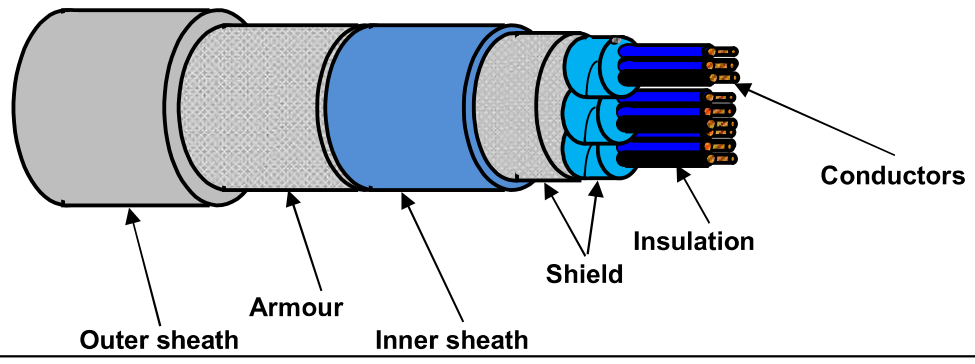
File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland St	From Gland	From Entry	From Fittin	To Gland	To Entry	To Fitting	Routing	Routing Manual
P320PLC/B400-NET-001.02	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						P320PLC	Communication	Lower Deck	B400-NET-001	Network Cabinet / EMCS System	Lower Deck (B-400)	TELCV03-4X2X23AWG	Cable CAT 6A S/FTP 4x2x23AWG Armoured LSZH - Grey	M20S	T2_M20S_Double			n.a.				L-SEC-7 / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-3A / B-400-SEC-2I / B-400-SEC-2G / B-400-SEC-2E / B-400-SEC-2C / B-400-SEC-3B / I-MCT-402

FLEI s.r.l.

CAT. 6A S/FTP ARMOURED LSZH

4X2X23AWG - Based on Draka UC500 HS23



TECHNICAL FEATURES

Conductors :	**SOLID** plain annealed copper wires (AWG23) **ø 0,56 mm**
Insulation :	Foamskin PE - **ø 1,38 mm**
Cores colour code :	**blue/white; orange/white; green/white; brown/white**
Pair Assembling :	Cores twisted in pairs
Pair Shield :	Al-laminated plastic foil
Overall Shield:	Tinned copper braid
Inner sheath :	Extruded LSZH Thermoplastic Compound
Inner sheath color code:	**Blue**
Armour :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,2 mm
Outer sheath color code:	**Grey**
Outer printing (INKJET) :	**FLEI - 4X2X23AWG - CAT.6A S/FTP ARMOURED LSZH - IEC 60332.1.2 - IEC 60332.3.22 -**
(every 1000 mm)	**Year of Manufacture - CE + Meter Marking**
Under armour diameter :	(7,5 ± 10%) mm
Over armour diameter :	(8,3 ± 10%) mm
Outer diameter :	(10,7 ± 10%) mm
Bending radius :	cable outer diameter x 8 (in fixed installation)
Test Voltage :	1000 V DC for 1' (Between Cores) / 1000 V DC for 1' (Between Cores - Shield)
Loop Resistance :	≤ 154 Ω/Km (@ 20°C)
Insulation Resistance :	≥ 2000 MΩ x km (@ 20°C)
Mutual Capacitance :	Nom. 43 nF/km
Characteristic Impedance :	(100 ± 5) Ω
Applicable Standards	
Design Guidelines :	**Generally to ISO/IEC 11801 / IEC 61156-5 / EN 50173-1 / EN 50288-10 / IEEE 802.3at / af / bt**
ON COMPLETE CABLE	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22
Acid Gas generation :	IEC 60754.1/2
Smoke density/Light Transm	IEC 61034.2 (LT ≥ 60%)
Hazardous Areas :	IEC 60079.14 par.9.3.2a
Temperature Range :	
ON COMPLETE CABLE	
During Operation :	(-20°C up to +60°C) (in fixed installation)
During installation :	(0°C up to +50°C)
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner Sheath together with correct ATEX approved equipment or accessories.**

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/05/2024	Messa			
Checked :	29/05/2024	Spaccasassi			
Approved :	29/05/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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Section 9 MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE

NOT APPLICABLE

Section 10 MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE

NOT APPLICABLE

Section 11 MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE

NOT APPLICABLE

Section 12 FAT / VENDOR REPORTS

NOT APPLICABLE

Section 13 MECHANICAL COMPLETION CHANGES / MARK-UPS

NOT APPLICABLE